

SHRP-P-621

# **Development of the LTPP Climatic Database**

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## **Abstract**

Although the effects of climatic factors on pavement performance have long been recognized as important, those effects remain largely unquantified, because individual pavement research projects to date have generally been restricted to limited geographic areas with more or less uniform climatic conditions, and relatively short time spans, making it difficult to separate the effects of climatic factors from those of loading. By virtue of the relatively broad geographic and climatic distribution of the test sections involved, and its long-term nature, the Long-Term Pavement Performance (LTPP) program will rectify this situation. The LTPP climatic data base is intended to provide the weather and climatic information needed to characterize the environment in which each LTPP test sections has existed, from the time of construction through the LTPP monitoring period. This report summarizes the development of the LTPP climatic database, including the identification and sources of data, selection and verification of weather stations, actual data retrieval from available sources, and data quality assurance. Future activities such as updates and expansion of the database and the collection of ground-truth data are also discussed in the paper.

## INTRODUCTION

SHRP's Long-Term Pavement Performance (LTPP) research is a twenty year study of pavement performance, and the factors which affect it. To meet these goals, two series of experiments have been established within the LTPP research program. The GPS, or General Pavement Studies involve test sections on existing pavements, whereas the SPS, or Specific Pavement Studies, involve specially constructed pavement test sections. Both sets of test sections are, or will be, located on in-service highways throughout the United States and Canada, and hence subjected to "real" non-idealized traffic loadings, and a wide range of environmental conditions.

The data to be collected for the SHRP LTPP research can be divided into five categories: (1) inventory data, describing the location, geometry, and construction history of the test section; (2) monitoring data such as distress, profile and deflection, which are collected to monitor changes in the pavement over time; (3) traffic data, which describe the loading to which the pavement is subjected; (4) climatic data, describing the environmental conditions to which the pavement is subjected; and (5) maintenance and rehabilitation data, describing and defining any and all maintenance applied to the pavement. This report will focus on the collection and storage of climatic data for the SHRP LTPP test sections.

Although the effects of climatic factors on pavement performance have long been recognized as important, those effects remain largely unquantified, because individual pavement research projects to date have generally been restricted to limited geographic areas with more or less uniform climatic conditions, and relatively short time spans, making it difficult to separate the effects of climatic factors from those of loading. By virtue of the relatively broad geographic and climatic distribution of the test sections involved, and its long-term nature, the LTPP program will rectify this situation.

Over the past several years, SHRP has mounted a significant effort to identify, collect and store climatic data for the LTPP GPS test sections. This effort culminated in the development of SHRP's LTPP climatic data base, which contains the weather and climatic information needed to characterize the environment in which each GPS test section has existed, from the time of construction through the LTPP monitoring period.

This report looks at the development of the LTPP climatic data base -- identification of data elements and sources of data, development of weather station selection criteria and associated feasibility study. The actual data collection and quality assurance process -- selection and verification of weather stations, data retrieval, and data quality assurance -- is described. Future activities -- verification of the data base contents and development and implementation of plans for the collection of ground truth data, expansion of the climatic data base to include SPS sections, and future updates of the LTPP climatic data base -- are also discussed.

## **DATA BASE DEVELOPMENT**

### **Background**

Early plans for the collection of climatic data are documented in the draft "Data Collection Guide for Long-Term Pavement Performance Studies". Those plans identified a list of climatic data elements to be collected in conjunction with the GPS experiments, with the assumption that the primary source of climatic data for use in the LTPP studies would be the National Climatic Data Center (NCDC), in part because the NCDC is the only known source of nationwide historic climatic data.

With the draft data collection guide information as a starting point, preliminary plans for collecting and storing climatic data for GPS test sections were developed under SHRP's LTPP Technical Assistance Contract. These plans, like the early ones, assumed that the bulk of the climatic data would be obtained from the NCDC (and, for the Canadian sites, the Canadian Climatic Center (CCC)) and their focus remained on the GPS experiments. However, a few climatic data elements -- raw data, derived data and statistics -- were added to the list originally proposed.

Before proceeding with the discussion of the preliminary plans, it is important to note that differences exist between the NCDC and the CCC. The most basic difference is that the data is stored in two different systems of units, U.S. Customary for the NCDC and SI for the CCC. The second major difference is that several of the parameters collected by NCDC are not

collected by CCC. The parameters of interest to this effort that are not collected by CCC are average wind speed, percent sunshine, and percent sky cover.

In addition, NCDC has two distinct, well-defined data collection efforts -- First Order and Cooperative. The difference between the two lies in the list of data elements collected; First Order stations collect all cooperative data elements plus a number of additional data elements. The CCC does not make such a formal distinction. The only way to determine if a Canadian weather station is First Order is to physically examine the contents of the database to see if these parameters exist. If they do exist, the station can be considered First Order for the purposes of this study.

### **Identification of Weather Stations**

Development of the preliminary plans began with the definition of a "perfect" (for LTPP purposes) weather station. First, the weather station must be in "close" (within 5 miles) proximity to the pavement test section. Secondly, the types of data collected and their accuracy must be equivalent to at least a First Order weather station. Although an attempt to establish "proximity" guidelines was made, it became apparent from the start (as expected) that weather stations could not be found in "close" proximity to most SHRP LTPP test sites. Consequently, the preliminary plans were developed around the concept that data from up to five nearby weather stations would be used to estimate site specific climatic conditions. This estimate is referred to as "virtual" weather data.

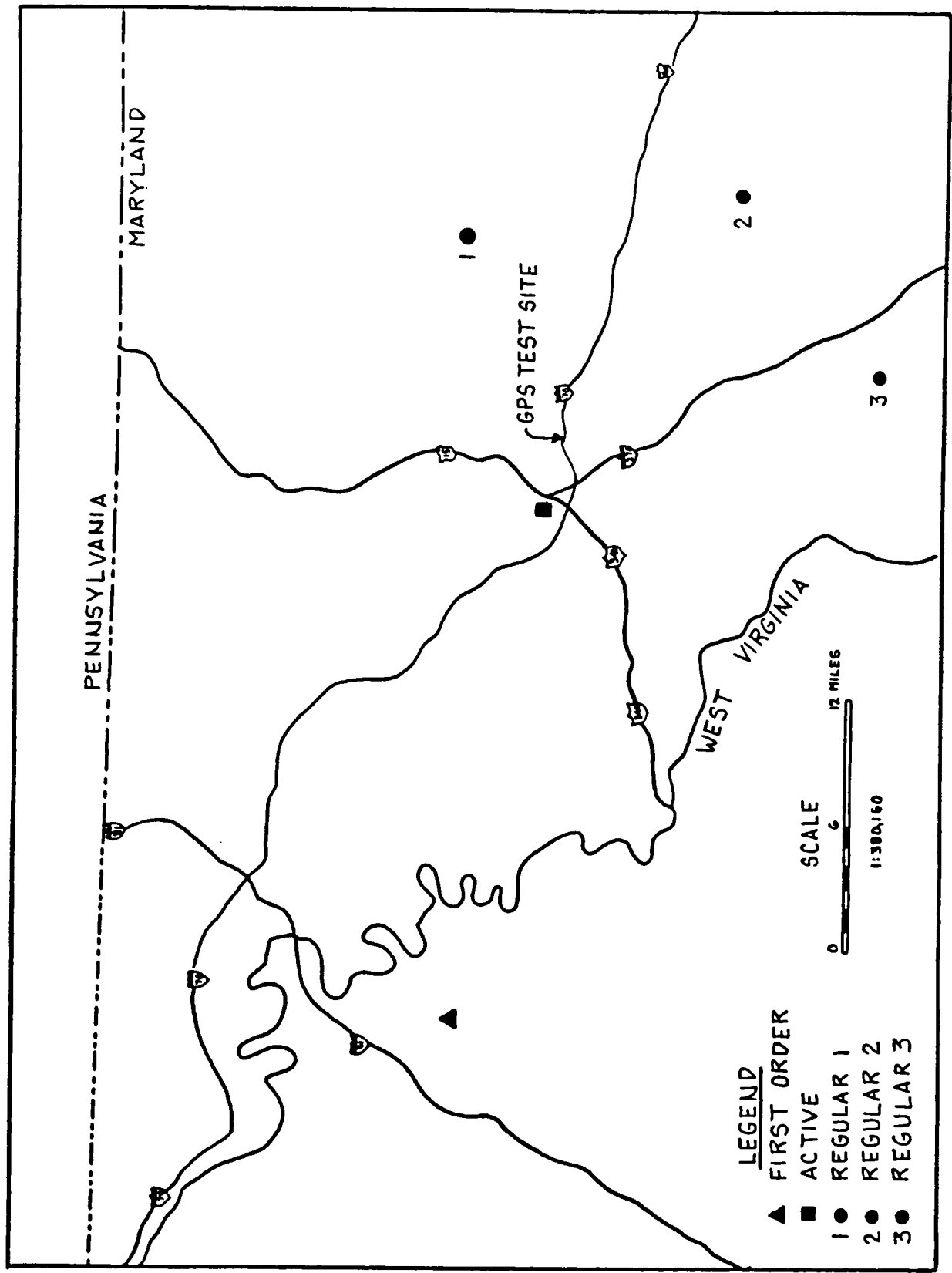
The choice of five weather stations to represent climatic conditions at a given site was somewhat arbitrary and may yield a misleading impression of data coverage for a given site. In fact, one "good" station is all that is needed for a given site. In terms of the "virtual" station, an "interpolation" algorithm using a  $1/R$  weighting scheme was originally recommended, where  $R$  is the distance from the weather station to the site. This scheme was later modified to  $1/R^2$  based on the recommendations of SHRP's Environmental Data Expert Task Group (ETG). In any case, the closer the weather station is to the site, the greater its effect is on the calculated values for the "virtual" station. For example, any weather station three times as far from the GPS site as the closest weather station will only contribute 10% to the calculated parameter

based on the distance weighting used. Figure 1 shows an example of a GPS site and the five weather stations selected to describe its environmental conditions.

The criteria established for the identification of weather stations in the vicinity of the pavement test section are as follows. For each GPS test site identify:

- At least one active First Order weather station with 50% data coverage for the record length to be used;
- The closest active Cooperative weather stations satisfying the following criteria:
  - 1) At least 50% data coverage for the record length to be used;
  - 2) Record length equal to the larger of (a) pavement age and (b) five years;
  - 3) The following data elements recorded as a minimum: minimum daily temperature; maximum daily temperature; daily precipitation; and daily snowfall (if applicable);
- The three closest active or inactive (with at least part of the record length covering years after the pavement construction date), First Order or Cooperative weather stations other than those included in a) and b);

Although the designations First Order and Cooperative apply to U.S. weather stations only, equivalent categories also apply to the Canadian weather stations. Also note that the plan called for the identification process to be global -- not limited by state or provincial borders to allow the consideration of weather stations close to a site but located in a neighboring state or province. It should also be noted that only First Order weather stations collect the full range of data desired, while Cooperative weather stations generally collect only the minimum data set described here.



## Climatic Data Elements

On completion of the weather station identification process, the preliminary plans called for the acquisition of climatic data for each station from the NCDC and CCC files. In particular, the data elements shown in Table 1 were to be acquired, where available, for each station. Due to limitations associated with the NCDC data collection procedure, however, only the first six data fields listed in Table 1 are available from Cooperative weather stations and the rest are available only from First Order weather stations. Also, the first five elements in this list are generally available for the entire time span, while the remaining eight are predominantly available only after 1984.

The preliminary plans also called for the computation of the monthly average, standard deviation, skewness, and kurtosis for all data elements shown in Table 1, except daily occurrences of weather, for each year. Table 2 summarizes the equations recommended for use in these computations. Where some daily data were missing, the monthly statistical parameters were to be calculated using the available data only, without substitution for missing data. In addition, the following "derived" data were to be calculated and ultimately stored in the LTPP climatic data base:

- total monthly precipitation
- total monthly snowfall
- number of air freeze-thaw cycles (monthly)
- mean daily temperature range (monthly)
- number of wet days (precipitation greater than 0.01 inches)
- number of high intensity precipitation days (precipitation greater than 0.5 inches)
- air freezing index
- number of days with maximum temperatures above 90°F (monthly)
- number of days with minimum temperature below 32°F (monthly)

It should be clearly noted that the average monthly values stored within the database are average daily values for that parameter for that month. For example, the average precipitation field for a particular month contains the average daily precipitation for that month.

**TABLE 1 - CLIMATIC DATA ELEMENTS**

| <b>Data Element</b>                             | <b>NCDC Designation</b> |
|-------------------------------------------------|-------------------------|
| 1. Maximum Daily Temperature                    | TMAX                    |
| 2. Minimum Daily Temperature                    | TMIN                    |
| 3. Mean Daily Temperature                       | MNTP                    |
| 4. Daily Precipitation                          | PRCP                    |
| 5. Daily Snowfall                               | SNOW                    |
| 6. Daily Occurrence of Weather                  | DYSW                    |
| 7. Daily Average Wind Speed                     | AWND                    |
| 8. Peak Gust Wind Speed and Direction           | PKGS                    |
| 9. Percent of Possible Sunshine                 | PSUN                    |
| 10. Average Sky Coverage - Sunrise to Sunset    | SCSS                    |
| 11. Average Sky Coverage - Midnight to Midnight | SCMM                    |
| 12. Daily Minimum Relative Humidity             | MNRH                    |
| 13. Daily Maximum Relative Humidity             | MXRH                    |

**NOTES:**

1. For each data element, the following monthly statistics are determined:
  - a. Mean
  - b. Standard deviation
  - c. Skewness
  - d. Kurtosis
2. The following derived data are also determined:
  - a. Total monthly precipitation
  - b. Total monthly snowfall
  - c. Number of air freeze-thaw cycles - monthly
  - d. Mean daily temperature range - monthly
  - e. Number of wet days (precipitation 70.01 in.)
  - f. High intensity precipitation occurrences (precipitation > 0.5 in./day)
  - g. Freezing index
  - h. Number of days with temperature > 90°F - monthly
  - i. Number of temperature < 32°F - monthly

**TABLE 2**

The following formulas shall be used in these calculations:

$$\bar{X} = \frac{\sum_{i=1}^n X_i}{n}$$

$$S^2 = \frac{\sum_{i=1}^n (X_i - \bar{X})^2}{n}$$

$$\alpha_3 = \frac{\frac{\sum_{i=1}^n (X_i - \bar{X})^3}{n}}{S^3}$$

$$\alpha_4 = \frac{\frac{\sum_{i=1}^n (X_i - \bar{X})^4}{n}}{S^4}$$

where:  $\bar{x}$ : monthly average;  
 S: monthly standard deviation;  
 $\alpha_3$ : monthly kurtosis;  
 $\alpha_4$ : monthly skewness;  
 $X_i$ : value of a data element at the  $i$ th day; and  
 n: number of days with records in a month.

Of the calculated parameters cited above, only the air freezing index and air freeze-thaw cycles contain any complexity. For air freezing index, each day's minimum temperature is compared to 32°F (0°C for Canadian GPS sites) and if it is below freezing, then the number of degrees below freezing is added to both the current month's air freezing index and the current year's air freezing index. If the daily minimum temperature is missing, the missing data count is incremented for both the monthly count and the yearly count. Air freeze-thaw cycles are calculated by comparing daily minimum (TMIN) and daily maximum (TMAX) temperatures to the freezing point and to each other. Each air freeze-thaw cycle consists of one sequence of a TMIN below freezing followed by a TMAX above freezing followed by a TMIN below freezing. An example of the process is provided in Appendix A.

In addition to the climatic data elements, it was recommended that the following information be stored in the SHRP climatic data base in order to characterize the weather stations: weather station name, number, and type (First Order or Cooperative); distance from applicable SHRP test site; elevation; bearing with respect to test site; and, data coverage for temperature and moisture.

Finally, it should be noted that other data elements were considered for inclusion in the LTPP climatic data base, but were rejected for one or more reasons. For example, the Thornthwaite Moisture Index (TMI) was not included for several reasons. Currently, most TMI values are obtained by approximating the location of interest on a map with contours of constant TMI. Because such maps are readily available and because the "data" derived from them is inherently imprecise, it was felt that storage of TMI values derived from maps in the climatic data base was not warranted. An alternative method for determining the TMI value involves calculating it, based in part on pan evaporation rates. However, because pan evaporation rates are not widely available, TMI values are not included in the data base.

Another data element initially intended to be included in the climatic data base is solar radiation. Solar radiation data was indeed collected by NCDC until 1984 at a few sites. At some point before that date, however, it was discovered that the measured values were highly unreliable, and NCDC terminated their collection. There have been several efforts since that date to correct the collected data, but they have thus far proven ineffective. Therefore, SHRP elected not to store these suspect values.

## Climatic Data Base

Having established the climatic data elements and sources of information, the last step in the development of the preliminary plans dealt with the formulation of the LTPP climatic data base. In view of the massive data storage requirements (estimated at 3 gigabytes) and after much deliberation, a data base structure comprised of three levels was recommended. The lowest data base level would contain the raw NCDC and CCC climatic data, processed NCDC and CCC data and monthly statistical parameters would be stored in the mid-level data base, and the monthly statistical parameters would be stored at the highest level (i.e., National Pavement Performance Data Base). Details of the recommended data base organization are as follows.

**Raw Climatic Data:** The lowest level of the data base (referred to as the "low level" database) would consist of daily NCDC and CCC data, cleansed of unnecessary codes and flags, and stored "off-line" on long-term storage media. The data would be stored in its original system of units (U.S. customary for NCDC data, and SI for CCC data) for individual weather stations, without direct linkage to individual pavement test sites. Statistical parameters would not be stored at this level.

**Daily Data, Statistical Parameters, and Derived Data:** The second level of the data base (referred to as the "middle level" database) would include daily data for individual weather stations and a "virtual" weather station corresponding to each test section, as well as the calculated statistical parameters and derived data for all of these stations. Data for the "virtual" station would be created using the following interpolation algorithm:

$$V_m = \frac{\sum_{i=1}^k \left( \frac{V_{mi}}{R_i^2} \right)}{\sum_{i=1}^k \left( \frac{1}{R_i^2} \right)}$$

where  $V_{mi}$  = value of a data element on day  $m$ , station  $i$ ;  $R_i$  = distance of weather station  $i$  from the site;  $V_m$  = calculated data element for day  $m$ , for the "virtual" weather station; and  $k$  = number of weather stations for the site (up to 5). All data at this level

would be stored in U.S. customary units for U.S. sites and SI units for Canadian sites. This data is stored "off-line", and is associated with specific test sites for easy recovery.

**Monthly Summary Data:** The final level of the data base (referred to as the "top level" database) would contain monthly summary data (calculated statistical parameters and derived data) from the individual weather stations as well as the "virtual" station. This portion of the climatic data base would be included in the National Pavement Performance Data Base. Forms containing the desired fields are presented in Figure 2.

As the storage scheme outlined above was being developed, consideration was given to processing the data, and retaining only the final "virtual" values in the National Pavement Performance Data Base, with the thought that researchers desiring more detailed data could always go to NCDC and CCC for the original data. However, the members of the Environmental Data ETG felt strongly that this was not an appropriate course, because they felt that a significant number of researchers were likely to want the raw data, and that they should not have to duplicate SHRP's efforts in acquiring the data. They also felt that it was important to have the "real" weather station data alongside the "virtual" data, so that researchers could evaluate the viability of the "virtual" data for themselves, in light of the individual weather station values. Also, it was suggested that the use of data from the closest weather station would be preferable to the use of "virtual" data in some instances. Thus, it was recommended that both measured and "virtual" data be stored in the National Pavement Performance Data Base.

## **DATA COLLECTION AND QUALITY ASSURANCE**

### **Subcontractor Selection Process**

The preliminary data collection plans were completed by SHRP's LTPP Technical Assistance Contractor in June of 1990 and submitted to the Environmental Data ETG for review, shortly thereafter. These plans were also presented and discussed at the August 7-8,

## SHRP LTPP P-001 ENVIRONMENTAL DATA SHEET

SHRP LTPP PROJECT ID#1 \_\_\_\_\_ ID#2 \_\_\_\_\_ ID#3 \_\_\_\_\_ ID#4 \_\_\_\_\_ ID#5 \_\_\_\_\_

WEATHER STA. LOC. \_\_\_\_\_ WEATHER STA. # \_\_\_\_\_ STATION TYPE \_\_\_\_\_

YEAR \_\_\_\_\_

## WEATHER STATION DATA

|                                      | <u>JAN</u> | <u>FEB</u> | <u>MAR</u> | <u>APR</u> | <u>MAY</u> | <u>JUN</u> | <u>JUL</u> | <u>AUG</u> | <u>SEP</u> | <u>OCT</u> | <u>NOV</u> | <u>DEC</u> |
|--------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| MEAN DAILY<br>TEMPERATURE ( °F)      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| STANDARD DEVIATION                   | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| SKEWNESS                             | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| KURTOSIS                             | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| MEAN MAX. DAILY<br>TEMPERATURE ( °F) | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| STANDARD DEVIATION                   | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| SKEWNESS                             | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| KURTOSIS                             | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| MEAN MIN. DAILY<br>TEMPERATURE ( °F) | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| STANDARD DEVIATION                   | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| SKEWNESS                             | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| KURTOSIS                             | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| AIR FREEZE-THAW<br>CYCLES            | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| MEAN DAILY<br>TEMPERATURE RANGE      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |

Figure 2: Environmental Data Sheet

## WEATHER STATION DATA (Page 2)

|                                          | <u>JAN</u> | <u>FEB</u> | <u>MAR</u> | <u>APR</u> | <u>MAY</u> | <u>JUN</u> | <u>JUL</u> | <u>AUG</u> | <u>SEP</u> | <u>OCT</u> | <u>NOV</u> | <u>DEC</u> |
|------------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| STANDARD DEVIATION                       | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| SKEWNESS                                 | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| KURTOSIS                                 | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| MEAN WIND VEL.<br>(M.P.H.)               | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| STANDARD DEVIATION                       | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| SKEWNESS                                 | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| KURTOSIS                                 | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| MEAN GUST WIND<br>SPEED                  | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| STANDARD DEVIATION                       | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| SKEWNESS                                 | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| KURTOSIS                                 | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| MEAN DAILY PRECIP.                       | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| STANDARD DEVIATION                       | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| SKEWNESS                                 | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| KURTOSIS                                 | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| TOTAL PRECIPITATION<br>(inches of water) | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| NUMBER WET DAYS<br>(above "trace"/0.01") | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| HI INTENSITY PREC.<br>OCCUR. (0.5"/day)  | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |

Figure 2: Continued

## WEATHER STATION DATA (Page 3)

|                                                    | <u>JAN</u> | <u>FEB</u> | <u>MAR</u> | <u>APR</u> | <u>MAY</u> | <u>JUN</u> | <u>JUL</u> | <u>AUG</u> | <u>SEP</u> | <u>OCT</u> | <u>NOV</u> | <u>DEC</u> |
|----------------------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| MEAN DAILY<br>SNOWFALL                             | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| STANDARD DEVIATION                                 | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| SKEWNESS                                           | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| KURTOSIS                                           | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| TOTAL SNOWFALL<br>(inches)                         | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| MEAN DAILY PERCENT<br>SUNSHINE                     | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| STANDARD DEVIATION                                 | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| SKEWNESS                                           | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| KURTOSIS                                           | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| MEAN DAILY SKY<br>COVERAGE SUNRISE<br>TO SUNSET    | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| STANDARD DEVIATION                                 | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| SKEWNESS                                           | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| KURTOSIS                                           | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| MEAN DAILY SKY<br>COVERAGE MIDNIGHT<br>TO MIDNIGHT | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| STANDARD DEVIATION                                 | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| SKEWNESS                                           | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |

Figure 2: Continued

## WEATHER STATION DATA (Page 4)

|                    | <u>JAN</u> | <u>FEB</u> | <u>MAR</u> | <u>APR</u> | <u>MAY</u> | <u>JUN</u> | <u>JUL</u> | <u>AUG</u> | <u>SEP</u> | <u>OCT</u> | <u>NOV</u> | <u>DEC</u> |
|--------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| KURTOSIS           | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| MEAN DAILY MAX     |            |            |            |            |            |            |            |            |            |            |            |            |
| RELATIVE HUMIDITY  | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| STANDARD DEVIATION | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| SKEWNESS           | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| KURTOSIS           | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| MEAN DAILY MIN     |            |            |            |            |            |            |            |            |            |            |            |            |
| RELATIVE HUMIDITY  | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| STANDARD DEVIATION | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| SKEWNESS           | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| KURTOSIS           | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      | _____      |
| COMMENTS:          | _____      |            |            |            |            |            |            |            |            |            |            |            |
|                    | _____      |            |            |            |            |            |            |            |            |            |            |            |
|                    | _____      |            |            |            |            |            |            |            |            |            |            |            |
|                    | _____      |            |            |            |            |            |            |            |            |            |            |            |
|                    | _____      |            |            |            |            |            |            |            |            |            |            |            |

Figure 2: Continued

1990 meeting of the Environmental Data ETG, held in Washington, D.C. Specific recommendations resulting from this meeting have been previously discussed (e.g., revised interpolation algorithm for "virtual" stations) or are discussed later in the report (e.g., collection of ground truth weather data).

Upon approval of the plans, work began in earnest towards the physical development of the LTPP climatic data base. To make this process as efficient and cost-effective as possible, it was recommended at the August 1990 ETG meeting that the actual data collection and data base population effort be done by a company experienced with this type of work. In December 1990, a request for proposal (RFP) was submitted to a number of weather consultants throughout the U.S. and Canada. The major objectives of the work effort detailed in the RFP were:

- To identify weather stations in the vicinity of pavement test sites included in the GPS study, and
- To acquire and process data from various weather stations for each of the above sites and to develop a data base following specifications included in the RFP.

In essence, the end product of the subcontractors effort was to be the development of the climatic data base for 777 GPS test sites.

To accomplish these objectives, three separate phases were outlined in the RFP. Under Phase I, the subcontractor was required to identify weather stations in the vicinity of the GPS pavement test sites using the criteria detailed earlier in the report and approved by the Environmental Data ETG, and to provide the list of weather stations to SHRP for review and approval. The Phase II work effort addressed the likely need for the identification of additional weather stations as a result of more pavement test sites being added to the GPS experiments or to replace, for one reason or another, those previously identified. Finally, under Phase III, the subcontractor was required to obtain and process the data for the final list of weather stations. It was initially estimated that 300 First Order and 2,000 Cooperative weather stations would be used in the development of the climatic data base for the GPS experiments.

In all, eight companies responded to the RFP. However, after a detailed review of the proposals, the number of companies was reduced to two. Although both of these firms were highly qualified to undertake the specified work, the subcontract was awarded to EarthInfo, Inc.

### **Selection of Weather Stations and Data Base Population**

Formal development of the LTPP climatic data base began with the submittal of the list of GPS test sites to EarthInfo. Using the latitude and longitude data provided for each test site on this list, EarthInfo proceeded with the identification of the required five weather stations in the vicinity of the GPS test sites which satisfied the criteria discussed earlier -- e.g., for each site identify at least one active First Order station; identify the closest active or Cooperative weather stations with at least 50% data coverage for the record length to be used; identify the next three closest active or inactive, First Order or Cooperative weather stations; at least one station should have a record length of 10 years.

During the course of selecting the weather stations, many instances of errors in the reported location of the GPS sites came to light. Many of these errors were simple typographical errors, and many were the result of refining the location of the GPS site. Errors as large as several degrees of latitude or longitude were not uncommon. As a result of correcting these errors, many GPS sites had their weather stations re-selected several times.

After the initial weather station identification by EarthInfo (and during the course of the necessary re-selections), the four SHRP Regional Coordination Office (RCO) contractors were asked to assist in an evaluation of the degree to which the five weather stations identified for each GPS test site in their region were believed to represent conditions at the site. Each RCO was provided with the list of GPS test sites and the corresponding weather stations identified by EarthInfo. In addition, guidelines were prepared to aid the RCO in this evaluation -- e.g., input from state climatologist, weather station-to-site distance, elevation difference, and terrain considerations, etc.

The degree to which the selections were reviewed varied significantly from region to region. This was due primarily to whether the review was done directly by the RCO or if the RCO relied on the state climatologists to perform the review. Where the state climatologists were relied upon, results were often delayed until long after the data collection had been completed. For these regions, relatively few weather stations were rejected as being not representative of the weather conditions at the GPS site.

In the Western region, however, an extensive in-house review was undertaken due to concerns regarding the rough terrain and large distances between weather stations and the GPS sites. All GPS sites and their selected weather stations were located on large scale topographical maps. All weather stations determined to be on opposite sides of a mountain ridge from the GPS site were deemed non-representative. Similarly, weather stations at significant elevation differences from the GPS site were also deemed non-representative.

All in all, the review of weather stations by the RCOs resulted in more than 200 being rejected (of a total of more than 3000 overall). Also, a few additional GPS test sites were added to the original list. As a consequence, a follow-up effort was undertaken by EarthInfo to identify new or alternate weather stations. The final list of GPS test sites and corresponding weather stations is contained in Appendix B. Tables 3 to 7 give the distribution of weather stations by distance and elevation difference to the site, by different categories of weather station. Table 8 shows the distribution of accepted weather stations per site. As shown, only 24 GPS sites are represented with fewer than three weather stations.

On completion of weather station selection, the focus of EarthInfo's efforts shifted to the retrieval of the climatic data for each selected weather station. The reader is referred to Table 1 for a list of the data elements extracted from the NCDC and CCC files. Processing of the raw data also yielded various monthly statistics and other "derived" data elements for inclusion in the climatic data base. These additional data elements and their derivation were discussed earlier in the report.

One significant difficulty experienced by EarthInfo was that NCDC's list of First Order weather stations is somewhat misleading. In the course of identifying the First Order

**TABLE 3 - FIRST ORDER WEATHER STATION DISTANCE  
AND ELEVATION DIFFERENCE DISTRIBUTION**

| Elevation<br>Difference<br>(feet) | Distance (miles) |                |                |               |              |                |                | Grand<br>total  |
|-----------------------------------|------------------|----------------|----------------|---------------|--------------|----------------|----------------|-----------------|
|                                   | 0 - 10           | 10 - 20        | 20 - 30        | 30 - 40       | 40 - 50      | 50+            | rejected       |                 |
| <b>0 - 100</b>                    | 66<br>(8.5%)     | 70<br>(9.0%)   | 45<br>(5.8%)   | 31<br>(4.0%)  | 29<br>(3.7%) | 69<br>(8.9%)   | 0<br>(0.0%)    | 310<br>(39.9%)  |
| <b>100 - 200</b>                  | 8<br>(1.0%)      | 29<br>(3.7%)   | 27<br>(3.5%)   | 25<br>(3.2%)  | 13<br>(1.7%) | 34<br>(4.4%)   | 0<br>(0.0%)    | 136<br>(17.5%)  |
| <b>200 - 300</b>                  | 5<br>(0.6%)      | 9<br>(1.2%)    | 7<br>(0.9%)    | 14<br>(1.8%)  | 11<br>(1.4%) | 27<br>(3.5%)   | 0<br>(0.0%)    | 73<br>(9.4%)    |
| <b>300 - 400</b>                  | 5<br>(0.6%)      | 7<br>(0.9%)    | 5<br>(0.6%)    | 11<br>(1.4%)  | 3<br>(0.4%)  | 14<br>(1.8%)   | 0<br>(0.0%)    | 45<br>(5.8%)    |
| <b>400 - 500</b>                  | 3<br>(0.4%)      | 1<br>(0.1%)    | 2<br>(0.3%)    | 2<br>(0.3%)   | 5<br>(0.6%)  | 15<br>(1.9%)   | 0<br>(0.0%)    | 28<br>(3.6%)    |
| <b>500+</b>                       | 1<br>(0.1%)      | 4<br>(0.5%)    | 16<br>(2.1%)   | 10<br>(1.3%)  | 8<br>(1.0%)  | 41<br>(5.3%)   | 0<br>(0.0%)    | 80<br>(10.3%)   |
| <b>rejected</b>                   | 0<br>(0.0%)      | 0<br>(0.0%)    | 0<br>(0.0%)    | 0<br>(0.0%)   | 0<br>(0.0%)  | 0<br>(0.0%)    | 105<br>(13.5%) | 105<br>(13.5%)  |
| <b>Grand<br/>total</b>            | 88<br>(11.3%)    | 120<br>(15.4%) | 102<br>(13.1%) | 93<br>(12.0%) | 69<br>(8.9%) | 200<br>(25.7%) | 105<br>(13.5%) | 777<br>(100.0%) |

**TABLE 4 - ACTIVE COOPERATIVE WEATHER STATION DISTANCE  
AND ELEVATION DIFFERENCE DISTRIBUTION**

| Elevation<br>Difference<br>(feet) | Distance (miles) |                 |               |              |              |              |              | Grand<br>total   |
|-----------------------------------|------------------|-----------------|---------------|--------------|--------------|--------------|--------------|------------------|
|                                   | 0 - 10           | 10 - 20         | 20 - 30       | 30 - 40      | 40 - 50      | 50+          | rejected     |                  |
| <b>0 - 100</b>                    | 329<br>(42.3 %)  | 121<br>(15.6 %) | 18<br>(2.3 %) | 0<br>(0.0 %) | 0<br>(0.0 %) | 1<br>(0.1 %) | 0<br>(0.0 %) | 469<br>(60.4 %)  |
| <b>100 - 200</b>                  | 70<br>(9.0 %)    | 59<br>(7.6 %)   | 12<br>(1.5 %) | 2<br>(0.3 %) | 0<br>(0.0 %) | 0<br>(0.0 %) | 0<br>(0.0 %) | 143<br>(18.4 %)  |
| <b>200 - 300</b>                  | 44<br>(5.7 %)    | 17<br>(2.2 %)   | 2<br>(0.3 %)  | 0<br>(0.0 %) | 0<br>(0.0 %) | 0<br>(0.0 %) | 0<br>(0.0 %) | 63<br>(8.1 %)    |
| <b>300 - 400</b>                  | 17<br>(2.2 %)    | 13<br>(1.7 %)   | 2<br>(0.3 %)  | 1<br>(0.1 %) | 0<br>(0.0 %) | 0<br>(0.0 %) | 0<br>(0.0 %) | 33<br>(4.3 %)    |
| <b>400 - 500</b>                  | 8<br>(1.0 %)     | 7<br>(0.9 %)    | 1<br>(0.1 %)  | 0<br>(0.0 %) | 0<br>(0.0 %) | 0<br>(0.0 %) | 0<br>(0.0 %) | 16<br>(2.1 %)    |
| <b>500+</b>                       | 24<br>(3.1 %)    | 22<br>(2.8 %)   | 4<br>(0.5 %)  | 0<br>(0.0 %) | 0<br>(0.0 %) | 0<br>(0.0 %) | 0<br>(0.0 %) | 50<br>(6.4 %)    |
| <b>rejected</b>                   | 0<br>(0.0 %)     | 0<br>(0.0 %)    | 0<br>(0.0 %)  | 0<br>(0.0 %) | 0<br>(0.0 %) | 0<br>(0.0 %) | 3<br>(0.4 %) | 3<br>(0.4 %)     |
| <b>Grand<br/>total</b>            | 492<br>(63.3 %)  | 239<br>(30.8 %) | 39<br>(5.0 %) | 3<br>(0.4 %) | 0<br>(0.0 %) | 1<br>(0.1 %) | 3<br>(0.4 %) | 777<br>(100.0 %) |

**TABLE 5 - REGULAR (1) COOPERATIVE WEATHER STATION DISTANCE AND ELEVATION DIFFERENCE DISTRIBUTION**

| Elevation Difference (feet) | Distance (miles) |                |                |              |             |             |              | Grand total     |
|-----------------------------|------------------|----------------|----------------|--------------|-------------|-------------|--------------|-----------------|
|                             | 0 - 10           | 10 - 20        | 20 - 30        | 30 - 40      | 40 - 50     | 50+         | rejected     |                 |
| <b>0 - 100</b>              | 80<br>(10.3%)    | 207<br>(26.6%) | 71<br>(9.1%)   | 6<br>(0.8%)  | 0<br>(0.0%) | 1<br>(0.1%) | 0<br>(0.0%)  | 365<br>(47.0%)  |
| <b>100 - 200</b>            | 34<br>(4.4%)     | 76<br>(9.8%)   | 43<br>(5.5%)   | 3<br>(0.4%)  | 1<br>(0.1%) | 0<br>(0.0%) | 0<br>(0.0%)  | 157<br>(20.2%)  |
| <b>200 - 300</b>            | 19<br>(2.5%)     | 54<br>(7.0%)   | 17<br>(2.2%)   | 2<br>(0.3%)  | 0<br>(0.0%) | 0<br>(0.0%) | 0<br>(0.0%)  | 92<br>(11.8%)   |
| <b>300 - 400</b>            | 7<br>(0.9%)      | 20<br>(2.6%)   | 13<br>(1.7%)   | 2<br>(0.3%)  | 0<br>(0.0%) | 0<br>(0.0%) | 0<br>(0.0%)  | 42<br>(5.4%)    |
| <b>400 - 500</b>            | 6<br>(0.8%)      | 15<br>(1.9%)   | 5<br>(0.6%)    | 1<br>(0.1%)  | 0<br>(0.0%) | 0<br>(0.0%) | 0<br>(0.0%)  | 27<br>(3.5%)    |
| <b>500+</b>                 | 9<br>(1.2%)      | 42<br>(5.4%)   | 19<br>(2.5%)   | 4<br>(0.5%)  | 0<br>(0.0%) | 0<br>(0.0%) | 0<br>(0.0%)  | 74<br>(9.5%)    |
| <b>rejected</b>             | 0<br>(0.0%)      | 0<br>(0.0%)    | 0<br>(0.0%)    | 0<br>(0.0%)  | 0<br>(0.0%) | 0<br>(0.0%) | 20<br>(2.6%) | 20<br>(2.6%)    |
| <b>Grand total</b>          | 155<br>(20.0%)   | 414<br>(53.3%) | 168<br>(21.6%) | 18<br>(2.3%) | 1<br>(0.1%) | 1<br>(0.1%) | 20<br>(2.6%) | 777<br>(100.0%) |

**TABLE 6 - REGULAR (2) COOPERATIVE WEATHER STATION DISTANCE AND ELEVATION DIFFERENCE DISTRIBUTION**

| Elevation Difference (feet) | Distance (miles) |                |                |              |             |             |              | Grand total     |
|-----------------------------|------------------|----------------|----------------|--------------|-------------|-------------|--------------|-----------------|
|                             | 0 - 10           | 10 - 20        | 20 - 30        | 30 - 40      | 40 - 50     | 50+         | rejected     |                 |
| <b>0 - 100</b>              | 17<br>(2.2%)     | 134<br>(17.3%) | 153<br>(19.7%) | 17<br>(2.2%) | 1<br>(0.1%) | 1<br>(0.1%) | 0<br>(0.0%)  | 323<br>(41.6%)  |
| <b>100 - 200</b>            | 8<br>(1.0%)      | 59<br>(7.6%)   | 77<br>(9.9%)   | 10<br>(1.3%) | 0<br>(0.0%) | 0<br>(0.0%) | 0<br>(0.0%)  | 154<br>(19.8%)  |
| <b>200 - 300</b>            | 2<br>(0.3%)      | 29<br>(3.7%)   | 43<br>(5.5%)   | 3<br>(0.4%)  | 2<br>(0.3%) | 1<br>(0.1%) | 0<br>(0.0%)  | 80<br>(10.3%)   |
| <b>300 - 400</b>            | 1<br>(0.1%)      | 18<br>(2.3%)   | 23<br>(3.0%)   | 4<br>(0.5%)  | 1<br>(0.1%) | 0<br>(0.0%) | 0<br>(0.0%)  | 47<br>(6.1%)    |
| <b>400 - 500</b>            | 2<br>(0.3%)      | 9<br>(1.2%)    | 13<br>(1.7%)   | 5<br>(0.6%)  | 0<br>(0.0%) | 0<br>(0.0%) | 0<br>(0.0%)  | 29<br>(3.7%)    |
| <b>500+</b>                 | 6<br>(0.8%)      | 47<br>(6.1%)   | 44<br>(5.7%)   | 8<br>(1.0%)  | 2<br>(0.3%) | 0<br>(0.0%) | 0<br>(0.0%)  | 107<br>(13.8%)  |
| <b>rejected</b>             | 0<br>(0.0%)      | 0<br>(0.0%)    | 0<br>(0.0%)    | 0<br>(0.0%)  | 0<br>(0.0%) | 0<br>(0.0%) | 37<br>(4.8%) | 37<br>(4.8%)    |
| <b>Grand total</b>          | 36<br>(4.6%)     | 296<br>(38.1%) | 353<br>(45.4%) | 47<br>(6.1%) | 6<br>(0.8%) | 2<br>(0.3%) | 37<br>(4.8%) | 777<br>(100.0%) |

**TABLE 7 - REGULAR (3) COOPERATIVE WEATHER STATION DISTANCE AND ELEVATION DIFFERENCE DISTRIBUTION**

| Elevation Difference (feet) | Distance (miles) |                |                |                |              |             |              | Grand total     |
|-----------------------------|------------------|----------------|----------------|----------------|--------------|-------------|--------------|-----------------|
|                             | 0 - 10           | 10 - 20        | 20 - 30        | 30 - 40        | 40 - 50      | 50+         | rejected     |                 |
| <b>0 - 100</b>              | 8<br>(1.0%)      | 82<br>(10.6%)  | 148<br>(19.1%) | 55<br>(7.1%)   | 6<br>(0.8%)  | 1<br>(0.1%) | 0<br>(0.0%)  | 300<br>(38.6%)  |
| <b>100 - 200</b>            | 1<br>(0.1%)      | 25<br>(3.2%)   | 95<br>(12.2%)  | 24<br>(3.1%)   | 4<br>(0.5%)  | 0<br>(0.0%) | 0<br>(0.0%)  | 149<br>(19.2%)  |
| <b>200 - 300</b>            | 2<br>(0.3%)      | 21<br>(2.7%)   | 48<br>(6.2%)   | 20<br>(2.6%)   | 0<br>(0.0%)  | 1<br>(0.1%) | 0<br>(0.0%)  | 92<br>(11.8%)   |
| <b>300 - 400</b>            | 2<br>(0.3%)      | 12<br>(1.5%)   | 22<br>(2.8%)   | 13<br>(1.7%)   | 0<br>(0.0%)  | 0<br>(0.0%) | 0<br>(0.0%)  | 49<br>(6.3%)    |
| <b>400 - 500</b>            | 1<br>(0.1%)      | 10<br>(1.3%)   | 17<br>(2.2%)   | 13<br>(1.7%)   | 0<br>(0.0%)  | 0<br>(0.0%) | 0<br>(0.0%)  | 41<br>(5.3%)    |
| <b>500+</b>                 | 1<br>(0.1%)      | 17<br>(2.2%)   | 44<br>(5.7%)   | 15<br>(1.9%)   | 3<br>(0.4%)  | 0<br>(0.0%) | 0<br>(0.0%)  | 80<br>(10.3%)   |
| <b>rejected</b>             | 0<br>(0.0%)      | 0<br>(0.0%)    | 0<br>(0.0%)    | 0<br>(0.0%)    | 0<br>(0.0%)  | 0<br>(0.0%) | 66<br>(8.5%) | 66<br>(8.5%)    |
| <b>Grand total</b>          | 15<br>(1.9%)     | 167<br>(21.5%) | 374<br>(48.1%) | 140<br>(18.0%) | 13<br>(1.7%) | 2<br>(0.3%) | 66<br>(8.5%) | 777<br>(100.0%) |

**TABLE 8 - DISTRIBUTION OF WEATHER STATIONS PER SITE**

| <b>No. of Accepted Weather Stations</b> | <b>No. of Sites</b> |
|-----------------------------------------|---------------------|
| 5                                       | 634                 |
| 4                                       | 86                  |
| 3                                       | 33                  |
| 2                                       | 18                  |
| 1                                       | 6                   |

weather stations, EarthInfo selected one for each GPS site. After the review described above, they then began extracting the desired weather data from their database and building the required product of this effort. After building the lowest level of the database, EarthInfo discovered that some of the data was missing for the First Order weather stations. On further examination, the missing data was restricted to approximately 20% of the selected First Order weather stations. After fully investigating the cause of this deficiency, EarthInfo discovered that the NCDC list of First Order weather stations includes all weather stations that were EVER First Order at any point within their life. What this meant was that when they extracted the required First Order weather data, much of it was missing because the weather station was actually a Cooperative weather station during a portion (sometimes the majority) of its life. The remedy was to reselect all weather stations for the affected GPS sites. This was also a multi-step process, for the same reasons described for the initial selection. The discovery and resolution of this problem resulted in a delay of approximately 90 days in the data base development effort.

Concurrent with the above effort, various activities were undertaken to finalize the structure of the climatic data base. Following the recommendations provided in the preliminary plans, the data base was defined as being comprised of three levels: (1) raw climatic data (low level); daily data, statistical parameters, and derived data (middle level); and, monthly summary data (high level). A description of each level was provided earlier in the report. Next, the structure of each level and that of individual records within each level were finalized as were the formats for the various data elements. Finally, the computer code required to calculate the monthly statistics and other derived data was developed. The reader is referred to Appendix A for a detailed description of the final data base structure.

In all, 37 9-track tapes containing over 3 gigabytes of climatic data were generated. The low level database contains 17 tapes with a total of 1.5 gigabytes of data. The middle level database also contains 17 tapes, with a total of 1.4 gigabytes of data. The top level of the database contains 3 tapes with a total of .22 gigabytes of data. To ensure the quality of the data contained in these tapes, a series of checks were performed on them by SHRP's Technical Assistance Contractor. These quality assurance checks and their outcome are discussed in the next section. After the successful completion of the quality checks, all three

levels of the climatic data base were turned over to the Transportation Research Board, where the National Pavement Performance Data Base (NPPDB) now resides. Both the low and middle level data bases are being stored off-line, while the top level data base is stored in the NPPDB. Only data for the closest and "virtual" weather stations are currently in the NPPDB for each GPS test site due to storage limitations. An example of a portion of the top level data is contained in Table 9.

### **Data Quality Assurance**

To ensure the reliability of the data stored in the climatic data base, only data flagged as valid from NCDC and CCC were used in the development process. Additional quality control procedures included verification that all ordered and available data had been obtained and a thorough checking and review of the software used in the development of the data base. Furthermore, because there is a substantial amount of data in each level of the database, the following checks were performed separately on each level:

- **Raw Climatic Data:** Check that all tapes are readable and compare the weather stations to the list of selected stations; the entire list of selected weather stations should have been observed in the tapes.
- **Daily Data, Statistical Parameters, and Derived Data:** Check that all tapes are readable and compare the weather stations and parameters to the list of selected stations; the entire list of selected weather stations should have been observed on the tapes. Also, check that the expected range of years of data has been obtained by comparing to the weather station selection list. In addition, read the link records and compare them to the separately obtained lists of GPS sites and their selected weather stations; all GPS sites and their selected weather stations should be represented.
- **Monthly Summary Data:** For monthly statistical data, check that all tapes are readable and compare the weather stations and parameters to the list of selected stations; the entire list of selected weather stations should have been observed on the tapes. Perform a check on absolute values. Also, check that

TABLE 9 - SAMPLE TOP LEVEL VIRTUAL DATA FOR GPS SITE 480001

| Max Temperature |     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    |
|-----------------|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| (degrees F)     |     |        |        |        |        |        |        |        |        |        |        |        |
| Average         |     | 68.06  | 69.57  | 70.00  | 79.06  | 87.90  | 97.09  | 93.35  | 97.61  | 91.40  | 81.87  | 73.96  |
| Std Dev         |     | 8.326  | 7.946  | 8.858  | 6.601  | 5.889  | 2.604  | 5.890  | 3.231  | 5.499  | 7.864  | 7.019  |
| Skewness        |     | -0.617 | -0.424 | -1.390 | -0.390 | -0.541 | -0.196 | -0.926 | 0.372  | -0.436 | -0.036 | -0.728 |
| Kurtosis        |     | 2.640  | 2.062  | 4.291  | 3.025  | 2.089  | 2.198  | 3.420  | 2.615  | 3.330  | 1.899  | 2.332  |
| Frz/Thw         |     | 1      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Miss Cnt        |     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| # > 90          | 0   | 0      | 0      | 1      | 15     | 30     | 24     | 31     | 20     | 6      | 0      | 0      |
| Min Temperature |     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    |
| (degrees F)     |     |        |        |        |        |        |        |        |        |        |        |        |
| Average         |     | 45.93  | 47.28  | 52.12  | 59.06  | 67.67  | 73.90  | 72.29  | 73.45  | 69.83  | 56.64  | 52.09  |
| Std Dev         |     | 9.121  | 5.912  | 9.545  | 7.277  | 6.905  | 2.233  | 2.312  | 2.292  | 4.077  | 10.920 | 10.020 |
| Skewness        |     | 0.569  | 0.185  | 0.089  | -0.277 | -0.448 | -0.758 | -1.047 | -0.654 | -1.202 | 0.353  | 0.166  |
| Kurtosis        |     | 2.678  | 2.805  | 1.688  | 2.080  | 1.942  | 4.272  | 3.448  | 2.484  | 3.852  | 1.581  | 1.742  |
| Frz Index       |     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Miss Cnt        |     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| # < 32          | 0   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 9      |
| Precipitation   |     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    |
| (inches/100)    |     |        |        |        |        |        |        |        |        |        |        |        |
| Average         |     | 4.26   | 12.32  | 8.55   | 10.76  | 11.80  | 4.47   | 10.38  | 2.03   | 6.57   | 10.38  | 12.23  |
| Std Dev         |     | 8.644  | 24.310 | 21.110 | 34.510 | 38.120 | 23.520 | 24.290 | 4.672  | 11.700 | 35.840 | 42.530 |
| Skewness        |     | 2.166  | 2.067  | 4.048  | 4.314  | 4.246  | 4.936  | 3.574  | 2.773  | 2.125  | 3.906  | 4.422  |
| Kurtosis        |     | 6.393  | 6.080  | 20.160 | 21.700 | 21.340 | 26.160 | 16.740 | 10.340 | 6.936  | 18.270 | 22.500 |
| Total           | 132 | 345    | 265    | 323    | 366    | 134    | 322    | 63     | 197    | 322    | 367    | 82     |
| # > 0.5         | 0   | 3      | 1      | 1      | 3      | 1      | 1      | 0      | 0      | 2      | 1      | 0      |
| # > 0.01        |     | 12     | 11     | 15     | 11     | 11     | 2      | 13     | 8      | 13     | 5      | 7      |
| Snowfall        |     | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    |
| (inches/10)     |     |        |        |        |        |        |        |        |        |        |        |        |
| Average         |     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Std Dev         |     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Skewness        |     | -9999  | -9999  | -9999  | -9999  | -9999  | -9999  | -9999  | -9999  | -9999  | -9999  | -9999  |
| Kurtosis        |     | -9999  | -9999  | -9999  | -9999  | -9999  | -9999  | -9999  | -9999  | -9999  | -9999  | -9999  |
| Total           | 0   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |

the expected range of years of data has been obtained by comparing to the weather station selection list. For GPS site location data, compare the recorded data to the separately obtained list of GPS sites; all GPS sites should be represented. For weather station site location data, compare the recorded data to the separately obtained list of selected weather stations; all selected weather stations should be represented. For GPS to weather station link data, compare the recorded data to the separately obtained list of GPS site and weather station combinations; all combinations of GPS site and selected weather station should be represented.

Readability checks mentioned above included checking the data areas of the tapes for non-numeric characters. Any non-numeric data found there meant that either the tape was corrupted or that the hardware had failed. Many of the checks described above were performed in a random fashion, with data observed throughout the entire data set. Where appropriate, "virtual" weather station data was compared to data from the nearest available weather station when they were in close proximity, in order to evaluate whether or not the calculated data was reasonably close to the measured data. Where GPS sites have both U.S. and Canadian weather stations selected, samples of data were checked to determine if units conversions were performed appropriately.

Finally, for a small group of GPS sites and their selected weather stations, the entire set of data was entered on the data collection forms in order to verify that the forms and the computerized data collection process matched.

While this process was not intended to be an iterative procedure, the initial attempts at producing the tapes yielded numerous minor errors. Several iterations became necessary, and a substantial amount of effort was expended by all parties in resolving these problems prior to attempting to load this data into NIMS.

### **IMS Quality Assurance**

At the time of this writing, the specific quality assurance checks for use on the IMS are still under development. Like other portions of the IMS, these checks generally take

on several different forms. Some data elements are checked simply to ensure their presence, from the point of view of completeness of the database. Other data elements are checked against a range of values for that type of parameter in order to flag those that are out of range of normal values. Still other data elements are checked against values contained in other data tables in order to maintain internal consistency. The climatic data base will not be released to the public until it has passed all established quality assurance checks.

## **FUTURE ACTIVITIES**

Although significant effort has been spent on the development of SHRP's LTPP climatic database, the work is far from complete. For one, the climatic data currently available in the database ends somewhat before the date of this report. Because the majority of LTPP sections will be monitored for many years to come, future updates of the climatic data base will be required on a periodic basis. Also, despite the data base development effort to date, there are gaps in the data for a number of weather stations and some weather stations may not be representative of on-site weather conditions. To address both of these concerns, the feasibility of obtaining ground truth data through on-site weather stations needs to be investigated. Finally, it is important that an effort similar to the one discussed in this report be undertaken to expand the LTPP climatic data base to include SPS test sites. These three issues are further discussed below.

### **Data Base Update Activities**

The majority of SHRP sections, both GPS and SPS, will be monitored for many years to come. However, the climatic data currently stored in the LTPP data base only includes information through February 1991 for U.S. sites and December 1989 for Canadian sites. Thus, future updates of the climatic data base will be required on a periodic basis. Current recommended plans call for these updates to be performed every two years for each active GPS test site. As part of these updates, weather stations that have become inactive would be replaced by other weather stations of the same order (First Order or Cooperative) or higher. At the same time, a check would be made to verify whether any new stations have been established closer to the site than stations already included in the data base. In case

such stations are identified, these stations will be added to the data base and new data for other existing weather stations will not be collected. Historic data will be maintained in the data base, even after a station has been dropped.

It is also possible that as the analysis of the LTPP data progresses, it may become necessary to collect and store additional data elements in the climatic data base. Likewise, additional activities may be necessitated in the future, depending on the result of the climatic data base verification study discussed below.

### **Collection of Ground Truth Data**

Despite the effort that went into the development of the LTPP climatic data base, there are gaps in the data for a number of the weather stations selected. Furthermore, data obtained from the selected weather stations may not be representative of the actual, on-site weather conditions for a number of sites. To overcome these shortcomings, it is planned to obtain ground truth weather data to achieve the following:

- Evaluate the degree to which estimates derived from NCDC and CCC weather data are representative of actual, on-site weather conditions
- Provide weather data for those sites where no representative weather stations have been identified, or to fill in gaps in the available data.

In order to analyze the uniformity in the weather pattern in the area of the test sites, it is envisioned that the weather information from each of the selected weather stations will be compared statistically with "virtual" data derived from the others. Depending on the results of this analysis, the correlation between the weather stations and the location of the test site can be estimated. This analysis will look at only temperature and moisture, represented by mean temperature and total precipitation. It is further anticipated that the above analysis will be supplemented (and validated) by weather data obtained from weather stations installed at or near a limited number of GPS test sites.

On completion of the degree of representativeness analysis, it is quite likely that on-site or ground truth weather stations will be required at a number of GPS test sites. As an

absolute minimum, these weather stations would collect temperature, precipitation and snowfall data. Other data elements such as wind speed and relative humidity would also be considered, but their inclusion would depend on a number of factors, including financial constraints.

### **Expansion to SPS Experiments**

The availability of climatic data is as critical for SPS experiments as for the GPS experiments. The data elements given in Table 1 are also considered essential for each SPS site. For SPS-3, SPS-4, SPS-5, SPS-6, and SPS-7, a procedure similar to that described for the GPS sites will be followed to obtain the climatic data. These data will be collected at a later date, since the SPS experiments are very young. For the SPS-1, SPS-2, and SPS-8 experiments involving new construction, a more rigorous data collection effort is to be followed.

The participation requirements for SPS-1, SPS-2, and SPS-8 test sites stipulate the installation and operation of a weather station at the sites if a weather station is not located in the "proximity" of the test site. The proximity is based on representativeness of the weather station data to the SPS test site. For example, in the midwestern states, weather stations located 5 to 8 miles from the test site may provide representative weather data, while in the mountain states, stations located a few miles from the test site may not provide representative data. For each SPS-1, SPS-2 and SPS-8 site, a state climatologist will be requested to provide input regarding adjacent weather stations and the extent of their representativeness of the climate conditions at the test site.

Tentatively, the following guidelines have been established to access the representativeness of the weather stations.

1. Mean daily temperature (monthly) should be within 10% of that at the weather station.
2. Daily precipitation (monthly) and daily snowfall (monthly) at the test site should be within 20% of that at the weather station.

If the weather station data does not meet the above requirements, or if other reasons exist for not considering adjacent weather stations (poor quality of data, potential closure, etc.) then a cooperative type weather station will need to be established for these test sites. It is anticipated that since many of the test sites will be in remote locations, use will be made of commercially available weather stations capable of measuring the necessary climatic data. The use of these weather stations will also permit collection of solar radiation data at a few test sites.

## **SUMMARY AND CONCLUSIONS**

This report presents details on the development of the climatic database for the LTPP test sections. For the GPS test sites which have been in service, generally for a large number of years, past climatic data had to be collected from in-service weather stations in both the U.S. and Canada. Thus the database provides the best available estimate for the climatic data at each GPS test section. Efforts are currently underway to determine the reliability of the database and to identify the need for ground-truth weather stations at a small number of test sections.

The database is one of the most comprehensive climatic databases developed, and contains climatic data applicable to each GPS test section from the date of construction of that section. The last year of record is 1990. The database will be regularly updated as the LTPP program continues for another 15 years. A similar database will be developed for the SPS test sites also. For SPS-1, SPS-2, and SPS-8 experiments involving new construction, a more rigorous data collection effort to ensure that climatic data collected for these sites is truly representative is planned.

## **APPENDIX A**

### **EARTHINFO DOCUMENTATION**

## CONTENTS

## I. PHASE I : IDENTIFYING WEATHER STATIONS

Describes the logic and formulas used in selecting weather stations for each GPS site.

## II. PHASE III: BUILDING THE DATABASE

Describes the steps taken to build the database and gives an overview of the records and fields at all three levels.

## III. DATABASE DEFINITION FILES

The records and fields at each level are listed in detail. Comments at the beginning of each level's definition file describe how the fields are used.

## IV. PARAMETER CODE TABLE

Lists National Climatic Data Center (NCDC) and Canadian Climate Center (CCC) weather parameters, the corresponding codes used in this database, and which station types measure which parameters.

## V. LOGIC USED FOR CALCULATIONS

Outlines in pseudo code the logic used for making calculations and deriving data in the middle and top levels.

## VI. NOTES ON DATA AND PROCESSING

Describes some pertinent features of the data and interesting points discovered while processing the database.

## PHASE I: IDENTIFY WEATHER STATIONS

For each of the GPS sites in this study, five weather stations were selected based on the logic outlined below. Weather stations were selected from EarthInfo's CD database of NCDC 3200 data published in 1990. The list of stations was modified and approved by PCS/LAW during Phase II.

No Canadian stations are identified as "first order" by the Canadian Climate Center. For this project, any Canadian station that measured, at any time, all the first order parameters listed in the RFP was marked as a first order station.

## WEATHER STATION SELECTION LOGIC

## SELECTION

1. Build Station List ordered by Distance from current GPS Site.
2. Find closest FIRST ORDER Station.
3. Check active and coverage condition (see below)
  - if check fails: report on log and find next closest, continue at 3
  - if check succeeds: mark station and report on log, continue at 4
4. Find closest ACTIVE and COOPERATIVE Station.
5. Check coverage condition and whether used above (marked)
  - if check fails: report on log and find next closest, continue at 5
  - if check succeeds: mark station and report on log, continue at 6.
6. Find closest Stations.
7. Check coverage condition and whether used above (marked)
  - if check fails: report on log and find next closest
  - if check succeeds: mark station and report on log, find next closest, continue at 7 until 3 stations found.
8. Check record length condition (below) for all marked Stations
  - if none found: report on log and find next closest match, continue at 8
  - if check succeeds: mark station and report on log, continue at 9.
9. Selection process completed for current GPS Site.

## COVERAGE CONDITION

1. if Construction Year (CY) is after 84,  
set cover range to 1985-1989
2. if Construction Year (CY) is before 85,  
cover range is to CY-1989
3. Check if each of the following PARAMETER is measured on more than 50% of all possible days in the cover range:
  - Minimum daily Temperature (TMIN)
  - Maximum daily Temperature (TMAX)

- Daily Precipitation (PRCP)
- Daily Snowfall (SNOW) - the SNOW cover check will not be performed if the GPS has the "NF" (NO FREEZE) flag.

## RECORD LENGTH CONDITION

1. if Construction Year is after 1984,  
    record length is 5 years (1985-1989).
2. if Construction Year is 1984,  
    record length is 6 years (1984-1989).
3. if Construction Year is 1983,  
    record length is 7 years (1983-1989).
4. if Construction Year is 1982,  
    record length is 8 years (1982-1989).
5. if Construction Year is 1981,  
    record length is 9 years (1981-1989).
6. if Construction Year is before 1981,  
    record length is 10 years (1980-1989).

## DISTANCE FORMULA

Point1 described by Latitude1 (lat1) (in degrees)  
and Longitude1 (lng1) (in degrees).

Point2 described by Latitude2 (lat2) (in degrees)  
and Longitude2 (lng2) (in degrees).

## Vertical Distance

dis\_v =  
    abs(lat2 - lat1)\*24,859.82 miles/360 degrees

## Horizontal Distance

dis\_h =  
    cos((lat2+lat1)/2)\*abs(lng2-lng1)\*24,901.55 miles/360 degrees

## Real Distance

dis =  
    sqrt(dis\_v\*dis\_v + dis\_h\*dis\_h)

## Error

The remaining error is the difference between the arc and the  
straight line connecting both points:

error (in percent) = angle(degrees)\*PI/(360\*sin(angle/2))

Error for 5 degrees is only 0.03 percent, for  
10 degrees 0.13 percent.

## PHASE III: BUILDING

All weather data for this project are from EarthInfo databases of National Climatic Data Center (NCDC) or the Canadian Climate Centre (CCC) data obtained in 1991. Therefore, we include a discussion of how the EarthInfo databases were built.

## EARTHINFO DATABASES

## 1. Convert NCDC and CCC ASCII Records to Binary

Data from NCDC and CCC were obtained on 9-track tapes. Each tape was read twice and the resulting files compared to insure that the reading was accurate. An index of stations, parameters, years, months, and tape volume number was compiled as each tape was read. This permits easy access to the original NCDC data for comparisons. A count of all characters found in the tape-file was also performed to check for values outside the proper range. In addition, the data files were inspected manually to check for standard NCDC and CCC data patterns.

First order and CCC records are fixed length, but cooperative records are variable length. There is one month of data per record. To build the weather databases, we created fixed length binary records of each monthly input record. These were sorted by station, parameter, units, year, and month.

## 2. Create the Database

Yearly records were created from the sorted monthly records and stored in an indexed database. The volume of data dictated that separate databases be built for first order, CCC, and cooperative stations.

## EXTRACT SHRP/LTPP DATA

A list of GPS sites and their associated weather stations was determined in Phase I and II of this project. This list was used to select appropriate weather data from the EarthInfo databases. The parameter table at the end of this document describes which parameters were selected for which type of weather station. The output of this selection process was used to build the three SHRP/LTPP database levels.

## 1. LOW LEVEL

All available data for each weather station, for each parameter, was converted to ASCII and exported to the low level database. The parameters at this level are determined by the type of weather station; see the parameter code table. Record format and fields are described in detail in the low level database definition.

## 2. MIDDLE LEVEL

Two record types were created at this level: weather station data, and a link record to connect each GPS site to its weather stations.

Weather station data contains yearly records: daily data with monthly and yearly statistical and derived values. The date range of this record type was determined by the age of the GPS site linked to the weather station.

The link record contains the GPS site ID and the ID numbers of each of the linked weather stations.

Each record format and its fields are described in detail in the middle level database definition; following is a general description.

### Weather station data record

#### Header

The key field in the header of each record contains the weather station type, (FO = first order, CP = cooperative, CC = Canadian, VV = virtual) and an 8 digit ID number of the weather station. FO and CP types only apply to NCDC stations; the Canadian Climate Centre does not designate its stations as first order or cooperative. Other fields in the header are the parameter code, year of measurement, parameter units, and yearly coverage. Units of measurement depend on the country of the linked GPS site; English units are used for weather stations linked to GPS sites in the USA, SI units are used for weather stations linked to GPS sites in Canada. Following the header are 12 groups of fields, one for each month of the year.

#### Daily, statistical, and derived values by month

The first field in the group is a data block that contains the daily values and flags from NCDC or CCC. This is followed by monthly statistical values: mean, standard deviation, skewness, and kurtosis.

The last three fields in the group are derived values for the month. The values stored in these fields depend on the parameter. For example, if the parameter is precipitation, one field will have total monthly precipitation, one will have the number of days with high intensity precipitation, and one will have the number of wet days. If the parameter is maximum temperature, one field will have the number of days over 90 F, the others will be empty. Most parameters will not have values in these fields; details of these fields are in the middle level database definition.

#### Yearly fields

At the end of the record are the yearly summary fields where appropriate: freeze-thaw cycles or freezing index and their missing-data counts.

#### Link Record

The link record contains the ID of the GPS site, the ID numbers of the five weather stations linked to it, and the ID of the virtual weather station. The virtual weather station ID is the GPS ID with a "VV00" prefix.

### 3. TOP LEVEL

There are four records at this level: weather data, GPS site, weather station, and a link record.

#### Weather Data

There is one year of data in each record. It contains monthly & yearly statistical and derived data. The fields are the same as the middle level without the daily values.

#### GPS Site

The key field is the SHRP/LTPP project ID. Other fields include construction date, latitude, longitude, and elevation.

#### Weather Station

The key field is the weather station ID. Other fields are name, latitude, longitude, elevation, and begin date.

#### Link

The link record establishes the link between the GPS site and its weather stations. It also contains the "difference" data: distance, elevation difference, bearing, temperature coverage and moisture coverage.

## LOW LEVEL DATABASE DEFINITION FILE

## SHRP/LTPP LOW LEVEL DATABASE

There is one record at this level: weather station data for the life of the weather station.

## Fields:

l\_sta is the group (FO, CP, or CC) followed by an 8-digit weather station ID where FO = First Order, CP = Cooperative, CC = CCC.

l\_par is a 2-digit code of the weather parameter.

l\_year is the year of measurements.

l\_unit is the units of measurements.

l\_data is 372 days of 1 sign, 5 digits, and 2 flags. No decimal point is included in the field, its position is implied by the units of measurement.

TITLE: LOW

# Low level database

Total record size = 2994

## FIELD DESCRIPTIONS

|        |          |          |                       |
|--------|----------|----------|-----------------------|
| l_sta  | TYPE=STR | LEN=10   | # Weather Station ID  |
| l_par  | TYPE=STR | LEN=2    | # Parameter code      |
| l_year | TYPE=STR | LEN=4    | # Year                |
| l_unit | TYPE=STR | LEN=2    | # Units               |
| l_data | TYPE=STR | LEN=2976 | # Daily values: 8x372 |

## MID LEVEL DATABASE DEFINITION FILE

## SHRP/LTPP MID LEVEL DATABASE

There are two records at this level: Weather station data (M) and a GPS to weather station link record (GW).

## M record:

This record consists of NCDC and CCC data with statistics and derived values.

## Header fields:

m\_sta Group (FO, CP, CC or VV) followed by 8 digit weather station ID. FO = First Order, CP = Cooperative, CC = CCC, VV = Virtual. The virtual weather station ID is "VV00" plus the number of the GPS site to which it is linked.

m\_par Parameter Number: 2-digit code

m\_year Year of measurement.

m\_unit Units of measurement. Same units as the linked GPS site.

m\_covr Yearly coverage: number of days with measurements.

NOTE: "Coverage" refers to daily values with a quality flag of 1 or 0. 'R' flags (prcp not reported, zero assumed) and 'D' flags (Derived data) are not counted as coverage days.

## Data:

Following the header fields are 12 groups of monthly data and statistics. Field m\_xx\_yyy is field yyy for month xx, where xx is 01 for January, etc.

Field m\_xx\_dat is 31 days of data in NCDC format (1 sign, 5 digits, and 2 flags). The decimal point is not recorded; its position is determined by the units of measurement.

## Statistics:

|          |                 |
|----------|-----------------|
| m_xx_avg | Monthly Mean    |
| m_xx_std | " Std Deviation |
| m_xx_skw | " Skewness      |
| m_xx_kur | " Kurtosis      |

## Derived monthly values:

The three monthly derived fields have different meanings depending on the parameter to which they are attached. The table following shows which values are stored with which parameter:

```
m_xx_tot  Monthly Total
m_xx_max   "      Maximum
m_xx_nbr   "      Count
```

| Param. | Code | Field and Meaning |                  |               |
|--------|------|-------------------|------------------|---------------|
|        |      | m_xx_tot          | m_xx_max         | m_xx_nbr      |
| TMAX   | 01   | Freeze-Thaw count | Missing data cnt | # days > 90°F |
| TMIN   | 02   | Freeze Index      | Missing data cnt | # days < 32°F |
| MNTP   | 03   | Mean tmp range    | Missing data cnt |               |
| SNOW   | 11   | Total snow        |                  |               |
| PRCP   | 12   | Total prcp        | # High intensity | # wet days    |

Note that "Missing data cnt" refers to the previous field, not to the daily values of the previous month. Ie: the missing data cnt for TMAX refers to the Freeze-Thaw count for that month. Missing data would be counted if either the TMAX or TMIN value for a particular day was missing.

#### Derived yearly values:

Values in the fields "m\_fr" and "m\_miss" depend on the parameter.

##### TMAX:

```
m_fr      Yearly Freeze-Thaw count
m_miss    Yearly missing data count for Freeze Thaw.
```

##### TMIN:

```
m_fr      Yearly Freezing Index
m_miss    Yearly missing data count for Freezing Index
```

#### GW record:

This record links each GPS site to up to 5 weather stations and one virtual station. It contains the ID numbers of the GPS site, it's five weather stations, and the virtual station. If a weather station is missing, its ID field is filled with zeros.

### FIELD DESCRIPTIONS

#### RECORD1 FIELD DESCRIPTIONS

Total record size = 3513

|           |                     |                         |
|-----------|---------------------|-------------------------|
| RECORD: M |                     | # Middle Level database |
| m_sta     | TYPE=STR/IDX LEN=10 | # Weather Station ID    |
| m_par     | TYPE=STR LEN=2      | # Parameter Number      |
| m_year    | TYPE=STR LEN=4      | # Year                  |

|          |                  |                       |
|----------|------------------|-----------------------|
| m_unit   | TYPE=STR LEN=2   | # Units               |
| m_covr   | TYPE=STR LEN=3   | # Yearly coverage     |
| Month 01 |                  |                       |
| m_01_dat | TYPE=STR LEN=248 | # Daily Values 8 x 31 |
| m_01_avg | TYPE=STR LEN=6   | # Monthly Mean        |
| m_01_std | TYPE=STR LEN=6   | # " Std Deviation     |
| m_01_skw | TYPE=STR LEN=6   | # " Skewness          |
| m_01_kur | TYPE=STR LEN=6   | # " Kurtosis          |
| m_01_tot | TYPE=STR LEN=6   | # " Total             |
| m_01_max | TYPE=STR LEN=6   | # " Maximum           |
| m_01_nbr | TYPE=STR LEN=6   | # " Count             |
| Month 02 |                  |                       |
| m_02_dat | TYPE=STR LEN=248 | # Daily Values 8 x 31 |
| m_02_avg | TYPE=STR LEN=6   | # Monthly Mean        |
| m_02_std | TYPE=STR LEN=6   | # " Std Deviation     |
| m_02_skw | TYPE=STR LEN=6   | # " Skewness          |
| m_02_kur | TYPE=STR LEN=6   | # " Kurtosis          |
| m_02_tot | TYPE=STR LEN=6   | # " Total             |
| m_02_max | TYPE=STR LEN=6   | # " Maximum           |
| m_02_nbr | TYPE=STR LEN=6   | # " Count             |
| Month 03 |                  |                       |
| m_03_dat | TYPE=STR LEN=248 | # Daily Values 8 x 31 |
| m_03_avg | TYPE=STR LEN=6   | # Monthly Mean        |
| m_03_std | TYPE=STR LEN=6   | # " Std Deviation     |
| m_03_skw | TYPE=STR LEN=6   | # " Skewness          |
| m_03_kur | TYPE=STR LEN=6   | # " Kurtosis          |
| m_03_tot | TYPE=STR LEN=6   | # " Total             |
| m_03_max | TYPE=STR LEN=6   | # " Maximum           |
| m_03_nbr | TYPE=STR LEN=6   | # " Count             |
| Month 04 |                  |                       |
| m_04_dat | TYPE=STR LEN=248 | # Daily Values 8 x 31 |
| m_04_avg | TYPE=STR LEN=6   | # Monthly Mean        |
| m_04_std | TYPE=STR LEN=6   | # " Std Deviation     |
| m_04_skw | TYPE=STR LEN=6   | # " Skewness          |
| m_04_kur | TYPE=STR LEN=6   | # " Kurtosis          |
| m_04_tot | TYPE=STR LEN=6   | # " Total             |
| m_04_max | TYPE=STR LEN=6   | # " Maximum           |
| m_04_nbr | TYPE=STR LEN=6   | # " Count             |
| Month 05 |                  |                       |
| m_05_dat | TYPE=STR LEN=248 | # Daily Values 8 x 31 |
| m_05_avg | TYPE=STR LEN=6   | # Monthly Mean        |
| m_05_std | TYPE=STR LEN=6   | # " Std Deviation     |
| m_05_skw | TYPE=STR LEN=6   | # " Skewness          |
| m_05_kur | TYPE=STR LEN=6   | # " Kurtosis          |
| m_05_tot | TYPE=STR LEN=6   | # " Total             |
| m_05_max | TYPE=STR LEN=6   | # " Maximum           |
| m_05_nbr | TYPE=STR LEN=6   | # " Count             |
| Month 06 |                  |                       |
| m_06_dat | TYPE=STR LEN=248 | # Daily Values 8 x 31 |
| m_06_avg | TYPE=STR LEN=6   | # Monthly Mean        |
| m_06_std | TYPE=STR LEN=6   | # " Std Deviation     |
| m_06_skw | TYPE=STR LEN=6   | # " Skewness          |

|          |                  |   |                     |               |
|----------|------------------|---|---------------------|---------------|
| m_06_kur | TYPE=STR LEN=6   | # | "                   | Kurtosis      |
| m_06_tot | TYPE=STR LEN=6   | # | "                   | Total         |
| m_06_max | TYPE=STR LEN=6   | # | "                   | Maximum       |
| m_06_nbr | TYPE=STR LEN=6   | # | "                   | Count         |
| Month 07 |                  |   |                     |               |
| m_07_dat | TYPE=STR LEN=248 | # | Daily Values 8 x 31 |               |
| m_07_avg | TYPE=STR LEN=6   | # | Monthly Mean        |               |
| m_07_std | TYPE=STR LEN=6   | # | "                   | Std Deviation |
| m_07_skw | TYPE=STR LEN=6   | # | "                   | Skewness      |
| m_07_kur | TYPE=STR LEN=6   | # | "                   | Kurtosis      |
| m_07_tot | TYPE=STR LEN=6   | # | "                   | Total         |
| m_07_max | TYPE=STR LEN=6   | # | "                   | Maximum       |
| m_07_nbr | TYPE=STR LEN=6   | # | "                   | Count         |
| Month 08 |                  |   |                     |               |
| m_08_dat | TYPE=STR LEN=248 | # | Daily Values 8 x 31 |               |
| m_08_avg | TYPE=STR LEN=6   | # | Monthly Mean        |               |
| m_08_std | TYPE=STR LEN=6   | # | "                   | Std Deviation |
| m_08_skw | TYPE=STR LEN=6   | # | "                   | Skewness      |
| m_08_kur | TYPE=STR LEN=6   | # | "                   | Kurtosis      |
| m_08_tot | TYPE=STR LEN=6   | # | "                   | Total         |
| m_08_max | TYPE=STR LEN=6   | # | "                   | Maximum       |
| m_08_nbr | TYPE=STR LEN=6   | # | "                   | Count         |
| Month 09 |                  |   |                     |               |
| m_09_dat | TYPE=STR LEN=248 | # | Daily Values 8 x 31 |               |
| m_09_avg | TYPE=STR LEN=6   | # | Monthly Mean        |               |
| m_09_std | TYPE=STR LEN=6   | # | "                   | Std Deviation |
| m_09_skw | TYPE=STR LEN=6   | # | "                   | Skewness      |
| m_09_kur | TYPE=STR LEN=6   | # | "                   | Kurtosis      |
| m_09_tot | TYPE=STR LEN=6   | # | "                   | Total         |
| m_09_max | TYPE=STR LEN=6   | # | "                   | Maximum       |
| m_09_nbr | TYPE=STR LEN=6   | # | "                   | Count         |
| Month 10 |                  |   |                     |               |
| m_10_dat | TYPE=STR LEN=248 | # | Daily Values 8 x 31 |               |
| m_10_avg | TYPE=STR LEN=6   | # | Monthly Mean        |               |
| m_10_std | TYPE=STR LEN=6   | # | "                   | Std Deviation |
| m_10_skw | TYPE=STR LEN=6   | # | "                   | Skewness      |
| m_10_kur | TYPE=STR LEN=6   | # | "                   | Kurtosis      |
| m_10_tot | TYPE=STR LEN=6   | # | "                   | Total         |
| m_10_max | TYPE=STR LEN=6   | # | "                   | Maximum       |
| m_10_nbr | TYPE=STR LEN=6   | # | "                   | Count         |
| Month 11 |                  |   |                     |               |
| m_11_dat | TYPE=STR LEN=248 | # | Daily Values 8 x 31 |               |
| m_11_avg | TYPE=STR LEN=6   | # | Monthly Mean        |               |
| m_11_std | TYPE=STR LEN=6   | # | "                   | Std Deviation |
| m_11_skw | TYPE=STR LEN=6   | # | "                   | Skewness      |
| m_11_kur | TYPE=STR LEN=6   | # | "                   | Kurtosis      |
| m_11_tot | TYPE=STR LEN=6   | # | "                   | Total         |
| m_11_max | TYPE=STR LEN=6   | # | "                   | Maximum       |
| m_11_nbr | TYPE=STR LEN=6   | # | "                   | Count         |
| Month 12 |                  |   |                     |               |
| m_12_dat | TYPE=STR LEN=248 | # | Daily Values 8 x 31 |               |
| m_12_avg | TYPE=STR LEN=6   | # | Monthly Mean        |               |

m\_12\_std TYPE=STR LEN=6  
 m\_12\_skw TYPE=STR LEN=6  
 m\_12\_kur TYPE=STR LEN=6  
 m\_12\_tot TYPE=STR LEN=6  
 m\_12\_max TYPE=STR LEN=6  
 m\_12\_nbr TYPE=STR LEN=6

## Yearly Summary Values

m\_fr TYPE=STR LEN=6  
 m\_miss TYPE=STR LEN=6

# " Std Deviation  
 # " Skewness  
 # " Kurtosis  
 # " Total  
 # " Maximum  
 # " Count

# Frz-Thaw / Frz-index count  
 # Missing data count

## RECORD2 FIELD DESCRIPTIONS

Total record size = 66

## RECORD: GW

m\_gps TYPE=STR/IDX LEN=6  
 m\_sta1 TYPE=STR LEN=10  
 m\_sta2 TYPE=STR LEN=10  
 m\_sta3 TYPE=STR LEN=10  
 m\_sta4 TYPE=STR LEN=10  
 m\_sta5 TYPE=STR LEN=10  
 m\_sta6 TYPE=STR LEN=10

# Gps to Weather link  
 # GPS Site ID  
 # Weather Station 1 ID  
 # Weather Station 2 ID  
 # Weather Station 3 ID  
 # Weather Station 4 ID  
 # Weather Station 5 ID  
 # Virtual WS ID

## TOP LEVEL DATABASE DEFINITION FILE

## SHRP/LTPP TOP LEVEL DATABASE

There are four records at this level: weather data, GPS site, weather station, and a link record.

The weather data record (T) contains monthly and yearly summary data. There is one year of data in each record. The fields are the same as in the middle level except that no daily values are included.

The records for GPS sites (G) and weather stations (W) hold data for each location such as lat/long, elevation, begin date, etc.

The link record (GW) establishes the link between the GPS site and one of its weather stations. It also contains the "difference" data: distance between GPS site and weather station, elevation difference, bearing, temperature coverage, and moisture coverage.

TITLE: TOP

## RECORD1 FIELD DESCRIPTIONS

Total record size = 537

|                         |                      |
|-------------------------|----------------------|
| RECORD: T               | # Top Level Database |
| t_sta TYPE=STR LEN=10   | # Weather Station ID |
| t_par TYPE=STR LEN=2    | # Parameter Number   |
| t_year TYPE=STR LEN=4   | # Year               |
| t_unit TYPE=STR LEN=2   | # Units              |
| t_covr TYPE=STR LEN=3   | # Yearly Coverage    |
| Month 01                |                      |
| t_01_avg TYPE=STR LEN=6 | # Monthly Average    |
| t_01_std TYPE=STR LEN=6 | # " Std Deviation    |
| t_01_skw TYPE=STR LEN=6 | # " Skewness         |
| t_01_kur TYPE=STR LEN=6 | # " Kurtosis         |
| t_01_tot TYPE=STR LEN=6 | # " Total            |
| t_01_max TYPE=STR LEN=6 | # " Maximum          |
| t_01_nbr TYPE=STR LEN=6 | # " Count            |
| Month 02                |                      |
| t_02_avg TYPE=STR LEN=6 | # Monthly Average    |
| t_02_std TYPE=STR LEN=6 | # " Std Deviation    |
| t_02_skw TYPE=STR LEN=6 | # " Skewness         |
| t_02_kur TYPE=STR LEN=6 | # " Kurtosis         |
| t_02_tot TYPE=STR LEN=6 | # " Total            |
| t_02_max TYPE=STR LEN=6 | # " Maximum          |
| t_02_nbr TYPE=STR LEN=6 | # " Count            |
| Month 03                |                      |
| t_03_avg TYPE=STR LEN=6 | # Monthly Average    |
| t_03_std TYPE=STR LEN=6 | # " Std Deviation    |
| t_03_skw TYPE=STR LEN=6 | # " Skewness         |

|          |                |   |         |               |
|----------|----------------|---|---------|---------------|
| t_03_kur | TYPE=STR LEN=6 | # | "       | Kurtosis      |
| t_03_tot | TYPE=STR LEN=6 | # | "       | Total         |
| t_03_max | TYPE=STR LEN=6 | # | "       | Maximum       |
| t_03_nbr | TYPE=STR LEN=6 | # | "       | Count         |
| Month 04 |                |   |         |               |
| t_04_avg | TYPE=STR LEN=6 | # | Monthly | Average       |
| t_04_std | TYPE=STR LEN=6 | # | "       | Std Deviation |
| t_04_skw | TYPE=STR LEN=6 | # | "       | Skewness      |
| t_04_kur | TYPE=STR LEN=6 | # | "       | Kurtosis      |
| t_04_tot | TYPE=STR LEN=6 | # | "       | Total         |
| t_04_max | TYPE=STR LEN=6 | # | "       | Maximum       |
| t_04_nbr | TYPE=STR LEN=6 | # | "       | Count         |
| Month 05 |                |   |         |               |
| t_05_avg | TYPE=STR LEN=6 | # | Monthly | Average       |
| t_05_std | TYPE=STR LEN=6 | # | "       | Std Deviation |
| t_05_skw | TYPE=STR LEN=6 | # | "       | Skewness      |
| t_05_kur | TYPE=STR LEN=6 | # | "       | Kurtosis      |
| t_05_tot | TYPE=STR LEN=6 | # | "       | Total         |
| t_05_max | TYPE=STR LEN=6 | # | "       | Maximum       |
| t_05_nbr | TYPE=STR LEN=6 | # | "       | Count         |
| Month 06 |                |   |         |               |
| t_06_avg | TYPE=STR LEN=6 | # | Monthly | Average       |
| t_06_std | TYPE=STR LEN=6 | # | "       | Std Deviation |
| t_06_skw | TYPE=STR LEN=6 | # | "       | Skewness      |
| t_06_kur | TYPE=STR LEN=6 | # | "       | Kurtosis      |
| t_06_tot | TYPE=STR LEN=6 | # | "       | Total         |
| t_06_max | TYPE=STR LEN=6 | # | "       | Maximum       |
| t_06_nbr | TYPE=STR LEN=6 | # | "       | Count         |
| Month 07 |                |   |         |               |
| t_07_avg | TYPE=STR LEN=6 | # | Monthly | Average       |
| t_07_std | TYPE=STR LEN=6 | # | "       | Std Deviation |
| t_07_skw | TYPE=STR LEN=6 | # | "       | Skewness      |
| t_07_kur | TYPE=STR LEN=6 | # | "       | Kurtosis      |
| t_07_tot | TYPE=STR LEN=6 | # | "       | Total         |
| t_07_max | TYPE=STR LEN=6 | # | "       | Maximum       |
| t_07_nbr | TYPE=STR LEN=6 | # | "       | Count         |
| Month 08 |                |   |         |               |
| t_08_avg | TYPE=STR LEN=6 | # | Monthly | Average       |
| t_08_std | TYPE=STR LEN=6 | # | "       | Std Deviation |
| t_08_skw | TYPE=STR LEN=6 | # | "       | Skewness      |
| t_08_kur | TYPE=STR LEN=6 | # | "       | Kurtosis      |
| t_08_tot | TYPE=STR LEN=6 | # | "       | Total         |
| t_08_max | TYPE=STR LEN=6 | # | "       | Maximum       |
| t_08_nbr | TYPE=STR LEN=6 | # | "       | Count         |
| Month 09 |                |   |         |               |
| t_09_avg | TYPE=STR LEN=6 | # | Monthly | Average       |
| t_09_std | TYPE=STR LEN=6 | # | "       | Std Deviation |
| t_09_skw | TYPE=STR LEN=6 | # | "       | Skewness      |
| t_09_kur | TYPE=STR LEN=6 | # | "       | Kurtosis      |
| t_09_tot | TYPE=STR LEN=6 | # | "       | Total         |
| t_09_max | TYPE=STR LEN=6 | # | "       | Maximum       |
| t_09_nbr | TYPE=STR LEN=6 | # | "       | Count         |

|                       |                |                              |
|-----------------------|----------------|------------------------------|
| Month 10              |                |                              |
| t_10_avg              | TYPE=STR LEN=6 | # Monthly Average            |
| t_10_std              | TYPE=STR LEN=6 | # " Std Deviation            |
| t_10_skw              | TYPE=STR LEN=6 | # " Skewness                 |
| t_10_kur              | TYPE=STR LEN=6 | # " Kurtosis                 |
| t_10_tot              | TYPE=STR LEN=6 | # " Total                    |
| t_10_max              | TYPE=STR LEN=6 | # " Maximum                  |
| t_10_nbr              | TYPE=STR LEN=6 | # " Count                    |
| Month 11              |                |                              |
| t_11_avg              | TYPE=STR LEN=6 | # Monthly Average            |
| t_11_std              | TYPE=STR LEN=6 | # " Std Deviation            |
| t_11_skw              | TYPE=STR LEN=6 | # " Skewness                 |
| t_11_kur              | TYPE=STR LEN=6 | # " Kurtosis                 |
| t_11_tot              | TYPE=STR LEN=6 | # " Total                    |
| t_11_max              | TYPE=STR LEN=6 | # " Maximum                  |
| t_11_nbr              | TYPE=STR LEN=6 | # " Count                    |
| Month 12              |                |                              |
| t_12_avg              | TYPE=STR LEN=6 | # Monthly Average            |
| t_12_std              | TYPE=STR LEN=6 | # " Std Deviation            |
| t_12_skw              | TYPE=STR LEN=6 | # " Skewness                 |
| t_12_kur              | TYPE=STR LEN=6 | # " Kurtosis                 |
| t_12_tot              | TYPE=STR LEN=6 | # " Total                    |
| t_12_max              | TYPE=STR LEN=6 | # " Maximum                  |
| t_12_nbr              | TYPE=STR LEN=6 | # " Count                    |
| Yearly Summary Values |                |                              |
| t_fr                  | TYPE=STR LEN=6 | # Frz-Thaw / Frz-Index Count |
| t_miss                | TYPE=STR LEN=6 | # Missing Data Count         |

## RECORD2 FIELD DESCRIPTIONS

Total record size = 34

|           |                 |                     |
|-----------|-----------------|---------------------|
| RECORD: G |                 | # GPS Site          |
| g_gps     | TYPE=STR LEN=6  | # GPS Site ID       |
| g_sdate   | TYPE=STR LEN=4  | # Construction Year |
| g_lat     | TYPE=STR LEN=9  | # Latitude          |
| g_lng     | TYPE=STR LEN=10 | # Longitude         |
| g_ele     | TYPE=STR LEN=5  | # Elevation         |

## RECORD3 FIELD DESCRIPTIONS

Total record size = 66

|           |                 |                    |
|-----------|-----------------|--------------------|
| RECORD: W |                 | # Weather Stations |
| w_sta     | TYPE=STR LEN=10 | # Station ID       |
| w_name    | TYPE=STR LEN=24 | # Station name     |
| w_lat     | TYPE=STR LEN=9  | # Latitude         |
| w_lng     | TYPE=STR LEN=10 | # Longitude        |
| w_lng     | TYPE=STR LEN=5  | # Elevation        |
| w_sdate   | TYPE=STR LEN=4  | # Start year       |
| w_edate   | TYPE=STR LEN=4  | # End year         |

## RECORD4 FIELD DESCRIPTIONS

Total record size = 34

|            |              |        |                                       |
|------------|--------------|--------|---------------------------------------|
| RECORD: GW |              |        | # GPS & Weather Stations              |
| gw_site    | TYPE=STR/IDX | LEN=6  | # GPS ID                              |
| gw_sta     | TYPE=STR     | LEN=10 | # Weather Station ID                  |
| gw_dist    | TYPE=STR     | LEN=4  | # Distance, 10ths of Miles            |
| gw_ele     | TYPE=STR     | LEN=5  | # Elevation diff. in Feet             |
| gw_bear    | TYPE=STR     | LEN=3  | # Bearing GPS Site to WS, deg. ccw fm |
| North      |              |        |                                       |
| gw_tmp     | TYPE=STR     | LEN=3  | # % Temperature Coverage              |
| gw_mois    | TYPE=STR     | LEN=3  | # % Moisture Coverage                 |

## PARAMETER CODE TABLE

CODE is the number used in this database. TYPE is the type of weather station that records this parameter. The NCDC and CCC columns show the parameter codes used by those agencies.

| CODE | TYPE  | NCDC | Units | Description                      | CCC | Units | Description        |
|------|-------|------|-------|----------------------------------|-----|-------|--------------------|
| 01   | FO CP | TMAX | F     | Max. temperature                 | 001 | C/10  | Max. temperature   |
| 02   | FO CP | TMIN | F     | Min. temperature                 | 002 | C/10  | Min. temperature   |
| 03   | FO    | MNTP | F     | Mean temperature                 | 003 | C/10  | Mean temperature   |
| 04   | FO    | MXRH | %     | Max. rel humidity                | 004 | %     | Max. rel humidity  |
| 05   | FO    | MNRH | %     | Min. rel humidity                | 005 | %     | Min. rel humidity  |
| 06   | FO    | AWND | M1    | Avg wind speed                   |     |       |                    |
| 10   | FO CP | DYSW | NA    | Daily weather                    |     |       |                    |
| 11   | FO CP | SNOW | 1/10  | Snow fall                        | 011 | cm/10 | Snow fall          |
| 12   | FO CP | PRCP | 1/100 | Precipitation                    | 012 | mm/10 | Precipitation      |
| 13   |       |      | F     | Temperature range (calculated)   |     |       |                    |
| 14   |       |      |       |                                  | 014 | NA    | Thunder Storms     |
| 15   |       |      |       |                                  | 015 | NA    | Freezing Rain      |
| 16   |       |      |       |                                  | 016 | NA    | Hail               |
| 17   |       |      |       |                                  | 017 | NA    | Fog or Ice Fog     |
| 18   |       |      |       |                                  | 018 | NA    | Smoke or Haze      |
| 19   |       |      |       |                                  | 019 | NA    | Blowing Dust/Sand  |
| 20   |       |      |       |                                  | 020 | NA    | Blowing Snow       |
| 21   |       |      |       |                                  | 021 | NA    | Wind Speed >= 28 K |
| 22   |       |      |       |                                  | 022 | NA    | Wind Speed >= 34 K |
| 24   | FO    | PKGS | K     | Gust Speed & Dir.                | 024 | KM    | Wind Speed         |
| 29   | FO    | PSUN | %     | % Sunshine                       |     |       |                    |
| 330  |       | SCMM | %     | % Sky cover midnight to midnight |     |       |                    |
| 34   | FO    | SCSS | %     | % Sky cover sunrise to sunset    |     |       |                    |

## UNITS DESCRIPTION

% = percent  
 1/10 = tenths of an inch  
 1/100 = hundredths of an inch  
 C/10 = tenths of degrees centigrade  
 F = degrees fahrenheit  
 K = knots  
 KM = kilometers per hour  
 M1 = tenths of miles per hour  
 NA = not applicable  
 cm/10 = tenths of a centimeter  
 mm/10 = tenths of a millimeter

## LOGIC USED FOR CALCULATIONS

This section outlines in symbolic form the logic used to make calculations when building the middle and top level databases.

## TMAX

When processing TMAX, the number of days over 90 F. is counted. If the GPS site is in Canada, the comparison temperature is set to the equivalent of 90 degrees F in tenths of degrees C.

## Logic:

For each weather station:

Get earliest construction year for all linked GPS sites.

For each year:

Get yearly TMAX record

For each month:

For each day:

Get TMAX value

Write middle level TMAX value and flags

If TMAX > 90: day\_90 count += 1.

Record day\_90 count for month

Calculate statistics for month

## TMIN

When processing TMIN, the number of days under 32 F. is counted. If the GPS site is in Canada, the comparison temperature is set to 0 degrees C.

## Logic:

For each weather station:

Get earliest construction year for all linked GPS sites.

For each year:

Get yearly TMIN record

For each month

For each day

Get TMIN value

Write middle level TMIN value and flags

If TMIN < 32: day\_32 count += 1

Record day\_32 count for month

Calculate statistics for month

## MNTP

When processing MNTP, the FREEZING INDEX is calculated. MNTP for Cooperative stations is a derived value and is described under MEAN DAILY TEMPERATURE, following. This logic only applies for those weather stations that measure MNTP. If the GPS site is in Canada, freezing index calculations are base on 0 degrees C.

## Logic:

```
For each first order and CCC weather station:
  Get earliest construction year for all linked GPS sites.
  For each year:
    Get yearly MNTP record
    For each month:
      For each day:
        Get MNTP value
        If data is missing:
          Missing data count += 1
          Continue
        Write middle level MNTP value and flags
        If MNTP < 32:
          Month Freeze_index += 32 - MNTP
          Year Freeze_index += 32 - MNTP
      Calculate statistics for month
    Write yearly Freezing index
```

## MEAN DAILY TEMPERATURE

Cooperative stations do not have the MNTP parameter, so it is calculated when creating the middle level database. The calculated daily value, monthly and yearly statistics are stored under parameter code 03. In addition, the yearly FREEZING INDEX is calculated and stored with this parameter. If the GPS site is in Canada, freezing index calculations are base on 0 degrees C.

## Logic:

For each weather station:

For each year:

Get yearly TMAX and TMIN records

Set missing\_data flag to OFF

For each month:

For each day:

If TMAX missing: set missing\_data flag ON.

If TMIN missing: set missing\_data flag ON.

If missing\_data flag is ON:

Missing\_data count += 1

Write "missing data" value

Set missing\_data flag OFF

Continue

Calculate (TMAX + TMIN)/2, write

If MNTP < 32: Freezing Index += 32 - MNTP

Calculate statistics for the month

Store derived values for the month

Record yearly Freezing Index

Record missing data count

## DAILY TEMPERATURE RANGE

Daily temperature range is calculated for all types of weather stations when creating the middle level database. Each daily value is calculated by TMAX - TMIN. The calculated daily values and statistics are stored in the middle level as parameter 13 in order to make the Virtual station calculations. Only the monthly statistics are stored in the top level.

## Logic:

For each weather station:

For each year:

Get TMAX and TMIN records

For each month:

For each day:

If TMAX missing:

Write "missing data" value and flags

Continue

If TMIN missing:

Write "missing data" value and flags

Continue

Calculate TMAX - TMIN, write to output record

Calculate statistics for the month

## FREEZE THAW COUNT

Freeze thaw count is calculated when creating the middle level. It is the number of times per month (and year) that the temperature goes through one freeze thaw cycle. One assumption is that TMIN for a particular day occurs before the TMAX of that day.

## Logic:

For each weather station:

For each year:

Get TMAX and TMIN yearly record

Set missing\_data count to 0

Set freeze\_thaw (FT) switch to ON

Set begin\_ft switch OFF

Set half\_ft switch OFF

For each month:

For each day:

If TMAX missing:

Monthly missing\_data count += 1

Yearly missing\_data count += 1

Continue

If TMIN missing:

Monthly missing\_data count += 1

Yearly missing\_data count += 1

Continue

If TMIN is 32 F. (0 C.) or less:

If begin\_ft switch is ON:

Set half\_ft switch to ON

Set begin\_ft switch to OFF

If TMAX over 32 F. (0 C.):

If half\_ft switch is ON:

Count monthly FT cycle

Count yearly FT cycle

Set half\_ft switch OFF

Set begin\_ft switch to ON

End of month:

Write monthly FT count

Write monthly FT missing count

End of year:

Write yearly FT count

Write yearly FT missing data count

Notes: Counting of freeze-thaw cycles for a year does not start until TMAX is over 32 F after 1 January; this means that one cycle per winter may be lost if TMAX on Dec 31 of previous year is above 32 F.

## SNOW and PRCP

When calculating statistics, SNOW and PRCP need special treatment because of the S and A flags: "values included in Subsequent" or "Accumulated" values. Following is the logic used in distributing the accumulated amounts back across the days with S flags. After accumulated amounts are distributed, the monthly and yearly totals and statistics are calculated.

## Logic:

```

For each weather station:
  Set s_switch OFF
  For each year:
    Get weather record
    For each month:
      For each day:
        If data missing, continue next day
        If S flag found:
          If s_switch is OFF:
            Mark this place
              (beginning of a set of S flags)
            Set s_day count = 0
            Set s_switch ON
            Increase s_day count by 1
          If A flag found and s_switch is ON:
            Divide today's value by s_day count
            Write avg value to previous days
              with S flag and today
            Set s_day switch OFF
      End of each day
    End for each month

```

## TEMPERATURE COVERAGE

Temperature coverage is calculated when creating the middle level database, and stored in the "link" record in the top level.

## Logic:

```

For each GPS site:
  For each linked weather station:
    From construction year to latest year:
      Get TMAX and TMIN records
      For each day of the year:
        If TMAX and TMIN exist, coverage += 1
        Day_count += 1
      % coverage = (coverage / day_count) x 100
      Write % coverage to weather station record.

```

## MOISTURE COVERAGE

Moisture coverage is also calculated when creating the middle level database, and stored in the "link" record in the Top level.

Logic:

For each GPS site:

For each linked weather station:

From construction year to latest year:

Get PRCP record

For each day of the year:

If PRCP is not missing, coverage += 1

Day\_count += 1

Coverage % = (coverage / day\_count) x 100

Write to link record.

AWND, MXRH, MNRH, PKGS, PSUN, SCMM, and SCSS

These parameters are only measured by first order weather stations. The daily values are copied from low level to mid level and monthly statistics calculated. The range of dates for which this is done depends on the GPS site to which the weather station is linked. Only the monthly statistical data are transferred to the top level. Virtual weather station records are calculated for these parameters and, in most cases, are copies of the first order stations data.

## STATISTICAL CALCULATIONS

Statistical calculations are made when creating the middle level database. The formulas used are the same as those in the RFP, page 6, with the exception that "n - 1" is used in the divisor in place of "n" in the formulas for standard deviation, kurtosis, and skewness.

## VIRTUAL WEATHER STATION

Virtual records are calculated when creating the middle level database. Records are made for TMAX, TMIN, PRCP, and SNOW in all cases. If there is a first order station, virtual records for first order parameters are also calculated. In the most common case, where there is only one first order station, the virtual record is a copy of the first order record. However, Canadian stations often measure first order parameters, so if there are stations that measure first order parameters among the "cooperative" stations, their data are used in calculating the virtual parameter. The monthly and yearly statistics and derived values are calculated after the virtual daily values are determined.

## Logic:

For each GPS site:

    Get distance from GPS site for each linked station

    For each year:

        For each parameter:

            Get each weather station's data into memory

            Write virtual record header

            For each month of the year:

                For each day:

                    calculate daily virtual value

                    Calculate monthly statistics

                    Calculate monthly derived values

            Calculate yearly derived values

## VIRTUAL VALUE CALCULATION

    For each linked station:

        Increase numerator of virtual value by

            daily value divided by distance squared.

        Increase denominator of virtual value by

            reciprocal of distance squared.

    Divide numerator by denominator,

        store virtual value in record

## NOTES ON THE DATA AND PROCESSING

The following is a brief description of several interesting aspects that made this more than "just a simple weather database."

## WEATHER STATION ID NUMBERS

This section provides a brief description of "station IDs" used throughout this project.

In Phase one (station selection) all USA station IDs were taken from EarthInfo's "Climate Daily" CD-ROM database. The station ID numbers consisted of a 2-character state abbreviation (Post Office code), two zeros, plus the 4 digit Cooperative Network Index Number from NCDC.

For example: GA002166

The Canadian station IDs were 7 characters; simple.

61219J1 or 6127514

After selection, the station IDs had to be massaged so they could be used to properly access each of the weather databases and retrieve the data.

## Cooperative Weather Stations

Station ID's in the Cooperative database are 8 digits, but the first 6 are sufficient to identify a station. The last 2 digits indicate the station's "division", which can change. The first 2 digits are the NCDC State Code, not to be confused with the FIPS state code with which it has many similarities.

The ID for each selected cooperative station was changed to a 6 digit number by converting the two-character state PO code to the NCDC state code number. The original intention was to include the "division" number in the station ID, which required 8 characters. But the division number of a station can change during it's existence so Cooperative and First Order division numbers were all set to zero, keeping them at 8 characters as the database design required, and yet making the division irrelevant when selecting a station.

This, then, became the "weather station ID" in the SHRP/LTPP database. GA002166 became CP09216600 if it was a cooperative station, or FO09216600 if it was a first order station. Canadian station ID numbers were preceded with "CC0" to make them the same length as NCDC ID's: 61219J1 became CC061219J1.

## First Order Weather Stations

The First Order weather database is accessed, not by the station ID number, but by a "WBAN" number, which ranges from 1 to 99999.

The next step in locating first order weather data, then, was to get the WBAN number for each First Order station through NCDC's "station history" files.

First Order weather data was retrieved using the WBAN number, but when the record was written to the SHRP/LTPP database, the WBAN number was replaced with the NCDC Station ID (prefaced with "FO") in order to retain links to the GPS sites established in phase I.

#### Short Lived First Order Stations

When stations were being selected during phase I, it was assumed that any station with a WBAN number was a First Order station. NCDC had stated that this was true "99 percent" of the time. This was found to be accurate, but no mention was made about how long the station was first order. There were many instances of a station that was first order for only a short period and still had a WBAN number. This caused many cycles of selecting first order stations, getting the WBAN numbers for them, and checking the FO database for the actual time the station was first order.

#### Canadian Weather Stations

Little station ID manipulation was necessary here, the ID selected in Phase one was used to select weather data. It was preceded with "CC0" to make it the same length as NCDC IDs and to make the link to the GPS site.

#### CALCULATING VIRTUAL WEATHER RECORDS

The daily VALUES and FLAGS of contributing weather stations were checked, and if a "missing" data value or flag was found, that value was skipped. All flags in the Virtual station are set to "space space."

Virtual monthly derived fields (max, tot, nbr) and statistics were calculated after the daily values were calculated.

When calculating FO parameters (those other than TMAX, TMIN, PRCP, SNOW), a virtual parameter was calculated if any data was found. And, when dealing with parameters in the range of Canadian parameters, "Coop stations" were checked for any Canadian station. If a Canadian station was there, it was included when calculating the Virtual parameter. If only a FO station was found, a virtual parameter was still calculated, but it is essentially a copy of the FO station's data.

## PERCENT COVERAGE FOR MOISTURE AND TEMPERATURE

The figures for this percentage were taken while calculating the virtual weather stations (WSs). For each DAY with a TMAX value, the "temp. hits" counter for the current WS was incremented. For each YEAR of GPS site existence, the "temp. possible" counter for the WS was incremented by 365, or 366 if it was a leap year. In the same manner, moisture coverage figures were taken while calculating the virtual WS parameter for PRCP. When all the data for the GPS site had been processed, percentages were calculated and the GPS-WS link record was updated. This percentage then, refers to the number of days the weather station had valid data divided by the number of days the GPS site had existed.

## ELEVATION DIFFERENCE

The reference is GPS site elevation. That is, difference = weather station elevation minus GPS elevation.

## BEGIN AND END YEARS FOR WEATHER STATIONS

NCDC stations have a reported start and end year (1999, if still active), but Canadian stations do not have this information. Station start and end years were checked against the records in the database and updated as necessary. Many NCDC station history records show a later start date than was actually in the data, so many updates were required. Note: The current end date in the SHRP/LTPP database may not be the actual end date of the station, but only the last year of data that was available in the current data set.

## DISTRIBUTING ACCUMULATED AMOUNTS OF PRCP OR SNOW

When distributing accumulated amounts, if an S flag was found and was not immediately followed by an S or A flag, that S flag was ignored. Consequently, the only time an A-flagged amount is distributed back is when it is immediately preceded by one or more S flags. This may have some effect on "days with PRCP over 0.5" or "days with PRCP over 0.1" and on monthly totals of PRCP and SNOW.

## **APPENDIX B**

### **FINAL WEATHER STATION SELECTION LIST**

```

*****
* GPS SITE: 1/011001 N32:33:44 W085:07:52 ELEV: 495, 1981
*****
FIRST O. F US:AL005550 220 32:18 086:24(48-89) MONTGOMERY WSO AP 76.3
ACTIVE C US:GA002166 450 32:31 084:57(48-89) COLUMBUS WSO AP 11.0
REGULAR1 C US:AL006129 760 32:38 085:23(57-89) OPELIKA 15.5
REGULAR2 C US:GA009291 580 32:52 085:11(30-89) WEST POINT 21.2
REGULAR3 C US:AL000430 650 32:36 085:30(76-89) AUBURN AGRONOMY FARM 21.7
*****
* GPS SITE: 2/011011 N34:55:00 W087:50:00 ELEV: 610, 1985
*****
FIRST O. F US:AL005749 540 34:45 087:37(40-89) MUSCLE SHOALS FAA AP 16.8
ACTIVE C US:MS004455 520 34:49 088:11(59-89) IUKA 21.0
REGULAR1 C US:TN009502 750 35:18 087:46(27-89) WAYNESBORO 26.7
REGULAR2 C US:AL007131 880 34:31 087:44(53-89) RUSSELLVILLE 2 28.2
REGULAR3 C US:TN008108 420 35:09 088:19(27-89) SAVANNAH 6 SW 31.8
*****
* GPS SITE: 1/011019 N31:17:24 W088:01:53 ELEV: 61, 1986
*****
FIRST O. F US:AL005478 210 30:41 088:15(48-89) MOBILE WSO AP 43.9
ACTIVE C US:AL004193 220 31:30 087:54(61-89) JACKSON 16.4
REGULAR1 C US:AL001566 290 31:32 088:15(49-89) CHATOM 4 N 21.2
REGULAR2 C US:AL000583 280 30:55 087:47(48-89) BAY MINETTE 3 NNW 29.7
REGULAR3 C US:AL008867 170 31:39 087:43(48-89) WHATLEY 31.0
*****
* GPS SITE: 1/011021 N32:32:30 W086:12:30 ELEV: 182, 1985
*****
FIRST O. F US:AL005550 220 32:18 086:24(48-89) MONTGOMERY WSO AP 23.8
ACTIVE C US:AL005140 340 32:40 085:55(48-89) MARTIN DAM 15.7
REGULAR1 C US:AL005439 220 32:27 085:53(48-89) MILSTEAD 18.9
REGULAR2 C US:AL007020 600 32:53 086:10(54-89) ROCKFORD 3 ESE 20.7
REGULAR3 C US:AL000160 640 32:57 085:56(69-89) ALEXANDER CITY 28.7
*****
* GPS SITE: 3/013028 N33:36:41 W086:38:58 ELEV: 810, 1971
*****
FIRST O. F US:AL000831 630 33:34 086:45(30-89) BIRMINGHAM FAA AP 6.6
ACTIVE C US:AL006478 610 33:41 086:42(80-89) PINSON 5.8
REGULAR1 C US:AL000829 740 33:28 086:50(79-89) BIRMINGHAM WSFO 14.6
REGULAR2 C US:AL000764 450 33:24 087:00(77-89) BESSEMER 3 WSW 24.9
REGULAR3 C US:AL006121 870 33:57 086:29(48-89) ONEONTA 25.3
*****
* GPS SITE: 5/013998 N32:43:34 W088:06:46 ELEV: 130, 1975
*****
FIRST O. F US:MS005776 290 32:20 088:45(48-89) MERIDIAN WSO AP 46.0
ACTIVE C US:AL003160 130 32:50 088:08(48-89) GAINESVILLE LOCK 7.5
REGULAR1 C US:AL004798 160 32:35 088:12(48-89) LIVINGSTON 2 SW 11.1
REGULAR2 C US:AL002245 100 32:31 087:50(51-89) DEMOPOLIS LOCK AND DA 21.8
REGULAR3 C US:AL000178 140 33:08 088:10(34-89) ALICEVILLE 28.3
*****
* GPS SITE: 4/014007 N33:35:10 W086:40:40 ELEV: 847, 1976
*****
FIRST O. F US:AL000831 630 33:34 086:45(30-89) BIRMINGHAM FAA AP 4.4
ACTIVE C US:AL006478 610 33:41 086:42(80-89) PINSON 6.8
REGULAR1 C US:AL000829 740 33:28 086:50(79-89) BIRMINGHAM WSFO 12.2
REGULAR2 C US:AL000764 450 33:24 087:00(77-89) BESSEMER 3 WSW 22.6
REGULAR3 C US:AL006121 870 33:57 086:29(48-89) ONEONTA 27.5
*****
* GPS SITE: 2/014072 N31:30:00 W085:18:45 ELEV: 420, 1989
*****
FIRST O. F US:AL005550 220 32:18 086:24(48-89) MONTGOMERY WSO AP 84.4
ACTIVE C US:AL003761 370 31:21 085:20(50-89) HEADLAND 10.4
REGULAR1 C US:GA000979 270 31:21 084:57(1-89) BLAKELY 23.8
REGULAR2 C US:AL001725 600 31:53 085:28(48-89) CLAYTON 28.0
REGULAR3 C US:AL002675 470 31:23 085:54(66-89) ENTERPRISE 35.6
*****
* GPS SITE: 2/014073 N34:45:29 W085:54:27 ELEV: 637, 1988
*****
FIRST O. F US:TN001656 680 35:02 085:12(28-89) CHATTANOOGA WSO AP 46.2
ACTIVE C US:AL007304 620 34:41 086:03(27-89) SCOTTSBORO 7.9
REGULAR1 C US:AL001099 670 34:59 085:49(48-89) BRIDGEPORT 5 NW 19.3
REGULAR2 C US:AL008469 1040 34:34 085:37(48-89) VALLEY HEAD 20.0
REGULAR3 C US:AL007207 1200 34:17 085:58(49-89) SAND MT SUBSTATION AU 30.1

```

```

*****
* GPS SITE: 4/014084 N33:27:30 W086:55:00 ELEV: 545, 1970
*****
FIRST O. F US:AL000831 630 33:34 086:45(30-89) BIRMINGHAM FAA AP 23.7
ACTIVE C US:AL000764 450 33:24 087:00(77-89) BESSEMER 3 WSW 5.4
REGULAR1 C US:AL000829 740 33:28 086:50(79-89) BIRMINGHAM WSFO 15.5
REGULAR2 C US:AL000505 280 33:27 087:21(57-89) BANKHEAD LOCK AND DAM 19.1
REGULAR3 C US:AL001288 540 33:05 086:47(48-84) CALERA 2 SW 23.2
*****
* GPS SITE: 1/014125 N32:25:00 W086:15:00 ELEV: 185, 1972
*****
FIRST O. F US:AL005550 220 32:18 086:24(48-89) MONTGOMERY WSO AP 11.9
ACTIVE C US:AL005140 340 32:40 085:55(48-89) MARTIN DAM 26.0
REGULAR1 C US:AL003816 590 31:57 086:19(48-89) HIGHLAND HOME 32.5
REGULAR2 C US:AL007020 600 32:53 086:10(54-89) ROCKFORD 3 ESE 32.6
REGULAR3 C US:AL001694 580 32:51 086:38(20-86) CLANTON 37.3
*****
* GPS SITE: 1/014126 N34:10:00 W086:52:30 ELEV: 760, 1988
*****
FIRST O. F US:AL004064 620 34:39 086:46(59-89) HUNTSVILLE WSO AP 36.1
ACTIVE C US:AL007157 800 34:10 086:49(30-89) SAINT BERNARD 3.7
REGULAR1 C US:AL002840 630 34:22 086:53(48-89) FALKVILLE 1 E 16.1
REGULAR2 C US:AL006121 870 33:57 086:29(48-89) ONEONTA 25.4
REGULAR3 C US:AL006478 610 33:41 086:42(80-89) PINSON 32.5
*****
* GPS SITE: 6B/014127 N34:54:25 W087:21:40 ELEV: 658, 1974
*****
FIRST O. F US:AL005749 540 34:45 087:37(40-89) MUSCLE SHOALS FAA AP 15.3
ACTIVE C US:AL000395 720 34:48 086:59(55-89) ATHENS 2 21.9
REGULAR1 C US:AL005635 650 34:29 087:18(57-89) MOULTON 2 24.5
REGULAR2 C US:TN005089 870 35:15 087:21(54-89) LAWRENCEBURG FILT PL 28.8
REGULAR3 C US:AL000655 600 34:42 086:53(50-89) BELLE MINA 2 N 29.0
*****
* GPS SITE: 6B/014129 N33:02:30 W086:08:45 ELEV: 737, 1976
*****
FIRST O. F US:AL000272 610 33:35 085:51(48-89) ANNISTON FAA AP 35.6
ACTIVE C US:AL000160 640 32:57 085:56(69-89) ALEXANDER CITY 10.0
REGULAR1 C US:AL007999 490 33:12 086:12(50-89) SYLACAUGA 4 NE 14.1
REGULAR2 C US:AL007020 600 32:53 086:10(54-89) ROCKFORD 3 ESE 16.9
REGULAR3 C US:AL000369 990 33:17 085:48(48-89) ASHLAND 3 ENE 18.0
*****
* GPS SITE: 1/014155 N31:15:00 W085:34:00 ELEV: 325, 1976
*****
FIRST O. F US:AL005550 220 32:18 086:24(48-89) MONTGOMERY WSO AP 87.5
ACTIVE C US:AL003761 370 31:21 085:20(50-89) HEADLAND 15.4
REGULAR1 C US:AL006218 470 31:32 085:41(30-86) OZARK 6 NNW 20.7
REGULAR2 C US:AL002675 470 31:23 085:54(66-89) ENTERPRISE 21.7
REGULAR3 C US:AL003251 150 31:03 085:53(76-89) GENEVA 2 23.3
*****
* GPS SITE: 5/015008 N33:39:46 W085:23:07 ELEV: 1023, 1977
*****
FIRST O. F US:AL000272 610 33:35 085:51(48-89) ANNISTON FAA AP 27.3
ACTIVE C US:AL003775 850 33:39 085:36(56-89) HEFLIN 12.4
REGULAR1 C US:GA001640 990 33:36 085:05(48-89) CARROLLTON 17.9
REGULAR2 C US:GA001732 790 34:01 085:15(48-89) CEDARTOWN 25.6
REGULAR3 C US:AL000369 990 33:17 085:48(48-89) ASHLAND 3 ENE 35.5
*****
* GPS SITE: 6A/016012 N33:07:11 W087:38:34 ELEV: 142, 1972
*****
FIRST O. F US:AL000831 630 33:34 086:45(30-89) BIRMINGHAM FAA AP 60.1
ACTIVE C US:AL008385 150 33:13 087:35(48-89) TUSCALOOSA OLIVER DAM 7.5
REGULAR1 C US:AL008380 170 33:14 087:37(48-89) TUSCALOOSA FAA AP 8.0
REGULAR2 C US:AL001525 460 32:54 087:15(74-89) CENTREVILLE WSMO 27.4
REGULAR3 C US:AL000505 280 33:27 087:21(57-89) BANKHEAD LOCK AND DAM 28.4
*****
* GPS SITE: 6A/016019 N30:57:52 W087:45:31 ELEV: 214, 1966
*****
FIRST O. F US:AL005478 210 30:41 088:15(48-89) MOBILE WSO AP 35.1
ACTIVE C US:AL000583 280 30:55 087:47(48-89) BAY MINETTE 3 NNW 3.6
REGULAR1 C US:AL000407 220 31:01 087:31(65-82) ATMORE 14.8
REGULAR2 C US:AL006988 180 30:37 087:40(30-89) ROBERTSDALE 5 NE 24.6
REGULAR3 C US:AL002813 20 30:33 087:53(48-89) FAIRHOPE 2 NE 29.6

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```

*****
* GPS SITE: 1/021001 N60:40:10 W149:27:27 ELEV: 1310, 1983
*****
FIRST O. F US:AK003665 90 59:38 151:30(32-89) HOMER WSO AP 100.3 REJECTED
ACTIVE C US:AK005894 490 60:30 149:26(52-89) MOOSE PASS 3 NW 11.7
REGULAR1 C US:AK003720 150 60:55 149:38(79-89) HOPE 18.1
REGULAR2 C US:AK007494 30 60:49 148:59(73-89) PORTAGE GLACIER CHEVR 19.0
REGULAR3 C US:AK002144 450 60:23 149:40(58-89) COOPER LAKE PROJECT 21.0
*****
* GPS SITE: 1/021002 N60:45:09 W149:15:07 ELEV: 839, 1985
*****
FIRST O. F US:AK003665 90 59:38 151:30(32-89) HOMER WSO AP 109.3
ACTIVE C US:AK007494 30 60:49 148:59(73-89) PORTAGE GLACIER CHEVR 10.1
REGULAR1 C US:AK000243 250 60:58 149:08(63-89) ALYESKA 15.3
REGULAR2 C US:AK003720 150 60:55 149:38(79-89) HOPE 17.1
REGULAR3 C US:AK005894 490 60:30 149:26(52-89) MOOSE PASS 3 NW 18.5
*****
* GPS SITE: 1/021004 N61:10:57 W149:44:38 ELEV: 315, 1976
*****
FIRST O. F US:AK003665 90 59:38 151:30(32-89) HOMER WSO AP 122.6
ACTIVE C US:AK002820 190 61:15 149:48(51-89) ELMENDORF AF BASE 5.0
REGULAR1 C US:AK003299 2260 61:06 149:41(71-89) GLEN ALPS 6.0
REGULAR2 C US:AK000280 110 61:10 150:01(52-89) ANCHORAGE WSCMO AP 9.2
REGULAR3 C US:AK002648 2140 61:14 149:26(76-84) EAGLE RIVER SOUTH FOR 10.9
*****
* GPS SITE: 1/021008 N64:57:05 W147:37:15 ELEV: 721, 1979
*****
FIRST O. F US:AK000761 640 66:55 151:31(51-89) BETTLES FAA AP 174.6 REJECTED
ACTIVE C US:AK002112 950 64:56 147:50(76-89) COLLEGE 5 NW 6.3
REGULAR1 C US:AK002107 620 64:52 147:50(49-89) COLLEGE OBSERVATORY 8.5
REGULAR2 C US:AK009641 480 64:51 147:52(31-89) UNIVERSITY EXP STN 10.1
REGULAR3 C US:AK002968 440 64:49 147:52(49-89) FAIRBANKS WSFO AP 11.8
*****
* GPS SITE: 6A/026010 N61:19:49 W149:33:45 ELEV: 252, 1974
*****
FIRST O. F US:AK003665 90 59:38 151:30(32-89) HOMER WSO AP 134.5
ACTIVE C US:AK002820 190 61:15 149:48(51-89) ELMENDORF AF BASE 9.6
REGULAR1 C US:AK009759 50 61:32 149:26(49-89) WASILLA 3 S 14.7
REGULAR2 C US:AK002730 40 61:28 149:10(52-89) EKLUTNA PROJECT 16.1
REGULAR3 C US:AK003299 2260 61:06 149:41(71-89) GLEN ALPS 16.4
*****
* GPS SITE: 6B/029035 N62:25:12 W150:15:18 ELEV: 547, 1972
*****
FIRST O. F US:AK003465 1570 62:09 145:27(49-89) GULKANA FSS/AMOS 155.7 REJECTED
ACTIVE C US:AK008976 350 62:18 150:06(49-89) TALKEETNA WSCMO AP 9.7
REGULAR1 C US:AK001926 1250 62:53 149:50(71-89) CHULITNA RIVER LODGE 34.7
REGULAR2 C US:AK008536 150 61:58 151:12(49-89) SKWENTNA 43.7
REGULAR3 C US:AK009790 270 61:42 150:00(71-89) WHITE'S CROSSING 50.4
*****
* GPS SITE: 1/041001 W33:27:41 W112:26:59 ELEV: 1046, 1978
*****
FIRST O. F US:A2006481 1110 33:26 112:01(48-89) PHOENIX WSFO AP 25.1
ACTIVE C US:A2004977 1030 33:30 112:22(17-89) LITCHFIELD PARK 5.5
REGULAR1 C US:A2001026 870 33:22 112:35( 1-89) BUCKEYE 10.1
REGULAR2 C US:A2009634 1140 33:36 112:18(64-89) YOUNGTOWN 12.9
REGULAR3 C US:A2004829 1120 33:20 112:09(48-89) LAVERN 3 SSE 19.4
*****
* GPS SITE: 1/041002 W35:13:10 W112:29:20 ELEV: 5135, 1979
*****
FIRST O. F US:A2003010 7010 35:08 111:40(50-89) FLAGSTAFF WSO AP 47.3 REJECTED
ACTIVE C US:A2009359 6750 35:15 112:11( 2-89) WILLIAMS 18.2 REJECTED
REGULAR1 C US:A2007716 5250 35:19 112:53( 4-89) SELIGMAN 23.1
REGULAR2 C US:A2009158 5090 34:56 112:49(15-89) WALNUT CREEK 25.7
REGULAR3 C US:A2001654 4750 34:45 112:27(48-89) CHINO VALLEY 31.2
*****
* GPS SITE: 1/041003 W33:28:00 W112:45:00 ELEV: 1103, 1975
*****
FIRST O. F US:A2006481 1110 33:26 112:01(48-89) PHOENIX WSFO AP 42.4
ACTIVE C US:A2008641 1110 33:28 112:57(51-89) TONOPAH 11.5
REGULAR1 C US:A2001026 870 33:22 112:35( 1-89) BUCKEYE 11.8
REGULAR2 C US:A2004977 1030 33:30 112:22(17-89) LITCHFIELD PARK 22.2
REGULAR3 C US:A2009634 1140 33:36 112:18(64-89) YOUNGTOWN 27.5 REJECTED

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*****
* GPS SITE: 1/041006 N33:26:08 W112:39:37 ELEV: 5722, 1976
*****
FIRST O. F US:A2006481 1110 33:26 112:01(48-89) PHOENIX WSFO AP 37.2
ACTIVE C US:A2001026 870 33:22 112:35( 1-89) BUCKEYE 6.5
REGULAR1 C US:A2008641 1110 33:28 112:57(51-89) TONOPAH 16.9
REGULAR2 C US:A2004977 1030 33:30 112:22(17-89) LITCHFIELD PARK 17.5
REGULAR3 C US:A2009634 1140 33:36 112:18(64-89) YOUNGTOWN 23.7
*****
* GPS SITE: 1/041007 N33:26:11 W112:34:52 ELEV: 1044, 1978
*****
FIRST O. F US:A2006481 1110 33:26 112:01(48-89) PHOENIX WSFO AP 32.6
ACTIVE C US:A2001026 870 33:22 112:35( 1-89) BUCKEYE 4.8
REGULAR1 C US:A2004977 1030 33:30 112:22(17-89) LITCHFIELD PARK 13.1
REGULAR2 C US:A2009634 1140 33:36 112:18(64-89) YOUNGTOWN 19.8
REGULAR3 C US:A2008641 1110 33:28 112:57(51-89) TONOPAH 21.4
*****
* GPS SITE: 1/041015 N31:33:33 W111:03:04 ELEV: 3333, 1979
*****
FIRST O. F US:A2008820 2580 32:08 110:57(48-89) TUCSON WSO AP 40.1 REJECTED
ACTIVE C US:A2008865 3270 31:34 111:03(48-89) TUMACACORI N M 0.5
REGULAR1 C US:A2005924 3560 31:25 110:57(52-89) NOGALES 6 N 11.5
REGULAR2 C US:A2007593 4300 31:46 110:51(50-89) SANTA RITA EXP RANGE 18.6
REGULAR3 C US:A2008795 2560 31:15 111:12(82-89) TUCSON 17 NW 23.1 REJECTED
*****
* GPS SITE: 1/041016 N31:38:19 W111:03:27 ELEV: 3218, 1979
*****
FIRST O. F US:A2006481 1110 33:26 112:01(48-89) PHOENIX WSFO AP 136.0 REJECTED
ACTIVE C US:A2008865 3270 31:34 111:03(48-89) TUMACACORI N M 5.0
REGULAR1 C US:A2007593 4300 31:46 110:51(50-89) SANTA RITA EXP RANGE 15.1
REGULAR2 C US:A2005924 3560 31:25 110:57(52-89) NOGALES 6 N 16.6
REGULAR3 C US:A2008795 2560 31:15 111:12(82-89) TUCSON 17 NW 28.1 REJECTED
*****
* GPS SITE: 1/041017 N31:45:54 W111:02:07 ELEV: 2990, 1976
*****
FIRST O. F US:A2006481 1110 33:26 112:01(48-89) PHOENIX WSFO AP 128.6 REJECTED
ACTIVE C US:A2007593 4300 31:46 110:51(50-89) SANTA RITA EXP RANGE 10.9
REGULAR1 C US:A2008865 3270 31:34 111:03(48-89) TUMACACORI N M 13.7
REGULAR2 C US:A2005924 3560 31:25 110:57(52-89) NOGALES 6 N 24.6
REGULAR3 C US:A2000287 2750 31:59 111:23(48-89) ANVIL RANCH 25.4
*****
* GPS SITE: 1/041018 N31:48:26 W111:00:43 ELEV: 2466, 1976
*****
FIRST O. F US:A2006481 1110 33:26 112:01(48-89) PHOENIX WSFO AP 126.6 REJECTED
ACTIVE C US:A2007593 4300 31:46 110:51(50-89) SANTA RITA EXP RANGE 9.9
REGULAR1 C US:A2008865 3270 31:34 111:03(48-89) TUMACACORI N M 16.8
REGULAR2 C US:A2008820 2580 32:08 110:57(48-89) TUCSON WSO AP 22.8
REGULAR3 C US:A2000287 2750 31:59 111:23(48-89) ANVIL RANCH 25.0 REJECTED
*****
* GPS SITE: 1/041021 N35:09:39 W113:40:56 ELEV: 3574, 1978
*****
FIRST O. F US:NV004436 2160 36:05 115:10(49-89) LAS VEGAS WSO AP 105.0 REJECTED
ACTIVE C US:A2004645 3540 35:12 114:01(67-89) KINGMAN 2 19.1
REGULAR1 C US:A2009309 2010 34:43 113:37(48-89) WIKIEUP 30.9 REJECTED
REGULAR2 C US:A2009645 1950 34:53 114:08(50-89) YUCCA 1 NNE 31.9 REJECTED
REGULAR3 C US:A2007716 5250 35:19 112:53( 4-89) SELIGMAN 46.4 REJECTED
*****
* GPS SITE: 1/041022 N35:09:40 W113:35:50 ELEV: 3750, 1977
*****
FIRST O. F US:NV004436 2160 36:05 115:10(49-89) LAS VEGAS WSO AP 108.8 REJECTED
ACTIVE C US:A2004645 3540 35:12 114:01(67-89) KINGMAN 2 23.9
REGULAR1 C US:A2009309 2010 34:43 113:37(48-89) WIKIEUP 30.7 REJECTED
REGULAR2 C US:A2009645 1950 34:53 114:08(50-89) YUCCA 1 NNE 35.9 REJECTED
REGULAR3 C US:A2007716 5250 35:19 112:53( 4-89) SELIGMAN 41.7
*****
* GPS SITE: 1/041024 N35:16:42 W113:07:43 ELEV: 5456, 1977
*****
FIRST O. F US:A2003010 7010 35:08 111:40(50-89) FLAGSTAFF WSO AP 83.2 REJECTED
ACTIVE C US:A2007716 5250 35:19 112:53( 4-89) SELIGMAN 14.1
REGULAR1 C US:A2009158 5090 34:56 112:49(15-89) WALNUT CREEK 29.7 REJECTED
REGULAR2 C US:A2000490 5330 35:17 112:28(76-83) ASH FORK 5 N 37.4
REGULAR3 C US:A2000584 4120 34:36 113:08(78-86) BAGDAD 2 46.8 REJECTED

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*****
* GPS SITE: 1/041025      N35:15:00 W112:58:00 ELEV: 5483, 1978
*****
FIRST O. F US:AZ003010  7010 35:08 111:40(50-89) FLAGSTAFF WSO AP      73.9 REJECTED
ACTIVE C US:AZ007716   5250 35:19 112:53( 4-89) SELIGMAN                6.6
REGULAR1 C US:AZ009158  5090 34:56 112:49(15-89) WALNUT CREEK           23.5
REGULAR2 C US:AZ009359  6750 35:15 112:11( 2-89) WILLIAMS               44.2
REGULAR3 C US:AZ001654  4750 34:45 112:27(48-89) CHINO VALLEY           45.3
*****
* GPS SITE: 1/041034      N34:09:32 W114:16:02 ELEV: 419, 1975
*****
FIRST O. F US:CA008892      33:38 116:10(50-89) THERMAL FAA AP      114.9 REJECTED
ACTIVE C US:AZ006250      410 34:11 114:13( 1-89) PARKER 6 NE          3.3
REGULAR1 C US:CA006699      740 34:17 114:10(43-89) PARKER RESERVOIR    10.3
REGULAR2 C US:AZ000949      930 33:57 114:02(52-89) BOUSE              19.7
REGULAR3 C US:AZ004759      480 34:27 114:22(67-89) LAKE HAVASU        20.9
*****
* GPS SITE: 1/041036      N35:42:41 W114:28:39 ELEV: 2406, 1983
*****
FIRST O. F US:NV004436  2160 36:05 115:10(49-89) LAS VEGAS WSO AP      46.4 REJECTED
ACTIVE C US:AZ009376      760 35:52 114:39(67-89) WILLOW BEACH         14.4
REGULAR1 C US:NV001071  2530 35:59 114:51(31-89) BOULDER CITY           28.1
REGULAR2 C US:NV007369  3540 35:28 114:55(48-89) SEARCHLIGHT          29.9
REGULAR3 C US:AZ001050      540 35:10 114:34(77-89) BULLHEAD CITY       37.9
*****
* GPS SITE: 1/041037      N35:12:00 W114:30:00 ELEV: 831, 1985
*****
FIRST O. F US:NV004436  2160 36:05 115:10(49-89) LAS VEGAS WSO AP      71.6 REJECTED
ACTIVE C US:AZ001050      540 35:10 114:34(77-89) BULLHEAD CITY         4.4
REGULAR1 C US:AZ004645  3540 35:12 114:01(67-89) KINGMAN 2            27.3
REGULAR2 C US:NV007369  3540 35:28 114:55(48-89) SEARCHLIGHT          29.9
REGULAR3 C US:AZ009645  1950 34:53 114:08(50-89) YUCCA 1 NNE          30.2
*****
* GPS SITE: 2/041062      N35:11:28 W113:20:45 ELEV: 5060, 1977
*****
FIRST O. F US:AZ003010  7010 35:08 111:40(50-89) FLAGSTAFF WSO AP      95.0 REJECTED
ACTIVE C US:AZ007716   5250 35:19 112:53( 4-89) SELIGMAN                27.5
REGULAR1 C US:AZ009158  5090 34:56 112:49(15-89) WALNUT CREEK           34.8
REGULAR2 C US:AZ009309  2010 34:43 113:37(48-89) WIKIEUP             36.2 REJECTED
REGULAR3 C US:AZ004645  3540 35:12 114:01(67-89) KINGMAN 2            37.9 REJECTED
*****
* GPS SITE: 2/041065      N35:12:31 W113:16:03 ELEV: 5301, 1977
*****
FIRST O. F US:AZ003010  7010 35:08 111:40(50-89) FLAGSTAFF WSO AP      90.7 REJECTED
ACTIVE C US:AZ007716   5250 35:19 112:53( 4-89) SELIGMAN                22.9
REGULAR1 C US:AZ009158  5090 34:56 112:49(15-89) WALNUT CREEK           31.8
REGULAR2 C US:AZ009309  2010 34:43 113:37(48-89) WIKIEUP             39.3
REGULAR3 C US:AZ004645  3540 35:12 114:01(67-89) KINGMAN 2            42.3 REJECTED
*****
* GPS SITE: 6A/046053      N32:03:00 W110:26:00 ELEV: 3876, 1956
*****
FIRST O. F US:AZ006481  1110 33:26 112:01(48-89) PHOENIX WSFO AP     132.7 REJECTED
ACTIVE C US:AZ000309  3690 31:54 110:15(23-89) APACHE POWDER CO        14.9
REGULAR1 C US:AZ000680  3670 31:58 110:18( 1-75) BENSON                9.7
REGULAR2 C US:AZ001330  3150 32:19 110:24(69-89) CASCABEL             18.5
REGULAR3 C US:AZ008800  2530 32:15 110:50(48-89) TUCSON MAGNETIC OBS    27.2
*****
* GPS SITE: 6A/046054      N32:05:00 W110:58:00 ELEV: 2672, 1969
*****
FIRST O. F US:AZ006481  1110 33:26 112:01(48-89) PHOENIX WSFO AP     111.5 REJECTED
ACTIVE C US:AZ008820  2580 32:08 110:57(48-89) TUCSON WSO AP          3.6
REGULAR1 C US:AZ008815  2440 32:15 110:57( 1-89) TUCSON U OF A         11.6
REGULAR2 C US:AZ008796  2330 32:17 110:57(49-89) TUCSON CAMP AVE EXP F  13.8
REGULAR3 C US:AZ008800  2530 32:15 110:50(48-89) TUCSON MAGNETIC OBS    13.9
*****
* GPS SITE: 6A/046055      N33:14:46 W112:38:16 ELEV: 910, 1956
*****
FIRST O. F US:AZ006481  1110 33:26 112:01(48-89) PHOENIX WSFO AP      38.1
ACTIVE C US:AZ001026      870 33:22 112:35( 1-89) BUCKEYE              8.9
REGULAR1 C US:AZ003393      740 32:57 112:43( 1-89) GILA BEND           20.9
REGULAR2 C US:AZ004977  1030 33:30 112:22(17-89) LITCHFIELD PARK       23.5
REGULAR3 C US:AZ004829  1120 33:20 112:09(48-89) LAVEEN 3 SSE          28.8

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*****
* GPS SITE: 6A/046060      N31:31:07 W111:00:58 ELEV: 3350, 1967
*****
FIRST O. F US:AZ006481    1110 33:26 112:01(48-89) PHOENIX WSFO AP      144.5 REJECTED
ACTIVE C US:AZ008865      3270 31:34 111:03(48-89) TUMACACORI N M        3.9
REGULAR1 C US:AZ005924    3560 31:25 110:57(52-89) NOGALES 6 N            8.0
REGULAR2 C US:AZ005921    3810 31:21 110:55(48-83) NOGALES              13.0
REGULAR3 C US:AZ007593    4300 31:46 110:51(50-89) SANTA RITA EXP RANGE    19.7
*****
* GPS SITE: 5/047079      N33:33:37 W112:12:38 ELEV: 1250, 1989
*****
FIRST O. F US:AZ006481    1110 33:26 112:01(48-89) PHOENIX WSFO AP      16.3
ACTIVE C US:AZ009634      1140 33:36 112:18(64-89) YOUNGTOWN              4.8
REGULAR1 C US:AZ004977    1030 33:30 112:22(17-89) LITCHFIELD PARK        11.1
REGULAR2 C US:AZ006486    1080 33:27 112:04(48-89) PHOENIX CITY            13.5
REGULAR3 C US:AZ008112    1160 33:23 112:04(61-89) SOUTH PHOENIX          17.3
*****
* GPS SITE: 3/047613      N33:24:52 W111:51:44 ELEV: 1200, 1979
*****
FIRST O. F US:AZ006481    1110 33:26 112:01(48-89) PHOENIX WSFO AP      10.6
ACTIVE C US:AZ005467      1230 33:25 111:52( 1-89) MESA EXPERIMENT FARM        1.9
REGULAR1 C US:AZ007661    1200 33:28 111:53(68-85) SCOTTSDALE              4.5
REGULAR2 C US:AZ008499    1170 33:25 111:56(53-89) TEMPE ASU              5.8
REGULAR3 C US:AZ008489    1150 33:26 111:56(26-84) TEMPE                5.9
*****
* GPS SITE: 3/047614      N33:27:27 W112:07:24 ELEV: 1050, 1984
*****
FIRST O. F US:AZ006481    1110 33:26 112:01(48-89) PHOENIX WSFO AP      13.7
ACTIVE C US:AZ004977      1030 33:30 112:22(17-89) LITCHFIELD PARK        7.1
REGULAR1 C US:AZ009634    1140 33:36 112:18(64-89) YOUNGTOWN              9.6
REGULAR2 C US:AZ006486    1080 33:27 112:04(48-89) PHOENIX CITY            10.6
REGULAR3 C US:AZ004829    1120 33:20 112:09(48-89) LAVERN 3 SSE          10.9
*****
* GPS SITE: 2/052042      N33:06:00 W092:00:00 ELEV: 140, 1972
*****
FIRST O. F US:LA006303     80 32:31 092:03(30-89) MONROE FAA AP      40.4
ACTIVE C US:AR001730      180 33:07 091:57(48-89) CROSSETT 2 SSE              3.1
REGULAR1 C US:LA000537    140 32:47 091:54(48-89) BASTROP                22.6
REGULAR2 C US:AR004934     90 33:19 092:27(48-85) MOROBAY LOCK 8          30.0
REGULAR3 C US:AR005866    120 33:14 091:30( 9-89) PORTLAND          30.4
*****
* GPS SITE: 3/053011      N35:24:00 W091:27:00 ELEV: 223, 1983
*****
FIRST O. F US:AR004248     260 34:44 092:14( 1-89) LITTLE ROCK FAA AP      63.9
ACTIVE C US:AR005186      230 35:36 091:16(30-89) NEWPORT              17.2
REGULAR1 C US:AR006506    250 35:15 091:45(30-89) SEARCY                19.8
REGULAR2 C US:AR000536    220 35:26 091:06(48-89) BEEDEVILLE              19.9
REGULAR3 C US:AR000460    280 35:45 091:38(48-89) BATESVILLE L AND D 1        26.3
*****
* GPS SITE: 2/053048      N34:24:00 W091:12:00 ELEV: 200, 1983
*****
FIRST O. F US:AR004248     260 34:44 092:14( 1-89) LITTLE ROCK FAA AP      63.2
ACTIVE C US:AR006376      200 34:23 091:08(48-89) SAINT CHARLES              4.0
REGULAR1 C US:AR006920    200 34:28 091:25( 1-89) STUTTGART 9 ESE          13.2
REGULAR2 C US:AR001442    180 34:41 091:19(48-89) CLARENDON              20.7
REGULAR3 C US:AR000240    190 34:01 091:21(63-89) ARKANSAS POST          27.8
*****
* GPS SITE: 2/053058      N35:51:00 W090:45:00 ELEV: 237, 1990
*****
FIRST O. F US:TN005954     270 35:03 090:00(40-89) MEMPHIS FAA-AP      69.6
ACTIVE C US:AR003734      390 35:53 090:42( 1-89) JONESBORO 4 N              3.6
REGULAR1 C US:AR003998    230 35:48 090:26(48-89) LAKE CITY              18.1
REGULAR2 C US:AR005563    270 36:02 090:30(79-89) PARAGOULD 1 S          18.9
REGULAR3 C US:AR000064    260 35:54 091:05(48-89) ALICIA                19.0
*****
* GPS SITE: 4/053059      N35:30:00 W094:24:00 ELEV: 522, 1976
*****
FIRST O. F US:AR002574     450 35:20 094:22( 1-89) FORT SMITH WSO AP      11.7
ACTIVE C US:OK007862      530 35:29 094:46(48-89) SALLISAW 2 NE          20.7
REGULAR1 C US:AR002578    790 35:39 094:09(48-85) FORT SMITH WATER PLAN        17.5
REGULAR2 C US:OK008506   1080 35:50 094:37(48-89) STILLWELL 1 NE          26.0
REGULAR3 C US:AR005508    490 35:30 093:51(30-89) OZARK                31.0

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*****
* GPS SITE: 2/053071      N36:10:00 W094:10:00 ELEV: 1311, 1988
*****
FIRST O. F US:AR003165    1370 36:16 093:09(61-89) HARRISON FAA AP      57.2
ACTIVE C US:AR002444      1270 36:06 094:10( 1-89) FAYETTEVILLE EXP STN  4.6
REGULAR1 C US:AR000586    1300 36:21 094:13(48-89) BENTONVILLE          13.0
REGULAR2 C US:AR002930    1260 36:26 094:27(48-89) GRAVETTE                24.3
REGULAR3 C US:AR003544    1780 36:04 093:45(83-89) HUNTSVILLE 1 SSW        24.3
*****
* GPS SITE: 7B/053073      N34:48:00 W092:12:00 ELEV: 264, 1965
*****
FIRST O. F US:AR004248    260 34:44 092:14( 1-89) LITTLE ROCK FAA AP      5.0
ACTIVE C US:AR005320      560 34:50 092:16(76-89) N LITTLE ROCK WSFO AP    4.4
REGULAR1 C US:AR001102    280 34:57 092:05(18-89) CABOT 4 SW                12.3
REGULAR2 C US:AR003862    230 34:36 092:00(48-89) KEO                    17.9
REGULAR3 C US:AR001596    330 35:06 092:27( 1-89) CONWAY                  25.1
*****
* GPS SITE: 7B/053074      N35:00:00 W090:50:00 ELEV: 224, 1978
*****
FIRST O. F US:TN005954    270 35:03 090:00(40-89) MEMPHIS FAA-AP          47.3
ACTIVE C US:AR008052      260 35:15 090:48(48-89) WYNNE                      17.4
REGULAR1 C US:AR004638    230 34:44 090:46( 1-89) MARIANNA 2 S              18.8
REGULAR2 C US:AR000936    200 34:53 091:11(48-89) BRINKLEY                21.4
REGULAR3 C US:AR000536    220 35:26 091:06(48-89) BEEDEVILLE              33.5
*****
* GPS SITE: 4/054019      N34:12:00 W092:00:00 ELEV: 212, 1975
*****
FIRST O. F US:AR004248    260 34:44 092:14( 1-89) LITTLE ROCK FAA AP      39.2
ACTIVE C US:AR005754      220 34:13 092:01( 1-89) PINE BLUFF                1.5
REGULAR1 C US:AR006823    250 33:56 091:50(64-89) STAR CITY                20.7
REGULAR2 C US:AR006562    250 34:18 092:24(77-89) SHERIDAN                23.9
REGULAR3 C US:AR003862    230 34:36 092:00(48-89) KEO                    27.6
*****
* GPS SITE: 4/054021      N35:03:00 W092:00:00 ELEV: 273, 1970
*****
FIRST O. F US:AR004248    260 34:44 092:14( 1-89) LITTLE ROCK FAA AP      25.6
ACTIVE C US:AR001102      280 34:57 092:05(18-89) CABOT 4 SW                8.4
REGULAR1 C US:AR006506    250 35:15 091:45(30-89) SEARCY                    19.8
REGULAR2 C US:AR005320    560 34:50 092:16(76-89) N LITTLE ROCK WSFO AP    21.3
REGULAR3 C US:AR002962    330 35:14 092:22(48-89) GREENBRIER              24.3
*****
* GPS SITE: 4/054023      N35:15:00 W091:45:00 ELEV: 228, 1975
*****
FIRST O. F US:AR004248    260 34:44 092:14( 1-89) LITTLE ROCK FAA AP      45.0
ACTIVE C US:AR006506      250 35:15 091:45(30-89) SEARCY                    0.0
REGULAR1 C US:AR002978    530 35:31 092:00(60-89) GREERS FERRY DAM          23.2
REGULAR2 C US:AR001968    200 34:58 091:30(48-89) DES ARC                24.1
REGULAR3 C US:AR001102    280 34:57 092:05(18-89) CABOT 4 SW                28.0
*****
* GPS SITE: 4/054046      N35:51:00 W090:45:00 ELEV: 286, 1979
*****
FIRST O. F US:TN005954    270 35:03 090:00(40-89) MEMPHIS FAA-AP          69.6
ACTIVE C US:AR003734      390 35:53 090:42( 1-89) JONESBORO 4 N                3.6
REGULAR1 C US:AR005563    270 36:02 090:30(79-89) PARAGOULD 1 S              18.9
REGULAR2 C US:AR000064    260 35:54 091:05(48-89) ALICIA                    19.0
REGULAR3 C US:AR005820    330 36:16 090:59(48-89) POCAHONTAS 1              31.6
*****
* GPS SITE: 5/055803      N34:48:00 W092:12:00 ELEV: 383, 1973
*****
FIRST O. F US:AR004248    260 34:44 092:14( 1-89) LITTLE ROCK FAA AP      5.0
ACTIVE C US:AR005320      560 34:50 092:16(76-89) N LITTLE ROCK WSFO AP    4.4
REGULAR1 C US:AR001102    280 34:57 092:05(18-89) CABOT 4 SW                12.3
REGULAR2 C US:AR003862    230 34:36 092:00(48-89) KEO                    17.9
REGULAR3 C US:AR001596    330 35:06 092:27( 1-89) CONWAY                  25.1
*****
* GPS SITE: 5/055805      N34:48:00 W092:12:00 ELEV: 305, 1975
*****
FIRST O. F US:AR004248    260 34:44 092:14( 1-89) LITTLE ROCK FAA AP      5.0
ACTIVE C US:AR005320      560 34:50 092:16(76-89) N LITTLE ROCK WSFO AP    4.4
REGULAR1 C US:AR001102    280 34:57 092:05(18-89) CABOT 4 SW                12.3
REGULAR2 C US:AR003862    230 34:36 092:00(48-89) KEO                    17.9
REGULAR3 C US:AR001596    330 35:06 092:27( 1-89) CONWAY                  25.1

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*****
* GPS SITE: 1/061253 N39:46:22 W121:43:55 ELEV: 1183, 1970
*****
FIRST O. F US:CA007630 20 38:31 121:30(41-89) SACRAMENTO FAA AP 87.6 REJECTED
ACTIVE C US:CA006685 1750 39:45 121:37(57-89) PARADISE 6.3
REGULAR1 C US:CA001715 190 39:42 121:49( 6-89) CHICO UNIV FARM 6.8
REGULAR2 C US:CA002402 2720 39:52 121:37(48-89) DE SABLA 8.9
REGULAR3 C US:CA006521 170 39:31 121:33(53-89) OROVILLE 20.2
*****
* GPS SITE: 2/062002 N41:37:25 W122:24:27 ELEV: 5000, 1980
*****
FIRST O. F US:OR005429 1300 42:23 122:53(28-89) MEDFORD WSO AP 57.9 REJECTED
ACTIVE C US:CA009499 3590 41:26 122:23(57-89) WEED FIRE DEPARTMENT 13.2
REGULAR1 C US:CA009866 2630 41:43 122:38(48-89) YREKA 13.3
REGULAR2 C US:CA005983 3590 41:19 122:19(48-89) MOUNT SHASTA 21.7 REJECTED
REGULAR3 C US:CA005941 4250 41:47 122:02(48-89) MOUNT HEBRON R S 22.2
*****
* GPS SITE: 2/062004 N33:30:52 W117:09:24 ELEV: 1030, 1976
*****
FIRST O. F US:CA008892 33:38 116:10(50-89) THERMAL FAA AP 57.6
ACTIVE C US:CA008655 1420 33:43 117:12(73-89) SUN CITY 14.2
REGULAR1 C US:CA002805 1290 33:40 117:20(48-89) ELSINORE 14.6
REGULAR2 C US:CA009378 510 33:14 117:14(57-89) VISTA 2 NNE 19.9
REGULAR3 C US:CA006657 5550 33:21 116:52(48-89) PALOMAR MTN OBSY 20.2 REJECTED
*****
* GPS SITE: 2/062038 N41:47:38 W124:09:25 ELEV: 41, 1972
*****
FIRST O. F US:OR007698 3840 42:37 123:22(48-89) SEXTON SUMMIT WSO 69.8 REJECTED
ACTIVE C US:CA002147 40 41:46 124:12(48-89) CRESCENT CITY 1 N 2.9
REGULAR1 C US:OR001055 70 42:03 124:17(31-89) BROOKINGS 18.8
REGULAR2 C US:CA004577 30 41:31 124:02(48-89) KLAMATH 20.2
REGULAR3 C US:CA006498 160 41:22 124:01(48-89) ORICK PRAIRIE CR PARK 30.4
*****
* GPS SITE: 2/062040 N40:27:30 W124:04:11 ELEV: 115, 1979
*****
FIRST O. F US:OR005429 1300 42:23 122:53(28-89) MEDFORD WSO AP 146.5 REJECTED
ACTIVE C US:CA008045 140 40:29 124:06(31-89) SCOTIA 2.3
REGULAR1 C US:CA003647 410 40:29 123:54(79-89) GRIZZLY CREEK STATE P 9.1
REGULAR2 C US:CA002910 60 40:48 124:10(48-89) EUREKA WSO CI 24.1
REGULAR3 C US:CA008163 420 40:01 124:04(74-89) SHELTER COVE AVIATION 30.5
*****
* GPS SITE: 2/062041 N40:27:15 W124:03:16 ELEV: 150, 1971
*****
FIRST O. F US:OR005429 1300 42:23 122:53(28-89) MEDFORD WSO AP 146.4 REJECTED
ACTIVE C US:CA008045 140 40:29 124:06(31-89) SCOTIA 3.1
REGULAR1 C US:CA003647 410 40:29 123:54(79-89) GRIZZLY CREEK STATE P 8.4
REGULAR2 C US:CA002910 60 40:48 124:10(48-89) EUREKA WSO CI 24.6
REGULAR3 C US:CA008163 420 40:01 124:04(74-89) SHELTER COVE AVIATION 30.2
*****
* GPS SITE: 2/062051 N38:16:00 W122:17:50 ELEV: 8, 1981
*****
FIRST O. F US:CA007630 20 38:31 121:30(41-89) SACRAMENTO FAA AP 46.5 REJECTED
ACTIVE C US:CA006074 60 38:17 122:16(17-89) NAPA STATE HOSPITAL 2.0
REGULAR1 C US:CA008351 100 38:18 122:28(52-89) SONOMA 9.5
REGULAR2 C US:CA002934 40 38:16 122:02(50-89) FAIRFIELD FIRE STN 14.3
REGULAR3 C US:CA006826 30 38:14 122:38(48-89) PETALUMA FIRE STN 3 18.4
*****
* GPS SITE: 2/062053 N37:27:15 W122:16:50 ELEV: 500, 1973
*****
FIRST O. F US:CA007630 20 38:31 121:30(41-89) SACRAMENTO FAA AP 84.8 REJECTED
ACTIVE C US:CA009792 380 37:26 122:15(73-89) WOODSIDE FIRE DEPT 1 2.2
REGULAR1 C US:CA007339 30 37:29 122:14(48-89) REDWOOD CITY 3.3
REGULAR2 C US:CA006646 30 37:27 122:08(53-89) PALO ALTO 8.1
REGULAR3 C US:CA003714 40 37:28 122:27(48-89) HALF MOON BAY 9.3
*****
* GPS SITE: 2/062647 N37:50:45 W120:33:47 ELEV: 1039, 1976
*****
FIRST O. F US:CA007630 20 38:31 121:30(41-89) SACRAMENTO FAA AP 68.9 REJECTED
ACTIVE C US:CA006172 780 37:57 120:32(79-89) NEW MELONES DAM 7.4
REGULAR1 C US:CA008353 1750 37:50 120:23(31-89) SONORA R S 9.9
REGULAR2 C US:CA002389 140 37:34 120:47(48-84) DENAIR 3 NNE 22.7
REGULAR3 C US:CA005738 90 37:39 121:00(31-89) MODESTO 27.5

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* GPS SITE: 3/063005      N41:10:19 W122:09:12 ELEV: 1230, 1973
*****
FIRST O. F US:OR005429 1300 42:23 122:53(28-89) MEDFORD WSO AP 91.7 REJECTED
ACTIVE C US:CA005449 3280 41:15 122:08(48-89) MC CLOUD 5.5
REGULAR1 C US:CA002574 2170 41:12 122:16(78-89) DUNSMUIR TRMT PLANT 6.2
REGULAR2 C US:CA005983 3590 41:19 122:19(48-89) MOUNT SHASTA 13.1
REGULAR3 C US:CA009499 3590 41:26 122:23(57-89) WEED FIRE DEPARTMENT 21.6
*****
* GPS SITE: 3/063010      N32:54:47 W117:06:55 ELEV: 527, 1976
*****
FIRST O. F US:CA006319 2750 33:23 116:48(78-89) OAK GROVE R S 37.3 REJECTED
ACTIVE C US:CA002706 410 32:49 116:58(79-89) EL CAJON 10.9
REGULAR1 C US:CA004735 530 32:46 117:01(48-89) LA MESA 11.6
REGULAR2 C US:CA007740 10 32:44 117:10(27-89) SAN DIEGO WSO AP 12.8
REGULAR3 C US:CA007874 420 33:05 117:00(79-89) SAN PASQUAL ANIMAL PK 13.5
*****
* GPS SITE: 3/063013      N33:40:10 W117:18:11 ELEV: 1400, 1981
*****
FIRST O. F US:CA006319 2750 33:23 116:48(78-89) OAK GROVE R S 35.1 REJECTED
ACTIVE C US:CA002805 1290 33:40 117:20(48-89) ELSINORE 1.8
REGULAR1 C US:CA008655 1420 33:43 117:12(73-89) SUN CITY 6.8
REGULAR2 C US:CA007470 840 33:57 117:23(27-89) RIVERSIDE FIRE STN 3 19.9
REGULAR3 C US:CA007473 990 33:58 117:21(48-89) RIVERSIDE CIT EXP STN 20.7
*****
* GPS SITE: 3/063017      N34:11:42 W118:13:17 ELEV: 1261, 1978
*****
FIRST O. F US:CA005085 30 33:49 118:09(58-89) LONG BEACH WSO AP 26.4
ACTIVE C US:CA006719 860 34:09 118:09(27-89) PASADENA 5.1
REGULAR1 C US:CA009047 1820 34:16 118:17(66-87) TUJUNGA 6.1
REGULAR2 C US:CA001194 660 34:11 118:21(39-89) BURBANK VALLEY PMP PL 7.4
REGULAR3 C US:CA006006 5710 34:14 118:04(48-89) MT WILSON 2 9.2 REJECTED
*****
* GPS SITE: 3/063019      N33:35:11 W117:14:02 ELEV: 1310, 1979
*****
FIRST O. F US:CA005085 30 33:49 118:09(58-89) LONG BEACH WSO AP 55.1 REJECTED
ACTIVE C US:CA002805 1290 33:40 117:20(48-89) ELSINORE 8.0
REGULAR1 C US:CA008655 1420 33:43 117:12(73-89) SUN CITY 9.2
REGULAR2 C US:CA007813 1560 33:47 116:58(48-89) SAN JACINTO R S 20.5
REGULAR3 C US:CA009378 510 33:14 117:14(57-89) VISTA 2 NNE 24.4
*****
* GPS SITE: 3/063021      N32:43:05 W116:27:35 ELEV: 3260, 1973
*****
FIRST O. F US:CA008892 33:38 116:10(50-89) THERMAL FAA AP 65.4 REJECTED
ACTIVE C US:CA001424 2630 32:38 116:28(48-89) CAMPO 5.9
REGULAR1 C US:CA000136 1740 32:50 116:46(52-89) ALPINE 19.5 REJECTED
REGULAR2 C US:CA002239 4640 32:59 116:35(48-89) CUYAMACA 19.7
REGULAR3 C US:CA002709 600 32:53 116:49(48-89) EL CAPITAN DAM 23.7 REJECTED
*****
* GPS SITE: 3/063024      N33:41:54 W117:20:38 ELEV: 1250, 1980
*****
FIRST O. F US:CA005085 30 33:49 118:09(58-89) LONG BEACH WSO AP 47.1 REJECTED
ACTIVE C US:CA002805 1290 33:40 117:20(48-89) ELSINORE 2.3
REGULAR1 C US:CA008655 1420 33:43 117:12(73-89) SUN CITY 8.4
REGULAR2 C US:CA007470 840 33:57 117:23(27-89) RIVERSIDE FIRE STN 3 17.5
REGULAR3 C US:CA007473 990 33:58 117:21(48-89) RIVERSIDE CIT EXP STN 18.5
*****
* GPS SITE: 3/063030      N40:09:59 W122:23:16 ELEV: 1217, 1972
*****
FIRST O. F US:CA007630 20 38:31 121:30(41-89) SACRAMENTO FAA AP 123.4 REJECTED
ACTIVE C US:CA007292 340 40:09 122:15(33-89) RED BLUFF WSO AP 7.4
REGULAR1 C US:CA006506 250 39:45 122:12(48-89) ORLAND 30.4
REGULAR2 C US:CA009621 1300 40:37 122:32(60-89) WHISKEYTOWN RESERVOIR 32.0
REGULAR3 C US:CA003791 2750 40:22 122:58(48-89) HARRISON GULCH R S 33.5
*****
* GPS SITE: 3/063042      N38:14:17 W121:26:15 ELEV: 11, 1979
*****
FIRST O. F US:CA007630 20 38:31 121:30(41-89) SACRAMENTO FAA AP 19.5
ACTIVE C US:CA005032 40 38:07 121:17(48-89) LODI 11.9
REGULAR1 C US:CA008560 10 38:00 121:19(48-89) STOCKTON FIRE STN 4 17.7
REGULAR2 C US:CA000232 60 37:59 121:44(55-89) ANTIOCH PUMP PLANT 3 23.8
REGULAR3 C US:CA007633 80 38:35 121:30( 1-89) SACRAMENTO WSO CI 24.1

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* GPS SITE: 6A/066044      N39:10:44 W121:03:08 ELEV: 2433, 1960
*****
FIRST O. F US:CA007630      20 38:31 121:30(41-89) SACRAMENTO FAA AP      51.7 REJECTED
ACTIVE C US:CA003573      2400 39:13 121:04(66-89) GRASS VALLEY 2      2.7
REGULAR1 C US:CA006136      2780 39:15 121:02(31-89) NEVADA CITY      5.0
REGULAR2 C US:CA001912      2410 39:06 120:57(48-89) COLFAX      7.7
REGULAR3 C US:CA002338      4460 39:18 120:50(69-89) DEER CREEK FOREBAY      14.4
*****
* GPS SITE: 2/067452      N39:04:41 W122:54:57 ELEV: 1330, 1972
*****
FIRST O. F US:CA007630      20 38:31 121:30(41-89) SACRAMENTO FAA AP      85.6 REJECTED
ACTIVE C US:CA006172      1320 39:02 122:55(41-89) LAKEPORT      3.1
REGULAR1 C US:CA009122      630 39:09 123:12( 6-89) UKIAH      16.0
REGULAR2 C US:CA001838      320 38:46 122:59(50-89) CLOVERDALE 3 SSE      21.8
REGULAR3 C US:CA007109      1020 39:22 123:08(48-89) POTTER VALLEY P H      23.1
*****
* GPS SITE: 1/067454      N37:56:45 W120:49:24 ELEV: 846, 1972
*****
FIRST O. F US:CA007630      20 38:31 121:30(41-89) SACRAMENTO FAA AP      56.6 REJECTED
ACTIVE C US:CA006172      780 37:57 120:32(79-89) NEW MELONES DAM      16.3
REGULAR1 C US:CA005738      90 37:39 121:00(31-89) MODESTO      19.4
REGULAR2 C US:CA002389      140 37:34 120:47(48-84) DENAIR 3 NNE      22.7
REGULAR3 C US:CA008558      20 37:54 121:15(48-89) STOCKTON WSO AP      23.3
*****
* GPS SITE: 5/067455      N37:42:45 W121:20:45 ELEV: 52, 1971
*****
FIRST O. F US:CA007630      20 38:31 121:30(41-89) SACRAMENTO FAA AP      56.2 REJECTED
ACTIVE C US:CA008999      140 37:42 121:25(49-89) TRACY CARBONA      4.0
REGULAR1 C US:CA008558      20 37:54 121:15(48-89) STOCKTON WSO AP      14.0
REGULAR2 C US:CA009001      60 37:48 121:35(55-89) TRACY PUMPING PLANT      14.3
REGULAR3 C US:CA005738      90 37:39 121:00(31-89) MODESTO      19.4
*****
* GPS SITE: 3/067456      N37:43:30 W121:20:45 ELEV: 45, 1971
*****
FIRST O. F US:CA007630      20 38:31 121:30(41-89) SACRAMENTO FAA AP      55.3 REJECTED
ACTIVE C US:CA008999      140 37:42 121:25(49-89) TRACY CARBONA      4.2
REGULAR1 C US:CA008558      20 37:54 121:15(48-89) STOCKTON WSO AP      13.2
REGULAR2 C US:CA009001      60 37:48 121:35(55-89) TRACY PUMPING PLANT      14.0
REGULAR3 C US:CA008560      10 38:00 121:19(48-89) STOCKTON FIRE STN 4      19.1
*****
* GPS SITE: 2/067491      N34:53:27 W114:43:12 ELEV: 950, 1973
*****
FIRST O. F US:NV004436      2160 36:05 115:10(49-89) LAS VEGAS WSO AP      86.1 REJECTED
ACTIVE C US:CA006118      910 34:46 114:37(48-89) NEEDLES FAA AP      10.4
REGULAR1 C US:A2001050      540 35:10 114:34(77-89) BULLHEAD CITY      20.9
REGULAR2 C US:A2009645      1950 34:53 114:08(50-89) YUCCA 1 NNE      33.3
REGULAR3 C US:A2004759      480 34:27 114:22(67-89) LAKE HAVASU      36.5
*****
* GPS SITE: 3/067493      N33:22:54 W117:10:21 ELEV: 725, 1979
*****
FIRST O. F US:CA006319      2750 33:23 116:48(78-89) OAK GROVE R S      21.5 REJECTED
ACTIVE C US:CA009378      510 33:14 117:14(57-89) VISTA 2 NNE      10.8
REGULAR1 C US:CA006377      10 33:13 117:24(53-89) OCEANSIDE MARINA      17.4
REGULAR2 C US:CA006657      5550 33:21 116:52(48-89) PALOMAR MTN OBSY      17.8
REGULAR3 C US:CA002863      600 33:07 117:05(79-89) ESCONDIDO 2      19.0
*****
* GPS SITE: 2/068149      N34:51:20 W114:53:31 ELEV: 2100, 1971
*****
FIRST O. F US:NV004436      2160 36:05 115:10(49-89) LAS VEGAS WSO AP      86.2 REJECTED
ACTIVE C US:CA006118      910 34:46 114:37(48-89) NEEDLES FAA AP      16.8
REGULAR1 C US:A2001050      540 35:10 114:34(77-89) BULLHEAD CITY      28.3
REGULAR2 C US:CA005721      4350 34:56 115:52(58-89) MITCHELL CAVERNS      36.8
REGULAR3 C US:A2004759      480 34:27 114:22(67-89) LAKE HAVASU      40.9 REJECTED
*****
* GPS SITE: 2/068150      N34:05:31 W117:12:00 ELEV: 1250, 1984
*****
FIRST O. F US:CA005085      30 33:49 118:09(58-89) LONG BEACH WSO AP      47.2
ACTIVE C US:CA007473      990 33:58 117:21(48-89) RIVERSIDE CIT EXP STN      6.6
REGULAR1 C US:CA007470      840 33:57 117:23(27-89) RIVERSIDE FIRE STN 3      7.5
REGULAR2 C US:CA007723      1130 34:08 117:16(27-89) SAN BERNARDINO CO HOS      8.3
REGULAR3 C US:CA007306      1320 34:03 117:11(27-89) REDLANDS      11.3

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* GPS SITE: 2/068151 N34:43:38 W115:33:15 ELEV: 830, 1973
*****
FIRST O. F US:CA008892 33:38 116:10(50-89) THERMAL FAA AP 83.3 REJECTED
ACTIVE C US:CA005721 4350 34:56 115:32(58-89) MITCHELL CAVERNS 14.3
REGULAR1 C US:CA000436 940 35:16 116:04(71-89) BAKER 47.2 REJECTED
REGULAR2 C US:CA004297 920 34:08 115:08(48-89) IRON MTN 47.5 REJECTED
REGULAR3 C US:CA009099 1980 34:08 116:02(48-89) TWENTYNINE PALMS 49.3 REJECTED
*****
* GPS SITE: 1/068153 N35:12:42 W120:36:55 ELEV: 252, 1977
*****
FIRST O. F US:CA007946 250 34:54 120:27(48-89) SANTA MARIA WSO AP 23.6
ACTIVE C US:CA006943 80 35:08 120:38(49-89) PISMO BEACH 5.0
REGULAR1 C US:CA007851 320 35:18 120:40(48-89) SAN LUIS OBISPO POLY 6.7
REGULAR2 C US:CA005866 120 35:22 120:51(59-89) MORRO BAY FIRE DEPT 16.4
REGULAR3 C US:CA009111 580 34:59 120:19(62-89) TWITCHELL DAM 23.7 REJECTED
*****
* GPS SITE: 1/068156 N35:05:00 W120:09:00 ELEV: 1084, 1974
*****
FIRST O. F US:CA007946 250 34:54 120:27(48-89) SANTA MARIA WSO AP 22.4 REJECTED
ACTIVE C US:CA009111 580 34:59 120:19(62-89) TWITCHELL DAM 13.0
REGULAR1 C US:CA006154 2160 34:57 119:41(74-89) NEW CUYAMA FIRE STN 25.8
REGULAR2 C US:CA006943 80 35:08 120:38(49-89) PISMO BEACH 29.7
REGULAR3 C US:CA001253 780 34:35 119:59(52-89) CACHUMA DAM 34.4 REJECTED
*****
* GPS SITE: 2/068201 N35:23:50 W118:53:50 ELEV: 724, 1971
*****
FIRST O. F US:CA007946 250 34:54 120:27(48-89) SANTA MARIA WSO AP 94.3 REJECTED
ACTIVE C US:CA004520 970 35:28 118:47(48-89) KERN RIVER P H 1 8.0
REGULAR1 C US:CA000442 500 35:25 119:03(37-89) BAKERSFIELD WSO AP 8.7
REGULAR2 C US:CA003463 3140 35:43 118:42(51-89) GLENNVILLE 24.7 REJECTED
REGULAR3 C US:CA008839 1430 35:02 118:45(48-89) TEJON RANCHO 26.5
*****
* GPS SITE: 2/068202 N36:14:52 W119:48:48 ELEV: 208, 1970
*****
FIRST O. F US:CA007946 250 34:54 120:27(48-89) SANTA MARIA WSO AP 99.7 REJECTED
ACTIVE C US:CA003747 250 36:18 119:39(27-89) HANFORD 1 S 9.8
REGULAR1 C US:CA002012 200 36:06 119:34(48-89) CORCORAN IRRIG DIST O 17.1
REGULAR2 C US:CA004536 510 36:04 120:05(48-89) KETTLEMAN STN 19.6
REGULAR3 C US:CA003083 290 36:22 120:09(48-89) FIVE POINTS 5 SSW 20.5
*****
* GPS SITE: 68/068534 N32:46:31 W115:45:59 ELEV: -36, 1970
*****
FIRST O. F US:CA008892 33:38 116:10(50-89) THERMAL FAA AP 63.6
ACTIVE C US:CA002713 32:46 115:34(48-89) EL CENTRO 2 SSW 11.6
REGULAR1 C US:CA004223 32:51 115:34(48-89) IMPERIAL 12.7
REGULAR2 C US:CA001048 32:57 115:33(27-89) BRAWLEY 2 SW 17.4
REGULAR3 C US:CA001424 2630 32:38 116:28(48-89) CAMPO 41.9 REJECTED
*****
* GPS SITE: 68/068535 N32:01:26 W115:31:00 ELEV: -36, 1967
*****
FIRST O. F US:CA008892 33:38 116:10(50-89) THERMAL FAA AP 117.4
ACTIVE C US:CA002713 32:46 115:34(48-89) EL CENTRO 2 SSW 51.4
REGULAR1 C US:CA004223 32:51 115:34(48-89) IMPERIAL 57.1
REGULAR2 C US:CA001048 32:57 115:33(27-89) BRAWLEY 2 SW 64.0
REGULAR3 C US:AZ009652 190 32:37 114:39(20-89) YUMA CITRUS STN 65.1 REJECTED
*****
* GPS SITE: 9/069048 N32:50:19 W116:41:43 ELEV: 2510, 1951
*****
FIRST O. F US:CA008892 33:38 116:10(50-89) THERMAL FAA AP 62.8 REJECTED
ACTIVE C US:CA000136 1740 32:50 116:46(52-89) ALPINE 4.2
REGULAR1 C US:CA002709 600 32:53 116:49(48-89) EL CAPITAN DAM 7.7
REGULAR2 C US:CA000514 1620 32:41 116:40(48-89) BARRETT DAM 10.9
REGULAR3 C US:CA002239 4640 32:59 116:35(48-89) CUYAMACA 11.9
*****
* GPS SITE: 9/069049 N38:34:32 W121:33:41 ELEV: 13, 1954
*****
FIRST O. F US:CA007630 20 38:31 121:30(41-89) SACRAMENTO FAA AP 5.3
ACTIVE C US:CA007633 80 38:35 121:30( 1-89) SACRAMENTO WSO CI 3.4
REGULAR1 C US:CA001784 10 38:25 121:32(48-74) CLARKSBURG 11.1
REGULAR2 C US:CA002294 60 38:32 121:46(17-89) DAVIS 2 WSW EXP FRM 11.5
REGULAR3 C US:CA009781 70 38:41 121:48(48-89) WOODLAND 1 WNW 14.9

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* GPS SITE: 9/069107      N39:14:07 W120:43:17 ELEV: 5641, 1964
*****
FIRST O. F US:NV006779 4400 39:30 119:47(37-89) RENO WSFO AP 53.4 REJECTED
ACTIVE C US:CA004713 5160 39:19 120:38(48-89) LAKE SPAULDING 7.3
REGULAR1 C US:CA000897 5280 39:17 120:42(48-88) BLUE CANYON WSMO 3.5
REGULAR2 C US:CA002338 4460 39:18 120:50(69-89) DEER CREEK FOREBAY 7.5
REGULAR3 C US:CA001018 5370 39:27 120:39(48-89) BOWMAN DAM 15.3
*****
* GPS SITE: 1/081029      N40:31:30 W107:55:00 ELEV: 5920, 1972
*****
FIRST O. F US:UT002173 4770 40:26 109:18(58-89) DINOSAUR QUARRY AREA 73.1 REJECTED
ACTIVE C US:CO005446 5910 40:31 108:05(58-89) MAYBELL 8.8
REGULAR1 C US:CO001932 6440 40:27 107:36(77-89) CRAIG 4 SW 17.4
REGULAR2 C US:CO005487 6350 40:02 107:55(70-89) MEEKER 2 34.0
REGULAR3 C US:CO003867 6380 40:29 107:15(48-89) HAYDEN 35.2
*****
* GPS SITE: 1/081047      N40:05:55 W108:49:55 ELEV: 5260, 1983
*****
FIRST O. F US:CO003488 4850 39:06 108:33( 1-89) GRAND JUNCTION WSO AP 70.6
ACTIVE C US:CO006832 5290 40:05 108:46(50-89) RANGELY 1 E 3.6
REGULAR1 C US:CO002286 5920 40:14 108:58(65-89) DINOSAUR NATL MONUMEN 11.7
REGULAR2 C US:UT000802 5450 40:01 109:11(48-89) BONANZA 19.4
REGULAR3 C US:CO005422 6190 40:17 108:30(86-89) MASSADONA 3 E 21.7
*****
* GPS SITE: 1/081053      N38:42:05 W108:01:55 ELEV: 5140, 1984
*****
FIRST O. F US:CO003488 4850 39:06 108:33( 1-89) GRAND JUNCTION WSO AP 39.2
ACTIVE C US:CO002192 4930 38:45 108:04( 1-89) DELTA 3.8
REGULAR1 C US:CO001440 6240 38:54 107:56(48-89) CEDAREDGE 14.7
REGULAR2 C US:CO005722 5830 38:29 107:53( 1-89) MONTROSE 2 17.1
REGULAR3 C US:CO006306 5580 38:52 107:36( 5-89) PAONIA 1 SW 25.9
*****
* GPS SITE: 1/081057      N39:04:15 W108:27:30 ELEV: 4586, 1986
*****
FIRST O. F US:CO003488 4850 39:06 108:33( 1-89) GRAND JUNCTION WSO AP 5.3
ACTIVE C US:CO003489 4760 39:03 108:27(62-89) GRAND JUNCTION 6 ESE 1.5
REGULAR1 C US:CO006266 4800 39:07 108:21(48-89) PALISADE 6.6
REGULAR2 C US:CO001772 5780 39:06 108:44(48-89) COLORADO NAT MON 14.9
REGULAR3 C US:CO003146 4480 39:10 108:45(48-89) FRUITA 1 W 17.0
*****
* GPS SITE: 2/082008      N38:05:20 W103:11:15 ELEV: 3894, 1972
*****
FIRST O. F US:CO004720 4200 38:03 103:31(45-89) LA JUNTA FAA AP 18.1
ACTIVE C US:CO004834 3890 38:04 103:13(30-89) LAS ANIMAS 2.2
REGULAR1 C US:CO004388 3810 38:04 102:55(41-89) JOHN MARTIN DAM 14.8
REGULAR2 C US:CO007167 4170 38:02 103:42(18-89) ROCKY FORD 2 SE 28.2
REGULAR3 C US:CO004770 3620 38:05 102:37(18-89) LAMAR 31.1
*****
* GPS SITE: 3/083032      N39:31:10 W107:50:00 ELEV: 5345, 1977
*****
FIRST O. F US:CO003488 4850 39:06 108:33( 1-89) GRAND JUNCTION WSO AP 48.1
ACTIVE C US:CO007031 5320 39:32 107:48(10-89) RIFLE 2.0
REGULAR1 C US:CO001741 5980 39:15 107:58( 1-89) COLLEBRAN 19.9
REGULAR2 C US:CO003359 5820 39:34 107:20( 1-89) GLENWOOD SPRINGS 1 N 26.9
REGULAR3 C US:CO000214 5690 39:30 108:23(48-89) ALTENBERN 29.4
*****
* GPS SITE: 6A/086002      N38:22:50 W104:37:10 ELEV: 4904, 1964
*****
FIRST O. F US:CO004720 4200 38:03 103:31(45-89) LA JUNTA FAA AP 64.1
ACTIVE C US:CO006740 4640 38:17 104:31(54-89) PUEBLO WSO AP 8.7
REGULAR1 C US:CO008157 4960 38:23 104:04(55-89) TACONY 10 SE 30.0
REGULAR2 C US:CO001778 6090 38:49 104:43(48-89) COLORADO SPRGS WSO AP 30.6 REJECTED
REGULAR3 C US:CO001294 5360 38:25 105:13(48-89) CANON CITY 32.5
*****
* GPS SITE: 6A/086013      N40:37:30 W103:14:05 ELEV: 3935, 1965
*****
FIRST O. F US:CO000114 4660 40:10 103:13(37-89) AKRON FAA AP 31.7
ACTIVE C US:CO007950 3940 40:37 103:13(48-89) STERLING 1.1
REGULAR1 C US:CO004945 4470 40:31 103:00(48-89) LEROY 5 WSW 14.4
REGULAR2 C US:CO005922 4780 40:36 103:51(48-89) NEW RAYMER 32.4
REGULAR3 C US:CO000109 4540 40:09 103:09(18-89) AKRON 4 E 33.1

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* GPS SITE: 7A/087035      N39:45:15 W104:45:40 ELEV: 5500, 1965
*****
FIRST O. F US:C0002220 5280 39:46 104:52(48-89) DENVER WSFO AP      5.7
ACTIVE C US:C0001547 5650 39:39 104:51(51-89) CHERRY CREEK DAM      8.6
REGULAR1 C US:C0006326 6310 39:32 104:39(48-89) PARKER 6 E      16.4
REGULAR2 C US:C0000950 4980 40:00 104:49(73-89) BRIGHTON      17.2
REGULAR3 C US:C0004762 5640 39:45 105:08(62-89) LAKEWOOD      19.8
*****
* GPS SITE: 7A/087036      N39:44:05 W104:21:10 ELEV: 5380, 1961
*****
FIRST O. F US:C0002220 5280 39:46 104:52(48-89) DENVER WSFO AP      27.4
ACTIVE C US:C0001179 5100 39:45 104:08(48-89) BYERS 5 ENE      11.7
REGULAR1 C US:C0006326 6310 39:32 104:39(48-89) PARKER 6 E      21.1
REGULAR2 C US:C0001547 5650 39:39 104:51(51-89) CHERRY CREEK DAM      27.1
REGULAR3 C US:C0000950 4980 40:00 104:49(73-89) BRIGHTON      30.7
*****
* GPS SITE: 3/087776      N39:44:25 W104:44:25 ELEV: 5280, 1988
*****
FIRST O. F US:C0002220 5280 39:46 104:52(48-89) DENVER WSFO AP      7.0
ACTIVE C US:C0001547 5650 39:39 104:51(51-89) CHERRY CREEK DAM      8.5
REGULAR1 C US:C0006326 6310 39:32 104:39(48-89) PARKER 6 E      15.1
REGULAR2 C US:C0005056 5310 39:37 105:01(78-89) LITTLETON      17.0
REGULAR3 C US:C0008995 5430 39:45 105:05(81-89) WHEAT RIDGE 2      18.3
*****
* GPS SITE: 68/087780      N38:55:40 W104:59:50 ELEV: 7400, 1973
*****
FIRST O. F US:C0002220 5280 39:46 104:52(48-89) DENVER WSFO AP      58.3
ACTIVE C US:C0007309 9050 38:51 104:59(59-89) RUXTON PARK      5.4
REGULAR1 C US:C0006280 7220 39:07 104:55(65-85) PALMER LAKE      13.7
REGULAR2 C US:C0001778 6090 38:49 104:43(48-89) COLORADO SPRGS WSO AP      16.9
REGULAR3 C US:C0001528 6880 39:13 105:17(48-89) CHEESMAN      25.2
*****
* GPS SITE: 68/087781      N38:05:19 W103:10:55 ELEV: 3894, 1972
*****
FIRST O. F US:C0004720 4200 38:03 103:31(45-89) LA JUNTA FAA AP      18.4
ACTIVE C US:C0004834 3890 38:04 103:13(30-89) LAS ANIMAS      2.4
REGULAR1 C US:C0004388 3810 38:04 102:55(41-89) JOHN MARTIN DAM      14.5
REGULAR2 C US:C0007167 4170 38:02 103:42(18-89) ROCKY FORD 2 SE      28.5
REGULAR3 C US:C0004770 3620 38:05 102:37(18-89) LAMAR      30.8
*****
* GPS SITE: 68/087783      N39:23:00 W108:08:20 ELEV: 5000, 1983
*****
FIRST O. F US:C0003488 4850 39:06 108:33( 1-89) GRAND JUNCTION WSO AP      29.5
ACTIVE C US:C0001741 5980 39:15 107:58( 1-89) COLLBRAN      13.0
REGULAR1 C US:C0006311 5090 39:27 108:03(81-87) PARACHUTE      6.6
REGULAR2 C US:C0000214 5690 39:30 108:23(48-89) ALTENBERN      15.3
REGULAR3 C US:C0007031 5320 39:32 107:48(10-89) RIFLE      20.9
*****
* GPS SITE: 9/089019      N40:15:15 W104:58:45 ELEV: 4970, 1961
*****
FIRST O. F US:C0002220 5280 39:46 104:52(48-89) DENVER WSFO AP      34.2
ACTIVE C US:C0005116 4990 40:11 105:06(48-89) LONGMONT      8.0
REGULAR1 C US:C0008839 5230 40:26 105:12(48-89) WATERDALE      17.0
REGULAR2 C US:C0003553 4720 40:25 104:42(67-89) GREELEY UNC      18.5
REGULAR3 C US:C0000950 4980 40:00 104:49(73-89) BRIGHTON      19.5
*****
* GPS SITE: 9/089020      N40:28:00 W104:58:45 ELEV: 4950, 1964
*****
FIRST O. F US:WY001675 6120 41:09 104:49(15-89) CHEYENNE WSFO AP      47.9 REJECTED
ACTIVE C US:C0003005 5000 40:35 105:05( 1-89) FORT COLLINS      9.7
REGULAR1 C US:C0008839 5230 40:26 105:12(48-89) WATERDALE      11.8
REGULAR2 C US:C0003553 4720 40:25 104:42(67-89) GREELEY UNC      15.1
REGULAR3 C US:C0005116 4990 40:11 105:06(48-89) LONGMONT      20.6
*****
* GPS SITE: 1/091803      N41:23:43 W072:01:40 ELEV: 165, 1985
*****
FIRST O. F US:RI006698 50 41:44 071:26(48-89) PROVIDENCE WSO AP      38.6 REJECTED
ACTIVE C US:CT003207 40 41:21 072:03(48-89) GROTON      3.3
REGULAR1 C US:CT005910 20 41:32 072:04(56-89) NORWICH PUB UTIL PLAN      9.7 REJECTED
REGULAR2 C US:CT001488 160 41:28 072:31(48-89) COCKAPOWSET RANGER ST      25.8 REJECTED
REGULAR3 C US:CT004488 250 41:45 072:11(52-89) MANSFIELD HOLLOW LAKE      25.8 REJECTED

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\* GPS SITE: 4/094008 N41:47:51 W072:33:30 ELEV: 155, 1986  
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FIRST O. F US:R1006698 50 41:44 071:26(48-89) PROVIDENCE WSO AP 58.2 REJECTED  
ACTIVE C US:CT003451 20 41:44 072:39(20-89) HARTFORD BRAINARD FLD 6.5  
REGULAR1 C US:CT001689 480 41:48 072:21(57-89) COVENTRY 10.7  
REGULAR2 C US:CT003456 160 41:56 072:41(54-89) HARTFORD WSO AP 11.4  
REGULAR3 C US:CT008138 650 41:48 072:15( 1-89) STORRS 15.9  
\*\*\*\*\*  
\* GPS SITE: 4/094020 N41:42:04 W072:34:02 ELEV: 201, 1964  
\*\*\*\*\*  
FIRST O. F US:R1006698 50 41:44 071:26(48-89) PROVIDENCE WSO AP 58.6 REJECTED  
ACTIVE C US:CT003451 20 41:44 072:39(20-89) HARTFORD BRAINARD FLD 4.8  
REGULAR1 C US:CT004767 370 41:33 072:43(48-89) MIDDLETOWN 4 W 13.0  
REGULAR2 C US:CT001689 480 41:48 072:21(57-89) COVENTRY 13.1  
REGULAR3 C US:CT003456 160 41:56 072:41(54-89) HARTFORD WSO AP 17.1  
\*\*\*\*\*  
\* GPS SITE: 5/095001 N41:50:51 W072:26:25 ELEV: 534, 1980  
\*\*\*\*\*  
FIRST O. F US:R1006698 50 41:44 071:26(48-89) PROVIDENCE WSO AP 52.5 REJECTED  
ACTIVE C US:CT001689 480 41:48 072:21(57-89) COVENTRY 5.7  
REGULAR1 C US:CT008138 650 41:48 072:15( 1-89) STORRS 10.3  
REGULAR2 C US:CT003451 20 41:44 072:39(20-89) HARTFORD BRAINARD FLD 13.4  
REGULAR3 C US:CT003456 160 41:56 072:41(54-89) HARTFORD WSO AP 13.8  
\*\*\*\*\*  
\* GPS SITE: 4/101201 N38:45:30 W075:15:00 ELEV: 15, 1966  
\*\*\*\*\*  
FIRST O. F US:NJ005581 70 39:22 075:04(48-89) MILLVILLE FAA AIRPORT 43.1  
ACTIVE C US:DE005320 20 38:46 075:08(48-89) LEWES 6.3  
REGULAR1 C US:DE003570 50 38:38 075:27(48-89) GEORGETOWN 5 SW 13.8  
REGULAR2 C US:DE005915 30 38:54 075:28(48-89) MILFORD 2 WSW 15.2  
REGULAR3 C US:DE001330 50 38:45 075:37(48-85) BRIDGEVILLE 1 NW 19.8  
\*\*\*\*\*  
\* GPS SITE: 2/101450 N39:01:35 W075:27:50 ELEV: 27, 1976  
\*\*\*\*\*  
FIRST O. F US:NJ005581 70 39:22 075:04(48-89) MILLVILLE FAA AIRPORT 31.7  
ACTIVE C US:DE005915 30 38:54 075:28(48-89) MILFORD 2 WSW 8.7  
REGULAR1 C US:DE002730 30 39:09 075:31(48-89) DOVER 9.0  
REGULAR2 C US:MD002523 50 38:53 075:48(52-89) DENTON 2 E 20.6  
REGULAR3 C US:DE001330 50 38:45 075:37(48-85) BRIDGEVILLE 1 NW 20.8  
\*\*\*\*\*  
\* GPS SITE: 4/104002 N39:05:30 W075:30:00 ELEV: 22, 1977  
\*\*\*\*\*  
FIRST O. F US:NJ005581 70 39:22 075:04(48-89) MILLVILLE FAA AIRPORT 30.0  
ACTIVE C US:DE002730 30 39:09 075:31(48-89) DOVER 4.1  
REGULAR1 C US:DE005915 30 38:54 075:28(48-89) MILFORD 2 WSW 13.4  
REGULAR2 C US:MD002523 50 38:53 075:48(52-89) DENTON 2 E 21.6  
REGULAR3 C US:MD005985 30 39:16 075:52(48-89) MILLINGTON 1 SE 23.1  
\*\*\*\*\*  
\* GPS SITE: 5/105004 N39:40:30 W075:34:00 ELEV: 14, 1977  
\*\*\*\*\*  
FIRST O. F US:DE009595 80 39:40 075:36(48-89) WILMINGTON WSO AP 1.9  
ACTIVE C US:DE009605 270 39:46 075:32(48-89) WILMINGTON PORTER RES 6.6  
REGULAR1 C US:DE006410 90 39:40 075:44(48-89) NEWARK UNIV FARM 8.9  
REGULAR2 C US:PA005390 10 39:49 075:25(48-89) MARCUS HOOK 12.6  
REGULAR3 C US:NJ009910 50 39:39 075:19(48-89) WOODSTOWN 13.4  
\*\*\*\*\*  
\* GPS SITE: 5/105005 N38:55:30 W075:25:00 ELEV: 25, 1971  
\*\*\*\*\*  
FIRST O. F US:NJ005581 70 39:22 075:04(48-89) MILLVILLE FAA AIRPORT 35.8  
ACTIVE C US:DE005915 30 38:54 075:28(48-89) MILFORD 2 WSW 3.2  
REGULAR1 C US:DE001330 50 38:45 075:37(48-85) BRIDGEVILLE 1 NW 16.2  
REGULAR2 C US:DE002730 30 39:09 075:31(48-89) DOVER 16.4  
REGULAR3 C US:DE005320 20 38:46 075:08(48-89) LEWES 18.8  
\*\*\*\*\*  
\* GPS SITE: 68/111400 N38:52:00 W077:00:00 ELEV: 20, 1963  
\*\*\*\*\*  
FIRST O. F US:VA008906 70 38:51 077:02(48-89) WASH NATL WSCMO AP 2.1  
ACTIVE C US:MD006350 50 38:54 076:58(48-89) NATIONAL ARBORETUM DC 2.9  
REGULAR1 C US:MD009035 230 38:56 077:01(48-77) U S SOLDIERS HOME DC 4.7  
REGULAR2 C US:MD002325 150 38:56 077:07(48-89) DALECARLIA RESERVOIR 7.8  
REGULAR3 C US:MD001995 90 38:59 076:57(48-89) COLLEGE PARK 8.5

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*****
* GPS SITE: 1/121030 N26:59:40 W080:05:49 ELEV: 25, 1971
*****
FIRST O. F US:FL009525 20 26:41 080:07(48-89) WEST PALM BCH WSO AP 21.5
ACTIVE C US:FL008620 10 27:13 080:15(48-89) STUART 1 N 18.0
REGULAR1 C US:FL005182 10 26:41 080:16(48-88) LOXAHATCHEE 23.9
REGULAR2 C US:FL001276 30 26:52 080:37(53-89) CANAL POINT USDA 33.2
REGULAR3 C US:FL003207 30 27:28 080:21(31-89) FORT PIERCE 36.1
*****
* GPS SITE: 1/121060 N25:41:43 W080:19:35 ELEV: 10, 1978
*****
FIRST O. F US:FL005663 10 25:48 080:18(48-89) MIAMI WSCMO AP 7.4
ACTIVE C US:FL003909 10 25:50 080:17(48-89) HIALEAH 9.9
REGULAR1 C US:FL005678 10 25:39 080:18(58-88) MIAMI 12 SSW 3.5
REGULAR2 C US:FL005658 10 25:47 080:08(48-89) MIAMI BEACH 13.5
REGULAR3 C US:FL004091 10 25:30 080:30(31-88) HOMESTEAD EXP STN 17.3
*****
* GPS SITE: 1/121370 N28:30:55 W080:49:46 ELEV: 19, 1974
*****
FIRST O. F US:FL002158 30 29:11 081:03(48-89) DAYTONA BEACH WSO AP 48.0
ACTIVE C US:FL008942 50 28:37 080:49(31-89) TITUSVILLE 7.0
REGULAR1 C US:FL006628 100 28:27 081:19(74-89) ORLANDO WSO MC COY 30.0
REGULAR2 C US:FL007982 20 28:48 081:14(56-89) SANFORD EXP STATION 31.4
REGULAR3 C US:FL005612 10 28:04 080:37(48-89) MELBOURNE 33.6
*****
* GPS SITE: 3/123804 N28:01:03 W082:19:52 ELEV: 26, 1985
*****
FIRST O. F US:FL008788 20 27:58 082:32(33-89) TAMPA WSCMO AP 12.8
ACTIVE C US:FL007205 120 28:01 082:08(31-89) PLANT CITY 12.1
REGULAR1 C US:FL007851 190 28:20 082:16(31-89) SAINT LEO 22.2
REGULAR2 C US:FL007886 10 27:46 082:38(48-89) ST PETERSBURG 25.3
REGULAR3 F US:FL004797 150 28:01 081:55(48-89) LAKE LAND 3 SE 25.3
*****
* GPS SITE: 3/123811 N30:31:31 W084:30:13 ELEV: 194, 1976
*****
FIRST O. F US:FL000211 20 29:44 085:02(31-89) APALACHICOLA WSO AP 63.2
ACTIVE C US:FL007429 250 30:36 084:33(68-89) QUINCY 3 SSW 5.9
REGULAR1 C US:FL008758 60 30:23 084:22(48-89) TALLAHASSEE WSO AP 12.8
REGULAR2 C US:GA000586 190 30:48 084:39(77-89) BAINBRIDGE INT PAPER 20.9
REGULAR3 C US:FL008290 60 30:12 084:40(70-83) SMITH CREEK 24.5
*****
* GPS SITE: 1/123995 N26:30:00 W080:04:41 ELEV: 19, 1974
*****
FIRST O. F US:FL009525 20 26:41 080:07(48-89) WEST PALM BCH WSO AP 12.9
ACTIVE C US:FL007254 20 26:14 080:09(48-89) POMPANO BEACH 18.9
REGULAR1 C US:FL005182 10 26:41 080:16(48-88) LOXAHATCHEE 17.2
REGULAR2 C US:FL003163 20 26:06 080:12(48-89) FORT LAUDERDALE 28.6
REGULAR3 C US:FL000611 20 26:39 080:38(24-89) BELLE GLADE EXP STN 35.9
*****
* GPS SITE: 1/123996 N28:34:06 W082:33:32 ELEV: 27, 1974
*****
FIRST O. F US:FL008788 20 27:58 082:32(33-89) TAMPA WSCMO AP 41.6
ACTIVE C US:FL009430 200 28:31 082:35(69-89) WEEKI WACHEE 3.9
REGULAR1 C US:FL001046 240 28:37 082:22(31-89) BROOKSVILLE CHIN HILL 12.1
REGULAR2 C US:FL004289 40 28:44 082:19(48-89) INVERNESS 3 SE 18.6
REGULAR3 C US:FL007851 190 28:20 082:16(31-89) SAINT LEO 24.1
*****
* GPS SITE: 1/123997 N30:05:14 W081:42:23 ELEV: 21, 1974
*****
FIRST O. F US:FL004358 30 30:30 081:42(48-89) JACKSONVILLE WSO AP 28.5
ACTIVE C US:FL004366 10 30:17 081:24(48-89) JACKSONVILLE BEACH 22.8
REGULAR1 C US:FL002915 10 29:45 081:32(31-89) FEDERAL POINT 25.5
REGULAR2 C US:FL008527 160 29:56 082:06(58-85) STARKE 25.9
REGULAR3 C US:FL007826 10 29:54 081:19(73-89) SAINT AUGUSTINE WFOY 26.7
*****
* GPS SITE: 3/124000 N29:04:53 W081:14:26 ELEV: 45, 1974
*****
FIRST O. F US:FL002158 30 29:11 081:03(48-89) DAYTONA BEACH WSO AP 13.5
ACTIVE C US:FL002229 30 29:01 081:18(31-89) DELAND 1 SSE 5.7
REGULAR1 C US:FL007982 20 28:48 081:14(56-89) SANFORD EXP STATION 19.4
REGULAR2 C US:FL001978 60 29:26 081:31(31-89) CRESCENT CITY 29.5
REGULAR3 C US:FL005076 70 28:52 081:47(58-89) LISBON 36.0

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* GPS SITE: 3/124057 N27:53:00 W082:19:00 ELEV: 34, 1985
*****
FIRST O. F US:FL008788 20 27:58 082:32(33-89) TAMPA WSCMO AP 14.4
ACTIVE C US:FL007205 120 28:01 082:08(31-89) PLANT CITY 14.5
REGULAR1 C US:FL007886 10 27:46 082:38(48-89) ST PETERSBURG 21.0
REGULAR2 C US:FL006880 40 27:34 082:26(48-89) PARRISH 23.0
REGULAR3 F US:FL004797 150 28:01 081:55(48-89) LAKE LAND 3 SE 26.1
*****
* GPS SITE: 3/124059 N28:55:09 W080:52:19 ELEV: 14, 1988
*****
FIRST O. F US:FL002158 30 29:11 081:03(48-89) DAYTONA BEACH WSO AP 21.2
ACTIVE C US:FL008942 50 28:37 080:49(31-89) TITUSVILLE 21.2
REGULAR1 C US:FL007982 20 28:48 081:14(56-89) SANFORD EXP STATION 23.4
REGULAR2 C US:FL002229 30 29:01 081:18(31-89) DELAND 1 SSE 26.8
REGULAR3 C US:FL006628 100 28:27 081:19(74-89) ORLANDO WSO MC COY 42.2
*****
* GPS SITE: 2/124096 N30:26:10 W085:29:55 ELEV: 136, 1974
*****
FIRST O. F US:FL000211 20 29:44 085:02(31-89) APALACHICOLA WSO AP 56.0
ACTIVE C US:FL003230 140 30:26 085:25(55-89) FOUNTAIN 3 SSE 4.9
REGULAR1 C US:FL006842 30 30:13 085:36(72-89) PANAMA CITY 5 NE 16.3
REGULAR2 C US:FL001544 130 30:47 085:29(48-89) CHIPLEY 3 E 24.0
REGULAR3 C US:FL000804 60 30:27 085:03(31-82) BLOUNTSTOWN 26.8
*****
* GPS SITE: 2/124097 N30:45:23 W085:20:44 ELEV: 118, 1985
*****
FIRST O. F US:FL000211 20 29:44 085:02(31-89) APALACHICOLA WSO AP 73.1
ACTIVE C US:FL001544 130 30:47 085:29(48-89) CHIPLEY 3 E 8.4
REGULAR1 C US:FL003230 140 30:26 085:25(55-89) FOUNTAIN 3 SSE 22.7
REGULAR2 C US:AL003251 150 31:03 085:53(76-89) GENEVA 2 37.8
REGULAR3 C US:FL006842 30 30:13 085:36(72-89) PANAMA CITY 5 NE 40.2
*****
* GPS SITE: 1/124099 N26:36:14 W081:49:59 ELEV: 23, 1976
*****
FIRST O. F US:FL003186 20 26:35 081:52(31-89) FORT MYERS FAA AP 2.5
ACTIVE C US:FL007397 20 26:55 082:00(65-89) PUNTA GORDA 4 ESE 23.9
REGULAR1 C US:FL004210 40 26:28 081:26(70-89) IMMOKALEE 3 NNW 26.5
REGULAR2 C US:FL004662 20 26:45 081:26(48-89) LA BELLE 26.7
REGULAR3 C US:FL006078 10 26:10 081:47(48-89) NAPLES 30.3
*****
* GPS SITE: 2/124100 N30:32:21 W086:29:41 ELEV: 122, 1975
*****
FIRST O. F US:FL006997 110 30:28 087:12(48-89) PENSACOLA FAA AP 42.3
ACTIVE C US:FL006240 60 30:31 086:30(48-89) NICEVILLE 1.6
REGULAR1 C US:FL001986 190 30:47 086:31(48-89) CRESTVIEW FAA AP 16.9
REGULAR2 C US:FL002220 230 30:44 086:07(31-89) DE FUNIAK SPRINGS 26.2
REGULAR3 C US:FL005793 220 30:47 087:08(48-89) MILTON EXP STATION 41.6
*****
* GPS SITE: 68/124101 N28:26:54 W081:16:39 ELEV: 86, 1969
*****
FIRST O. F US:FL002158 30 29:11 081:03(48-89) DAYTONA BEACH WSO AP 52.6
ACTIVE C US:FL006628 100 28:27 081:19(74-89) ORLANDO WSO MC COY 2.4
REGULAR1 C US:FL004625 60 28:17 081:25(48-89) KISSIMEE 2 14.2
REGULAR2 C US:FL007982 20 28:48 081:14(56-89) SANFORD EXP STATION 24.4
REGULAR3 C US:FL001641 120 28:27 081:45(48-89) CLERMONT 7 S 28.7
*****
* GPS SITE: 1/124103 N25:46:53 W080:21:31 ELEV: 9, 1982
*****
FIRST O. F US:FL005663 10 25:48 080:18(48-89) MIAMI WSCMO AP 3.9
ACTIVE C US:FL003909 10 25:50 080:17(48-89) HIALEAH 5.9
REGULAR1 C US:FL005678 10 25:39 080:18(58-88) MIAMI 12 SSW 9.8
REGULAR2 C US:FL005658 10 25:47 080:08(48-89) MIAMI BEACH 14.0
REGULAR3 C US:FL004091 10 25:30 080:30(31-88) HOMESTEAD EXP STN 21.3
*****
* GPS SITE: 1/124105 N30:24:00 W081:33:00 ELEV: 20, 1985
*****
FIRST O. F US:FL004358 30 30:30 081:42(48-89) JACKSONVILLE WSO AP 11.3
ACTIVE C US:FL004366 10 30:17 081:24(48-89) JACKSONVILLE BEACH 12.0
REGULAR1 C US:FL002944 10 30:39 081:28(48-89) FERNANDINA BEACH 18.0
REGULAR2 C US:FL007826 10 29:54 081:19(73-89) SAINT AUGUSTINE WFOY 37.2
REGULAR3 C US:FL003470 130 30:16 082:11(31-89) GLEN ST MARY 1 W 38.9

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*****
* GPS SITE: 1/124106      N26:54:00 W080:10:00 ELEV: 22, 1986
*****
FIRST O. F US:FL009525    20 26:41 080:07(48-89) WEST PALM BCH WSO AP    15.3
ACTIVE C US:FL008620     10 27:13 080:15(48-89) STUART 1 N                22.5
REGULAR1 C US:FL005182   10 26:41 080:16(48-88) LOXAHATCHEE                16.2
REGULAR2 C US:FL001276   30 26:52 080:37(53-89) CANAL POINT USDA          27.9
REGULAR3 C US:FL000611   20 26:39 080:38(24-89) BELLE GLADE EXP STN        33.6
*****
* GPS SITE: 1/124107      N27:23:34 W080:27:35 ELEV: 26, 1985
*****
FIRST O. F US:FL009214    20 27:39 080:25(48-89) VERO BEACH MUN AP        18.0
ACTIVE C US:FL003207     30 27:28 080:21(31-89) FORT PIERCE                8.5
REGULAR1 C US:FL009219   20 27:38 080:27(65-89) VERO BEACH 4 W            16.6
REGULAR2 C US:FL008620   10 27:13 080:15(48-89) STUART 1 N                17.7
REGULAR3 C US:FL006485   50 27:13 080:48(48-89) OKEECHOBEE HRCN GATE          24.2
*****
* GPS SITE: 2/124108      N30:22:59 W086:25:52 ELEV: 19, 1986
*****
FIRST O. F US:FL006997   110 30:28 087:12(48-89) PENSACOLA FAA AP            46.2
ACTIVE C US:FL006240     60 30:31 086:30(48-89) NICEVILLE                10.1
REGULAR1 C US:FL002220   230 30:44 086:07(31-89) DE FUNIAK SPRINGS                30.6
REGULAR2 C US:FL005793   220 30:47 087:08(48-89) MILTON EXP STATION            50.1
REGULAR3 C US:FL006842   30 30:13 085:36(72-89) PANAMA CITY 5 NE          50.9
*****
* GPS SITE: 3/124109      N28:54:45 W080:52:07 ELEV: 14, 1988
*****
FIRST O. F US:FL002158   30 29:11 081:03(48-89) DAYTONA BEACH WSO AP        21.7
ACTIVE C US:FL008942     50 28:37 080:49(31-89) TITUSVILLE                20.7
REGULAR1 C US:FL007982   20 28:48 081:14(56-89) SANFORD EXP STATION                23.4
REGULAR2 C US:FL002229   30 29:01 081:18(31-89) DELAND 1 SSE                27.1
REGULAR3 C US:FL006628   100 28:27 081:19(74-89) ORLANDO WSO MC COY          41.9
*****
* GPS SITE: 68/124135     N27:51:40 W081:35:19 ELEV: 130, 1971
*****
FIRST O. F US:FL008788   20 27:58 082:32(33-89) TAMPA WSCMO AP            58.2
ACTIVE C US:FL005973    130 27:56 081:36(48-89) MOUNTAIN LAKE                5.0
REGULAR1 C US:FL009707   140 28:01 081:45(48-89) WINTER HAVEN                14.6
REGULAR2 C US:FL004242   100 27:48 081:20(58-81) INDIAN LAKE ESTATES            16.2
REGULAR3 C US:FL000478   120 27:54 081:51(31-89) BARTOW                16.2
*****
* GPS SITE: 68/124136     N27:51:54 W081:35:26 ELEV: 131, 1971
*****
FIRST O. F US:FL008788   20 27:58 082:32(33-89) TAMPA WSCMO AP            58.1
ACTIVE C US:FL005973    130 27:56 081:36(48-89) MOUNTAIN LAKE                4.8
REGULAR1 C US:FL009707   140 28:01 081:45(48-89) WINTER HAVEN                14.3
REGULAR2 C US:FL000478   120 27:54 081:51(31-89) BARTOW                16.0
REGULAR3 C US:FL004242   100 27:48 081:20(58-81) INDIAN LAKE ESTATES            16.4
*****
* GPS SITE: 68/124137     N27:53:02 W081:35:59 ELEV: 131, 1971
*****
FIRST O. F US:FL008788   20 27:58 082:32(33-89) TAMPA WSCMO AP            57.3
ACTIVE C US:FL005973    130 27:56 081:36(48-89) MOUNTAIN LAKE                3.4
REGULAR1 C US:FL009707   140 28:01 081:45(48-89) WINTER HAVEN                13.0
REGULAR2 C US:FL000478   120 27:54 081:51(31-89) BARTOW                15.3
REGULAR3 C US:FL004707   140 28:06 081:43( 5-89) LAKE ALFRED EXP STN          16.5
*****
* GPS SITE: 3/124138      N29:07:23 W081:10:17 ELEV: 41, 1974
*****
FIRST O. F US:FL002158   30 29:11 081:03(48-89) DAYTONA BEACH WSO AP            8.4
ACTIVE C US:FL002229     30 29:01 081:18(31-89) DELAND 1 SSE                10.7
REGULAR1 C US:FL007982   20 28:48 081:14(56-89) SANFORD EXP STATION                22.6
REGULAR2 C US:FL001978   60 29:26 081:31(31-89) CRESCENT CITY                29.9
REGULAR3 C US:FL005076   70 28:52 081:47(58-89) LISBON                41.0
*****
* GPS SITE: 1/124153      N27:14:05 W080:30:35 ELEV: 30, 1987
*****
FIRST O. F US:FL009214    20 27:39 080:25(48-89) VERO BEACH MUN AP        29.2
ACTIVE C US:FL008620     10 27:13 080:15(48-89) STUART 1 N                16.0
REGULAR1 C US:FL006485   50 27:13 080:48(48-89) OKEECHOBEE HRCN GATE          17.9
REGULAR2 C US:FL003207   30 27:28 080:21(31-89) FORT PIERCE                18.8
REGULAR3 C US:FL001276   30 26:52 080:37(53-89) CANAL POINT USDA          26.3

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*****
* GPS SITE: 1/124154      N29:00:01 W081:00:51 ELEV: 11, 1970
*****
FIRST O. F US:FL002158    30 29:11 081:03(48-89) DAYTONA BEACH WSO AP      17.0
ACTIVE C US:FL007982     20 28:48 081:14(56-89) SANFORD EXP STATION      22.4
REGULAR1 C US:FL002229   30 29:01 081:18(31-89) DELAND 1 SSE             23.4
REGULAR2 C US:FL008942   50 28:37 080:49(31-89) TITUSVILLE             24.9
REGULAR3 C US:FL006628  100 28:27 081:19(74-89) ORLANDO WSO MC COY      43.1
*****
* GPS SITE: 1/129054      N30:37:33 W081:37:32 ELEV: 25, 1974
*****
FIRST O. F US:FL004358    30 30:30 081:42(48-89) JACKSONVILLE WSO AP      9.8
ACTIVE C US:FL002944     10 30:39 081:28(48-89) FERNANDINA BEACH          9.6
REGULAR1 C US:FL004366   10 30:17 081:24(48-89) JACKSONVILLE BEACH      27.2
REGULAR2 C US:GA003465  120 30:44 082:08(48-89) FOLKSTON 9 SW          31.1
REGULAR3 C US:GA001340   10 31:10 081:30(30-89) BRUNSWICK              38.1
*****
* GPS SITE: 1/131001      N33:49:00 W083:49:00 ELEV: 900, 1986
*****
FIRST O. F US:GA000435    800 33:57 083:19(48-89) ATHENS WSO AP              30.2
ACTIVE C US:GA009466     960 33:59 083:43(48-89) WINDER 1 SSE              12.9
REGULAR1 C US:GA002318   770 33:36 083:52(48-89) COVINGTON              15.2
REGULAR2 C US:GA008950   840 33:52 083:32(71-89) U OF GA PLT SCIENCE F          16.6
REGULAR3 C US:GA000219  1040 34:00 084:18(57-89) ALPHARETTA 5 SSW        30.5
*****
* GPS SITE: 1/131004      N33:17:00 W084:10:00 ELEV: 760, 1983
*****
FIRST O. F US:GA000451   1010 33:39 084:26(30-89) ATLANTA WSO AP              29.6
ACTIVE C US:GA003271     930 33:16 084:17(26-89) EXPERIMENT              6.8
REGULAR1 C US:GA003506   600 33:07 083:59(54-89) FORSYTH 6 NNW          15.7
REGULAR2 C US:GA002318   770 33:36 083:52(48-89) COVINGTON              27.9
REGULAR3 C US:GA005988   660 33:18 083:41(48-89) MONTICELLO             28.0
*****
* GPS SITE: 1/131005      N32:37:00 W083:48:00 ELEV: 452, 1986
*****
FIRST O. F US:GA005443    350 32:42 083:39(48-89) MACON WSO AP              10.5
ACTIVE C US:GA001448     490 32:40 083:44(77-89) BYRON EXP STATION              5.2
REGULAR1 C US:GA005550   190 32:27 083:56(57-89) MARSHALLVILLE          13.9
REGULAR2 C US:GA004170   270 32:17 083:28(30-89) HAWKINSVILLE          30.1
REGULAR3 C US:GA008661   670 32:52 084:19(55-89) THOMASTON 2 S          34.7
*****
* GPS SITE: 1/131031      N34:28:00 W083:58:00 ELEV: 120, 1981
*****
FIRST O. F US:GA000435    800 33:57 083:19(48-89) ATHENS WSO AP              51.5
ACTIVE C US:GA002475   1430 34:32 083:59(30-89) DAHLONEGA              4.7
REGULAR1 C US:GA003621  1170 34:18 083:51(30-89) GAINESVILLE          13.3
REGULAR2 C US:GA004230  1440 34:42 083:43(56-89) HELEN              21.5
REGULAR3 C US:GA002283  1470 34:31 083:32(48-89) CORNELIA              24.9
*****
* GPS SITE: 3/133007      N34:22:00 W084:23:00 ELEV: 1422, 1982
*****
FIRST O. F US:GA000451   1010 33:39 084:26(30-89) ATLANTA WSO AP              49.6
ACTIVE C US:GA004648   1470 34:29 084:27(48-89) JASPER 1 NNW              8.9
REGULAR1 C US:GA001665   720 34:13 084:47(48-89) CARTERSVILLE          25.1
REGULAR2 C US:GA002475  1430 34:32 083:59(30-89) DAHLONEGA          25.6
REGULAR3 C US:GA000219  1040 34:00 084:18(57-89) ALPHARETTA 5 SSW        25.8
*****
* GPS SITE: 3/133011      N32:22:00 W082:36:00 ELEV: 248, 1974
*****
FIRST O. F US:GA005443    350 32:42 083:39(48-89) MACON WSO AP              65.4
ACTIVE C US:GA000090     240 32:11 082:34(48-89) AILEY              12.8
REGULAR1 C US:GA002839   220 32:30 082:54(30-89) DUBLIN 3 S          19.8
REGULAR2 C US:GA008496   330 32:35 082:22(48-89) SWAINSBORO          20.2
REGULAR3 C US:GA005811   120 32:24 082:04(55-89) METTER              31.2
*****
* GPS SITE: 3/133015      N32:20:00 W081:58:00 ELEV: 178, 1979
*****
FIRST O. F US:GA007847    50 32:08 081:12(48-89) SAVANNAH WSO AP              46.9
ACTIVE C US:GA005811    120 32:24 082:04(55-89) METTER              7.4
REGULAR1 C US:GA001973   190 32:10 081:54(78-89) CLAXTON              12.2
REGULAR2 C US:GA001266   190 32:23 081:41(30-89) BROOKLET 1 W          16.9
REGULAR3 C US:GA003754   170 31:56 081:55(30-89) GLENNVILLE          27.8

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*****
* GPS SITE: 3/133016      N33:41:00 W085:19:00 ELEV: 1218, 1977
*****
FIRST O. F US:AL000272    610 33:35 085:51(48-89) ANNISTON FAA AP      31.5
ACTIVE C US:GA001640      990 33:36 085:05(48-89) CARROLLTON          14.6
REGULAR1 C US:AL003775    850 33:39 085:36(56-89) HEFLIN              16.5
REGULAR2 C US:GA001732    790 34:01 085:15(48-89) CEDARTOWN            23.3
REGULAR3 C US:GA006335    920 33:26 084:47(48-89) NEWNAN 4 N E          35.3
*****
* GPS SITE: 3/133017      N33:32:00 W082:53:00 ELEV: 583, 1973
*****
FIRST O. F US:GA000435    800 33:57 083:19(48-89) ATHENS WSO AP      38.1
ACTIVE C US:GA008064      690 33:32 083:06(60-89) SILOAM              12.5
REGULAR1 C US:GA009141    510 33:25 082:39(30-89) WARRENTON          15.7
REGULAR2 C US:GA009157    620 33:43 082:43(48-89) WASHINGTON 2 ESE        15.9
REGULAR3 C US:GA000311    370 33:34 082:20(61-89) APPLING 2 NW          31.8
*****
* GPS SITE: 3/133018      N33:30:00 W082:45:00 ELEV: 550, 1973
*****
FIRST O. F US:GA000435    800 33:57 083:19(48-89) ATHENS WSO AP      45.0
ACTIVE C US:GA009141      510 33:25 082:39(30-89) WARRENTON          8.1
REGULAR1 C US:GA009157    620 33:43 082:43(48-89) WASHINGTON 2 ESE        15.1
REGULAR2 C US:GA008064      690 33:32 083:06(60-89) SILOAM              20.3
REGULAR3 C US:GA000311    370 33:34 082:20(61-89) APPLING 2 NW          24.5
*****
* GPS SITE: 3/133019      N34:24:00 W083:43:00 ELEV: 1042, 1982
*****
FIRST O. F US:GA000435    800 33:57 083:19(48-89) ATHENS WSO AP      38.6
ACTIVE C US:GA003621     1170 34:18 083:51(30-89) GAINESVILLE          10.3
REGULAR1 C US:GA002283    1470 34:31 083:32(48-89) CORNELIA              13.2
REGULAR2 C US:GA002180     750 34:15 083:29(57-89) COMMERCE 4 NNW          16.9
REGULAR3 C US:GA002475    1430 34:32 083:59(30-89) DAHLONEGA          17.8
*****
* GPS SITE: 3/133020      N32:04:00 W083:46:00 ELEV: 307, 1985
*****
FIRST O. F US:GA005443    350 32:42 083:39(48-89) MACON WSO AP      44.3
ACTIVE C US:GA002266      310 32:00 083:47(48-89) CORDELE              4.7
REGULAR1 C US:GA004170     270 32:17 083:28(30-89) HAWKINSVILLE          23.1
REGULAR2 C US:GA000406     440 31:43 083:37(57-89) ASHBURN 3 ENE          25.7
REGULAR3 C US:GA005550     190 32:27 083:56(57-89) MARSHALLVILLE          28.2
*****
* GPS SITE: 2/134092      N30:54:00 W084:00:00 ELEV: 278, 1986
*****
FIRST O. F US:FL000211     20 29:44 085:02(31-89) APALACHICOLA WSO AP      101.5
ACTIVE C US:GA008666      260 30:53 083:56( 1-89) THOMASVILLE 3 NE          4.1
REGULAR1 C US:GA006087     340 31:10 083:45(26-89) MOULTRIE 2 ESE          23.6
REGULAR2 C US:GA007276     190 30:48 083:35( 1-89) QUITMAN 2 NW           25.7
REGULAR3 C US:FL005879     150 30:32 083:55(48-89) MONTICELLO 3 W          25.8
*****
* GPS SITE: 2/134093      N31:05:00 W084:05:00 ELEV: 350, 1986
*****
FIRST O. F US:FL000211     20 29:44 085:02(31-89) APALACHICOLA WSO AP      109.1
ACTIVE C US:GA001500      180 31:14 084:13(48-89) CAMILLA              13.0
REGULAR1 C US:GA008666     260 30:53 083:56( 1-89) THOMASVILLE 3 NE          16.4
REGULAR2 C US:GA006087     340 31:10 083:45(26-89) MOULTRIE 2 ESE          20.6
REGULAR3 C US:GA000140     180 31:32 084:08( 1-89) ALBANY 3 SE           31.2
*****
* GPS SITE: 2/134096      N31:24:00 W084:55:00 ELEV: 270, 1985
*****
FIRST O. F US:AL005550    220 32:18 086:24(48-89) MONTGOMERY WSO AP      107.0
ACTIVE C US:GA000979      270 31:21 084:57( 1-89) BLAKELY              4.0
REGULAR1 C US:GA002153     150 31:10 084:46(56-89) COLQUITT 2 W           18.4
REGULAR2 C US:AL003761     370 31:21 085:20(50-89) HEADLAND              24.8
REGULAR3 C US:GA002450     460 31:46 084:47(48-89) CUTHBERT              26.5
*****
* GPS SITE: 2/134111      N33:56:00 W083:30:00 ELEV: 735, 1980
*****
FIRST O. F US:GA000435    800 33:57 083:19(48-89) ATHENS WSO AP      10.6
ACTIVE C US:GA008950      840 33:52 083:32(71-89) U OF GA PLT SCIENCE F          5.0
REGULAR1 C US:GA009466     960 33:59 083:43(48-89) WINDER 1 SSE           12.9
REGULAR2 C US:GA002180     750 34:15 083:29(57-89) COMMERCE 4 NNW          21.9
REGULAR3 C US:GA002318     770 33:36 083:52(48-89) COVINGTON             31.2

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*****
* GPS SITE: 2/134112 N31:01:30 W081:41:00 ELEV: 13, 1977
*****
FIRST O. F US:GA001345 10 31:09 081:23(48-89) BRUNSWICK FAA AP 24.7
ACTIVE C US:GA001340 10 31:10 081:30(30-89) BRUNSWICK 20.9
REGULAR1 C US:FL002944 10 30:39 081:28(48-89) FERNANDINA BEACH 23.1
REGULAR2 C US:GA006219 70 31:11 081:58(56-89) NAHUNTA 24.3
REGULAR3 C US:GA003465 120 30:44 082:08(48-89) FOLKSTON 9 SW 28.7
*****
* GPS SITE: 2/134113 N31:05:00 W081:36:00 ELEV: 13, 1977
*****
FIRST O. F US:GA001345 10 31:09 081:23(48-89) BRUNSWICK FAA AP 13.6
ACTIVE C US:GA001340 10 31:10 081:30(30-89) BRUNSWICK 8.3
REGULAR1 C US:GA006219 70 31:11 081:58(56-89) NAHUNTA 22.8
REGULAR2 C US:GA007808 10 31:24 081:17(57-89) SAPELO ISLAND 28.8
REGULAR3 C US:FL002944 10 30:39 081:28(48-89) FERNANDINA BEACH 31.0
*****
* GPS SITE: 9/134118 N33:00:52 W083:53:04 ELEV: 634, 1958
*****
FIRST O. F US:GA005443 350 32:42 083:39(48-89) MACON WSO AP 23.3
ACTIVE C US:GA003506 600 33:07 083:59(54-89) FORSYTH 6 NNW 11.9
REGULAR1 C US:GA005988 660 33:18 083:41(48-89) MONTICELLO 22.5
REGULAR2 C US:GA008661 670 32:52 084:19(55-89) THOMASTON 2 S 29.5
REGULAR3 C US:GA003271 930 33:16 084:17(26-89) EXPERIMENT 31.9
*****
* GPS SITE: 68/134119 N34:05:19 W084:42:38 ELEV: 885, 1977
*****
FIRST O. F US:GA000451 1010 33:39 084:26(30-89) ATLANTA WSO AP 34.2
ACTIVE C US:GA002485 1100 33:59 084:45(48-89) DALLAS 7 NE 7.6
REGULAR1 C US:GA001665 720 34:13 084:47(48-89) CARTERSVILLE 9.8
REGULAR2 C US:GA000219 1040 34:00 084:18(57-89) ALPHARETTA 5 SSW 24.3
REGULAR3 C US:GA007600 620 34:15 085:09(30-89) ROME 27.5
*****
* GPS SITE: 2/134420 N31:54:17 W081:21:47 ELEV: 20, 1984
*****
FIRST O. F US:GA007847 50 32:08 081:12(48-89) SAVANNAH WSO AP 18.5
ACTIVE C US:GA003538 90 31:52 081:37(64-89) FORT STEWART 15.1
REGULAR1 C US:GA003754 170 31:56 081:55(30-89) GLENHVILLE 32.6
REGULAR2 C US:GA004674 80 31:39 081:50(50-89) JESUP 4 NE 32.8
REGULAR3 C US:GA007808 10 31:24 081:17(57-89) SAPELO ISLAND 35.2
*****
* GPS SITE: 5/135023 N30:46:00 W081:41:00 ELEV: 25, 1972
*****
FIRST O. F US:FL004358 30 30:30 081:42(48-89) JACKSONVILLE WSO AP 18.4
ACTIVE C US:FL002944 10 30:39 081:28(48-89) FERNANDINA BEACH 15.2
REGULAR1 C US:GA003465 120 30:44 082:08(48-89) FOLKSTON 9 SW 26.8
REGULAR2 C US:GA001340 10 31:10 081:30(30-89) BRUNSWICK 29.7
REGULAR3 F US:GA001345 10 31:09 081:23(48-89) BRUNSWICK FAA AP 31.9
*****
* GPS SITE: 7A/137028 N34:20:00 W083:20:00 ELEV: 850, 1966
*****
FIRST O. F US:GA000435 800 33:57 083:19(48-89) ATHENS WSO AP 26.5
ACTIVE C US:GA002180 750 34:15 083:29(57-89) COMMERCE 4 NNW 10.3
REGULAR1 C US:GA002283 1470 34:31 083:32(48-89) CORNELIA 17.0
REGULAR2 C US:GA008740 1020 34:35 083:19(30-89) TOCCOA 17.3
REGULAR3 C US:GA004133 690 34:21 082:55(30-89) HARTWELL 23.8
*****
* GPS SITE: 1/151003 N21:01:45 W156:40:33 ELEV: 145, 1984
*****
FIRST O. F US:H1002572 50 20:54 156:26(54-89) KAHULUI WSO AP 398 19.1
ACTIVE C US:H1008407 440 20:56 156:40(86-89) PUUKOLII 6.4
REGULAR1 C US:H1005177 50 20:53 156:41(49-89) LAHAINA 361 9.5
REGULAR2 C US:H1005286 1620 20:50 156:55(49-89) LANAI CITY 672 19.0
REGULAR3 C US:H1006534 450 21:09 157:06(57-89) MOLOKAI AP 524 27.3 REJECTED
*****
* GPS SITE: 1/151006 N21:01:23 W156:40:35 ELEV: 70, 1981
*****
FIRST O. F US:H1002572 50 20:54 156:26(54-89) KAHULUI WSO AP 398 19.0 REJECTED
ACTIVE C US:H1005177 50 20:53 156:41(49-89) LAHAINA 361 8.2
REGULAR1 C US:H1002307 10 20:56 156:42(68-86) KANAPALI AIRPORT 453 4.6
REGULAR2 C US:H1005286 1620 20:50 156:55(49-89) LANAI CITY 672 17.8
REGULAR3 C US:H1006534 450 21:09 157:06(57-89) MOLOKAI AP 524 27.4 REJECTED

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* GPS SITE: 1/151008      N19:36:36 W155:59:21 ELEV: 330, 1985
*****
FIRST O. F US:HI001492      30 19:43 155:04(49-89) HILO WSO AP 87      60.5 REJECTED
ACTIVE C US:HI002751      1500 19:32 155:56(49-89) KAINALIU 73.2      6.4
REGULAR1 C US:HI003911      20 19:44 156:04(81-89) KE-AHOLE PT 68.13      9.9
REGULAR2 C US:HI007166      1270 19:16 155:53(56-89) OPIHIHALE 2 24.1      24.7
REGULAR3 C US:HI006198      11150 19:32 155:35(55-89) MAUNA LOA SLOPE OBS 3      27.0 REJECTED
*****
* GPS SITE: 68/157080      N19:49:41 W155:57:11 ELEV: 290, 1975
*****
FIRST O. F US:HI001492      30 19:43 155:04(49-89) HILO WSO AP 87      58.2 REJECTED
ACTIVE C US:HI003911      20 19:44 156:04(81-89) KE-AHOLE PT 68.13      9.9
REGULAR1 C US:HI008422      140 20:02 155:50(77-89) PUUKOHOLA HEIAU 98.1      16.2
REGULAR2 C US:HI002751      1500 19:32 155:56(49-89) KAINALIU 73.2      20.4
REGULAR3 C US:HI008830      60 20:15 155:53(56-89) UPOLO POINT USCG 159.      29.5
*****
* GPS SITE: 1/161001      N47:46:27 W116:47:20 ELEV: 2150, 1974
*****
FIRST O. F US:WA005844      2140 48:11 117:03(27-89) NEWPORT      30.7 REJECTED
ACTIVE C US:ID000667      2080 47:59 116:33(48-89) BAYVIEW MODEL BASIN      18.2
REGULAR1 C US:ID001956      2160 47:41 116:45( 7-86) COEUR D ALENE R S      6.5
REGULAR2 C US:ID004831      2320 47:33 116:10( 5-89) KELLOGG      32.9 REJECTED
REGULAR3 C US:ID008062      2220 47:19 116:34(48-89) ST MARIES      33.3 REJECTED
*****
* GPS SITE: 1/161005      N44:37:47 W116:26:35 ELEV: 3232, 1975
*****
FIRST O. F US:OR006294      2150 44:03 116:58(48-89) ONTARIO KSRV      47.7 REJECTED
ACTIVE C US:ID002187      2950 44:44 116:26(48-89) COUNCIL      7.2 REJECTED
REGULAR1 C US:ID001408      2650 44:34 116:41(31-89) CAMBRIDGE      12.6
REGULAR2 C US:ID001514      4900 44:32 116:03(48-89) CASCADE 1 NW      20.5 REJECTED
REGULAR3 C US:ID005708      5030 44:54 116:07(30-89) MC CALL      24.6 REJECTED
*****
* GPS SITE: 1/161007      N42:35:32 W114:41:40 ELEV: 3771, 1972
*****
FIRST O. F US:ID001303      4160 42:32 113:46(48-89) BURLEY FAA AP      47.4
ACTIVE C US:ID001551      3830 42:33 114:52(63-89) CASTLEFORD 2 N      9.2
REGULAR1 C US:ID004670      3740 42:44 114:31(19-89) JEROME      13.3
REGULAR2 C US:ID009303      3960 42:33 114:21(63-89) TWIN FALLS WSO      17.8
REGULAR3 C US:ID004295      4530 42:21 114:34(48-89) HOLLISTER      18.0
*****
* GPS SITE: 1/161009      N42:29:12 W113:22:46 ELEV: 3025, 1975
*****
FIRST O. F US:ID001303      4160 42:32 113:46(48-89) BURLEY FAA AP      20.0
ACTIVE C US:ID005980      4210 42:40 113:29(47-89) MINIDOKA DAM      13.5
REGULAR1 C US:ID005563      4540 42:18 113:17(63-89) MALTA 2 E      13.8
REGULAR2 C US:ID007968      4200 42:37 113:40(31-89) RUPERT 1 E      17.2
REGULAR3 C US:ID006877      4210 42:37 113:45(48-89) PAUL 1 ENE      20.9
*****
* GPS SITE: 1/161010      N43:40:55 W112:07:00 ELEV: 4775, 1970
*****
FIRST O. F US:ID004457      4730 43:31 112:04(48-89) IDAHO FALLS FAA AP      11.7
ACTIVE C US:ID004455      4770 43:29 112:01(52-89) IDAHO FALLS 2 ESE      14.6
REGULAR1 C US:ID007644      4920 43:49 111:47(77-89) REXBURG RICKS COLLEGE      19.1
REGULAR2 C US:ID003964      4790 43:58 112:16(48-89) HAMER 4 NW      21.0
REGULAR3 C US:ID008022      4950 43:58 111:43(48-89) ST ANTHONY 1 WNW      28.0
*****
* GPS SITE: 1/161020      N42:44:30 W114:26:19 ELEV: 4097, 1986
*****
FIRST O. F US:ID001303      4160 42:32 113:46(48-89) BURLEY FAA AP      37.1
ACTIVE C US:ID004670      3740 42:44 114:31(19-89) JEROME      4.0
REGULAR1 C US:ID009293      3670 42:35 114:28(80-89) TWIN FALLS-KMVT      11.0
REGULAR2 C US:ID009303      3960 42:33 114:21(63-89) TWIN FALLS WSO      14.0
REGULAR3 C US:ID008380      3950 42:58 114:26(31-89) SHOSHONE 1 WNW      15.5
*****
* GPS SITE: 1/161021      N43:38:50 W111:55:40 ELEV: 4849, 1985
*****
FIRST O. F US:ID004457      4730 43:31 112:04(48-89) IDAHO FALLS FAA AP      11.4
ACTIVE C US:ID004455      4770 43:29 112:01(52-89) IDAHO FALLS 2 ESE      12.2
REGULAR1 C US:ID007644      4920 43:49 111:47(77-89) REXBURG RICKS COLLEGE      13.7
REGULAR2 C US:ID004456      5850 43:21 111:47(55-89) IDAHO FALLS 16 SE      21.8 REJECTED
REGULAR3 C US:ID008022      4950 43:58 111:43(48-89) ST ANTHONY 1 WNW      24.4

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*****
* GPS SITE: 3/163017 N42:35:02 W113:06:19 ELEV: 4254, 1986
*****
FIRST O. F US:ID001303 4160 42:32 113:46(48-89) BURLEY FAA AP 33.9
ACTIVE C US:ID005678 4230 42:40 113:00(73-89) MASSACRE ROCK ST PK 7.8
REGULAR1 C US:ID000227 4320 42:47 112:52(48-89) AMERICAN FALLS 1 SW 18.3
REGULAR2 C US:ID005980 4210 42:40 113:29(47-89) MINIDOKA DAM 20.1
REGULAR3 C US:ID005563 4540 42:18 113:17(63-89) MALTA 2 E 21.6
*****
* GPS SITE: 3/163023 N43:50:16 W116:45:44 ELEV: 2503, 1985
*****
FIRST O. F US:ID001022 2840 43:34 116:13(40-89) BOISE WSFO AP 33.1
ACTIVE C US:ID006844 2220 43:48 116:57(22-89) PARMA EXP STN 9.7
REGULAR1 C US:OR006179 2180 43:52 117:00(48-89) NYSSA 12.0
REGULAR2 C US:ID001380 2370 43:40 116:41( 4-89) CALDWELL 12.5
REGULAR3 C US:ID002942 2390 43:52 116:28(48-89) EMMETT 2 E 14.9
*****
* GPS SITE: 5/165025 N42:22:52 W112:12:20 ELEV: 4979, 1973
*****
FIRST O. F US:ID007211 4450 42:55 112:36(39-89) POCATELLO WSO AP 42.1 REJECTED
ACTIVE C US:ID005559 4470 42:10 112:17(48-89) MALAD CITY 15.3
REGULAR1 C US:ID000347 5170 42:30 112:34(62-89) ARBON 2 NW 20.2 REJECTED
REGULAR2 C US:ID003732 5550 42:35 111:44(31-89) GRACE 27.8 REJECTED
REGULAR3 C US:UT008828 4460 41:55 111:56(48-89) TRENTON 35.0 REJECTED
*****
* GPS SITE: 6A/166027 N42:26:44 W111:20:58 ELEV: 6056, 1960
*****
FIRST O. F US:ID005559 4470 42:10 112:17(48-89) MALAD CITY 51.5 REJECTED
ACTIVE C US:ID006053 5960 42:19 111:18(31-89) MONTPELIER R S 9.3
REGULAR1 C US:WY000915 6110 42:15 111:02( 2-89) BORDER 3 N 21.1
REGULAR2 C US:ID002071 6200 42:43 111:33(48-78) CONDA 21.3
REGULAR3 C US:ID003732 5550 42:35 111:44(31-89) GRACE 21.8 REJECTED
*****
* GPS SITE: 1/169032 N47:37:53 W116:52:04 ELEV: 2602, 1988
*****
FIRST O. F US:WA007938 2360 47:38 117:32( 1-89) SPOKANE WSO AP 31.0 REJECTED
ACTIVE C US:ID001960 2320 47:47 116:48(86-89) COEUR D ALENE AP 11.0
REGULAR1 C US:ID008062 2220 47:19 116:34(48-89) ST MARIES 25.9
REGULAR2 C US:ID000667 2080 47:59 116:33(48-89) BAYVIEW MODEL BASIN 28.4 REJECTED
REGULAR3 C US:ID004831 2320 47:33 116:10( 5-89) KELLOGG 33.2 REJECTED
*****
* GPS SITE: 1/169034 N48:25:06 W116:30:12 ELEV: 2119, 1988
*****
FIRST O. F US:WA005844 2140 48:11 117:03(27-89) NEWPORT 29.9 REJECTED
ACTIVE C US:ID008137 2100 48:17 116:34(10-89) SANDPOINT EXP STATION 9.8
REGULAR1 C US:ID007386 2380 48:21 116:50(11-89) PRIEST RIVER EXP STN 15.9 REJECTED
REGULAR2 C US:ID001079 1860 48:41 116:19( 7-89) BONNERS FERRY 1 SW 20.2
REGULAR3 C US:MT008390 1930 48:29 115:55(60-89) TROY 27.3 REJECTED
*****
* GPS SITE: 1/171002 N42:18:30 W089:36:00 ELEV: 797, 1986
*****
FIRST O. F US:WI004961 860 43:08 089:20(48-89) MADISON WSO AP 58.6
ACTIVE C US:IL003262 750 42:18 089:36(48-89) FREEPORT WASTE WTR PL 0.6
REGULAR1 C US:IL008293 960 42:21 090:00(48-89) STOCKTON 20.7
REGULAR2 C US:WI001078 790 42:37 089:23(48-89) BRODHEAD 24.0
REGULAR3 C US:IL005901 700 42:05 089:59( 1-89) MOUNT CARROLL 25.0
*****
* GPS SITE: 1/171003 N38:37:03 W089:38:03 ELEV: 467, 1986
*****
FIRST O. F US:MO007455 540 38:45 090:22(41-89) SAINT LOUIS WSCMO AP 40.6
ACTIVE C US:IL000510 450 38:30 089:51(48-89) BELLEVILLE SIU RSCH C 14.2
REGULAR1 C US:IL001290 500 38:38 089:20(62-89) CARLYLE RESERVOIR 16.3
REGULAR2 C US:IL006011 520 38:23 089:20(48-89) NASHVILLE 4 NE 22.9
REGULAR3 C US:IL001160 400 38:34 090:12(69-89) CAHOKIA 30.8
*****
* GPS SITE: 4/174074 N42:18:00 W089:35:00 ELEV: 819, 1986
*****
FIRST O. F US:WI004961 860 43:08 089:20(48-89) MADISON WSO AP 58.9
ACTIVE C US:IL003262 750 42:18 089:36(48-89) FREEPORT WASTE WTR PL 0.9
REGULAR1 C US:IL008293 960 42:21 090:00(48-89) STOCKTON 21.6
REGULAR2 C US:WI001078 790 42:37 089:23(48-89) BRODHEAD 24.1
REGULAR3 C US:IL005901 700 42:05 089:59( 1-89) MOUNT CARROLL 25.4

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*****
* GPS SITE: 4/174082      N38:36:00 W089:25:00 ELEV: 474, 1986
*****
FIRST O. F US:MO007455    540 38:45 090:22(41-89) SAINT LOUIS WSCMO AP    52.3
ACTIVE C US:IL001290      500 38:38 089:20(62-89) CARLYLE RESERVOIR      5.1
REGULAR1 C US:IL006011    520 38:23 089:20(48-89) NASHVILLE 4 NE          15.6
REGULAR2 C US:IL000510    450 38:30 089:51(48-89) BELLEVILLE SIU RSCH C        24.4
REGULAR3 C US:IL007636    550 38:38 088:57(48-89) SALEM                    25.3
*****
* GPS SITE: 5/175020      N38:36:00 W089:32:00 ELEV: 459, 1986
*****
FIRST O. F US:MO007455    540 38:45 090:22(41-89) SAINT LOUIS WSCMO AP    46.2
ACTIVE C US:IL001290      500 38:38 089:20(62-89) CARLYLE RESERVOIR      11.1
REGULAR1 C US:IL000510    450 38:30 089:51(48-89) BELLEVILLE SIU RSCH C        18.5
REGULAR2 C US:IL006011    520 38:23 089:20(48-89) NASHVILLE 4 NE          18.5
REGULAR3 C US:IL007636    550 38:38 088:57(48-89) SALEM                    31.6
*****
* GPS SITE: 7B/175151     N41:28:30 W090:19:30 ELEV: 657, 1966
*****
FIRST O. F US:IL005751    580 41:27 090:30(48-89) MOLINE WSO AP              9.2
ACTIVE C US:IL003384      640 41:27 090:10(48-89) GENESEO                      8.4
REGULAR1 C US:IA004705    580 41:35 090:25(48-89) LE CLAIRE L AND D 14          8.9
REGULAR2 F US:IA002069    570 41:31 090:34(48-84) DAVENPORT L AND D 15        12.8
REGULAR3 C US:IA001635    590 41:48 090:16(48-89) CLINTON 1                22.6
*****
* GPS SITE: 7B/175217     N40:24:00 W089:01:00 ELEV: 830, 1965
*****
FIRST O. F US:IL006711    650 40:40 089:41(48-89) PEORIA WSO AP              39.6
ACTIVE C US:IL002993      730 40:15 088:39(48-89) FARMER CITY 2 W          21.9
REGULAR1 C US:IL005079    580 40:10 089:22( 6-89) LINCOLN                24.5
REGULAR2 C US:IL001475    710 40:44 088:44(48-89) CHENOA                    27.4
REGULAR3 C US:IL005712    750 40:54 089:03( 1-89) MINONK                 34.6
*****
* GPS SITE: 7A/175423     N40:33:30 W089:07:30 ELEV: 830, 1966
*****
FIRST O. F US:IL006711    650 40:40 089:41(48-89) PEORIA WSO AP              30.3
ACTIVE C US:IL006200      790 40:31 089:00(77-89) NORMAL                      7.2
REGULAR1 C US:IL001475    710 40:44 088:44(48-89) CHENOA                    23.8
REGULAR2 C US:IL005712    750 40:54 089:03( 1-89) MINONK                 23.9
REGULAR3 C US:IL005079    580 40:10 089:22( 6-89) LINCOLN                29.9
*****
* GPS SITE: 7A/175453     N38:17:30 W088:57:30 ELEV: 503, 1969
*****
FIRST O. F US:MO007455    540 38:45 090:22(41-89) SAINT LOUIS WSCMO AP    82.5
ACTIVE C US:IL005943      490 38:21 088:52( 1-89) MOUNT VERNON 3 NE          6.4
REGULAR1 C US:IL007187    460 38:02 088:59(74-89) REND LAKE DAM          17.9
REGULAR2 C US:IL006011    520 38:23 089:20(48-89) NASHVILLE 4 NE          21.3
REGULAR3 C US:IL007636    550 38:38 088:57(48-89) SALEM                    23.6
*****
* GPS SITE: 5/175843      N42:07:00 W089:00:00 ELEV: 780, 1982
*****
FIRST O. F US:WI004961    860 43:08 089:20(48-89) MADISON WSO AP              72.2
ACTIVE C US:IL007382      720 42:12 089:06(51-89) ROCKFORD WSO AP          7.7
REGULAR1 C US:IL007354    780 41:54 089:04(78-89) ROCHELLE                15.3
REGULAR2 C US:IL002223    840 41:57 088:46(66-89) DE KALB                    16.6
REGULAR3 C US:IL005326    820 42:15 088:36( 1-89) MARENGO                 22.5
*****
* GPS SITE: 5/175849      N40:20:00 W088:10:00 ELEV: 765, 1971
*****
FIRST O. F US:IL006711    650 40:40 089:41(48-89) PEORIA WSO AP              83.0
ACTIVE C US:IL007150      740 40:19 088:10(48-89) RANTOUL                    1.2
REGULAR1 C US:IL008740    740 40:06 088:14( 3-89) URBANA                    16.5
REGULAR2 C US:IL002993    730 40:15 088:39(48-89) FARMER CITY 2 W          26.1
REGULAR3 C US:IL004198    710 40:28 087:40( 2-89) HOOPESTON 1 NE          27.9
*****
* GPS SITE: 5/175854      N40:47:16 W089:39:51 ELEV: 693, 1980
*****
FIRST O. F US:IL006711    650 40:40 089:41(48-89) PEORIA WSO AP              8.4
ACTIVE C US:IL007004      740 40:56 089:46(48-89) PRINCEVILLE          11.4
REGULAR1 C US:IL004805    600 41:01 089:22(50-89) LACON 2 E                22.2
REGULAR2 C US:IL003335    860 41:10 090:03( 1-89) GALVA                    33.0
REGULAR3 C US:IL005712    750 40:54 089:03( 1-89) MINONK                 33.1

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*****
* GPS SITE: 5/175869      N40:45:53 W089:40:12 ELEV: 669, 1979
*****
FIRST O. F US:IL006711    650 40:40 089:41(48-89) PEORIA WSO AP           6.8
ACTIVE   C US:IL007004    740 40:56 089:46(48-89) PRINCEVILLE          12.7
REGULAR1 C US:IL004805    600 41:01 089:22(50-89) LACON 2 E             23.5
REGULAR2 C US:IL005712    750 40:54 089:03( 1-89) MINONK              33.8
REGULAR3 C US:IL003940    460 40:21 090:01(48-89) HAVANA 4 NNE          33.9
*****
* GPS SITE: 5/175908      N37:47:24 W089:03:04 ELEV: 465, 1970
*****
FIRST O. F US:KY006110    410 37:04 088:46(49-89) PADUCAH WSO           52.3
ACTIVE   C US:IL001265    390 37:44 089:10(10-89) CARBONDALE SEWAGE PLA    7.4
REGULAR1 C US:IL005342    480 37:46 088:54(48-89) MARION 4 NNE           8.4
REGULAR2 C US:IL007187    460 38:02 088:59(74-89) REND LAKE DAM          17.2
REGULAR3 C US:IL002483    420 38:00 089:15( 1-89) DU QUOIN 4 SE         18.1
*****
* GPS SITE: 6A/176050     N38:32:00 W090:05:37 ELEV: 542, 1959
*****
FIRST O. F US:MO007455    540 38:45 090:22(41-89) SAINT LOUIS WSCMO AP        21.4
ACTIVE   C US:IL001160    400 38:34 090:12(69-89) CAHOKIA              6.7
REGULAR1 C US:IL000510    450 38:30 089:51(48-89) BELLEVILLE SIU RSCH C          12.8
REGULAR2 C US:IL009002    650 38:20 090:09(48-89) WATERLOO             14.3
REGULAR3 C US:IL000137    430 38:53 090:11(48-89) ALTON DAM 26          24.8
*****
* GPS SITE: 7A/177937     N41:10:09 W089:55:32 ELEV: 749, 1960
*****
FIRST O. F US:IL005751    580 41:27 090:30(48-89) MOLINE WSO AP           35.6
ACTIVE   C US:IL004710    780 41:15 089:54(48-89) KEWANEE 1 E             5.7
REGULAR1 C US:IL003335    860 41:10 090:03( 1-89) GALVA              6.5
REGULAR2 C US:IL007004    740 40:56 089:46(48-89) PRINCEVILLE          18.3
REGULAR3 C US:IL003384    640 41:27 090:10(48-89) GENESEO             23.1
*****
* GPS SITE: 5/179267      N41:30:30 W090:19:00 ELEV: 592, 1966
*****
FIRST O. F US:IL005751    580 41:27 090:30(48-89) MOLINE WSO AP           10.3
ACTIVE   C US:IA004705    580 41:35 090:25(48-89) LE CLAIRE L AND D 14          7.3
REGULAR1 C US:IL003384    640 41:27 090:10(48-89) GENESEO              8.8
REGULAR2 F US:IA002069    570 41:31 090:34(48-84) DAVENPORT L AND D 15         13.0
REGULAR3 C US:IA001635    590 41:48 090:16(48-89) CLINTON 1             20.3
*****
* GPS SITE: 7B/179327     N40:24:00 W089:01:00 ELEV: 830, 1965
*****
FIRST O. F US:IL006711    650 40:40 089:41(48-89) PEORIA WSO AP           39.6
ACTIVE   C US:IL002993    730 40:15 088:39(48-89) FARMER CITY 2 W          21.9
REGULAR1 C US:IL005079    580 40:10 089:22( 6-89) LINCOLN             24.5
REGULAR2 C US:IL001475    710 40:44 088:44(48-89) CHENOA              27.4
REGULAR3 C US:IL005712    750 40:54 089:03( 1-89) MINONK             34.6
*****
* GPS SITE: 1/181028      N38:11:52 W087:00:57 ELEV: 441, 1975
*****
FIRST O. F US:KY006110    410 37:04 088:46(49-89) PADUCAH WSO           123.7
ACTIVE   C US:IN007724    510 38:10 086:48(59-89) SAINT MEINRAD          11.9
REGULAR1 C US:IN008352    440 38:17 087:15(62-89) SPURGEON 2 N          14.0
REGULAR2 C US:IN008698    400 37:57 086:46(48-89) TELL CITY POWER PLANT        21.8
REGULAR3 C US:IN002309    690 38:27 086:42(55-89) DUBOIS S IND FORAGE F        24.4
*****
* GPS SITE: 1/181037      N37:53:47 W087:13:13 ELEV: 392, 1983
*****
FIRST O. F US:KY006110    410 37:04 088:46(49-89) PADUCAH WSO           102.4
ACTIVE   C US:KY006091    410 37:46 087:09(32-89) OWENSBORO 3 W           9.7
REGULAR1 C US:IN002731    390 37:58 087:33(49-89) EVANSVILLE          18.6
REGULAR2 C US:IN002738    380 38:03 087:32(48-89) EVANSVILLE WSO AP          20.1
REGULAR3 C US:KY003762    430 37:45 087:38(32-89) HENDERSON 7 SSW          24.7
*****
* GPS SITE: 2/182008      N40:56:24 W085:02:54 ELEV: 793, 1980
*****
FIRST O. F US:IN003037    800 41:00 085:12(48-89) FORT WAYNE WSO AP           8.9
ACTIVE   C US:IN000830    810 40:45 085:10(71-89) BLUFFTON             14.5
REGULAR1 C US:IN000676    860 40:40 084:57(10-89) BERNE              19.6
REGULAR2 C US:IN004181    730 40:51 085:30(48-89) HUNTINGTON WATERWORKS        24.4
REGULAR3 C US:OH008609    800 40:50 084:34(36-89) VAN WERT             26.2

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*****
* GPS SITE: 2/182009      N40:01:35 W085:59:36 ELEV: 785, 1981
*****
FIRST O. F US:IN003037    800 41:00 085:12(48-89) FORT WAYNE WSO AP      79.1
ACTIVE C US:IN006506     800 39:54 085:59(48-89) OAKLANDON GEIST RESVR    8.7
REGULAR1 C US:IN005217   740 39:58 086:03(76-88) LYNWOOD FARMS             5.1
REGULAR2 C US:IN000177   850 40:06 085:43(48-89) ANDERSON SEWAGE PLANT        15.5
REGULAR3 C US:IN002638   840 40:16 085:51(48-89) ELWOOD                      18.2
*****
* GPS SITE: 3/183002      N40:35:50 W087:22:40 ELEV: 831, 1976
*****
FIRST O. F US:IN003037    800 41:00 085:12(48-89) FORT WAYNE WSO AP      117.4
ACTIVE C US:IN004527     690 40:46 087:27(48-89) KENTLAND                   12.3
REGULAR1 C US:IL004198   710 40:28 087:40( 2-89) HOOPESTON 1 NE                 17.7
REGULAR2 C US:IN009430   710 40:28 087:00( 1-89) WEST LAFAYETTE 6 NW          21.8
REGULAR3 C US:IL009021   620 40:47 087:46(48-89) WATSEKA 2 NW              24.1
*****
* GPS SITE: 3/183003      N41:15:56 W086:15:56 ELEV: 810, 1975
*****
FIRST O. F US:IN003037    800 41:00 085:12(48-89) FORT WAYNE WSO AP      59.6
ACTIVE C US:IN007028     790 41:20 086:19( 5-89) PLYMOUTH POWER SUBSTN          4.0
REGULAR1 C US:IN007482   770 41:04 086:13(48-89) ROCHESTER                   15.3
REGULAR2 C US:IN004550   750 41:05 086:31(77-89) KEWANNA 7 NW                 18.4
REGULAR3 C US:IN009240   810 41:14 085:52(48-89) WARSAW                      21.9
*****
* GPS SITE: 3/183030      N40:13:07 W085:32:43 ELEV: 898, 1981
*****
FIRST O. F US:IN003037    800 41:00 085:12(48-89) FORT WAYNE WSO AP      56.9
ACTIVE C US:IN006020     940 40:13 085:25(62-89) MUNCIE BALL STATE UNI          6.8
REGULAR1 C US:IN000177   850 40:06 085:43(48-89) ANDERSON SEWAGE PLANT        12.2
REGULAR2 C US:IN002638   840 40:16 085:51(48-89) ELWOOD                      16.4
REGULAR3 C US:IN003777   930 40:28 085:27(48-89) HARTFORD CITY 4 NW              17.9
*****
* GPS SITE: 3/183031      N37:56:35 W087:44:07 ELEV: 380, 1976
*****
FIRST O. F US:KY006110    410 37:04 088:46(49-89) PADUCAH WSO                      82.9
ACTIVE C US:IN006001     420 37:57 087:53( 1-89) MOUNT VERNON                          8.1
REGULAR1 C US:IN002731   390 37:58 087:33(49-89) EVANSVILLE                   10.2
REGULAR2 C US:IN002738   380 38:03 087:32(48-89) EVANSVILLE WSO AP                 13.3
REGULAR3 C US:KY003762   430 37:45 087:38(32-89) HENDERSON 7 SSW                  14.4
*****
* GPS SITE: 4/184021      N39:57:29 W086:09:25 ELEV: 855, 1975
*****
FIRST O. F US:IN003037    800 41:00 085:12(48-89) FORT WAYNE WSO AP      87.8
ACTIVE C US:IN006506     800 39:54 085:59(48-89) OAKLANDON GEIST RESVR    10.0
REGULAR1 C US:IN005217   740 39:58 086:03(76-88) LYNWOOD FARMS             5.7
REGULAR2 C US:IN009557   940 40:00 086:21( 1-89) WHITESTOWN                   10.6
REGULAR3 C US:IN004272   750 39:45 086:07(51-89) INDIANAPOLIS SE SIDE          14.5
*****
* GPS SITE: 4/184042      N37:56:37 W087:44:08 ELEV: 450, 1974
*****
FIRST O. F US:KY006110    410 37:04 088:46(49-89) PADUCAH WSO                      82.9
ACTIVE C US:IN006001     420 37:57 087:53( 1-89) MOUNT VERNON                          8.1
REGULAR1 C US:IN002731   390 37:58 087:33(49-89) EVANSVILLE                   10.2
REGULAR2 C US:IN002738   380 38:03 087:32(48-89) EVANSVILLE WSO AP                 13.2
REGULAR3 C US:KY003762   430 37:45 087:38(32-89) HENDERSON 7 SSW                  14.5
*****
* GPS SITE: 5/185022      N39:37:40 W086:04:30 ELEV: 836, 1972
*****
FIRST O. F US:IN003037    800 41:00 085:12(48-89) FORT WAYNE WSO AP      105.4
ACTIVE C US:IN006304     790 39:33 086:06(71-89) NEW WHITELAND                      5.5
REGULAR1 C US:IN004272   750 39:45 086:07(51-89) INDIANAPOLIS SE SIDE          8.7
REGULAR2 C US:IN004259   790 39:44 086:16(48-89) INDIANAPOLIS WSFO                 12.5
REGULAR3 C US:IN007999   750 39:31 085:47(48-89) SHELBYVILLE SEWAGE PL        17.3
*****
* GPS SITE: 5/185043      N38:02:00 W087:39:37 ELEV: 446, 1969
*****
FIRST O. F US:KY006110    410 37:04 088:46(49-89) PADUCAH WSO                      90.2
ACTIVE C US:IN002738     380 38:03 087:32(48-89) EVANSVILLE WSO AP              7.0
REGULAR1 C US:IN002731   390 37:58 087:33(49-89) EVANSVILLE                   7.6
REGULAR2 C US:IN006001   420 37:57 087:53( 1-89) MOUNT VERNON                      13.5
REGULAR3 C US:KY003762   430 37:45 087:38(32-89) HENDERSON 7 SSW                  19.6

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* GPS SITE: 7B/185518      N40:28:23 W086:51:23 ELEV: 543, 1970
*****
FIRST O. F US:IN003037      800 41:00 085:12(48-89) FORT WAYNE WSO AP      94.1
ACTIVE C US:IN009424        600 40:25 086:56(48-89) WEST LAFAYETTE FAA AP      5.6
REGULAR1 C US:IN009430      710 40:28 087:00( 1-89) WEST LAFAYETTE 6 NW      7.6
REGULAR2 C US:IN004715      600 40:21 086:52(54-89) LAFAYETTE 5 S      8.5
REGULAR3 C US:IN002149      560 40:37 086:40(48-89) DELPHI 3 NNE      14.1
*****
* GPS SITE: 7B/185528      N41:39:00 W086:39:00 ELEV: 760, 1962
*****
FIRST O. F US:IN003037      800 41:00 085:12(48-89) FORT WAYNE WSO AP      87.7
ACTIVE C US:IN004837        810 41:36 086:43( 1-89) LA PORTE      4.9
REGULAR1 C US:IN008187      790 41:42 086:19(48-89) SOUTH BEND WSO AP      17.6
REGULAR2 C US:IN009222      740 41:26 086:56(61-89) WANATAH 2 WNW      21.0
REGULAR3 C US:IN008999      800 41:31 087:02( 1-89) VALPARAISO WATERWORKS      21.9
*****
* GPS SITE: 7B/185538      N41:40:00 W086:37:00 ELEV: 820, 1962
*****
FIRST O. F US:IN003037      800 41:00 085:12(48-89) FORT WAYNE WSO AP      86.8
ACTIVE C US:IN004837        810 41:36 086:43( 1-89) LA PORTE      6.9
REGULAR1 C US:IN008187      790 41:42 086:19(48-89) SOUTH BEND WSO AP      15.7
REGULAR2 C US:IN009222      740 41:26 086:56(61-89) WANATAH 2 WNW      23.0
REGULAR3 C US:IN008999      800 41:31 087:02( 1-89) VALPARAISO WATERWORKS      23.9
*****
* GPS SITE: 6A/186012      N38:10:11 W087:29:32 ELEV: 472, 1977
*****
FIRST O. F US:KY006110      410 37:04 088:46(49-89) PADUCAH WSO      103.3
ACTIVE C US:IN002738        380 38:03 087:32(48-89) EVANSVILLE WSO AP      8.6
REGULAR1 C US:IN007125      480 38:21 087:35( 1-89) PRINCETON 1 W      13.4
REGULAR2 C US:IN002731      390 37:58 087:33(49-89) EVANSVILLE      14.4
REGULAR3 C US:IN008352      440 38:17 087:15(62-89) SPURGEON 2 N      15.3
*****
* GPS SITE: 9/189020      N40:35:11 W085:33:09 ELEV: 860, 1964
*****
FIRST O. F US:IN003037      800 41:00 085:12(48-89) FORT WAYNE WSO AP      34.0
ACTIVE C US:IN005337        790 40:34 085:40( 1-89) MARION 2 N      6.2
REGULAR1 C US:IN003777      930 40:28 085:27(48-89) HARTFORD CITY 4 NW      9.9
REGULAR2 C US:IN009138      730 40:47 085:49(48-89) WABASH      19.4
REGULAR3 C US:IN004176      800 40:53 085:30(48-79) HUNTINGTON      20.7
*****
* GPS SITE: 1/191044      N42:29:41 W091:38:40 ELEV: 1074, 1971
*****
FIRST O. F US:IA001314      860 41:53 091:42(53-89) CEDAR RAPIDS FAA AP      42.3
ACTIVE C US:IA005086        42:28 091:27(76-89) MANCHESTER #2      10.1
REGULAR1 C US:IA004052      880 42:27 091:55(48-81) INDEPENDENCE 2 SW      14.2
REGULAR2 C US:IA006200      1010 42:39 091:55(48-89) OELWEIN 2 S      17.5
REGULAR3 C US:IA002864      1010 42:50 091:48( 1-89) FAYETTE      24.7
*****
* GPS SITE: 3/193006      N41:48:35 W090:28:13 ELEV: 686, 1975
*****
FIRST O. F US:IL005751      580 41:27 090:30(48-89) MOLINE WSO AP      24.9
ACTIVE C US:IA001635        590 41:48 090:16(48-89) CLINTON 1      10.5
REGULAR1 C US:IA004705      580 41:35 090:25(48-89) LE CLAIRE L AND D 14      15.9
REGULAR2 C US:IL003290      590 41:54 090:09(48-89) FULTON DAM 13      17.6
REGULAR3 F US:IA002069      570 41:31 090:34(48-84) DAVENPORT L AND D 15      20.8
*****
* GPS SITE: 3/193009      N41:57:52 W091:40:13 ELEV: 1115, 1975
*****
FIRST O. F US:IA001314      860 41:53 091:42(53-89) CEDAR RAPIDS FAA AP      5.8
ACTIVE C US:IA001319      820 42:02 091:35( 1-89) CEDAR RAPIDS 1      6.5
REGULAR1 C US:IA000213      810 42:07 091:18(48-89) ANAMOSA 1 WNW      21.7
REGULAR2 C US:IA008568      850 42:10 092:00(48-89) VINTON      21.9
REGULAR3 C US:IA004101      640 41:39 091:32(48-89) IOWA CITY      22.8
*****
* GPS SITE: 3/193028      N41:40:24 W091:37:14 ELEV: 748, 1984
*****
FIRST O. F US:IA001314      860 41:53 091:42(53-89) CEDAR RAPIDS FAA AP      15.1
ACTIVE C US:IA004101      640 41:39 091:32(48-89) IOWA CITY      4.8
REGULAR1 C US:IA009067      810 41:40 092:01(48-89) WILLIAMSBURG      20.5
REGULAR2 C US:IA001319      820 42:02 091:35( 1-89) CEDAR RAPIDS 1      24.9
REGULAR3 C US:IA008266      770 41:47 091:07( 2-89) TIPTON      27.1

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*****
* GPS SITE: 3/193033      N41:33:53 W091:32:41 ELEV: 641, 1983
*****
FIRST O. F US:IA001314    860 41:53 091:42(53-89) CEDAR RAPIDS FAA AP      23.4
ACTIVE   C US:IA004101    640 41:39 091:32(48-89) IOWA CITY                5.9
REGULAR1 C US:IA008688    760 41:17 091:41( 1-89) WASHINGTON                20.7
REGULAR2 C US:IA001731    670 41:15 091:22(48-89) COLUMBUS JUNCTION 2 S    23.6
REGULAR3 C US:IA009067    810 41:40 092:01(48-89) WILLIAMSBURG                25.4
*****
* GPS SITE: 3/193055      N42:26:56 W093:35:21 ELEV: 1186, 1968
*****
FIRST O. F US:IA005235    1190 43:10 093:20(48-89) MASON CITY FAA AP      51.2
ACTIVE   C US:IA008806    1170 42:28 093:48( 5-89) WEBSTER CITY            10.8
REGULAR1 C US:IA004142    1130 42:32 093:16(48-89) IOWA FALLS            17.5
REGULAR2 C US:IA001541    1180 42:44 093:44(48-89) CLARION                21.0
REGULAR3 C US:IA002573    1090 42:21 093:06(49-89) ELDORA                25.9
*****
* GPS SITE: 5/195042      N42:34:52 W093:32:00 ELEV: 1183, 1975
*****
FIRST O. F US:IA005235    1190 43:10 093:20(48-89) MASON CITY FAA AP      41.7
ACTIVE   C US:IA004142    1130 42:32 093:16(48-89) IOWA FALLS            14.0
REGULAR1 C US:IA001541    1180 42:44 093:44(48-89) CLARION                14.6
REGULAR2 C US:IA008806    1170 42:28 093:48( 5-89) WEBSTER CITY            15.7
REGULAR3 C US:IA003584    1220 42:45 093:12( 1-89) HAMPTON 2 NW            20.6
*****
* GPS SITE: 5/195046      N42:36:57 W093:29:49 ELEV: 1142, 1975
*****
FIRST O. F US:IA005235    1190 43:10 093:20(48-89) MASON CITY FAA AP      38.9
ACTIVE   C US:IA004142    1130 42:32 093:16(48-89) IOWA FALLS            13.0
REGULAR1 C US:IA001541    1180 42:44 093:44(48-89) CLARION                14.5
REGULAR2 C US:IA003584    1220 42:45 093:12( 1-89) HAMPTON 2 NW            17.7
REGULAR3 C US:IA008806    1170 42:28 093:48( 5-89) WEBSTER CITY            18.6
*****
* GPS SITE: 6A/196049     N41:39:35 W091:12:56 ELEV: 754, 1962
*****
FIRST O. F US:IA001314    860 41:53 091:42(53-89) CEDAR RAPIDS FAA AP      29.4
ACTIVE   C US:IA008266    770 41:47 091:07( 2-89) TIPTON                  9.9
REGULAR1 C US:IA004101    640 41:39 091:32(48-89) IOWA CITY                16.4
REGULAR2 C US:IA005837    550 41:24 091:04(48-89) MUSCATINE                19.5
REGULAR3 C US:IA001731    670 41:15 091:22(48-89) COLUMBUS JUNCTION 2 S    29.4
*****
* GPS SITE: 2/196150      N42:20:26 W094:57:17 ELEV: 1229, 1952
*****
FIRST O. F US:IA007708    1100 42:24 096:23(48-89) SIOUX CITY WSO AP      73.1
ACTIVE   C US:IA007312    1200 42:26 095:00(48-89) SAC CITY                6.8
REGULAR1 C US:IA004547    1240 42:16 094:44(48-72) LAKE CITY                12.4
REGULAR2 C US:IA007161    1210 42:24 094:37( 1-89) ROCKWELL CITY            17.8
REGULAR3 C US:IA001233    1240 42:04 094:51(48-89) CARROLL                19.7
*****
* GPS SITE: 7B/199116     N43:28:24 W093:21:02 ELEV: 1268, 1972
*****
FIRST O. F US:IA005235    1190 43:10 093:20(48-89) MASON CITY FAA AP      21.2
ACTIVE   C US:IA006103    1210 43:27 093:13(48-89) NORTHWOOD                6.9
REGULAR1 C US:MN000075    1230 43:37 093:25(48-89) ALBERT LEA 3 SE            10.4
REGULAR2 C US:IA002977    1300 43:17 093:38(48-89) FOREST CITY 2 NNE            19.3
REGULAR3 C US:MN000355    1220 43:37 093:00(48-89) AUSTIN 3 S                20.2
*****
* GPS SITE: 7B/199126     N41:35:54 W090:25:49 ELEV: 701, 1964
*****
FIRST O. F US:IL005751    580 41:27 090:30(48-89) MOLINE WSO AP      10.9
ACTIVE   C US:IA004705    580 41:35 090:25(48-89) LE CLAIRE L AND D 14            1.3
REGULAR1 F US:IA002069    570 41:31 090:34(48-84) DAVENPORT L AND D 15            9.0
REGULAR2 C US:IA001635    590 41:48 090:16(48-89) CLINTON 1                16.3
REGULAR3 C US:IL003384    640 41:27 090:10(48-89) GENESEO                17.1
*****
* GPS SITE: 1/201005      W38:37:00 W095:14:00 ELEV: 910, 1977
*****
FIRST O. F US:KS008167    870 39:04 095:38(48-89) TOPEKA WSFO AP      37.8
ACTIVE   C US:KS006128    900 38:37 095:17( 1-89) OTTAWA                2.7
REGULAR1 C US:KS006498    1060 38:39 095:34(63-89) POMONA LAKE            18.2
REGULAR2 C US:KS006209    860 38:35 094:52(48-89) PAOLA                20.0
REGULAR3 C US:KS001612    980 38:56 095:20(77-89) CLINTON LAKE            22.5

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*****
* GPS SITE: 6A/201006      N37:02:00 W095:42:00 ELEV: 760, 1971
*****
FIRST O. F US:OK008992    670 36:11 095:54(48-89) TULSA WSO AP      59.7
ACTIVE C US:KS003954      780 37:15 095:42( 1-89) INDEPENDENCE      15.0
REGULAR1 C US:KS005536    800 37:11 095:27(51-89) MOUND VALLEY 3 WSW  17.2
REGULAR2 C US:KS002430    790 37:17 095:48(64-89) ELK CITY LAKE        18.1
REGULAR3 C US:OK006485    730 36:42 095:38(48-89) NOWATA              23.3
*****
* GPS SITE: 1/201009      N37:59:00 W098:45:00 ELEV: 1922, 1985
*****
FIRST O. F US:KS002164    2580 37:46 099:58(48-89) DODGE CITY WSO AP    68.1
ACTIVE C US:KS003847      1870 38:06 098:39(48-89) HUDSON              9.7
REGULAR1 C US:KS004530    2000 38:11 099:05( 3-89) LARNED              22.8
REGULAR2 C US:KS006549    1900 37:38 098:48(39-89) PRATT 4 W          24.3
REGULAR3 C US:KS003218    1850 38:21 098:46(48-89) GREAT BEND          25.3
*****
* GPS SITE: 1/201010      N37:39:00 W099:45:00 ELEV: 2373, 1980
*****
FIRST O. F US:KS002164    2580 37:46 099:58(48-89) DODGE CITY WSO AP    14.3
ACTIVE C US:KS003239      2230 37:37 099:18(39-89) GREENSBURG            24.8
REGULAR1 C US:KS004333    2170 37:55 099:25(48-89) KINSLEY              25.9
REGULAR2 C US:KS000365    1970 37:12 099:46( 1-89) ASHLAND              31.1
REGULAR3 C US:KS001522    2730 37:49 100:21(39-89) CIMARRON            34.8
*****
* GPS SITE: 3/203013      N38:57:00 W094:46:00 ELEV: 1010, 1984
*****
FIRST O. F US:MO004359     740 39:07 094:35(48-89) KANSAS CITY FSS          15.1
ACTIVE C US:KS005972     1060 38:53 094:46(39-89) OLATHE 3 E              4.6
REGULAR1 C US:KS003686    1010 38:40 094:54(85-89) HILLSDALE LAKE          20.8
REGULAR2 C US:MO004158    1010 39:04 094:23(73-89) INDEPENDENCE 2          22.1
REGULAR3 C US:KS004588     860 39:16 094:53(48-89) LEAVENWORTH 4 SSE          22.7
*****
* GPS SITE: 3/203015      N38:00:00 W100:51:00 ELEV: 2879, 1985
*****
FIRST O. F US:KS002975    2880 37:56 100:43(48-89) GARDEN CITY FAA AP        8.6
ACTIVE C US:KS002980      2870 37:59 100:49(48-89) GARDEN CITY EXP STATI      2.2
REGULAR1 C US:KS004464    3000 37:56 101:15(39-89) LAKIN              22.3
REGULAR2 C US:KS001522    2730 37:49 100:21(39-89) CIMARRON              30.1
REGULAR3 C US:KS007271    2970 38:29 100:54(48-89) SCOTT CITY            33.5
*****
* GPS SITE: 3/203060      N39:07:00 W094:49:00 ELEV: 986, 1984
*****
FIRST O. F US:MO004359     740 39:07 094:35(48-89) KANSAS CITY FSS          12.5
ACTIVE C US:KS004588     860 39:16 094:53(48-89) LEAVENWORTH 4 SSE          11.0
REGULAR1 F US:MO004358     970 39:19 094:43(72-89) KANSAS CITY WSO AP          14.8
REGULAR2 C US:KS005972    1060 38:53 094:46(39-89) OLATHE 3 E          16.3
REGULAR3 C US:MO007862     890 39:23 094:33(81-89) SMITHVILLE LAKE          23.3
*****
* GPS SITE: 4/204016      N39:05:15 W095:33:00 ELEV: 870, 1979
*****
FIRST O. F US:KS008167     870 39:04 095:38(48-89) TOPEKA WSFO AP        4.7
ACTIVE C US:KS006333       960 39:07 095:25(67-89) PERRY LAKE              7.4
REGULAR1 C US:KS006100    1110 39:13 095:19(58-89) OSKALOOSA          15.4
REGULAR2 C US:KS001612     980 38:56 095:20(77-89) CLINTON LAKE          15.8
REGULAR3 C US:KS004559    1000 38:58 095:16(39-89) LAWRENCE            17.4
*****
* GPS SITE: 4/204052      N39:44:30 W094:55:00 ELEV: 809, 1983
*****
FIRST O. F US:MO004358     970 39:19 094:43(72-89) KANSAS CITY WSO AP          31.2
ACTIVE C US:MO007435       810 39:46 094:55(65-89) ST JOSEPH 4 WNW           1.7
REGULAR1 C US:KS008250    1110 39:46 095:09(48-89) TROY 4 WSW           12.5
REGULAR2 C US:KS000405     950 39:34 095:07(39-89) ATCHISON            16.1
REGULAR3 C US:MO002474     840 39:30 094:37(48-89) EDGERTON            23.1
*****
* GPS SITE: 4/204053      N39:06:25 W094:47:58 ELEV: 930, 1987
*****
FIRST O. F US:MO004359     740 39:07 094:35(48-89) KANSAS CITY FSS          11.6
ACTIVE C US:KS004588     860 39:16 094:53(48-89) LEAVENWORTH 4 SSE          11.9
REGULAR1 F US:MO004358     970 39:19 094:43(72-89) KANSAS CITY WSO AP          15.1
REGULAR2 C US:KS005972    1060 38:53 094:46(39-89) OLATHE 3 E          15.5
REGULAR3 C US:MO004158    1010 39:04 094:23(73-89) INDEPENDENCE 2          22.5

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*****
* GPS SITE: 4/204054 N38:57:44 W097:06:05 ELEV: 1190, 1985
*****
FIRST O. F US:KS007160 1260 38:48 097:38(52-89) SALINA FAA AP 30.8
ACTIVE C US:KS000010 1170 38:55 097:15(48-89) ABILENE 2 W 8.6
REGULAR1 C US:KS005306 1210 39:05 096:53(65-89) MILFORD LAKE 14.4
REGULAR2 C US:KS003594 1340 38:40 096:57(39-89) HERINGTON 22.0
REGULAR3 C US:KS001559 1220 39:23 097:07(39-89) CLAY CENTER 29.1
*****
* GPS SITE: 4/204063 N39:02:42 W094:47:24 ELEV: 877, 1981
*****
FIRST O. F US:MO004359 740 39:07 094:35(48-89) KANSAS CITY FSS 12.2
ACTIVE C US:KS005972 1060 38:53 094:46(39-89) OLATHE 3 E 11.2
REGULAR1 C US:KS004588 860 39:16 094:53(48-89) LEAVENWORTH 4 SSE 16.1
REGULAR2 F US:MO004358 970 39:19 094:43(72-89) KANSAS CITY WSO AP 19.2
REGULAR3 C US:MO004158 1010 39:04 094:23(73-89) INDEPENDENCE 2 21.9
*****
* GPS SITE: 4/204067 N38:01:37 W097:21:51 ELEV: 1470, 1976
*****
FIRST O. F US:KS008830 1320 37:39 097:26(54-89) WICHITA WSO AP 26.3
ACTIVE C US:KS005744 1450 38:02 097:23(39-89) NEWTON 2 SW 1.1
REGULAR1 C US:KS002773 1290 38:15 096:56(48-89) FLORENCE 28.0
REGULAR2 C US:KS005039 1370 38:23 097:05(66-89) MARION LAKE 29.0
REGULAR3 C US:KS005152 1500 38:23 097:40( 1-89) MC PHERSON 29.6
*****
* GPS SITE: 6A/206026 N37:57:00 W097:55:00 ELEV: 1542, 1962
*****
FIRST O. F US:KS008830 1320 37:39 097:26(54-89) WICHITA WSO AP 33.6
ACTIVE C US:KS003930 1570 37:56 098:02(53-89) HUTCHINSON 10 SW 6.5
REGULAR1 C US:KS007796 1640 38:13 098:12(52-89) STERLING 24.0
REGULAR2 C US:KS004313 1510 37:38 098:07(48-89) KINGMAN 24.4
REGULAR3 C US:KS005744 1450 38:02 097:23(39-89) NEWTON 2 SW 29.6
*****
* GPS SITE: 7A/207073 N38:55:00 W097:18:49 ELEV: 1240, 1961
*****
FIRST O. F US:KS007160 1260 38:48 097:38(52-89) SALINA FAA AP 19.0
ACTIVE C US:KS000010 1170 38:55 097:15(48-89) ABILENE 2 W 3.4
REGULAR1 C US:KS005306 1210 39:05 096:53(65-89) MILFORD LAKE 25.8
REGULAR2 C US:KS003594 1340 38:40 096:57(39-89) HERINGTON 26.1
REGULAR3 C US:KS005363 1300 39:08 097:43( 1-89) MINNEAPOLIS 26.3
*****
* GPS SITE: 7A/207085 N39:50:00 W096:37:00 ELEV: 1250, 1960
*****
FIRST O. F US:KS001767 1470 39:33 097:39(62-89) CONCORDIA WSO AP 58.4
ACTIVE C US:KS005063 1160 39:50 096:39(48-89) MARYSVILLE 1.8
REGULAR1 C US:KS008578 1300 39:49 097:03(52-89) WASHINGTON 23.0
REGULAR2 C US:KS000877 1530 39:30 096:24(55-89) BLAINE 25.7
REGULAR3 C US:KS001408 1320 39:43 096:07(48-89) CENTRALIA 27.8
*****
* GPS SITE: 9/209037 N39:05:25 W095:42:46 ELEV: 850, 1957
*****
FIRST O. F US:KS008167 870 39:04 095:38(48-89) TOPEKA WSFO AP 4.6
ACTIVE C US:KS006333 960 39:07 095:25(67-89) PERRY LAKE 16.0
REGULAR1 C US:KS006100 1110 39:13 095:19(58-89) OSKALOOSA 23.0
REGULAR2 C US:KS004559 1000 38:58 095:16(39-89) LAWRENCE 25.4
REGULAR3 C US:KS003759 1120 39:28 095:46(48-89) HOLTEN 26.2
*****
* GPS SITE: 1/211010 N37:28:43 W083:41:49 ELEV: 892, 1985
*****
FIRST O. F US:KY004898 1190 37:05 084:04(54-89) LONDON FAA AP 34.0
ACTIVE C US:KY003741 670 37:33 083:46(32-89) HEIDELBERG LOCK 14 6.2
REGULAR1 C US:KY003382 1200 37:24 083:57(72-89) GRAY HAWK 14.9
REGULAR2 C US:KY004202 1370 37:36 083:19(81-89) JACKSON WSO AP 22.5
REGULAR3 C US:KY005111 870 37:09 083:49(51-89) MANCHESTER 4 W 23.6
*****
* GPS SITE: 1/211014 N37:30:48 W082:29:38 ELEV: 1104, 1984
*****
FIRST O. F US:WV004393 830 38:22 082:33(61-89) HUNTINGTON WSO AP 59.0
ACTIVE C US:WV009605 670 37:40 082:17(26-89) WILLIAMSON 15.7
REGULAR1 C US:KY006136 630 37:49 082:47(33-89) PAINTSVILLE 1 E 26.3
REGULAR2 C US:VA003640 1170 37:16 082:05(48-89) GRUNDY 28.3
REGULAR3 C US:WV002522 1220 38:01 082:25(71-89) DUNLOW 1 ESE 35.0

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*****
* GPS SITE: 1/211034      N36:59:21 W085:58:21 ELEV: 665, 1972
*****
FIRST O. F US:TN006402    580 36:07 086:41(48-89) NASHVILLE WSO AP    72.0
ACTIVE C US:KY003246      810 37:00 085:55(53-89) GLASGOW WKAY        3.2
REGULAR1 C US:KY000422    620 36:54 086:08(63-89) BARREN RIVER LAKE    10.8
REGULAR2 C US:KY005097    790 37:11 086:05(48-89) MAMMOTH CAVE PARK        14.7
REGULAR3 C US:KY007800    860 36:53 085:43(50-89) SUMMER SHADE          15.9
*****
* GPS SITE: 3/213016      N37:51:06 W085:42:44 ELEV: 460, 1984
*****
FIRST O. F US:KY004898    1190 37:05 084:04(54-89) LONDON FAA AP        104.8
ACTIVE C US:KY000630      550 37:55 085:39(70-89) BERNHEIM FOREST        5.6
REGULAR1 C US:KY003929    790 37:32 085:44(48-89) HOOGENVILLE-LINCOLN N    22.0
REGULAR2 C US:KY004954    480 38:11 085:44(48-89) LOUISVILLE WSFO        22.9
REGULAR3 C US:IN001425    530 38:22 085:41(62-89) CHARLESTOWN ORD PLANT    35.6
*****
* GPS SITE: 4/214025      N38:07:15 W084:32:26 ELEV: 960, 1973
*****
FIRST O. F US:KY004898    1190 37:05 084:04(54-89) LONDON FAA AP        76.2
ACTIVE C US:KY004746      970 38:02 084:36(48-89) LEXINGTON WSO AP        6.9
REGULAR1 C US:KY003028    500 38:14 084:52(48-89) FRANKFORT LOCK 4        19.4
REGULAR2 C US:KY001998    700 38:23 084:18(32-89) CYNTHIANA        22.3
REGULAR3 C US:KY002214    870 37:48 084:43(53-89) DIX DAM          24.1
*****
* GPS SITE: 6A/216040     N38:02:14 W084:33:09 ELEV: 978, 1967
*****
FIRST O. F US:KY004898    1190 37:05 084:04(54-89) LONDON FAA AP        71.1
ACTIVE C US:KY004746      970 38:02 084:36(48-89) LEXINGTON WSO AP        2.6
REGULAR1 C US:KY002214    870 37:48 084:43(53-89) DIX DAM          18.7
REGULAR2 C US:KY003028    500 38:14 084:52(48-89) FRANKFORT LOCK 4        21.8
REGULAR3 C US:KY002409    1000 37:45 084:20(77-89) EASTERN KY UNIVERSITY    23.2
*****
* GPS SITE: 6A/216043     N37:08:13 W083:50:18 ELEV: 1004, 1971
*****
FIRST O. F US:KY004898    1190 37:05 084:04(54-89) LONDON FAA AP        13.1
ACTIVE C US:KY005111      870 37:09 083:49(51-89) MANCHESTER 4 W        1.5
REGULAR1 C US:KY000381    980 36:52 083:53(48-89) BARBOURVILLE        18.8
REGULAR2 C US:KY003382    1200 37:24 083:57(72-89) GRAY HAWK          19.2
REGULAR3 C US:KY004097    1180 37:08 083:20(78-89) HYDEN 4 E          27.8
*****
* GPS SITE: 2/223056      N31:06:00 W092:24:00 ELEV: 50, 1988
*****
FIRST O. F US:LA005026    40 30:12 091:59(48-89) LAFAYETTE FAA AP        66.9
ACTIVE C US:LA005630      70 31:11 092:24(76-89) LSU DEAN LEE RES STM        5.8
REGULAR1 C US:LA000098    90 31:19 092:28(30-89) ALEXANDRIA          15.5
REGULAR2 C US:LA001287    80 30:57 092:10(56-89) BUNKIE            17.3
REGULAR3 C US:LA001232    110 31:23 092:43(76-89) BOYCE 3 WNW        27.1
*****
* GPS SITE: 4/224001      N30:30:00 W090:30:00 ELEV: 30, 1970
*****
FIRST O. F US:LA000549    60 30:32 091:09(30-89) BATON ROUGE WSO AP        38.8
ACTIVE C US:LA000205      180 30:43 090:30(48-89) AMITE            15.0
REGULAR1 C US:LA004034    50 30:32 090:29(48-86) HAMMOND 3 NW        2.5
REGULAR2 C US:LA002151    40 30:32 090:07(30-89) COVINGTON 4 NNW        23.0
REGULAR3 C US:LA003327    150 30:49 090:11(56-89) FRANKLINTON 3 SW    28.9
*****
* GPS SITE: 1/231001      N45:13:13 W068:40:34 ELEV: 220, 1972
*****
FIRST O. F US:ME000275    350 44:19 069:48(48-89) AUGUSTA FAA AP        83.3
ACTIVE C US:ME006430      120 44:54 068:40(48-89) ORONO            22.1
REGULAR1 C US:ME008353    440 45:24 068:10(64-89) SPRINGFIELD        27.7
REGULAR2 C US:ME001975    460 45:11 069:15(73-89) DOVER-FOXCROFT87083    28.1
REGULAR3 C US:ME005304    360 45:39 068:42(48-89) MILLINOCKET        29.7
*****
* GPS SITE: 1/231009      N44:03:56 W069:29:33 ELEV: 112, 1970
*****
FIRST O. F US:ME000275    350 44:19 069:48(48-89) AUGUSTA FAA AP        23.1
ACTIVE C US:ME005675      190 44:03 069:32(65-89) NEWCASTLE          2.3
REGULAR1 C US:ME003046    140 44:13 069:47(48-89) GARDINER          17.8
REGULAR2 C US:ME009593    380 44:12 069:09(76-89) WEST ROCKPORT 1 NNW    19.4
REGULAR3 C US:ME000934    70 43:54 069:56(52-89) BRUNSWICK          24.7

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*****
* GPS SITE: 1/231012      N43:50:09 W070:07:46 ELEV: 126, 1985
*****
FIRST O. F US:ME006905    60 43:39 070:19(20-89) PORTLAND WSMO AP      15.9
ACTIVE C US:ME000934     70 43:54 069:56(52-89) BRUNSWICK              10.7
REGULAR1 C US:ME004566   180 44:06 070:13(26-89) LEWISTON              18.8
REGULAR2 C US:ME009314   150 43:42 070:37(53-89) WEST BUXTON 2 NNW      26.1
REGULAR3 C US:ME002238   530 43:53 070:45(70-89) EAST HIRAM             31.1
*****
* GPS SITE: 1/231026      N44:34:24 W070:17:40 ELEV: 486, 1973
*****
FIRST O. F US:ME000275    350 44:19 069:48(48-89) AUGUSTA FAA AP      30.2
ACTIVE C US:ME002765     420 44:41 070:09(26-89) FARMINGTON            10.4
REGULAR1 C US:ME007325   630 44:32 070:32(48-89) RUMFORD 1 SSE         12.1
REGULAR2 C US:ME004927   260 44:48 069:53(48-89) MADISON              25.6
REGULAR3 C US:ME009151    90 44:33 069:39(58-89) WATERVILLE PUMP STN      31.8
*****
* GPS SITE: 1/231028      N44:25:46 W070:48:03 ELEV: 669, 1973
*****
FIRST O. F US:NH005639   6260 44:16 071:18(48-89) MOUNT WASHINGTON      27.1
ACTIVE C US:ME007325     630 44:32 070:32(48-89) RUMFORD 1 SSE         15.0
REGULAR1 C US:NH000690    930 44:27 071:11(26-89) BERLIN                18.9
REGULAR2 C US:NH006818   2010 44:16 071:15(48-89) PINKHAM NOTCH          24.9
REGULAR3 C US:ME005261   1460 44:47 070:55(48-89) MIDDLE DAM           25.1
*****
* GPS SITE: 3/233013      N43:55:31 W070:00:13 ELEV: 127, 1973
*****
FIRST O. F US:ME006905    60 43:39 070:19(20-89) PORTLAND WSMO AP      24.6
ACTIVE C US:ME000934     70 43:54 069:56(52-89) BRUNSWICK              3.9
REGULAR1 C US:ME004566   180 44:06 070:13(26-89) LEWISTON              16.1
REGULAR2 C US:ME003046   140 44:13 069:47(48-89) GARDINER             22.9
REGULAR3 C US:ME005675   190 44:03 069:32(65-89) NEWCASTLE            24.9
*****
* GPS SITE: 3/233014      N43:56:11 W069:59:08 ELEV: 128, 1973
*****
FIRST O. F US:ME006905    60 43:39 070:19(20-89) PORTLAND WSMO AP      25.8
ACTIVE C US:ME000934     70 43:54 069:56(52-89) BRUNSWICK              3.6
REGULAR1 C US:ME004566   180 44:06 070:13(26-89) LEWISTON              16.1
REGULAR2 C US:ME003046   140 44:13 069:47(48-89) GARDINER             21.8
REGULAR3 C US:ME005675   190 44:03 069:32(65-89) NEWCASTLE            23.8
*****
* GPS SITE: 7A/237023     N43:52:11 W070:06:07 ELEV: 139, 1951
*****
FIRST O. F US:ME006905    60 43:39 070:19(20-89) PORTLAND WSMO AP      18.6
ACTIVE C US:ME000934     70 43:54 069:56(52-89) BRUNSWICK              8.7
REGULAR1 C US:ME004566   180 44:06 070:13(26-89) LEWISTON              16.9
REGULAR2 C US:ME009314   150 43:42 070:37(53-89) WEST BUXTON 2 NNW      28.2
REGULAR3 C US:ME003046   140 44:13 069:47(48-89) GARDINER             28.7
*****
* GPS SITE: 2/241632     N38:22:24 W076:26:42 ELEV: 93, 1986
*****
FIRST O. F US:VA008906    70 38:51 077:02(48-89) WASH NATL WSCMO AP      45.8
ACTIVE C US:MD006915     40 38:20 076:25(48-89) PATUXENT RIVER              3.2
REGULAR1 C US:MD005865   100 38:26 076:43(74-89) MECHANICSVILLE 5 NE          15.3
REGULAR2 C US:MD001385    10 38:34 076:04(48-89) CAMBRIDGE WTR TRMT PL          24.5
REGULAR3 C US:MD006770   160 38:41 076:40(48-89) OWINGS FERRY LANDING          24.5
*****
* GPS SITE: 2/241634     N38:22:15 W075:15:00 ELEV: 39, 1976
*****
FIRST O. F US:NJ005581    70 39:22 075:04(48-89) MILLVILLE FAA AIRPORT      69.5
ACTIVE C US:MD000335     10 38:14 075:08(68-89) ASSATEAGUE ISLAND N S          11.4
REGULAR1 C US:MD008380    30 38:14 075:23(48-89) SNOW HILL 4 N              11.9
REGULAR2 C US:MD008005    50 38:20 075:31(48-89) SALISBURY FAA AP              14.7
REGULAR3 C US:MD008000    10 38:22 075:35(48-89) SALISBURY              18.1
*****
* GPS SITE: 2/242401     N39:29:20 W076:19:51 ELEV: 212, 1987
*****
FIRST O. F US:DE009595    80 39:40 075:36(48-89) WILMINGTON WSO AP      40.9
ACTIVE C US:MD000732    370 39:30 076:23(48-89) BENSON POLICE BARRACK          2.9
REGULAR1 C US:MD000015    60 39:28 076:10(48-89) ABERDEEN PHILLIPS FLD          8.9
REGULAR2 C US:MD002060    40 39:39 076:10(41-89) CONOWINGO DAM              14.2
REGULAR3 C US:MD008877   390 39:23 076:34(48-89) TOWSON              14.6

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*****
* GPS SITE: 2/242805      N39:24:45 W077:21:15 ELEV: 298, 1986
*****
FIRST O. F US:WV005707    530 39:24 077:59(26-89) MARTINSBURG FAA AP    33.6
ACTIVE C US:MD003348      380 39:25 077:26(48-89) FREDERICK POLICE BRKS  4.2
REGULAR1 C US:MD009030    430 39:27 077:11(48-89) UNIONVILLE          9.5
REGULAR2 C US:MD002335    720 39:16 077:14(73-89) DAMASCUS 2 SW         12.0
REGULAR3 C US:MD001032    580 39:13 077:20(53-89) BOYDS 2 NW          13.6
*****
* GPS SITE: 5/245807      N39:10:50 W076:42:00 ELEV: 107, 1988
*****
FIRST O. F US:VA008906    70 38:51 077:02(48-89) WASH NATL WSCMO AP    29.0
ACTIVE C US:MD000465      200 39:11 076:40(48-89) BALTIMORE WSO AP      1.8
REGULAR1 C US:MD005111    400 39:06 076:54(49-89) LAUREL 3 W           12.1
REGULAR2 C US:MD001862    370 39:15 076:56(67-89) CLARKSVILLE 3 NNE       13.4
REGULAR3 C US:MD009750    460 39:20 076:52( 1-89) WOODSTOCK          13.8
*****
* GPS SITE: 1/251002      N42:08:20 W072:36:53 ELEV: 88, 1982
*****
FIRST O. F US:RI006698    50 41:44 071:26(48-89) PROVIDENCE WSO AP    66.9 REJECTED
ACTIVE C US:CT003456      160 41:56 072:41(54-89) HARTFORD WSO AP      14.6
REGULAR1 C US:MA000759    1110 42:08 072:56(69-89) BORDEN BROOK RESV        16.3 REJECTED
REGULAR2 C US:MA003985    630 42:17 072:52(48-89) KNIGHTVILLE DAM         16.3 REJECTED
REGULAR3 C US:MA000120    150 42:23 072:32(26-89) AMHERST              17.4
*****
* GPS SITE: 1/251003      N42:17:07 W071:17:43 ELEV: 128, 1974
*****
FIRST O. F US:MA000736    630 42:13 071:07(26-89) BLUE HILL WSO          10.3
ACTIVE C US:MA002975      170 42:17 071:25(48-89) FRAMINGHAM              6.2
REGULAR1 C US:MA001447    120 42:20 071:09(48-86) CHESTNUT HILL          8.1
REGULAR2 C US:MA008757    150 42:10 071:15(72-89) WALPOLE 2              8.5
REGULAR3 C US:MA009316    210 42:08 071:26(57-89) WEST MEDWAY          12.7
*****
* GPS SITE: 1/251004      N41:38:35 W070:54:08 ELEV: 49, 1974
*****
FIRST O. F US:RI006698    50 41:44 071:26(48-89) PROVIDENCE WSO AP    28.1
ACTIVE C US:MA005246      70 41:38 070:56(48-89) NEW BEDFORD              1.7
REGULAR1 C US:MA006938    60 41:47 070:55(51-89) ROCHESTER              9.7
REGULAR2 C US:MA002451    20 41:46 070:40(26-89) EAST WAREHAM          14.9
REGULAR3 C US:MA008367    20 41:54 071:04(48-89) TAUNTON              19.7
*****
* GPS SITE: 1/261001      N44:01:24 W084:56:13 ELEV: 1154, 1971
*****
FIRST O. F US:MI007227    660 43:32 084:05( 1-89) SAGINAW FAA AP    54.4
ACTIVE C US:MI002671      1000 43:54 085:16(51-89) EVART              18.5
REGULAR1 C US:MI003932    1140 44:19 084:53(48-89) HOUGHTON LAKE 6 WSW         20.4
REGULAR2 C US:MI003170    780 43:59 084:30(48-89) GLADWIN              21.9
REGULAR3 C US:MI004502    1240 44:19 085:12(48-89) LAKE CITY EXP FARM         24.1
*****
* GPS SITE: 1/261004      N47:05:24 W088:20:37 ELEV: 984, 1985
*****
FIRST O. F CA:6048261     653 48:22 089:19(41-89) THUNDER BAY A          99.1
ACTIVE C US:MI003908      1070 47:10 088:30(52-89) HOUGHTON FAA AP              9.1
REGULAR1 C US:MI003744    1820 46:39 088:20(68-89) HERMAN              30.4
REGULAR2 C US:MI000089    1310 46:39 088:29(57-89) ALBERTA FORD FOR CENT          31.1
REGULAR3 C US:MI001780    630 47:28 087:52(48-89) COPPER HARBOR FT WILK         34.3
*****
* GPS SITE: 1/261010      N43:10:00 W083:41:00 ELEV: 792, 1975
*****
FIRST O. F US:MI002846    770 42:58 083:45(48-89) FLINT WSO AP          14.2
ACTIVE C US:MI004655      870 43:03 083:21(48-89) LAPEER              18.7
REGULAR1 C US:MI007217    600 43:27 083:58(55-87) SAGINAW CONSUMERS P C         24.2
REGULAR2 C US:MI001299    670 43:27 083:24(48-89) CARO REGIONAL CENTER          24.2
REGULAR3 C US:MI007253    600 43:18 084:09(48-89) SAINT CHARLES          25.3
*****
* GPS SITE: 1/261012      N43:42:30 W085:32:00 ELEV: 1032, 1980
*****
FIRST O. F US:MI005712    630 43:10 086:14(48-89) MUSKEGON WSO AP          51.3
ACTIVE C US:MI000779      930 43:42 085:29( 1-89) BIG RAPIDS WATERWORKS          2.6
REGULAR1 C US:MI002671    1000 43:54 085:16(51-89) EVART              18.8
REGULAR2 C US:MI000446    840 43:54 085:51(48-89) BALDWIN              20.6
REGULAR3 C US:MI003769    780 43:35 086:06(48-89) HESPERIA 4 WNW          29.6

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*****
* GPS SITE: 1/261013      N43:26:25 W085:17:30 ELEV: 900, 1980
*****
FIRST O. F US:M1005712    630 43:10 086:14(48-89) MUSKEGON WSO AP      51.0
ACTIVE C US:M1003429      880 43:12 085:15(48-89) GREENVILLE 2 NNE    16.7
REGULAR1 C US:M1000779    930 43:42 085:29( 1-89) BIG RAPIDS WATERWORKS  20.3
REGULAR2 C US:M1005662    800 43:35 084:46(48-89) MT PLEASANT UNIVERSIT  28.1
REGULAR3 C US:M1000146    760 43:23 084:40(48-89) ALMA                    31.7
*****
* GPS SITE: 3/263068      N43:51:00 W084:53:00 ELEV: 944, 1975
*****
FIRST O. F US:M1007227    660 43:32 084:05( 1-89) SAGINAW FAA AP      45.6
ACTIVE C US:M1005662      800 43:35 084:46(48-89) MT PLEASANT UNIVERSIT  19.3
REGULAR1 C US:M1002671   1000 43:54 085:16(51-89) EVART                19.4
REGULAR2 C US:M1003170    780 43:59 084:30(48-89) GLADWIN              21.2
REGULAR3 C US:M1000779    930 43:42 085:29( 1-89) BIG RAPIDS WATERWORKS  31.7
*****
* GPS SITE: 3/263069      N43:51:00 W084:54:00 ELEV: 935, 1974
*****
FIRST O. F US:M1007227    660 43:32 084:05( 1-89) SAGINAW FAA AP      46.3
ACTIVE C US:M1002671   1000 43:54 085:16(51-89) EVART                18.6
REGULAR1 C US:M1005662    800 43:35 084:46(48-89) MT PLEASANT UNIVERSIT  19.6
REGULAR2 C US:M1003170    780 43:59 084:30(48-89) GLADWIN              22.0
REGULAR3 C US:M1000779    930 43:42 085:29( 1-89) BIG RAPIDS WATERWORKS  30.9
*****
* GPS SITE: 4/264015      N42:59:36 W082:48:14 ELEV: 780, 1985
*****
FIRST O. F US:M1002846    770 42:58 083:45(48-89) FLINT WSO AP          47.9
ACTIVE C US:M1006680      590 42:59 082:25(48-89) PORT HURON              19.6
REGULAR1 C CA:61219J1     610 42:45 082:27(69-89) COURTRIGHT            24.6
REGULAR2 C CA:6127514     594 43:00 082:18(67-89) SARNIA A                25.5
REGULAR3 C US:M1005650    580 42:36 082:49(48-89) MOUNT CLEMENS ANG BAS  27.2
*****
* GPS SITE: 5/265363      N42:10:32 W083:21:15 ELEV: 640, 1976
*****
FIRST O. F CA:6139525     622 42:16 082:58(40-89) WINDSOR A              20.8
ACTIVE C US:M1002103      630 42:14 083:20(58-89) DETROIT METRO WSO AP      4.1
REGULAR1 C US:M1002015    610 42:19 083:14(52-89) DEARBORN              11.5
REGULAR2 C US:M1009014    660 42:05 083:35(48-83) WILLIS 5 SSW                13.4
REGULAR3 C US:M1009218    780 42:15 083:37(48-89) YPSILANTI E MI UNIV    14.4
*****
* GPS SITE: 6A/266016     N44:28:00 W084:41:00 ELEV: 1170, 1970
*****
FIRST O. F US:M1008251    620 44:44 085:35( 1-89) TRAVERSE CITY FAA AP    48.0
ACTIVE C US:M1003936     1150 44:22 084:41(64-89) HOUGHTON LAKE WSO AP      6.9
REGULAR1 C US:M1003391    1140 44:39 084:42(48-89) GRAYLING              12.7
REGULAR2 C US:M1003932    1140 44:19 084:53(48-89) HOUGHTON LAKE 6 WSW    14.3
REGULAR3 C US:M1004502    1240 44:19 085:12(48-89) LAKE CITY EXP FARM      27.6
*****
* GPS SITE: 7A/267072     N42:48:16 W083:34:34 ELEV: 980, 1962
*****
FIRST O. F US:M1002846    770 42:58 083:45(48-89) FLINT WSO AP          14.3
ACTIVE C US:M1005452      990 42:35 083:42(48-89) MILFORD GM PROVING GR    16.5
REGULAR1 C US:M1006658    980 42:39 083:18(48-89) PONTIAC STATE HOSPITA    17.6
REGULAR2 C US:M1004655    870 43:03 083:21(48-89) LAPEER                20.5
REGULAR3 C US:M1006300    770 42:58 084:12(48-89) OWOSSO 3 SSW                33.5
*****
* GPS SITE: 9/269029      N42:53:00 W085:00:00 ELEV: 810, 1959
*****
FIRST O. F US:M1004641    840 42:46 084:36(48-89) LANSING WSO AP      22.4
ACTIVE C US:M1004078      750 42:59 085:04(48-89) IONIA 1 WNW              6.8
REGULAR1 C US:M1003661    780 42:39 085:18(48-89) HASTINGS              22.6
REGULAR2 C US:M1003429    880 43:12 085:15(48-89) GREENVILLE 2 NNE    24.4
REGULAR3 C US:M1007280    740 43:01 084:33(48-89) SAINT JOHNS              24.5
*****
* GPS SITE: 9/269030      N41:55:00 W083:40:00 ELEV: 678, 1960
*****
FIRST O. F CA:6139525     622 42:16 082:58(40-89) WINDSOR A              43.3
ACTIVE C US:M1005558      590 41:55 083:24(31-89) MONROE              13.7
REGULAR1 C US:M1009014    660 42:05 083:35(48-83) WILLIS 5 SSW                12.3
REGULAR2 C US:M1000032    760 41:55 084:01(48-89) ADRIAN 2 NNE              18.0
REGULAR3 C US:OH008366    600 41:39 083:32(48-89) TOLEDO BLADE              19.7

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*****
* GPS SITE: 1/271016      N47:30:00 W094:56:00 ELEV: 1375, 1976
*****
FIRST O. F US:ND002859    900 46:54 096:48(42-89) FARGO WSO AP      97.0
ACTIVE C US:MNO00643     1380 47:30 094:56(48-89) BEMIDJI          0.0
REGULAR1 C US:MNO01374   1300 47:23 094:37(11-89) CASS LAKE         16.9
REGULAR2 C US:MNO04106   1490 47:13 095:12(12-89) ITASCA UNIV OF MINN     23.2
REGULAR3 C US:MNO06795   1220 47:52 095:02(48-89) RED LAKE INDIAN AGENC 25.7
*****
* GPS SITE: 1/271018      N45:59:43 W094:28:08 ELEV: 1118, 1979
*****
FIRST O. F US:MNO07294   1040 45:33 094:04(48-89) ST CLOUD WSO AP    36.4
ACTIVE C US:MNO04793     1120 45:59 094:21(32-89) LITTLE FALLS 1 N     5.8
REGULAR1 C US:MNO04861   1290 45:59 094:51(48-89) LONG PRAIRIE         18.3
REGULAR2 C US:MNO05325   1210 45:40 094:49(54-89) MELROSE             28.2
REGULAR3 C US:MNO01691   1230 45:35 094:24(41-89) COLLEGEVILLE ST JOHN 28.6
*****
* GPS SITE: 1/271019      N45:35:00 W093:36:00 ELEV: 980, 1980
*****
FIRST O. F US:MNO07294   1040 45:33 094:04(48-89) ST CLOUD WSO AP    22.7
ACTIVE C US:MNO07502     1020 45:33 093:46(59-89) SANTIAGO 3 E       8.4
REGULAR1 C US:MNO05392   1090 45:48 093:40(48-89) MILACA 1 ENE         15.3
REGULAR2 C US:MNO01227   1000 45:34 093:14(48-89) CAMBRIDGE STATE HOSP     17.8
REGULAR3 C US:MNO01390   910 45:19 093:17(62-89) CEDAR              24.0
*****
* GPS SITE: 1/271023      N47:26:00 W094:51:00 ELEV: 1375, 1982
*****
FIRST O. F US:ND002859    900 46:54 096:48(42-89) FARGO WSO AP      98.8
ACTIVE C US:MNO00643     1380 47:30 094:56(48-89) BEMIDJI          6.0
REGULAR1 C US:MNO01374   1300 47:23 094:37(11-89) CASS LAKE         11.5
REGULAR2 C US:MNO04106   1490 47:13 095:12(12-89) ITASCA UNIV OF MINN     22.2
REGULAR3 C US:MNO08618   1410 47:04 094:35(48-89) WALKER AH GWAH CHING 28.2
*****
* GPS SITE: 1/271028      N46:41:00 W095:40:00 ELEV: 1384, 1972
*****
FIRST O. F US:ND002859    900 46:54 096:48(42-89) FARGO WSO AP      55.7
ACTIVE C US:MNO02142     1380 46:50 095:51(32-89) DETROIT LAKES 1 NNE     13.5
REGULAR1 C US:MNO06276   980 46:25 095:34(48-89) OTTERTAIL          19.0
REGULAR2 C US:MNO08191   1480 46:58 095:40(77-89) TAMARAC WILDLIFE REF     19.6
REGULAR3 C US:MNO08579   1350 46:24 095:09(32-89) WADENA 3 S       31.4
*****
* GPS SITE: 1/271029      N45:32:00 W093:14:00 ELEV: 918, 1970
*****
FIRST O. F US:MNO07294   1040 45:33 094:04(48-89) ST CLOUD WSO AP    40.4
ACTIVE C US:MNO01227     1000 45:34 093:14(48-89) CAMBRIDGE STATE HOSP     2.3
REGULAR1 C US:MNO01390   910 45:19 093:17(62-89) CEDAR              15.2
REGULAR2 C US:MNO02881   910 45:19 092:56(58-89) FOREST LAKE 5 NE     20.9
REGULAR3 C US:MNO05615   990 45:53 093:18(32-89) MORA              24.4
*****
* GPS SITE: 1/271085      N43:44:03 W092:35:35 ELEV: 1330, 1984
*****
FIRST O. F US:MNO07004   1300 43:55 092:30(48-89) ROCHESTER WSO AP     13.4
ACTIVE C US:MNO03290     1350 43:42 092:34(32-89) GRAND MEADOW          2.7
REGULAR1 C US:MNO00355   1220 43:37 093:00(48-89) AUSTIN 3 S       21.9
REGULAR2 C US:MNO06654   930 43:40 092:05(52-89) PRESTON             25.9
REGULAR3 C US:IA006305   1170 43:17 092:48(48-89) OSAGE              32.8
*****
* GPS SITE: 1/271087      N44:48:00 W093:14:00 ELEV: 800, 1979
*****
FIRST O. F US:MNO05435    830 44:53 093:13( 1-89) MINN-ST PAUL WSO AP     5.8
ACTIVE C US:MNO07107     950 44:43 093:06(50-89) ROSEMOUNT AGR I EXP ST     8.7
REGULAR1 C US:MNO02737   980 44:40 093:11(48-89) FARMINGTON 3 NW      9.5
REGULAR2 C US:MNO07377   920 44:58 093:05(56-89) SAINT PAUL          13.7
REGULAR3 C US:MNO01465   720 44:48 093:35(11-89) CHASKA             17.2
*****
* GPS SITE: 3/273003      N44:25:00 W094:24:00 ELEV: 1066, 1986
*****
FIRST O. F US:MNO05435    830 44:53 093:13( 1-89) MINN-ST PAUL WSO AP     66.6
ACTIVE C US:MNO05887     860 44:18 094:27(48-89) NEW ULM 2 SE           8.4
REGULAR1 C US:MNO03076   1020 44:33 094:13(56-89) GAYLORD             12.9
REGULAR2 C US:MNO08025   1040 44:44 094:30(57-89) STEWART              22.4
REGULAR3 C US:MNO07405    850 44:18 093:58(48-89) ST PETER 2 SW       22.9

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*****
* GPS SITE: 5/275076      N45:02:00 W092:59:00 ELEV: 985, 1970
*****
FIRST O. F US:MN005435    830 44:53 093:13( 1-89) MINN-ST PAUL WSO AP      15.4
ACTIVE C US:MN007377     920 44:58 093:05(56-89) SAINT PAUL                6.7
REGULAR1 C US:MN008037   710 45:02 092:47(48-89) STILLWATER 1 SE            9.8
REGULAR2 C US:MN002881   910 45:19 092:56(58-89) FOREST LAKE 5 NE           19.7
REGULAR3 C US:WI007226   900 44:52 092:37(48-89) RIVER FALLS              21.3
*****
* GPS SITE: 6A/276064     N45:38:00 W094:37:00 ELEV: 920, 1968
*****
FIRST O. F US:MN007294   1040 45:33 094:04(48-89) ST CLOUD WSO AP          27.2
ACTIVE C US:MN005325    1210 45:40 094:49(54-89) MELROSE                  9.9
REGULAR1 C US:MN001691   1230 45:35 094:24(41-89) COLLEGEVILLE ST JOHN    11.0
REGULAR2 C US:MN004861   1290 45:59 094:51(48-89) LONG PRAIRIE             26.7
REGULAR3 C US:MN004793   1120 44:59 094:21(32-89) LITTLE FALLS 1 N       27.4
*****
* GPS SITE: 9/276250      N43:37:58 W096:11:41 ELEV: 1375, 1966
*****
FIRST O. F US:SD007667   1420 43:34 096:44(48-89) SIOUX FALLS WSFO AP      27.8
ACTIVE C US:MN004937    1500 43:40 096:12(50-89) LUVERNE                  3.6
REGULAR1 C US:IA007147   1350 43:26 096:10( 3-89) ROCK RAPIDS              12.7
REGULAR2 C US:IA007664   1670 43:27 095:43(48-89) SIBLEY 5 NNE              26.1
REGULAR3 C US:MN006565   1710 44:01 096:19(48-89) PIPESTONE                28.4
*****
* GPS SITE: 1/276251      N47:26:00 W094:51:00 ELEV: 1364, 1982
*****
FIRST O. F US:ND002859    900 46:54 096:48(42-89) FARGO WSO AP              98.8
ACTIVE C US:MN000643    1380 47:30 094:56(48-89) BEMIDJI                   6.0
REGULAR1 C US:MN001374   1300 47:23 094:37(11-89) CASS LAKE                  11.5
REGULAR2 C US:MN004106   1490 47:13 095:12(12-89) ITASCA UNIV OF MINN            22.2
REGULAR3 C US:MN008618   1410 47:04 094:35(48-89) WALKER AH GWAN CHING          28.2
*****
* GPS SITE: 9/276300      N43:38:00 W095:46:00 ELEV: 1685, 1969
*****
FIRST O. F US:SD007667   1420 43:34 096:44(48-89) SIOUX FALLS WSFO AP      48.6
ACTIVE C US:MN009170    1570 43:39 095:35(71-89) WORTHINGTON 2 NNE              9.2
REGULAR1 C US:IA007664   1670 43:27 095:43(48-89) SIBLEY 5 NNE              12.9
REGULAR2 C US:MN004937   1500 43:40 096:12(50-89) LUVERNE                  21.8
REGULAR3 C US:IA007147   1350 43:26 096:10( 3-89) ROCK RAPIDS              24.4
*****
* GPS SITE: 7A/277090     N44:35:00 W092:50:00 ELEV: 984, 1954
*****
FIRST O. F US:MN005435    830 44:53 093:13( 1-89) MINN-ST PAUL WSO AP      28.0
ACTIVE C US:MN007107    950 44:43 093:06(50-89) ROSEMOUNT AGRI EXP ST          16.0
REGULAR1 C US:MN002737   980 44:40 093:11(48-89) FARMINGTON 3 NW              18.2
REGULAR2 C US:WI002556   1030 44:44 092:28(48-89) ELLSWORTH 1 E              20.8
REGULAR3 C US:MN009249   990 44:18 092:40(32-89) ZUMBROTA                21.2
*****
* GPS SITE: 9/279075      N44:52:00 W095:02:00 ELEV: 1090, 1947
*****
FIRST O. F US:MN007294   1040 45:33 094:04(48-89) ST CLOUD WSO AP          66.7
ACTIVE C US:MN009004    1130 45:08 095:01(32-89) WILLMAR STATE HOSPITA          18.4
REGULAR1 C US:MN000783   1090 44:46 094:54( 1-76) BIRD ISLAND                9.5
REGULAR2 C US:MN006835   1030 44:33 095:05(32-89) REDWOOD FALLS FAA AP          22.0
REGULAR3 C US:MN008025   1040 44:44 094:30(57-89) STEWART                27.7
*****
* GPS SITE: 1/281001      N34:08:12 W088:42:06 ELEV: 247, 1986
*****
FIRST O. F US:AL005749    540 34:45 087:37(40-89) MUSCLE SHOALS FAA AP          75.0
ACTIVE C US:MS009173    330 34:12 088:43(87-89) VERONA EXP STA                4.5
REGULAR1 C US:MS009003   360 34:16 088:44(62-89) TUPELO WSO AP                9.2
REGULAR2 C US:MS003208   350 34:16 088:27(48-89) FULTON 3 W                17.0
REGULAR3 C US:MS007111   410 34:09 089:00(53-89) PONTOTOC EXP STN              17.1
*****
* GPS SITE: 1/281016      N33:03:18 W089:34:06 ELEV: 399, 1986
*****
FIRST O. F US:MS003627    160 33:30 090:05(48-89) GREENWOOD FAA AP          42.8
ACTIVE C US:MS004776    460 33:04 089:36(48-89) KOSCIUSKO                2.0
REGULAR1 C US:MS001489   370 32:43 089:33(55-89) CARTHAGE                23.4
REGULAR2 C US:MS006926   220 32:53 089:59(48-89) PICKENS                26.8
REGULAR3 C US:MS005062   320 33:08 090:04(48-89) LEXINGTON 2 NNW              29.4

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*****
* GPS SITE: 1/281802      N31:42:06 W089:25:24 ELEV: 264, 1982
*****
FIRST O. F US:MS004472    330 32:19 090:05(63-89) JACKSON WSFO AP    57.5
ACTIVE C US:MS001852     290 31:38 089:34(30-89) COLLINS              9.7
REGULAR1 C US:MS004939   230 31:41 089:07(48-89) LAUREL              18.1
REGULAR2 C US:MS003887   160 31:19 089:18(48-89) HATTIESBURG          27.6
REGULAR3 C US:MS002385   340 31:57 089:56(48-89) D'LO 2 SW            34.5
*****
* GPS SITE: 2/282807      N34:21:18 W089:36:24 ELEV: 295, 1982
*****
FIRST O. F US:TN005954    270 35:03 090:00(40-89) MEMPHIS FAA-AP        52.9
ACTIVE C US:MS009079     380 34:23 089:32(30-89) UNIVERSITY              4.6
REGULAR1 C US:MS009400   380 34:10 089:38(48-89) WATER VALLEY 1 NNE        13.1
REGULAR2 C US:MS000488   220 34:18 089:59(48-89) BATESVILLE 2 SW        21.8
REGULAR3 C US:MS004377   360 34:44 089:48(57-89) INDEPENDENCE 3 N    28.4
*****
* GPS SITE: 3/283018      N34:51:54 W088:10:48 ELEV: 595, 1984
*****
FIRST O. F US:AL005749    540 34:45 087:37(40-89) MUSCLE SHOALS FAA AP    33.0
ACTIVE C US:MS004455     520 34:49 088:11(59-89) IUKA                3.3
REGULAR1 C US:MS001962   390 34:55 088:31(30-89) CORINTH CITY          19.4
REGULAR2 C US:TN008108   420 35:09 088:19(27-89) SAVANNAH 6 SW          21.1
REGULAR3 C US:MS000955   490 34:40 088:34(48-89) BOONEVILLE          25.9
*****
* GPS SITE: 3/283019      N34:46:06 W088:08:00 ELEV: 531, 1984
*****
FIRST O. F US:AL005749    540 34:45 087:37(40-89) MUSCLE SHOALS FAA AP    29.4
ACTIVE C US:MS004455     520 34:49 088:11(59-89) IUKA                4.4
REGULAR1 C US:MS001962   390 34:55 088:31(30-89) CORINTH CITY          24.1
REGULAR2 C US:MS000955   490 34:40 088:34(48-89) BOONEVILLE          25.6
REGULAR3 C US:TN008108   420 35:09 088:19(27-89) SAVANNAH 6 SW          28.3
*****
* GPS SITE: 2/283081      N34:14:24 W088:26:30 ELEV: 315, 1985
*****
FIRST O. F US:AL005749    540 34:45 087:37(40-89) MUSCLE SHOALS FAA AP    58.8
ACTIVE C US:MS003208     350 34:16 088:27(48-89) FULTON 3 W              1.9
REGULAR1 C US:MS009173   330 34:12 088:43(87-89) VERONA EXP STA          16.0
REGULAR2 C US:MS009003   360 34:16 088:44(62-89) TUPELO WSO AP          16.8
REGULAR3 C US:AL003645   440 34:06 087:59(62-89) HAMILTON 3 S          28.0
*****
* GPS SITE: 2/283082      N33:30:00 W089:45:00 ELEV: 505, 1989
*****
FIRST O. F US:MS003627    160 33:30 090:05(48-89) GREENWOOD FAA AP        19.2
ACTIVE C US:MS009743     390 33:29 089:38(53-89) WINONA 5 E              6.8
REGULAR1 C US:MS003645   180 33:47 089:49(30-89) GRENADA              19.9
REGULAR2 C US:MS002896   440 33:33 089:14(48-89) EUPORA 2 E              30.0
REGULAR3 C US:MS004776   460 33:04 089:36(48-89) KOSCIUSKO              31.2
*****
* GPS SITE: 2/283083      N34:34:18 W089:34:48 ELEV: 461, 1979
*****
FIRST O. F US:TN005954    270 35:03 090:00(40-89) MEMPHIS FAA-AP        38.8
ACTIVE C US:MS004173     480 34:49 089:26(48-89) HOLLY SPRINGS 4 N          11.0
REGULAR1 C US:MS004377   360 34:44 089:48(57-89) INDEPENDENCE 3 N          17.7
REGULAR2 C US:MS004001   400 34:37 089:11(48-89) HICKORY FLAT              18.3
REGULAR3 C US:MS009079   380 34:23 089:32(30-89) UNIVERSITY              19.7
*****
* GPS SITE: 2/283085      N34:34:48 W089:31:00 ELEV: 307, 1979
*****
FIRST O. F US:TN005954    270 35:03 090:00(40-89) MEMPHIS FAA-AP        38.8
ACTIVE C US:MS004173     480 34:49 089:26(48-89) HOLLY SPRINGS 4 N          11.0
REGULAR1 C US:MS004377   360 34:44 089:48(57-89) INDEPENDENCE 3 N          17.7
REGULAR2 C US:MS004001   400 34:37 089:11(48-89) HICKORY FLAT              18.3
REGULAR3 C US:MS009079   380 34:23 089:32(30-89) UNIVERSITY              19.7
*****
* GPS SITE: 2/283087      N34:26:24 W089:30:00 ELEV: 388, 1983
*****
FIRST O. F US:TN005954    270 35:03 090:00(40-89) MEMPHIS FAA-AP        47.4
ACTIVE C US:MS009079     380 34:23 089:32(30-89) UNIVERSITY              8.3
REGULAR1 C US:MS004001   400 34:37 089:11(48-89) HICKORY FLAT              19.8
REGULAR2 C US:MS004173   480 34:49 089:26(48-89) HOLLY SPRINGS 4 N          22.2
REGULAR3 C US:MS004377   360 34:44 089:48(57-89) INDEPENDENCE 3 N          23.5

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*****
* GPS SITE: 68/283089      N34:21:06 W089:42:48 ELEV: 326, 1982
*****
FIRST O. F US:TN005954    270 35:03 090:00(40-89) MEMPHIS FAA-AP      53.4
ACTIVE C US:MS009079      380 34:23 089:32(30-89) UNIVERSITY            4.4
REGULAR1 C US:MS009400     380 34:10 089:38(48-89) WATER VALLEY 1 NNE      12.8
REGULAR2 C US:MS000488     220 34:18 089:59(48-89) BATESVILLE 2 SW          22.2
REGULAR3 C US:MS004377     360 34:44 089:48(57-89) INDEPENDENCE 3 N          28.8
*****
* GPS SITE: 68/283090      N34:26:18 W090:10:42 ELEV: 175, 1974
*****
FIRST O. F US:TN005954    270 35:03 090:00(40-89) MEMPHIS FAA-AP      38.4
ACTIVE C US:MS000488     220 34:18 089:59(48-89) BATESVILLE 2 SW          15.3
REGULAR1 C US:MS008998     190 34:41 090:23(59-89) TUNICA 2            20.5
REGULAR2 C US:MS004377     360 34:44 089:48(57-89) INDEPENDENCE 3 N          23.5
REGULAR3 C US:MS003975     360 34:50 090:00(30-89) HERNANDO            23.7
*****
* GPS SITE: 68/283091      N32:31:00 W088:31:18 ELEV: 231, 1979
*****
FIRST O. F US:MS005776    290 32:20 088:45(48-89) MERIDIAN WSO AP      18.4
ACTIVE C US:MS004702     320 32:41 088:38(48-89) KIPLING            13.2
REGULAR1 C US:MS007701     390 32:24 088:36(48-88) RUSSELL             9.3
REGULAR2 C US:AL004798     160 32:35 088:12(48-89) LIVINGSTON 2 SW        19.3
REGULAR3 C US:AL003160     130 32:50 088:08(48-89) GAINESVILLE LOCK    31.5
*****
* GPS SITE: 68/283093      N30:25:54 W088:40:18 ELEV: 24, 1981
*****
FIRST O. F US:AL005478    210 30:41 088:15(48-89) MOBILE WSO AP      27.9
ACTIVE C US:MS006718      10 30:24 088:29(48-89) PASCAGOULA 3 NE        12.9
REGULAR1 C US:MS000792     10 30:24 088:52(48-88) BILOXI CITY           13.8
REGULAR2 C US:MS007840     230 30:38 089:03(54-89) SAUCIER EXP FOREST    24.6
REGULAR3 C US:MS003671      40 30:23 089:08(48-89) GULFPORT NAVAL CENTER  29.0
*****
* GPS SITE: 68/283094      N30:26:12 W088:37:42 ELEV: 24, 1981
*****
FIRST O. F US:AL005478    210 30:41 088:15(48-89) MOBILE WSO AP      27.9
ACTIVE C US:MS006718      10 30:24 088:29(48-89) PASCAGOULA 3 NE        12.9
REGULAR1 C US:MS000792     10 30:24 088:52(48-88) BILOXI CITY           13.8
REGULAR2 C US:MS007840     230 30:38 089:03(54-89) SAUCIER EXP FOREST    24.6
REGULAR3 C US:MS003671      40 30:23 089:08(48-89) GULFPORT NAVAL CENTER  29.0
*****
* GPS SITE: 7A/283097      N34:55:42 W089:59:36 ELEV: 332, 1962
*****
FIRST O. F US:TN005954    270 35:03 090:00(40-89) MEMPHIS FAA-AP      6.9
ACTIVE C US:MS003975     360 34:50 090:00(30-89) HERNANDO             8.1
REGULAR1 C US:AR007712     220 35:07 090:11(62-89) WEST MEMPHIS         15.5
REGULAR2 C US:MS004377     360 34:44 089:48(57-89) INDEPENDENCE 3 N      18.8
REGULAR3 C US:MS008998     190 34:41 090:23(59-89) TUNICA 2            28.5
*****
* GPS SITE: 7B/283099      N32:19:30 W089:24:24 ELEV: 468, 1970
*****
FIRST O. F US:MS004472    330 32:19 090:05(63-89) JACKSON WSFO AP      39.0
ACTIVE C US:MS003107     480 32:19 089:29(30-89) FOREST 3 S           4.1
REGULAR1 C US:MS006308     350 32:20 089:05(48-89) NEWTON EXP STATION    19.5
REGULAR2 C US:MS006811     360 32:19 089:48(48-87) PELAHATCHIE          22.4
REGULAR3 C US:MS000523     500 32:00 089:18(39-85) BAY SPRINGS 2 NNW     24.0
*****
* GPS SITE: 4/284024      N33:21:24 W091:02:30 ELEV: 125, 1973
*****
FIRST O. F US:MS003627    160 33:30 090:05(48-89) GREENWOOD FAA AP      56.2
ACTIVE C US:MS003605     130 33:23 091:01(20-89) GREENVILLE           2.3
REGULAR1 C US:MS008445     130 33:26 090:55(20-89) STONEVILLE EXP STN    9.0
REGULAR2 C US:AR002355     140 33:07 091:16(62-89) EUDORA              21.1
REGULAR3 C US:AR001962     140 33:33 091:23(63-89) DERMOTT 3 NE         23.8
*****
* GPS SITE: 5/285006      N34:19:30 W088:48:48 ELEV: 329, 1979
*****
FIRST O. F US:AL005749    540 34:45 087:37(40-89) MUSCLE SHOALS FAA AP   74.2
ACTIVE C US:MS009003     360 34:16 088:44(62-89) TUPELO WSO AP         6.1
REGULAR1 C US:MS007111     410 34:09 089:00(53-89) PONTOTOC EXP STN     16.1
REGULAR2 C US:MS003208     350 34:16 088:27(48-89) FULTON 3 W          21.1
REGULAR3 C US:MS000955     490 34:40 088:34(48-89) BOONEVILLE         27.5

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*****
* GPS SITE: 5/285025      N31:32:42 W090:26:36 ELEV: 420, 1977
*****
FIRST O. F US:MS004472    330 32:19 090:05(63-89) JACKSON WSFO AP      57.3
ACTIVE C US:MS001094      430 31:33 090:27(30-89) BROOKHAVEN CITY      0.5
REGULAR1 C US:MS003920    600 31:49 090:27(75-89) HAZLEHURST 4 SW      18.8
REGULAR2 C US:MS005987    220 31:33 090:06(48-89) MONTICELLO      20.2
REGULAR3 C US:MS005614    410 31:14 090:28(48-89) MC COMB FAA AIRPORT      21.6
*****
* GPS SITE: 5/285803      N34:44:12 W089:26:18 ELEV: 530, 1979
*****
FIRST O. F US:TN005954    270 35:03 090:00(40-89) MEMPHIS FAA-AP      38.5
ACTIVE C US:MS004173      480 34:49 089:26(48-89) HOLLY SPRINGS 4 N      5.5
REGULAR1 C US:MS004001    400 34:37 089:11(48-89) HICKORY FLAT      16.7
REGULAR2 C US:MS004377    360 34:44 089:48(57-89) INDEPENDENCE 3 N      20.6
REGULAR3 C US:TN006274    340 35:04 089:24(48-89) MOSCOW      22.9
*****
* GPS SITE: 5/285805      N30:26:18 W089:03:54 ELEV: 30, 1975
*****
FIRST O. F US:AL005478    210 30:41 088:15(48-89) MOBILE WSO AP      51.4
ACTIVE C US:MS003671      40 30:23 089:08(48-89) GULFPORT NAVAL CENTER      5.6
REGULAR1 C US:MS000792    10 30:24 088:52(48-88) BILOXI CITY      12.1
REGULAR2 C US:MS007840    230 30:38 089:03(54-89) SAUCIER EXP FOREST      13.5
REGULAR3 C US:MS009639    250 30:52 089:09(48-87) WIGGINS      30.0
*****
* GPS SITE: 7A/287012     N32:21:48 W090:41:54 ELEV: 156, 1959
*****
FIRST O. F US:MS004472    330 32:19 090:05(63-89) JACKSON WSFO AP      36.1
ACTIVE C US:MS009216      260 32:21 090:51(67-89) VICKSBURG MILITARY PK      8.9
REGULAR1 C US:MS006476    210 32:12 090:31(48-89) OAKLEY EXP STATION      15.5
REGULAR2 C US:MS006562    120 32:43 090:56(54-89) ONWARD      28.0
REGULAR3 C US:LA008923     90 32:24 091:13(48-89) TALLULAH      30.4
*****
* GPS SITE: 9/289030      N32:21:12 W090:45:48 ELEV: 265, 1964
*****
FIRST O. F US:MS004472    330 32:19 090:05(63-89) JACKSON WSFO AP      39.8
ACTIVE C US:MS009216      260 32:21 090:51(67-89) VICKSBURG MILITARY PK      5.1
REGULAR1 C US:MS006476    210 32:12 090:31(48-89) OAKLEY EXP STATION      17.9
REGULAR2 C US:LA008923     90 32:24 091:13(48-89) TALLULAH      26.7
REGULAR3 C US:MS006562    120 32:43 090:56(54-89) ONWARD      27.0
*****
* GPS SITE: 1/291002      N38:31:20 W092:21:30 ELEV: 785, 1986
*****
FIRST O. F US:MO007976    1270 37:14 093:23(48-89) SPRINGFIELD WSO AP      105.1
ACTIVE C US:MO004271      670 38:35 092:09(18-89) JEFFERSON CITY WTR PL      12.0
REGULAR1 C US:MO001189    870 38:38 092:34(54-89) CALIFORNIA      13.6
REGULAR2 C US:MO002503    930 38:21 092:35(48-89) ELDON      17.0
REGULAR3 C US:MO001791    890 38:49 092:13(69-89) COLUMBIA WSO AP      21.7
*****
* GPS SITE: 1/291005      N38:14:00 W092:28:00 ELEV: 605, 1974
*****
FIRST O. F US:MO007976    1270 37:14 093:23(48-89) SPRINGFIELD WSO AP      85.3
ACTIVE C US:MO004694      590 38:12 092:37(48-89) LAKESIDE      8.5
REGULAR1 C US:MO002503    930 38:21 092:35(48-89) ELDON      10.2
REGULAR2 C US:MO001212    1040 38:00 092:45(48-89) CAMDENTON      22.3
REGULAR3 C US:MO008603    1030 38:26 092:51(50-89) VERSAILLES      25.0
*****
* GPS SITE: 1/291008      N34:14:10 W094:34:30 ELEV: 860, 1986
*****
FIRST O. F US:AR002574    450 35:20 094:22( 1-89) FORT SMITH WSO AP      76.7
ACTIVE C US:OK001168      440 34:08 094:42(64-89) BROKEN BOW DAM      10.1
REGULAR1 C US:OK008285    840 34:28 094:40(48-89) SMITHVILLE 1 W      16.8
REGULAR2 C US:AR001948    420 34:02 094:20(48-89) DE QUEEN      19.7
REGULAR3 C US:OK000584    800 34:08 094:57(48-89) BEAR MOUNTAIN TOWER      22.6
*****
* GPS SITE: 1/291010      N37:48:10 W092:13:40 ELEV: 942, 1980
*****
FIRST O. F US:MO007976    1270 37:14 093:23(48-89) SPRINGFIELD WSO AP      74.6
ACTIVE C US:MO008777      890 37:49 092:14(49-89) WAYNESVILLE 2 W      1.0
REGULAR1 C US:MO004825    1280 37:40 092:39(18-89) LEBANON 2 W      24.9
REGULAR2 C US:MO004919    1180 37:33 091:54(48-89) LICKING 4 N      25.0
REGULAR3 C US:MO007263    1180 37:57 091:46(18-89) ROLLA UNIV OF MO      27.2

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*****
* GPS SITE: 4/294031      N37:18:20 W094:18:00 ELEV: 987, 1983
*****
FIRST O. F US:MO004315    980 37:10 094:30(48-89) JOPLIN FAA AP      14.6
ACTIVE C US:MO001356     990 37:11 094:19(48-89) CARTHAGE          8.5
REGULAR1 C US:MO004705    980 37:30 094:16(48-89) LAMAR             13.6
REGULAR2 C US:MO005027   1080 37:23 093:57(18-89) LOCKWOOD            20.0
REGULAR3 C US:MO005862   1190 37:04 093:53(61-89) MT VERNON M U SW CTR  28.3
*****
* GPS SITE: 4/294036      N39:17:25 W094:30:40 ELEV: 983, 1983
*****
FIRST O. F US:MO004358    970 39:19 094:43(72-89) KANSAS CITY WSO AP   11.2
ACTIVE C US:MO007862     890 39:23 094:33(81-89) SMITHVILLE LAKE        6.8
REGULAR1 F US:MO004359    740 39:07 094:35(48-89) KANSAS CITY FSS     12.6
REGULAR2 C US:MO002474    840 39:30 094:37(48-89) EDGERTON             15.5
REGULAR3 C US:MO004158   1010 39:04 094:23(73-89) INDEPENDENCE 2      16.9
*****
* GPS SITE: 4/294069      N39:05:30 W094:38:30 ELEV: 658, 1974
*****
FIRST O. F US:MO004359    740 39:07 094:35(48-89) KANSAS CITY FSS     3.6
ACTIVE C US:MO004158   1010 39:04 094:23(73-89) INDEPENDENCE 2     14.0
REGULAR1 C US:KS005972   1060 38:53 094:46(39-89) OLATHE 3 E          15.9
REGULAR2 F US:MO004358    970 39:19 094:43(72-89) KANSAS CITY WSO AP   16.0
REGULAR3 C US:KS004588    860 39:16 094:53(48-89) LEAVENWORTH 4 SSE       17.7
*****
* GPS SITE: 4/295000      N39:57:40 W094:06:10 ELEV: 1006, 1977
*****
FIRST O. F US:MO004358    970 39:19 094:43(72-89) KANSAS CITY WSO AP   55.2
ACTIVE C US:MO003568     900 39:45 094:02(54-89) HAMILTON 2 W          15.0
REGULAR1 C US:MO000143   1060 39:53 094:28(48-89) AMITY             20.0
REGULAR2 C US:MO000608    950 40:15 094:03(18-89) BETHANY            20.1
REGULAR3 C US:MO008444    840 40:05 093:38(18-87) TRENTON             26.3
*****
* GPS SITE: 5/295047      N38:40:00 W090:35:20 ELEV: 461, 1971
*****
FIRST O. F US:MO007455    540 38:45 090:22(41-89) SAINT LOUIS WSCMO AP   13.3
ACTIVE C US:MO007398     450 38:41 090:31(75-89) ST CHARLES 7 SSW          4.1
REGULAR1 C US:MO000805    610 38:42 090:44(57-89) WELDON SPRING WDLF A      8.1
REGULAR2 C US:MO007475    550 38:48 090:34(80-89) SAINT LOUIS WSFO          9.3
REGULAR3 C US:MO007397    470 38:47 090:30(18-89) SAINT CHARLES          9.4
*****
* GPS SITE: 4/295058      N39:57:50 W094:06:00 ELEV: 1002, 1977
*****
FIRST O. F US:MO004358    970 39:19 094:43(72-89) KANSAS CITY WSO AP   55.5
ACTIVE C US:MO003568     900 39:45 094:02(54-89) HAMILTON 2 W          15.2
REGULAR1 C US:MO000608    950 40:15 094:03(18-89) BETHANY            19.9
REGULAR2 C US:MO000143   1060 39:53 094:28(48-89) AMITY             20.2
REGULAR3 C US:MO008444    840 40:05 093:38(18-87) TRENTON             26.1
*****
* GPS SITE: 4/295081      N39:58:00 W094:06:00 ELEV: 997, 1977
*****
FIRST O. F US:MO004358    970 39:19 094:43(72-89) KANSAS CITY WSO AP   55.6
ACTIVE C US:MO003568     900 39:45 094:02(54-89) HAMILTON 2 W          15.4
REGULAR1 C US:MO000608    950 40:15 094:03(18-89) BETHANY            19.7
REGULAR2 C US:MO000143   1060 39:53 094:28(48-89) AMITY             20.3
REGULAR3 C US:MO008444    840 40:05 093:38(18-87) TRENTON             26.0
*****
* GPS SITE: 4/295091      N39:58:10 W094:06:00 ELEV: 993, 1977
*****
FIRST O. F US:MO004358    970 39:19 094:43(72-89) KANSAS CITY WSO AP   55.8
ACTIVE C US:MO003568     900 39:45 094:02(54-89) HAMILTON 2 W          15.6
REGULAR1 C US:MO000608    950 40:15 094:03(18-89) BETHANY            19.6
REGULAR2 C US:MO000143   1060 39:53 094:28(48-89) AMITY             20.3
REGULAR3 C US:MO008444    840 40:05 093:38(18-87) TRENTON             25.9
*****
* GPS SITE: 7B/295393     N38:52:20 W090:41:44 ELEV: 446, 1957
*****
FIRST O. F US:MO007455    540 38:45 090:22(41-89) SAINT LOUIS WSCMO AP   19.6
ACTIVE C US:MO008805     610 38:42 090:44(57-89) WELDON SPRING WDLF A      12.1
REGULAR1 C US:MO007397    470 38:47 090:30(18-89) SAINT CHARLES          12.2
REGULAR2 C US:MO002591    450 39:09 090:47(31-89) ELSBERRY 1 S          19.8
REGULAR3 C US:MO008725    850 38:49 091:08(18-89) WARRENTON 1 N          23.9

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*****
* GPS SITE: 68/295403      N36:07:12 W090:10:18 ELEV: 255, 1965
*****
FIRST O. F US:TN005954      270 35:03 090:00(40-89) MEMPHIS FAA-AP      74.5
ACTIVE C US:MO004417      270 36:13 090:04(53-89) KENNETT RADIO KBOA      8.9
REGULAR1 C US:AR005562      260 36:02 090:28(48-79) PARAGOULD      17.5
REGULAR2 C US:AR000806      250 35:55 089:54(30-89) BLYTHEVILLE      20.7
REGULAR3 C US:MO001364      280 36:12 089:40(18-89) CARUTHERSVILLE      28.7
*****
* GPS SITE: 68/295413      N36:11:49 W090:54:00 ELEV: 263, 1965
*****
FIRST O. F US:TN005954      270 35:03 090:00(40-89) MEMPHIS FAA-AP      94.0
ACTIVE C US:AR005820      330 36:16 090:59(48-89) POCAHONTAS 1      6.7
REGULAR1 C US:AR001632      290 36:24 090:35(30-89) CORNING      22.5
REGULAR2 C US:AR000064      260 35:54 091:05(48-89) ALICIA      22.9
REGULAR3 C US:AR003734      390 35:53 090:42( 1-89) JONESBORO 4 N      24.4
*****
* GPS SITE: 7B/295473      N38:57:00 W093:27:00 ELEV: 663, 1960
*****
FIRST O. F US:MO004359      740 39:07 094:35(48-89) KANSAS CITY FSS      62.0
ACTIVE C US:MO008223      680 38:58 093:25(48-89) SWEET SPRINGS      2.1
REGULAR1 C US:MO005298      790 39:07 093:11(48-89) MARSHALL      18.4
REGULAR2 C US:MO008712      870 38:45 093:44(18-88) WARRENSBURG      20.6
REGULAR3 C US:MO007632      780 38:40 093:13(37-89) SEDALIA WATER PLANT      23.3
*****
* GPS SITE: 7B/295483      N39:11:00 W094:30:00 ELEV: 746, 1972
*****
FIRST O. F US:MO004359      740 39:07 094:35(48-89) KANSAS CITY FSS      6.4
ACTIVE C US:MO004158      1010 39:04 094:23(73-89) INDEPENDENCE 2      10.2
REGULAR1 F US:MO004358      970 39:19 094:43(72-89) KANSAS CITY WSO AP      14.8
REGULAR2 C US:KS004588      860 39:16 094:53(48-89) LEAVENWORTH 4 SSE      21.3
REGULAR3 C US:MO004850      1000 38:53 094:20(62-89) LEES SUMMIT REED WLR      22.6
*****
* GPS SITE: 6A/296067      N36:54:20 W090:43:00 ELEV: 701, 1965
*****
FIRST O. F US:KY006110      410 37:04 088:46(49-89) PADUCAH WSO      108.3
ACTIVE C US:MO001674      660 37:07 090:47(48-89) CLEARWATER DAM      15.0
REGULAR1 C US:MO008571      520 36:58 090:59(63-89) VAN BUREN RANGER STN      15.3
REGULAR2 C US:MO006791      370 36:46 090:24(18-89) POPLAR BLUFF R S      20.0
REGULAR3 C US:MO002289      330 36:35 090:49(48-89) DONIPHAN      22.9
*****
* GPS SITE: 7A/297054      N37:00:40 W094:34:00 ELEV: 1089, 1957
*****
FIRST O. F US:MO004315      980 37:10 094:30(48-89) JOPLIN FAA AP      11.4
ACTIVE C US:MO005976      1010 36:52 094:22(18-89) NEOSHO      14.9
REGULAR1 C US:MO001356      990 37:11 094:19(48-89) CARTHAGE      18.2
REGULAR2 C US:KS001740      900 37:10 094:51( 1-89) COLUMBUS 1 SW      19.0
REGULAR3 C US:OK005855      810 36:53 094:53(48-89) MIAMI      19.6
*****
* GPS SITE: 7A/297073      N39:46:00 W093:33:00 ELEV: 699, 1964
*****
FIRST O. F US:MO004358      970 39:19 094:43(72-89) KANSAS CITY WSO AP      69.6
ACTIVE C US:MO000980      790 39:48 093:05(48-89) BROOKFIELD      24.9
REGULAR1 F US:MO001585      790 39:48 093:33(18-80) CHILLICOTHE RADIO KCH      2.3
REGULAR2 C US:MO002995      670 39:42 093:18(50-83) FOUNTAIN GROVE WILDLI      14.1
REGULAR3 C US:MO008444      840 40:05 093:38(18-87) TRENTON      22.3
*****
* GPS SITE: 1/301001      N47:14:42 W110:31:19 ELEV: 4196, 1981
*****
FIRST O. F US:MT003751      3660 47:29 111:22(48-89) GREAT FALLS WSCMO AP      42.9 REJECTED
ACTIVE C US:MT006902      4220 47:18 110:45(70-89) RAYNESFORD 2 NNW      11.4
REGULAR1 C US:MT007864      4860 47:09 110:13(65-89) STANFORD      15.8
REGULAR2 C US:MT006008      5230 47:03 110:47(67-89) NEIHART 8 NNW      18.2 REJECTED
REGULAR3 C US:MT007540      4300 47:32 110:35(53-89) SHONKIN 7 S      20.1 REJECTED
*****
* GPS SITE: 6A/306004      N46:25:23 W105:08:19 ELEV: 2766, 1965
*****
FIRST O. F US:ND002183      2580 46:47 102:48(38-89) DICKINSON FAA AP      113.9
ACTIVE C US:MT005754      2480 46:18 105:17(49-89) MIZPAH 4 NNW      11.0
REGULAR1 C US:MT008165      2250 46:48 105:18(49-89) TERRY      27.1
REGULAR2 C US:MT006601      2770 46:25 104:30(10-89) PLEVNA      30.5 REJECTED
REGULAR3 C US:MT005690      2630 46:26 105:52(37-89) MILES CITY FAA AP      34.7

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*****
* GPS SITE: 6B/307066      N45:48:50 W110:00:00 ELEV: 4072, 1981
*****
FIRST O. F US:MT000622  4450 45:47 111:09(41-89) BELGRADE AP           55.5
ACTIVE C US:MT000780    4100 45:50 109:57( 1-89) BIG TIMBER           2.8
REGULAR1 C US:MT005603  5370 46:06 110:03(60-89) MELVILLE 4 W       19.9
REGULAR2 C US:MT005086  4650 45:42 110:27(48-89) LIVINGSTON FAA AP    23.1
REGULAR3 C US:MT006190  4810 45:26 109:48(50-89) NYE 2                28.0
*****
* GPS SITE: 6A/307075      N45:43:44 W108:36:14 ELEV: 3177, 1964
*****
FIRST O. F US:MT000807  3570 45:48 108:32(48-89) BILLINGS WSO AP      6.0
ACTIVE C US:MT004345    2990 45:55 108:15(11-89) HUNTLEY EXP STN      21.4
REGULAR1 C US:MT004506  3700 45:29 108:58(51-89) JOLIET              24.4
REGULAR2 C US:MT001149  3880 46:06 108:53(51-89) BROADVIEW           28.9
REGULAR3 C US:MT001938  3590 45:38 109:14(48-89) COLUMBUS            31.1
*****
* GPS SITE: 2/307076      N45:07:18 W107:21:09 ELEV: 3750, 1985
*****
FIRST O. F US:WY008155  3940 44:46 106:58(48-89) SHERIDAN WSO AP      30.9
ACTIVE C US:MT009175    3770 45:06 107:26(48-89) WYOLA                4.2
REGULAR1 C US:WY001220  8040 44:46 107:32(60-89) BURGESS JUNCTION     26.1
REGULAR2 C US:MT009240  3310 45:19 107:56(48-89) YELLOWTAIL DAM      31.3
REGULAR3 C US:WY008160  3750 44:50 106:50(20-89) SHERIDAN FIELD STN   32.3
*****
* GPS SITE: 6B/307088      N45:48:46 W110:00:00 ELEV: 4072, 1981
*****
FIRST O. F US:MT000622  4450 45:47 111:09(41-89) BELGRADE AP           55.5
ACTIVE C US:MT000780    4100 45:50 109:57( 1-89) BIG TIMBER           2.8
REGULAR1 C US:MT005603  5370 46:06 110:03(60-89) MELVILLE 4 W       20.0
REGULAR2 C US:MT005086  4650 45:42 110:27(48-89) LIVINGSTON FAA AP    23.1
REGULAR3 C US:MT006190  4810 45:26 109:48(50-89) NYE 2                27.9 REJECTED
*****
* GPS SITE: 1/308129      N46:18:33 W109:07:33 ELEV: 4440, 1988
*****
FIRST O. F US:MT000807  3570 45:48 108:32(48-89) BILLINGS WSO AP      45.2
ACTIVE C US:MT000466    3730 46:19 109:22(48-89) BARBER              11.5
REGULAR1 C US:MT001149  3880 46:06 108:53(51-89) BROADVIEW           18.5
REGULAR2 C US:MT007263  4480 46:32 109:23(62-89) RYEGATE 18 NNW      19.8
REGULAR3 C US:MT006862  4130 45:55 109:15( 8-89) RAPELJE 4 S         27.8
*****
* GPS SITE: 1/311030      N40:19:20 W099:50:02 ELEV: 2300, 1982
*****
FIRST O. F US:NE006065  2780 41:08 100:41(48-89) NORTH PLATTE WSO AP   71.6
ACTIVE C US:NE000640    2160 40:08 099:50(48-89) BEAVER CITY           13.0
REGULAR1 C US:NE001415  2260 40:16 100:10(48-89) CAMBRIDGE            18.0
REGULAR2 C US:NE005388  2390 40:23 100:13(51-89) MEDICINE CREEK DAM    20.6
REGULAR3 C US:NE003910  2320 40:26 099:22(48-89) HOLDREGE            25.8
*****
* GPS SITE: 3/313018      N40:40:13 W099:03:05 ELEV: 2134, 1985
*****
FIRST O. F US:NE003395  1840 40:58 098:19( 1-89) GRAND ISLAND WSO AP   43.6
ACTIVE C US:NE004335    2170 40:42 099:06(31-89) KEARNEY              3.3
REGULAR1 C US:NE005565  2170 40:30 098:57(48-89) MINDEN              12.9
REGULAR2 C US:NE003910  2320 40:26 099:22(48-89) HOLDREGE            23.3
REGULAR3 C US:NE007040  2030 41:02 098:55(48-89) RAVENNA              26.0
*****
* GPS SITE: 3/313023      N40:49:46 W098:21:21 ELEV: 1878, 1984
*****
FIRST O. F US:NE003395  1840 40:58 098:19( 1-89) GRAND ISLAND WSO AP   9.7
ACTIVE C US:NE003660    1930 40:35 098:21(48-89) HASTINGS             17.0
REGULAR1 C US:NE000445  1790 40:52 098:00(48-89) AURORA              18.8
REGULAR2 C US:NE007515  1800 41:12 098:27(48-89) SAINT PAUL          26.1
REGULAR3 C US:NE001684  1780 40:31 098:03(71-89) CLAY CENTER          26.9
*****
* GPS SITE: 3/313024      N40:49:21 W098:05:53 ELEV: 1807, 1984
*****
FIRST O. F US:NE003395  1840 40:58 098:19( 1-89) GRAND ISLAND WSO AP   15.2
ACTIVE C US:NE000445    1790 40:52 098:00(48-89) AURORA              6.0
REGULAR1 C US:NE001560  1700 41:07 098:00(31-89) CENTRAL CITY         20.9
REGULAR2 C US:NE003660  1930 40:35 098:21(48-89) HASTINGS            21.1
REGULAR3 C US:NE001684  1780 40:31 098:03(71-89) CLAY CENTER          21.3

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*****
* GPS SITE: 3/313028      N40:43:20 W096:42:32 ELEV: 1186, 1981
*****
FIRST O. F US:NE004795    1190 40:51 096:45(48-89) LINCOLN WSO AP      9.1
ACTIVE C US:NE004815     1150 40:49 096:42(55-89) LINCOLN UNIV OF NE    6.5
REGULAR1 C US:NE002020   1440 40:37 096:57(48-89) CRETE                 14.6
REGULAR2 C US:NE007715   1480 40:54 097:05(48-89) SEWARD                23.1
REGULAR3 C US:NE008395   1100 40:40 096:11(48-89) SYRACUSE              27.8
*****
* GPS SITE: 3/313033      N42:10:42 W097:25:43 ELEV: 1622, 1986
*****
FIRST O. F US:NE005995    1550 41:59 097:26(48-89) NORFOLK WSO AP      13.5
ACTIVE C US:NE006395     1650 42:21 097:36(48-89) OSMOND                14.7
REGULAR1 C US:NE008110   1490 41:57 097:14(48-89) STANTON                18.7
REGULAR2 C US:NE005080   1580 41:50 097:27(48-89) MADISON                23.8
REGULAR3 C US:NE006135   1720 42:04 097:57(48-89) OAKDALE              27.8
*****
* GPS SITE: 4/314019      N42:26:47 W096:25:12 ELEV: 1100, 1976
*****
FIRST O. F US:IA007708    1100 42:24 096:23(48-89) SIOUX CITY WSO AP      3.7
ACTIVE C US:NE008935     1220 42:09 096:30(48-89) WALTHILL              20.9
REGULAR1 C US:NE008915   1410 42:16 096:52(48-89) WAKEFIELD              26.0
REGULAR2 C US:NE006018   1460 42:23 096:57(64-89) NE NEBR EXP STN        27.4
REGULAR3 C US:IA004735   1200 42:48 096:10( 1-89) LE MARS                27.6
*****
* GPS SITE: 5/315052      N41:17:59 W096:04:10 ELEV: 1188, 1969
*****
FIRST O. F US:NE006255     980 41:18 095:54(48-89) OMAHA (EPPLEY FIELD)    8.8
ACTIVE C US:NE006260     1310 41:22 096:01(54-89) OMAHA (NORTH) WSFO        5.4
REGULAR1 C US:NE000930   1120 41:33 096:08(48-89) BLAIR                 17.6
REGULAR2 C US:NE005362   1180 41:10 096:25(68-89) MEAD AGRONOMY LAB          20.3
REGULAR3 C US:NE000375   1070 41:04 096:20(48-89) ASHLAND 3 NE            21.2
*****
* GPS SITE: 68/316700     N39:45:00 W099:22:00 ELEV: 2363, 1976
*****
FIRST O. F US:KS001767    1470 39:33 097:39(62-89) CONCORDIA WSO AP      92.5
ACTIVE C US:KS006374     1910 39:44 099:19( 1-89) PHILLIPSBURG 1 SSE         2.9
REGULAR1 C US:KS004357   1700 39:40 099:07(52-89) KIRWIN DAM                14.5
REGULAR2 C US:KS008648   1860 39:25 099:25(53-89) WEBSTER DAM                23.2
REGULAR3 C US:NE003595   2000 40:05 099:12(48-89) HARLAN COUNTY LAKE          24.7
*****
* GPS SITE: 9/316701      N40:55:49 W098:22:57 ELEV: 1871, 1964
*****
FIRST O. F US:NE003395    1840 40:58 098:19( 1-89) GRAND ISLAND WSO AP      4.3
ACTIVE C US:NE007515     1800 41:12 098:27(48-89) SAINT PAUL                19.0
REGULAR1 C US:NE000445   1790 40:52 098:00(48-89) AURORA                 20.5
REGULAR2 C US:NE001560   1700 41:07 098:00(31-89) CENTRAL CITY                23.8
REGULAR3 C US:NE003660   1930 40:35 098:21(48-89) HASTINGS                24.0
*****
* GPS SITE: 78/316702     N41:06:43 W102:11:00 ELEV: 4244, 1973
*****
FIRST O. F US:NE006065    2780 41:08 100:41(48-89) NORTH PLATTE WSO AP      78.2
ACTIVE C US:NE000865     3370 41:04 102:05(48-89) BIG SPRINGS                 6.1
REGULAR1 C US:CO004413   3470 41:00 102:15(18-89) JULESBURG                 8.5
REGULAR2 C US:NE006385   3380 41:24 102:21(13-89) OSHKOSH                 21.7
REGULAR3 C US:NE004900   3830 41:09 102:38(48-89) LODGEPOLE                23.6
*****
* GPS SITE: 7A/317005     N41:02:38 W096:02:42 ELEV: 1061, 1961
*****
FIRST O. F US:NE006255     980 41:18 095:54(48-89) OMAHA (EPPLEY FIELD)    19.2
ACTIVE C US:NE009090     1100 40:52 096:09(48-89) WEEPING WATER                13.4
REGULAR1 C US:IA003290    990 41:00 095:46( 1-89) GLENWOOD 3 SW                 14.8
REGULAR2 C US:NE000375   1070 41:04 096:20(48-89) ASHLAND 3 NE            15.1
REGULAR3 C US:NE005362   1180 41:10 096:25(68-89) MEAD AGRONOMY LAB          21.1
*****
* GPS SITE: 7A/317017     N42:26:34 W097:09:00 ELEV: 1117, 1952
*****
FIRST O. F US:NE005995    1550 41:59 097:26(48-89) NORFOLK WSO AP      34.9
ACTIVE C US:NE006018     1460 42:23 096:57(64-89) NE NEBR EXP STN          11.0
REGULAR1 C US:NE003630   1370 42:36 097:16( 1-89) HARTINGTON                 12.4
REGULAR2 C US:NE008915   1410 42:16 096:52(48-89) WAKEFIELD                18.9
REGULAR3 C US:NE006395   1650 42:21 097:36(48-89) OSMOND                23.9

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*****
* GPS SITE: 7A/317040      N41:27:39 W096:25:52 ELEV: 1172, 1950
*****
FIRST O. F US:NE006255    980 41:18 095:54(48-89) OMAHA (EPPELY FIELD)    29.7
ACTIVE   C US:NE003050    1180 41:26 096:29(48-89) FREMONT                3.3
REGULAR1 C US:NE000930    1120 41:33 096:08(48-89) BLAIR                 16.6
REGULAR2 C US:NE005362    1180 41:10 096:25(68-89) MEAD AGRONOMY LAB      20.3
REGULAR3 C US:NE008905    1210 41:12 096:38(48-89) WAHOO                   20.9
*****
* GPS SITE: 7A/317050      N40:49:18 W096:59:55 ELEV: 1483, 1962
*****
FIRST O. F US:NE004795    1190 40:51 096:45(48-89) LINCOLN WSO AP        13.2
ACTIVE   C US:NE007715    1480 40:54 097:05(48-89) SEWARD                 7.0
REGULAR1 C US:NE002020    1440 40:37 096:57(48-89) CRETE                 14.4
REGULAR2 F US:NE004815    1150 40:49 096:42(55-89) LINCOLN UNIV OF NEB    15.6
REGULAR3 C US:NE002205    1620 41:15 097:08( 1-89) DAVID CITY             30.4
*****
* GPS SITE: 1/321020      N38:32:01 W118:37:06 ELEV: 4272, 1984
*****
FIRST O. F US:NV008170    5430 38:04 117:05(54-89) TONOPAH AIRPORT          89.3
ACTIVE   C US:NV003515    4220 38:33 118:40(48-89) HAWTHORNE AP           2.8
REGULAR1 C US:NV005168    4550 38:23 118:06(28-89) MINA                   29.9
REGULAR2 C US:CA000943    8370 38:13 119:01(64-89) BODIE                 30.8 REJECTED
REGULAR3 C US:CA001072    6470 38:15 119:14(48-89) BRIDGEPORT            38.7 REJECTED
*****
* GPS SITE: 1/321021      N39:33:23 W119:45:21 ELEV: 4458, 1982
*****
FIRST O. F US:NV006779    4400 39:30 119:47(37-89) RENO WSFO AP             4.2
ACTIVE   C US:NV007820    5120 39:37 119:53(85-89) STEAD                 8.0
REGULAR1 C US:NV007953    3980 39:37 119:37(67-89) SUTCLIFFE                8.5
REGULAR2 C US:NV008761    6340 39:18 119:38(51-89) VIRGINIA CITY            18.9
REGULAR3 C US:CA000931    5580 39:23 120:06(48-89) BOCA                   21.9 REJECTED
*****
* GPS SITE: 2/321030      N36:10:25 W115:12:40 ELEV: 2233, 1975
*****
FIRST O. F US:NV004436    2160 36:05 115:10(49-89) LAS VEGAS WSO AP          6.7
ACTIVE   C US:NV007925    1820 36:12 115:05(61-89) SUNRISE MANOR LAS VEG        7.4
REGULAR1 C US:NV006691    3780 36:05 115:27(77-89) RED ROCK CANYON ST PK          14.7
REGULAR2 C US:NV002243    2920 36:26 115:22(48-89) DESERT NWR-CORN CREEK        19.9
REGULAR3 C US:NV001071    2530 35:59 114:51(31-89) BOULDER CITY                24.1 REJECTED
*****
* GPS SITE: 2/322027      N40:59:26 W114:25:56 ELEV: 5717, 1976
*****
FIRST O. F US:NV002573    5080 40:50 115:47(28-89) ELKO FAA AP              71.5
ACTIVE   C US:NV005352    4900 41:15 114:12(48-89) MONTELLLO 1 SE          21.6
REGULAR1 C US:NV006148    6300 41:04 114:32(48-85) PEQUOP                7.4 REJECTED
REGULAR2 C US:UT009382    4240 40:44 114:02(24-89) WENDOVER AUTOB          27.4 REJECTED
REGULAR3 C US:NV008988    5650 41:07 114:58(48-89) WELLS                 29.2 REJECTED
*****
* GPS SITE: 3/323010      N41:06:32 W115:01:11 ELEV: 5813, 1982
*****
FIRST O. F US:NV002573    5080 40:50 115:47(28-89) ELKO FAA AP              44.2
ACTIVE   C US:NV008988    5650 41:07 114:58(48-89) WELLS                 2.8
REGULAR1 C US:NV005092    5800 41:17 115:01(65-89) METROPOLIS            12.0
REGULAR2 C US:NV002189    5340 41:04 115:16(51-89) DEETH                 13.2
REGULAR3 C US:NV001740    5750 40:52 115:02(65-89) CLOVER VALLEY          16.7
*****
* GPS SITE: 3/323013      N40:49:02 W114:10:55 ELEV: 4692, 1981
*****
FIRST O. F US:NV002573    5080 40:50 115:47(28-89) ELKO FAA AP              83.8
ACTIVE   C US:UT009382    4240 40:44 114:02(24-89) WENDOVER AUTOB           9.7
REGULAR1 C US:NV005352    4900 41:15 114:12(48-89) MONTELLLO 1 SE          29.9
REGULAR2 C US:UT005239    4410 41:22 113:50(48-89) LUCIN AP                 42.1
REGULAR3 C US:NV001740    5750 40:52 115:02(65-89) CLOVER VALLEY          44.7 REJECTED
*****
* GPS SITE: 2/327000      N40:52:55 W114:14:53 ELEV: 5000, 1978
*****
FIRST O. F US:NV002573    5080 40:50 115:47(28-89) ELKO FAA AP              80.4
ACTIVE   C US:UT009382    4240 40:44 114:02(24-89) WENDOVER AUTOB          15.2
REGULAR1 C US:NV005352    4900 41:15 114:12(48-89) MONTELLLO 1 SE          25.5
REGULAR2 C US:UT005239    4410 41:22 113:50(48-89) LUCIN AP                 39.8
REGULAR3 C US:NV008988    5650 41:07 114:58(48-89) WELLS                 40.9 REJECTED

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*****
* GPS SITE: 3/273013      N45:07:00 W093:24:00 ELEV: 860, 1985
*****
FIRST O. F US:MN005435    830 44:53 093:13( 1-89) MINN-ST PAUL WSO AP      18.4
ACTIVE C US:MN001390     910 45:19 093:17(62-89) CEDAR                      14.9
REGULAR1 C US:MN007377   920 44:58 093:05(56-89) SAINT PAUL                18.6
REGULAR2 C US:MN002088   930 45:03 093:47(77-89) DELANO                     19.3
REGULAR3 C US:MN001465   720 44:48 093:35(11-89) CHASKA                   23.6
*****
* GPS SITE: 4/274033      N44:46:30 W093:14:00 ELEV: 977, 1981
*****
FIRST O. F US:MN005435    830 44:53 093:13( 1-89) MINN-ST PAUL WSO AP      7.5
ACTIVE C US:MN007107     950 44:43 093:06(50-89) ROSEMOUNT AGRI EXP ST      7.7
REGULAR1 C US:MN002737   980 44:40 093:11(48-89) FARMINGTON 3 NW           7.9
REGULAR2 C US:MN007377   920 44:58 093:05(56-89) SAINT PAUL                15.1
REGULAR3 C US:MN001465   720 44:48 093:35(11-89) CHASKA                   17.3
*****
* GPS SITE: 4/274034      N44:59:00 W093:14:00 ELEV: 845, 1973
*****
FIRST O. F US:MN005435    830 44:53 093:13( 1-89) MINN-ST PAUL WSO AP      7.0
ACTIVE C US:MN007377     920 44:58 093:05(56-89) SAINT PAUL                7.4
REGULAR1 C US:MN007107   950 44:43 093:06(50-89) ROSEMOUNT AGRI EXP ST      19.5
REGULAR2 C US:MN005136   970 45:00 093:39(48-86) MAPLE PLAIN              20.4
REGULAR3 C US:MN001465   720 44:48 093:35(11-89) CHASKA                   21.3
*****
* GPS SITE: 4/274037      N44:46:00 W093:15:00 ELEV: 990, 1981
*****
FIRST O. F US:MN005435    830 44:53 093:13( 1-89) MINN-ST PAUL WSO AP      8.2
ACTIVE C US:MN002737     980 44:40 093:11(48-89) FARMINGTON 3 NW           7.6
REGULAR1 C US:MN007107   950 44:43 093:06(50-89) ROSEMOUNT AGRI EXP ST      8.1
REGULAR2 C US:MN007377   920 44:58 093:05(56-89) SAINT PAUL                16.0
REGULAR3 C US:MN001465   720 44:48 093:35(11-89) CHASKA                   16.5
*****
* GPS SITE: 4/274040      N47:19:00 W093:43:00 ELEV: 1305, 1979
*****
FIRST O. F US:MN002248   1430 46:50 092:11(48-89) DULUTH WSO AP              79.6
ACTIVE C US:MN006612     1280 47:15 093:35(48-89) POKEGAMA DAM                      7.8
REGULAR1 C US:MN003303   1310 47:14 093:30(15-89) GRAND RAPIDS FOREST L          11.7
REGULAR2 C US:MN009059   1320 47:26 094:03(48-89) WINNIBIGOSHISH DAM              17.6
REGULAR3 C US:MN006849   1350 47:03 093:54(57-86) REMER 2                    20.3
*****
* GPS SITE: 4/274050      N47:44:00 W096:13:00 ELEV: 930, 1971
*****
FIRST O. F US:ND003616    850 47:57 097:10(48-89) GRAND FORKS FAA AP          46.6
ACTIVE C US:MN006787     1040 47:53 096:17(48-89) RED LAKE FALLS                      10.8
REGULAR1 C US:MN006148   1150 47:50 095:51(48-89) OKLEE                      18.4
REGULAR2 C US:MN001891    880 47:48 096:37( 1-89) CROOKSTON NW EXP STM          19.2
REGULAR3 C US:MN002916   1310 47:34 095:44(48-89) FOSSTON 2 E                25.3
*****
* GPS SITE: 4/274054      N43:55:00 W091:29:00 ELEV: 1300, 1972
*****
FIRST O. F US:WI004370    650 43:52 091:15(48-89) LA CROSSE FAA AP          12.1
ACTIVE C US:WI008589     660 44:00 091:26(48-89) TREMPLEAU DAM 6                          6.3
REGULAR1 C US:MN009067    650 44:03 091:38(32-89) WINONA                      11.9
REGULAR2 C US:WI002165    680 44:08 091:33(48-89) DODGE                      15.3
REGULAR3 C US:MN001198   1180 43:38 091:30(48-89) CALEDONIA                    19.6
*****
* GPS SITE: 4/274055      N45:25:00 W094:04:00 ELEV: 980, 1974
*****
FIRST O. F US:MN007294    1040 45:33 094:04(48-89) ST CLOUD WSO AP          9.2
ACTIVE C US:MN007502     1020 45:33 093:46(59-89) SANTIAGO 3 E                      17.2
REGULAR1 C US:MN001107   1000 45:11 093:53(48-89) BUFFALO                      18.4
REGULAR2 C US:MN001691   1230 45:35 094:24(41-89) COLLEGEVILLE ST JOHN          19.8
REGULAR3 C US:MN004778   1130 45:07 094:32(48-89) LITCHFIELD                    30.7
*****
* GPS SITE: 4/274082      N44:07:30 W094:26:30 ELEV: 985, 1969
*****
FIRST O. F US:MN005435    830 44:53 093:13( 1-89) MINN-ST PAUL WSO AP      80.0
ACTIVE C US:MN005887     860 44:18 094:27(48-89) NEW ULM 2 SE                      12.1
REGULAR1 C US:MN007326   1080 43:59 094:37(48-89) ST JAMES WASTE WATER          13.1
REGULAR2 C US:MN006007    790 44:10 094:02(54-84) NORTH MANKATO          20.5
REGULAR3 C US:MN007405    850 44:18 093:58(48-89) ST PETER 2 SW                26.5

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*****
* GPS SITE: 7/327084 N36:15:00 W115:02:00 ELEV: 2200, 1990
*****
FIRST O. F US:NV004436 2160 36:05 115:10(49-89) LAS VEGAS WSO AP 13.7
ACTIVE C US:NV007925 1820 36:12 115:05(61-89) SUNRISE MANOR LAS VEG 4.4
REGULAR1 C US:NV001071 2530 35:59 114:51(31-89) BOULDER CITY 21.1
REGULAR2 C US:NV002243 2920 36:26 115:22(48-89) DESERT NWR-CORN CREEK 22.5
REGULAR3 C US:NV006691 3780 36:05 115:27(77-89) RED ROCK CANYON ST PK 26.0
*****
* GPS SITE: 3/328139 N36:03:59 W115:10:46 ELEV: 2246, 1966
*****
FIRST O. F US:NV004436 2160 36:05 115:10(49-89) LAS VEGAS WSO AP 1.4
ACTIVE C US:NV007925 1820 36:12 115:05(61-89) SUNRISE MANOR LAS VEG 10.7
REGULAR1 C US:NV006691 3780 36:05 115:27(77-89) RED ROCK CANYON ST PK 15.2
REGULAR2 C US:NV001071 2530 35:59 114:51(31-89) BOULDER CITY 19.3
REGULAR3 C US:NV002243 2920 36:26 115:22(48-89) DESERT NWR-CORN CREEK 27.4
*****
* GPS SITE: 7/331001 N43:14:00 W071:28:09 ELEV: 252, 1981
*****
FIRST O. F US:NH001683 350 43:12 071:30(21-89) CONCORD WSO AP 0.9
ACTIVE C US:NH000741 600 43:19 071:43(48-89) BLACKWATER DAM 12.7
REGULAR1 C US:NH005211 250 42:59 071:24(48-89) MASSABESIC LAKE 16.6
REGULAR2 C US:NH003182 430 43:28 071:39(48-89) FRANKLIN FALLS DAM 19.1
REGULAR3 C US:NH001950 1010 43:05 071:53(76-89) DEERING 20.6
*****
* GPS SITE: 1/341003 N41:00:38 W074:37:11 ELEV: 1156, 1974
*****
FIRST O. F US:NJ006026 30 40:42 074:10(48-89) NEWARK WSO AP 32.0
ACTIVE C US:NJ006177 600 41:02 074:48(48-89) NEWTON ST PAUL'S ABBE 9.6
REGULAR1 C US:NJ001582 760 41:02 074:26(26-89) CHARLOTTEBURG RESERVO 9.8
REGULAR2 C US:NJ008644 390 41:12 074:36(48-89) SUSSEX 1 SE 13.1
REGULAR3 C US:NJ005769 400 40:50 074:30(48-89) MORRIS PLAINS 1 W 13.7
*****
* GPS SITE: 1/341011 N40:10:45 W074:33:11 ELEV: 107, 1970
*****
FIRST O. F US:NJ006026 30 40:42 074:10(48-89) NEWARK WSO AP 41.3
ACTIVE C US:NJ003951 100 40:16 074:34(31-89) HIGHTSTOWN 2 W 6.1
REGULAR1 C US:NJ008883 190 40:13 074:46(31-81) TRENTON 11.6
REGULAR2 C US:NJ003181 190 40:16 074:15(31-87) FREEHOLD 17.1
REGULAR3 C US:NJ006843 50 39:56 074:42(48-89) PEMBERTON 3 S 18.7
*****
* GPS SITE: 1/341030 N41:03:29 W074:28:28 ELEV: 899, 1971
*****
FIRST O. F US:NJ006026 30 40:42 074:10(48-89) NEWARK WSO AP 29.5
ACTIVE C US:NJ001582 760 41:02 074:26(26-89) CHARLOTTEBURG RESERVO 2.7
REGULAR1 C US:NJ000907 280 40:54 074:24(26-89) BOONTON 1 SE 11.6
REGULAR2 C US:NJ008644 390 41:12 074:36(48-89) SUSSEX 1 SE 11.8
REGULAR3 C US:NJ005769 400 40:50 074:30(48-89) MORRIS PLAINS 1 W 15.6
*****
* GPS SITE: 1/341031 N39:32:33 W075:03:44 ELEV: 85, 1973
*****
FIRST O. F US:NJ005581 70 39:22 075:04(48-89) MILLVILLE FAA AIRPORT 12.1
ACTIVE C US:NJ007936 90 39:30 075:14(49-89) SEABROOK FARMS 9.6
REGULAR1 C US:NJ003291 130 39:42 075:07(48-89) GLASSBORO 11.3
REGULAR2 C US:NJ008051 120 39:28 075:18(58-88) SHILOH 13.7
REGULAR3 C US:NJ009910 50 39:39 075:19(48-89) WOODSTOWN 15.5
*****
* GPS SITE: 2/341033 N40:24:49 W074:53:34 ELEV: 207, 1974
*****
FIRST O. F US:PA000106 390 40:39 075:26(48-89) ALLENTOWN WSO AP 32.8
ACTIVE C US:NJ004635 60 40:22 074:57(31-89) LAMBERTVILLE 4.4
REGULAR1 C US:NJ003029 180 40:30 074:52(26-89) FLEMINGTON 6.1
REGULAR2 C US:PA001080 560 40:31 075:12(78-87) BUCKSVILLE 17.7
REGULAR3 C US:PA006194 60 40:09 074:57(48-89) NESHAMINY FALLS 18.5
*****
* GPS SITE: 2/341034 N39:49:15 W075:03:44 ELEV: 54, 1985
*****
FIRST O. F US:PA006889 10 39:53 075:14(48-89) PHILADELPHIA WSCMO AP 8.0
ACTIVE C US:NJ000346 40 39:53 075:05(50-89) AUDUBON 4.5
REGULAR1 C US:NJ003291 130 39:42 075:07(48-89) GLASSBORO 8.4
REGULAR2 C US:NJ005728 50 39:58 074:58(26-89) MOORESTOWN 12.5
REGULAR3 C US:NJ009910 50 39:39 075:19(48-89) WOODSTOWN 16.3

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*****
* GPS SITE: 2/341638      N39:48:29 W075:03:44 ELEV: 54, 1985
*****
FIRST O. F US:PA006889    10 39:53 075:14(48-89) PHILADELPHIA WSCMO AP    8.5
ACTIVE C US:NJ000346      40 39:53 075:05(50-89) AUDUBON                    5.4
REGULAR1 C US:NJ003291    130 39:42 075:07(48-89) GLASSBORO                 7.5
REGULAR2 C US:NJ005728     50 39:58 074:58(26-89) MOORESTOWN                13.3
REGULAR3 C US:NJ009910     50 39:39 075:19(48-89) WOODSTOWN                 15.6
*****
* GPS SITE: 4/344042      N39:56:13 W074:56:06 ELEV: 42, 1972
*****
FIRST O. F US:PA006889    10 39:53 075:14(48-89) PHILADELPHIA WSCMO AP    16.3
ACTIVE C US:NJ005728      50 39:58 074:58(26-89) MOORESTOWN                2.7
REGULAR1 C US:NJ000346     40 39:53 075:05(50-89) AUDUBON                    8.7
REGULAR2 C US:NJ004229    100 39:48 074:47(26-89) INDIAN MILLS 2 W          12.4
REGULAR3 C US:NJ006843     50 39:56 074:42(48-89) PEMBERTON 3 S          12.5
*****
* GPS SITE: 6A/346057     N40:16:17 W074:50:06 ELEV: 222, 1961
*****
FIRST O. F US:PA006889    10 39:53 075:14(48-89) PHILADELPHIA WSCMO AP    34.1
ACTIVE C US:NJ004635      60 40:22 074:57(31-89) LAMBERTVILLE                 8.9
REGULAR1 C US:NJ008883    190 40:13 074:46(31-81) TRENTON                    5.2
REGULAR2 C US:PA003200    140 40:13 074:56(26-78) GEORGE SCHOOL                 6.4
REGULAR3 C US:NJ001211     10 40:05 074:52(48-77) BURLINGTON                 13.1
*****
* GPS SITE: 6A/351002     N33:22:00 W104:58:00 ELEV: 3800, 1985
*****
FIRST O. F US:TX002797    3920 31:48 106:24(48-89) EL PASO WSO AP              136.7
ACTIVE C US:NM006804      5040 33:21 105:10(80-89) PICACHO 2 WSW                11.6
REGULAR1 C US:NM007610    3670 33:18 104:32(72-89) ROSWELL FAA AP                 25.5
REGULAR2 C US:NM000992    3660 33:28 104:24(50-89) BITTER LKS W L REFUGE          33.4
REGULAR3 C US:NM002865    5710 32:57 105:18( 1-89) ELK 2 E                  34.6
*****
* GPS SITE: 1/351003      N33:23:00 W104:44:00 ELEV: 3800, 1982
*****
FIRST O. F US:TX009830    2810 31:47 103:12(38-89) WINK FAA AP                142.1
ACTIVE C US:NM007610      3670 33:18 104:32(72-89) ROSWELL FAA AP                 12.9
REGULAR1 C US:NM000992    3660 33:28 104:24(50-89) BITTER LKS W L REFUGE          20.1
REGULAR2 C US:NM006804    5040 33:21 105:10(80-89) PICACHO 2 WSW                25.1
REGULAR3 C US:NM001840    5400 33:54 105:00(80-89) CIRCLE F RANCH                 38.8
*****
* GPS SITE: 1/351005      N35:32:00 W106:14:00 ELEV: 5523, 1984
*****
FIRST O. F US:NM000234    5310 35:03 106:37(31-89) ALBUQUERQUE WSFO AP          39.8
ACTIVE C US:NM001982      5560 35:38 106:19(75-89) COCHITI DAM                 8.3
REGULAR1 C US:NM008085    6720 35:39 105:59(72-89) SANTA FE 2                    16.2
REGULAR2 C US:NM005084    7360 35:52 106:19(43-89) LOS ALAMOS                 23.5
REGULAR3 C US:NM008015    7110 35:10 106:22(48-89) SANDIA PARK                 26.4
*****
* GPS SITE: 1/351022      N36:18:00 W107:47:00 ELEV: 6727, 1983
*****
FIRST O. F US:NM000234    5310 35:03 106:37(31-89) ALBUQUERQUE WSFO AP          108.4
ACTIVE C US:NM006465      6880 36:19 107:52(57-89) OTIS                      4.8
REGULAR1 C US:NM005290    7150 36:14 107:34(51-89) LYBROOK                    12.9
REGULAR2 C US:NM001647    6180 36:02 107:54(48-89) CHACO CANYON N M                 19.5
REGULAR3 C US:NM001063    5810 36:40 107:58(25-89) BLOOMFIELD 3 SE                 27.3
*****
* GPS SITE: 1/351112      N32:38:15 W103:31:30 ELEV: 3760, 1982
*****
FIRST O. F US:TX009830    2810 31:47 103:12(38-89) WINK FAA AP                62.0
ACTIVE C US:NM006659      3800 32:39 103:23(48-89) PEARL                      8.3
REGULAR1 C US:NM005370    4000 32:49 103:42(48-89) MALJAMAR 4 SE                 16.0
REGULAR2 C US:NM002677    3520 32:32 103:54(68-86) DUVAL POTASH MINE                 23.0
REGULAR3 C US:NM004026    3620 32:42 103:08(48-89) HOBBS                      23.2
*****
* GPS SITE: 2/352006      N36:10:00 W107:20:00 ELEV: 6370, 1982
*****
FIRST O. F US:NM000234    5310 35:03 106:37(31-89) ALBUQUERQUE WSFO AP          87.0
ACTIVE C US:NM005290      7150 36:14 107:34(51-89) LYBROOK                    13.8
REGULAR1 C US:NM008524    6640 35:56 107:28(48-89) STAR LAKE                     17.8
REGULAR2 C US:NM004960    7260 36:20 107:01(71-89) LINDRITH 3 NE                 21.1
REGULAR3 C US:NM002241    7050 36:02 106:58(48-89) CUBA                      22.5

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* GPS SITE: 2/352007      N36:15:05 W107:36:15 ELEV: 7020, 1981
*****
FIRST O. F US:NM000234    5310 35:03 106:37(31-89) ALBUQUERQUE WSFO AP      99.8
ACTIVE C US:NM005290     7150 36:14 107:34(51-89) LYBROOK                    2.4
REGULAR1 C US:NM006465    6880 36:19 107:52(57-89) OTIS                      15.3
REGULAR2 C US:NM001647    6180 36:02 107:54(48-89) CHACO CANYON N M          22.4
REGULAR3 C US:NM008524    6640 35:56 107:28(48-89) STAR LAKE                 23.3
*****
* GPS SITE: 2/352118      N35:10:15 W103:29:15 ELEV: 3927, 1977
*****
FIRST O. F US:NM001887    4970 36:27 103:09( 9-89) CLAYTON WSO AP          90.3
ACTIVE C US:NM007867     4230 35:07 103:20(48-89) SAN JON                    9.5
REGULAR1 C US:NM009156    4090 35:12 103:41( 4-89) TUCUMCARI 4 NE           11.3
REGULAR2 C US:NM001332    4600 34:54 103:23(48-89) CAMERON                  19.6
REGULAR3 C US:NM007226      5 34:48 103:45(48-89) RAGLAND 3 SSW             29.6
*****
* GPS SITE: 3/353010      N32:38:15 W103:31:30 ELEV: 3760, 1982
*****
FIRST O. F US:TX009830    2810 31:47 103:12(38-89) WINK FAA AP              62.0
ACTIVE C US:NM006659     3800 32:39 103:23(48-89) PEARL                      8.3
REGULAR1 C US:NM005370    4000 32:49 103:42(48-89) MALJAMAR 4 SE           16.0
REGULAR2 C US:NM002677    3520 32:32 103:54(68-86) DUVAL POTASH MINE          23.0
REGULAR3 C US:NM004026    3620 32:42 103:08(48-89) HOBBS                   23.2
*****
* GPS SITE: 6A/356033     N34:15:15 W106:55:00 ELEV: 4662, 1958
*****
FIRST O. F US:NM000234    5310 35:03 106:37(31-89) ALBUQUERQUE WSFO AP      58.9
ACTIVE C US:NM008387     4590 34:05 106:53(31-89) SOCORRO                    10.5
REGULAR1 C US:NM000915    4740 34:25 106:50(62-89) BERNARDO                   13.5
REGULAR2 C US:NM005353    6540 34:07 107:14(48-89) MAGDALENA                  19.8
REGULAR3 C US:NM000846    4800 34:40 106:46(48-76) BELEN                      31.1
*****
* GPS SITE: 6A/356035     N35:05:00 W107:40:00 ELEV: 6200, 1965
*****
FIRST O. F US:NM000234    5310 35:03 106:37(31-89) ALBUQUERQUE WSFO AP      59.5
ACTIVE C US:NM003682     6520 35:10 107:54(53-89) GRANTS AIRPORT              14.4
REGULAR1 C US:NM004719    5800 35:02 107:24(48-89) LAGUNA                      15.5
REGULAR2 C US:NM007918    7240 35:20 107:39(48-88) SAN MATEO                   17.3
REGULAR3 C US:NM008830    7100 35:26 108:09(53-89) THOREAU 5 ENE          36.5
*****
* GPS SITE: 6A/356401     N35:02:20 W107:28:40 ELEV: 5983, 1984
*****
FIRST O. F US:NM000234    5310 35:03 106:37(31-89) ALBUQUERQUE WSFO AP      48.8
ACTIVE C US:NM004719    5800 35:02 107:24(48-89) LAGUNA                      4.4
REGULAR1 C US:NM002250    6160 35:06 107:31(77-89) CUBERO                      4.8
REGULAR2 C US:NM007918    7240 35:20 107:39(48-88) SAN MATEO                   22.5
REGULAR3 C US:NM003682    6520 35:10 107:54(53-89) GRANTS AIRPORT              25.5
*****
* GPS SITE: 6B/361008     N43:12:16 W075:25:01 ELEV: 450, 1980
*****
FIRST O. F US:NY008383    420 43:07 076:07(22-89) SYRACUSE WB AP          35.8
ACTIVE C US:NY003507     490 43:14 075:25(61-89) ROME GRIFFISS FIELD                2.0
REGULAR1 C US:NY008737    710 43:09 075:23(50-89) UTICA CAA AP                    4.1
REGULAR2 C US:NY008739    500 43:05 075:11(48-89) UTICA 2 SE                   14.5
REGULAR3 C US:NY003889   1190 43:19 075:07(48-89) HINCKLEY                   17.0
*****
* GPS SITE: 1/361011      N43:06:52 W076:03:02 ELEV: 395, 1984
*****
FIRST O. F US:NY008383    420 43:07 076:07(22-89) SYRACUSE WB AP          3.3
ACTIVE C US:NY008625    1300 42:50 076:02(79-89) TULLY 4 NE                    19.4
REGULAR1 C US:NY001110    510 43:20 075:45(48-89) CAMDEN                      21.4
REGULAR2 C US:NY008627    1900 42:46 076:05(67-89) TULLY-HEIBERG FOREST          24.1
REGULAR3 C US:NY005512    1300 42:54 075:39(26-89) MORRISVILLE                25.1
*****
* GPS SITE: 2/361643      N45:26:09 W073:27:41 ELEV: 179, 1980
*****
FIRST O. F CA:7027320     90 45:31 073:25(28-89) ST HUBERT A                      6.0
ACTIVE C CA:7024100      98 45:23 073:26(63-89) LAPRAIRIE                      3.9
REGULAR1 C CA:7025280    187 45:30 073:35( 1-89) MONTREAL MCGILL                   7.4
REGULAR2 C CA:7025267    135 45:31 073:34(71-89) MONTREAL LAFONTAINE                 7.6
REGULAR3 C CA:7025260    435 45:30 073:37(56-85) MONTREAL JEAN BREBEUF             8.7

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*****
* GPS SITE: 2/361644      N44:15:06 W074:46:15 ELEV: 1489, 1980
*****
FIRST O. F US:VT001081    330 44:28 073:09(20-89) BURLINGTON WSO AP      81.5 REJECTED
ACTIVE C US:NY008944     1510 44:09 074:54(26-89) WANAKENA RANGER SCMOO    9.5
REGULAR1 C US:NY008631   1680 44:14 074:26(48-89) TUPPER LAKE SUNMOUNT    16.8
REGULAR2 C US:NY008248   1700 43:53 075:02(48-89) STILLWATER RESERVOIR    28.6
REGULAR3 C US:NY001185    410 44:35 075:10(22-89) CANTON                    30.1
*****
* GPS SITE: 4/364017      N42:19:58 W077:44:04 ELEV: 1400, 1973
*****
FIRST O. F US:NY007167    550 43:07 077:40(26-89) ROCHESTER WB AP      54.2
ACTIVE C US:NY000085     1740 42:15 077:48(26-89) ALFRED                    6.6
REGULAR1 C US:NY000183   1420 42:18 078:02(26-89) ANGELICA                    15.5
REGULAR2 C US:NY001974    690 42:34 077:42(41-89) DANSVILLE              16.2
REGULAR3 C US:NY000448   1110 42:20 077:20(53-89) BATH                    20.5
*****
* GPS SITE: 4/364018      N42:22:45 W075:11:25 ELEV: 1070, 1974
*****
FIRST O. F US:NY000687    1600 42:13 075:59(51-89) BINGHAMTON WB AP      42.1
ACTIVE C US:NY008936     1240 42:10 075:08(56-89) WALTON                    15.0
REGULAR1 C US:NY006232   1400 42:28 075:04(71-83) ONEONTA STATE UNIV      8.7
REGULAR2 C US:NY000360   1020 42:18 075:29(48-89) BAINBRIDGE              15.9
REGULAR3 C US:NY002036   1350 42:15 074:56(26-89) DELHI 2 SW                15.9
*****
* GPS SITE: 1/371006      N35:47:00 W078:45:00 ELEV: 435, 1982
*****
FIRST O. F US:NC007069    380 35:52 078:47(48-89) RALEIGH DURHAM WSFO A      6.1
ACTIVE C US:NC007079    4080 35:47 078:42(21-89) RALEIGH STATE UNIV      2.8
REGULAR1 C US:NC007074    420 35:44 078:41( 1-89) RALEIGH 4 SW          5.1
REGULAR2 C US:NC001820    330 35:39 078:30(55-89) CLAYTON 3 W          16.8 REJECTED
REGULAR3 C US:NC001677    500 35:55 079:06(48-89) CHAPEL HILL 2 W        21.7 REJECTED
*****
* GPS SITE: 1/371024      N35:17:00 W083:11:00 ELEV: 2125, 1980
*****
FIRST O. F US:NC000300    2140 35:26 082:33(64-89) ASHEVILLE WSO AP      37.2 REJECTED
ACTIVE C US:NC002200    2190 35:19 083:11(48-89) CULLOWHEE              2.3
REGULAR1 C US:NC003228    2080 35:11 083:23(49-89) FRANKLIN                    13.2
REGULAR2 C US:NC004055    3840 35:03 083:11(48-89) HIGHLANDS                    16.1
REGULAR3 C US:NC006341    2040 35:31 083:18(58-89) OCONALUFTEE              17.4 REJECTED
*****
* GPS SITE: 1/371028      N36:32:00 W076:22:00 ELEV: 20, 1982
*****
FIRST O. F US:VA006139    20 36:54 076:12(48-89) NORFOLK WSO AP      27.0 REJECTED
ACTIVE C US:NC002719    10 36:19 076:12(34-89) ELIZABETH CITY          17.6
REGULAR1 C US:VA008192    20 36:44 076:36(48-89) SUFFOLK LAKE KILBY          18.9
REGULAR2 C US:VA004044    80 36:41 076:47(48-89) HOLLAND 1 E          25.3
REGULAR3 C US:VA000385    10 36:40 075:55(53-89) BACK BAY WILDLIFE RFG        26.6 REJECTED
*****
* GPS SITE: 1/371030      N36:23:00 W076:18:00 ELEV: 18, 1984
*****
FIRST O. F US:VA006139    20 36:54 076:12(48-89) NORFOLK WSO AP      25.9 REJECTED
ACTIVE C US:NC002719    10 36:19 076:12(34-89) ELIZABETH CITY          16.0
REGULAR1 C US:VA008192    20 36:44 076:36(48-89) SUFFOLK LAKE KILBY          21.6
REGULAR2 C US:VA000385    10 36:40 075:55(53-89) BACK BAY WILDLIFE RFG        23.2 REJECTED
REGULAR3 C US:VA004044    80 36:41 076:47(48-89) HOLLAND 1 E          28.8 REJECTED
*****
* GPS SITE: 1/371040      N35:55:00 W082:04:00 ELEV: 2565, 1978
*****
FIRST O. F US:NC000301    2240 35:36 082:32(47-89) ASHEVILLE                    34.1 REJECTED
ACTIVE C US:NC001624    2680 35:50 082:11(48-89) CELO 2 S              8.7
REGULAR1 C US:NC005340    1430 35:41 082:00(49-89) MARION                    16.5
REGULAR2 C US:NC003565    5300 36:06 081:49(55-89) GRANDFATHER MOUNTAIN          18.9
REGULAR3 C US:NC000506    3750 36:10 081:52(48-89) BANNER ELK                    20.6
*****
* GPS SITE: 1/371352      N35:27:00 W080:14:00 ELEV: 680, 1980
*****
FIRST O. F US:NC001690    700 35:13 080:56(48-89) CHARLOTTE WSO AP      42.7 REJECTED
ACTIVE C US:NC000090     610 35:22 080:11(33-89) ALBEMARLE              6.4
REGULAR1 C US:NC001975    690 35:25 080:36(48-89) CONCORD                    20.8
REGULAR2 C US:NC007615    700 35:41 080:29( 1-89) SALISBURY                    21.4
REGULAR3 C US:NC007618    830 35:42 080:37(83-89) SALISBURY 9 WNW          27.6 REJECTED

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*****
* GPS SITE: 2/371645      N34:20:00 W078:39:00 ELEV: 75, 1985
*****
FIRST O. F US:NC009457    70 34:16 077:54(33-89) WILMINGTON WSO AP      43.1 REJECTED
ACTIVE C US:NC009357     90 34:24 078:48(54-89) WHITEVILLE 7 NW          9.7
REGULAR1 C US:NC002732   60 34:38 078:35(33-89) ELIZABETHTOWN LOCK 2      21.1
REGULAR2 C US:NC005116   40 34:01 078:33(72-89) LONGWOOD      22.6 REJECTED
REGULAR3 C US:SC005306   90 34:03 078:53(48-89) LORIS 1 S      23.7 REJECTED
*****
* GPS SITE: 1/371801      N35:35:00 W082:28:00 ELEV: 2270, 1974
*****
FIRST O. F US:NC000300   2140 35:26 082:33(64-89) ASHEVILLE WSO AP      11.4
ACTIVE C US:NC000301   2240 35:36 082:32(47-89) ASHEVILLE          3.9
REGULAR1 C US:NC000843   2290 35:37 082:21(49-89) BLACK MOUNTAIN          7.0
REGULAR2 C US:NC003101   2090 35:27 082:29(56-89) FLETCHER 2 NE          9.3
REGULAR3 C US:NC000724   2110 35:30 082:36(49-89) BENT CREEK          9.5
*****
* GPS SITE: 1/371802      N36:18:00 W078:37:00 ELEV: 500, 1985
*****
FIRST O. F US:NC007069   380 35:52 078:47(48-89) RALEIGH DURHAM WSFO A      31.3 REJECTED
ACTIVE C US:NC006507   500 36:17 078:37(48-89) OXFORD 2 SW          1.2
REGULAR1 C US:NC003969   480 36:22 078:25(33-89) HENDERSON 2 NNW          12.1
REGULAR2 C US:NC005123   260 36:06 078:19(48-89) LOUISBURG      21.7 REJECTED
REGULAR3 C US:NC007516   730 36:24 079:00(48-89) ROXBORO      22.4 REJECTED
*****
* GPS SITE: 1/371803      N35:23:00 W083:17:00 ELEV: 1895, 1976
*****
FIRST O. F US:NC000300   2140 35:26 082:33(64-89) ASHEVILLE WSO AP      41.5 REJECTED
ACTIVE C US:NC002200   2190 35:19 083:11(48-89) CULLOWHEE          7.3
REGULAR1 C US:NC006341   2040 35:31 083:18(58-89) OCONALUFTEE          9.3
REGULAR2 C US:NC003228   2080 35:11 083:23(49-89) FRANKLIN          14.9
REGULAR3 C US:NC001564   2620 35:37 083:06(49-89) CATALOOCHEE          19.1
*****
* GPS SITE: 1/371814      N35:10:00 W083:22:00 ELEV: 2060, 1973
*****
FIRST O. F US:NC000300   2140 35:26 082:33(64-89) ASHEVILLE WSO AP      49.6 REJECTED
ACTIVE C US:NC003228   2080 35:11 083:23(49-89) FRANKLIN          1.5
REGULAR1 C US:NC002102   2250 35:04 083:26(48-89) COWEETA EXP STATION      7.9
REGULAR2 C US:NC004055   3840 35:03 083:11(48-89) HIGHLANDS          13.1
REGULAR3 C US:NC002200   2190 35:19 083:11(48-89) CULLOWHEE          14.6
*****
* GPS SITE: 1/371817      N36:03:00 W080:09:00 ELEV: 850, 1983
*****
FIRST O. F US:NC003630   890 36:05 079:57(33-89) GREENSBORO WSO AP      11.4
ACTIVE C US:NC004063   910 35:58 079:59(48-89) HIGH POINT          11.0
REGULAR1 C US:NC004970   760 35:51 080:16(48-89) LEXINGTON          15.3
REGULAR2 C US:NC009675   860 36:08 080:31(40-89) YADKINVILLE 6 E      21.3 REJECTED
REGULAR3 C US:NC002238   840 36:25 080:13(48-89) DANBURY 1 NW      25.6 REJECTED
*****
* GPS SITE: 1/371992      N35:42:30 W079:24:00 ELEV: 585, 1990
*****
FIRST O. F US:NC007069   380 35:52 078:47(48-89) RALEIGH DURHAM WSFO A      36.3 REJECTED
ACTIVE C US:NC007924   610 35:42 079:29(48-89) SILER CITY 2 S          4.7
REGULAR1 C US:NC001677   500 35:55 079:06(48-89) CHAPEL HILL 2 W      22.1 REJECTED
REGULAR2 C US:NC007656   260 35:32 079:03(72-89) SANFORD 8 NE      23.1
REGULAR3 C US:NC000286   870 35:42 079:50(33-89) ASHEBORO 2 W      24.3
*****
* GPS SITE: 2/372819      N35:57:00 W079:49:00 ELEV: 800, 1982
*****
FIRST O. F US:NC003630   890 36:05 079:57(33-89) GREENSBORO WSO AP      11.8
ACTIVE C US:NC004063   910 35:58 079:59(48-89) HIGH POINT          9.4
REGULAR1 C US:NC000286   870 35:42 079:50(33-89) ASHEBORO 2 W      17.3
REGULAR2 C US:NC001239   670 36:05 079:26(50-89) BURLINGTON FIRE STN      23.3 REJECTED
REGULAR3 C US:NC007924   610 35:42 079:29(48-89) SILER CITY 2 S      25.4 REJECTED
*****
* GPS SITE: 2/372824      N35:42:30 W079:24:00 ELEV: 632, 1983
*****
FIRST O. F US:NC007069   380 35:52 078:47(48-89) RALEIGH DURHAM WSFO A      36.3 REJECTED
ACTIVE C US:NC007924   610 35:42 079:29(48-89) SILER CITY 2 S          4.7
REGULAR1 C US:NC001677   500 35:55 079:06(48-89) CHAPEL HILL 2 W      22.1 REJECTED
REGULAR2 C US:NC007656   260 35:32 079:03(72-89) SANFORD 8 NE      23.1
REGULAR3 C US:NC000286   870 35:42 079:50(33-89) ASHEBORO 2 W      24.3

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*****
* GPS SITE: 2/372825      N35:08:00 W080:56:00 ELEV: 610, 1987
*****
FIRST O. F US:NC001690    700 35:13 080:56(48-89) CHARLOTTE WSO AP          5.8
ACTIVE C US:SC009350     690 34:56 081:02(48-89) WINTHROP COLLEGE          14.9
REGULAR1 C US:NC003356    760 35:17 081:11(30-89) GASTONIA                17.5
REGULAR2 C US:TN008160    470 35:10 080:37(48-89) SELMER                    18.1
REGULAR3 C US:NC005771    580 34:58 080:30(33-89) MONROE 4 SE              27.1 REJECTED
*****
* GPS SITE: 3/373008      N35:16:00 W081:21:00 ELEV: 965, 1984
*****
FIRST O. F US:NC001690    700 35:13 080:56(48-89) CHARLOTTE WSO AP          23.8 REJECTED
ACTIVE C US:NC003356     760 35:17 081:11(30-89) GASTONIA                9.5
REGULAR1 C US:NC007845    920 35:19 081:32(24-89) SHELBY 2 NNE              10.9
REGULAR2 C US:NC004996    980 35:28 081:19(52-89) LINCOLNTON 4 W              13.9
REGULAR3 C US:SC006293    500 35:03 081:30(48-89) NINETY NINE ISLANDS      17.2
*****
* GPS SITE: 3/373011      N35:52:00 W077:58:00 ELEV: 165, 1977
*****
FIRST O. F US:NC007069    380 35:52 078:47(48-89) RALEIGH DURHAM WSFO A          45.8 REJECTED
ACTIVE C US:NC009476     110 35:42 077:57(48-89) WILSON 3 SW              11.5
REGULAR1 C US:NC006044    210 35:58 077:58(33-87) NASHVILLE                6.9
REGULAR2 C US:NC007400    110 35:54 077:43(48-89) ROCKY MOUNT 8 ESE              14.2
REGULAR3 C US:NC008500     40 35:53 077:32(48-89) TARBORO 1 S              24.3
*****
* GPS SITE: 3/373044      N36:03:00 W078:49:00 ELEV: 335, 1966
*****
FIRST O. F US:NC007069    380 35:52 078:47(48-89) RALEIGH DURHAM WSFO A          12.8
ACTIVE C US:NC002515     410 36:02 078:58( 1-89) DURHAM                8.5
REGULAR1 C US:NC001677    500 35:55 079:06(48-89) CHAPEL HILL 2 W              18.3
REGULAR2 C US:NC007079   4080 35:47 078:42(21-89) RALEIGH STATE UNIV          19.5 REJECTED
REGULAR3 C US:NC006507    500 36:17 078:37(48-89) OXFORD 2 SW              19.6 REJECTED
*****
* GPS SITE: 3/373807      N35:58:00 W080:14:00 ELEV: 780, 1980
*****
FIRST O. F US:NC003630    890 36:05 079:57(33-89) GREENSBORO WSO AP          17.8
ACTIVE C US:NC004970     760 35:51 080:16(48-89) LEXINGTON                8.3
REGULAR1 C US:NC004063    910 35:58 079:59(48-89) HIGH POINT              14.0
REGULAR2 C US:NC005743    810 35:53 080:34(48-89) MOCKSVILLE              19.5
REGULAR3 C US:NC009675    860 36:08 080:31(40-89) YADKINVILLE 6 E              19.6
*****
* GPS SITE: 3/373816      N35:37:00 W078:52:00 ELEV: 350, 1973
*****
FIRST O. F US:NC007069    380 35:52 078:47(48-89) RALEIGH DURHAM WSFO A          17.9
ACTIVE C US:NC007656     260 35:32 079:03(72-89) SANFORD 8 NE              11.8 REJECTED
REGULAR1 C US:NC007074    420 35:44 078:41( 1-89) RALEIGH 4 SW              13.1
REGULAR2 C US:NC007079   4080 35:47 078:42(21-89) RALEIGH STATE UNIV          14.8
REGULAR3 C US:NC001820    330 35:39 078:30(55-89) CLAYTON 3 W              20.7 REJECTED
*****
* GPS SITE: 5/375037      N35:36:00 W082:25:00 ELEV: 2110, 1972
*****
FIRST O. F US:NC000300    2140 35:26 082:33(64-89) ASHEVILLE WSO AP          13.7
ACTIVE C US:NC000843     2290 35:37 082:21(49-89) BLACK MOUNTAIN                3.9
REGULAR1 C US:NC000301    2240 35:36 082:32(47-89) ASHEVILLE                6.6
REGULAR2 C US:NC003101    2090 35:27 082:29(56-89) FLETCHER 2 NE              11.0
REGULAR3 C US:NC000724    2110 35:30 082:36(49-89) BENT CREEK              12.4
*****
* GPS SITE: 5/375826      N36:28:00 W080:46:00 ELEV: 1140, 1977
*****
FIRST O. F US:NC003630    890 36:05 079:57(33-89) GREENSBORO WSO AP          52.7 REJECTED
ACTIVE C US:NC005890     1030 36:31 080:37( 1-89) MOUNT AIRY                9.0
REGULAR1 C US:VA003267    2390 36:40 080:55(48-89) GALAX RADIO WBOB              16.1
REGULAR2 C US:NC009675    860 36:08 080:31(40-89) YADKINVILLE 6 E              26.9
REGULAR3 C US:NC006256   1120 36:10 081:09(33-89) NORTH WILKESBORO              29.8
*****
* GPS SITE: 5/375827      N36:23:00 W079:36:00 ELEV: 630, 1973
*****
FIRST O. F US:NC003630    890 36:05 079:57(33-89) GREENSBORO WSO AP          28.5 REJECTED
ACTIVE C US:NC007202     890 36:23 079:42(62-89) REIDSVILLE 2 NW                5.6
REGULAR1 C US:VA002245    410 36:35 079:23(48-89) DANVILLE (BRIDGE ST)          18.3
REGULAR2 C US:NC001239    670 36:05 079:26(50-89) BURLINGTON FIRE STN              22.7
REGULAR3 C US:VA005300    760 36:42 079:53(48-89) MARTINSVILLE FILT PL              26.9

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*****
* GPS SITE: 2/382001      N47:48:00 W097:33:00 ELEV: 922, 1978
*****
FIRST O. F US:ND003616    850 47:57 097:10(48-89) GRAND FORKS FAA AP      20.6
ACTIVE C US:ND007986     1520 47:36 097:54(48-89) SHARON                      21.4
REGULAR1 C US:ND005660    940 47:30 097:19(11-88) MAYVILLE                 23.4
REGULAR2 C US:ND003621    830 47:56 097:05(32-89) GRAND FORKS UNIVERSIT      23.5
REGULAR3 C US:ND007027    1530 48:02 098:00(48-89) PETERSBURG 2 N          26.4
*****
* GPS SITE: 3/383005      N47:55:00 W098:40:00 ELEV: 1518, 1985
*****
FIRST O. F US:ND004413    1490 46:55 098:41(48-89) JAMESTOWN FAA AP        69.1
ACTIVE C US:ND002158     1460 48:07 098:52(48-89) DEVILS LAKE KDLR          16.6
REGULAR1 C US:ND005730    1550 47:38 098:37(48-89) MC HENRY 5 NNW              19.7
REGULAR2 C US:ND005764    1470 47:46 098:10(48-89) MC VILLE                    25.4
REGULAR3 C US:ND007027    1530 48:02 098:00(48-89) PETERSBURG 2 N          31.9
*****
* GPS SITE: 3/383006      N48:21:18 W100:04:01 ELEV: 1530, 1989
*****
FIRST O. F US:ND005988    1720 48:16 101:17(48-89) MINOT FAA AIRPORT          56.3
ACTIVE C US:ND007704     1550 48:21 100:00(48-89) RUGBY                      3.1
REGULAR1 C US:ND008792    1480 48:21 100:24(48-89) TOWNER 2 NE                15.3
REGULAR2 C US:ND009445    1460 48:39 100:18(48-89) WILLOW CITY                23.0
REGULAR3 C US:ND002304    1550 48:02 100:17(64-89) DRAKE 8 NE                24.4
*****
* GPS SITE: 5/385002      N46:41:35 W096:49:50 ELEV: 915, 1973
*****
FIRST O. F US:ND002859    900 46:54 096:48(42-89) FARGO WSO AP                      14.4
ACTIVE C US:MN003104     890 47:05 096:47(62-89) GEORGETOWN 1 E                27.0
REGULAR1 C US:ND005754    1080 46:24 097:14(48-89) MC LEOD 3 E                27.9
REGULAR2 C US:ND009100    960 46:19 096:36( 1-89) WAHPETON 3 N                28.2
REGULAR3 C US:MN007149    1210 46:29 096:16(59-89) ROTHSA Y                30.5
*****
* GPS SITE: 3/393013      N38:52:59 W083:53:28 ELEV: 960, 1970
*****
FIRST O. F US:WV004393    830 38:22 082:33(61-89) HUNTINGTON WSO AP          80.8
ACTIVE C US:OH007120     880 38:47 083:48(59-89) RIPLEY EXP FARM                   8.5
REGULAR1 C US:KY005243    520 38:41 083:47(48-89) MAYSVILLE SEWAGE PLAN          15.0
REGULAR2 C US:OH001536    500 38:48 084:10(38-89) CHILO MELDAHL LOCK &          15.9
REGULAR3 C US:OH006493    810 38:57 083:25(48-85) PEEBLES                      25.9
*****
* GPS SITE: 3/393801      N39:58:04 W080:45:23 ELEV: 655, 1983
*****
FIRST O. F US:WV006202    1240 39:39 079:55(48-89) MORGANTOWN FAA AP          49.7
ACTIVE C US:WV007018     640 40:09 080:42(81-89) PIKE ISLAND L AND D              12.9
REGULAR1 C US:WV006248    620 39:54 080:45(63-87) MOUNDSVILLE                   4.7
REGULAR2 C US:OH000430    1250 39:59 081:09(40-89) BARNESVILLE                20.9
REGULAR3 C US:OH003500    620 39:40 080:52(75-89) HANNIBAL LOCK & DAM          21.6
*****
* GPS SITE: 4/394018      N39:49:58 W083:59:46 ELEV: 858, 1975
*****
FIRST O. F US:OH001786    810 40:00 082:53(48-89) COLUMBUS WSO AP          60.2
ACTIVE C US:OH002067     750 39:46 084:11(34-89) DAYTON                      10.9
REGULAR1 C US:OH002075    1000 39:54 084:12(50-89) DAYTON WSCMO AP                11.8
REGULAR2 C US:OH007935    930 39:58 083:49(48-89) SPRINGFIELD NEW WTR W          13.3
REGULAR3 C US:OH009361    970 39:37 083:54(36-89) XENIA 6 SSE                    15.8
*****
* GPS SITE: 4/394031      N39:59:33 W083:07:07 ELEV: 872, 1969
*****
FIRST O. F US:OH001786    810 40:00 082:53(48-89) COLUMBUS WSO AP          12.5
ACTIVE C US:OH001783     750 39:54 082:54(48-89) COLUMBUS VLY CROSSING          13.2
REGULAR1 C US:OH001781    880 39:57 083:07(52-83) COLUMBUS SULLIVANT AV              2.9
REGULAR2 C US:OH008951    810 40:08 082:57(52-89) WESTERVILLE                    13.2
REGULAR3 C US:OH004681    1020 39:53 083:27(36-89) LONDON WATER WORKS          19.1
*****
* GPS SITE: 5/395003      N41:18:21 W082:09:05 ELEV: 753, 1988
*****
FIRST O. F US:OH001657    770 41:25 081:52(48-89) CLEVELAND WSO AP          16.6
ACTIVE C US:OH006196     820 41:16 082:13(36-89) OBERLIN                      4.3
REGULAR1 C US:OH002599    730 41:23 082:04(49-89) ELYRIA 3 E                      6.9
REGULAR2 C US:OH001541    1060 41:04 081:54(36-89) CHIPPEWA LAKE                  21.1
REGULAR3 C US:OH006118    670 41:16 082:37( 1-89) NORWALK WST WTR TRT P          24.3

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* GPS SITE: 7B/395010      N40:58:47 W080:38:07 ELEV: 1160, 1975
*****
FIRST O. F US:OH009406 1180 41:15 080:40(48-89) YOUNGSTOWN WSO AP 17.6
ACTIVE C US:OH001245 1140 41:01 080:46(17-89) CANFIELD 1 S 7.0
REGULAR1 C US:OH005356 890 41:09 080:47(40-89) MINERAL RIDGE WATER W 13.1
REGULAR2 C US:PA006233 830 41:01 080:22(26-89) NEW CASTLE 1 N 14.1
REGULAR3 C US:OH008769 900 41:12 080:49(36-89) WARREN 3 S 16.9
*****
* GPS SITE: 6A/396019      N39:43:00 W082:30:00 ELEV: 840, 1965
*****
FIRST O. F US:OH001786 810 40:00 082:53(48-89) COLUMBUS WSO AP 27.9
ACTIVE C US:OH004383 860 39:44 082:38(36-89) LANCASTER 2 NW 6.8
REGULAR1 C US:OH005857 890 39:44 082:13(42-89) NEW LEXINGTON 2 NW 15.5
REGULAR2 C US:OH001783 750 39:54 082:54(48-89) COLUMBUS VLY CROSSING 24.3
REGULAR3 C US:OH001592 670 39:37 082:57(42-89) CIRCLEVILLE 24.5
*****
* GPS SITE: 7A/397021      N41:35:52 W083:33:05 ELEV: 628, 1967
*****
FIRST O. F US:OH002786 800 41:01 083:40(48-89) FINDLAY FAA AP 40.6
ACTIVE C US:OH008366 600 41:39 083:32(48-89) TOLEDO BLADE 3.7
REGULAR1 C US:OH008357 670 41:35 083:48(55-89) TOLEDO EXPRESS WSO AP 12.9
REGULAR2 C US:OH000862 680 41:23 083:37(36-89) BOWLING GREEN 15.2
REGULAR3 C US:OH006346 580 41:36 083:12(72-89) OTTAWA NWR 18.2
*****
* GPS SITE: 9/399006      N39:30:13 W083:53:25 ELEV: 1008, 1964
*****
FIRST O. F US:OH001786 810 40:00 082:53(48-89) COLUMBUS WSO AP 63.6
ACTIVE C US:OH009219 1030 39:29 083:49(36-89) WILMINGTON 3 N 4.2
REGULAR1 C US:OH009361 970 39:37 083:54(36-89) XENIA 6 SSE 7.8
REGULAR2 C US:OH002928 670 39:33 084:19(48-89) FRANKLIN 23.0
REGULAR3 C US:OH002067 750 39:46 084:11(34-89) DAYTON 24.0
*****
* GPS SITE: 9/399022      N40:02:51 W082:54:09 ELEV: 841, 1970
*****
FIRST O. F US:OH001786 810 40:00 082:53(48-89) COLUMBUS WSO AP 3.4
ACTIVE C US:OH008951 810 40:08 082:57(52-89) WESTERVILLE 6.4
REGULAR1 C US:OH001783 750 39:54 082:54(48-89) COLUMBUS VLY CROSSING 10.2
REGULAR2 C US:OH001781 880 39:57 083:07(52-83) COLUMBUS SULLIVANT AV 13.2
REGULAR3 C US:OH002119 870 40:17 083:04(36-89) DELAWARE 18.5
*****
* GPS SITE: 1/401015      N35:05:00 W096:50:00 ELEV: 946, 1977
*****
FIRST O. F US:OK006661 1280 35:24 097:36(48-89) OKLAHOMA CITY WSFO AP 48.5
ACTIVE C US:OK000830 1280 35:07 097:04(52-89) BLANCHARD 2 SSW 13.4
REGULAR1 C US:OK008042 870 35:14 096:40(48-89) SEMINOLE 14.0
REGULAR2 C US:OK000017 1020 34:47 096:41( 7-89) ADA 22.4
REGULAR3 C US:OK004235 860 35:05 096:24( 1-89) HOLDENVILLE 24.5
*****
* GPS SITE: 1/401017      N35:50:00 W095:30:00 ELEV: 526, 1981
*****
FIRST O. F US:OK008992 670 36:11 095:54(48-89) TULSA WSO AP 32.9
ACTIVE C US:OK006130 580 35:46 095:20(48-89) MUSKOGEE 10.4
REGULAR1 C US:OK009247 590 35:58 095:22(48-89) WAGONER 11.9
REGULAR2 C US:OK000782 610 35:58 095:53(48-89) BIXBY 23.4
REGULAR3 C US:OK009445 550 35:29 095:12(48-89) WEBBERS FALLS 5 WSW 29.5
*****
* GPS SITE: 3/403018      N35:25:00 W097:20:00 ELEV: 1294, 1973
*****
FIRST O. F US:OK006661 1280 35:24 097:36(48-89) OKLAHOMA CITY WSFO AP 15.1
ACTIVE C US:OK005779 930 35:30 096:59(48-89) MEEKER 4 W 20.5
REGULAR1 C US:OK000830 1280 35:07 097:04(52-89) BLANCHARD 2 SSW 25.6
REGULAR2 C US:OK007327 1040 34:58 097:26(48-89) PURCELL 5 SW 31.6
REGULAR3 C US:OK001684 950 35:42 096:53( 1-89) CHANDLER 1 32.0
*****
* GPS SITE: 2/404086      N35:04:00 W097:58:00 ELEV: 1103, 1971
*****
FIRST O. F US:OK006661 1280 35:24 097:36(48-89) OKLAHOMA CITY WSFO AP 31.0
ACTIVE C US:OK001750 1090 35:03 097:55(53-89) CHICKASHA EXP STATION 3.1
REGULAR1 C US:OK000224 1200 35:06 098:14(48-89) ANADARKO 2 NNE 15.3
REGULAR2 C US:OK005216 980 34:49 097:39(48-89) LINDSAY 2 W 24.9
REGULAR3 C US:OK007327 1040 34:58 097:26(48-89) PURCELL 5 SW 31.0

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* GPS SITE: 2/404087 N34:38:00 W099:16:00 ELEV: 1350, 1985
*****
FIRST O. F US:TX009729 990 33:58 098:29( 1-89) WICHITA FALLS WSO AP 65.0
ACTIVE C US:OK000179 1380 34:35 099:02(48-89) ALTUS IRR RESEARCH ST 14.1
REGULAR1 C US:OK005509 1520 34:50 099:26(48-89) MANGUM RESEARCH STATI 15.8
REGULAR2 C US:OK000184 1530 34:53 099:18(48-89) ALTUS DAM 16.2
REGULAR3 C US:OK003353 1300 34:24 099:01( 5-89) FREDERICK 22.4
*****
* GPS SITE: 2/404088 N36:39:00 W097:11:00 ELEV: 1005, 1975
*****
FIRST O. F US:OK007201 1000 36:44 097:06(48-89) PONCA CITY FAA AP 7.4
ACTIVE C US:OK000818 1030 36:49 097:14(74-89) BLACKWELL 2 E 11.8
REGULAR1 C US:OK000755 1000 36:32 097:27(48-89) BILLINGS 16.9
REGULAR2 C US:OK006278 1150 36:53 097:03( 1-89) NEWKIRK 17.7
REGULAR3 C US:OK007012 1030 36:17 097:18(48-89) PERRY 26.1
*****
* GPS SITE: 2/404154 N34:44:00 W097:58:00 ELEV: 1317, 1989
*****
FIRST O. F US:OK006661 1280 35:24 097:36(48-89) OKLAHOMA CITY WSFO AP 49.5
ACTIVE C US:OK002660 1130 34:30 097:58(48-89) DUNCAN 17.3
REGULAR1 C US:OK005216 980 34:49 097:39(48-89) LINDSAY 2 W 18.6
REGULAR2 C US:OK001750 1090 35:03 097:55(53-89) CHICKASHA EXP STATION 20.9
REGULAR3 C US:OK000224 1200 35:06 098:14(48-89) ANADARKO 2 NNE 28.5
*****
* GPS SITE: 9/404155 N36:37:11 W095:55:45 ELEV: 733, 1970
*****
FIRST O. F US:OK008992 670 36:11 095:54(48-89) TULSA WSO AP 30.2
ACTIVE C US:OK000548 720 36:45 096:00(48-89) BARTLESVILLE 2 W 9.8
REGULAR1 C US:OK000535 770 36:34 096:10(48-89) BARNSDALL 13.7
REGULAR2 C US:OK006485 730 36:42 095:38(48-89) NOWATA 17.3
REGULAR3 C US:OK004393 740 36:55 096:06(48-89) HULAH DAM 22.6
*****
* GPS SITE: 3/404157 N34:04:00 W095:21:00 ELEV: 606, 1986
*****
FIRST O. F US:AR002574 450 35:20 094:22( 1-89) FORT SMITH WSO AP 103.8
ACTIVE C US:OK004384 570 34:00 095:31(48-89) HUGO 10.6
REGULAR1 C US:OK000256 520 34:15 095:38(48-89) ANTLERS 20.6
REGULAR2 C US:OK000584 800 34:08 094:57(48-89) BEAR MOUNTAIN TOWER 23.4
REGULAR3 C US:TX006794 540 33:40 095:34( 1-89) PARIS 30.3
*****
* GPS SITE: 5/404158 N36:37:11 W095:55:45 ELEV: 733, 1990
*****
FIRST O. F US:OK008992 670 36:11 095:54(48-89) TULSA WSO AP 28.8
ACTIVE C US:OK000548 720 36:45 096:00(48-89) BARTLESVILLE 2 W 11.8
REGULAR1 C US:OK000535 770 36:34 096:10(48-89) BARNSDALL 15.0
REGULAR2 C US:OK006485 730 36:42 095:38(48-89) NOWATA 16.3
REGULAR3 C US:OK004393 740 36:55 096:06(48-89) HULAH DAM 24.5
*****
* GPS SITE: 3/404160 N34:43:00 W096:43:00 ELEV: 968, 1979
*****
FIRST O. F US:OK006661 1280 35:24 097:36(48-89) OKLAHOMA CITY WSFO AP 68.8
ACTIVE C US:OK000017 1020 34:47 096:41( 7-89) ADA 5.0
REGULAR1 C US:OK001745 1000 34:30 096:58(78-89) CHICKASAW NRA 20.7
REGULAR2 C US:OK004235 860 35:05 096:24( 1-89) HOLDENVILLE 31.0
REGULAR3 C US:OK006926 940 34:44 097:17( 1-89) PAULS VALLEY 4 WSW 32.2
*****
* GPS SITE: 1/404161 N34:04:00 W096:55:00 ELEV: 817, 1982
*****
FIRST O. F US:TX002242 550 32:54 097:02(74-89) DAL-FTW REG WSCMO AP 80.8
ACTIVE C US:OK005468 770 34:05 096:46(48-89) MADILL 8.7
REGULAR1 C US:OK005563 850 33:56 097:07(48-89) MARIETTA 14.7
REGULAR2 C US:OK000292 860 34:12 097:09( 1-89) ARDMORE 16.2
REGULAR3 C US:TX002394 610 33:49 096:34(40-89) DENISON DAM 26.5
*****
* GPS SITE: 3/404162 N34:37:00 W098:00:00 ELEV: 1193, 1985
*****
FIRST O. F US:TX009729 990 33:58 098:29( 1-89) WICHITA FALLS WSO AP 52.7
ACTIVE C US:OK002660 1130 34:30 097:58(48-89) DUNCAN 8.3
REGULAR1 C US:OK005216 980 34:49 097:39(48-89) LINDSAY 2 W 24.2
REGULAR2 C US:OK009278 1010 34:21 098:18(48-89) WALTERS 25.1
REGULAR3 C US:OK005063 1150 34:37 098:27(48-89) LAWTON 25.6

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*****
* GPS SITE: 2/404163      N35:49:00 W098:31:00 ELEV: 1524, 1986
*****
FIRST O. F US:OK006661 1280 35:24 097:36(48-89) OKLAHOMA CITY WSFO AP 53.4
ACTIVE C US:OK009364 1550 35:51 098:25(48-89) WATONGA 2.5
REGULAR1 C US:OK003497 1600 35:38 098:19(48-89) GEARY 13.5
REGULAR2 C US:OK006629 1210 36:07 098:19(48-89) OKEENE 21.2
REGULAR3 C US:OK001445 1650 36:05 098:36(48-89) CANTON DAM 21.6
*****
* GPS SITE: 2/404164      N36:20:00 W098:30:00 ELEV: 1314, 1976
*****
FIRST O. F US:OK003407 2190 36:18 099:46(48-89) GAGE FAA AP 70.6
ACTIVE C US:OK001445 1650 36:05 098:36(48-89) CANTON DAM 18.1
REGULAR1 C US:OK006629 1210 36:07 098:19(48-89) OKEENE 18.1
REGULAR2 C US:OK004019 1350 36:32 098:16(48-89) HELENA 1 SSE 19.0
REGULAR3 C US:OK009404 1500 36:35 098:52(48-89) WAYNOKA 26.7
*****
* GPS SITE: 2/404165      N36:23:00 W098:14:00 ELEV: 1319, 1982
*****
FIRST O. F US:OK007201 1000 36:44 097:06(48-89) PONCA CITY FAA AP 65.7
ACTIVE C US:OK004019 1350 36:32 098:16(48-89) HELENA 1 SSE 11.0
REGULAR1 C US:OK002912 1250 36:25 097:52( 1-89) ENID 18.7
REGULAR2 C US:OK006629 1210 36:07 098:19(48-89) OKEENE 19.5
REGULAR3 C US:OK003740 1200 36:45 098:08(48-89) GREAT SALT PLAINS DAM 25.6
*****
* GPS SITE: 5/404166      N35:02:26 W095:42:16 ELEV: 620, 1990
*****
FIRST O. F US:AR002574 450 35:20 094:22( 1-89) FORT SMITH WSO AP 78.3
ACTIVE C US:OK005664 760 34:53 095:47(53-89) MC ALESTER FAA AP 11.7
REGULAR1 C US:OK003884 680 35:12 095:53(49-89) HANNA 15.0
REGULAR2 C US:OK002993 620 35:18 095:35(48-89) EUFAULA 19.2
REGULAR3 C US:OK004975 730 35:18 095:22(70-89) LAKE EUFAULA 26.2
*****
* GPS SITE: 5/405021      N36:11:11 W095:20:41 ELEV: 634, 1988
*****
FIRST O. F US:OK008992 670 36:11 095:54(48-89) TULSA WSO AP 31.0
ACTIVE C US:OK007309 640 36:24 095:18(48-89) PRYOR 6 N 15.0
REGULAR1 C US:OK009247 590 35:58 095:22(48-89) WAGONER 15.2
REGULAR2 C US:OK001828 590 36:19 095:35(48-89) CLAREMORE 2 ENE 16.1
REGULAR3 C US:OK008380 690 36:23 095:03(48-89) SPAVINAW 21.3
*****
* GPS SITE: 6A/406009      N36:37:35 W095:11:02 ELEV: 680, 1969
*****
FIRST O. F US:OK008992 670 36:11 095:54(48-89) TULSA WSO AP 50.3
ACTIVE C US:OK009203 740 36:40 095:08(48-89) VINITA 2 N 4.0
REGULAR1 C US:OK007309 640 36:24 095:18(48-89) PRYOR 6 N 16.9
REGULAR2 C US:OK008380 690 36:23 095:03(48-89) SPAVINAW 18.4
REGULAR3 C US:OK005855 810 36:53 094:53(48-89) MIAMI 24.3
*****
* GPS SITE: 6A/406010      N35:05:00 W094:35:00 ELEV: 482, 1970
*****
FIRST O. F US:AR002574 450 35:20 094:22( 1-89) FORT SMITH WSO AP 21.2
ACTIVE C US:OK005693 660 35:09 094:58(48-89) MC CURTAIN 1 SE 22.2
REGULAR1 C US:OK007246 670 35:03 094:38(48-85) POTEAU 3.6
REGULAR2 C US:OK009985 640 34:45 094:38(51-87) ZOE 1 S 23.2
REGULAR3 C US:OK007862 530 35:29 094:46(48-89) SALLISAW 2 NE 29.5
*****
* GPS SITE: 7A/407024      N35:02:00 W097:25:00 ELEV: 1089, 1959
*****
FIRST O. F US:OK006661 1280 35:24 097:36(48-89) OKLAHOMA CITY WSFO AP 27.4
ACTIVE C US:OK007327 1040 34:58 097:26(48-89) PURCELL 5 SW 4.7
REGULAR1 C US:OK006386 1110 35:11 097:27(48-89) NORMAN 3 S 10.5
REGULAR2 C US:OK005216 980 34:49 097:39(48-89) LINDSAY 2 W 20.0
REGULAR3 C US:OK000830 1280 35:07 097:04(52-89) BLANCHARD 2 SSW 20.6
*****
* GPS SITE: 2/412002      N45:35:54 W123:00:51 ELEV: 193, 1971
*****
FIRST O. F US:OR006751 20 45:36 122:36(41-89) PORTLAND WSFO AP 20.0
ACTIVE C US:OR003908 160 45:31 122:59(48-89) HILLSBORO 5.8
REGULAR1 C US:OR002997 180 45:32 123:06(28-89) FOREST GROVE 6.1
REGULAR2 C US:OR007586 360 45:29 123:12(73-85) SCOGGINS DAM 2 12.0
REGULAR3 C US:OR000595 270 45:27 122:49(72-89) BEAVERTON 2 SSW 14.0

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*****
* GPS SITE: 5/415005      N44:37:01 W123:03:37 ELEV: 240, 1985
*****
FIRST O. F US:OR007500    200 44:55 123:01(28-89) SALEM WSO AP           20.8
ACTIVE   C US:OR001862    230 44:38 123:12(48-89) CORVALLIS ST UNIV       7.0
REGULAR1 C US:OR008095    430 44:47 122:49(51-89) STAYTON                 16.6
REGULAR2 C US:OR004606    520 44:37 122:43(73-89) LA COMB 3 NNE           16.9
REGULAR3 C US:OR001877    590 44:31 123:27(48-89) CORVALLIS WATER BUREA    20.4
*****
* GPS SITE: 5/415006      N45:16:51 W118:01:19 ELEV: 2713, 1973
*****
FIRST O. F US:OR000412    3370 44:50 117:49(48-89) BAKER FAA AP          32.5
ACTIVE   C US:OR004622    2760 45:19 118:05(65-89) LA GRANDE              3.9
REGULAR1 C US:OR008746    2770 45:13 117:53(28-89) UNION EXP STN         8.1
REGULAR2 C US:OR001924    2920 45:18 117:48(73-88) COVE                 10.9
REGULAR3 C US:OR002597    2660 45:34 117:55(48-89) ELGIN                 20.4
*****
* GPS SITE: 5/415008      N45:18:17 W118:02:06 ELEV: 2729, 1972
*****
FIRST O. F US:OR000412    3370 44:50 117:49(48-89) BAKER FAA AP          34.3
ACTIVE   C US:OR004622    2760 45:19 118:05(65-89) LA GRANDE              2.5
REGULAR1 C US:OR008746    2770 45:13 117:53(28-89) UNION EXP STN         9.6
REGULAR2 C US:OR001924    2920 45:18 117:48(73-88) COVE                 11.4
REGULAR3 C US:OR002597    2660 45:34 117:55(48-89) ELGIN                 19.0
*****
* GPS SITE: 5/415021      N43:54:06 W123:00:34 ELEV: 559, 1984
*****
FIRST O. F US:OR002709    360 44:07 123:13(39-89) EUGENE WSO AP           18.1
ACTIVE   C US:OR002374    820 43:47 122:58(48-89) DORENA DAM                8.4
REGULAR1 C US:OR001897    650 43:47 123:04(48-89) COTTAGE GROVE 1 S         8.7
REGULAR2 C US:OR005050    710 43:55 122:46(55-89) LOOKOUT POINT DAM        12.1
REGULAR3 C US:OR001902    830 43:43 123:03(43-89) COTTAGE GROVE DAM        12.9
*****
* GPS SITE: 5/415022      N43:57:40 W123:00:16 ELEV: 521, 1984
*****
FIRST O. F US:OR002709    360 44:07 123:13(39-89) EUGENE WSO AP           15.1
ACTIVE   C US:OR005050    710 43:55 122:46(55-89) LOOKOUT POINT DAM        12.2
REGULAR1 C US:OR002374    820 43:47 122:58(48-89) DORENA DAM                12.4
REGULAR2 C US:OR001897    650 43:47 123:04(48-89) COTTAGE GROVE 1 S         12.7
REGULAR3 C US:OR001902    830 43:43 123:03(43-89) COTTAGE GROVE DAM        17.0
*****
* GPS SITE: 6A/416011     N44:17:39 W123:03:21 ELEV: 323, 1961
*****
FIRST O. F US:OR002709    360 44:07 123:13(39-89) EUGENE WSO AP           14.6
ACTIVE   C US:OR002867    490 44:07 123:18(43-89) FERNRIDGE DAM              17.2
REGULAR1 C US:OR003047    550 44:25 122:40(69-89) FOSTER DAM                21.0
REGULAR2 C US:OR004811    680 44:06 122:41(48-89) LEABURG 1 SW                22.8
REGULAR3 C US:OR001862    230 44:38 123:12(48-89) CORVALLIS ST UNIV       24.5
*****
* GPS SITE: 6A/416012     N45:41:30 W121:22:57 ELEV: 102, 1953
*****
FIRST O. F US:OR006751     20 45:36 122:36(41-89) PORTLAND WSFO AP          59.2
ACTIVE   C US:OR004003    500 45:41 121:31(28-89) HOOD RIVER EXP STN         6.5
REGULAR1 C US:WA000217    2340 45:49 121:16(59-89) APPLETON                 10.3
REGULAR2 C US:OR008407    100 45:36 121:12(48-89) THE DALLIES                10.9
REGULAR3 C US:WA001968    240 45:37 121:09(48-89) DALLSPORT FAA AP          12.4
*****
* GPS SITE: 7A/417018     N44:39:16 W123:03:33 ELEV: 215, 1948
*****
FIRST O. F US:OR007500    200 44:55 123:01(28-89) SALEM WSO AP           18.2
ACTIVE   C US:OR001862    230 44:38 123:12(48-89) CORVALLIS ST UNIV       7.1
REGULAR1 C US:OR008095    430 44:47 122:49(51-89) STAYTON                 14.9
REGULAR2 C US:OR004603    650 44:35 122:45(48-73) LA COMB 1 WNW           16.0
REGULAR3 C US:OR001877    590 44:31 123:27(48-89) CORVALLIS WATER BUREA    21.5
*****
* GPS SITE: 7A/417019     N42:26:34 W122:49:39 ELEV: 1335, 1947
*****
FIRST O. F US:OR005429    1300 42:23 122:53(28-89) MEDFORD WSO AP           5.0
ACTIVE   C US:OR005424    1460 42:18 122:52(37-89) MEDFORD EXP STATION        10.1
REGULAR1 C US:OR000304    1750 42:13 122:43(48-89) ASHLAND                 16.6
REGULAR2 C US:OR007391    1550 42:14 123:02(63-89) RUCH                   17.9
REGULAR3 C US:OR006907    2480 42:44 122:31(31-89) PROSPECT 2 SW          25.6

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*****
* GPS SITE: 7A/417025      N43:31:11 W123:18:44 ELEV: 618, 1963
*****
FIRST O. F US:OR002709    360 44:07 123:13(39-89) EUGENE WSO AP      41.5 REJECTED
ACTIVE C US:OR002406      290 43:40 123:19(10-89) DRAIN              10.1
REGULAR1 C US:OR002633    120 43:36 123:35(48-89) ELKTON 3 SW         14.7
REGULAR2 C US:OR001902    830 43:43 123:03(43-89) COTTAGE GROVE DAM        18.9
REGULAR3 C US:OR004126   1080 43:22 122:58(58-89) IDLEYLD PARK 4 NE    20.3 REJECTED
*****
* GPS SITE: 5/417081      N45:55:42 W119:22:22 ELEV: 585, 1988
*****
FIRST O. F US:OR006546   1490 45:41 118:51(28-89) PENDLETON WSO AP      27.7
ACTIVE C US:WA005231      360 45:57 119:18(54-89) MC NARY DAM          2.4
REGULAR1 C US:OR003847    620 45:49 119:17(28-89) HERMISTON 2 S          7.1
REGULAR2 C US:OR000858    300 45:50 119:42(71-89) BOARDMAN             19.3
REGULAR3 C US:WA004154    390 46:13 119:06(48-89) KENNEWICK           23.2
*****
* GPS SITE: 1/421597      N41:58:00 W077:15:00 ELEV: 1093, 1980
*****
FIRST O. F US:NY000687   1600 42:13 075:59(51-89) BINGHAMTON WB AP        67.3
ACTIVE C US:PA009408     1860 41:42 077:16(26-89) WELLSBORO 3 S          18.4
REGULAR1 C US:PA009490   1880 41:59 077:34(81-88) WESTFIELD 5 S          16.3
REGULAR2 C US:NY002610    860 42:05 076:49(26-89) ELMIRA             23.7
REGULAR3 C US:NY000448   1110 42:20 077:20(53-89) BATH              25.7
*****
* GPS SITE: 5/421598      N40:16:20 W077:02:00 ELEV: 460, 1975
*****
FIRST O. F US:PA003699    340 40:13 076:51(26-89) HARRISBURG FAA AP        10.8
ACTIVE C US:PA008073      680 40:03 077:13(48-89) SHIPPENSBURG              16.4
REGULAR1 C US:PA006297    380 40:29 077:08(48-89) NEWPORT              16.7 REJECTED
REGULAR2 C US:PA000763    650 40:16 077:22(48-89) BLOSERVILLE 1 N         16.8
REGULAR3 C US:PA000656    720 39:56 077:15(72-89) BIGLERVILLE           24.3 REJECTED
*****
* GPS SITE: 1/421599      N41:25:00 W078:40:00 ELEV: 1500, 1987
*****
FIRST O. F US:PA002260   1810 41:11 078:54(62-89) DU BOIS FAA AP        20.2
ACTIVE C US:PA007477     1360 41:25 078:45(26-89) RIDGWAY              4.3
REGULAR1 C US:PA004432    1750 41:41 078:48(48-89) KANE 1 NNE           19.7
REGULAR2 C US:PA001534   1620 41:44 078:32(61-89) CLERMONT 8 SW          22.9
REGULAR3 C US:PA002629   1040 41:30 078:14(69-89) EMPORIUM            23.2
*****
* GPS SITE: 1/421605      N41:00:00 W076:52:00 ELEV: 581, 1971
*****
FIRST O. F US:PA003699    340 40:13 076:51(26-89) HARRISBURG FAA AP        54.1
ACTIVE C US:PA007931      420 40:46 076:52(26-89) SELINGSGROVE 2 S          16.1
REGULAR1 C US:PA005817    860 41:06 076:34(50-89) MILLVILLE 2 SW          17.1
REGULAR2 C US:PA009728    520 41:15 076:55(48-89) WILLIAMSPORT WSO AP          17.5
REGULAR3 C US:PA004853    800 40:54 077:13(48-89) LAURELTON STATE VILLA        19.5
*****
* GPS SITE: 4/421606      N40:15:00 W078:25:00 ELEV: 1400, 1977
*****
FIRST O. F US:PA006916   2000 40:55 078:04(48-89) PHILIPSBURG 8 E          49.6 REJECTED
ACTIVE C US:PA000130     1480 40:18 078:19(77-89) ALTOONA FAA AP              6.3
REGULAR1 C US:PA002721    1000 40:01 078:22(43-89) EVERETT              16.3
REGULAR2 C US:PA000140   1320 40:30 078:28(67-89) ALTOONA 3 W              17.5
REGULAR3 C US:PA002470   1940 40:28 078:44(64-89) EBENSBURG SEWAGE PLAN    22.4 REJECTED
*****
* GPS SITE: 68/421608      N40:00:00 W078:38:00 ELEV: 1000, 1958
*****
FIRST O. F US:WV005707    530 39:24 077:59(26-89) MARTINSBURG FAA AP        54.0
ACTIVE C US:PA004481     1280 39:59 078:43(51-89) KEGG              4.6
REGULAR1 C US:PA002721    1000 40:01 078:22(43-89) EVERETT              14.2
REGULAR2 C US:PA008560   1800 40:06 078:57(61-89) STOYSTOWN            18.1
REGULAR3 C US:MD002280    900 39:39 078:45(48-74) CUMBERLAND           25.0
*****
* GPS SITE: 78/421610      N39:50:40 W076:41:24 ELEV: 840, 1958
*****
FIRST O. F US:PA003699    340 40:13 076:51(26-89) HARRISBURG FAA AP        26.0
ACTIVE C US:PA009933      390 39:55 076:45(26-89) YORK 3 SSW PUMP STN          5.6
REGULAR1 C US:MD006844    600 39:38 076:42(53-86) PARKTON 2 SW          16.2
REGULAR2 C US:PA003662    600 39:48 076:59(48-89) HANOVER              17.4
REGULAR3 C US:PA004019    200 39:50 076:20(48-89) HOLTWOOD             17.9 REJECTED

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*****
* GPS SITE: 7B/421613      N40:00:00 W075:22:00 ELEV: 200, 1967
*****
FIRST O. F US:PA006889    10 39:53 075:14(48-89) PHILADELPHIA WSCMO AP    10.7
ACTIVE C US:PA006927    110 40:07 075:30(48-89) PHOENIXVILLE 1 E    10.7
REGULAR1 C US:PA006370    70 40:07 075:21(48-87) NORRISTOWN    8.1
REGULAR2 C US:PA002116    360 40:05 075:33(51-88) DEVAULT 1 W    11.3
REGULAR3 C US:PA005390    10 39:49 075:25(48-89) MARCUS HOOK    12.9
*****
* GPS SITE: 7B/421614      N40:50:00 W078:02:00 ELEV: 920, 1956
*****
FIRST O. F US:PA006916    2000 40:55 078:04(48-89) PHILIPSBURG 8 E    6.0
ACTIVE C US:PA008449    1170 40:48 077:52(26-89) STATE COLLEGE    9.0
REGULAR1 C US:PA005336    1600 40:48 078:24(49-89) MADERA 2 SE    19.3
REGULAR2 C US:PA004992    460 40:35 077:35(48-89) LEWISTOWN    29.2
REGULAR3 C US:PA000140    1320 40:30 078:28(67-89) ALTOONA 3 W    32.4
*****
* GPS SITE: 7B/421617      N40:03:00 W075:20:00 ELEV: 340, 1972
*****
FIRST O. F US:PA006889    10 39:53 075:14(48-89) PHILADELPHIA WSCMO AP    12.7
ACTIVE C US:PA006927    110 40:07 075:30(48-89) PHOENIXVILLE 1 E    9.9
REGULAR1 C US:PA006370    70 40:07 075:21(48-87) NORRISTOWN    4.7
REGULAR2 C US:PA002116    360 40:05 075:33(51-88) DEVAULT 1 W    11.7
REGULAR3 C US:PA003437    240 40:14 075:26(60-89) GRATERFORD 1 E    13.7
*****
* GPS SITE: 6B/421618      N39:50:00 W078:50:00 ELEV: 1000, 1964
*****
FIRST O. F US:WV005707    530 39:24 077:59(26-89) MARTINSBURG FAA AP    54.3
ACTIVE C US:PA004481    1280 39:59 078:43(51-89) KEGG    12.1
REGULAR1 C US:MD003415    2170 39:40 078:56(72-89) FROSTBURG 2    12.7
REGULAR2 C US:MD002285    970 39:38 078:50(48-77) CUMBERLAND POLICE BRK    13.8
REGULAR3 C US:MD002282    730 39:38 078:45(74-89) CUMBERLAND 2    14.5
*****
* GPS SITE: 3/421623      N41:13:00 W077:00:00 ELEV: 550, 1983
*****
FIRST O. F US:PA006916    2000 40:55 078:04(48-89) PHILIPSBURG 8 E    59.4
ACTIVE C US:PA009728    520 41:15 076:55(48-89) WILLIAMSPORT WSO AP    4.9
REGULAR1 C US:PA005817    860 41:06 076:34(50-89) MILLVILLE 2 SW    24.0
REGULAR2 C US:MD005109    570 41:07 077:27(48-89) LOCK HAVEN SEW PLT    24.4
REGULAR3 C US:PA004853    800 40:54 077:13(48-89) LAURELTON STATE VILLA    24.6
*****
* GPS SITE: 9/421627      N41:05:00 W078:30:00 ELEV: 1300, 1967
*****
FIRST O. F US:PA002260    1810 41:11 078:54(62-89) DU BOIS FAA AP    22.0
ACTIVE C US:PA005336    1600 40:48 078:24(49-89) MADERA 2 SE    20.3
REGULAR1 F US:PA006916    2000 40:55 078:04(48-89) PHILIPSBURG 8 E    25.4
REGULAR2 C US:PA007477    1360 41:25 078:45(26-89) RIDGWAY    26.4
REGULAR3 C US:PA001004    1210 41:09 079:05(63-89) BROOKVILLE SEWAGE PLA    30.7
*****
* GPS SITE: 4/421690      N41:12:00 W076:47:00 ELEV: 560, 1973
*****
FIRST O. F US:PA009705    930 41:20 075:44(64-89) W BARRE SCRANT WSO AP    55.4
ACTIVE C US:PA009728    520 41:15 076:55(48-89) WILLIAMSPORT WSO AP    7.7
REGULAR1 C US:PA005817    860 41:06 076:34(50-89) MILLVILLE 2 SW    13.2
REGULAR2 C US:PA002343    1990 41:24 076:35(48-87) EAGLES MERE    17.3
REGULAR3 C US:PA007931    420 40:46 076:52(26-89) SELINGSGROVE 2 S    30.2
*****
* GPS SITE: 7B/421691      N40:47:24 W080:25:00 ELEV: 1060, 1951
*****
FIRST O. F US:OH009406    1180 41:15 080:40(48-89) YOUNGSTOWN WSO AP    34.3
ACTIVE C US:PA005902    690 40:39 080:23(61-89) MONTGOMERY LOCK AND D    9.8
REGULAR1 C US:PA006233    830 41:01 080:22(26-89) NEW CASTLE 1 N    15.9
REGULAR2 C US:WV006442    750 40:30 080:36(48-88) NEW CUMBERLAND    22.2
REGULAR3 C US:PA006993    1150 40:30 080:13(52-89) PITTSBURGH WSCMO2 AP    22.6
*****
* GPS SITE: 3/423044      N40:34:33 W075:55:15 ELEV: 553, 1986
*****
FIRST O. F US:PA000106    390 40:39 075:26(48-89) ALLENTOWN WSO AP    26.1
ACTIVE C US:PA003632    350 40:33 075:59(79-89) HAMBURG    3.7
REGULAR1 C US:PA007578    550 40:33 075:43(83-89) RODALE RESEARCH CENTE    10.9
REGULAR2 C US:PA007322    40 40:25 075:56(73-89) READING 4 NNW    11.0
REGULAR3 C US:PA000785    350 40:23 076:02(78-89) BLUE MARSH LAKE    14.6

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*****
* GPS SITE: 5/425020 N40:06:00 W075:19:00 ELEV: 130, 1979
*****
FIRST O. F US:PA006889 10 39:53 075:14(48-89) PHILADELPHIA WSCMO AP 15.6
ACTIVE C US:PA006927 110 40:07 075:30(48-89) PHOENIXVILLE 1 E 9.8
REGULAR1 C US:PA006370 70 40:07 075:21(48-87) NORRISTOWN 2.1
REGULAR2 C US:PA003437 240 40:14 075:26(60-89) GRATERFORD 1 E 11.1
REGULAR3 C US:PA002116 360 40:05 075:33(51-88) DEVAULT 1 W 12.4
*****
* GPS SITE: 7A/427025 N40:18:00 W078:52:00 ELEV: 2140, 1965
*****
FIRST O. F US:PA006916 2000 40:55 078:04(48-89) PHILIPSBURG 8 E 59.8
ACTIVE C US:PA004385 1210 40:20 078:55(26-89) JOHNSTOWN 3.5
REGULAR1 C US:PA002470 1940 40:28 078:44(64-89) EBENSBURG SEWAGE PLAN 13.5
REGULAR2 C US:PA008560 1800 40:06 078:57(61-89) STOYSTOWN 14.5
REGULAR3 C US:PA004836 2680 40:10 079:09(70-89) LAUREL MTN SKI LODGE 17.6
*****
* GPS SITE: 7A/427037 N41:10:00 W079:02:00 ELEV: 1500, 1968
*****
FIRST O. F US:PA002260 1810 41:11 078:54(62-89) DU BOIS FAA AP 7.0
ACTIVE C US:PA001004 1210 41:09 079:05(63-89) BROOKVILLE SEWAGE PLA 2.8
REGULAR1 C US:PA007229 1280 40:56 079:17(48-89) PUTNEYVILLE 2 SE DAM 20.7
REGULAR2 C US:PA001485 1110 41:12 079:26(48-89) CLARION 3 SW 21.0
REGULAR3 C US:PA007477 1360 41:25 078:45(26-89) RIDGWAY 22.7
*****
* GPS SITE: 9/429027 N40:34:33 W075:55:15 ELEV: 535, 1957
*****
FIRST O. F US:PA000106 390 40:39 075:26(48-89) ALLENTOWN WSO AP 26.1
ACTIVE C US:PA006689 410 40:48 075:37(26-89) PALMERTON 22.2
REGULAR1 C US:PA007116 450 40:35 076:02(48-79) PORT CLINTON 5.9
REGULAR2 C US:PA005956 590 40:09 075:54(51-86) MORGANTOWN 29.4
REGULAR3 C US:PA003056 1900 41:01 075:54(26-89) FREELAND 30.5 REJECTED
*****
* GPS SITE: 7A/447401 N42:00:00 W071:33:00 ELEV: 340, 1927
*****
FIRST O. F US:RI006698 50 41:44 071:26(48-89) PROVIDENCE WSO AP 19.4
ACTIVE C US:MA009316 210 42:08 071:26(57-89) WEST MEDWAY 11.0
REGULAR1 C US:MA002975 170 42:17 071:25(48-89) FRAMINGHAM 20.7
REGULAR2 C US:MA009923 990 42:16 071:52(48-89) WORCESTER WSO AP 24.6
REGULAR3 C US:MA009928 620 42:18 071:49(26-62) WORCESTER 24.8
*****
* GPS SITE: 1/451008 N34:46:00 W083:03:00 ELEV: 936, 1970
*****
FIRST O. F US:NC000300 2140 35:26 082:33(64-89) ASHEVILLE WSO AP 54.0
ACTIVE C US:SC008887 980 34:45 083:05(48-89) WALHALLA 2.2
REGULAR1 C US:SC005278 1630 34:47 083:16(48-89) LONG CREEK 12.4
REGULAR2 C US:SC001770 820 34:41 082:49(30-89) CLEMSON UNIVERSITY 14.5
REGULAR3 C US:GA008740 1020 34:35 083:19(30-89) TOCCOA 19.8
*****
* GPS SITE: 1/451011 N32:50:00 W080:02:00 ELEV: 12, 1985
*****
FIRST O. F US:SC001544 40 32:54 080:02(30-89) CHARLESTON WSO AP 4.6
ACTIVE C US:SC001549 10 32:47 079:56(48-89) CHARLESTON WSO CI 6.8
REGULAR1 C US:SC008405 10 32:46 079:51(51-89) SULLIVANS ISLAND 11.6
REGULAR2 C US:SC008426 40 32:59 080:11(30-89) SUMMERVILLE 13.5
REGULAR3 C US:SC006893 50 33:15 079:59(48-89) PINOPOLIS DAM 28.9
*****
* GPS SITE: 1/451024 N34:01:00 W081:09:00 ELEV: 362, 1984
*****
FIRST O. F US:SC001939 210 33:57 081:07(48-89) COLUMBIA WSFO AP 5.0
ACTIVE C US:SC001944 240 33:59 081:01(30-89) COLUMBIA UNIV OF SC 8.0
REGULAR1 C US:SC006775 450 33:48 081:17(48-89) PELION 4 NW 16.8
REGULAR2 C US:SC007666 440 34:08 080:52(57-89) SANDHILL EXP STATION 18.1
REGULAR3 C US:SC005200 710 34:12 081:25(30-89) LITTLE MOUNTAIN 19.8
*****
* GPS SITE: 1/451025 N34:15:00 W082:08:00 ELEV: 612, 1980
*****
FIRST O. F US:GA000495 150 33:22 081:58(48-89) AUGUSTA WSO AP 61.7
ACTIVE C US:SC003754 620 34:10 082:12(48-89) GREENWOOD 3 SW 6.9
REGULAR1 C US:SC005017 590 34:30 082:02(30-89) LAURENS 18.2
REGULAR2 C US:SC007631 480 33:59 081:46(48-89) SALUDA 27.9
REGULAR3 C US:SC001277 530 34:05 082:35(30-89) CALHOUN FALLS 28.2

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*****
* GPS SITE: 3/453012      N34:19:00 W081:01:00 ELEV: 392, 1981
*****
FIRST O. F US:SC001939    210 33:57 081:07(48-89) COLUMBIA WSFO AP      26.0
ACTIVE C US:SC009327      560 34:22 081:05(30-89) WINNSBORO              5.1
REGULAR1 C US:SC007666    440 34:08 080:52(57-89) SANDHILL EXP STATION    15.3
REGULAR2 C US:SC006688    260 34:16 081:20(48-89) PARR                      18.4
REGULAR3 C US:SC001310    140 34:15 080:39(48-89) CAMDEN 3 W                21.5
*****
* GPS SITE: 5/455017      N34:09:00 W080:58:00 ELEV: 396, 1979
*****
FIRST O. F US:SC001939    210 33:57 081:07(48-89) COLUMBIA WSFO AP      16.3
ACTIVE C US:SC007666    440 34:08 080:52(57-89) SANDHILL EXP STATION    5.8
REGULAR1 C US:SC001944    240 33:59 081:01(30-89) COLUMBIA UNIV OF SC      11.9
REGULAR2 C US:SC009327    560 34:22 081:05(30-89) WINNSBORO              16.4
REGULAR3 C US:SC001310    140 34:15 080:39(48-89) CAMDEN 3 W                19.4
*****
* GPS SITE: 5/455034      N34:13:00 W080:02:00 ELEV: 178, 1975
*****
FIRST O. F US:SC003106    150 34:11 079:43(48-89) FLORENCE FAA AIRPORT      18.3
ACTIVE C US:SC002260    150 34:18 079:53(48-89) DARLINGTON                10.3
REGULAR1 C US:SC000736    290 34:14 080:18(48-89) BISHOPVILLE 3 W          15.3
REGULAR2 C US:SC003111    120 34:18 079:44(48-89) FLORENCE 8 NE                18.1
REGULAR3 C US:SC004886    180 33:56 080:21(48-89) SUMTER                    26.7
*****
* GPS SITE: 5/455035      N34:12:00 W079:52:00 ELEV: 140, 1975
*****
FIRST O. F US:SC003106    150 34:11 079:43(48-89) FLORENCE FAA AIRPORT      8.7
ACTIVE C US:SC002260    150 34:18 079:53(48-89) DARLINGTON                7.0
REGULAR1 C US:SC003111    120 34:18 079:44(48-89) FLORENCE 8 NE                10.3
REGULAR2 C US:SC000736    290 34:14 080:18(48-89) BISHOPVILLE 3 W          24.9
REGULAR3 C US:SC004886    80 33:51 079:44(48-89) LAKE CITY 1 SE                25.3
*****
* GPS SITE: 7A/457019     N34:57:00 W082:12:00 ELEV: 863, 1946
*****
FIRST O. F US:NC000300    2140 35:26 082:33(64-89) ASHEVILLE WSO AP          38.8
ACTIVE C US:SC003747      970 34:54 082:13(62-89) GRNVL-SPTNBG WSO AP          3.6
REGULAR1 C US:SC004936    1000 35:11 082:11(30-74) LANDRUM 1 NE                16.1
REGULAR2 C US:NC008744    1080 35:12 082:14(48-89) TRYON                      17.4
REGULAR3 C US:SC007113    750 35:07 081:58(48-78) RAINBOW LAKE                17.5
*****
* GPS SITE: 3/463009      N44:51:00 W096:54:00 ELEV: 1800, 1975
*****
FIRST O. F US:SD004127    1280 44:23 098:13(48-89) HURON WSO AP              72.4
ACTIVE C US:SD001519    1690 44:43 097:02(48-89) CASTLEWOOD                11.3
REGULAR1 C US:SD001777    1800 44:45 096:41(48-89) CLEAR LAKE                    12.7
REGULAR2 C US:SD008932    1750 44:55 097:09(48-89) WATERTOWN FAA AP          13.1
REGULAR3 C US:SD005536    1160 45:12 096:38(48-89) MILBANK 2 SSW                27.5
*****
* GPS SITE: 3/463010      N45:37:00 W096:55:50 ELEV: 1207, 1983
*****
FIRST O. F US:SD000020    1300 45:27 098:26(32-89) ABERDEEN WSO AP          73.7
ACTIVE C US:MN001063      990 45:37 096:50(73-89) BROWNS VALLEY                4.7
REGULAR1 C US:SD007742    1190 45:40 097:00(48-89) SISSETON 2 E                4.8
REGULAR2 C US:SD008116    1950 45:18 097:04(56-89) SUMMIT 1 W                    22.8
REGULAR3 C US:SD008980    1830 45:26 097:20(52-89) WAUBAY NATL WDLF REF          23.3
*****
* GPS SITE: 3/463012      N44:20:00 W103:52:00 ELEV: 3640, 1981
*****
FIRST O. F US:SD006937    3160 44:03 103:04(48-89) RAPID CITY WSO AP          44.2
ACTIVE C US:SD004834      5350 44:21 103:46(48-89) LEAD                      5.1
REGULAR1 C US:SD002207    4670 44:23 103:44(48-89) DEADWOOD                    7.4
REGULAR2 C US:SD007882    3640 44:30 103:52(48-89) SPEARFISH                11.5
REGULAR3 C US:SD003069    3300 44:24 103:28(49-89) FORT MEADE                    20.3
*****
* GPS SITE: 3/463013      N44:31:03 W103:50:00 ELEV: 3609, 1976
*****
FIRST O. F US:SD006937    3160 44:03 103:04(48-89) RAPID CITY WSO AP          49.8
ACTIVE C US:SD007882      3640 44:30 103:52(48-89) SPEARFISH                2.0
REGULAR1 C US:SD000559    3020 44:40 103:51(48-89) BELLE FOURCHE                10.3
REGULAR2 C US:SD002207    4670 44:23 103:44(48-89) DEADWOOD                    10.5
REGULAR3 C US:SD004834    5350 44:21 103:46(48-89) LEAD                      12.0

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*****
* GPS SITE: 3/463014      N43:41:00 W097:52:00 ELEV: 1248, 1986
*****
FIRST O. F US:SD004127 1280 44:23 098:13(48-89) HURON WSO AP 51.2
ACTIVE C US:SD000128 1350 43:39 097:47(32-89) ALEXANDRIA 5.2
REGULAR1 C US:SD005671 1270 43:43 098:00( 1-89) MITCHELL 2 NE 6.6
REGULAR2 C US:SD001032 1420 43:33 097:30(48-89) BRIDGEWATER 21.0
REGULAR3 C US:SD003029 1230 44:02 098:04( 1-89) FORESTBURG 3 NE 26.0
*****
* GPS SITE: 3/463052      N44:22:05 W097:47:25 ELEV: 1461, 1988
*****
FIRST O. F US:SD004127 1280 44:23 098:13(48-89) HURON WSO AP 21.1
ACTIVE C US:SD002302 1750 44:23 097:33(48-89) DE SMET 11.9
REGULAR1 C US:SD003029 1230 44:02 098:04( 1-89) FORESTBURG 3 NE 26.9
REGULAR2 C US:SD004037 1560 44:01 097:31(48-89) HOWARD 27.8
REGULAR3 C US:SD001739 1780 44:53 097:44( 1-89) CLARK 35.7
*****
* GPS SITE: 3/463053      N43:57:38 W103:31:11 ELEV: 4849, 1985
*****
FIRST O. F US:SD006937 3160 44:03 103:04(48-89) RAPID CITY WSO AP 23.4
ACTIVE C US:SD005870 5180 43:53 103:27(62-89) MT RUSHMORE NATL MEM 6.4
REGULAR1 C US:SD006427 4720 44:04 103:29(51-89) PACTOLA DAM 7.5
REGULAR2 C US:SD002087 5480 43:47 103:36(26-89) CUSTER 12.9
REGULAR3 C US:SD002231 6060 44:00 103:47(81-89) DEERFIELD 3 SE 13.4
*****
* GPS SITE: 5/465020      N44:38:46 W103:47:15 ELEV: 3932, 1972
*****
FIRST O. F US:SD006937 3160 44:03 103:04(48-89) RAPID CITY WSO AP 54.5
ACTIVE C US:SD000559 3020 44:40 103:51(48-89) BELLE FOURCHE 3.4
REGULAR1 C US:SD007882 3640 44:30 103:52(48-89) SPEARFISH 10.8
REGULAR2 C US:SD002207 4670 44:23 103:44(48-89) DEADWOOD 18.3
REGULAR3 C US:SD006054 2860 44:43 103:25(48-89) NEWELL 18.9
*****
* GPS SITE: 5/465025      N43:47:00 W101:58:00 ELEV: 2588, 1974
*****
FIRST O. F US:SD006937 3160 44:03 103:04(48-89) RAPID CITY WSO AP 57.8
ACTIVE C US:SD004184 2440 43:45 101:57(49-89) INTERIOR 3 NE 2.4
REGULAR1 C US:SD001972 2410 43:58 101:52( 9-89) COTTONWOOD 2 E 13.6
REGULAR2 C US:SD006552 2210 44:03 101:36(48-89) PHILIP 4 E 25.9
REGULAR3 C US:SD008911 2320 44:04 102:26(49-89) WASTA 30.4
*****
* GPS SITE: 5/465040      N43:37:21 W096:49:07 ELEV: 1513, 1963
*****
FIRST O. F US:SD007667 1420 43:34 096:44(48-89) SIOUX FALLS WSFO AP 5.8
ACTIVE C US:SD001392 1350 43:18 096:40(48-89) CANTON 4 WNW 23.5
REGULAR1 C US:SD005228 1450 43:25 097:15(48-89) MARION 25.9
REGULAR2 C US:SD009042 1690 44:01 097:00(48-89) WENTWORTH 2 WNW 28.7
REGULAR3 C US:MN004937 1500 43:40 096:12(50-89) LUVERNE 31.1
*****
* GPS SITE: 7A/467049      N43:01:13 W097:23:33 ELEV: 974, 1954
*****
FIRST O. F US:SD007667 1420 43:34 096:44(48-89) SIOUX FALLS WSFO AP 50.2
ACTIVE C US:SD009502 1180 42:53 097:21(48-89) YANKTON 2 E 9.7
REGULAR1 C US:NE003165 1260 42:51 097:29(61-89) GAVINS POINT DAM 12.6
REGULAR2 C US:SD005481 1320 43:14 097:35(48-89) MENNO 17.6
REGULAR3 C US:SD008472 1420 43:00 097:51(48-89) TYNDALL 23.2
*****
* GPS SITE: 68/469106      N45:48:00 W102:11:00 ELEV: 2405, 1959
*****
FIRST O. F US:ND002183 2580 46:47 102:48(38-89) DICKINSON FAA AP 74.0
ACTIVE C US:SD004864 2570 45:56 102:10(48-89) LEMMON 9.2
REGULAR1 C US:SD007567 2230 45:46 102:12(50-77) SHADEHILL DAM 2.4
REGULAR2 C US:SD000701 2780 45:31 102:28(48-89) BISON 23.9
REGULAR3 C US:ND004178 2680 45:59 102:39(16-89) HETTINGER 25.8
*****
* GPS SITE: 1/469187      N45:00:00 W102:09:00 ELEV: 2360, 1989
*****
FIRST O. F US:SD006937 3160 44:03 103:04(48-89) RAPID CITY WSO AP 79.7
ACTIVE C US:SD002852 2550 45:02 102:05(26-89) FAITH 2 W 4.0
REGULAR1 C US:SD008528 2380 45:15 102:19(57-89) USTA 8 WNW 19.1
REGULAR2 C US:SD002429 2370 45:03 101:36(22-89) DUPREE 27.1
REGULAR3 C US:SD005325 2710 44:54 102:43(75-89) MAURINE 10 SW 28.6

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*****
* GPS SITE: 68/469197      N44:04:00 W098:25:00 ELEV: 1450, 1964
*****
FIRST O. F US:SD004127      1280 44:23 098:13(48-89) HURON WSO AP      24.0
ACTIVE C US:SD009070      1640 44:05 098:34(51-89) WESSINGTON SPRINGS      7.5
REGULAR1 C US:SD003029      1230 44:02 098:04( 1-89) FORESTBURG 3 NE      17.6
REGULAR2 C US:SD009232      1630 43:44 098:43(48-89) WHITE LAKE      27.4
REGULAR3 C US:SD003217      1740 44:03 099:02(20-89) GANN VALLEY 2 NW      30.7
*****
* GPS SITE: 1/471023      N36:11:17 W084:06:06 ELEV: 1088, 1972
*****
FIRST O. F US:TN006750      910 36:01 084:14(48-89) OAK RIDGE ATDL      13.9
ACTIVE C US:TN006619      1110 36:13 084:03(48-89) NORRIS      3.5
REGULAR1 C US:TN004955      900 35:57 083:55(48-82) KNOXVILLE U OF TENN      19.4
REGULAR2 F US:TN004950      950 35:48 084:00(10-89) KNOXVILLE WSO AP      27.4
REGULAR3 C US:TN005158      790 35:48 084:15(62-89) LENOIR CITY      28.1
*****
* GPS SITE: 2/471028      N36:22:55 W083:07:19 ELEV: 1136, 1980
*****
FIRST O. F US:TN001094      1530 36:29 082:24(48-89) BRISTOL WSO AP      39.4
ACTIVE C US:TN007884      1360 36:25 082:59(27-89) ROGERSVILLE 1 NE      6.6
REGULAR1 C US:TN006271      1360 36:12 083:17(82-89) MORRISTOWN RADIO WCRK      17.2
REGULAR2 C US:VA006626      1510 36:45 083:03(31-89) PENNINGTON GAP      24.3
REGULAR3 C US:TN003679      1320 36:06 082:51(48-89) GREENEVILLE EXP STN      25.0
*****
* GPS SITE: 2/471029      N35:03:25 W085:37:29 ELEV: 621, 1982
*****
FIRST O. F US:TN001656      680 35:02 085:12(28-89) CHATTANOOGA WSO AP      26.6
ACTIVE C US:AL001099      670 34:59 085:49(48-89) BRIDGEPORT 5 NW      10.9
REGULAR1 C US:TN006162      1930 35:15 085:50(38-89) MONTEAGLE      14.9
REGULAR2 C US:TN009800      970 35:11 086:09(85-89) WINCHESTER 2 W      28.2
REGULAR3 C US:AL007304      620 34:41 086:03(27-89) SCOTTSBORO      35.2
*****
* GPS SITE: 2/472001      N36:10:59 W089:13:21 ELEV: 289, 1979
*****
FIRST O. F US:TN004556      430 35:36 088:55(48-89) JACKSON FAA AP      43.8
ACTIVE C US:TN006471      370 36:07 089:16(48-89) NEWBERN      5.2
REGULAR1 C US:TN002685      340 36:01 089:24(48-89) DYERSBURG FAA AP      15.2
REGULAR2 C US:TN009219      340 36:25 089:04(30-89) UNION CITY      18.3
REGULAR3 C US:TN008065      310 36:27 089:19(42-89) SAMBURG WILDLIFE RFG      19.2
*****
* GPS SITE: 68/472008      N35:51:29 W088:44:55 ELEV: 488, 1973
*****
FIRST O. F US:TN004556      430 35:36 088:55(48-89) JACKSON FAA AP      20.2
ACTIVE C US:TN006012      470 35:59 088:50(30-89) MILAN      9.9
REGULAR1 C US:TN004561      400 35:37 088:50( 1-89) JACKSON EXP STN      17.3
REGULAR2 C US:TN004417      440 36:00 088:25(62-89) HUNTINGTON WATER PLT      21.0
REGULAR3 C US:TN005210      540 35:40 088:25(62-89) LEXINGTON      22.8
*****
* GPS SITE: 1/473075      N36:04:15 W085:44:06 ELEV: 1020, 1971
*****
FIRST O. F US:TN002197      1880 35:57 085:05(54-89) CROSSVILLE FAA AP      37.4
ACTIVE C US:TN008405      890 35:57 085:47(71-89) SMITHVILLE 2 SE      8.8
REGULAR1 C US:TN002009      1090 36:08 085:30(51-89) COOKEVILLE      13.8
REGULAR2 C US:TN008522      930 35:56 085:27(48-89) SPARTA      18.6
REGULAR3 C US:TN001480      520 36:16 085:58(48-89) CARTHAGE      18.7
*****
* GPS SITE: 2/473101      N35:56:30 W086:07:17 ELEV: 770, 1980
*****
FIRST O. F US:TN006402      580 36:07 086:41(48-89) NASHVILLE WSO AP      35.4
ACTIVE C US:TN009866      750 35:50 086:05(54-89) WOODBURY 1 WNW      5.8
REGULAR1 C US:TN006371      550 35:55 086:22(48-89) MURFREESBORO 5 N      14.9
REGULAR2 C US:TN008405      890 35:57 085:47(71-89) SMITHVILLE 2 SE      17.9
REGULAR3 C US:TN005882      940 35:41 085:48(27-89) MC MINNVILLE      23.3
*****
* GPS SITE: 1/473104      N36:14:28 W083:45:13 ELEV: 1230, 1986
*****
FIRST O. F US:TN006750      910 36:01 084:14(48-89) OAK RIDGE ATDL      31.1
ACTIVE C US:TN006619      1110 36:13 084:03(48-89) NORRIS      15.1
REGULAR1 C US:TN008868      1370 36:28 083:33(66-89) TAZEVELL      18.1
REGULAR2 C US:KY005389      1180 36:36 083:44(28-89) MIDDLESBORO      21.0
REGULAR3 C US:TN004613      1170 36:09 083:27(48-89) JEFFERSON CITY 3 ENE      22.1

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*****
* GPS SITE: 6B/473108      N36:10:34 W084:05:22 ELEV: 947, 1972
*****
FIRST O. F US:TN006750      910 36:01 084:14(48-89) OAK RIDGE ATDL      20.9
ACTIVE C US:TN006619      1110 36:13 084:03(48-89) NORRIS      6.4
REGULAR1 C US:TN004955      900 35:57 083:55(48-82) KNOXVILLE U OF TENN      26.3
REGULAR2 C US:TN006829      1440 36:30 084:32(52-89) ONEIDA      27.8
REGULAR3 C US:KY005389      1180 36:36 083:44(28-89) MIDDLESBORO      29.1
*****
* GPS SITE: 6B/473109      N35:31:43 W086:55:23 ELEV: 656, 1978
*****
FIRST O. F US:TN006402      580 36:07 086:41(48-89) NASHVILLE WSO AP      44.8
ACTIVE C US:TN005187      790 35:27 086:48(28-89) LEWISBURG EXP STN      8.3
REGULAR1 C US:TN001957      650 35:38 087:05(48-89) COLUMBIA 3 WNW      12.5
REGULAR2 C US:TN006435      700 35:43 086:58(75-89) NEAPOLIS EXP STN      15.1
REGULAR3 C US:TN006340      720 35:31 087:14(53-89) MOUNT PLEASANT 2 SW      16.9
*****
* GPS SITE: 6B/473110      N35:36:40 W084:34:08 ELEV: 973, 1978
*****
FIRST O. F US:TN006750      910 36:01 084:14(48-89) OAK RIDGE ATDL      31.4
ACTIVE C US:TN000284      940 35:26 084:35(62-89) ATHENS      14.1
REGULAR1 C US:TN007834      860 35:51 084:42(62-89) ROCKWOOD 2      17.6
REGULAR2 C US:TN005158      790 35:48 084:15(62-89) LENOIR CITY      19.6
REGULAR3 C US:TN002360      830 35:29 085:02(56-89) DAYTON      30.0
*****
* GPS SITE: 6A/476015      N35:35:07 W084:31:43 ELEV: 1012, 1974
*****
FIRST O. F US:TN004950      950 35:48 084:00(10-89) KNOXVILLE WSO AP      33.2
ACTIVE C US:TN000284      940 35:26 084:35(62-89) ATHENS      10.9
REGULAR1 C US:TN007834      860 35:51 084:42(62-89) ROCKWOOD 2      20.7
REGULAR2 C US:TN005158      790 35:48 084:15(62-89) LENOIR CITY      21.6
REGULAR3 C US:TN002360      830 35:29 085:02(56-89) DAYTON      29.3
*****
* GPS SITE: 6A/476022      N36:07:22 W085:28:59 ELEV: 1082, 1970
*****
FIRST O. F US:TN002197      1880 35:57 085:05(54-89) CROSSVILLE FAA AP      25.3
ACTIVE C US:TN002009      1090 36:08 085:30(51-89) COOKEVILLE      1.2
REGULAR1 C US:TN008522      930 35:56 085:27(48-89) SPARTA      13.2
REGULAR2 C US:TN005332      980 36:23 085:20(61-89) LIVINGSTON RADIO WLIV      19.8
REGULAR3 C US:TN008405      890 35:57 085:47(71-89) SMITHVILLE 2 SE      20.6
*****
* GPS SITE: 2/479024      N35:55:47 W086:14:09 ELEV: 621, 1977
*****
FIRST O. F US:TN006402      580 36:07 086:41(48-89) NASHVILLE WSO AP      30.4
ACTIVE C US:TN009866      750 35:50 086:05(54-89) WOODBURY 1 WNW      8.7
REGULAR1 C US:TN006371      550 35:55 086:22(48-89) MURFREESBORO 5 N      9.3
REGULAR2 C US:TN005108      540 36:13 086:20(48-89) LEBANON 3 W      22.0
REGULAR3 C US:TN008405      890 35:57 085:47(71-89) SMITHVILLE 2 SE      23.4
*****
* GPS SITE: 2/479025      N35:57:04 W086:05:51 ELEV: 735, 1980
*****
FIRST O. F US:TN006402      580 36:07 086:41(48-89) NASHVILLE WSO AP      35.4
ACTIVE C US:TN009866      750 35:50 086:05(54-89) WOODBURY 1 WNW      5.8
REGULAR1 C US:TN006371      550 35:55 086:22(48-89) MURFREESBORO 5 N      14.9
REGULAR2 C US:TN008405      890 35:57 085:47(71-89) SMITHVILLE 2 SE      17.9
REGULAR3 C US:TN005882      940 35:41 085:48(27-89) MC MINNVILLE      23.3
*****
* GPS SITE: 1/480001      N30:23:30 W097:43:30 ELEV: 771, 1989
*****
FIRST O. F US:TX000428      600 30:18 097:42(30-89) AUSTIN WSO AP      6.5
ACTIVE C US:TX002585      1120 30:13 097:59(84-89) DRIPPING SPRINGS 6 E      19.6
REGULAR1 C US:TX003507      860 30:41 097:43(81-89) GEORGETOWN LAKE      20.1
REGULAR2 C US:TX002820      580 30:21 097:22(62-89) ELGIN      21.6
REGULAR3 C US:TX008861      570 30:34 097:25(29-89) TAYLOR      22.0
*****
* GPS SITE: 1/481039      N32:23:00 W096:49:00 ELEV: 566, 1982
*****
FIRST O. F US:TX002244      440 32:51 096:51( 1-89) DALLAS FAA AP      32.3
ACTIVE C US:TX009522      630 32:25 096:51( 1-89) WAXAHACHIE      3.0
REGULAR1 C US:TX000518      460 32:16 096:38(65-89) BARDWELL DAM      13.4
REGULAR2 C US:TX003133      480 32:32 096:40(40-89) FERRIS      13.6
REGULAR3 C US:TX002019      430 32:05 096:28( 1-89) CORSICANA      29.1

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*****
* GPS SITE: 6A/481046      N35:12:00 W101:20:00 ELEV: 3432, 1971
*****
FIRST O. F US:TX000211  3590 35:14 101:42(48-89) AMARILLO WSO AP      20.8
ACTIVE  C US:TX001778  3400 35:07 101:22( 4-89) CLAUDE                6.1
REGULAR1 C US:TX006785  3440 35:21 101:23(11-89) PANHANDLE            10.7
REGULAR2 F US:TX001761  2700 34:56 100:53( 4-89) CLARENDON           31.4
REGULAR3 C US:TX000958  3140 35:39 101:27(49-89) BORGER              31.8
*****
* GPS SITE: 1/481047      N35:12:00 W101:10:00 ELEV: 3301, 1971
*****
FIRST O. F US:TX000211  3590 35:14 101:42(48-89) AMARILLO WSO AP      30.2
ACTIVE  C US:TX001778  3400 35:07 101:22( 4-89) CLAUDE                12.7
REGULAR1 C US:TX006785  3440 35:21 101:23(11-89) PANHANDLE            16.0
REGULAR2 C US:TX001761  2700 34:56 100:53( 4-89) CLARENDON           24.4
REGULAR3 C US:TX006776  3150 35:34 100:58(64-89) PAMPA 2             27.7
*****
* GPS SITE: 1/481048      N31:52:22 W102:24:38 ELEV: 2942, 1974
*****
FIRST O. F US:TX005890  2860 31:57 102:11(48-89) MIDLAND/ODESSA WSO AP  14.4
ACTIVE  C US:TX006932  2940 31:44 102:35(55-89) PENWELL              14.0
REGULAR1 C US:TX005891  2740 32:01 102:01(47-89) MIDLAND 4 ENE        25.2
REGULAR2 C US:TX000248  3170 32:19 102:32(14-89) ANDREWS             31.5
REGULAR3 C US:TX002082  2630 31:23 102:20(28-89) CRANE               34.1
*****
* GPS SITE: 2/481049      N31:39:31 W094:40:40 ELEV: 400, 1984
*****
FIRST O. F US:LA008440  250 32:28 093:49(30-89) SHREVEPORT WSO AP      75.2
ACTIVE  C US:TX006177  440 31:37 094:38(48-89) NACOGDOCHES           3.9
REGULAR1 C US:TX007841  720 31:48 095:09(42-89) RUSK                 29.4
REGULAR2 C US:TX005424  280 31:14 094:45( 6-89) LUFKIN FAA AP         29.7
REGULAR3 C US:TX001578  330 31:48 094:10(22-89) CENTER               31.6
*****
* GPS SITE: 1/481050      N30:21:00 W095:55:00 ELEV: 378, 1985
*****
FIRST O. F US:TX001889  310 30:35 096:21(51-89) COLLEGE STATION FAA A  30.4
ACTIVE  C US:TX009491  220 30:20 096:09(15-89) WASHINGTON STATE PARK  14.0
REGULAR1 C US:TX001956  240 30:20 095:29(48-89) CONROE                25.9
REGULAR2 C US:TX001048  350 30:09 096:24( 2-89) BRENHAM              32.0
REGULAR3 C US:TX004382  490 30:43 095:33(46-89) HUNTSVILLE          33.4
*****
* GPS SITE: 1/481056      N36:11:30 W100:42:15 ELEV: 2873, 1970
*****
FIRST O. F US:OK003407  2190 36:18 099:46(48-89) GAGE FAA AP          52.8
ACTIVE  C US:TX006950  2930 36:28 100:47( 7-89) PERRYTON 5 NNE        19.5
REGULAR1 C US:TX005247  2450 36:14 100:16(48-89) LIPSCOMB             24.6
REGULAR2 C US:TX001412  2340 35:55 100:22( 6-89) CANADIAN 1 ENE      26.8
REGULAR3 C US:TX008523  3100 36:11 101:11(20-89) SPEARMAN            26.8
*****
* GPS SITE: 1/481060      N28:30:00 W097:03:00 ELEV: 78, 1986
*****
FIRST O. F US:TX009364  100 28:51 096:55(61-89) VICTORIA WSO AP      25.5
ACTIVE  C US:TX007533  50 28:24 097:17(85-89) REFUGIO 7 N            15.8
REGULAR1 C US:TX000305  20 28:16 096:48(71-89) ARANSAS WL REFUGE      22.2
REGULAR2 C US:TX003618  140 28:40 097:24(12-89) GOLIAD               24.2
REGULAR3 C US:TX007182  20 28:37 096:38( 1-88) PORT LAVACA 2         26.6
*****
* GPS SITE: 1/481065      N35:12:00 W102:24:00 ELEV: 4026, 1970
*****
FIRST O. F US:TX000211  3590 35:14 101:42(48-89) AMARILLO WSO AP      39.6
ACTIVE  C US:TX004098  3820 34:49 102:24( 5-89) HEREFORD             26.5
REGULAR1 C US:TX009330  4010 35:15 102:25(23-83) VEGA                 3.6
REGULAR2 C US:TX001430  3590 34:59 101:56(23-89) CANYON              30.4
REGULAR3 C US:TX001649  3790 35:41 102:20(67-83) CHANNING 2          33.6
*****
* GPS SITE: 1/481068      N33:30:18 W095:35:22 ELEV: 445, 1987
*****
FIRST O. F US:TX002244  440 32:51 096:51( 1-89) DALLAS FAA AP        85.9
ACTIVE  C US:TX006794  540 33:40 095:34( 1-89) PARIS                 11.2
REGULAR1 C US:TX008743  500 33:09 095:38( 1-89) SULPHUR SPRINGS       24.6
REGULAR2 C US:TX006119  480 33:11 095:14(66-89) MOUNT VERNON          30.3
REGULAR3 C US:TX001772  440 33:38 095:02( 3-89) CLARKSVILLE 2 NE     33.3

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*****
* GPS SITE: 1/481069 N32:37:00 W096:25:00 ELEV: 425, 1977
*****
FIRST O. F US:TX002244 440 32:51 096:51( 1-89) DALLAS FAA AP 29.9
ACTIVE C US:TX004705 420 32:33 096:16( 1-89) KAUFMAN 3 SE 9.9
REGULAR1 C US:TX003133 480 32:32 096:40(40-89) FERRIS 15.7
REGULAR2 C US:TX009800 520 32:42 096:01( 5-89) WILLS POINT 24.0
REGULAR3 C US:TX000518 460 32:16 096:38(65-89) BARDWELL DAM 27.3
*****
* GPS SITE: 1/481070 N32:36:00 W096:23:00 ELEV: 429, 1977
*****
FIRST O. F US:TX002244 440 32:51 096:51( 1-89) DALLAS FAA AP 32.2
ACTIVE C US:TX004705 420 32:33 096:16( 1-89) KAUFMAN 3 SE 7.6
REGULAR1 C US:TX003133 480 32:32 096:40(40-89) FERRIS 17.1
REGULAR2 C US:TX009800 520 32:42 096:01( 5-89) WILLS POINT 22.4
REGULAR3 C US:TX000518 460 32:16 096:38(65-89) BARDWELL DAM 27.3
*****
* GPS SITE: 1/481076 N33:10:03 W102:16:51 ELEV: 3018, 1977
*****
FIRST O. F US:TX005411 3250 33:39 101:49(11-89) LUBBOCK WSFO AP 42.8
ACTIVE C US:TX001128 3300 33:11 102:16(53-89) BROWNFIELD 2 1.4
REGULAR1 C US:TX005183 3550 33:34 102:23(26-89) LEVELLAND 28.2
REGULAR2 C US:TX007074 3680 33:11 102:50(25-89) PLAINS 32.0
REGULAR3 C US:TX005013 2970 32:42 101:56(10-89) LAMESA 1 SSE 38.1
*****
* GPS SITE: 1/481077 N34:32:00 W100:26:00 ELEV: 1835, 1982
*****
FIRST O. F US:TX000211 3590 35:14 101:42(48-89) AMARILLO WSO AP 86.6
ACTIVE C US:TX001698 1950 34:26 100:17(48-89) CHILDRESS FAA AP 11.0
REGULAR1 C US:TX005821 2090 34:44 100:32( 5-89) MEMPHIS 14.9
REGULAR2 C US:TX009565 2040 34:50 100:13(12-89) WELLINGTON 24.1
REGULAR3 C US:TX009191 2390 34:23 100:56(47-89) TURKEY 2 WSW 30.3
*****
* GPS SITE: 1/481087 N32:22:00 W095:20:00 ELEV: 545, 1973
*****
FIRST O. F US:LA008440 250 32:28 093:49(30-89) SHREVEPORT WSO AP 88.8
ACTIVE C US:TX005956 390 32:43 095:22(66-89) MINEOLA 8 ENE 24.2
REGULAR1 C US:TX009214 490 32:24 095:16(55-84) TYLER 5 NE 4.5
REGULAR2 C US:TX004525 570 31:58 095:16(53-89) JACKSONVILLE 27.9
REGULAR3 C US:TX000404 460 32:10 095:50( 3-89) ATHENS 3 SSE 32.3
*****
* GPS SITE: 1/481092 N29:21:00 W099:03:00 ELEV: 828, 1983
*****
FIRST O. F US:TX007945 790 29:32 098:28(46-89) SAN ANTONIO WSFO 37.4
ACTIVE C US:TX004256 920 29:21 099:10(75-89) HONDO WSMO AP 7.0
REGULAR1 C US:TX005454 720 29:14 098:50(76-89) LITTLE 3 W 15.4
REGULAR2 C US:TX006879 640 28:53 099:05( 2-89) PEARSALL 32.3
REGULAR3 C US:TX005742 1630 29:48 099:15(66-89) MEDINA 33.3
*****
* GPS SITE: 68/481093 N28:46:00 W098:18:00 ELEV: 249, 1980
*****
FIRST O. F US:TX007945 790 29:32 098:28(46-89) SAN ANTONIO WSFO 53.9
ACTIVE C US:TX001720 230 28:28 098:16(83-89) CHOKE CANYON DAM 20.8
REGULAR1 C US:TX004696 420 28:53 097:55(19-89) KARNES CITY 24.6
REGULAR2 C US:TX007215 480 29:02 098:35(41-89) POTEET 25.2
REGULAR3 C US:TX003201 400 29:08 098:10(16-89) FLORESVILLE 26.6
*****
* GPS SITE: 1/481094 N29:35:00 W098:42:00 ELEV: 1109, 1976
*****
FIRST O. F US:TX007945 790 29:32 098:28(46-89) SAN ANTONIO WSFO 14.5
ACTIVE C US:TX000902 1420 29:48 098:43( 1-89) BOERNE 15.0
REGULAR1 C US:TX005454 720 29:14 098:50(76-89) LITTLE 3 W 25.5
REGULAR2 C US:TX004256 920 29:21 099:10(75-89) HONDO WSMO AP 32.4
REGULAR3 C US:TX001429 1000 29:52 098:12(61-89) CANYON DAM 35.8
*****
* GPS SITE: 1/481096 N29:21:00 W098:49:00 ELEV: 774, 1981
*****
FIRST O. F US:TX007945 790 29:32 098:28(46-89) SAN ANTONIO WSFO 24.6
ACTIVE C US:TX005454 720 29:14 098:50(76-89) LITTLE 3 W 8.1
REGULAR1 C US:TX004256 920 29:21 099:10(75-89) HONDO WSMO AP 21.1
REGULAR2 C US:TX007215 480 29:02 098:35(41-89) POTEET 26.0
REGULAR3 C US:TX001663 440 28:56 098:45(62-89) CHARLOTTE 5 NNW 29.1

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*****
* GPS SITE: 1/481109      N30:45:00 W095:31:00 ELEV: 340, 1984
*****
FIRST O. F US:TX001889    310 30:35 096:21(51-89) COLLEGE STATION FAA A    50.9
ACTIVE C US:TX004382     490 30:43 095:33(46-89) HUNTSVILLE                3.0
REGULAR1 C US:TX001870   360 30:32 095:09(54-89) COLDSRING 5 SSW              26.5
REGULAR2 C US:TX005477   250 30:57 095:55(18-89) MADISONVILLE              27.5
REGULAR3 C US:TX001956   240 30:20 095:29(48-89) CONROE                    28.8
*****
* GPS SITE: 1/481111      N33:32:18 W101:48:52 ELEV: 3158, 1972
*****
FIRST O. F US:TX005411   3250 33:39 101:49(11-89) LUBBOCK WSFO AP          7.7
ACTIVE C US:TX002121    3010 33:30 101:15( 1-89) CROSBYTON                32.7
REGULAR1 C US:TX005183   3550 33:34 102:23(26-89) LEVELLAND                32.9
REGULAR2 C US:TX001128   3300 33:11 102:16(53-89) BROWNFIELD 2              35.8
REGULAR3 C US:TX007206   2550 33:12 101:20(10-89) POST 3 ENE              36.3
*****
* GPS SITE: 1/481113      N31:57:00 W094:42:00 ELEV: 445, 1986
*****
FIRST O. F US:LA008440   250 32:28 093:49(30-89) SHREVEPORT WSO AP          62.8
ACTIVE C US:TX004081     420 32:10 094:48( 8-89) HENDERSON                16.1
REGULAR1 C US:TX006177   440 31:37 094:38(48-89) NACOGDOCHES                23.3
REGULAR2 C US:TX001500   340 32:09 094:22( 8-89) CARTHAGE                23.9
REGULAR3 C US:TX005348   410 32:21 094:39(75-89) LONGVIEW WSMO              27.8
*****
* GPS SITE: 68/481116     N31:53:30 W094:40:45 ELEV: 406, 1987
*****
FIRST O. F US:LA008440   250 32:28 093:49(30-89) SHREVEPORT WSO AP          64.2
ACTIVE C US:TX006177   440 31:37 094:38(48-89) NACOGDOCHES                19.2
REGULAR1 C US:TX004081   420 32:10 094:48( 8-89) HENDERSON                20.3
REGULAR2 C US:TX001500   340 32:09 094:22( 8-89) CARTHAGE                25.6
REGULAR3 C US:TX007841   720 31:48 095:09(42-89) RUSK                    28.4
*****
* GPS SITE: 68/481119     N32:00:00 W095:00:00 ELEV: 332, 1975
*****
FIRST O. F US:LA008440   250 32:28 093:49(30-89) SHREVEPORT WSO AP          76.4
ACTIVE C US:TX004525     570 31:58 095:16(53-89) JACKSONVILLE                15.8
REGULAR1 C US:TX004081   420 32:10 094:48( 8-89) HENDERSON                16.4
REGULAR2 C US:TX007841   720 31:48 095:09(42-89) RUSK                    16.4
REGULAR3 C US:TX009214   490 32:24 095:16(55-84) TYLER 5 NE              31.7
*****
* GPS SITE: 1/481122      N29:14:00 W098:15:00 ELEV: 457, 1974
*****
FIRST O. F US:TX007945   790 29:32 098:28(46-89) SAN ANTONIO WSFO          24.5
ACTIVE C US:TX003201     400 29:08 098:10(16-89) FLORESVILLE                8.5
REGULAR1 C US:TX007215   480 29:02 098:35(41-89) POTEET                    24.4
REGULAR2 C US:TX006368   390 29:16 097:46(21-89) NIXON                    29.3
REGULAR3 C US:TX004696   420 28:53 097:55(19-89) KARNES CITY              31.5
*****
* GPS SITE: 1/481123      N30:14:00 W099:26:00 ELEV: 2217, 1976
*****
FIRST O. F US:TX007945   790 29:32 098:28(46-89) SAN ANTONIO WSFO          75.5
ACTIVE C US:TX004782    1780 30:04 099:07(74-89) KERRVILLE 3 NNE              22.2
REGULAR1 C US:TX004670   1730 30:29 099:47( 1-89) JUNCTION                27.1
REGULAR2 C US:TX007232   2050 29:55 099:46(55-89) PRADE RANCH              29.6
REGULAR3 C US:TX005742   1630 29:48 099:15(66-89) MEDINA                31.9
*****
* GPS SITE: 1/481130      N29:33:00 W097:56:00 ELEV: 519, 1972
*****
FIRST O. F US:TX007945   790 29:32 098:28(46-89) SAN ANTONIO WSFO          32.1
ACTIVE C US:TX006276     710 29:44 098:07( 1-89) NEW BRAUNFELS                16.8
REGULAR1 C US:TX005429   400 29:40 097:39( 1-89) LULING                    18.8
REGULAR2 C US:TX007983   610 29:51 097:57( 1-89) SAN MARCOS                20.7
REGULAR3 C US:TX006368   390 29:16 097:46(21-89) NIXON                    22.0
*****
* GPS SITE: 1/481168      N32:40:00 W095:27:00 ELEV: 418, 1985
*****
FIRST O. F US:TX002244   440 32:51 096:51( 1-89) DALLAS FAA AP          82.4
ACTIVE C US:TX005956     390 32:43 095:22(66-89) MINEOLA 8 ENE                6.0
REGULAR1 C US:TX002902   460 32:52 095:44(44-89) EMORY                    21.5
REGULAR2 C US:TX009207   590 32:20 095:16(84-89) TYLER                    25.4
REGULAR3 C US:TX003546   390 32:44 094:59(29-89) GILMER 2 W              27.6

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* GPS SITE: 1/481169      N32:11:00 W094:48:00 ELEV: 430, 1972
*****
FIRST O. F US:LA008440    250 32:28 093:49(30-89) SHREVEPORT WSO AP      60.7
ACTIVE C US:TX004081     420 32:10 094:48( 8-89) HENDERSON              1.2
REGULAR1 C US:TX005348   410 32:21 094:39(75-89) LONGVIEW WSMO          14.5
REGULAR2 C US:TX001500   340 32:09 094:22( 8-89) CARTHAGE                25.5
REGULAR3 C US:TX009214   490 32:24 095:16(55-84) TYLER 5 NE             31.1
*****
* GPS SITE: 1/481174      N27:47:00 W097:52:00 ELEV: 109, 1970
*****
FIRST O. F US:TX002015    40 27:46 097:30(48-89) CORPUS CHRISTI WSO AP    22.5
ACTIVE C US:TX007677     90 27:47 097:40(22-89) ROBSTOWN                  12.2
REGULAR1 C US:TX000144   200 27:44 098:04(11-89) ALICE                    12.7
REGULAR2 C US:TX004810    70 27:33 097:53( 2-89) KINGSVILLE             16.1
REGULAR3 C US:TX005661   140 28:02 097:52(64-89) MATHIS 4 SSW              17.3
*****
* GPS SITE: 1/481178      N30:34:00 W096:40:00 ELEV: 425, 1989
*****
FIRST O. F US:TX001889   310 30:35 096:21(51-89) COLLEGE STATION FAA A      18.9
ACTIVE C US:TX008446    260 30:20 096:32(63-89) SOMERVILLE DAM              18.0
REGULAR1 C US:TX005193   470 30:25 097:01(48-89) LEXINGTON                23.3
REGULAR2 C US:TX001348   390 30:51 096:59( 8-89) CAMERON                  27.2
REGULAR3 C US:TX001048   350 30:09 096:24( 2-89) BRENNHAM                 32.9
*****
* GPS SITE: 1/481181      N28:35:00 W098:12:00 ELEV: 195, 1979
*****
FIRST O. F US:TX007945   790 29:32 098:28(46-89) SAN ANTONIO WSFO          67.6
ACTIVE C US:TX001720    230 28:28 098:16(83-89) CHOKE CANYON DAM          9.0
REGULAR1 C US:TX009031   350 28:25 098:32( 3-89) TILDEN                    23.3
REGULAR2 C US:TX004696   420 28:53 097:55(19-89) KARNES CITY                26.9
REGULAR3 C US:TX000639   260 28:27 097:42( 1-89) BEEVILLE 5 NE             31.8
*****
* GPS SITE: 1/481183      N33:19:45 W101:31:18 ELEV: 2994, 1975
*****
FIRST O. F US:TX005411  3250 33:39 101:49(11-89) LUBBOCK WSFO AP          27.9
ACTIVE C US:TX007206   2550 33:12 101:20(10-89) POST 3 ENE                    14.1
REGULAR1 C US:TX002121  3010 33:30 101:15( 1-89) CROSBYTON                19.6
REGULAR2 C US:TX008818  3120 33:10 101:09(13-89) TAHOKA                      24.3
REGULAR3 C US:TX003411  2530 32:46 101:27(12-89) GAIL                      39.1
*****
* GPS SITE: 2/482108      N29:21:00 W094:55:00 ELEV: 8, 1985
*****
FIRST O. F US:TX003430    10 29:18 094:48( 4-89) GALVESTON WSO CI          7.8
ACTIVE C US:TX000204     40 29:25 095:13( 1-89) ALVIN (HOU AREA WSO)          18.7
REGULAR1 F US:TX004307    50 29:39 095:17(41-89) HOUSTON FAA AP              30.3
REGULAR2 C US:TX000235    20 29:47 094:40( 9-89) ANAHUAC                 33.5
REGULAR3 C US:TX000586    30 29:50 095:00(46-89) BAYTOWN                 33.8
*****
* GPS SITE: 2/482133      N31:04:00 W097:20:00 ELEV: 599, 1986
*****
FIRST O. F US:TX009419   500 31:37 097:13(30-89) WACO WSO AP              38.6
ACTIVE C US:TX008910    700 31:05 097:22( 1-89) TEMPLE                      2.3
REGULAR1 C US:TX000665   660 31:06 097:29(51-89) BELTON DAM                      9.2
REGULAR2 C US:TX008646   710 31:02 097:32(63-89) STILLHOUSE HOLLOW DAM          12.1
REGULAR3 C US:TX004792   910 31:04 097:44(78-89) KILLEEN 3 S                23.7
*****
* GPS SITE: 2/482172      N32:22:24 W100:58:47 ELEV: 2134, 1982
*****
FIRST O. F US:TX000016   1760 32:26 099:41(48-89) ABILENE WSO AP              75.8
ACTIVE C US:TX004974   2100 32:20 100:55(54-89) LAKE COLORADO CITY          4.6
REGULAR1 C US:TX008433   2340 32:43 100:55(11-89) SNYDER                      24.0
REGULAR2 C US:TX007743   2380 32:27 100:32(35-89) ROSCOE                      26.6
REGULAR3 C US:TX000786   2500 32:15 101:27(48-89) BIG SPRING                 28.8
*****
* GPS SITE: 2/482176      N34:09:57 W101:42:29 ELEV: 3369, 1971
*****
FIRST O. F US:TX005411  3250 33:39 101:49(11-89) LUBBOCK WSFO AP          36.2
ACTIVE C US:TX007079   3370 34:11 101:42( 8-89) PLAINVIEW                    1.3
REGULAR1 C US:TX006644   3610 34:11 102:08(28-89) OLTON                      24.4
REGULAR2 C US:TX003214   3220 33:58 101:20(11-89) FLOYDADA                 25.5
REGULAR3 C US:TX009175   3480 34:32 101:46(47-89) TULIA                      25.6

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*****
* GPS SITE: 3/483003      N32:52:00 W096:56:00 ELEV: 431, 1975
*****
FIRST O. F US:TX002244    440 32:51 096:51( 1-89) DALLAS FAA AP           5.0
ACTIVE F US:TX002242     550 32:54 097:02(74-89) DAL-FTW REG WSCMO AP      6.2
REGULAR1 C US:TX003691   590 32:58 097:03( 1-89) GRAPEVINE DAM             9.7
REGULAR2 C US:TX002404   630 33:12 097:06(13-89) DENTON 2 SE                    25.0
REGULAR3 C US:TX005766   600 33:10 096:37( 3-89) MC KINNEY 3 S              27.7
*****
* GPS SITE: 3/483010      N29:47:30 W094:54:30 ELEV: 26, 1984
*****
FIRST O. F US:TX004307    50 29:39 095:17(41-89) HOUSTON FAA AP           24.6
ACTIVE C US:TX000586     30 29:50 095:00(46-89) BAYTOWN                     6.2
REGULAR1 C US:TX000235    20 29:47 094:40( 9-89) ANAHUAC                 14.5
REGULAR2 C US:TX004328    60 29:55 095:09(54-89) HOUSTON SAN JACINTO D      16.9
REGULAR3 C US:TX005196    40 30:03 094:48( 4-89) LIBERTY                  19.0
*****
* GPS SITE: 2/483559      N30:42:00 W095:39:00 ELEV: 408, 1970
*****
FIRST O. F US:TX001889   310 30:35 096:21(51-89) COLLEGE STATION FAA A      42.4
ACTIVE C US:TX004382     490 30:43 095:33(46-89) HUNTSVILLE                6.1
REGULAR1 C US:TX005477    250 30:57 095:55(18-89) MADISONVILLE              23.4
REGULAR2 C US:TX001956    240 30:20 095:29(48-89) CONROE                     27.2
REGULAR3 C US:TX001870    360 30:32 095:09(54-89) COLDSRING 5 SSW           31.9
*****
* GPS SITE: 9/483569      N33:07:20 W095:45:21 ELEV: 523, 1960
*****
FIRST O. F US:TX002244    440 32:51 096:51( 1-89) DALLAS FAA AP           66.2
ACTIVE C US:TX008743     500 33:09 095:38( 1-89) SULPHUR SPRINGS                7.4
REGULAR1 C US:TX002902    460 32:52 095:44(44-89) EMORY                     17.7
REGULAR2 C US:TX003734    610 33:12 096:13( 1-89) GREENVILLE 7 NW                 27.2
REGULAR3 C US:TX006119    480 33:11 095:14(66-89) MOUNT VERNON                   30.6
*****
* GPS SITE: 1/483579      N32:37:00 W095:52:00 ELEV: 49, 1987
*****
FIRST O. F US:TX002244    440 32:51 096:51( 1-89) DALLAS FAA AP           59.4
ACTIVE C US:TX009800     520 32:42 096:01( 5-89) WILLS POINT                     10.5
REGULAR1 C US:TX004483    450 32:49 095:55(75-89) IRON BRIDGE DAM                 14.1
REGULAR2 C US:TX002902    460 32:52 095:44(44-89) EMORY                     18.9
REGULAR3 C US:TX004705    420 32:33 096:16( 1-89) KAUFMAN 3 SE                23.8
*****
* GPS SITE: 3/483589      N34:08:24 W099:12:10 ELEV: 1230, 1961
*****
FIRST O. F US:TX009729   990 33:58 098:29( 1-89) WICHITA FALLS WSO AP      42.9
ACTIVE C US:TX009346    1200 34:05 099:18( 4-89) VERNON 4 S                6.8
REGULAR1 C US:OK008879   1360 34:26 099:08(38-79) TIPTON 4 S                    20.6
REGULAR2 C US:OK003353   1300 34:24 099:01( 5-89) FREDERICK                     20.9
REGULAR3 C US:TX004982   1170 33:45 099:09(62-89) LAKE KEMP                   27.1
*****
* GPS SITE: 1/483609      N33:37:20 W100:46:00 ELEV: 2289, 1974
*****
FIRST O. F US:TX005411   3250 33:39 101:49(11-89) LUBBOCK WSFO AP           60.5
ACTIVE C US:TX003828     1740 33:37 100:19(47-89) GUTHRIE                     25.9
REGULAR1 C US:TX002448    2580 33:37 100:50(64-84) DICKENS                      3.9
REGULAR2 C US:TX005658    2290 34:01 100:50(47-89) MATADOR                     27.5
REGULAR3 C US:TX004570    2010 33:15 100:34(10-89) JAYTON                     28.2
*****
* GPS SITE: 7A/483629     N29:43:17 W096:25:35 ELEV: 260, 1965
*****
FIRST O. F US:TX001889   310 30:35 096:21(51-89) COLLEGE STATION FAA A      59.7
ACTIVE C US:TX001911     200 29:43 096:32(15-89) COLUMBUS                      6.4
REGULAR1 C US:TX008160    190 29:47 096:08(10-89) SEALY                     18.1
REGULAR2 C US:TX001048    350 30:09 096:24( 2-89) BRENHAM                     29.6
REGULAR3 C US:TX004903    360 29:55 096:52(10-89) LA GRANGE                     29.7
*****
* GPS SITE: 2/483669      N31:19:40 W094:47:10 ELEV: 315, 1983
*****
FIRST O. F US:LA008440    250 32:28 093:49(30-89) SHREVEPORT WSO AP          97.1
ACTIVE C US:TX005424     280 31:14 094:45( 6-89) LUFKIN FAA AP                      6.9
REGULAR1 C US:TX006177    440 31:37 094:38(48-89) NACOGDOCHES                     21.9
REGULAR2 C US:TX003778    350 31:04 095:08(23-89) GROVETON                     27.3
REGULAR3 C US:TX007841    720 31:48 095:09(42-89) RUSK                      39.0

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*****
* GPS SITE: 2/483679      N31:22:19 W094:30:20 ELEV: 195, 1988
*****
FIRST O. F US:LA008440    250 32:28 093:49(30-89) SHREVEPORT WSO AP      85.7
ACTIVE C US:TX005424      280 31:14 094:45( 6-89) LUFKIN FAA AP        17.3
REGULAR1 C US:TX006177    440 31:37 094:38(48-89) NACOGDOCHES          18.5
REGULAR2 C US:TX007936    190 31:04 094:06(68-89) SAM RAYBURN DAM          31.9
REGULAR3 C US:TX001578    330 31:48 094:10(22-89) CENTER                35.7
*****
* GPS SITE: 2/483689      N30:42:21 W094:51:34 ELEV: 341, 1987
*****
FIRST O. F US:TX004300    100 29:58 095:21(69-89) HOUSTON WSCMO AP      58.8
ACTIVE C US:TX005271      180 30:44 094:56(37-89) LIVINGSTON 2 NNE        4.8
REGULAR1 C US:TX001870    360 30:32 095:09(54-89) COLDSRING 5 SSW          21.0
REGULAR2 C US:TX001810    200 30:22 095:05(54-89) CLEVELAND                27.0
REGULAR3 C US:TX003778    350 31:04 095:08(23-89) GROVETON                29.8
*****
* GPS SITE: 4/483699      N29:36:57 W095:36:20 ELEV: 84, 1973
*****
FIRST O. F US:TX004307    50 29:39 095:17(41-89) HOUSTON FAA AP        19.5
ACTIVE C US:TX008728      80 29:37 095:38(46-89) SUGAR LAND          1.7
REGULAR1 C US:TX008996    70 29:29 095:38(42-89) THOMPSONS 3 WSW          9.3
REGULAR2 C US:TX000204    40 29:25 095:13( 1-89) ALVIN (HOU AREA WSO)        27.1
REGULAR3 F US:TX004300    100 29:58 095:21(69-89) HOUSTON WSCMO AP      28.7
*****
* GPS SITE: 5/483719      N30:01:00 W094:03:00 ELEV: 21, 1965
*****
FIRST O. F US:TX007174    20 29:57 094:01(47-89) PORT ARTHUR WSO AP          5.0
ACTIVE C US:TX006664      20 30:07 093:47( 5-89) ORANGE 4 NW          17.4
REGULAR1 C US:LA003979    10 29:53 093:25(48-89) HACKBERRY 8 SSW          39.1
REGULAR2 C US:TX000235    20 29:47 094:40( 9-89) ANAHUAC            40.3
REGULAR3 C US:TX004819    180 30:37 093:49(29-77) KIRBYVILLE 5 ESE        43.7
*****
* GPS SITE: 1/483729      N26:05:00 W097:35:00 ELEV: 38, 1983
*****
FIRST O. F US:TX001136    20 25:54 097:26( 1-89) BROWNSVILLE WSO AP        15.7
ACTIVE C US:TX003943      30 26:12 097:40(11-89) MARLINGEN            9.6
REGULAR1 C US:TX007179    20 26:04 097:13(28-89) PORT ISABEL          22.8
REGULAR2 C US:TX009588    80 26:09 097:58(47-89) WESLACO 2 E            24.2
REGULAR3 C US:TX007458    30 26:29 097:48(10-89) RAYMONDVILLE          30.7
*****
* GPS SITE: 1/483739      N26:59:00 W097:48:00 ELEV: 36, 1982
*****
FIRST O. F US:TX002015    40 27:46 097:30(48-89) CORPUS CHRISTI WSO AP        57.1
ACTIVE C US:TX003063     120 27:14 098:08( 7-89) FALFURRIAS          26.8
REGULAR1 C US:TX007458    30 26:29 097:48(10-89) RAYMONDVILLE          34.5
REGULAR2 C US:TX007184    10 26:33 097:26(58-89) PORT MANSFIELD          37.5
REGULAR3 C US:TX004810    70 27:33 097:53( 2-89) KINGSVILLE          39.5
*****
* GPS SITE: 1/483749      N27:56:00 W098:33:00 ELEV: 570, 1981
*****
FIRST O. F US:TX002015    40 27:46 097:30(48-89) CORPUS CHRISTI WSO AP        65.2
ACTIVE C US:TX003341     530 27:53 098:37(47-89) FREER              5.3
REGULAR1 C US:TX000690    380 27:36 098:25(62-89) BENAVIDES 2            24.4
REGULAR2 C US:TX000144    200 27:44 098:04(11-89) ALICE              32.6
REGULAR3 C US:TX009031    350 28:25 098:32( 3-89) TILDEN              33.4
*****
* GPS SITE: 1/483769      N31:48:00 W106:15:00 ELEV: 3991, 1976
*****
FIRST O. F US:TX002797    3920 31:48 106:24(48-89) EL PASO WSO AP          8.8
ACTIVE C US:TX009966     3670 31:42 106:19(39-89) YSLETA              7.9
REGULAR1 C US:TX004931    3800 31:58 106:36(43-89) LA TUNA 1 S          23.6
REGULAR2 C US:TX009088    3530 31:25 106:05(46-89) TORNILLO 2 SSE          28.2
REGULAR3 C US:NM006435    4180 32:23 106:06(48-89) OROGRANDE          41.2
*****
* GPS SITE: 5/483779      N31:47:00 W106:26:00 ELEV: 3778, 1978
*****
FIRST O. F US:TX002797    3920 31:48 106:24(48-89) EL PASO WSO AP          2.3
ACTIVE C US:TX009966     3670 31:42 106:19(39-89) YSLETA              9.0
REGULAR1 C US:TX004931    3800 31:58 106:36(43-89) LA TUNA 1 S          16.0
REGULAR2 C US:TX002794    5240 31:50 105:56(83-89) EL PASO 15 ENE          29.6
REGULAR3 C US:TX009088    3530 31:25 106:05(46-89) TORNILLO 2 SSE          32.7

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*****
* GPS SITE: 9/483845      N33:35:00 W097:10:00 ELEV: 762, 1960
*****
FIRST O. F US:TX002242    550 32:54 097:02(74-89) DAL-FTW REG WSCMO AP    46.7
ACTIVE C US:TX007028      690 33:23 096:58(47-89) PILOT POINT                17.1
REGULAR1 C US:TX003415    760 33:38 097:08( 1-87) GAINESVILLE              5.0
REGULAR2 C US:OK005563    850 33:56 097:07(48-89) MARIETTA                  25.5
REGULAR3 C US:TX002404    630 33:12 097:06(13-89) DENTON 2 SE                25.6
*****
* GPS SITE: 1/483855      N29:53:57 W096:48:27 ELEV: 320, 1979
*****
FIRST O. F US:TX001889    310 30:35 096:21(51-89) COLLEGE STATION FAA A    54.6
ACTIVE C US:TX004903      360 29:55 096:52(10-89) LA GRANGE                  3.7
REGULAR1 C US:TX001911    200 29:43 096:32(15-89) COLUMBUS                    20.7
REGULAR2 C US:TX008415    320 30:01 097:09(17-89) SMITHVILLE                22.1
REGULAR3 C US:TX003183    520 29:40 097:07( 8-89) FLATONIA                   24.5
*****
* GPS SITE: 1/483865      N31:34:35 W098:40:00 ELEV: 1473, 1969
*****
FIRST O. F US:TX000016    1760 32:26 099:41(48-89) ABILENE WSO AP            84.0
ACTIVE C US:TX003614      1500 31:27 098:35(23-89) GOLDTHWAITE 1 WSW        10.0
REGULAR1 C US:TX001138    1390 31:43 099:00(47-89) BROWNWOOD                    21.9
REGULAR2 C US:TX007992    1200 31:11 098:43( 1-89) SAN SABA                    27.3
REGULAR3 C US:TX003005    1270 31:27 098:13(41-89) EVANT 4 SW                27.9
*****
* GPS SITE: 1/483875      N36:09:55 W102:01:30 ELEV: 3602, 1985
*****
FIRST O. F US:NM001887    4970 36:27 103:09( 9-89) CLAYTON WSO AP            65.7
ACTIVE C US:TX008692      3690 36:21 102:05(11-89) STRATFORD                  13.2
REGULAR1 C US:TX002617    3660 35:52 101:58(37-89) DUMAS                      20.9
REGULAR2 C US:TX002240    3990 36:01 102:33(48-89) DALHART FAA AP                    31.1
REGULAR3 C US:TX003787    3170 36:15 101:24(41-89) GRUVER                      35.4
*****
* GPS SITE: 4/484142      N31:01:30 W093:59:00 ELEV: 363, 1972
*****
FIRST O. F US:TX007174    20 29:57 094:01(47-89) PORT ARTHUR WSO AP            74.3
ACTIVE C US:TX007936      190 31:04 094:06(68-89) SAM RAYBURN DAM                      7.5
REGULAR1 C US:TX009101    210 30:48 094:11(70-89) TOWN BLUFF DAM                    19.6
REGULAR2 C US:TX009068    190 31:11 093:34(75-89) TOLEDO BEND DAM                    27.0
REGULAR3 C US:LA008046    240 30:57 093:17(69-89) ROSEPIKE RESEARCH STA                41.8
*****
* GPS SITE: 4/484143      N30:02:30 W094:22:30 ELEV: 42, 1970
*****
FIRST O. F US:TX007174    20 29:57 094:01(47-89) PORT ARTHUR WSO AP            22.4
ACTIVE C US:TX000613      30 30:04 094:17(48-89) BEAUMONT RESEARCH CTR                      5.8
REGULAR1 C US:TX000235    20 29:47 094:40( 9-89) ANAHUAC                      25.0
REGULAR2 C US:TX005196    40 30:03 094:48( 4-89) LIBERTY                      25.5
REGULAR3 C US:TX006664    20 30:07 093:47( 5-89) ORANGE 4 NW                    35.8
*****
* GPS SITE: 4/484146      N29:43:00 W094:55:30 ELEV: 21, 1981
*****
FIRST O. F US:TX004307    50 29:39 095:17(41-89) HOUSTON FAA AP                    22.0
ACTIVE C US:TX000586      30 29:50 095:00(46-89) BAYTOWN                      9.2
REGULAR1 C US:TX000235    20 29:47 094:40( 9-89) ANAHUAC                      16.2
REGULAR2 C US:TX004328    60 29:55 095:09(54-89) HOUSTON SAN JACINTO D                    19.3
REGULAR3 C US:TX005196    40 30:03 094:48( 4-89) LIBERTY                      24.2
*****
* GPS SITE: 4/484152      N30:04:30 W094:46:30 ELEV: 47, 1981
*****
FIRST O. F US:TX004300    100 29:58 095:21(69-89) HOUSTON WSCMO AP                    35.2
ACTIVE C US:TX005196      40 30:03 094:48( 4-89) LIBERTY                      2.3
REGULAR1 C US:TX000235    20 29:47 094:40( 9-89) ANAHUAC                      21.2
REGULAR2 C US:TX000586    30 29:50 095:00(46-89) BAYTOWN                      21.5
REGULAR3 C US:TX004328    60 29:55 095:09(54-89) HOUSTON SAN JACINTO D                    25.0
*****
* GPS SITE: 5/485024      N29:43:32 W096:34:42 ELEV: 210, 1982
*****
FIRST O. F US:TX001889    310 30:35 096:21(51-89) COLLEGE STATION FAA A    60.8
ACTIVE C US:TX001911      200 29:43 096:32(15-89) COLUMBUS                      2.8
REGULAR1 C US:TX004903    360 29:55 096:52(10-89) LA GRANGE                  21.8
REGULAR2 C US:TX008160    190 29:47 096:08(10-89) SEALY                      27.0
REGULAR3 C US:TX003873    280 29:28 096:57( 1-89) HALLETTSVILLE 2 N                28.6

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*****
* GPS SITE: 5/485026      N29:02:00 W095:28:00 ELEV: 18, 1987
*****
FIRST O. F US:TX004307    50 29:39 095:17(41-89) HOUSTON FAA AP      44.0
ACTIVE C US:TX003340     10 28:59 095:23(31-89) FREEPORT 2 NW        6.1
REGULAR1 C US:TX000257   30 29:09 095:27(13-89) ANGLETON 2 W         8.1
REGULAR2 C US:TX000204   40 29:25 095:13( 1-89) ALVIN (HOU AREA WSO) 30.5
REGULAR3 C US:TX006286   70 29:16 095:54(46-89) NEW GULF              30.7
*****
* GPS SITE: 5/485035      N32:48:00 W096:40:00 ELEV: 559, 1979
*****
FIRST O. F US:TX002244   440 32:51 096:51( 1-89) DALLAS FAA AP      11.2
ACTIVE C US:TX003133     480 32:32 096:40(40-89) FERRIS              18.4
REGULAR1 C US:TX005094   510 33:02 096:29(49-89) LAVON DAM              19.3
REGULAR2 F US:TX002242   550 32:54 097:02(74-89) DAL-FTW REG WSCMO AP 22.4
REGULAR3 C US:TX003691   590 32:58 097:03( 1-89) GRAPEVINE DAM      25.1
*****
* GPS SITE: 5/485154      N29:41:35 W097:12:47 ELEV: 355, 1971
*****
FIRST O. F US:TX000428   600 30:18 097:42(30-89) AUSTIN WSO AP      51.1
ACTIVE C US:TX003183     520 29:40 097:07( 8-89) FLATONIA              6.1
REGULAR1 C US:TX003622   310 29:30 097:27(15-89) GONZALES              19.5
REGULAR2 C US:TX003873   280 29:28 096:57( 1-89) HALLETTSVILLE 2 N 22.2
REGULAR3 C US:TX008415   320 30:01 097:09(17-89) SMITHVILLE          22.7
*****
* GPS SITE: 5/485274      N32:40:00 W097:12:00 ELEV: 641, 1973
*****
FIRST O. F US:TX002242   550 32:54 097:02(74-89) DAL-FTW REG WSCMO AP 18.8
ACTIVE C US:TX000691     790 32:39 097:27(49-89) BENBROOK DAM              14.6
REGULAR1 C US:TX002677   760 32:53 097:27(78-89) EAGLE MOUNTAIN LAKE      20.9
REGULAR2 C US:TX003691   590 32:58 097:03( 1-89) GRAPEVINE DAM      22.5
REGULAR3 F US:TX002244   440 32:51 096:51( 1-89) DALLAS FAA AP      24.0
*****
* GPS SITE: 5/485278      N31:54:55 W102:14:34 ELEV: 2868, 1975
*****
FIRST O. F US:TX005890   2860 31:57 102:11(48-89) MIDLAND/ODESSA WSO AP 4.2
ACTIVE C US:TX005891     2740 32:01 102:01(47-89) MIDLAND 4 ENE        15.0
REGULAR1 C US:TX006932   2940 31:44 102:35(55-89) PENWELL              23.6
REGULAR2 C US:TX005888   2700 31:38 101:50(81-89) MIDKIFF              31.0
REGULAR3 C US:TX000248   3170 32:19 102:32(14-89) ANDREWS              32.5
*****
* GPS SITE: 5/485283      N32:52:00 W097:05:00 ELEV: 560, 1988
*****
FIRST O. F US:TX002242   550 32:54 097:02(74-89) DAL-FTW REG WSCMO AP 3.7
ACTIVE C US:TX003691     590 32:58 097:03( 1-89) GRAPEVINE DAM              7.2
REGULAR1 F US:TX002244   440 32:51 096:51( 1-89) DALLAS FAA AP      13.6
REGULAR2 C US:TX002677   760 32:53 097:27(78-89) EAGLE MOUNTAIN LAKE      21.3
REGULAR3 C US:TX002404   630 33:12 097:06(13-89) DENTON 2 SE              23.0
*****
* GPS SITE: 5/485284      N32:54:00 W097:05:00 ELEV: 562, 1988
*****
FIRST O. F US:TX002242   550 32:54 097:02(74-89) DAL-FTW REG WSCMO AP 2.9
ACTIVE C US:TX003691     590 32:58 097:03( 1-89) GRAPEVINE DAM              5.0
REGULAR1 F US:TX002244   440 32:51 096:51( 1-89) DALLAS FAA AP      14.0
REGULAR2 C US:TX002404   630 33:12 097:06(13-89) DENTON 2 SE              20.7
REGULAR3 C US:TX002677   760 32:53 097:27(78-89) EAGLE MOUNTAIN LAKE      21.3
*****
* GPS SITE: 5/485287      N32:50:00 W097:20:00 ELEV: 679, 1973
*****
FIRST O. F US:TX002242   550 32:54 097:02(74-89) DAL-FTW REG WSCMO AP 18.0
ACTIVE C US:TX002677     760 32:53 097:27(78-89) EAGLE MOUNTAIN LAKE              7.6
REGULAR1 C US:TX000691   790 32:39 097:27(49-89) BENBROOK DAM              14.4
REGULAR2 C US:TX003691   590 32:58 097:03( 1-89) GRAPEVINE DAM      18.9
REGULAR3 F US:TX002244   440 32:51 096:51( 1-89) DALLAS FAA AP      28.1
*****
* GPS SITE: 5/485301      N32:42:00 W097:28:00 ELEV: 704, 1982
*****
FIRST O. F US:TX002242   550 32:54 097:02(74-89) DAL-FTW REG WSCMO AP 28.7
ACTIVE C US:TX000691     790 32:39 097:27(49-89) BENBROOK DAM              3.6
REGULAR1 C US:TX002677   760 32:53 097:27(78-89) EAGLE MOUNTAIN LAKE      12.7
REGULAR2 C US:TX009532  1070 32:46 097:49( 2-89) WEATHERFORD              20.9
REGULAR3 C US:TX001800   780 32:20 097:24( 7-89) CLEBURNE              25.6

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*****
* GPS SITE: 5/485310      N33:13:00 W097:36:00 ELEV: 911, 1987
*****
FIRST O. F US:TX002242    550 32:54 097:02(74-89) DAL-FTW REG WSCMO AP      39.5
ACTIVE C US:TX001063      750 33:13 097:46(15-89) BRIDGEPORT                9.6
REGULAR1 C US:TX002677    760 32:53 097:27(78-89) EAGLE MOUNTAIN LAKE        24.6
REGULAR2 C US:TX000984    1120 33:34 097:51( 1-89) BOWIE                        28.2
REGULAR3 C US:TX002404     630 33:12 097:06(13-89) DENTON 2 SE                29.0
*****
* GPS SITE: 5/485317      N32:35:00 W097:08:00 ELEV: 650, 1982
*****
FIRST O. F US:TX002242    550 32:54 097:02(74-89) DAL-FTW REG WSCMO AP      22.6
ACTIVE C US:TX000691      790 32:39 097:27(49-89) BENBROOK DAM                19.0
REGULAR1 C US:TX009522    630 32:25 096:51( 1-89) WAXAHACHIE                20.1
REGULAR2 C US:TX001800    780 32:20 097:24( 7-89) CLEBURNE                23.2
REGULAR3 F US:TX002244     440 32:51 096:51( 1-89) DALLAS FAA AP                24.7
*****
* GPS SITE: 5/485323      N35:12:00 W101:07:00 ELEV: 3290, 1980
*****
FIRST O. F US:TX000211    3590 35:14 101:42(48-89) AMARILLO WSO AP            33.0
ACTIVE C US:TX001778      3400 35:07 101:22( 4-89) CLAUDE                  15.3
REGULAR1 C US:TX006785    3440 35:21 101:23(11-89) PANHANDLE                18.3
REGULAR2 C US:TX001761    2700 34:56 100:53( 4-89) CLARENDON                22.7
REGULAR3 C US:TX006776    3150 35:34 100:58(64-89) PAMPA 2                26.7
*****
* GPS SITE: 5/485328      N33:35:00 W097:55:00 ELEV: 1033, 1975
*****
FIRST O. F US:TX009729     990 33:58 098:29( 1-89) WICHITA FALLS WSO AP        42.0
ACTIVE C US:TX000984     1120 33:34 097:51( 1-89) BOWIE                      4.0
REGULAR1 C US:TX004093     900 33:49 098:12( 2-89) HENRIETTA                22.9
REGULAR2 C US:TX001063     750 33:13 097:46(15-89) BRIDGEPORT                26.8
REGULAR3 C US:TX004517    1100 33:14 098:09(41-89) JACKSBORO                27.7
*****
* GPS SITE: 5/485334      N35:13:00 W100:13:00 ELEV: 2302, 1970
*****
FIRST O. F US:OK003407    2190 36:18 099:46(48-89) GAGE FAA AP                79.0
ACTIVE C US:TX008236      2360 35:13 100:15(62-89) SHAMROCK NO 2                1.9
REGULAR1 C US:TX005770    2860 35:14 100:36(48-89) MC LEAN                21.7
REGULAR2 C US:OK002944    1990 35:12 099:48(48-89) ERICK 4 E                23.6
REGULAR3 C US:TX009565    2040 34:50 100:13(12-89) WELLINGTON                26.5
*****
* GPS SITE: 5/485335      N35:11:00 W101:04:00 ELEV: 3265, 1980
*****
FIRST O. F US:TX000211    3590 35:14 101:42(48-89) AMARILLO WSO AP            36.0
ACTIVE C US:TX001778      3400 35:07 101:22( 4-89) CLAUDE                  17.6
REGULAR1 C US:TX001761    2700 34:56 100:53( 4-89) CLARENDON                20.1
REGULAR2 C US:TX006785    3440 35:21 101:23(11-89) PANHANDLE                21.3
REGULAR3 C US:TX005770    2860 35:14 100:36(48-89) MC LEAN                26.6
*****
* GPS SITE: 5/485336      N34:58:00 W101:52:00 ELEV: 3551, 1987
*****
FIRST O. F US:TX000211    3590 35:14 101:42(48-89) AMARILLO WSO AP            20.7
ACTIVE C US:TX001430      3590 34:59 101:56(23-89) CANYON                  3.9
REGULAR1 C US:TX001778    3400 35:07 101:22( 4-89) CLAUDE                 30.2
REGULAR2 C US:TX009175    3480 34:32 101:46(47-89) TULIA                 30.5
REGULAR3 C US:TX004098    3820 34:49 102:24( 5-89) HEREFORD                32.0
*****
* GPS SITE: 6A/486079     N35:10:00 W103:01:00 ELEV: 3826, 1973
*****
FIRST O. F US:TX000211    3590 35:14 101:42(48-89) AMARILLO WSO AP            74.6
ACTIVE C US:NM007867      4230 35:07 103:20(48-89) SAN JON                 18.2
REGULAR1 C US:NM001332    4600 34:54 103:23(48-89) CAMERON                 27.8
REGULAR2 F US:NM009153    4050 35:11 103:36(48-82) TUCUMCARI FAA AP            33.0
REGULAR3 C US:TX001033    4160 35:39 103:00(48-89) BRAVO                 33.4
*****
* GPS SITE: 6A/486086     N28:10:00 W097:51:00 ELEV: 186, 1971
*****
FIRST O. F US:TX002015     40 27:46 097:30(48-89) CORPUS CHRISTI WSO AP        34.9
ACTIVE C US:TX005661      140 28:02 097:52(64-89) MATHIS 4 SSW                9.3
REGULAR1 C US:TX000639    260 28:27 097:42( 1-89) BEEVILLE 5 NE                21.6
REGULAR2 C US:TX008354     50 28:03 097:30(21-89) SINTON                 22.8
REGULAR3 C US:TX007677     90 27:47 097:40(22-89) ROBSTOWN                28.7

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*****
* GPS SITE: 6A/486160      N34:25:46 W102:59:17 ELEV: 4140, 1962
*****
FIRST O. F US:TX005411 3250 33:39 101:49(11-89) LUBBOCK WSFO AP 86.1
ACTIVE C US:NM001939 4280 34:22 103:12(10-89) CLOVIS 3 SSW 12.9
REGULAR1 C US:NM001963 4440 34:36 103:13(49-89) CLOVIS 13 N 17.6
REGULAR2 C US:TX006135 3760 34:14 102:45(21-89) MULESHOE 1 19.2
REGULAR3 C US:TX003368 4030 34:38 102:43(27-89) FRIONA 20.9
*****
* GPS SITE: 6A/486179      N34:18:51 W102:53:07 ELEV: 3987, 1965
*****
FIRST O. F US:TX005411 3250 33:39 101:49(11-89) LUBBOCK WSFO AP 76.6
ACTIVE C US:TX006135 3760 34:14 102:45(21-89) MULESHOE 1 9.5
REGULAR1 C US:NM001939 4280 34:22 103:12(10-89) CLOVIS 3 SSW 18.3
REGULAR2 C US:TX003368 4030 34:38 102:43(27-89) FRIONA 24.0
REGULAR3 C US:NM001963 4440 34:36 103:13(49-89) CLOVIS 13 N 27.3
*****
* GPS SITE: 7A/487165      N29:47:00 W095:16:00 ELEV: 43, 1962
*****
FIRST O. F US:TX004307 50 29:39 095:17(41-89) HOUSTON FAA AP 9.3
ACTIVE F US:TX004300 100 29:58 095:21(69-89) HOUSTON WSCMO AP 13.6
REGULAR1 C US:TX000586 30 29:50 095:00(46-89) BAYTOWN 16.4
REGULAR2 C US:TX008728 80 29:37 095:38(46-89) SUGAR LAND 24.9
REGULAR3 C US:TX000204 40 29:25 095:13(1-89) ALVIN (HOU AREA WSO) 25.5
*****
* GPS SITE: 1/489005      N29:30:00 W098:43:00 ELEV: 910, 1986
*****
FIRST O. F US:TX007945 790 29:32 098:28(46-89) SAN ANTONIO WSFO 15.2
ACTIVE C US:TX005454 720 29:14 098:50(76-89) LITTLE 3 W 19.7
REGULAR1 C US:TX000902 1420 29:48 098:43(1-89) BOERNE 20.7
REGULAR2 C US:TX004256 920 29:21 099:10(75-89) HONDO WSMO AP 29.0
REGULAR3 C US:TX007215 480 29:02 098:35(41-89) POTEET 33.2
*****
* GPS SITE: 9/489167      N31:54:00 W096:22:00 ELEV: 356, 1967
*****
FIRST O. F US:TX009419 500 31:37 097:13(30-89) WACO WSO AP 53.7
ACTIVE C US:TX002019 430 32:05 096:28(1-89) CORSICANA 14.0
REGULAR1 C US:TX005869 540 31:41 096:29(4-89) MEXIA 16.5
REGULAR2 C US:TX003047 440 31:44 096:06(41-89) FAIRFIELD 4 E 19.4
REGULAR3 C US:TX006210 450 31:57 096:42(63-89) NAVARRO MILLS DAM 19.9
*****
* GPS SITE: 9/489355      N32:28:45 W096:50:00 ELEV: 635, 1960
*****
FIRST O. F US:TX002244 440 32:51 096:51(1-89) DALLAS FAA AP 25.6
ACTIVE C US:TX009522 630 32:25 096:51(1-89) WAXAHACHIE 4.4
REGULAR1 C US:TX003133 480 32:32 096:40(40-89) FERRIS 10.4
REGULAR2 C US:TX000518 460 32:16 096:38(65-89) BARDWELL DAM 18.8
REGULAR3 F US:TX002242 550 32:54 097:02(74-89) DAL-FW REG WSCMO AP 31.3
*****
* GPS SITE: 1/491001      N37:16:40 W109:35:05 ELEV: 4384, 1982
*****
FIRST O. F US:CO003488 4850 39:06 108:33(1-89) GRAND JUNCTION WSO AP 137.8 REJECTED
ACTIVE C US:UT000788 4320 37:17 109:33(28-89) BLUFF 1.9
REGULAR1 C US:UT000157 4620 37:15 109:20(59-89) ANETH PLANT 14.0
REGULAR2 C US:UT005582 4120 37:09 109:52(48-89) MEXICAN HAT 17.9
REGULAR3 C US:UT000738 6130 37:37 109:28(4-89) BLANDING 24.3
*****
* GPS SITE: 6A/491004      N38:01:55 W112:21:35 ELEV: 6321, 1973
*****
FIRST O. F US:UT001008 7920 37:39 112:10(59-89) BRYCE CANYON NP HQ 28.4 REJECTED
ACTIVE C US:UT001432 6060 38:10 112:16(48-89) CIRCLEVILLE 10.6
REGULAR1 C US:UT006601 6720 37:49 112:27(48-89) PANGUITCH 15.7
REGULAR2 C US:UT000519 5940 38:18 112:38(28-89) BEAVER 23.7 REJECTED
REGULAR3 C US:UT001002 7590 37:42 112:09(48-83) BRYCE CANYON FAA AP 25.6
*****
* GPS SITE: 6A/491005      N41:04:30 W111:54:30 ELEV: 4800, 1971
*****
FIRST O. F US:UT007598 4220 40:47 111:57(48-89) SALT LAKE CITY NWSFO 20.3
ACTIVE C US:UT002726 4340 41:01 111:55(48-89) FARMINGTON USU FLD ST 4.1
REGULAR1 C US:UT007318 4400 41:09 112:00(28-89) RIVERDALE 7.0
REGULAR2 C US:UT005826 5060 41:02 111:41(48-89) MORGAN 12.1 REJECTED
REGULAR3 C US:UT006404 4350 41:15 111:57(48-89) OGDEN PIONEER P H 12.3

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*****
* GPS SITE: 6A/491006      N39:10:30 W111:50:15 ELEV: 5132, 1975
*****
FIRST O. F US:UT005654 5030 38:26 113:01(28-89) MILFORD WSMO      81.6 REJECTED
ACTIVE C US:UT003514 5150 39:09 111:49(56-89) GUNNISON      2.1
REGULAR1 C US:UT005402 5740 39:15 111:38(28-89) MANTI      12.1
REGULAR2 C US:UT007557 5130 38:58 111:52(28-89) SALINA      14.5
REGULAR3 C US:UT007714 5310 39:15 112:06(28-89) SCIPPIO      15.0 REJECTED
*****
* GPS SITE: 6A/491007      N39:36:15 W110:48:00 ELEV: 5600, 1984
*****
FIRST O. F US:UT001588 5550 40:55 111:24(48-89) COALVILLE      96.0 REJECTED
ACTIVE C US:UT007026 5680 39:37 110:50(68-89) PRICE WAREHOUSES      2.0
REGULAR1 C US:UT003896 7280 39:29 111:01(21-89) HIAWATHA      14.3 REJECTED
REGULAR2 C US:UT007724 7630 39:47 111:07(48-89) SCOFIELD DAM      20.9 REJECTED
REGULAR3 C US:UT007729 8710 39:41 111:12(84-89) SCOFIELD SKYLINE MINE      22.0 REJECTED
*****
* GPS SITE: 1/491008      N38:56:35 W111:51:10 ELEV: 5200, 1973
*****
FIRST O. F US:UT005654 5030 38:26 113:01(28-89) MILFORD WSMO      72.0 REJECTED
ACTIVE C US:UT007557 5130 38:58 111:52(28-89) SALINA      1.8
REGULAR1 C US:UT007800 5310 38:51 112:00(80-89) SIGURD U P & L      10.2
REGULAR2 C US:UT003514 5150 39:09 111:49(56-89) GUNNISON      14.4
REGULAR3 C US:UT007260 5270 38:46 112:05(28-89) RICHFIELD RADIO KSVC      17.4
*****
* GPS SITE: 1/491017      N38:33:56 W112:15:40 ELEV: 5600, 1968
*****
FIRST O. F US:UT005654 5030 38:26 113:01(28-89) MILFORD WSMO      41.9 REJECTED
ACTIVE C US:UT005477 5910 38:27 112:14(48-89) MARYSVALE      8.1
REGULAR1 C US:UT007260 5270 38:46 112:05(28-89) RICHFIELD RADIO KSVC      16.9
REGULAR2 C US:UT004527 5010 38:48 112:26(28-89) KANOSH      18.7
REGULAR3 C US:UT004764 6930 38:31 111:53(48-89) KOOSHAREM      20.7 REJECTED
*****
* GPS SITE: 3/493010      N37:55:30 W112:46:20 ELEV: 5764, 1981
*****
FIRST O. F US:UT005654 5030 38:26 113:01(28-89) MILFORD WSMO      37.5 REJECTED
ACTIVE C US:UT006686 6000 37:50 112:50(48-89) PAROWAN POWER PLANT      7.2
REGULAR1 C US:UT006601 6720 37:49 112:27(48-89) PANGUITCH      19.1
REGULAR2 C US:UT001260 6450 37:39 112:59(83-89) CEDAR CITY 5 E      22.2
REGULAR3 C US:UT001267 5620 37:42 113:06(48-89) CEDAR CITY FAA AP      23.7
*****
* GPS SITE: 3/493011      N39:40:55 W111:50:45 ELEV: 5105, 1986
*****
FIRST O. F US:UT007598 4220 40:47 111:57(48-89) SALT LAKE CITY NWSFO      76.3 REJECTED
ACTIVE C US:UT006135 5130 39:42 111:50(41-89) NEPHI      1.4
REGULAR1 C US:UT005065 5300 39:34 111:52(28-89) LEVAN      8.0
REGULAR2 C US:UT005837 5560 39:32 111:35(48-89) MORONI      17.3 REJECTED
REGULAR3 C US:UT002418 4680 39:57 111:57(28-89) ELBERTA      19.3 REJECTED
*****
* GPS SITE: 3/493015      N40:50:00 W111:56:00 ELEV: 4245, 1969
*****
FIRST O. F US:UT007598 4220 40:47 111:57(48-89) SALT LAKE CITY NWSFO      3.6
ACTIVE C US:UT008922 4800 40:46 111:50(49-89) UNIVERSITY OF UTAH      7.0
REGULAR1 C US:UT007578 4210 40:46 112:06(56-89) SALT AIR SALT PLANT      9.9
REGULAR2 C US:UT002726 4340 41:01 111:55(48-89) FARMINGTON USU FLD ST      12.7
REGULAR3 C US:UT005892 5420 40:45 111:43(48-89) MOUNTAIN DELL DAM      12.7
*****
* GPS SITE: 3/497082      N41:50:00 W112:11:00 ELEV: 4527, 1990
*****
FIRST O. F US:ID005559 4470 42:10 112:17(48-89) MALAD CITY      23.6 REJECTED
ACTIVE C US:UT001918 4290 41:50 112:03(80-89) CULTER DAM U P & L      6.9
REGULAR1 C US:UT008817 4310 41:43 112:10(79-89) TREMONTON      8.1
REGULAR2 C US:UT008828 4460 41:55 111:56(48-89) TRENTON      14.1
REGULAR3 C US:UT008668 4600 41:43 112:26(62-89) THIOKOL PLANT 78      15.2
*****
* GPS SITE: 3/497083      N38:47:00 W112:08:00 ELEV: 5113, 1989
*****
FIRST O. F US:UT005654 5030 38:26 113:01(28-89) MILFORD WSMO      53.5 REJECTED
ACTIVE C US:UT007260 5270 38:46 112:05(28-89) RICHFIELD RADIO KSVC      2.9
REGULAR1 C US:UT007800 5310 38:51 112:00(80-89) SIGURD U P & L      8.5
REGULAR2 C US:UT002828 5120 38:57 112:19(28-89) FILLMORE      15.2 REJECTED
REGULAR3 C US:UT004527 5010 38:48 112:26(28-89) KANOSH      16.2 REJECTED

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*****
* GPS SITE: 1/501002      N44:07:13 W073:10:44 ELEV: 283, 1984
*****
FIRST O. F US:VT001081    330 44:28 073:09(20-89) BURLINGTON WSO AP      24.0
ACTIVE   C US:VT007612    2020 44:04 072:58(81-89) SOUTH LINCOLN        11.2
REGULAR1 C US:VT001580    490 43:57 073:13(26-89) CORNWALL              11.9
REGULAR2 C US:NY002554    580 44:13 073:35(48-89) ELIZABETHTOWN 1 N      21.1
REGULAR3 C US:VT008815    760 44:19 072:45(58-89) WATERBURY 2 SSE        25.2
*****
* GPS SITE: 1/501004      N44:38:45 W073:17:53 ELEV: 141, 1984
*****
FIRST O. F US:VT001081    330 44:28 073:09(20-89) BURLINGTON WSO AP      14.4
ACTIVE   C US:VT007607    1100 44:38 073:18(69-89) SOUTH HERO           0.9
REGULAR1 C US:NY006659    170 44:39 073:28(48-89) PLATTSBURGH AFB         8.3
REGULAR2 C US:VT002843    340 44:31 073:07(71-89) ESSEX JUNCTION 1 N      12.6
REGULAR3 C US:NY006538    510 44:34 073:34(48-89) PERU 2 WSW              14.3
*****
* GPS SITE: 6B/501681     N44:18:35 W073:09:40 ELEV: 255, 1963
*****
FIRST O. F US:VT001081    330 44:28 073:09(20-89) BURLINGTON WSO AP      10.9
ACTIVE   C US:VT008815    760 44:19 072:45(58-89) WATERBURY 2 SSE        20.4
REGULAR1 C US:NY002554    580 44:13 073:35(48-89) ELIZABETHTOWN 1 N      21.9
REGULAR2 C US:VT005416    3950 44:32 072:49(54-89) MOUNT MANSFIELD        23.0
REGULAR3 C US:VT007607    1100 44:38 073:18(69-89) SOUTH HERO           23.4
*****
* GPS SITE: 7B/501682     N44:19:40 W073:08:40 ELEV: 400, 1963
*****
FIRST O. F US:VT001081    330 44:28 073:09(20-89) BURLINGTON WSO AP      9.6
ACTIVE   C US:VT008815    760 44:19 072:45(58-89) WATERBURY 2 SSE        19.5
REGULAR1 C US:VT005416    3950 44:32 072:49(54-89) MOUNT MANSFIELD        21.5
REGULAR2 C US:VT007607    1100 44:38 073:18(69-89) SOUTH HERO           22.5
REGULAR3 C US:NY002554    580 44:13 073:35(48-89) ELIZABETHTOWN 1 N      23.1
*****
* GPS SITE: 6B/501683     N44:19:42 W073:08:40 ELEV: 430, 1963
*****
FIRST O. F US:VT001081    330 44:28 073:09(20-89) BURLINGTON WSO AP      9.6
ACTIVE   C US:VT008815    760 44:19 072:45(58-89) WATERBURY 2 SSE        19.5
REGULAR1 C US:VT005416    3950 44:32 072:49(54-89) MOUNT MANSFIELD        21.5
REGULAR2 C US:VT007607    1100 44:38 073:18(69-89) SOUTH HERO           22.4
REGULAR3 C US:NY002554    580 44:13 073:35(48-89) ELIZABETHTOWN 1 N      23.1
*****
* GPS SITE: 1/511002      N37:00:00 W080:18:00 ELEV: 2204, 1979
*****
FIRST O. F US:VA007285    1150 37:19 079:58(48-89) ROANOKE WSO AP      28.6
ACTIVE   C US:VA003071    2600 36:56 080:18(48-89) FLOYD 2 NE          4.6
REGULAR1 C US:VA000766    2000 37:11 080:25(52-89) BLACKSBURG 3 SE        14.2
REGULAR2 C US:VA006692    1120 36:47 080:02(53-89) PHILPOTT DAM 2        21.0
REGULAR3 C US:VA007338    1230 37:00 079:54(48-89) ROCKY MOUNT          22.1
*****
* GPS SITE: 1/511023      N37:00:00 W077:23:00 ELEV: 98, 1980
*****
FIRST O. F US:VA007201    160 37:30 077:20(48-89) RICHMOND WSO AP      34.6
ACTIVE   C US:VA008129    70 36:55 077:21(48-89) STONEY CREEK3 ESE        6.0
REGULAR1 C US:VA004101    40 37:18 077:18(30-89) HOPEWELL          21.2
REGULAR2 C US:VA008800    90 36:59 077:00(82-89) WAKEFIELD 2          21.2
REGULAR3 C US:VA002790    100 36:41 077:33(48-89) EMPORIA 1 WNW        23.7
*****
* GPS SITE: 6B/511417     N38:38:00 W077:56:00 ELEV: 320, 1981
*****
FIRST O. F US:VA008906    70 38:51 077:02(48-89) WASH NATL WSCMO AP      50.8
ACTIVE   C US:VA008888    500 38:41 077:46(51-89) WARRENTON 3 SE        9.6
REGULAR1 C US:VA002155    420 38:28 078:00(30-89) CULPEPER          12.1
REGULAR2 C US:VA005096    1200 38:40 078:23(48-89) LURAY 5 E          24.4
REGULAR3 C US:VA000720    3540 38:31 078:26(48-89) BIG MEADOWS          28.2
*****
* GPS SITE: 6B/511419     N36:56:00 W081:59:00 ELEV: 2263, 1978
*****
FIRST O. F US:TN001094    1530 36:29 082:24(48-89) BRISTOL WSO AP      38.7
ACTIVE   C US:VA000021    1920 36:40 081:58(69-89) ABINGDON 3 S        18.4
REGULAR1 C US:VA003640    1170 37:16 082:05(48-89) GRUNDY            23.7
REGULAR2 C US:VA005271    2100 36:49 081:31(60-89) MARION EVAP STATION    27.0
REGULAR3 C US:VA009215    2570 36:58 082:34(55-89) WISE 1 SE          32.3

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*****
* GPS SITE: 68/511423      N36:51:00 W082:45:00 ELEV: 1819, 1978
*****
FIRST O. F US:TN001094    1530 36:29 082:24(48-89) BRISTOL WSO AP      31.9
ACTIVE C US:VA009215     2570 36:58 082:34(55-89) WISE 1 SE          13.0
REGULAR1 C US:VA006626   1510 36:45 083:03(31-89) PENNINGTON GAP      18.0
REGULAR2 C US:TN004858   1280 36:31 082:32(31-89) KINGSPOINT          26.0
REGULAR3 C US:KY000450   1160 36:51 083:20(48-89) BAXTER              32.3
*****
* GPS SITE: 68/511464      N37:18:00 W077:42:00 ELEV: 82, 1979
*****
FIRST O. F US:VA007201    160 37:30 077:20(48-89) RICHMOND WSO AP      24.4
ACTIVE C US:VA000187     360 37:18 078:02(70-89) AMELIA 4 SW          18.3
REGULAR1 C US:VA004101    40 37:18 077:18(30-89) HOPEWELL          22.0
REGULAR2 C US:VA001322   330 37:02 077:57(72-89) CAMP PICKETT          23.0
REGULAR3 C US:VA002142   300 37:58 077:48(76-89) CROZIER            23.7
*****
* GPS SITE: 2/512004      N36:35:00 W079:25:00 ELEV: 472, 1981
*****
FIRST O. F US:NC003630    890 36:05 079:57(33-89) GREENSBORO WSO AP      45.6
ACTIVE C US:VA002245     410 36:35 079:23(48-89) DANVILLE (BRIDGE ST)      1.9
REGULAR1 C US:VA001614    640 36:49 079:24(30-89) CHATHAM          16.1
REGULAR2 C US:NC007202    890 36:23 079:42(62-89) REIDSVILLE 2 NW          21.0
REGULAR3 C US:NC007516    730 36:24 079:00(48-89) ROXBORO            26.4
*****
* GPS SITE: 2/512021      N36:45:00 W080:00:00 ELEV: 2635, 1985
*****
FIRST O. F US:VA007285   1150 37:19 079:58(48-89) ROANOKE WSO AP      39.2
ACTIVE C US:VA006692     1120 36:47 080:02(53-89) PHILPOTT DAM 2          3.0
REGULAR1 C US:VA008170   1460 36:38 080:16(60-89) STUART 1 SSE          16.8
REGULAR2 C US:VA007338   1230 37:00 079:54(48-89) ROCKY MOUNT          18.1
REGULAR3 C US:VA003071   2600 36:56 080:18(48-89) FLOYD 2 NE          20.9
*****
* GPS SITE: 5/512564      N36:47:00 W076:22:00 ELEV: 22, 1969
*****
FIRST O. F US:VA006139    20 36:54 076:12(48-89) NORFOLK WSO AP      12.2
ACTIVE C US:VA008192     20 36:44 076:36(48-89) SUFFOLK LAKE KILBY          13.4
REGULAR1 C US:VA002368    30 36:54 076:12(48-80) DIAMOND SPRINGS          12.2
REGULAR2 C US:VA006054    50 37:01 076:27(48-80) NEWPORT NEWS PRESS BL          16.8
REGULAR3 C US:VA004720    10 37:05 076:21(30-89) LANGLEY AIR FORCE BAS          20.7
*****
* GPS SITE: 5/515008      N36:56:00 W076:17:00 ELEV: 13, 1977
*****
FIRST O. F US:VA006139    20 36:54 076:12(48-89) NORFOLK WSO AP      5.2
ACTIVE C US:VA004720     10 37:05 076:21(30-89) LANGLEY AIR FORCE BAS          11.0
REGULAR1 C US:VA008192    20 36:44 076:36(48-89) SUFFOLK LAKE KILBY          22.3
REGULAR2 C US:VA000385    10 36:40 075:55(53-89) BACK BAY WILDLIFE RFG          27.4
REGULAR3 C US:VA004044     80 36:41 076:47(48-89) HOLLAND 1 E          32.6
*****
* GPS SITE: 5/515009      N37:30:00 W077:15:00 ELEV: 133, 1980
*****
FIRST O. F US:VA007201    160 37:30 077:20(48-89) RICHMOND WSO AP      4.6
ACTIVE C US:VA004101     40 37:18 077:18(30-89) HOPEWELL          14.1
REGULAR1 C US:VA008829    50 37:45 077:03(32-89) WALKERTON 2 NW          20.4
REGULAR2 C US:VA000327   220 37:45 077:29(48-89) ASHLAND          21.5
REGULAR3 C US:VA009025    20 37:31 076:50(54-89) WEST POINT 2 SW          22.9
*****
* GPS SITE: 5/515010      N37:28:00 W077:20:00 ELEV: 155, 1988
*****
FIRST O. F US:VA007201    160 37:30 077:20(48-89) RICHMOND WSO AP      2.3
ACTIVE C US:VA004101     40 37:18 077:18(30-89) HOPEWELL          11.7
REGULAR1 C US:VA000327   220 37:45 077:29(48-89) ASHLAND          21.2
REGULAR2 C US:VA008829    50 37:45 077:03(32-89) WALKERTON 2 NW          25.0
REGULAR3 C US:VA009025    20 37:31 076:50(54-89) WEST POINT 2 SW          27.7
*****
* GPS SITE: 1/531002      N46:19:00 W118:00:00 ELEV: 1557, 1984
*****
FIRST O. F US:WA008928   1170 46:06 118:17(49-89) WALLA WALLA FAA AP      20.2
ACTIVE C US:WA002030     1560 46:19 118:00(31-89) DAYTON 1 WSW          0.0
REGULAR1 C US:WA006610   1810 46:28 117:37(48-89) POMEROY          21.0
REGULAR2 C US:OR008985   2400 46:00 118:03(48-89) WALLA WALLA 13 ESE          22.0
REGULAR3 F US:WA008931    950 46:02 118:20(48-87) WALLA WALLA WSO CI          25.3

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*****
* GPS SITE: 6B/531005      N47:07:00 W118:22:00 ELEV: 1830, 1973
*****
FIRST O. F US:WA007938    2360 47:38 117:32( 1-89) SPOKANE WSO AP      52.9 REJECTED
ACTIVE C US:WA007059      1830 47:07 118:22(48-89) RITZVILLE 1 SSE      0.0
REGULAR1 C US:WA004679    1630 47:00 118:35(31-89) LIND 3 NE      13.0
REGULAR2 C US:WA006039    1540 47:20 118:41(48-89) ODESSA      21.1
REGULAR3 C US:WA003515    2260 47:29 118:11(61-89) HARRINGTON 4 ENE      26.7
*****
* GPS SITE: 1/531006      N48:00:00 W119:53:00 ELEV: 820, 1983
*****
FIRST O. F US:WA009082    1230 47:24 120:12(59-89) WENATCHEE FAA AP      44.0 REJECTED
ACTIVE C US:WA005326      1170 48:06 120:01(70-89) METHOW 2 S      9.3
REGULAR1 C US:WA001400      820 48:00 119:39(49-89) CHIEF JOSEPH DAM      10.8
REGULAR2 C US:WA001350    1120 47:50 120:02(58-89) CHELAN      13.4
REGULAR3 C US:WA009012    2620 47:39 120:04(31-89) WATERVILLE      25.6 REJECTED
*****
* GPS SITE: 1/531007      N46:06:00 W119:45:00 ELEV: 903, 1984
*****
FIRST O. F US:WA009465    1060 46:34 120:32(46-89) YAKIMA WSO AP      49.4 REJECTED
ACTIVE C US:WA006768      900 46:15 119:45(31-89) PROSSER 4 NE      10.4
REGULAR1 C US:OR000858      300 45:50 119:42(71-89) BOARDMAN      18.6
REGULAR2 C US:WA008207      750 46:19 120:00(48-89) SUNNYSIDE      19.2
REGULAR3 C US:WA005231      360 45:57 119:18(54-89) MC NARY DAM      24.0
*****
* GPS SITE: 1/531008      N47:38:00 W117:32:00 ELEV: 2356, 1979
*****
FIRST O. F US:WA007938    2360 47:38 117:32( 1-89) SPOKANE WSO AP      0.0
ACTIVE C US:WA002007      2440 47:39 118:08(48-89) DAVENPORT      28.0
REGULAR1 C US:WA009058      2490 47:54 118:00(48-89) WELLPINIT      28.5
REGULAR2 C US:WA007180      2400 47:14 117:22(48-89) ROSALIA      28.7
REGULAR3 C US:WA003515    2260 47:29 118:11(61-89) HARRINGTON 4 ENE      32.1 REJECTED
*****
* GPS SITE: 1/531501      N47:35:44 W119:36:20 ELEV: 2622, 1982
*****
FIRST O. F US:WA009465    1060 46:34 120:32(46-89) YAKIMA WSO AP      83.4
ACTIVE C US:WA002614      1260 47:19 119:31(49-89) EPHRATA FAA AP      19.7
REGULAR1 C US:WA009012    2620 47:39 120:04(31-89) WATERVILLE      21.8
REGULAR2 C US:WA003529      1910 47:41 119:06(48-89) HARTLINE      24.3
REGULAR3 C US:WA001350    1120 47:50 120:02(58-89) CHELAN      25.8
*****
* GPS SITE: 1/531801      N45:38:00 W122:13:00 ELEV: 440, 1973
*****
FIRST O. F US:OR006751      20 45:36 122:36(41-89) PORTLAND WSFO AP      18.7
ACTIVE C US:WA007696      440 45:38 122:13(65-89) SKAMANIA FISH HATCHER      0.0
REGULAR1 C US:OR008634      30 45:34 122:24(48-89) TROUTDALE SUBSTATION      10.0
REGULAR2 C US:OR000897      60 45:38 121:57(48-89) BONNEVILLE DAM      12.9
REGULAR3 C US:OR003770      750 45:27 122:09( 4-89) HEADWORKS PTLND WTR B      13.1
*****
* GPS SITE: 3/533011      N48:48:00 W122:32:00 ELEV: 149, 1977
*****
FIRST O. F US:WA000574      150 48:48 122:32(49-89) BELLINGHAM FAA AP      0.0
ACTIVE C US:WA001484      60 48:58 122:20(31-89) CLEARBROOK      14.7
REGULAR1 C US:WA000564      140 48:47 122:29(48-89) BELLINGHAM 2 N      2.6
REGULAR2 C CA:1100241      197 49:02 122:29(80-89) ALDERGROVE 2      16.3
REGULAR3 C US:WA000729      60 49:00 122:45(48-89) BLAINE      17.0
*****
* GPS SITE: 3/533013      N47:38:00 W117:32:00 ELEV: 2356, 1971
*****
FIRST O. F US:WA007938    2360 47:38 117:32( 1-89) SPOKANE WSO AP      0.0
ACTIVE C US:WA002007      2440 47:39 118:08(48-89) DAVENPORT      28.0
REGULAR1 C US:WA009058      2490 47:54 118:00(48-89) WELLPINIT      28.5
REGULAR2 C US:WA007180      2400 47:14 117:22(48-89) ROSALIA      28.7
REGULAR3 C US:WA003515    2260 47:29 118:11(61-89) HARRINGTON 4 ENE      32.1 REJECTED
*****
* GPS SITE: 3/533014      N46:16:54 W119:05:03 ELEV: 432, 1985
*****
FIRST O. F US:WA008928    1170 46:06 118:17(49-89) WALLA WALLA FAA AP      40.3 REJECTED
ACTIVE C US:WA004154      390 46:13 119:06(48-89) KENNEWICK      4.6
REGULAR1 C US:WA002542      700 46:24 119:10(74-89) ELTOPIA 8 WSW      9.1
REGULAR2 C US:WA007015      370 46:19 119:16(48-89) RICHLAND      9.1
REGULAR3 C US:WA003883      370 46:15 118:52(57-89) ICE HARBOR DAM      10.6

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* GPS SITE: 3/533019      N46:13:00 W119:13:00 ELEV: 390, 1986
*****
FIRST O. F US:OR006546 1490 45:41 118:51(28-89) PENDLETON WSO AP      40.8 REJECTED
ACTIVE C US:WA004154 390 46:13 119:06(48-89) KENNEWICK 5.6
REGULAR1 C US:WA007015 370 46:19 119:16(48-89) RICHLAND 7.3
REGULAR2 C US:WA002542 700 46:24 119:10(74-89) ELTOPIA 8 WSW 12.9
REGULAR3 C US:WA003883 370 46:15 118:52(57-89) ICE HARBOR DAM 16.9
*****
* GPS SITE: 3/533812      N47:39:00 W122:18:00 ELEV: 350, 1965
*****
FIRST O. F US:WA007473 450 47:27 122:18(31-89) SEATTLE TAC WSCMO AP 13.8
ACTIVE C US:WA007458 20 47:39 122:18(72-89) SEATTLE STATE EMSU 0.0
REGULAR1 C US:WA007478 100 47:39 122:17(48-83) SEATTLE U OF WA 0.8
REGULAR2 C US:WA007459 370 47:44 122:20(61-86) SEATTLE JACKSON PARK 6.0
REGULAR3 C US:WA004169 30 47:24 122:14(48-89) KENT 17.5
*****
* GPS SITE: 3/533813      N45:38:00 W122:31:00 ELEV: 440, 1967
*****
FIRST O. F US:OR006751 20 45:36 122:36(41-89) PORTLAND WSFO AP 4.6
ACTIVE C US:WA008773 210 45:41 122:39( 1-89) VANCOUVER 4 NNE 7.3
REGULAR1 F US:OR008634 30 45:34 122:24(48-89) TROUTDALE SUBSTATION 7.3
REGULAR2 C US:WA000482 280 45:46 122:32(48-89) BATTLE GROUND 9.2
REGULAR3 C US:WA004572 160 45:31 122:41(73-89) PORTLAND KGW-TV 11.4
*****
* GPS SITE: 6A/536020      N47:30:00 W120:21:00 ELEV: 800, 1964
*****
FIRST O. F US:WA008009 3960 47:17 121:20(44-89) STAMPEDE PASS WSCMO A 48.4 REJECTED
ACTIVE C US:WA009079 800 47:26 120:21(50-89) WENATCHEE EXP STN 4.6
REGULAR1 C US:WA009074 640 47:25 120:19(31-89) WENATCHEE 6.0
REGULAR2 C US:WA009082 1230 47:24 120:12(59-89) WENATCHEE FAA AP 9.8
REGULAR3 C US:WA004572 1130 47:34 120:40(48-89) LEAVENWORTH 3 S 15.5
*****
* GPS SITE: 6A/536048      N47:51:00 W122:03:00 ELEV: 120, 1965
*****
FIRST O. F US:WA007473 450 47:27 122:18(31-89) SEATTLE TAC WSCMO AP 30.0
ACTIVE C US:WA005525 120 47:51 121:59(48-89) MONROE 3.1
REGULAR1 C US:WA002675 60 47:59 122:11(48-89) EVERETT 11.1
REGULAR2 C US:WA007459 370 47:44 122:20(61-86) SEATTLE JACKSON PARK 15.4
REGULAR3 C US:WA008034 170 47:52 121:43(48-89) STARTUP 1 E 15.5
*****
* GPS SITE: 6A/536049      N47:24:00 W122:14:00 ELEV: 30, 1965
*****
FIRST O. F US:WA007473 450 47:27 122:18(31-89) SEATTLE TAC WSCMO AP 4.7
ACTIVE C US:WA004169 30 47:24 122:14(48-89) KENT 0.0
REGULAR1 C US:WA004486 540 47:23 121:58(31-89) LANDSBURG 12.5
REGULAR2 F US:WA008286 270 47:15 122:26(48-81) TACOMA CITY HALL 14.0
REGULAR3 C US:WA006803 50 47:12 122:20(31-89) PUYALLUP 2 W EXP STN 14.6
*****
* GPS SITE: 6A/536056      N46:34:00 W117:06:00 ELEV: 2545, 1969
*****
FIRST O. F US:ID005241 1440 46:23 117:01(48-89) LEWISTON WSO AP 13.3
ACTIVE C US:ID006152 2660 46:44 116:58( 1-89) MOSCOW U OF IDAHO 13.1
REGULAR1 C US:WA006789 2550 46:46 117:12(40-89) PULLMAN 2 NW 14.6
REGULAR2 C US:WA006610 1810 46:28 117:37(48-89) POMEROY 25.5
REGULAR3 C US:WA001586 1960 46:53 117:23(48-89) COLFAX 1 NW 25.7
*****
* GPS SITE: 6A/537322      N46:46:00 W117:12:00 ELEV: 2545, 1973
*****
FIRST O. F US:ID005241 1440 46:23 117:01(48-89) LEWISTON WSO AP 27.9
ACTIVE C US:WA006789 2550 46:46 117:12(40-89) PULLMAN 2 NW 0.0
REGULAR1 C US:ID006152 2660 46:44 116:58( 1-89) MOSCOW U OF IDAHO 11.3
REGULAR2 C US:WA001586 1960 46:53 117:23(48-89) COLFAX 1 NW 11.8
REGULAR3 C US:ID007301 2600 46:58 116:53(15-89) POTLATCH 3 NNE 20.4
*****
* GPS SITE: 3/537409      N46:26:00 W120:17:00 ELEV: 1166, 1988
*****
FIRST O. F US:WA009465 1060 46:34 120:32(46-89) YAKIMA WSO AP 15.0
ACTIVE C US:WA008959 840 46:26 120:25(48-89) WAPATO 6.4
REGULAR1 C US:WA005688 1550 46:31 120:10(48-89) MOXEE CITY 10 E 8.0
REGULAR2 C US:WA008207 750 46:19 120:00(48-89) SUNNYSIDE 15.7
REGULAR3 C US:WA006747 460 46:39 119:54(56-89) PRIEST RAPIDS DAM 23.6

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*****
* GPS SITE: 2/541640      N38:17:00 W081:45:55 ELEV: 808, 1983
*****
FIRST O. F US:WV001570 1020 38:22 081:36(48-89) CHARLESTON WSFO AP 10.7
ACTIVE C US:WV005563 680 38:03 081:49(48-89) MADISON 16.4
REGULAR1 C US:WV003846 640 38:17 082:06(48-89) HAMLIN 18.2
REGULAR2 C US:WV009683 570 38:32 081:55(48-89) WINFIELD LOCKS 19.1
REGULAR3 C US:WV005365 620 38:12 081:22(36-89) LONDON LOCKS 22.4
*****
* GPS SITE: 4/544003      N38:09:06 W081:50:30 ELEV: 675, 1982
*****
FIRST O. F US:WV001570 1020 38:22 081:36(48-89) CHARLESTON WSFO AP 19.9
ACTIVE C US:WV005563 680 38:03 081:49(48-89) MADISON 7.0
REGULAR1 C US:WV003846 640 38:17 082:06(48-89) HAMLIN 16.8
REGULAR2 C US:WV005353 640 37:52 081:59(48-89) LOGAN 21.0
REGULAR3 C US:WV005365 620 38:12 081:22(36-89) LONDON LOCKS 26.1
*****
* GPS SITE: 4/544004      N38:01:25 W081:21:25 ELEV: 960, 1981
*****
FIRST O. F US:WV000582 2500 37:47 081:07(63-89) BECKLEY WSO AP 20.5
ACTIVE C US:WV006591 2040 37:58 081:09(48-89) OAK HILL 11.4
REGULAR1 C US:WV005365 620 38:12 081:22(36-89) LONDON LOCKS 12.7
REGULAR2 C US:WV000580 2330 37:47 081:11(48-89) BECKLEY V A HOSPITAL 18.5
REGULAR3 C US:WV004956 1160 37:44 081:35(63-89) KOPPERSTON 23.3
*****
* GPS SITE: 5/545007      N39:17:06 W080:25:10 ELEV: 1225, 1977
*****
FIRST O. F US:WV006202 1240 39:39 079:55(48-89) MORGANTOWN FAA AP 37.2
ACTIVE C US:WV001677 950 39:16 080:21(26-89) CLARKSBURG 1 4.2
REGULAR1 C US:WV009436 930 39:04 080:28(48-89) WESTON 15.1
REGULAR2 C US:WV005626 1100 39:32 080:30(48-89) MANNINGTON 7 WNW 17.7
REGULAR3 C US:WV009458 780 39:18 080:46(71-89) WEST UNION 2 18.3
*****
* GPS SITE: 7A/547008      N38:25:35 W081:49:00 ELEV: 661, 1962
*****
FIRST O. F US:WV001570 1020 38:22 081:36(48-89) CHARLESTON WSFO AP 17.9
ACTIVE C US:WV009683 570 38:32 081:55(48-89) WINFIELD LOCKS 4.7
REGULAR1 C US:WV004200 570 38:41 082:11(48-89) HOGSETT GALLIPOLIS DA 21.0
REGULAR2 C US:WV003846 640 38:17 082:06(48-89) HAMLIN 23.4
REGULAR3 C US:WV007552 610 38:53 081:41(48-89) RIPLEY 4 NNE 24.4
*****
* GPS SITE: 3/553008      N43:00:00 W087:00:00 ELEV: 803, 1975
*****
FIRST O. F US:M1005712 630 43:10 086:14(48-89) MUSKEGON WSO AP 40.4
ACTIVE C US:M1003290 620 43:04 086:13(48-89) GRAND HAVEN FIRE DEPT 39.9
REGULAR1 C US:M1005567 650 43:28 086:25(50-89) MONTAGUE 4 NW 43.6
REGULAR2 C US:W1006922 600 42:42 087:46(48-89) RACINE 44.1
REGULAR3 F US:W1005479 670 42:57 087:54(48-89) MILWAUKEE WSO AP 45.7
*****
* GPS SITE: 3/553009      N43:45:00 W087:52:00 ELEV: 750, 1984
*****
FIRST O. F US:W1003269 680 44:29 088:08(48-89) GREEN BAY WSO AP 52.0
ACTIVE C US:W1006678 870 43:45 087:59(10-89) PLYMOUTH 5.3
REGULAR1 C US:W1007725 650 43:45 087:43(48-89) SHEBOYGAN 8.1
REGULAR2 C US:W1001568 840 44:02 088:09(48-89) CHILTON 23.6
REGULAR3 C US:W1006764 600 43:23 087:52(48-89) PORT WASHINGTON 25.6
*****
* GPS SITE: 3/553010      N43:45:00 W087:47:00 ELEV: 690, 1978
*****
FIRST O. F US:W1003269 680 44:29 088:08(48-89) GREEN BAY WSO AP 53.2
ACTIVE C US:W1007725 650 43:45 087:43(48-89) SHEBOYGAN 3.9
REGULAR1 C US:W1006678 870 43:45 087:59(10-89) PLYMOUTH 9.5
REGULAR2 C US:W1005017 660 44:06 087:41(48-89) MANITOWOC 24.7
REGULAR3 C US:W1006764 600 43:23 087:52(48-89) PORT WASHINGTON 25.7
*****
* GPS SITE: 3/553012      N44:54:00 W092:44:00 ELEV: 948, 1977
*****
FIRST O. F US:MN005435 830 44:53 093:13( 1-89) MINN-ST PAUL WSO AP 23.7
ACTIVE C US:W1007226 900 44:52 092:37(48-89) RIVER FALLS 6.2
REGULAR1 C US:MN008037 710 45:02 092:47(48-89) STILLWATER 1 SE 9.5
REGULAR2 C US:W1002556 1030 44:44 092:28(48-89) ELLSWORTH 1 E 17.4
REGULAR3 C US:MN007377 920 44:58 093:05(56-89) SAINT PAUL 17.7

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* GPS SITE: 3/553014      N42:38:00 W088:38:00 ELEV: 947, 1976
*****
FIRST O. F US:WI005479    670 42:57 087:54(48-89) MILWAUKEE WSO AP      43.2
ACTIVE C US:WI004457      880 42:36 088:26(48-89) LAKE GENEVA          10.4
REGULAR1 C US:WI009190    800 42:51 088:44(48-89) WHITEWATER            15.8
REGULAR2 C US:WI001205    760 42:40 088:16(48-89) BURLINGTON              18.8
REGULAR3 C US:WI003979    760 42:40 089:01(48-87) JANESVILLE          19.6
*****
* GPS SITE: 3/553015      N43:42:53 W089:28:30 ELEV: 827, 1984
*****
FIRST O. F US:WI004961    860 43:08 089:20(48-89) MADISON WSO AP      40.8
ACTIVE C US:WI005581      780 43:47 089:18(54-89) MONTELLO              9.9
REGULAR1 C US:WI006718    800 43:31 089:26(48-89) PORTAGE              13.8
REGULAR2 C US:WI001970    860 43:39 089:12(48-89) DALTON                14.5
REGULAR3 C US:WI009319    840 43:37 089:47(48-89) WISCONSIN DELLS          16.8
*****
* GPS SITE: 3/553016      N44:00:48 W089:30:29 ELEV: 1000, 1986
*****
FIRST O. F US:WI004961    860 43:08 089:20(48-89) MADISON WSO AP      61.4
ACTIVE C US:WI003405    1080 44:07 089:32( 3-89) HANCOCK EXP FARM              7.2
REGULAR1 C US:WI005581    780 43:47 089:18(54-89) MONTELLO              19.0
REGULAR2 C US:WI005786    930 44:02 090:05(53-89) NECEDAH                28.6
REGULAR3 C US:WI001970    860 43:39 089:12(48-89) DALTON                29.4
*****
* GPS SITE: 3/553019      N46:03:10 W091:26:27 ELEV: 1227, 1976
*****
FIRST O. F US:MN002248    1430 46:50 092:11(48-89) DULUTH WSO AP      64.5
ACTIVE C US:WI001847    1300 45:52 091:27(48-89) COUDERAY 7 W          12.9
REGULAR1 C US:WI002240    1340 46:20 091:16(48-89) DRUMMOND              21.1
REGULAR2 C US:WI009304    1310 45:53 091:04(48-89) WINTER 6 NNW          21.5
REGULAR3 C US:WI003186    1040 46:15 091:48(51-89) GORDON                21.9
*****
* GPS SITE: 5/555037      N45:20:10 W091:41:24 ELEV: 1064, 1973
*****
FIRST O. F US:WI002428    890 44:52 091:29(49-89) EAU CLAIRE FAA AP      34.0
ACTIVE C US:WI007132    1130 45:30 091:44(48-89) RICE LAKE              11.5
REGULAR1 C US:WI007174    960 45:13 091:53(48-89) RIDGELAND 1 NNE          12.5
REGULAR2 C US:WI009144    1200 45:25 091:23(48-89) WEYERHAUSER            15.9
REGULAR3 C US:WI000904    980 45:06 091:29(48-89) BLOOMER                19.2
*****
* GPS SITE: 5/555040      N43:48:00 W087:46:00 ELEV: 690, 1980
*****
FIRST O. F US:WI003269    680 44:29 088:08(48-89) GREEN BAY WSO AP      50.6
ACTIVE C US:WI007725      650 43:45 087:43(48-89) SHEBOYGAN              4.3
REGULAR1 C US:WI006678    870 43:45 087:59(10-89) PLYMOUTH              11.4
REGULAR2 C US:WI005017    660 44:06 087:41(48-89) MANITOWOC            21.1
REGULAR3 C US:WI001568    840 44:02 088:09(48-89) CHILTON                25.0
*****
* GPS SITE: 3/556352      N43:00:35 W089:50:32 ELEV: 1238, 1988
*****
FIRST O. F US:WI004961    860 43:08 089:20(48-89) MADISON WSO AP      27.1
ACTIVE C US:WI002173    1110 42:58 090:07(48-89) DODGEVILLE 1 NE          14.2
REGULAR1 C US:WI001416    910 43:03 089:28(59-89) CHARMANY FARM              19.2
REGULAR2 C US:WI000273    870 43:02 089:26(71-89) ARBORETUM U OF WISC          20.7
REGULAR3 C US:WI006838    780 43:19 089:44(47-89) PRAIRIE DU SAC 2 N          21.9
*****
* GPS SITE: 3/556353      N43:00:00 W089:58:51 ELEV: 1147, 1988
*****
FIRST O. F US:WI004961    860 43:08 089:20(48-89) MADISON WSO AP      33.3
ACTIVE C US:WI002173    1110 42:58 090:07(48-89) DODGEVILLE 1 NE          7.9
REGULAR1 C US:WI002001    930 42:41 090:07( 1-89) DARLINGTON              23.2
REGULAR2 C US:WI006838    780 43:19 089:44(47-89) PRAIRIE DU SAC 2 N          24.8
REGULAR3 C US:WI001416    910 43:03 089:28(59-89) CHARMANY FARM              25.5
*****
* GPS SITE: 3/556354      N43:00:35 W089:55:48 ELEV: 1192, 1988
*****
FIRST O. F US:WI004961    860 43:08 089:20(48-89) MADISON WSO AP      31.3
ACTIVE C US:WI002173    1110 42:58 090:07(48-89) DODGEVILLE 1 NE          9.9
REGULAR1 C US:WI006838    780 43:19 089:44(47-89) PRAIRIE DU SAC 2 N          23.4
REGULAR2 C US:WI001416    910 43:03 089:28(59-89) CHARMANY FARM              23.6
REGULAR3 C US:WI002001    930 42:41 090:07( 1-89) DARLINGTON              24.4

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*****
* GPS SITE: 3/556355      N43:00:35 W089:48:52 ELEV: 1244, 1988
*****
FIRST O. F US:W1004961    860 43:08 089:20(48-89) MADISON WSO AP      25.8
ACTIVE C US:W1002173    1110 42:58 090:07(48-89) DODGEVILLE 1 NE    15.6
REGULAR1 C US:W1001416    910 43:03 089:28(59-89) CHARMANY FARM      17.8
REGULAR2 C US:W1000273    870 43:02 089:26(71-89) ARBORETUM U OF WISC  19.3
REGULAR3 C US:W1006838    780 43:19 089:44(47-89) PRAIRIE DU SAC 2 N    21.6
*****
* GPS SITE: 1/561007      N44:30:02 W108:55:24 ELEV: 5204, 1980
*****
FIRST O. F US:WY009785    4170 43:58 107:58(60-89) WORLAND FAA AP      60.1 REJECTED
ACTIVE C US:WY001850    5250 44:24 108:54(49-89) CODY 12 SE           7.0
REGULAR1 C US:WY001840    4990 44:33 109:04(15-89) CODY                7.8
REGULAR2 C US:WY001175    5160 44:30 109:11(48-89) BUFFALO BILL DAM     12.8 REJECTED
REGULAR3 C US:WY004411    4790 44:42 108:57(49-89) HEART MOUNTAIN          13.8
*****
* GPS SITE: 2/562015      N41:35:19 W104:52:10 ELEV: 5814, 1977
*****
FIRST O. F US:WY001675    6120 41:09 104:49(15-89) CHEYENNE WSFO AP      30.4
ACTIVE C US:WY001730    5280 41:45 104:49(15-89) CHUGWATER            11.5
REGULAR1 C US:WY007200    4980 41:38 104:29(48-89) PHILLIPS                20.2
REGULAR2 C US:WY008808    6100 41:46 105:23(64-89) SYBILLE RESEARCH UNIT          29.3
REGULAR3 C US:WY000270    6010 41:09 104:39(48-89) ARCHER                32.4
*****
* GPS SITE: 2/562017      N43:38:26 W105:42:18 ELEV: 5210, 1982
*****
FIRST O. F US:WY001570    5340 42:55 106:28(48-89) CASPER WSO AP      63.0 REJECTED
ACTIVE C US:WY006195    4820 43:24 106:17(48-89) MIDWEST                33.4
REGULAR1 C US:WY002410    4440 44:11 105:54(62-89) DEAD HORSE CREEK          38.7
REGULAR2 C US:WY007810    4500 43:36 104:54(48-89) ROCHELLE 3 E           40.4
REGULAR3 C US:WY002725    4420 43:25 104:57(48-89) DULL CENTER 1 SE          40.9
*****
* GPS SITE: 2/562018      N43:00:17 W106:43:20 ELEV: 5545, 1984
*****
FIRST O. F US:WY001570    5340 42:55 106:28(48-89) CASPER WSO AP      14.3
ACTIVE C US:WY007376    5960 43:01 107:00(64-89) POWDER RIVER 2 SW          14.1
REGULAR1 C US:WY000552    6010 42:38 106:23(69-89) BATES CREEK 2          30.9 REJECTED
REGULAR2 C US:WY006195    4820 43:24 106:17(48-89) MIDWEST                35.1
REGULAR3 C US:WY007105    5930 42:28 106:51(48-89) PATHFINDER DAM          37.7
*****
* GPS SITE: 2/562019      N44:10:00 W105:26:41 ELEV: 4577, 1985
*****
FIRST O. F US:WY008155    3940 44:46 106:58(48-89) SHERIDAN WSO AP      85.8 REJECTED
ACTIVE C US:WY003855    4640 44:16 105:19(25-89) GILLETTE 9 ESE           9.4
REGULAR1 C US:WY002580    4310 44:07 105:07(48-89) DILLINGER                16.6
REGULAR2 C US:WY002410    4440 44:11 105:54(62-89) DEAD HORSE CREEK          22.6
REGULAR3 C US:WY006395    4210 44:16 104:57(48-89) MOORCROFT                25.5
*****
* GPS SITE: 2/562020      N44:56:47 W107:11:12 ELEV: 4022, 1984
*****
FIRST O. F US:WY008155    3940 44:46 106:58(48-89) SHERIDAN WSO AP      16.4
ACTIVE C US:MT009175    3770 45:06 107:26(48-89) WYOLA                16.1
REGULAR1 C US:WY008160    3750 44:50 106:50(20-89) SHERIDAN FIELD STN          19.0
REGULAR2 C US:WY001220    8040 44:46 107:32(60-89) BURGESS JUNCTION          21.0 REJECTED
REGULAR3 C US:WY008124    4280 44:32 107:46(58-89) SHELL                40.3 REJECTED
*****
* GPS SITE: 2/562037      N41:39:26 W107:45:00 ELEV: 7085, 1987
*****
FIRST O. F US:WY007533    6740 41:48 107:12(51-89) RAWLINS FAA AP      30.1
ACTIVE C US:WY009459    6800 41:41 107:59(48-89) WAMSUTTER 1 N           12.2
REGULAR1 C US:WY000761    6720 41:35 108:31(62-89) BITTER CREEK 4 NE          40.0 REJECTED
REGULAR2 C US:WY000484    6240 41:02 107:39(79-89) BAGGS                43.4 REJECTED
REGULAR3 C US:WY007990    6790 41:27 106:49(48-89) SARATOGA                50.4 REJECTED
*****
* GPS SITE: 3/563027      N41:34:54 W109:15:08 ELEV: 6359, 1980
*****
FIRST O. F US:WY007845    6740 41:36 109:04(48-89) ROCK SPRINGS FAA AP      9.7
ACTIVE C US:WY004065    6090 41:32 109:28(15-89) GREEN RIVER                11.6
REGULAR1 C US:WY000761    6720 41:35 108:31(62-89) BITTER CREEK 4 NE          38.1
REGULAR2 C US:WY001736    7080 41:24 110:05(55-89) CHURCH BUTTES GAS PLA          44.9 REJECTED
REGULAR3 C US:UT002864    6270 40:56 109:25(57-89) FLAMING GORGE          45.6 REJECTED

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*****
* GPS SITE: 6A/566029      N42:38:59 W110:55:17 ELEV: 6404, 1976
*****
FIRST O. F US:ID005559  4470 42:10 112:17(48-89) MALAD CITY      77.1 REJECTED
ACTIVE   C US:WY000027  6210 42:44 110:56(57-89) AFTON          5.8
REGULAR1 C US:WY000603  6438 42:52 110:55(75-89) BEDFORD 3 SE    15.0 REJECTED
REGULAR2 C US:WY000915  6110 42:15 111:02( 2-89) BORDER 3 N     28.2 REJECTED
REGULAR3 C US:ID006053  5960 42:19 111:18(31-89) MONTPELIER R S  30.0
*****
* GPS SITE: 6A/566031      N43:04:39 W108:31:15 ELEV: 5472, 1977
*****
FIRST O. F US:WY005390  5370 42:49 108:44(48-89) LANDER WSO AP   21.0
ACTIVE   C US:WY007760  4950 43:01 108:23(18-89) RIVERTON        8.1
REGULAR1 C US:WY007115  5440 43:15 108:41(48-89) PAVILLION      14.5
REGULAR2 C US:WY002595  5580 43:14 108:56(48-89) DIVERSION DAM   23.4
REGULAR3 C US:WY001000  4640 43:25 108:11(48-89) BOYSEN DAM      29.0
*****
* GPS SITE: 6A/566032      N43:29:00 W110:49:30 ELEV: 6165, 1976
*****
FIRST O. F US:ID004457  4730 43:31 112:04(48-89) IDAHO FALLS FAA AP  62.3 REJECTED
ACTIVE   C US:WY004910  6230 43:29 110:46(48-89) JACKSON         2.9
REGULAR1 C US:WY006428  6470 43:40 110:43(58-89) MOOSE          13.8
REGULAR2 C US:ID006764  5390 43:21 111:14(47-89) PALISADES      22.5 REJECTED
REGULAR3 C US:ID002676  6120 43:44 111:07(30-89) DRIGGS         22.6 REJECTED
*****
* GPS SITE: 2/567772      N43:40:17 W108:16:55 ELEV: 4677, 1986
*****
FIRST O. F US:WY009785  4170 43:58 107:58(60-89) WORLAND FAA AP   25.8
ACTIVE   C US:WY008880  4400 43:39 108:13(65-89) THERMOPOLIS 2    3.6
REGULAR1 C US:WY001000  4640 43:25 108:11(48-89) BOYSEN DAM      18.3 REJECTED
REGULAR2 C US:WY008888  5700 43:43 108:41(51-89) THERMOPOLIS 25 WNW 20.3
REGULAR3 C US:WY004036  5580 43:57 108:39(49-89) GRASS CREEK    26.6
*****
* GPS SITE: 2/567773      N42:40:35 W106:29:30 ELEV: 5538, 1988
*****
FIRST O. F US:WY001570  5340 42:55 106:28(48-89) CASPER WSO AP    16.6
ACTIVE   C US:WY000552  6010 42:38 106:23(69-89) BATES CREEK 2    6.3
REGULAR1 C US:WY007105  5930 42:28 106:51(48-89) PATHFINDER DAM   23.3
REGULAR2 C US:WY008192  7170 42:21 106:10(78-89) SHIRLEY BASIN STN 28.0
REGULAR3 C US:WY007376  5960 43:01 107:00(64-89) POWDER RIVER 2 SW 34.9 REJECTED
*****
* GPS SITE: 1/567775      N42:01:05 W109:40:33 ELEV: 6433, 1985
*****
FIRST O. F US:WY007845  6740 41:36 109:04(48-89) ROCK SPRINGS FAA AP  42.7
ACTIVE   C US:WY003396  6480 41:59 110:04(63-89) FONTENELLE DAM   20.2
REGULAR1 C US:WY005252  6600 42:16 110:12(58-89) LA BARGE        31.9
REGULAR2 C US:WY004065  6090 41:32 109:28(15-89) GREEN RIVER     35.2
REGULAR3 C US:WY001736  7080 41:24 110:05(55-89) CHURCH BUTTES GAS PLA 47.6 REJECTED
*****
* GPS SITE: 2/721003      N18:29:00 W066:48:00 ELEV: 29, 1987
*****
FIRST O. F US:PR008812   10 18:26 066:00(56-89) SAN JUAN WSFO     52.6
ACTIVE   C US:PR000410   10 18:27 066:41(31-89) ARECIBO 3 ESE     8.0
REGULAR1 C US:PR000426  1060 18:21 066:46(80-89) ARECIBO ABSERVATORY 9.5
REGULAR2 C US:PR003431   200 18:20 066:40(37-89) DOS BOCAS       13.6
REGULAR3 C US:PR009608   520 18:16 066:41(31-89) UTUADO          16.8
*****
* GPS SITE: 3/723008      N18:20:00 W066:03:00 ELEV: 508, 1973
*****
FIRST O. F US:PR008812   10 18:26 066:00(56-89) SAN JUAN WSFO     7.6
ACTIVE   C US:PR009521  140 18:20 066:01(57-89) TRUJILLO ALTO 2 SSW 2.2
REGULAR1 C US:PR008306    90 18:24 066:03(59-89) RIO PIEDRAS EXP STN 4.6
REGULAR2 C US:PR004276  160 18:15 066:00(56-89) GURABO SUBSTATION 6.6
REGULAR3 C US:PR005064   230 18:15 065:55(31-89) JUNCOS          10.5
*****
* GPS SITE: 3/724121      N18:26:40 W066:41:30 ELEV: 50, 1986
*****
FIRST O. F US:PR008812   10 18:26 066:00(56-89) SAN JUAN WSFO     43.7
ACTIVE   C US:PR000410   10 18:27 066:41(31-89) ARECIBO 3 ESE     1.6
REGULAR1 C US:PR003431   200 18:20 066:40(37-89) DOS BOCAS       6.9
REGULAR2 C US:PR000426  1060 18:21 066:46(80-89) ARECIBO ABSERVATORY 8.7
REGULAR3 C US:PR009608   520 18:16 066:41(31-89) UTUADO          11.6

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*****
* GPS SITE: 2/724122 N18:26:00 W066:41:00 ELEV: 45, 1973
*****
FIRST O. F US:PR008812 10 18:26 066:00(56-89) SAN JUAN WSO 44.8
ACTIVE C US:PR000410 10 18:27 066:41(31-89) ARECIBO 3 ESE 1.2
REGULAR1 C US:PR003431 200 18:20 066:40(37-89) DOS BOCAS 7.0
REGULAR2 C US:PR000426 1060 18:21 066:46(80-89) ARECIBO ABSERVATORY 7.9
REGULAR3 C US:PR009608 520 18:16 066:41(31-89) UTUADO 11.5
*****
* GPS SITE: 1/811803 N53:15:44 W110:40:12 ELEV: 2123, 1984
*****
FIRST O. F CA:3081680 1775 54:25 110:17(52-89) COLD LAKE A 81.3
ACTIVE C CA:3014995 2159 53:07 110:21(61-89) PARADISE VALLEY 16.6
REGULAR1 C CA:3012515 2290 52:58 111:00(66-89) FABYAN 24.6
REGULAR2 C CA:3013961 2180 53:19 110:04(82-89) LLOYDMINSTER A 25.2
REGULAR3 C CA:3016932 2255 52:50 110:50(73-89) WAINWRIGHT HEATH 30.4
*****
* GPS SITE: 1/811804 N53:12:05 W113:20:00 ELEV: 2301, 1982
*****
FIRST O. F CA:3012205 2346 53:18 113:35(59-89) EDMONTON INT'L A 12.4
ACTIVE C CA:3017286 2500 52:58 113:23(85-89) WETASKIWIN SOUTH 16.3
REGULAR1 C CA:3012295 2276 53:25 113:33(64-86) ELLERSLIE 17.4
REGULAR2 C CA:3011854 2436 53:26 113:07(85-89) COOKING LAKE 18.3
REGULAR3 C CA:3012990 2520 52:57 113:11(75-89) GWYNNE 18.4
*****
* GPS SITE: 1/811805 N50:40:33 W113:35:36 ELEV: 3379, 1980
*****
FIRST O. F CA:3031093 3533 51:07 114:01( 1-89) CALGARY INT'L A 35.6
ACTIVE C CA:3033138 3500 50:36 113:21(65-89) HERRONTON EAST 11.9
REGULAR1 C CA:3036881 3441 50:24 113:15(74-89) VULCAN 24.3
REGULAR2 C CA:3031524 3350 51:02 113:47(74-85) CHESTERMERE LAKE SOUT 26.1
REGULAR3 C CA:3035340 3100 50:36 112:59(61-89) QUEENSTOWN 27.3
*****
* GPS SITE: 2/812812 N51:38:33 W113:22:24 ELEV: 2975, 1984
*****
FIRST O. F CA:3025480 2968 52:11 113:54(38-89) RED DEER A 43.6
ACTIVE C CA:3026530 2803 51:47 113:12(54-89) TROCHU EQUITY 12.3
REGULAR1 C CA:3022778 2700 51:39 113:05(79-89) GHOST PINE CREEK 12.5
REGULAR2 C CA:3026540 2875 51:50 113:13(80-89) TROCHU TOWN 14.8
REGULAR3 C CA:3022139 2258 51:27 112:42(74-89) DRUMHELLER CITY 31.9
*****
* GPS SITE: 68/818529 N51:00:00 W114:58:22 ELEV: 4197, 1971
*****
FIRST O. F CA:3031093 3533 51:07 114:01( 1-89) CALGARY INT'L A 42.3
ACTIVE C CA:3053600 4564 51:02 115:02(39-89) KANANASKIS 3.5
REGULAR1 C CA:3050779 4324 51:05 115:04(67-89) BOW VALLEY PROV PARK 7.1
REGULAR2 C CA:3052270 4593 50:54 114:42(58-89) ELBOW RS 13.7
REGULAR3 C CA:3052780 4649 51:18 114:56(58-89) GHOST RS 20.8
*****
* GPS SITE: 1/821005 N49:43:00 W121:03:00 ELEV: 3133, 1986
*****
FIRST O. F CA:1126510 2298 49:28 120:31(36-89) PRINCETON A 29.5
ACTIVE C CA:1121090 3189 49:49 120:52(86-89) BROOKMERE 10.7
REGULAR1 C CA:1114474 2648 49:30 121:15(82-89) LADNER CREEK 17.4
REGULAR2 C CA:111090M 656 49:52 121:26(74-89) BOSTON BAR 20.0
REGULAR3 C CA:1119002 249 49:34 121:26(84-89) YALE 20.1
*****
* GPS SITE: 6A/826006 N49:14:00 W121:58:00 ELEV: 5, 1962
*****
FIRST O. F CA:1100030 178 49:02 122:22(44-89) ABBOTSFORD A 22.8
ACTIVE C CA:1101530 36 49:10 121:56( 1-89) CHILLIWACK 4.8
REGULAR1 C CA:1101545 39 49:10 121:52(61-86) CHILLIWACK GIBSON ROA 6.5
REGULAR2 C CA:1106865 35 49:11 121:48(67-88) ROSEDALE 8.3
REGULAR3 C CA:1100120 50 49:15 121:46( 1-89) AGASSIZ CDA 9.1
*****
* GPS SITE: 6A/826007 N49:07:00 W122:55:00 ELEV: 43, 1960
*****
FIRST O. F CA:1108447 9 49:11 123:10(37-89) VANCOUVER INT'L A 12.2
ACTIVE C CA:1107878 240 49:08 122:51(60-89) SURREY NEWTON 3.2
REGULAR1 C CA:1107876 250 49:06 122:50(62-89) SURREY MUNICIPAL HALL 3.9
REGULAR2 C CA:1108890 275 49:11 122:50(58-89) WHALLEY FOREST NURSER 6.0
REGULAR3 C CA:1105553 60 49:13 122:54(60-80) NEW WESTMINSTER BC PE 6.9

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*****
* GPS SITE: 2/829017      N50:30:00 W120:40:00 ELEV: 4560, 1987
*****
FIRST O. F CA:1163780    1133 50:42 120:27(51-89) KAMLOOPS A      16.8
ACTIVE C CA:1124668      3612 50:30 120:49(71-89) LOGAN LAKE      6.6
REGULAR1 C CA:1124460    4281 50:29 120:32(84-88) LAC LE JEUNE WALLOWER 6.0
REGULAR2 C CA:1163790    2300 50:40 120:30(77-89) KAMLOOPS AFTON MINES 13.6
REGULAR3 C CA:1123469    4187 50:28 121:01(67-89) HIGHLAND VALLEY LORNE 15.6
*****
* GPS SITE: 1/831801      N49:50:00 W100:30:00 ELEV: 1400, 1984
*****
FIRST O. F CA:5010480    1342 49:55 099:57(41-89) BRANDON A      25.2
ACTIVE C CA:5012719      1420 49:39 100:15(82-89) SOURIS      16.9
REGULAR1 C CA:5012439    1560 50:02 100:14(84-89) RIVERS      18.2
REGULAR2 C CA:5012054    1650 50:06 100:38(62-89) OAKNER      19.3
REGULAR3 C CA:5012960    1434 49:51 100:56( 4-89) VIRDEN      19.4
*****
* GPS SITE: 3/833802      N49:30:30 W097:09:00 ELEV: 773, 1985
*****
FIRST O. F CA:5023222    783 49:54 097:14(38-89) WINNIPEG INT'L A      27.3
ACTIVE C CA:5022043      777 49:36 097:03(61-89) NIVERVILLE      7.8
REGULAR1 C CA:5021054    768 49:39 097:07(67-89) GLENLEA      9.9
REGULAR2 C CA:5020768    780 49:37 097:19(79-88) DOMAIN      10.6
REGULAR3 C CA:5021529    790 49:40 096:53(80-89) LANDMARK      16.2
*****
* GPS SITE: 6B/836450     N49:35:00 W096:20:00 ELEV: 958, 1971
*****
FIRST O. F CA:5023222    783 49:54 097:14(38-89) WINNIPEG INT'L A      45.8
ACTIVE C CA:5022780      832 49:32 096:46(56-89) STEINBACH      19.7
REGULAR1 C CA:5032764    1018 49:39 096:10(69-83) SPRUCE TCPL 43      8.8
REGULAR2 C CA:5020810    798 49:52 096:49(62-88) DUGALD      29.2
REGULAR3 C CA:5030160    722 50:01 096:26(53-89) BEAUSEJOUR 2      30.3
*****
* GPS SITE: 6B/836451     N49:35:00 W096:20:00 ELEV: 958, 1971
*****
FIRST O. F CA:5023222    783 49:54 097:14(38-89) WINNIPEG INT'L A      45.8
ACTIVE C CA:5022780      832 49:32 096:46(56-89) STEINBACH      19.7
REGULAR1 C CA:5032764    1018 49:39 096:10(69-83) SPRUCE TCPL 43      8.8
REGULAR2 C CA:5020810    798 49:52 096:49(62-88) DUGALD      29.2
REGULAR3 C CA:5030160    722 50:01 096:26(53-89) BEAUSEJOUR 2      30.3
*****
* GPS SITE: 7B/836452     N49:50:00 W097:00:00 ELEV: 772, 1961
*****
FIRST O. F CA:5023222    783 49:54 097:14(38-89) WINNIPEG INT'L A      11.4
ACTIVE C CA:5023261      763 49:57 097:06(60-89) WINNIPEG STP      9.2
REGULAR1 C CA:5020810    798 49:52 096:49(62-88) DUGALD      8.5
REGULAR2 C CA:5021054    768 49:39 097:07(67-89) GLENLEA      13.7
REGULAR3 C CA:5022043    777 49:36 097:03(61-89) NIVERVILLE      16.3
*****
* GPS SITE: 2/836454      N50:01:00 W098:42:00 ELEV: 900, 1976
*****
FIRST O. F CA:5012320    885 49:54 098:16(41-89) PORTAGE LA PRAIRIE A      20.9
ACTIVE C CA:5041684      987 49:54 098:42(73-89) MACGREGOR      8.1
REGULAR1 C CA:5012322    857 49:59 098:19(62-89) PORTAGE LA PRAIRIE 2      17.2
REGULAR2 C CA:5040764    815 50:11 098:23(67-89) DELTA UNIVERSITY FS      18.2
REGULAR3 C CA:50410N0    925 50:11 099:01(73-89) GLADSTONE SOUTH      18.2
*****
* GPS SITE: 1/841684      N45:50:56 W066:32:43 ELEV: 79, 1978
*****
FIRST O. F CA:8101500    54 45:52 066:32(51-89) FREDERICTON A      3.3
ACTIVE C CA:8103800      150 45:50 066:28(57-89) OROMOCTO      0.8
REGULAR1 C CA:8101600    130 45:55 066:37(13-89) FREDERICTON CDA      8.6
REGULAR2 C CA:8100100    200 45:59 066:22(55-89) ACADIA FOREST EXP ST      11.8
REGULAR3 C CA:8101800    175 45:47 066:09(23-89) GAGETOWN 2      16.4
*****
* GPS SITE: 1/841802      N46:31:47 W067:45:51 ELEV: 82, 1980
*****
FIRST O. F US:ME001175   620 46:52 068:01(39-89) CARIBOU WSO AP      26.2
ACTIVE C CA:8100512      300 46:32 067:40(66-89) BEECHWOOD      4.6
REGULAR1 C US:ME000833   420 46:25 067:51(57-89) BRIDGEWATER      8.8
REGULAR2 C CA:8100850    469 46:23 067:42(65-89) CENTREVILLE      10.6
REGULAR3 C CA:8100566    1450 46:39 067:35(66-89) BON ACCORD      12.0

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*****
* GPS SITE: 3/843803      N46:32:34 W064:47:15 ELEV: 72, 1980
*****
FIRST O. F CA:8103200      232 46:07 064:41(39-89) MONCTON A      29.8
ACTIVE C CA:8100590        35 46:31 064:43(65-89) BUCTOUCHE      3.8
REGULAR1 C CA:8100592      118 46:26 064:46(82-89) BUCTOUCHE CDA    7.6
REGULAR2 C CA:8104400       15 46:40 064:52(22-89) REXTON          9.4
REGULAR3 C CA:8102325      115 46:46 065:00(72-89) KOUCHIBOUGUAC    18.5
*****
* GPS SITE: 6A/846804      N45:54:41 W067:02:47 ELEV: 177, 1966
*****
FIRST O. F CA:8101500       54 45:52 066:32(51-89) FREDERICTON A      24.9
ACTIVE C CA:8102536       328 45:57 066:54(73-89) MACTAQUAC PROV PARK  7.5
REGULAR1 C CA:8102201      600 45:40 067:02(76-89) HARVEY STATION    16.9
REGULAR2 C CA:8104480       380 46:03 066:43(65-89) ROYAL ROAD      18.5
REGULAR3 C CA:8100775       570 45:53 067:28(70-89) CANTERBURY      20.3
*****
* GPS SITE: 1/851801      N47:29:32 W052:52:05 ELEV: 560, 1984
*****
FIRST O. F CA:8403506      438 47:37 052:44(42-89) ST JOHN'S A      10.6
ACTIVE C CA:8403600       375 47:31 052:47(50-89) ST JOHN'S WEST CDA    4.3
REGULAR1 C CA:8403669      315 47:34 052:41(84-89) SIGNAL HILL      10.0
REGULAR2 C CA:8402309       20 47:27 053:06(70-89) HOLYROOD GEN STN    11.2
REGULAR3 C CA:8402568       90 47:37 052:40(69-89) LOGY BAY      12.7
*****
* GPS SITE: 1/851803      N48:41:30 W058:10:00 ELEV: 485, 1980
*****
FIRST O. F CA:8403800       26 48:32 058:33(42-89) STEPHENVILLE A      20.7
ACTIVE C CA:8401642       469 48:42 058:14(82-89) GALLANTS        3.1
REGULAR1 C CA:8400570       88 48:34 058:22(81-89) BLACK DUCK      12.6
REGULAR2 C CA:8401300       15 48:57 057:57(33-89) CORNER BROOK    20.4
REGULAR3 C CA:8402945       43 48:33 058:55(80-89) PICCADILLY    35.7
*****
* GPS SITE: 1/851808      N48:23:20 W058:28:14 ELEV: 254, 1983
*****
FIRST O. F CA:8403800       26 48:32 058:33(42-89) STEPHENVILLE A      10.6
ACTIVE C CA:8403450       38 48:26 058:28(56-89) ST GEORGES        3.1
REGULAR1 C CA:8400570       88 48:34 058:22(81-89) BLACK DUCK      13.2
REGULAR2 C CA:8401102       39 48:14 058:49(82-88) CARTYVILLE    19.2
REGULAR3 C CA:8402945       43 48:33 058:55(80-89) PICCADILLY    23.3
*****
* GPS SITE: 6A/866802      N44:51:05 W063:33:40 ELEV: 470, 1972
*****
FIRST O. F CA:8202250      415 44:53 063:31(53-89) HALIFAX INT'L A      3.1
ACTIVE C CA:8206250       222 44:41 063:31(55-89) WESTPHAL      11.8
REGULAR1 C CA:8203600       520 44:54 063:50(19-89) MOUNT UNIACKE    13.8
REGULAR2 C CA:8202220      230 44:39 063:35(33-89) HALIFAX CITADEL    13.9
REGULAR3 C CA:8204453       540 44:46 063:50(79-89) POCKWOCK LAKE    14.6
*****
* GPS SITE: 1/871620      N44:43:00 W079:38:00 ELEV: 705, 1981
*****
FIRST O. F CA:6115525      920 44:58 079:18(34-89) MUSKOKA A      23.8
ACTIVE C CA:6111769       935 44:38 079:32(71-89) COLDWATER WARMINSTER    7.6
REGULAR1 C CA:6115820       720 44:37 079:25(65-89) ORILLIA TS      12.7
REGULAR2 C CA:6115127      593 44:45 079:54( 1-86) MIDLAND      13.3
REGULAR3 C CA:6113490       600 44:51 079:52(74-89) HONEY HBR BEAUSOLEIL    14.7
*****
* GPS SITE: 1/871622      N45:08:30 W079:15:30 ELEV: 989, 1976
*****
FIRST O. F CA:6115525      920 44:58 079:18(34-89) MUSKOKA A      12.3
ACTIVE C CA:6110606       975 45:08 079:24(79-89) BEATRICE 2        6.9
REGULAR1 C CA:6119115      975 45:12 079:21(71-83) UTTERSON ONT HYDRO    6.0
REGULAR2 C CA:6115150       825 45:06 079:29(65-84) MILFORD BAY      11.4
REGULAR3 C CA:6113663      937 45:20 079:13(60-89) HUNTSVILLE WPCP    13.4
*****
* GPS SITE: 2/871680      N43:56:30 W079:22:30 ELEV: 1020, 1985
*****
FIRST O. F CA:615HMAK      646 43:52 079:22(86-89) TORONTO BUTTONTVILLE A    5.2
ACTIVE C CA:6152953       650 43:52 079:23(74-89) GORMLEY ARDENLEE    5.2
REGULAR1 C CA:6157012      764 43:53 079:27(59-89) RICHMOND HILL    5.5
REGULAR2 C CA:6158084       875 43:58 079:15(71-89) STOUFFVILLE WPCP    6.5
REGULAR3 C CA:6154950      801 43:52 079:29(62-89) MAPLE          7.5

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*****
* GPS SITE: 1/871806      N43:59:00 W079:23:00 ELEV: 960, 1985
*****
FIRST O. F  CA:615HMAK      646 43:52 079:22(86-89) TORONTO BUTTONVILLE A      8.1
ACTIVE  C  CA:6158084      875 43:58 079:15(71-89) STOUFFVILLE WPCP      6.7
REGULAR1 C  CA:6154142     1155 44:01 079:31(74-89) KING SMOKE TREE      7.0
REGULAR2 C  CA:6157012      764 43:53 079:27(59-89) RICHMOND HILL      7.7
REGULAR3 C  CA:6152953      650 43:52 079:23(74-89) GORMLEY ARDENLEE      8.1
*****
* GPS SITE: 2/872811      N42:59:30 W082:03:00 ELEV: 724, 1977
*****
FIRST O. F  CA:6144475      912 43:02 081:09(40-89) LONDON A      45.6
ACTIVE  C  CA:6126499      660 42:53 082:10(60-89) PETROLIA TOWN      9.5
REGULAR1 C  CA:6127514      594 43:00 082:18(67-89) SARNIA A      12.7
REGULAR2 C  US:M1006680     590 42:59 082:25(48-89) PORT HURON      18.6
REGULAR3 C  CA:6148120      750 42:57 081:39( 6-89) STRATHROY      20.4
*****
* GPS SITE: 2/872812      N42:57:00 W081:19:30 ELEV: 830, 1981
*****
FIRST O. F  CA:6144475      912 43:02 081:09(40-89) LONDON A      10.6
ACTIVE  C  CA:6149455      850 42:55 081:13(61-89) WESTMINSTER TWP WPCP      5.9
REGULAR1 C  CA:6143722      875 43:03 081:26(71-89) ILBERTON BEAR CREEK      8.8
REGULAR2 C  CA:6137362      686 42:46 081:13(80-89) ST THOMAS WPCP      13.8
REGULAR3 C  CA:6148120      750 42:57 081:39( 6-89) STRATHROY      16.5
*****
* GPS SITE: 1/881645      N46:19:30 W063:39:40 ELEV: 150, 1987
*****
FIRST O. F  CA:8300700      78 46:26 063:50(42-89) SUMMERSIDE A      11.1
ACTIVE  C  CA:8300060     110 46:16 063:35(84-89) ALBANY      5.5
REGULAR1 C  CA:8300500      50 46:30 063:33(57-89) NEW LONDON      13.2
REGULAR2 C  CA:8300497      20 46:26 063:21(71-89) NEW GLASGOW      16.6
REGULAR3 C  CA:8102369      60 46:07 064:02(86-89) LITTLE SHEMOGUE      22.9
*****
* GPS SITE: 1/881646      N46:16:15 W063:36:00 ELEV: 100, 1980
*****
FIRST O. F  CA:8300700      78 46:26 063:50(42-89) SUMMERSIDE A      15.8
ACTIVE  C  CA:8300060     110 46:16 063:35(84-89) ALBANY      0.8
REGULAR1 C  CA:8300500      50 46:30 063:33(57-89) NEW LONDON      16.0
REGULAR2 C  CA:8300497      20 46:26 063:21(71-89) NEW GLASGOW      16.4
REGULAR3 F  CA:8300300     156 46:17 063:08(43-89) CHARLOTTETOWN A      22.3
*****
* GPS SITE: 2/881647      N46:20:30 W063:19:00 ELEV: 100, 1986
*****
FIRST O. F  CA:8300300     156 46:17 063:08(43-89) CHARLOTTETOWN A      9.6
ACTIVE  C  CA:8300497      20 46:26 063:21(71-89) NEW GLASGOW      6.5
REGULAR1 C  CA:8300400      74 46:15 063:08(10-89) CHARLOTTETOWN CDA      10.8
REGULAR2 C  CA:8300590      10 46:25 063:05(61-89) STANHOPE      12.3
REGULAR3 C  CA:8300060     110 46:16 063:35(84-89) ALBANY      13.8
*****
* GPS SITE: 1/891021      N46:26:00 W072:29:00 ELEV: 100, 1983
*****
FIRST O. F  CA:7016294      230 46:48 071:23(43-89) QUEBEC A      58.1
ACTIVE  C  CA:701HE63      180 46:23 072:37(74-89) TROIS RIVIERES AQUEDU      7.2
REGULAR1 C  CA:7018564      175 46:22 072:36(34-86) TROIS RIVIERES      7.2
REGULAR2 C  CA:7017585      151 46:32 072:26(73-89) ST NARCISSE      7.3
REGULAR3 C  CA:7020570      49 46:20 072:26(66-89) BECANCOUR      7.3
*****
* GPS SITE: 1/891125      N46:41:55 W071:40:42 ELEV: 185, 1978
*****
FIRST O. F  CA:7016294      230 46:48 071:23(43-89) QUEBEC A      15.5
ACTIVE  C  CA:7012071      150 46:41 071:44(52-89) DONNACONA 2      3.0
REGULAR1 C  CA:7027088      230 46:37 071:47(73-89) STE CROIX      7.7
REGULAR2 C  CA:7016900      190 46:44 071:30(64-89) ST AUGUSTIN      8.7
REGULAR3 C  CA:7016932      500 46:51 071:37(64-89) STE CATHERINE      10.8
*****
* GPS SITE: 1/891127      N46:28:00 W071:02:00 ELEV: 525, 1978
*****
FIRST O. F  CA:7016294      230 46:48 071:23(43-89) QUEBEC A      28.4
ACTIVE  C  CA:7027840      475 46:30 071:05(50-89) SCOTT      3.3
REGULAR1 C  CA:7028676      500 46:23 070:56(65-89) VALLEE JONCTION      7.5
REGULAR2 C  CA:7027733     1450 46:20 071:03(64-89) ST SEVERIN      9.2
REGULAR3 C  CA:7022553     1400 46:26 070:50(65-85) FRAMPTON      9.8

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* GPS SITE: 2/892011      N45:24:00 W071:19:00 ELEV: 830, 1979
*****
FIRST O. F CA:7028124      782 45:26 071:41(62-89) SHERBROOKE A      18.0
ACTIVE C CA:7028906      1666 45:24 071:18(65-89) WEST DITTON      0.8
REGULAR1 C CA:7025212      3645 45:27 071:09(78-89) MONT MEGANTIC      8.8 REJECTED
REGULAR2 C CA:7027802      1135 45:22 071:32(61-89) SAWYERVILLE NORD      10.8
REGULAR3 C CA:7025670      1650 45:24 071:05(65-89) NOTRE DAME DES BOIS      11.3
*****
* GPS SITE: 3/893001      N45:53:00 W073:11:00 ELEV: 70, 1974
*****
FIRST O. F CA:7027320      90 45:31 073:25(28-89) ST HUBERT A      27.7
ACTIVE C CA:7022375      100 45:48 073:00(67-89) FLEURY      10.5
REGULAR1 C CA:7014260      100 45:56 073:19(57-82) LAVALTRIE CDA      7.3
REGULAR2 C CA:7028200      48 46:02 073:07(14-89) SOREL      10.8
REGULAR3 C CA:7010720      40 46:03 073:11(19-89) BERTHIERVILLE      11.5
*****
* GPS SITE: 3/893002      N45:36:00 W073:40:00 ELEV: 125, 1979
*****
FIRST O. F CA:7025250      101 45:28 073:45(41-89) MONTREAL/DORVAL INT'L      10.1
ACTIVE C CA:7020392      174 45:39 073:44(83-89) AUTEUIL      4.7
REGULAR1 C CA:7026266      50 45:40 073:35(73-85) ST FRANCOIS DE LAVAL      6.1
REGULAR2 C CA:7025257      150 45:34 073:33(48-89) MONTREAL JAR BOT      6.1
REGULAR3 C CA:7025260      435 45:30 073:37(56-85) MONTREAL JEAN BREBEUF      7.3
*****
* GPS SITE: 3/893015      N46:28:00 W072:22:00 ELEV: 104, 1984
*****
FIRST O. F CA:7016294      230 46:48 071:23(43-89) QUEBEC A      52.1
ACTIVE C CA:7011290      39 46:28 072:20(80-89) CHAMPLAIN      1.6
REGULAR1 C CA:7017585      151 46:32 072:26(73-89) ST MARCISSE      5.6
REGULAR2 C CA:7020570      49 46:20 072:26(66-89) BECANCOUR      9.7
REGULAR3 C CA:7016840      52 46:35 072:14(49-89) STE ANNE DE LA PERADE      10.3
*****
* GPS SITE: 3/893016      N46:34:00 W072:13:00 ELEV: 55, 1984
*****
FIRST O. F CA:7016294      230 46:48 071:23(43-89) QUEBEC A      42.7
ACTIVE C CA:7016840      52 46:35 072:14(49-89) STE ANNE DE LA PERADE      1.4
REGULAR1 C CA:7011290      39 46:28 072:20(80-89) CHAMPLAIN      8.9
REGULAR2 C CA:7022494      175 46:29 072:03(73-89) FORTIERVILLE      9.8
REGULAR3 C CA:7017585      151 46:32 072:26(73-89) ST MARCISSE      10.6
*****
* GPS SITE: 9/899018      N46:19:00 W072:29:00 ELEV: 52, 1975
*****
FIRST O. F CA:7016294      230 46:48 071:23(43-89) QUEBEC A      62.1
ACTIVE C CA:7020570      49 46:20 072:26(66-89) BECANCOUR      2.7
REGULAR1 C CA:7018564      175 46:22 072:36(34-86) TROIS RIVIERES      6.6
REGULAR2 C CA:701HE63      180 46:23 072:37(74-89) TROIS RIVIERES AQUEDU      7.9
REGULAR3 C CA:7025440      100 46:12 072:37(13-89) NICOLET      10.3
*****
* GPS SITE: 1/901802      N50:09:45 W102:18:00 ELEV: 2112, 1971
*****
FIRST O. F CA:4010879      1961 50:23 102:41(65-89) BROADVIEW      22.8
ACTIVE C CA:4014040      2202 50:12 102:44(49-89) KIPLING      19.4
REGULAR1 C CA:4018506      1975 50:11 102:08(71-82) WAPELLA      7.5
REGULAR2 C CA:4018880      1916 50:28 102:14( 2-89) WHITEWOOD      21.2
REGULAR3 C CA:4018678      2110 49:56 101:58(77-89) WAWOTA      21.7
*****
* GPS SITE: 6A/906400      N50:23:00 W102:15:30 ELEV: 1967, 1972
*****
FIRST O. F CA:4010879      1961 50:23 102:41(65-89) BROADVIEW      18.7
ACTIVE C CA:4018880      1916 50:28 102:14( 2-89) WHITEWOOD      5.9
REGULAR1 C CA:4018506      1975 50:11 102:08(71-82) WAPELLA      14.9
REGULAR2 C CA:4018508      1873 50:27 101:56(79-89) WAPELLA NEWFINLAND      15.0
REGULAR3 C CA:4014040      2202 50:12 102:44(49-89) KIPLING      24.5
*****
* GPS SITE: 1/906405      N51:54:30 W105:19:30 ELEV: 1785, 1969
*****
FIRST O. F CA:4019035      1840 51:46 104:12(39-89) WYNYARD      49.1
ACTIVE C CA:4013038      1726 51:47 105:17(73-89) GUERNSEY      8.8
REGULAR1 C CA:4058492      1795 51:57 105:38(73-89) VISCOUNT      13.5
REGULAR2 C CA:4018640      1775 51:40 105:28(53-89) WATROUS      17.8
REGULAR3 C CA:4051636      1780 51:56 105:46(71-89) COLONSAY      18.9

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*****
* GPS SITE: 68/906410      N52:03:30 W106:36:00 ELEV: 1680, 1968
*****
FIRST O. F  CA:4057120    1643 52:10 106:41( 1-89) SASKATOON A           8.3
ACTIVE   C  CA:4057130    1710 52:06 106:36(74-89) SASKATOON CENTRAL AVE  2.9
REGULAR1 C  CA:4057172    1611 52:07 106:40(77-89) SASKATOON 2           4.9
REGULAR2 C  CA:4057202    1585 52:07 106:41(74-89) SASKATOON WATER TP      5.4
REGULAR3 C  CA:4057180    1630 52:09 106:36(63-89) SASKATOON SRC          6.3
*****
* GPS SITE: 68/906412      N52:03:30 W106:36:00 ELEV: 1678, 1968
*****
FIRST O. F  CA:4057120    1643 52:10 106:41( 1-89) SASKATOON A           8.3
ACTIVE   C  CA:4057130    1710 52:06 106:36(74-89) SASKATOON CENTRAL AVE  2.9
REGULAR1 C  CA:4057172    1611 52:07 106:40(77-89) SASKATOON 2           4.9
REGULAR2 C  CA:4057202    1585 52:07 106:41(74-89) SASKATOON WATER TP      5.4
REGULAR3 C  CA:4057180    1630 52:09 106:36(63-89) SASKATOON SRC          6.3
*****
* GPS SITE: 6A/906801      N50:22:00 W102:15:30 ELEV: 1965, 1972
*****
FIRST O. F  CA:4010879    1961 50:23 102:41(65-89) BROADVIEW           18.8
ACTIVE   C  CA:4018880    1916 50:28 102:14( 2-89) WHITEWOOD             7.0
REGULAR1 C  CA:4018506    1975 50:11 102:08(71-82) WAPELLA             13.8
REGULAR2 C  CA:4018508    1873 50:27 101:56(79-89) WAPELLA NEWFINLAND        15.4
REGULAR3 C  CA:4014040    2202 50:12 102:44(49-89) KIPLING              23.9

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