Tijuana River (TJR) National Estuarine Research Reserve Meteorological Metadata
January - December 2002
Latest Update: **October 11, 2023**

I. Data Set & Research Descriptors

1) Principal investigator(s) & contact persons

Contact Persons:
Jeff Crooks, Research Coordinator, jcrooks@tijuanaestuary.com
Michelle Cordrey, Research Associate, mcordrey@perl.sdsu.edu

Web Address:
http://www.tijuanaestuary.com

2) Entry verification

The meteorological sensors at the station are sampled every five seconds by a Campbell Scientific model CR10x datalogger. At 15 minute intervals the 5 second data are written to file (see section below for sampling details) on the CR10x. The data are downloaded in comma delimited ascii format via modem from the CR10x at 15 minute intervals to a computer located in the Tijuana River NERR visitor's center using PC208W software provided by Campell Scientific. Following download from the CR10x the data are automatically uploaded via FTP to a mySQL database server at San Diego State University (SDSU) where it is made available near-realtime for viewing on the web (http://www.perl.sdsu.edu/TRNERR). Raw data files are kept both at Tijuana River NERR and at SDSU.

Data are QA/QC'd using Microsoft Access as a front-end, using ODBC, to the SQL database to generate reports which detail data outliers and anomalies (see section 2c for the CDMO Meteorological Data Collection Error/Anomalous Data Criteria). Graphs are generated using a web interface to the SQL database to aid in identifying anomalous data. Any necessary edits are made directly to the SQL database using Microsoft Access. A log is generated on the SQL server of any changes made to the database. Any anomalous data were investigated and are noted below in the Anomalous Data Section. Any data corrections that were performed are noted in the Data Correction Section below. All error messages and anomalous data were compared to reference data obtained from a nearby (1/2 mile) weather station operated by the U.S. Navy and another located on the Imperial Beach pier operated by the Scripts Institute of Oceanography.

Following preliminary editing, data are exported from Access into the EQWin database software where reports, queries and graphs are generated before data is saved as an EQWin update file (*.equ) and is uploaded to the CDMO.

The new Data Logger Program (NERR_4.CSI) was loaded into the CR10X on November 07, 2003 at 10:32. The raw file data collected after November 07 at 10:32 was exported from PC208W in a comma-delimited format (.DAT file) and opened in Microsoft Excel for pre-processing with the EQWin format macro that was developed by the CDMO to reformat the header columns, insert station codes, insert a corrected time column and allow the technician to remove any pre- and post-deployment data from the file. The pre-processed file is then ready to be copied into the EQWin water.eqi file where the data are QA/QC checked and archived in a database. EQWin queries, reports and graphs are

used to discover data set outliers (values which fall outside the range that the instrument is designed to measure) and large changes in the data. EQWin is also used to generate statistics, view graphs, create customized queries and reports of the data, cross query the water, weather and nutrient data and finally export the data to the CDMO. Any errors or anomalous data are noted and further examined and either deleted or noted in the metadata.

a) Data Collection Schedule

The sensors are sampled every 5 seconds and the results are placed in volatile memory on the CR10x datalogger. Measurements are recorded from the 5 sec data every 15 minutes, 60 minutes and 24 hours for the following parameters for each time interval:

Prior to November 7, 2003:

15 minute sample point parameters:
Date, Time, Air Temperature (c), Relative Humidity (%), LiCor (par), Barometric Pressure (mb), Wind Speed (m/s), Wind Direction, Rainfall (mm)

60 minute average parameters:
Date, Time, Air Temperature (c), Relative Humidity (%), LiCor (par), Barometric Pressure (mb), Wind Speed (m/s), Wind Direction, Wind Direction Standard Deviation (using Yamartino's Algorithm)

Daily Average parameters:
Date, Time, Air Temperature (c), Relative Humidity (%), LiCor (par), Barometric Pressure (mb), Wind Speed (m/s), Wind Direction

24 hour Maximum parameters: Date, Time, Air Temperature (c), Time, Relative Humidity (%), Time, LiCor (par), Time, Barometric Pressure (mb), Time, Wind Speed (m/s), Time, Battery Voltage, Time

24 hour Minimum parameters:
Date, Time, Air Temperature (c), Time, Relative Humidity (%), Time, LiCor (par), Time, Barometric Pressure (mb), Time, Wind Speed (m/s), Time, Battery Voltage, Time

Beginning November 7, 2003 the data collection protocol was changed to the following, all parameters listed are sampled at 15 minute, 60 minute and 24 hour intervals:

Average:
Temperature, relative humidity, barometric pressure, wind speed, wind direction, battery voltage

Maximum:
Temperature, Maximum Temperature Time, relative humidity, Maximum Relative Humidity Time, barometric pressure, Maximum Barometric Pressure Time, Wind Speed, Maximum Wind Speed Time

Minimum:
Temperature, Minimum Temperature Time, relative humidity, Minimum Relative Humidity Time, barometric pressure, Minimum Barometric Pressure Time, Wind Speed, Minimum Wind Speed Time

Total:
Precipitation, Licor

b) Error/Anomalous Data Criteria

Air Temp:
- 15 min sample not greater than max for the day
- 15 min sample not less than the min for the day
- 15 min sample not greater than 3.0 C from the previous 15 minutes
- Max and min temp recorded for the day
- 1 hour average not greater than 10% above the greatest 15 min sample recorded in the hour

Relative Humidity:
- Not changed by more than 25% from the previous 15 minutes
- Max and min humidity recorded for the day
- 1 hour average not greater than 10% above the greatest 15 min sample recorded in the hour

Rainfall:
- Precipitation not greater than 5 mm in 15 min
- No precipitation for the month

Wind Speed:
- Wind speed greater than 30 m/s
- Wind speed less than .5 m/s

Wind Direction:
- Wind direction not greater than 360 degrees
- Wind direction not less than 0 degrees

Pressure:
- Pressure greater than 1040 mb or less than 980 mb
- Pressure changes greater than 5 mb per hour
- Maximum and minimum values recorded for the day
- 1 hour average not greater than 10% above the greatest 15 min sample recorded in the hour

Time:
- 15 minute interval recorded

For all data:
- Duplicate interval data

3) Research objectives (Campbell Weather Station):

The principal objective is to record long-term and episodic meteorological data for the Tijuana Estuary in order to observe any environmental changes or trends over time. Data are also used as corollary information in ongoing biologic, hydrologic and geographic studies being conducted at the reserve.

4) Research methods:

The Campbell Scientific weather station samples every 5 seconds to produce both hourly and daily averages of those measurements of air temperature, relative humidity, barometric pressure, rainfall, wind speed and wind direction. An

instantaneous sample is taken every 15 minutes and that data is stored in array 150. A one-week sampling interval was chosen so that the CR10X datalogger would not run out of room and overwrite data, especially if the short haul modem link failed and data could not be automatically sent from the datalogger to the computer. If this were the case, the data would have to be downloaded at the storage module to a laptop or the storage module would be replaced and brought back to the lab for uploading following procedures in Part D. Section 4.5 of the CDMO Operations Manual. Periodically, sensors on the weather station are inspected for damage or debris. If any is found, it is repaired and/or cleaned. Sensors are removed and sent back to Campbell Scientific for calibration at minimum of every two years. There were no other analyses done on the meteorological data at present.

5) Site location and character:

The Tijuana River NERR is located on the Southern Pacific Coast, next to the California border with Mexico at a latitude of 32 deg. 34 min. N and Longitude of 117 deg. 07 min. W. The area surrounding the 2,531 acre reserve is heavily developed by residential housing as is the watershed which drains into the estuary. Approximately 2/3 of the watershed is in Mexico and is subject to periodic raw sewage outflows. The North Eastern section of is bordered by a military helicopter training base. Vegetation in the area is dominated by common pickleweed (Spartina virginica) and Pacific cordgrass (Spartina foliosa).

Description of the specific sampling station:

The weather station is located approximately 30m west of the TR NERR Visitor Centor at a Latitude of 32deg 34min 28.32sec N and a Longitude of 117deg 07min 37.05sec W. The station is 50m north of the water quality sampling station. The vegetation surrounding the weather station are mainly upland scrub species.

The anemometer, wind direction and Licor sensors are located at the top of a 3.5 meter aluminum tower. The temperature and humidity sensors are located midway up and on the west side of the tower. The Tipping Bucket rain gauge sits on a separate 2 meter high pole located approx. a meter to the west of the main tower. It is above the ground to limit interference from the security fence surrounding the weather station. The sensors were wired to the CR10X following the protocol in the CDMO Manual.

6) Data collection period:

Weather data collection began at the Tidal Linkage station in 1999 and has been operational since. Data was collected for the entire year of 2003.

7) Distribution:

According to the Ocean and Coastal Resource Management Data Dissemination Policy for the NERRS System-wide Monitoring Program,

NOAA/ERD retains the right to analyze, synthesize and publish summaries of the NERRS System-wide Monitoring Program data. The PI retains the right to be fully credited for having collected and processed the data. Following academic courtesy standards, the PI and NERR site where the data were collected will be contacted and fully acknowledged in any subsequent publications in which any part of the data are used. Manuscripts resulting from this NOAA/OCRM supported research that are produced for publication in open literature, including refereed scientific journals, will acknowledge that the research was conducted

under an award from the Estuarine Reserves Division, Office of Ocean and Coastal Resource Management, National Ocean Service, National Oceanic and Atmospheric Administration. The data set enclosed within this package/transmission is only as good as the quality assurance and quality control procedures outlined by the enclosed metadata reporting statement. The user bears all responsibility for its subsequent use/misuse in any further analyses or comparisons. The Federal government does not assume liability to the Recipient or third persons, nor will the Federal government reimburse or indemnify the Recipient for its liability due to any losses resulting in any way from the use of this data.

NERR weather data and metadata can be obtained from the Research Coordinator at the individual NERR site (please see section 1. Principal investigators and contact persons), from the Data Manager at the Centralized Data Management Office (please see the CDMO Staff link on the CDMO home page) and online at the CDMO home page http://cdmo.baruch.sc.edu/. Data are available in text format.

8) Associated researchers and projects:

The Tijuana River NERR has a water quality station located at the Tidal Linkage. The principal objective of this study is to record long-term water quality data for the Tijuana Estuary in order to observe any physical changes or trends in water quality both spatially and over time. Additionally, NERR SWMP tier 1 nutrient monitoring is being conducted at the Tidal Linkage station.

II. Physical Structure Descriptors

9) Sensor specifications, operating range, accuracy, date of last calibration:

Parameter: LI-COR Quantum Sensor
Units: mmoles m-2 (total flux)
Sensor type: High stability silicon photovoltaic detector (blue enhanced)
Model #: LI190SB
Light spectrum waveband: 400 to 700 nm
Temperature dependence: 0.15% per °C maximum
Stability: <±2% change over 1 yr
Operating Temperature: -40°C to 65°C; Humidity: 0 to 100%
Sensitivity: typically 5 µA per 1000 µmoles s-1 m-2
Date of last calibration: 04/17/2001
Dates in service: 01/01/2003 - 08/13/2003

Parameter: LI-COR Quantum Sensor
Units: mmoles m-2 (total flux)
Sensor type: High stability silicon photovoltaic detector (blue enhanced)
Model #: LI190SA
Light spectrum waveband: 400 to 700 nm
Temperature dependence: 0.15% per °C maximum
Stability: <±2% change over 1 yr
Operating Temperature: -40°C to 65°C; Humidity: 0 to 100%
Sensitivity: typically 5 µA per 1000 µmoles s-1 m-2
Date of last calibration: 09/11/2003
Dates in service: 08/13/2003 - 12/31/2003

Parameter: Wind Direction
Units: degrees
Sensor type: Balance vane, 16 cm turning radius
Model #: 03001-5 R.M Young
Range: 360° mechanical, 355° electrical

Date of last calibration: May 2001
Dates in service: 01/01/2003 - 09/07/2003

Parameter: Wind Speed
Units: meter per second (m/s)
Sensor type: 12cm diameter cup wheel assembly, 40mm diameter hemispherical cups
Model #: 03101-5 R.M. Young
Range: 0-50 m/s
Date of last calibration: May 2001
Dates in service: 01/01/2003 - 09/07/2003

Parameter: Wind speed
Units: meter per second (m/s)
Sensor type: 18 cm diameter 4-blade helicoids propeller molded of polypropylene
Model #: R.M. Young 05103-5 Wind Monitor
Range: 0-60 m/s (130 mph); gust survival 100 m/s (220 mph)
Accuracy: +/- 2%
Date of last calibration: 09/03/2003
Dates in service: 09/07/2003 - 12/31/2003

Parameter: Wind direction
Units: degrees
Sensor type: balanced vane, 38 cm turning radius
Model #: R.M. Young 05103-5 Wind Monitor
Range: 360° mechanical, 355° electrical (5° open)
Accuracy: +/- 5%
Date of last calibration: 09/03/2003
Dates in service: 09/07/2003 - 12/31/2003

Parameter: Temperature and Relative Humidity
Model#: HMP35C
Operating Temperature: -35-+50°C
Temperature Measurement Range: -35-+50°C
Temperature Accuracy: ± 0.2 °C (0-60°C)
Relative Humidity Operating Temperature: : -20-+60°C
Relative Humidity Measurement Range: 0-100% non-condensing
RH Accuracy: +/-2% RH (0-90%) and +/-3%(90-100%)
Date of Last calibration: May 2001

Parameter: Barometric Pressure
Model#: CS-105
Operating Range: Pressure - 600-1060 mb
Temperature: -40-+60C
Humidity: non-condensing
Accuracy: ±0.5 to 6.0 mb (+20-60C)
Stability: ± 0.1 mb per year
Date of Last calibration:

Parameter: Precipitation
Units: millimeters (mm)
Sensor type: Tipping Bucket Rain Gauge
Model #: TE525
Rainfall per tip: 0.01 inch
Operating range: Temperature: 0° to +/- 50°C; Humidity: 0 to 100%
Accuracy: +/- 1.0% up to 1 in./hr; +0, -3% from 1 to 2 in./hr; +0, -5% from 2 to 3 in./hr
Date of Last calibration: June 2001

10) Coded variable indicator and variable code definitions:

Site definitions: TL = Tidal Linkage

11) Data anomalies/Data corrections:

Arrays:
During 2022 all pre-2007 weather data were revisited by the CDMO. Historically those datasets included 15 minute, hourly (60), and daily data arrays (144). As directed by the NERRS Data Management Committee, the CDMO removed the hourly and daily data arrays leaving only the 15 minute data to make the entire NERRS SWMP weather dataset consistent in its reporting. All references to the 60 and 144 arrays were left in the metadata document as they may still provide valuable information, but users should be aware that they are largely no longer relevant. The updated datasets were uploaded to the database and made available through the various data applications at www.nerrsdata.org/get/landing.cfm throughout the fall of 2022.

January 2003

On the following dates and times the difference in relative humidity in 15 minutes was greater than 25%: The data appear to be correct.

Date	Time	RH
01/03/2003	1430 to 1445	25.686
01/07/2003	1530 to 1545	30.31
01/15/2003	1900 to 1915	30.817

The following negative wind direction values were converted to 0:

Date	Time	ArrayID	Wdir
1/13/2003	2:30	15	-0.0954
1/18/2003	4:00	15	-0.09541
1/29/2003	23:45	15	-0.09538

The following rainfall was recorded and appear to be correct:

Date	Time	TotPrcp
1/15/2003	15	0.254
1/20/2003	15	0.254
1/20/2003	200	0.508
1/20/2003	300	0.254
1/20/2003	415	0.254

February 2003

On the following dates and times the difference in relative humidity in 15 minutes was greater than 25%: The data appear to be correct.

Date	Time	RH
02/05/2003	930 to 945	26.379
02/06/2003	515 to 530	37.641
02/06/2003	530 to 545	38.447
02/06/2003	545 to 600	37.909
02/06/2003	600 to 615	54.579
02/06/2003	630 to 645	73.988
02/06/2003	645 to 700	36.549
02/07/2003	315 to 330	25.669

02/07/2003 330 to 345 56.247
02/07/2003 345 to 400 33.592
02/07/2003 600 to 615 38.162
02/07/2003 2330 to 2345 31.162

The following negative wind direction values were converted to 0:

Date	Time	ArrayID	Wdir
2/2/2003	20:00	15	-0.09535
2/3/2003	2:15	15	-0.09541
2/3/2003	2:45	15	-0.09541
2/3/2003	8:30	15	-0.09537
2/4/2003	2:15	15	-0.09541

The following rainfall was recorded and appear to be correct:

Date	Time	TotPrcp
2/8/2003	145	0.508
2/8/2003	200	0.762
2/8/2003	215	0.762
2/8/2003	230	0.254
2/8/2003	415	0.254
2/11/2003	700	1.27
2/11/2003	715	1.27
2/11/2003	730	1.27
2/11/2003	745	0.762
2/11/2003	900	0.762
2/11/2003	915	0.762
2/11/2003	930	0.508
2/11/2003	1000	0.254
2/11/2003	1015	0.254
2/11/2003	1145	0.762
2/11/2003	1200	0.762
2/11/2003	1215	0.254
2/11/2003	1230	0.508
2/11/2003	1245	0.254
2/11/2003	1715	0.254
2/12/2003	845	0.254
2/12/2003	900	0.254
2/12/2003	915	0.254
2/12/2003	1215	2.032
2/12/2003	1230	3.302
2/12/2003	1245	1.27
2/12/2003	1300	1.524
2/12/2003	1315	2.794
2/12/2003	1330	1.27
2/12/2003	1345	0.508
2/12/2003	1400	1.27
2/12/2003	1415	2.286
2/12/2003	1430	1.016
2/12/2003	1445	0.762
2/12/2003	1500	0.508
2/12/2003	1515	1.27
2/12/2003	1530	1.524
2/12/2003	1545	1.524
2/12/2003	1600	0.762
2/12/2003	1615	0.508
2/12/2003	1630	0.508
2/12/2003	1645	0.254

2/12/2003	1700	0.254
2/12/2003	1715	0.254
2/12/2003	1745	0.508
2/12/2003	1800	0.254
2/12/2003	1815	0.508
2/12/2003	1830	0.254
2/12/2003	1845	0.254
2/12/2003	1900	0.508
2/12/2003	1915	0.508
2/12/2003	1945	0.254
2/12/2003	2000	0.254
2/13/2003	145	0.254
2/13/2003	300	0.254
2/13/2003	400	0.254
2/13/2003	515	0.508
2/13/2003	530	0.254
2/13/2003	1815	3.81
2/13/2003	1830	0.254
2/13/2003	1915	0.254
2/13/2003	2000	0.254
2/13/2003	2015	0.254
2/13/2003	2345	0.254
2/13/2003	2400	1.016
2/14/2003	100	0.254
2/14/2003	115	1.27
2/14/2003	130	1.524
2/14/2003	145	2.032
2/14/2003	200	1.524
2/14/2003	215	1.016
2/14/2003	230	0.762
2/14/2003	245	0.508
2/14/2003	300	0.254
2/14/2003	445	0.508
2/20/2003	245	0.254
2/20/2003	615	0.762
2/25/2003	145	2.286
2/25/2003	230	0.508
2/25/2003	400	0.762
2/25/2003	415	1.778
2/25/2003	430	0.254
2/25/2003	515	0.254
2/25/2003	530	0.508
2/25/2003	545	1.524
2/25/2003	600	2.032
2/25/2003	615	3.048
2/25/2003	630	0.254
2/25/2003	645	0.254
2/25/2003	700	1.27
2/25/2003	715	1.016
2/25/2003	730	0.254
2/25/2003	800	0.254
2/25/2003	830	1.016
2/25/2003	1200	0.762
2/25/2003	1215	1.016
2/25/2003	1230	3.556
2/25/2003	1245	3.81
2/25/2003	1300	0.762

2/25/2003	1315	0.762
2/25/2003	1645	0.254
2/25/2003	1700	0.254
2/25/2003	1745	0.762
2/25/2003	1800	0.254
2/25/2003	1815	0.762
2/25/2003	1830	0.762
2/25/2003	2115	0.762
2/27/2003	200	0.762
2/27/2003	245	0.254
2/27/2003	300	0.254
2/27/2003	730	1.778
2/27/2003	745	0.762
2/27/2003	800	0.254
2/27/2003	1100	0.254
2/27/2003	1300	0.762
2/27/2003	1315	0.762
2/27/2003	1345	0.254
2/27/2003	1400	0.508

March 2003

On the following dates and times the difference in relative humidity in 15 minutes was greater than 25%: The data appear to be correct.

Date	Time	RH
03/28/2003	2200 to 2215	26.799
03/29/2003	1000 to 1015	26.026

The following negative wind direction values were converted to 0:

Date	Time	ArrayID	Wdir
3/2/2003	20:15	15	-0.09537
3/25/2003	23:45	15	-0.09537

The following rainfall was recorded and appear to be correct:

Date	Time	TotPrcp
3/4/2003	445	0.254
3/4/2003	515	0.254
3/4/2003	530	1.27
3/4/2003	545	0.508
3/4/2003	645	0.254
3/4/2003	1630	0.254
3/4/2003	2215	1.016
3/4/2003	2230	0.762
3/4/2003	2245	1.27
3/4/2003	2300	0.762
3/4/2003	2315	0.762
3/4/2003	2330	0.254
3/4/2003	2345	0.254
3/5/2003	645	0.254
3/15/2003	1045	0.254
3/15/2003	1145	0.254
3/15/2003	1430	0.254
3/15/2003	1545	0.762
3/15/2003	1600	1.27
3/15/2003	1615	1.27
3/15/2003	1630	1.27

3/15/2003	1645	1.27
3/15/2003	1700	1.016
3/15/2003	1715	1.27
3/15/2003	1730	2.794
3/15/2003	1745	1.778
3/15/2003	1800	1.524
3/15/2003	1815	0.762
3/15/2003	1830	1.27
3/15/2003	1845	1.27
3/15/2003	1900	0.762
3/15/2003	1915	0.508
3/15/2003	1930	0.762
3/15/2003	1945	0.508
3/15/2003	2000	0.508
3/15/2003	2100	0.508
3/15/2003	2115	0.508
3/15/2003	2145	0.762
3/15/2003	2345	0.508
3/15/2003	2400	1.524
3/16/2003	15	1.27
3/16/2003	30	1.524
3/16/2003	45	0.762
3/16/2003	100	0.254
3/16/2003	115	1.016
3/16/2003	130	0.508
3/16/2003	145	2.032
3/16/2003	200	1.524
3/16/2003	215	0.508
3/16/2003	2045	2.032
3/16/2003	2100	2.032
3/16/2003	2115	0.508

April 2003

The following negative wind direction values were converted to 0:

Date	Time	ArrayID	Wdir
4/24/2003	23:30	15	-0.09537
4/28/2003	2:45	15	-0.09539
4/28/2003	7:15	15	-0.09536

The following rainfall was recorded and appears to be correct:

Date	Time	TotPrcp
4/13/2003	245	0.254
4/13/2003	315	0.254
4/13/2003	430	0.254
4/13/2003	615	0.254
4/14/2003	400	0.254
4/14/2003	1415	0.508
4/14/2003	1430	0.254
4/14/2003	1445	1.016
4/14/2003	1500	1.27
4/14/2003	1515	3.81
4/14/2003	1530	3.302
4/14/2003	1545	2.54
4/14/2003	1600	1.27
4/14/2003	1615	1.27

4/14/2003	1630	1.27
4/14/2003	1645	1.27
4/14/2003	1700	1.016
4/14/2003	1715	0.762
4/14/2003	1730	1.016
4/14/2003	1745	1.778
4/14/2003	1800	1.524
4/14/2003	1815	1.016
4/14/2003	1830	0.508
4/14/2003	1845	0.508
4/14/2003	2230	0.762
4/14/2003	2245	0.254
4/14/2003	2300	0.508
4/14/2003	2315	0.254
4/14/2003	2400	0.762
4/15/2003	15	0.254
4/17/2003	730	0.254
4/17/2003	745	0.254
4/17/2003	800	0.762
4/17/2003	815	0.254
4/17/2003	830	0.508
4/17/2003	845	1.27
4/17/2003	900	0.254
4/17/2003	915	0.254
4/22/2003	530	0.254
4/22/2003	1415	0.254
4/22/2003	2100	0.254

May 2003

The following rainfall was recorded and appears to be correct:

Date	Time	TotPrcp
5/3/2003	515	0.254
5/3/2003	600	0.254
5/3/2003	615	0.508
5/3/2003	630	0.508
5/3/2003	645	0.254
5/3/2003	700	0.254
5/3/2003	715	0.254
5/3/2003	1045	0.254
5/3/2003	1200	0.254
5/3/2003	1215	0.508
5/7/2003	1600	0.254
5/7/2003	1615	0.254
5/7/2003	1630	0.762
5/7/2003	1700	0.254
5/8/2003	345	0.254

June 2003

The following rainfall was recorded and appears to be correct:

Date	Time	TotPrcp
6/20/2003	45	0.254
6/20/2003	100	0.254
6/20/2003	145	0.254
6/20/2003	200	0.508
6/20/2003	215	0.508

6/20/2003 230 0.254
6/21/2003 915 0.254
6/21/2003 1045 0.254

July 2003

No data anomalies or corrections.

August 2003

No data anomalies or corrections.

September 2003

No data anomalies or corrections.

October 2003

On the following dates and times the difference in relative humidity in 15 minutes was greater than 25%: The data appear to be correct.

Date	Time	RH
10/27/2003	1100 to 1115	27.377
10/27/2003	1215 to 1230	37.846
10/27/2003	2000 to 2015	25.775

The following rainfall was recorded and appears to be correct:

Date	Time	TotPrcp
10/10/2003	900	0.254
10/25/2003	145	0.254

November 2003

The following negative wind direction values were converted to 0:

11/3/2003	6:15	15	-0.09537

The following negative Li-Cor values were retained in the data set:

Date	Time	ArrayID	TotPar
11/07/2003	17:45	15	-0.00435
11/07/2003	18:00	15	-0.12183
11/07/2003	18:15	15	-0.45905
11/07/2003	18:30	15	-0.72666
11/07/2003	18:45	15	-0.47865
11/07/2003	19:00	15	-0.10009
11/07/2003	19:00	60	-1.7644
11/07/2003	22:15	15	-0.01959
11/07/2003	22:30	15	-0.09795
11/07/2003	22:45	15	-0.43314
11/07/2003	23:00	60	-1.1493
11/07/2003	23:00	15	-0.59858
11/07/2003	23:15	15	-0.20244
11/07/2003	23:30	15	-0.0283
11/07/2003	24:00	60	-0.23073
11/08/2003	2:30	15	-0.00218
11/08/2003	2:45	15	-0.02612
11/08/2003	3:00	60	-0.06313
11/08/2003	3:00	15	-0.03483
11/08/2003	4:15	15	-0.00653

11/08/2003	4:30	15	-0.12193
11/08/2003	4:45	15	-0.0871
11/08/2003	5:00	15	-0.06097
11/08/2003	5:00	60	-0.27653
11/08/2003	17:45	15	-0.00218
11/08/2003	18:00	15	-0.04569
11/08/2003	18:15	15	-0.0174
11/08/2003	19:45	15	-0.14143
11/08/2003	20:00	15	-0.40906
11/08/2003	20:00	60	-0.40906
11/08/2003	20:15	15	-0.35032
11/08/2003	20:30	15	-0.03917
11/08/2003	21:00	60	-0.38949
11/08/2003	23:45	15	-0.2155
11/08/2003	24:00	15	-0.13714
11/08/2003	24:00	60	-0.05009
11/09/2003	0:15	15	-0.00218
11/09/2003	0:30	15	-0.00653
11/09/2003	1:00	60	-0.00871
11/09/2003	19:45	15	-0.00218
11/09/2003	20:00	15	-0.02176
11/10/2003	20:45	15	-0.10878
11/10/2003	21:00	15	-0.06527
11/10/2003	21:45	15	-0.03046
11/10/2003	22:00	15	-0.0087
11/10/2003	22:00	60	-0.02611
11/11/2003	17:30	15	-0.0435
11/11/2003	17:45	15	-0.10876
11/11/2003	18:00	60	-0.01309
11/11/2003	18:00	15	-0.1849
11/11/2003	18:15	15	-0.23277
11/11/2003	18:30	15	-0.12401
11/11/2003	19:00	60	-0.25235
11/12/2003	17:30	15	-0.56127
11/12/2003	17:45	15	-0.76145
11/12/2003	18:00	60	-1.4751
11/12/2003	18:00	15	-0.5722
11/12/2003	18:15	15	-0.14795
11/12/2003	18:30	15	-0.02611
11/12/2003	18:45	15	-0.00218
11/12/2003	19:00	60	-0.17623
11/13/2003	2:45	15	-0.00653
11/13/2003	3:00	15	-0.01524
11/13/2003	3:00	60	-0.01524
11/13/2003	3:15	15	-0.00218
11/13/2003	3:30	15	-0.00871
11/13/2003	17:45	15	-0.1501
11/13/2003	18:00	15	-0.52648
11/13/2003	18:00	60	-0.38515
11/13/2003	18:15	15	-0.75712
11/13/2003	18:30	15	-0.6179
11/13/2003	18:45	15	-0.13489
11/13/2003	19:00	15	-0.00218
11/13/2003	19:00	60	-1.5121
11/13/2003	23:00	15	-0.00435
11/13/2003	23:30	15	-0.07836
11/13/2003	23:45	15	-0.07836

11/13/2003	24:00	60	-0.11972
11/14/2003	17:30	15	-0.03916
11/14/2003	17:45	15	-0.27194
11/14/2003	18:00	15	-0.6157
11/14/2003	18:00	60	-0.68973
11/14/2003	18:15	15	-0.69839
11/14/2003	18:30	15	-0.40685
11/14/2003	18:45	15	-0.21104
11/14/2003	19:00	15	-0.02829
11/14/2003	19:00	60	-1.3446
11/14/2003	19:15	15	-0.00653
11/14/2003	20:00	60	-0.00653
11/15/2003	1:00	15	-0.01959
11/15/2003	1:00	60	-0.01959
11/15/2003	1:15	15	-0.13277
11/15/2003	1:30	15	-0.35479
11/15/2003	1:45	15	-0.53763
11/15/2003	2:00	60	-1.5628
11/15/2003	2:00	15	-0.53765
11/15/2003	2:15	15	-0.01524
11/15/2003	3:15	15	-0.00218
11/15/2003	17:30	15	-0.0087
11/15/2003	18:00	15	-0.0087
11/15/2003	18:00	60	-0.01523
11/15/2003	18:15	15	-0.01958
11/15/2003	18:30	15	-0.2328
11/15/2003	18:45	15	-0.44166
11/15/2003	19:00	15	-0.43731
11/15/2003	19:00	60	-1.1314
11/15/2003	19:15	15	-0.35681
11/15/2003	19:30	15	-0.28937
11/15/2003	19:45	15	-0.13925
11/15/2003	20:00	15	-0.03046
11/15/2003	20:00	60	-0.81589
11/16/2003	0:30	15	-0.00218
11/16/2003	1:00	60	-0.00218
11/16/2003	17:30	15	-0.23496
11/16/2003	17:45	15	-0.57871
11/16/2003	18:00	60	-1.3489
11/16/2003	18:00	15	-0.73972
11/16/2003	18:15	15	-0.76367
11/16/2003	18:30	15	-0.55699
11/16/2003	18:45	15	-0.13055
11/16/2003	19:00	15	-0.0087
11/16/2003	19:00	60	-1.4599
11/16/2003	19:45	15	-0.00218
11/16/2003	20:00	60	-0.00218
11/16/2003	20:15	15	-0.00218
11/16/2003	21:00	60	-0.02177
11/16/2003	21:00	15	-0.02177
11/16/2003	21:15	15	-0.05441
11/16/2003	21:30	15	-0.03047
11/16/2003	21:45	15	-0.03047
11/16/2003	22:00	15	-0.27643
11/16/2003	22:00	60	-0.39179
11/16/2003	22:15	15	-0.53327
11/16/2003	22:30	15	-0.32867

11/16/2003	23:00	60	-0.57243
11/17/2003	1:00	15	-0.12625
11/17/2003	1:15	15	-0.01959
11/17/2003	1:30	15	-0.01959
11/17/2003	1:45	15	-0.05224
11/17/2003	2:00	15	-0.13932
11/17/2003	2:00	60	-0.23075
11/17/2003	2:15	15	-0.05878
11/17/2003	2:30	15	-0.00218
11/17/2003	3:00	60	-0.03265
11/17/2003	3:30	15	-0.00218
11/17/2003	4:00	15	-0.00218
11/17/2003	17:30	15	-0.53731
11/17/2003	17:45	15	-0.74186
11/17/2003	18:00	15	-0.76366
11/17/2003	18:00	60	-2.0015
11/17/2003	18:15	15	-0.59615
11/17/2003	18:30	15	-0.13273
11/17/2003	19:00	60	-0.72888
11/17/2003	20:15	15	-0.00218
11/17/2003	20:30	15	-0.08706
11/17/2003	20:45	15	-0.14583
11/17/2003	21:00	15	-0.36349
11/17/2003	21:00	60	-0.59856
11/17/2003	21:15	15	-0.45709
11/17/2003	21:30	15	-0.33303
11/17/2003	21:45	15	-0.0936
11/17/2003	22:00	60	-0.9316
11/17/2003	22:00	15	-0.04789
11/17/2003	22:15	15	-0.16327
11/17/2003	22:30	15	-0.10232
11/17/2003	22:45	15	-0.00435
11/17/2003	23:00	60	-0.26995
11/18/2003	1:15	15	-0.00435
11/18/2003	2:30	15	-0.05225
11/18/2003	2:45	15	-0.08709
11/18/2003	3:00	15	-0.05878
11/18/2003	3:00	60	-0.17199
11/18/2003	17:15	15	-0.25007
11/18/2003	17:30	15	-0.46974
11/18/2003	17:45	15	-0.05437
11/18/2003	18:00	60	-0.77419
11/18/2003	18:15	15	-0.12182
11/18/2003	18:30	15	-0.46775
11/18/2003	18:45	15	-0.76583
11/18/2003	19:00	15	-0.48519
11/18/2003	19:00	60	-1.8406
11/18/2003	19:15	15	-0.09791
11/18/2003	19:30	15	-0.00218
11/18/2003	20:00	60	-0.10009
11/18/2003	21:00	15	-0.02177
11/18/2003	21:00	60	-0.02177
11/18/2003	21:15	15	-0.08924
11/18/2003	21:30	15	-0.03047
11/18/2003	23:00	15	-0.04354
11/18/2003	23:15	15	-0.16109
11/18/2003	23:30	15	-0.07184

11/18/2003	24:00	60	-0.23293
11/19/2003	0:30	15	-0.00218
11/19/2003	0:45	15	-0.02612
11/19/2003	1:00	60	-0.02177
11/19/2003	2:15	15	-0.01089
11/19/2003	2:30	15	-0.30918
11/19/2003	3:00	60	-0.22862
11/19/2003	4:45	15	-0.05661
11/19/2003	5:00	15	-0.00435
11/19/2003	17:30	15	-0.00218
11/19/2003	17:45	15	-0.04786
11/19/2003	18:00	60	-0.50473
11/19/2003	18:00	15	-0.46557
11/19/2003	18:15	15	-0.69403
11/19/2003	18:30	15	-0.38944
11/19/2003	18:45	15	-0.1175
11/19/2003	19:00	15	-0.00435
11/19/2003	19:00	60	-1.2053
11/19/2003	22:30	15	-0.01524
11/19/2003	22:45	15	-0.12842
11/19/2003	23:00	60	-0.16542
11/19/2003	23:00	15	-0.06747
11/19/2003	23:15	15	-0.04136
11/19/2003	23:30	15	-0.06965
11/19/2003	23:45	15	-0.11754
11/19/2003	24:00	15	-0.25901
11/19/2003	24:00	60	-0.48756
11/20/2003	0:15	15	-0.34608
11/20/2003	4:30	15	-0.037
11/20/2003	4:45	15	-0.2873
11/20/2003	5:00	15	-0.61814
11/20/2003	5:00	60	-0.92939
11/20/2003	5:15	15	-0.7531
11/20/2003	5:30	15	-0.6704
11/20/2003	5:45	15	-0.52457
11/20/2003	6:00	15	-0.14367
11/20/2003	6:00	60	-2.0917
11/20/2003	17:30	15	-0.44815
11/20/2003	17:45	15	-0.71577
11/20/2003	18:00	15	-0.58743
11/20/2003	18:00	60	-1.7318
11/20/2003	18:15	15	-0.23498
11/20/2003	18:30	15	-0.01088
11/20/2003	19:00	60	-0.24586
11/21/2003	17:15	15	-0.55043
11/21/2003	17:30	15	-0.63747
11/21/2003	17:45	15	-0.09138
11/21/2003	18:00	60	-1.2793
11/21/2003	20:30	15	-0.00435
11/21/2003	23:30	15	-0.00653
11/21/2003	23:45	15	-0.03265
11/21/2003	24:00	60	-0.03918
11/22/2003	3:15	15	-0.00218
11/22/2003	4:30	15	-0.00218
11/22/2003	4:45	15	-0.00435
11/22/2003	5:00	15	-0.01959
11/22/2003	5:00	60	-0.02612

11/22/2003	17:15	15	-0.40249
11/22/2003	17:30	15	-0.78325
11/22/2003	17:45	15	-0.78328
11/22/2003	18:00	15	-0.65061
11/22/2003	18:00	60	-2.6196
11/22/2003	18:15	15	-0.21979
11/22/2003	18:30	15	-0.52884
11/22/2003	18:45	15	-0.77482
11/22/2003	19:00	15	-0.78358
11/22/2003	19:00	60	-2.307
11/22/2003	19:15	15	-0.35917
11/22/2003	19:30	15	-0.01524
11/22/2003	19:45	15	-0.14369
11/22/2003	20:00	60	-0.69008
11/22/2003	20:00	15	-0.17199
11/22/2003	21:45	15	-0.00871
11/22/2003	22:00	15	-0.05443
11/22/2003	22:00	60	-0.06313
11/22/2003	22:15	15	-0.02612
11/22/2003	23:00	60	-0.02612
11/23/2003	1:15	15	-0.00435
11/23/2003	1:30	15	-0.04354
11/23/2003	1:45	15	-0.06531
11/23/2003	2:00	15	-0.05225
11/23/2003	2:00	60	-0.16545
11/23/2003	2:15	15	-0.13933
11/23/2003	2:30	15	-0.07402
11/23/2003	2:45	15	-0.05225
11/23/2003	3:00	15	-0.03919
11/23/2003	3:00	60	-0.30479
11/23/2003	3:15	15	-0.02395
11/23/2003	4:00	60	-0.02177
11/23/2003	17:45	15	-0.0087
11/23/2003	18:00	15	-0.01958
11/23/2003	18:00	60	-0.02828
11/23/2003	18:15	15	-0.48948
11/23/2003	18:30	15	-0.74623
11/23/2003	18:45	15	-0.77889
11/23/2003	19:00	15	-0.78326
11/23/2003	19:00	60	-2.7979
11/23/2003	19:15	15	-0.77461
11/23/2003	19:30	15	-0.43303
11/23/2003	19:45	15	-0.11316
11/23/2003	20:00	15	-0.02176
11/23/2003	20:00	60	-1.3426
11/23/2003	20:15	15	-0.12188
11/23/2003	20:30	15	-0.10448
11/23/2003	20:45	15	-0.46361
11/23/2003	21:00	15	-0.71175
11/23/2003	21:00	60	-1.4017
11/23/2003	21:15	15	-0.78358
11/23/2003	21:30	15	-0.78363
11/23/2003	21:45	15	-0.75321
11/23/2003	22:00	15	-0.33526
11/23/2003	22:00	60	-2.6557
11/23/2003	22:15	15	-0.09144
11/23/2003	22:30	15	-0.17417

11/23/2003	22:45	15	-0.21771
11/23/2003	23:00	15	-0.06314
11/23/2003	23:00	60	-0.54646
11/23/2003	23:15	15	-0.10451
11/23/2003	23:30	15	-0.08926
11/23/2003	23:45	15	-0.0283
11/23/2003	24:00	15	-0.04354
11/23/2003	24:00	60	-0.26561
11/24/2003	0:15	15	-0.14369
11/24/2003	0:30	15	-0.6379
11/24/2003	0:45	15	-0.74239
11/24/2003	1:00	60	-2.2882
11/24/2003	1:00	15	-0.76418
11/24/2003	1:15	15	-0.78167
11/24/2003	1:30	15	-0.61187
11/24/2003	1:45	15	-0.19598
11/24/2003	2:00	15	-0.06751
11/24/2003	2:00	60	-1.657
11/24/2003	2:15	15	-0.09364
11/24/2003	2:30	15	-0.08275
11/24/2003	2:45	15	-0.00218
11/24/2003	3:00	60	-0.19381
11/24/2003	3:00	15	-0.01524
11/24/2003	3:15	15	-0.27002
11/24/2003	3:30	15	-0.25913
11/24/2003	3:45	15	-0.11759
11/24/2003	4:00	60	-0.64674
11/24/2003	5:15	15	-0.1503
11/24/2003	5:30	15	-0.28101
11/24/2003	5:45	15	-0.35511
11/24/2003	6:00	60	-0.91713
11/24/2003	6:00	15	-0.13072
11/24/2003	17:15	15	-0.05222
11/24/2003	17:30	15	-0.03916
11/24/2003	18:00	15	-0.00218
11/24/2003	18:00	60	-0.09355
11/24/2003	19:45	15	-0.00218
11/24/2003	22:15	15	-0.02177
11/25/2003	0:30	15	-0.00218
11/25/2003	0:45	15	-0.01959
11/25/2003	1:00	60	-0.01306
11/25/2003	1:00	15	-0.00435
11/25/2003	1:15	15	-0.04571
11/25/2003	4:00	15	-0.05877
11/25/2003	4:15	15	-0.05006
11/25/2003	4:30	15	-0.20025
11/25/2003	4:45	15	-0.45056
11/25/2003	5:00	15	-0.56156
11/25/2003	5:00	60	-1.2624
11/25/2003	5:15	15	-0.54198
11/25/2003	5:30	15	-0.45927
11/25/2003	5:45	15	-0.14149
11/25/2003	6:00	60	-1.1427
11/25/2003	17:30	15	-0.19799
11/25/2003	17:45	15	-0.10661
11/25/2003	18:00	15	-0.04352
11/25/2003	18:00	60	-0.31766

11/25/2003	18:15	15	-0.00653
11/25/2003	18:30	15	-0.00435
11/25/2003	19:00	60	-0.01088
11/26/2003	1:45	15	-0.00218
11/26/2003	2:00	60	-0.00218
11/26/2003	3:00	15	-0.00218
11/26/2003	3:15	15	-0.16542
11/26/2003	3:30	15	-0.32649
11/26/2003	3:45	15	-0.57027
11/26/2003	4:00	15	-0.57245
11/26/2003	4:00	60	-1.6346
11/26/2003	4:15	15	-0.3265
11/26/2003	4:30	15	-0.09361
11/26/2003	4:45	15	-0.00653
11/26/2003	5:00	60	-0.42664
11/26/2003	5:30	15	-0.00218
11/26/2003	5:45	15	-0.00653
11/26/2003	6:00	15	-0.01959
11/26/2003	6:00	60	-0.0283
11/26/2003	17:15	15	-0.28936
11/26/2003	17:30	15	-0.21757
11/26/2003	18:00	60	-0.50693
11/26/2003	18:15	15	-0.00435
11/26/2003	18:30	15	-0.13059
11/26/2003	18:45	15	-0.28078
11/26/2003	19:00	15	-0.50715
11/26/2003	19:00	60	-0.92287
11/26/2003	19:15	15	-0.60074
11/26/2003	19:30	15	-0.3548
11/26/2003	19:45	15	-0.26992
11/26/2003	20:00	15	-0.04354
11/26/2003	20:00	60	-1.269
11/26/2003	21:00	15	-0.01742
11/26/2003	21:00	60	-0.01742
11/26/2003	21:15	15	-0.04572
11/26/2003	21:30	15	-0.05007
11/26/2003	21:45	15	-0.05443
11/26/2003	22:00	15	-0.09144
11/26/2003	22:00	60	-0.24166
11/26/2003	22:15	15	-0.0479
11/26/2003	22:30	15	-0.10887
11/26/2003	22:45	15	-0.04573
11/26/2003	23:00	15	-0.04137
11/26/2003	23:00	60	-0.24386
11/26/2003	23:15	15	-0.0392
11/26/2003	23:30	15	-0.01524
11/26/2003	23:45	15	-0.00653
11/26/2003	24:00	60	-0.06097
11/27/2003	4:30	15	-0.06535
11/27/2003	4:45	15	-0.17864
11/27/2003	5:00	60	-0.58603
11/27/2003	5:00	15	-0.34204
11/27/2003	5:15	15	-0.53596
11/27/2003	5:30	15	-0.32899
11/27/2003	5:45	15	-0.05011
11/27/2003	6:00	15	-0.04575
11/27/2003	6:00	60	-0.96081

11/27/2003	17:15	15	-0.58051
11/27/2003	17:30	15	-0.77622
11/27/2003	17:45	15	-0.78278
11/27/2003	18:00	60	-2.9006
11/27/2003	18:00	15	-0.76111
11/27/2003	18:15	15	-0.6633
11/27/2003	18:30	15	-0.36322
11/27/2003	18:45	15	-0.0522
11/27/2003	19:00	15	-0.00435
11/27/2003	19:00	60	-1.0831
11/27/2003	21:45	15	-0.00435
11/27/2003	22:00	15	-0.00218
11/27/2003	22:00	60	-0.00653
11/27/2003	22:15	15	-0.00435
11/27/2003	22:30	15	-0.01088
11/27/2003	22:45	15	-0.02828
11/27/2003	23:00	15	-0.31112
11/27/2003	23:00	60	-0.35463
11/27/2003	23:15	15	-0.36769
11/27/2003	23:30	15	-0.41991
11/27/2003	23:45	15	-0.6005
11/27/2003	24:00	15	-0.62661
11/27/2003	24:00	60	-2.0147
11/28/2003	0:15	15	-0.7441
11/28/2003	0:30	15	-0.76804
11/28/2003	0:45	15	-0.74416
11/28/2003	1:00	15	-0.30029
11/28/2003	1:00	60	-2.5566
11/28/2003	1:15	15	-0.05005
11/28/2003	1:30	15	-0.01306
11/28/2003	2:00	15	-0.00435
11/28/2003	2:00	60	-0.06746
11/28/2003	2:15	15	-0.01306
11/28/2003	2:45	15	-0.00871
11/28/2003	3:00	15	-0.10012
11/28/2003	3:00	60	-0.11971
11/28/2003	3:15	15	-0.17413
11/28/2003	3:30	15	-0.37437
11/28/2003	3:45	15	-0.58986
11/28/2003	4:00	15	-0.7357
11/28/2003	4:00	60	-1.8741
11/28/2003	4:15	15	-0.75965
11/28/2003	4:30	15	-0.26991
11/28/2003	4:45	15	-0.10449
11/28/2003	5:00	60	-1.2494
11/28/2003	5:00	15	-0.11538
11/28/2003	5:15	15	-0.12844
11/28/2003	5:30	15	-0.04789
11/28/2003	5:45	15	-0.00871
11/28/2003	6:00	60	-0.18505
11/28/2003	17:15	15	-0.1653
11/28/2003	17:30	15	-0.07613
11/28/2003	17:45	15	-0.02393
11/28/2003	18:00	15	-0.52646
11/28/2003	18:00	60	-0.79182
11/28/2003	18:15	15	-0.78322
11/28/2003	18:30	15	-0.78325

11/28/2003	18:45	15	-0.67452
11/28/2003	19:00	15	-0.0457
11/28/2003	19:00	60	-2.2867
11/28/2003	19:15	15	-0.05659
11/28/2003	19:30	15	-0.20024
11/28/2003	19:45	15	-0.26554
11/28/2003	20:00	60	-1.0143
11/28/2003	20:00	15	-0.49191
11/28/2003	20:15	15	-0.73352
11/28/2003	20:30	15	-0.77711
11/28/2003	20:45	15	-0.64437
11/28/2003	21:00	15	-0.14586
11/28/2003	21:00	60	-2.3009
11/28/2003	21:15	15	-0.16546
11/28/2003	21:30	15	-0.6662
11/28/2003	21:45	15	-0.77945
11/28/2003	22:00	60	-2.3645
11/28/2003	22:00	15	-0.75338
11/28/2003	22:15	15	-0.39195
11/28/2003	22:30	15	-0.03266
11/28/2003	23:00	60	-0.42461
11/29/2003	1:00	15	-0.02395
11/29/2003	1:00	60	-0.02395
11/29/2003	1:15	15	-0.00218
11/29/2003	1:30	15	-0.00218
11/29/2003	1:45	15	-0.00653
11/29/2003	2:00	60	-0.01089
11/29/2003	3:00	15	-0.00435
11/29/2003	3:15	15	-0.10452
11/29/2003	3:30	15	-0.16984
11/29/2003	4:00	15	-0.08056
11/29/2003	4:00	60	-0.3179
11/29/2003	4:15	15	-0.30917
11/29/2003	4:30	15	-0.39189
11/29/2003	4:45	15	-0.43325
11/29/2003	5:00	60	-1.6481
11/29/2003	5:00	15	-0.5138
11/29/2003	5:15	15	-0.49421
11/29/2003	5:30	15	-0.43107
11/29/2003	5:45	15	-0.55517
11/29/2003	6:00	15	-0.74241
11/29/2003	6:00	60	-2.2229
11/29/2003	6:15	15	-0.21118
11/29/2003	17:15	15	-0.53953
11/29/2003	17:30	15	-0.78106
11/29/2003	17:45	15	-0.51132
11/29/2003	18:00	15	-0.01523
11/29/2003	18:00	60	-1.8471
11/29/2003	18:15	15	-0.05006
11/29/2003	18:30	15	-0.66602
11/29/2003	18:45	15	-0.78357
11/29/2003	19:00	15	-0.58119
11/29/2003	19:00	60	-2.0808
11/29/2003	19:15	15	-0.19157
11/29/2003	19:30	15	-0.38752
11/29/2003	19:45	15	-0.4594
11/29/2003	20:00	15	-0.32008

11/29/2003	20:00	60	-1.3586
11/29/2003	20:15	15	-0.18726
11/29/2003	20:30	15	-0.01307
11/29/2003	21:00	60	-0.20033
11/30/2003	4:45	15	-0.00218
11/30/2003	5:00	60	-0.00218
11/30/2003	17:15	15	-0.43295
11/30/2003	17:30	15	-0.77672
11/30/2003	17:45	15	-0.75062
11/30/2003	18:00	15	-0.22629
11/30/2003	18:00	60	-2.1866
11/30/2003	18:15	15	-0.00435
11/30/2003	19:00	15	-0.00218
11/30/2003	19:00	60	-0.00653
11/30/2003	19:15	15	-0.01306
11/30/2003	21:00	15	-0.28948
11/30/2003	21:00	60	-0.22419
11/30/2003	21:15	15	-0.69433
11/30/2003	21:30	15	-0.77052
11/30/2003	21:45	15	-0.50934
11/30/2003	22:00	15	-0.08054
11/30/2003	22:00	60	-2.0547
11/30/2003	22:15	15	-0.03048
11/30/2003	22:30	15	-0.00871
11/30/2003	23:00	60	-0.10667
11/30/2003	23:00	15	-0.06749
11/30/2003	23:15	15	-0.01742

The following rainfall was recorded and appears to be correct:

Date	Time	TotPrcp
11/1/2003	530	0.254
11/1/2003	545	0.508
11/1/2003	600	0.762
11/1/2003	615	0.508
11/12/2003	315	0.254
11/12/2003	330	0.254
11/12/2003	345	0.254
11/12/2003	400	0.508
11/12/2003	415	0.762
11/12/2003	430	0.254
11/12/2003	445	0.508
11/12/2003	515	0.254
11/12/2003	630	0.254
11/12/2003	645	0.762
11/12/2003	700	0.254
11/12/2003	730	0.254
11/12/2003	800	0.762
11/12/2003	815	0.254
11/12/2003	830	0.508
11/12/2003	900	0.254

December 2003

The following negative Li-Cor values were retained in the data set:

Date	Time	ArrayID	TotPar
11/30/2003	24:00	15	-0.00218
11/30/2003	24:00	60	-0.01959

12/01/2003	0:15	15	-0.01306
12/01/2003	0:30	15	-0.00218
12/01/2003	0:45	15	-0.12627
12/01/2003	1:00	15	-0.37446
12/01/2003	1:00	60	-0.51597
12/01/2003	1:15	15	-0.11321
12/01/2003	5:45	15	-0.01524
12/01/2003	6:00	15	-0.15458
12/01/2003	17:15	15	-0.44814
12/01/2003	17:30	15	-0.7484
12/01/2003	17:45	15	-0.6614
12/01/2003	18:00	15	-0.28284
12/01/2003	18:00	60	-2.1408
12/01/2003	18:15	15	-0.01958
12/01/2003	19:00	60	-0.01958
12/01/2003	20:15	15	-0.02177
12/01/2003	20:30	15	-0.11536
12/01/2003	20:45	15	-0.2329
12/01/2003	21:00	15	-0.72481
12/01/2003	21:00	60	-1.0948
12/01/2003	21:15	15	-0.58551
12/01/2003	21:30	15	-0.12407
12/01/2003	21:45	15	-0.00653
12/01/2003	22:00	60	-0.71612
12/01/2003	23:00	60	-0.03483
12/01/2003	23:00	15	-0.05443
12/01/2003	23:15	15	-0.08055
12/01/2003	23:30	15	-0.09579
12/01/2003	23:45	15	-0.44848
12/01/2003	24:00	15	-0.05225
12/01/2003	24:00	60	-0.67707
12/02/2003	2:00	15	-0.02395
12/02/2003	4:00	15	-0.00218
12/02/2003	17:15	15	-0.31327
12/02/2003	17:30	15	-0.53737
12/02/2003	17:45	15	-0.19146
12/02/2003	18:00	60	-1.0747
12/02/2003	18:00	15	-0.03264
12/02/2003	19:45	15	-0.00218
12/02/2003	20:00	15	-0.00653
12/02/2003	20:00	60	-0.00871
12/02/2003	20:15	15	-0.037
12/02/2003	20:30	15	-0.20242
12/02/2003	20:45	15	-0.48321
12/02/2003	21:00	60	-1.3908
12/02/2003	21:00	15	-0.66822
12/02/2003	21:15	15	-0.23943
12/02/2003	22:00	60	-0.2329
12/02/2003	23:15	15	-0.00435
12/02/2003	23:30	15	-0.02612
12/02/2003	23:45	15	-0.10885
12/02/2003	24:00	15	-0.30697
12/02/2003	24:00	60	-0.4463
12/03/2003	0:15	15	-0.34181
12/03/2003	0:30	15	-0.19596
12/03/2003	1:00	60	-0.45503
12/03/2003	3:15	15	-0.21774

12/03/2003	3:30	15	-0.17637
12/03/2003	3:45	15	-0.13936
12/03/2003	4:00	15	-0.03702
12/03/2003	4:00	60	-0.57049
12/03/2003	17:15	15	-0.5439
12/03/2003	17:30	15	-0.6353
12/03/2003	17:45	15	-0.18277
12/03/2003	18:00	60	-1.362
12/03/2003	18:15	15	-0.02612
12/03/2003	18:30	15	-0.17194
12/03/2003	18:45	15	-0.32866
12/03/2003	19:00	15	-0.31996
12/03/2003	19:00	60	-0.84668
12/03/2003	19:15	15	-0.29167
12/03/2003	19:30	15	-0.04136
12/03/2003	20:00	60	-0.06526
12/04/2003	2:45	15	-0.03483
12/04/2003	3:00	15	-0.00435
12/04/2003	17:15	15	-0.01523
12/04/2003	17:30	15	-0.18278
12/04/2003	17:45	15	-0.47006
12/04/2003	18:00	15	-0.66816
12/04/2003	18:00	60	-1.3362
12/04/2003	18:15	15	-0.58113
12/04/2003	18:30	15	-0.45055
12/04/2003	18:45	15	-0.32433
12/04/2003	19:00	15	-0.15238
12/04/2003	19:00	60	-1.5084
12/04/2003	19:15	15	-0.01959
12/04/2003	19:45	15	-0.02612
12/04/2003	20:00	15	-0.00218
12/04/2003	20:00	60	-0.04789
12/05/2003	3:45	15	-0.00653
12/05/2003	4:00	15	-0.00871
12/05/2003	4:00	60	-0.01524
12/05/2003	4:15	15	-0.02395
12/05/2003	4:30	15	-0.01959
12/05/2003	4:45	15	-0.04354
12/05/2003	5:00	15	-0.05443
12/05/2003	5:00	60	-0.14151
12/05/2003	5:30	15	-0.12409
12/05/2003	5:45	15	-0.39841
12/05/2003	6:00	15	-0.56387
12/05/2003	6:00	60	-0.99493
12/05/2003	6:15	15	-0.23513
12/05/2003	17:15	15	-0.14794
12/05/2003	17:30	15	-0.10226
12/05/2003	17:45	15	-0.01958
12/05/2003	18:00	60	-0.26978
12/05/2003	18:45	15	-0.00218
12/05/2003	19:00	15	-0.00653
12/05/2003	19:00	60	-0.00871
12/05/2003	19:15	15	-0.00218
12/05/2003	19:45	15	-0.02394
12/05/2003	20:00	60	-0.06747
12/05/2003	20:00	15	-0.10883
12/05/2003	20:15	15	-0.20895

12/05/2003	20:30	15	-0.58115
12/05/2003	20:45	15	-0.42444
12/05/2003	21:00	15	-0.04136
12/05/2003	21:00	60	-1.2559
12/06/2003	0:30	15	-0.00435
12/06/2003	0:45	15	-0.03048
12/06/2003	1:00	15	-0.05443
12/06/2003	1:00	60	-0.08926
12/06/2003	1:15	15	-0.24601
12/06/2003	1:30	15	-0.31133
12/06/2003	2:00	60	-0.1219
12/06/2003	2:15	15	-0.00653
12/06/2003	3:00	15	-0.04573
12/06/2003	3:00	60	-0.01742
12/06/2003	3:15	15	-0.01089
12/06/2003	4:00	60	-0.01089
12/06/2003	20:15	15	-0.00653
12/08/2003	17:15	15	-0.4068
12/08/2003	17:30	15	-0.77233
12/08/2003	17:45	15	-0.71579
12/08/2003	18:00	15	-0.52651
12/08/2003	18:00	60	-2.4214
12/08/2003	18:15	15	-0.18711
12/08/2003	18:30	15	-0.02393
12/08/2003	19:00	15	-0.00218
12/08/2003	19:00	60	-0.21322
12/08/2003	19:30	15	-0.01523
12/08/2003	19:45	15	-0.15018
12/08/2003	20:00	15	-0.32431
12/08/2003	20:00	60	-0.48972
12/08/2003	20:15	15	-0.59421
12/08/2003	20:30	15	-0.6987
12/08/2003	20:45	15	-0.47669
12/08/2003	21:00	15	-0.24162
12/08/2003	21:00	60	-2.0112
12/08/2003	21:15	15	-0.03483
12/08/2003	21:45	15	-0.00435
12/08/2003	22:00	60	-0.03919
12/08/2003	22:15	15	-0.00218
12/08/2003	22:45	15	-0.00653
12/08/2003	23:00	15	-0.03266
12/08/2003	23:00	60	-0.04137
12/08/2003	23:15	15	-0.01959
12/08/2003	23:30	15	-0.03483
12/08/2003	23:45	15	-0.10886
12/08/2003	24:00	60	-0.67492
12/08/2003	24:00	15	-0.51163
12/09/2003	0:15	15	-0.4572
12/09/2003	0:30	15	-0.50511
12/09/2003	0:45	15	-0.49209
12/09/2003	1:00	15	-0.53133
12/09/2003	1:00	60	-1.9857
12/09/2003	1:15	15	-0.37455
12/09/2003	1:30	15	-0.07839
12/09/2003	2:00	60	-0.45294
12/09/2003	4:30	15	-0.00218
12/09/2003	4:45	15	-0.05228

12/09/2003	5:00	60	-0.20042
12/09/2003	5:00	15	-0.14596
12/09/2003	5:15	15	-0.23528
12/09/2003	5:30	15	-0.4183
12/09/2003	5:45	15	-0.37692
12/09/2003	6:00	15	-0.27016
12/09/2003	6:00	60	-1.3007
12/09/2003	17:15	15	-0.14792
12/09/2003	17:30	15	-0.73093
12/09/2003	17:45	15	-0.78321
12/09/2003	18:00	60	-2.441
12/09/2003	18:00	15	-0.77891
12/09/2003	18:15	15	-0.41126
12/09/2003	18:30	15	-0.23504
12/09/2003	18:45	15	-0.72259
12/09/2003	19:00	15	-0.76399
12/09/2003	19:00	60	-2.1329
12/09/2003	19:15	15	-0.50937
12/09/2003	19:30	15	-0.07619
12/09/2003	19:45	15	-0.05225
12/09/2003	20:00	15	-0.02612
12/09/2003	20:00	60	-0.66393
12/09/2003	20:15	15	-0.27649
12/09/2003	20:30	15	-0.6096
12/09/2003	20:45	15	-0.76206
12/09/2003	21:00	15	-0.67067
12/09/2003	21:00	60	-2.3188
12/09/2003	21:15	15	-0.31356
12/09/2003	21:30	15	-0.00218
12/09/2003	22:00	60	-0.31574
12/10/2003	1:15	15	-0.04572
12/10/2003	1:30	15	-0.10015
12/10/2003	1:45	15	-0.02613
12/10/2003	2:00	60	-0.06532
12/10/2003	2:45	15	-0.2373
12/10/2003	3:00	15	-0.28955
12/10/2003	3:00	60	-0.33962
12/10/2003	3:15	15	-0.5029
12/10/2003	3:30	15	-0.53991
12/10/2003	3:45	15	-0.45065
12/10/2003	4:00	15	-0.57474
12/10/2003	4:00	60	-2.0682
12/10/2003	4:15	15	-0.5595
12/10/2003	5:00	60	-0.11974
12/10/2003	5:30	15	-0.01742
12/10/2003	5:45	15	-0.25471
12/10/2003	6:00	60	-0.63134
12/10/2003	6:00	15	-0.47024
12/10/2003	6:15	15	-0.62916
12/10/2003	17:15	15	-0.35897
12/10/2003	17:30	15	-0.74843
12/10/2003	17:45	15	-0.49388
12/10/2003	18:00	15	-0.1893
12/10/2003	18:00	60	-1.7906
12/10/2003	18:15	15	-0.01741
12/10/2003	19:00	60	-0.01741
12/10/2003	20:15	15	-0.00435

12/10/2003	20:30	15	-0.00653
12/10/2003	20:45	15	-0.03918
12/10/2003	21:00	15	-0.11101
12/10/2003	21:00	60	-0.16107
12/10/2003	21:15	15	-0.41138
12/10/2003	21:30	15	-0.7074
12/10/2003	21:45	15	-0.71611
12/10/2003	22:00	15	-0.34827
12/10/2003	22:00	60	-2.1832
12/10/2003	22:15	15	-0.06531
12/10/2003	22:30	15	-0.00435
12/10/2003	23:00	60	-0.06966
12/11/2003	2:30	15	-0.25466
12/11/2003	2:45	15	-0.1393
12/11/2003	3:00	15	-0.25248
12/11/2003	3:00	60	-0.50932
12/11/2003	3:15	15	-0.43313
12/11/2003	3:30	15	-0.37219
12/11/2003	3:45	15	-0.19154
12/11/2003	4:00	60	-0.87498
12/11/2003	4:30	15	-0.10883
12/11/2003	4:45	15	-0.01959
12/11/2003	5:00	15	-0.03047
12/11/2003	5:00	60	-0.04789
12/11/2003	21:15	15	-0.00218
12/11/2003	21:30	15	-0.00218
12/11/2003	21:45	15	-0.00218
12/11/2003	22:00	60	-0.00871
12/11/2003	22:00	15	-0.00218
12/11/2003	22:15	15	-0.00218
12/11/2003	22:45	15	-0.00653
12/11/2003	23:00	15	-0.00871
12/11/2003	23:00	60	-0.01524
12/11/2003	23:15	15	-0.03265
12/11/2003	23:30	15	-0.2046
12/11/2003	23:45	15	-0.66385
12/12/2003	0:00	15	-0.7531
12/12/2003	0:00	60	-1.6542
12/12/2003	0:15	15	-0.77269
12/12/2003	0:30	15	-0.66173
12/12/2003	0:45	15	-0.21987
12/12/2003	1:00	15	-0.12627
12/12/2003	1:00	60	-1.7806
12/12/2003	1:15	15	-0.33962
12/12/2003	1:30	15	-0.38971
12/12/2003	1:45	15	-0.60743
12/12/2003	2:00	15	-0.48555
12/12/2003	2:00	60	-1.8223
12/12/2003	2:15	15	-0.16549
12/12/2003	2:30	15	-0.09146
12/12/2003	2:45	15	-0.01307
12/12/2003	3:00	15	-0.00653
12/12/2003	3:00	60	-0.27654
12/12/2003	17:15	15	-0.29808
12/12/2003	17:30	15	-0.10227
12/12/2003	17:45	15	-0.12622
12/12/2003	18:00	15	-0.59416

12/12/2003	18:00	60	-1.1207
12/12/2003	18:15	15	-0.78355
12/12/2003	18:30	15	-0.67257
12/12/2003	18:45	15	-0.19591
12/12/2003	19:00	15	-0.22205
12/12/2003	19:00	60	-1.8741
12/12/2003	19:15	15	-0.28954
12/12/2003	19:30	15	-0.62919
12/12/2003	19:45	15	-0.7664
12/12/2003	20:00	60	-2.408
12/12/2003	20:00	15	-0.72289
12/12/2003	20:15	15	-0.19162
12/12/2003	21:00	60	-0.19162
12/13/2003	3:15	15	-0.00218
12/13/2003	3:30	15	-0.00871
12/13/2003	17:15	15	-0.09356
12/13/2003	17:30	15	-0.17623
12/13/2003	17:45	15	-0.00218
12/13/2003	18:00	15	-0.00218
12/13/2003	18:00	60	-0.27414
12/13/2003	18:15	15	-0.02394
12/13/2003	18:30	15	-0.12188
12/13/2003	18:45	15	-0.36783
12/13/2003	19:00	15	-0.56809
12/13/2003	19:00	60	-1.0817
12/13/2003	19:15	15	-0.73352
12/13/2003	19:30	15	-0.66605
12/13/2003	19:45	15	-0.45492
12/13/2003	20:00	15	-0.16544
12/13/2003	20:00	60	-2.0199
12/13/2003	20:15	15	-0.33307
12/13/2003	20:30	15	-0.48983
12/13/2003	20:45	15	-0.59216
12/13/2003	21:00	15	-0.71628
12/13/2003	21:00	60	-2.1313
12/13/2003	21:15	15	-0.55305
12/13/2003	21:30	15	-0.12847
12/13/2003	22:00	60	-0.68152
12/14/2003	17:15	15	-0.20232
12/14/2003	17:30	15	-0.30893
12/14/2003	17:45	15	-0.03046
12/14/2003	18:00	60	-0.54607
12/14/2003	18:00	15	-0.00435
12/14/2003	18:30	15	-0.00435
12/14/2003	19:00	60	-0.00435
12/14/2003	20:45	15	-0.03482
12/14/2003	21:00	15	-0.28294
12/14/2003	21:00	60	-0.31776
12/14/2003	21:15	15	-0.71173
12/14/2003	21:30	15	-0.75092
12/14/2003	21:45	15	-0.35261
12/14/2003	22:00	60	-1.9567
12/14/2003	22:00	15	-0.14148
12/14/2003	22:15	15	-0.01306
12/14/2003	24:00	15	-0.00435
12/15/2003	0:15	15	-0.00435
12/15/2003	0:30	15	-0.01741

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12/15/2003	1:00	60	-0.04571
12/15/2003	1:00	15	-0.01959
12/15/2003	1:15	15	-0.01742
12/15/2003	1:30	15	-0.06313
12/15/2003	1:45	15	-0.00653
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12/15/2003	2:00	60	-0.09579
12/15/2003	2:15	15	-0.22642
12/15/2003	2:30	15	-0.51598
12/15/2003	2:45	15	-0.70975
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12/15/2003	3:00	15	-0.60529
12/15/2003	3:15	15	-0.29613
12/15/2003	3:30	15	-0.11323
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12/15/2003	4:00	60	-0.42896
12/15/2003	17:15	15	-0.23714
12/15/2003	17:30	15	-0.08921
12/15/2003	17:45	15	-0.3939
12/15/2003	18:00	15	-0.77263
12/15/2003	18:00	60	-1.4929
12/15/2003	18:15	15	-0.78356
12/15/2003	18:30	15	-0.65082
12/15/2003	18:45	15	-0.19374
12/15/2003	19:00	15	-0.03265
12/15/2003	19:00	60	-1.6608
12/15/2003	19:45	15	-0.01959
12/15/2003	20:00	15	-0.01742
12/15/2003	20:00	60	-0.03701
12/15/2003	20:15	15	-0.01742
12/15/2003	20:30	15	-0.0479
12/15/2003	20:45	15	-0.07838
12/15/2003	21:00	60	-0.21118
12/15/2003	21:00	15	-0.06749
12/15/2003	21:15	15	-0.23295
12/15/2003	21:30	15	-0.70756
12/15/2003	21:45	15	-0.77723
12/15/2003	22:00	15	-0.78165
12/15/2003	22:00	60	-2.4994
12/15/2003	22:15	15	-0.56398
12/15/2003	22:30	15	-0.07622
12/15/2003	22:45	15	-0.01089
12/15/2003	23:00	15	-0.00218
12/15/2003	23:00	60	-0.65326
12/16/2003	1:45	15	-0.00218
12/16/2003	2:00	15	-0.00218
12/16/2003	2:00	60	-0.00436
12/16/2003	2:15	15	-0.00653
12/16/2003	2:30	15	-0.03485
12/16/2003	2:45	15	-0.01089
12/16/2003	3:00	15	-0.09802
12/16/2003	3:00	60	-0.1503
12/16/2003	3:15	15	-0.20476
12/16/2003	3:30	15	-0.23091
12/16/2003	3:45	15	-0.50976
12/16/2003	4:00	15	-0.66883

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12/16/2003	4:15	15	-0.78213
12/16/2003	4:30	15	-0.74076
12/16/2003	4:45	15	-0.451
12/16/2003	5:00	60	-2.061
12/16/2003	5:00	15	-0.08715
12/16/2003	5:30	15	-0.4183
12/16/2003	5:45	15	-0.68846
12/16/2003	6:00	15	-0.45534
12/16/2003	6:00	60	-1.5229
12/16/2003	6:15	15	-0.21568
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12/16/2003	17:45	15	-0.04786
12/16/2003	18:00	60	-0.0979
12/16/2003	18:00	15	-0.03481
12/16/2003	18:15	15	-0.11749
12/16/2003	18:30	15	-0.27414
12/16/2003	18:45	15	-0.41991
12/16/2003	19:00	15	-0.60267
12/16/2003	19:00	60	-1.4142
12/16/2003	19:15	15	-0.71581
12/16/2003	19:30	15	-0.73322
12/16/2003	19:45	15	-0.70711
12/16/2003	20:00	15	-0.71799
12/16/2003	20:00	60	-2.8741
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12/16/2003	20:30	15	-0.35683
12/16/2003	20:45	15	-0.31332
12/16/2003	21:00	15	-0.26328
12/16/2003	21:00	60	-1.4034
12/16/2003	21:15	15	-0.16319
12/16/2003	21:30	15	-0.07616
12/16/2003	21:45	15	-0.05005
12/16/2003	22:00	60	-0.29811
12/16/2003	22:00	15	-0.0087
12/16/2003	22:15	15	-0.01523
12/16/2003	22:30	15	-0.01088
12/16/2003	22:45	15	-0.06746
12/16/2003	23:00	15	-0.01523
12/16/2003	23:00	60	-0.1088
12/16/2003	23:15	15	-0.00218
12/16/2003	23:30	15	-0.1915
12/16/2003	23:45	15	-0.53316
12/16/2003	24:00	15	-0.44177
12/16/2003	24:00	60	-1.1686
12/17/2003	0:15	15	-0.7574
12/17/2003	0:30	15	-0.78356
12/17/2003	0:45	15	-0.73355
12/17/2003	1:00	15	-0.37226
12/17/2003	1:00	60	-2.6468
12/17/2003	1:15	15	-0.55079
12/17/2003	1:30	15	-0.75548
12/17/2003	1:45	15	-0.78167
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12/17/2003	2:00	60	-2.6889
12/17/2003	2:15	15	-0.30705

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12/17/2003	2:45	15	-0.00218
12/17/2003	3:00	60	-0.36584
12/17/2003	3:30	15	-0.00218
12/17/2003	4:00	60	-0.00218
12/17/2003	17:15	15	-0.50475
12/17/2003	17:30	15	-0.71363
12/17/2003	17:45	15	-0.20671
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12/17/2003	18:00	60	-1.486
12/17/2003	18:15	15	-0.28729
12/17/2003	18:30	15	-0.5659
12/17/2003	18:45	15	-0.6051
12/17/2003	19:00	60	-1.7957
12/17/2003	19:00	15	-0.3374
12/17/2003	19:15	15	-0.15892
12/17/2003	19:30	15	-0.06966
12/17/2003	19:45	15	-0.37881
12/17/2003	20:00	15	-0.76417
12/17/2003	20:00	60	-1.3716
12/17/2003	20:15	15	-0.58132
12/17/2003	20:30	15	-0.14153
12/17/2003	21:00	60	-0.72285
12/18/2003	2:45	15	-0.00653
12/18/2003	3:00	15	-0.0501
12/18/2003	3:00	60	-0.05663
12/18/2003	3:15	15	-0.06317
12/18/2003	3:30	15	-0.01089
12/18/2003	4:00	15	-0.02179
12/18/2003	4:00	60	-0.08713
12/18/2003	4:15	15	-0.07407
12/18/2003	4:30	15	-0.05447
12/18/2003	4:45	15	-0.061
12/18/2003	5:00	15	-0.0915
12/18/2003	5:00	60	-0.28103
12/18/2003	5:15	15	-0.16338
12/18/2003	5:30	15	-0.17428
12/18/2003	5:45	15	-0.12199
12/18/2003	6:00	15	-0.13942
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12/18/2003	6:15	15	-0.21784
12/18/2003	17:15	15	-0.50902
12/18/2003	17:30	15	-0.78101
12/18/2003	17:45	15	-0.40467
12/18/2003	18:00	60	-1.7034
12/18/2003	18:00	15	-0.0087
12/18/2003	18:15	15	-0.02612
12/18/2003	18:30	15	-0.074
12/18/2003	18:45	15	-0.28948
12/18/2003	19:00	15	-0.39179
12/18/2003	19:00	60	-0.78138
12/18/2003	19:15	15	-0.40267
12/18/2003	19:30	15	-0.34827
12/18/2003	19:45	15	-0.39182
12/18/2003	20:00	15	-0.34177
12/18/2003	20:00	60	-1.4845
12/18/2003	20:15	15	-0.12627

12/18/2003	20:30	15	-0.48549
12/18/2003	20:45	15	-0.76635
12/18/2003	21:00	15	-0.51167
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12/18/2003	21:15	15	-0.03702
12/18/2003	21:30	15	-0.00218
12/18/2003	22:00	60	-0.0392
12/18/2003	23:00	60	-0.07406
12/18/2003	23:00	15	-0.07406
12/18/2003	23:15	15	-0.23526
12/18/2003	23:30	15	-0.54897
12/18/2003	23:45	15	-0.60783
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12/18/2003	24:00	60	-1.6709
12/19/2003	0:30	15	-0.06754
12/19/2003	1:45	15	-0.12417
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12/19/2003	2:30	15	-0.49665
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12/19/2003	3:00	15	-0.37467
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12/19/2003	3:15	15	-0.24833
12/19/2003	3:30	15	-0.13942
12/19/2003	17:15	15	-0.32853
12/19/2003	17:30	15	-0.45037
12/19/2003	17:45	15	-0.2154
12/19/2003	18:00	15	-0.05657
12/19/2003	18:00	60	-1.0509
12/19/2003	19:15	15	-0.03918
12/19/2003	19:30	15	-0.24378
12/19/2003	19:45	15	-0.37872
12/19/2003	20:00	15	-0.39614
12/19/2003	20:00	60	-1.0578
12/19/2003	20:15	15	-0.46798
12/19/2003	20:30	15	-0.32434
12/19/2003	20:45	15	-0.06748
12/19/2003	21:00	15	-0.00653
12/19/2003	21:00	60	-0.86634
12/19/2003	21:15	15	-0.03266
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12/19/2003	21:45	15	-0.31787
12/19/2003	22:00	60	-0.40278
12/19/2003	23:00	15	-0.03484
12/19/2003	23:15	15	-0.0196
12/19/2003	23:30	15	-0.02177
12/19/2003	24:00	15	-0.00218
12/19/2003	24:00	60	-0.04355
12/20/2003	0:45	15	-0.00871
12/20/2003	1:00	60	-0.00871
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12/20/2003	3:15	15	-0.68363
12/20/2003	3:30	15	-0.61397
12/20/2003	3:45	15	-0.17201
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12/20/2003	4:45	15	-0.54868
12/20/2003	5:00	15	-0.52908
12/20/2003	5:00	60	-1.3978
12/20/2003	5:15	15	-0.30916
12/20/2003	5:30	15	-0.40496
12/20/2003	5:45	15	-0.59873
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12/20/2003	6:00	15	-0.5639
12/20/2003	6:15	15	-0.47463
12/20/2003	6:30	15	-0.11539
12/20/2003	17:15	15	-0.01523
12/20/2003	17:30	15	-0.28499
12/20/2003	17:45	15	-0.67444
12/20/2003	18:00	15	-0.68751
12/20/2003	18:00	60	-1.6622
12/20/2003	18:15	15	-0.45037
12/20/2003	18:30	15	-0.08703
12/20/2003	18:45	15	-0.01741
12/20/2003	19:00	60	-0.55481
12/21/2003	17:30	15	-0.64614
12/21/2003	17:45	15	-0.24802
12/21/2003	18:00	15	-0.02393
12/21/2003	18:00	60	-0.84416
12/21/2003	22:45	15	-0.0653
12/21/2003	23:00	15	-0.07619
12/21/2003	23:15	15	-0.00653
12/21/2003	24:00	60	-0.00653
12/22/2003	2:15	15	-0.09144
12/22/2003	2:30	15	-0.13935
12/22/2003	2:45	15	-0.0196
12/22/2003	3:00	60	-0.25038
12/22/2003	17:15	15	-0.07827
12/22/2003	17:30	15	-0.53922
12/22/2003	17:45	15	-0.33049
12/22/2003	18:00	15	-0.11959
12/22/2003	18:00	60	-1.0676
12/22/2003	18:15	15	-0.06088
12/22/2003	18:30	15	-0.03697
12/22/2003	18:45	15	-0.00652
12/22/2003	19:00	60	-0.10437
12/22/2003	19:15	15	-0.00435
12/22/2003	20:00	60	-0.00435
12/22/2003	20:15	15	-0.00217
12/22/2003	21:00	60	-0.00217
12/23/2003	3:45	15	-0.00218
12/23/2003	4:00	60	-0.00218
12/23/2003	4:15	15	-0.00653
12/23/2003	4:30	15	-0.00653
12/23/2003	4:45	15	-0.00435
12/23/2003	5:00	15	-0.05004
12/23/2003	5:00	60	-0.06745
12/23/2003	5:15	15	-0.08703
12/23/2003	5:30	15	-0.11313
12/23/2003	5:45	15	-0.1436
12/23/2003	6:00	15	-0.11314
12/23/2003	6:00	60	-0.45689

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12/23/2003	21:00	15	-0.00218
12/24/2003	17:30	15	-0.2045
12/24/2003	17:45	15	-0.20015
12/24/2003	18:00	15	-0.20887
12/24/2003	18:00	60	-0.30464
12/24/2003	18:15	15	-0.07833
12/24/2003	18:30	15	-0.01305
12/24/2003	19:00	60	-0.04787
12/26/2003	17:30	15	-0.06094
12/26/2003	17:45	15	-0.15236
12/26/2003	18:00	15	-0.09577
12/26/2003	19:30	15	-0.00218
12/26/2003	22:15	15	-0.01088
12/26/2003	22:30	15	-0.02177
12/26/2003	23:00	60	-0.02177
12/27/2003	0:45	15	-0.00435
12/27/2003	1:00	15	-0.01959
12/27/2003	1:15	15	-0.01524
12/27/2003	1:45	15	-0.00435
12/27/2003	2:00	60	-0.01959
12/27/2003	17:30	15	-0.69208
12/27/2003	17:45	15	-0.75743
12/27/2003	18:00	15	-0.48103
12/27/2003	18:00	60	-1.4105
12/27/2003	18:15	15	-0.03265
12/27/2003	19:00	60	-0.05007
12/27/2003	19:00	15	-0.01742
12/27/2003	19:15	15	-0.06967
12/27/2003	19:30	15	-0.43978
12/27/2003	19:45	15	-0.54647
12/27/2003	20:00	15	-0.22644
12/27/2003	20:00	60	-1.2824
12/27/2003	20:15	15	-0.00871
12/27/2003	21:00	60	-0.00871
12/28/2003	17:30	15	-0.01523
12/28/2003	17:45	15	-0.27204
12/28/2003	18:00	15	-0.71171
12/28/2003	18:00	60	-0.3201
12/28/2003	18:15	15	-0.77052
12/28/2003	18:30	15	-0.38527
12/28/2003	18:45	15	-0.0849
12/28/2003	19:00	15	-0.01524
12/28/2003	19:00	60	-1.2559
12/28/2003	19:15	15	-0.15022
12/28/2003	19:30	15	-0.42454
12/28/2003	19:45	15	-0.05225
12/28/2003	20:00	60	-0.62702

The following rainfall was recorded and appears to be correct:

Date	Time	TotPrcp
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12/7/2003	645	0.254
12/7/2003	700	0.254
12/7/2003	730	0.254
12/7/2003	815	0.254
12/7/2003	845	0.254

12/7/2003	945	0.254
12/7/2003	2045	0.508
12/7/2003	2200	0.254
12/7/2003	2230	0.254
12/7/2003	2245	0.254
12/7/2003	2300	0.254
12/7/2003	2345	0.254
12/14/2003	2245	0.254
12/20/2003	1945	0.254
12/21/2003	15	0.254
12/23/2003	1600	0.254
12/23/2003	1630	0.254
12/24/2003	2315	0.254
12/24/2003	2345	0.254
12/25/2003	15	0.254
12/25/2003	45	0.254
12/25/2003	115	0.254
12/25/2003	145	0.254
12/25/2003	500	0.254
12/25/2003	1030	0.254
12/25/2003	1100	0.254
12/25/2003	1200	0.254
12/25/2003	1215	0.254
12/25/2003	1230	0.254
12/25/2003	1500	0.254
12/25/2003	1830	0.254
12/25/2003	1845	3.81
12/25/2003	1900	0.762
12/25/2003	1915	0.254
12/25/2003	1930	0.254
12/25/2003	1945	0.254

12) deleted data

Arrays:
During 2022 all pre-2007 weather data were revisited by the CDMO. Historically those datasets included 15 minute, hourly (60), and daily data arrays (144). As directed by the NERRS Data Management Committee, the CDMO removed the hourly and daily data arrays leaving only the 15 minute data to make the entire NERRS SWMP weather dataset consistent in its reporting. All references to the 60 and 144 arrays were left in the metadata document as they may still provide valuable information, but users should be aware that they are largely no longer relevant. The updated datasets were uploaded to the database and made available through the various data applications at www.nerrsdata.org/get/landing.cfm throughout the fall of 2022.

January 2003
No data were deleted

February 2003
No data were deleted

March 2003
No data were deleted

April 2003
No data were deleted

May 2003
No data were deleted

June 2003
No data were deleted

July 2003
No data were deleted

August 2003
No data were deleted

September 2003
No data were deleted

October 2003
No data were deleted

November 2003

On 11/07/2003 from 10:45 to 11:45 all parameters were deleted from the 15 minute array. The new CDMO program that is compatible with the EQWin database program was loaded into the CR10x at 10:32 and again at 11:35. The second reload was made after an error in the wind sensor specifications was detected and changed in the program and the licor sensor was replaced with a different unit. Because the 5 second sensor data stored in volatile memory was reset when the program was reloaded, all the parameters for the following arrays and times were also deleted:

15 minute array at 10:45 on 11/07/2003
60 minute array at 11:00 and 12:00 on 11/07/2003
144 minute array at 24:00 on 11/07/2003

December 2003
No data were deleted

13) Missing Data

Arrays:
During 2022 all pre-2007 weather data were revisited by the CDMO. Historically those datasets included 15 minute, hourly (60), and daily data arrays (144). As directed by the NERRS Data Management Committee, the CDMO removed the hourly and daily data arrays leaving only the 15 minute data to make the entire NERRS SWMP weather dataset consistent in its reporting. All references to the 60 and 144 arrays were left in the metadata document as they may still provide valuable information, but users should be aware that they are largely no longer relevant. The updated datasets were uploaded to the database and made available through the various data applications at www.nerrsdata.org/get/landing.cfm throughout the fall of 2022.

Missing data are denoted by a blank in the data set. Data are missing due to equipment failure or power loss, where no sensors were deployed, for maintenance or calibration of equipment, elimination of obvious outliers or elimination of

data due to calibration problems. For more details on deleted data, see the Anomalous Data/Suspect Data section. To find out more details about missing data, contact the Research Coordinator at the site submitting the data.

14) Other Remarks:

On 10/11/2023 this dataset was updated to include embedded QAQC flags for anomalous/suspect data. System-wide monitoring data beginning in 2007 were processed to allow for QAQC flags and codes to be embedded in the data files rather than detailed in the metadata alone (as in the anomalous/suspect, deleted, and missing data sections above). Prior to 2007, rejected data were deleted from the dataset so they are unavailable to be used at all, but suspect data were only noted in the metadata document. Suspect data flags <1> were embedded retroactively in order to allow suspect data to be easily identified and filtered from the dataset if desired for analysis and reporting purposes. No other flags or codes were embedded in the dataset and users should still refer to the detailed explanations above for more information.

Arrays:
During 2022 all pre-2007 weather data were revisited by the CDMO. Historically those datasets included 15 minute, hourly (60), and daily data arrays (144). As directed by the NERRS Data Management Committee, the CDMO removed the hourly and daily data arrays leaving only the 15 minute data to make the entire NERRS SWMP weather dataset consistent in its reporting. All references to the 60 and 144 arrays were left in the metadata document as they may still provide valuable information, but users should be aware that they are largely no longer relevant. The updated datasets were uploaded to the database and made available through the various data applications at www.nerrsdata.org/get/landing.cfm throughout the fall of 2022.

Precipitation:
During the initial years of NERRS SWMP weather data collection the CR10X programming was inconsistent in how precipitation values were recorded. For most reserves, zeros were not recorded when rainfall had not occurred between 2001-2003, instead no rainfall was represented by a blank cell. The CDMO verified which datasets were impacted by this issue for the 2001-2006 datasets and inserted zeros when the metadata indicated that no precipitation occurred and data were not missing for other reasons. In some cases, zero values for precipitation data were evaluated and removed where the metadata confirmed that no rainfall should have been in the dataset. The pre-2007 data did not go through a thorough QAQC process again at that time (in addition to previous QAQC); however, if discrepancies were noticed between what was documented in the metadata and what was in the dataset, additional updates may have been made. The updated datasets were uploaded to the database and made available through the various data applications at www.nerrsdata.org/get/landing.cfm throughout early 2023.

During precipitation edits mentioned above it was noted that the 01/01/2003 00:00 line of data was missing. Those data were found in an archived original file and added back to the dataset.

LiCor:
Prior to the installation of the new NERR_4.CSI program on 11/07/2003, all values less than 0 were altered in the raw data to read 0. These values may indicate an incorrect multiplier, calibration problems, or a sensor malfunction. Because these values are changed in the raw data, we cannot

confirm that they are all valid data points. However after the installation of the new program the negative values remain in the data set.

Relative Humidity:
Prior to the installation of the new NERR_4.CSI program on 11/07/2003, all values over 100% were altered in the raw data to read 100%. These values may indicate super saturated air, calibration problems, or a sensor malfunction. Because these values are changed in the raw data, we cannot confirm that they are all valid data points.

Daily, Monthly, and Annual Precipitation Totals

tjrtlmet	**Tidal Linkage**
	Daily Precip Totals (mm)
01/21/2003	1.0
Monthly Total (mm)	1.0
02/09/2003	2.5
02/12/2003	9.9
02/13/2003	29.5
02/14/2003	7.6
02/15/2003	9.7
02/21/2003	1.0
02/26/2003	31.8
02/28/2003	6.6
Monthly Total (mm)	98.6
03/05/2003	7.9
03/06/2003	0.3
03/16/2003	25.1
03/17/2003	10.4
Monthly Total (mm)	43.7
04/14/2003	1.0
04/15/2003	28.7
04/18/2003	3.8
04/23/2003	0.8
Monthly Total (mm)	34.3
05/04/2003	3.3
05/08/2003	1.5
05/09/2003	0.3
Monthly Total (mm)	5.1
06/21/2003	1.8
06/22/2003	0.5

Monthly Total (mm)	2.3
10/11/2003	0.3
10/26/2003	0.3
Monthly Total (mm)	.6
11/02/2003	2.0
11/13/2003	6.4
Monthly Total (mm)	8.4
12/08/2003	3.6
12/15/2003	0.3
12/21/2003	0.3
12/22/2003	0.3
12/24/2003	0.5
12/25/2003	0.5
12/26/2003	8.4
Monthly Total (mm)	13.9
Annual Total (mm)	207.9