Apalachicola NERR Meteorological Metadata

January – December 2001

Last Update: **January 23, 2023**

I. Data Set & Research Descriptors

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2.) Entry verification

a) Data Input Procedures:

The 15-minute, 1-hour average, and 24-hour data were downloaded from each instrument

on the weather station to a Campbell Scientific CR10 datalogger. The CDMO Data Logger

Program (nerr.csi) was loaded into the CR10 and controls the sensors and data collection

schedule (see 2b of the Entry Verification section for the data collection schedule). The

CR10 then interfaced with the PC208W software supplied by Campbell Scientific.

Once an entire month of data was available, the CDMO Weather Data Management

Program (WDMP) was used to convert the files to an Access database. This program was

developed in Visual Basic to interface with the NERRS data collection schedule (see 2b of

the Entry Verification section for the data collection schedule). The WDMP will

automatically input and convert the monthly raw data file into an Access Database. There

are three main steps the WDMP performs. First, it converts the comma delimited monthly

raw data file into an Access Database. Second, it checks the data against a predetermined set

of error criteria (see Part C of this section). Finally, it produces error and summary

reports.

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.

The most common error reported was for the wind speed less than 0.5 m/s criteria. Other

common errors were temperature changes greater than 3 ºC and precipitation differences

greater than 5 mm.

B. Data Collection Schedule

1. Data is collected in the following formats.

a. Sample data points are collected every 15 minutes.

b. Hourly averages are collected every 60 minutes.

c. Daily average, maximum with time, and minimum with time every 24 hours.

2. 15 minute sample point parameters

Array 150: Date, Time, Air Temperature (c), Relative Humidity (%), LiCor (par),

Barometric Pressure (mb), Wind Speed (m/s), Wind Direction

Array 151: Rainfall (mm)

3. Hourly average parameters

Array 101: Date, Time, Air Temperature (c), Relative Humidity (%), LiCor (par),

Barometric Pressure (mb)

Array 102: Date, Time, Wind Speed (m/s), Wind Direction, Wind Speed Maximum (m/s)

4. Daily Averages parameters

Array 241: Date, Time, Air Temperature (c), Relative Humidity (%), LiCor (par),

Barometric Pressure (mb)

Array 242: Date, Time, Wind Speed (m/s), Wind Direction, Wind Direction Standard

Deviation (using Yamartino's Algorithm)

5. Daily Maximum parameters

Array 243: Date, Time, Air Temperature (c), Time, Relative Humidity (%), Time, LiCor

(par), Time, Barometric Pressure (mb), Time, Wind Speed (m/s), Time, Battery Voltage,

Time

6. Daily Minimum parameters

Array 244: Date, Time, Air Temperature (c), Time, Relative Humidity (%), Time, LiCor

(par), Time, Barometric Pressure (mb), Time, Wind Speed (m/s), Time, Battery Voltage,

Time

c) 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 for 12 hours

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:

Data collected from the East Bay weather station will complement those data taken from

the East Bay water quality station. Positioning the weather station in East Bay will allow

the Reserve to monitor changes in rainfall, photosynthetically active radiation, temperature,

and other weather parameters influencing the water quality of East Bay. East Bay drains the

Tate's Hell Swamp area, which was altered in the late 1960's and early 1970's by timber

companies. An EPA grant allowed the Northwest Florida Water Management District to

begin restoration of the site in 1995 to reduce non-point source runoff.

4.) Research methods:

There are no analyses, data collection intervals, or QA/QC plans for the WDMP in

Apalachicola other than those expressed in Version 4.0 of the CDMO manual.

5.) Site location and character:

The Apalachicola National Estuarine Research Reserve is located in the northwestern

part of Florida, generally called the panhandle. It is located adjacent to the City of

Apalachicola, and encompasses most of the Apalachicola Bay system, including 52 miles of

the lower Apalachicola River. Passes, both natural and manmade, connect Apalachicola Bay

to the northeastern Gulf of Mexico. The sampling site is located in the upper reaches of East

Bay. East Bay is separated from Apalachicola Bay by two bridges and a causeway and is

located to the north of Apalachicola Bay proper. The bay is 8.2 km long, has an average

depth of approximately 1.0 m MHW, and an average width of 1.8 km. The tides in East Bay

are mixed and range from 0.3 m to 1.0 m (average 0.5 m).

The weather station is located at latitude 29 deg 47.454' N and longitude 84 deg 53.004' W.

This site is less than 0.5 nautical miles west of the Apalachicola water quality station. The

site is located near the tip of a peninsula, which separates Blount's Bay from West Bayou.

The peninsula is dominated by marsh vegetation (mainly Juncus roemerianus). There is a

cabbage palm hammock along the southern shoreline of the peninsula. The dominant upland

habitat is primarily pineland forest to the northwest, which includes slash pine, saw

palmetto, and sand pine.

The weather station sensors are mounted at the top of a 3-meter tower. The Tower is

mounted on a 6' platform. The tipping bucket rain gauge is mounted on a 4' platform

approximately 15 feet from the weather station platform. There is nothing nearby to shade

the tower and the nearest wind block is the edge of the pine forest about one-half to three-

quarters of a mile north to northwest of the station.

6.) Data collection period: January-December, 2001

The Apalachicola weather monitoring station was erected on August 27, 1999 and began

monitoring on September 3, 1999. The data submitted with this report encompasses data

collected from 0000 hours January 1 through 2400 hrs December 31, 2001. Actual module

deployment during this time period began on 12/6/2000 at 1050 hrs and ended 1/17/02 at

0825.

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 the 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/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 personnel directory

under the general information link on the CDMO home page) and online at the CDMO home

page http://cdmo.baruch.sc.edu. Data are available in text format and Access

data tables.

8.) Associated researchers and projects:

Northwest Florida Water Management District

Tate's Hell Restoration Project

Apalachicola Bay Freshwater Needs Study

Other than ANERR monitoring, no other projects associated with the weather station have

been established yet.

II. Physical Structure Descriptors

9.) Sensor Specifications

LiCor Quantum Pyranometer

Model # LI190SB

Stability: <±2% change over 1 yr

Operating Temperature: -40 to 65°C

Sensitivity: typically 5 µA per 1000µmoles s-1 m-2

Light spectrum wavelength: 400 to 700 nm

Date of last calibration: Time of Purchase, late 1996

Wind Sentry: RM Young Model # 03001

Range: 0-50 m/s; 360° mechanical

Date of last calibration: At deployment, Aug 27, 1999.

Temperature and Relative Humidity: Vaisala Model #: HMP35C

Operating Temperature:-40-+60°C

Temperature Measurement Range: -40-+60°C

Temperature Accuracy: ± 0.2 °C @ 20°C

Relative Humidity Measurement Range: 0-100% non-condensing

RH Accuracy: +/-2% RH (0-90%) and +/-3%(90-100%)

Uncertainty of calibration: ± 1.2% RH

Date of Last calibration: Time of Purchase, late 1996

Barometric Sensor: Vaisala 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: time of purchase, late 1996

Precipitation: Tipping Bucket Rain Gauge FIT Model #: TE 525

Range: 0.1 mm

Accuracy: 1.0% at <2"/hr

Date of Last calibration: time of purchase, late 1996

10.) Coded variable indicator and variable code definitions:

Site Definitions: The weather data master table files for the Apalachicola NERR are coded

EB, indicating the location of the weather station (East Bay) within the greater

Apalachicola Bay system.

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](http://www.nerrsdata.org/get/landing.cfm) throughout the fall of 2022.

\*Please note that both Julian Day and Calendar Day are recorded and indicated as follows

in the documentation below: JulD=Julian Day and CalD=Calendar Day.

January 2001

Array CalD JulianD Time Error

102 4 4 1900 Wind speed is less than 0.5 m/s from 4 (4) 1900 to 5 (5) 700

The wind speed data above are considered correct and remain unchanged.

Array CalD JulianD Time Error

150 6 6 1215 Air temp difference from 6 (6) 1215 (14.016) to 6 (6) 1230

(10.861) is greater than 3.0 degrees C

102 6 6 2100 Wind speed is less than 0.5 m/s from 6 (6) 2100 to 7 (7) 1000

The air temperature and wind speed data above are considered correct and remain unchanged.

Array CalD JulianD Time Error

102 14 14 1900 Wind speed is less than 0.5 m/s from 14 (14) 1900 to 15 (15) 1100

The wind speed data above are considered correct and remain unchanged.

Array CalD JulianD Time Error

150 23 23 1815 Rel hum difference from 23 (23) 1815 (39.436) to 23 (23)

1830 (70.988) is greater than 25%

The relative humidity data above are considered correct and remain unchanged.

102 27 27 2000 Wind speed is less than 0.5 m/s from 27 (27) 2000 to 28 (28)900

The wind speed data above are considered correct and remain unchanged.

February 2001

Array CalD JulianD Time Error

102 6 37 2000 Wind speed is less than 0.5 m/s from 6 (37) 2000 to 7 (38)900

The wind speed data above are considered correct and remain unchanged.

March 2002

Array CalD JulianD Time Error

150 8 67 15 Air temp is less than minimum temp (10.252) for this date

errors occurred for every 15-minute record from 0015 to 0830.

101 8 67 100 Air temp average in 1 hour data (8.8236) is less than 24 hour

minimum ( 10.252) errors occurred for every hourly record from 0100 to 1100.

The above errors were associated with the storage module exchange at 1132 on 67 which resulted

in missing 5 second data which is used to calculate hourly and daily arrays. Therefore, hourly

arrays (101, 102) for 1200 and all 24-hour arrays (241, 242, 243, 244) were deleted

and replaced with 55555 for this date. Corrections are listed below:

Array CalD JulianD Time Error

101 8 67 1200 Technician changed entire 101 Array data from 8 ( 67) 1200

102 8 67 1200 Technician changed entire 102 Array from 8 ( 67) 1200

241 8 67 2400 Technician changed entire 241 Array from 8 ( 67) 2400

242 8 67 2400 Technician changed entire 242 Array from 8 ( 67) 2400

243 8 67 2400 Technician changed entire 243 Array data from 8 ( 67) 2400

244 8 67 2400 Technician changed entire 244 Array data from 8 ( 67) 2400

Array CalD JulianD Time Error

151 8 67 1145 Precip difference from 8 (67) 1145 (11.176) to 8 (67) 1200

(1.27) is greater than 5 mm.

The rain data above are considered correct and remain unchanged.

Array CalD JulianD Time Error

151 12 71 2315 Precip difference from 12 (71) 2315 (9.652) to 12 (71) 2330

(17.272) is greater than 5 mm

151 12 71 2330 Precip difference from 12 (71) 2330 (17.272) to 12 (71) 2345

(8.636) is greater than 5 mm

151 12 71 2345 Precip difference from 12 (71) 2345 (8.636) to 12 (71) 2400

(16.764) is greater than 5 mm

All rain data recorded on 71 considered correct and remain unchanged.

Array CalD JulianD Time Error

151 13 72 45 Precip difference from 13 (72) 45 (17.018) to 13 (72) 100

(22.352) is greater than 5 mm

151 13 72 115 Precip difference from 13 (72) 115 (21.844) to 13 (72) 130

(10.414) is greater than 5 mm

151 13 72 130 Precip difference from 13 (72) 130 (10.414) to 13 (72) 145

(.762) is greater than 5 mm

All rain data recorded on 72 are considered correct and remain unchanged.

Array CalD JulianD Time Error

150 20 79 200 Air temp difference from 20 (79) 200 (15.232) to 20 (79)

215 (11.033) is greater than 3.0 degrees C

151 20 79 145 Precip difference from 20 (79) 145 (.254) to 20 (79) 200

(9.652) is greater than 5 mm

151 20 79 200 Precip difference from 20 (79) 200 (9.652) to 20 (79) 215

(.508) is greater than 5 mm

The air temperature and precipitation data on 79 are considered correct and remain

unchanged. The air temperature drop is probably associated with the indicated rain

event.

Array CalD JulianD Time Error

151 25 84 845 Precip difference from 25 (84) 845 (1.016) to 25 (84) 900

(13.716) is greater than 5 mm

151 25 84 900 Precip difference from 25 (84) 900 (13.716) to 25 (84) 915

(2.54) is greater than 5 mm

All precipitation data recorded on 84 are considered correct and remain unchanged.

April 2001

Array CalD JulianD Time Error

150 5 95 15 Air temp is less than minimum temp (17.642) for this date

errors occurred for every 15-min array from 015 to 0545.

101 5 95 100 Air temp average in 1 hour data (17.207) is less than 24 hour

minimum (17.642) errors occurred for every hourly array from 0100 to 0600.

101 5 95 100 Pressure average in 1 hour data (1017.8) is less than 24 hour

minimum (1018.1) errors occurred for every hourly array from 0100 to 0600.

The above errors were associated with the storage module exchange at 1330 on 95 which resulted

in missing 5 second data which is used to calculate hourly and daily arrays. Therefore, hourly

arrays (101, 102) for 1400 and all 24-hour arrays (241, 242, 243, 244) were deleted

and replaced with 55555 for this date. Corrections are listed below:

Array CalD JulianD Time Error

101 5 95 1400 Technician changed entire 101 Array data from 5 ( 95) 1400

102 5 95 1400 Technician changed entire 102 Array from 5 ( 95) 1400

241 5 95 2400 Technician changed entire 241 Array from 5 ( 95) 2400

242 5 95 2400 Technician changed entire 242 Array from 5 ( 95) 2400

243 5 95 2400 Technician changed entire 243 Array data from 5 ( 95) 2400

244 5 95 2400 Technician changed entire 244 Array data from 5 ( 95) 2400

Array CalD JulianD Time Error

150 20 110 800 Air temp difference from 20 (110) 800 (14.79) to 20 (110)

815 (19.574) is greater than 3.0 degrees C

The air temperature data above are considered correct and remain unchanged.

May 2001

Array CalD JulianD Time Error

150 2 122 700 Air temp is less than minimum temp ( 18.876) for this date

150 2 122 715 Air temp is less than minimum temp ( 18.876) for this date

101 2 122 300 Pressure average in 1 hour data ( 1013.2) is less than 24 hour

minimum ( 1013.3)

101 2 122 400 Pressure average in 1 hour data ( 1013) is less than 24 hour

minimum ( 1013.3)

101 2 122 500 Pressure average in 1 hour data ( 1013) is less than 24 hour

minimum ( 1013.3)

The above errors were associated with the storage module exchange at 1340 on 122.

Hourly arrays for 1400 and all 24-hour arrays were deleted for this date. Corrections are

listed below:

Array CalD JulianD Time Error

101 2 122 1400 Technician changed entire 101 Array data from 2 ( 122) 1400

102 2 122 1400 Technician changed entire 102 Array from 2 ( 122) 1400

241 2 122 2400 Technician changed entire 241 Array from 2 ( 122) 2400

242 2 122 2400 Technician changed entire 242 Array from 2 ( 122) 2400

243 2 122 2400 Technician changed entire 243 Array data from 2 ( 122) 2400

244 2 122 2400 Technician changed entire 244 Array data from 2 ( 122) 2400

Array CalD JulianD Time Error

150 13 133 1245 Rel hum difference from 13 (133) 1245 (44.515) to 13 (133)

1300 (0) is greater than 25%

150 13 133 1300 Rel hum difference from 13 (133) 1300 (0) to 13 (133) 1315

(44.247) is greater than 25%

150 13 133 1330 Rel hum difference from 13 (133) 1330 (43.378) to 13 (133)

1345 (.13347) is greater than 25%

150 13 133 1345 Rel hum difference from 13 (133) 1345 (.13347) to 13 (133)

1400 (64.932) is greater than 25%

The relative humidity data recorded at 1300 and 1345 were considered incorrect and deleted.

Corrections are listed below:

Array CalD JulianD Time Error

150 13 133 1300 Technician changed rhum 150 Array data from 13 ( 133) 1300

150 13 133 1345 Technician changed rhum 150 Array data from 13 ( 133) 1345

Array CalD JulianD Time Error

150 24 144 2030 Rel hum difference from 24 (144) 2030 (76.193) to 24 (144)

2045 (.13356) is greater than 25%

150 24 144 2045 Rel hum difference from 24 (144) 2045 (.13356) to 24 (144)

2100 (75.335) is greater than 25%

The relative humidity datum recorded at 2045 was considered incorrect and deleted. Corrections

are listed below:

Array CalD JulianD Time Error

150 24 144 2045 Technician changed rhum 150 Array data from 24 ( 144) 2045

June 2001

Array CalD JulianD Time Error

150 8 159 645 Air temp is less than minimum temp (24.691) for this date

150 8 159 700 Air temp is less than minimum temp (24.691) for this date

150 8 159 715 Air temp is less than minimum temp (24.691) for this date

150 8 159 730 Air temp is less than minimum temp (24.691) for this date

101 8 159 800 Air temp average in 1 hour data (24.681) is less than 24 hour

minimum (24.691)

The above errors were associated with the storage module exchange at 0937 on 159 which resulted

in missing 5 second data which is used to calculate hourly and daily arrays. Therefore, hourly

arrays (101, 102) for 1000 and all 24-hour arrays (241, 242, 243, 244) were deleted

and replaced with 55555 for this date. Corrections are listed below:

Array CalD JulianD Time Error

101 8 159 1000 Technician changed entire 101 Array from 8 ( 159) 1000

102 8 159 1000 Technician changed entire 102 Array from 8 ( 159) 1000

241 8 159 2400 Technician changed entire 241 Array from 8 ( 159) 2400

242 8 159 2400 Technician changed entire 242 Array from 8 ( 159) 2400

243 8 159 2400 Technician changed entire 243 Array data from 8 ( 159) 2400

244 8 159 2400 Technician changed entire 244 Array data from 8 ( 159) 2400

Array CalD JulianD Time Error

150 10 161 1215 Air temp difference from 10 (161) 1215 (29.57) to 10 (161)

1230 (26.489) is greater than 3.0 degrees C

The data above are considered correct and remain unchanged.

Array CalD JulianD Time Error

151 11 162 600 Precip difference from 11 (162) 600 (3.302) to 11 (162) 615

(9.144) is greater than 5 mm

151 11 162 630 Precip difference from 11 (162) 630 (11.176) to 11 (162)

645 (2.54) is greater than 5 mm

151 11 162 1345 Precip difference from 11 (162) 1345 (1.27) to 11 (162)

1400 (10.414) is greater than 5 mm

151 11 162 2130 Precip difference from 11 (162) 2130 (3.302) to 11 (162)

2145 (12.954) is greater than 5 mm

151 11 162 2145 Precip difference from 11 (162) 2145 (12.954) to 11 (162)

2200 (5.334) is greater than 5 mm

151 11 162 2230 Precip difference from 11 (162) 2230 (6.096) to 11 (162)

2245 (.762) is greater than 5 mm

All rain data recorded on 162 are considered correct and remain unchanged.

Array CalD JulianD Time Error

150 15 166 1730 Rel hum difference from 15 (166) 1730 (59.795) to 15 (166)

1745 (0) is greater than 25%

150 15 166 1745 Rel hum difference from 15 (166) 1745 (0) to 15 (166) 1800

(61.397) is greater than 25%

The relative humidity datum recorded at 1745 was considered incorrect, deleted and replaced

with 55555. Correction is listed below:

Array CalD JulianD Time Error

150 15 166 1745 Technician changed rhum 150 Array data from 15 ( 166) 1745

Array CalD JulianD Time Error

150 17 168 1330 Rel hum difference from 17 (168) 1330 (55.253) to 17 (168)

1345 (0) is greater than 25%

150 17 168 1345 Rel hum difference from 17 (168) 1345 (0) to 17 (168) 1400

(60.592) is greater than 25%

The relative humidity data recorded at 1345 was considered incorrect, deleted and

replaced with 55555. Correction is listed below:

Array CalD JulianD Time Error

150 17 168 1345 Technician changed rhum 150 Array data from 17 ( 168) 1345

Array CalD JulianD Time Error

150 18 169 1730 Air temp difference from 18 (169) 1730 (27.734) to 18

(169) 1745 (23.922) is greater than 3.0 degrees C

The air temperature data above are considered correct and remain unchanged.

Array CalD JulianD Time Error

150 22 173 1215 Air temp difference from 22 (173) 1215 (28.645) to 22

(173) 1230 (24.956) is greater than 3.0 degrees C

150 22 173 1230 Air temp difference from 22 (173) 1230 (24.956) to 22

(173) 1245 (21.796) is greater than 3.0 degrees C

150 22 173 2130 Air temp difference from 22 (173) 2130 (24.167) to 22

(173) 2145 (20.726) is greater than 3.0 degrees C

151 22 173 1300 Precip difference from 22 (173) 1300 (5.588) to 22 (173)

1315 (.508) is greater than 5 mm

The air temperature and precipitation data above are considered correct and remain

unchanged. They are probably the result of the same rain event.

Array CalD JulianD Time Error

150 23 174 1200 Air temp difference from 23 (174) 1200 (27.562) to 23

(174) 1215 (23.158) is greater than 3.0 degrees C

The air temperature data above are considered correct and remain unchanged.

Array CalD JulianD Time Error

150 24 175 2345 Rel hum difference from 24 (175) 2345 (87.508) to 24 (175)

2400 (.0668) is greater than 25%

150 24 175 2400 Rel hum difference from 24 (175) 2400 (.0668) to 25 (176)

15 (81.505) is greater than 25%

The relative humidity datum recorded at 2400 was considered incorrect, deleted and

replaced with 55555. Correction is below:

Array CalD JulianD Time Error

150 24 175 2400 Technician changed rhum 150 Array data from 24 ( 175) 2400

Array CalD JulianD Time Error

150 25 176 1545 Rel hum difference from 25 (176) 1545 (45.66) to 25 (176)

1600 (100) is greater than 25%

150 25 176 1600 Rel hum difference from 25 (176) 1600 (100) to 25 (176)

1615 (44.057) is greater than 25%

The relative humidity datum recorded at 1600 was considered incorrect, deleted

and replaced with 55555. Correction is below:

Array CalD JulianD Time Error

150 25 176 1600 Technician changed rhum 150 Array data from 25 ( 176) 1600

Array CalD JulianD Time Error

150 29 180 400 Rel hum difference from 29 (180) 400 (100) to 29 (180) 415

(0) is greater than 25%

150 29 180 415 Rel hum difference from 29 (180) 415 (0) to 29 (180) 430

(100) is greater than 25%

The relative humidity datum recorded at 0415 was considered incorrect, deleted and replaced

with 55555. Correction is below:

Array CalD JulianD Time Error

150 29 180 415 Technician changed rhum 150 Array data from 29 ( 180) 415

Array CalD JulianD Time Error

151 29 180 1000 Precip difference from 29 (180) 1000 (8.382) to 29 ( 180)

1015 (2.032) is greater than 5 mm

151 29 180 1215 Precip difference from 29 (180) 1215 (.254) to 29 (180)

1230 (11.938) is greater than 5 mm

151 29 180 1230 Precip difference from 29 (180) 1230 (11.938) to 29 (180)

1245 (1.524) is greater than 5 mm

All precipitation data recorded on 180 are considered correct and remain unchanged.

Array CalD JulianD Time Error

151 30 181 1500 Precip difference from 30 (181) 1500 (.254) to 30 (181)

1515 (10.414) is greater than 5 mm

The precipitation data above are considered correct and remain unchanged.

July 2001

Array CalD JulianD Time Error

151 2 183 415 Precip difference from 2 (183) 415 (5.588) to 2 (183) 430

(0.508) is greater than 5 mm.

The precipitation datum above is considered correct and remains unchanged.

Array CalD JulianD Error

150 6 187 An "air temperature less than minimum temperature (24.642)

for this date" error occurred for every observation between 0030 and 0630 then again between

0915 and 1145.

101 6 187 An "Air temperature average in one hour data is less than

24 hr minimum" error occurred every hour between 0100 and 0700 and again between 1000 and 1200.

101 6 187 An "Pressure average in one hour data is less than 24 h

minimum" error occurred at 0400 and again every hour between 0900 and 1200.

The above errors were associated with the storage module exchange at 1415 on 187 which resulted

in missing 5 second data which is used to calculate hourly and daily arrays. Therefore, hourly

arrays (101, 102) for 1500 and all 24-hour arrays (241, 242, 243, 244) were deleted

and replaced with 55555 for this date. Corrections are listed below:

Array CalD JulianD Time Error

101 6 187 1500 Technician changed entire 101 Array from 6 ( 187) 1500 to 6 ( 187) 2400

102 6 187 1500 Technician changed entire 102 Array from 6 ( 187) 1500

241 6 187 2400 Technician changed entire 241 Array from 6 ( 187) 2400

to 6 ( 187) 2400

242 6 187 2400 Technician changed entire 242 Array from 6 ( 187) 2400

to 6 ( 187) 2400

243 6 187 2400 Technician changed entire 243 Array data from 6 ( 187) 2400

to 6 ( 187) 2400

244 6 187 2400 Technician changed entire 244 Array data from 6 ( 187) 2400

to 6 ( 187) 2400

Array CalD JulianD Time Error

150 8 189 1430 Air temp difference from 8 (189) 1430 (31.405) to 8 (189)

1445 (28.299) is greater than 3.0 degrees C.

150 8 189 1515 Air temp difference from 8 (189) 1515 (25.799) to 8 (189)

1530 (22.464) is greater than 3.0 degrees C.

151 8 189 1530 Precip difference from 8 (189) 1530 (21.59) to 8 (189) 1545

(15.494) is greater than 5 mm.

151 8 189 1545 Precip difference from 8 (189) 1545 (15.494) to 8 (189)

1600 (1.778) is greater than 5 mm.

The temperature and precipitation data above were probably the result of the same

rain event. They are considered correct and remain unchanged.

Array CalD JulianD Time Error

150 9 190 1515 Air temp difference from 9 (190) 1515 (31.626) to 9 (190)

1530 (27.098) is greater than 3.0 degrees C

150 9 190 1400 Rel hum difference from 9 (190) 1400 (60.922) to 9 (190)

1415 (95.62) is greater than 25%

150 9 190 1415 Rel hum difference from 9 (190) 1415 (95.62) to 9 (190)

1430 (63.057) is greater than 25%

The air temperature data above are considered correct and remain unchanged.

The relative humidity datum recorded at 1415 on 190 was considered incorrect, deleted and

replaced with 55555. Correction is below:

Array CalD JulianD Time Error

150 9 190 1415 Technician changed rhum 150 Array data from 9 ( 190) 1415

Array CalD JulianD Time Error

150 10 191 915 Rel hum difference from 10 (191) 915 (87.447) to 10 (191)

930 (0) is greater than 25%

150 10 191 930 Rel hum difference from 10 (191) 930 (0) to 10 (191) 945

(83.572) is greater than 25%

The relative humidity datum recorded at 0930 was considered incorrect, deleted and replaced

with 55555. Correction is below:

150 10 191 930 Technician changed rhum 150 Array data from 10 ( 191) 930

Array CalD JulianD Time Error

151 11 192 800 Precip difference from 11 (192) 800 (.254) to 11 (192) 815

(5.588) is greater than 5 mm

The precipitation data above are considered correct and remain unchanged.

151 12 193 1100 Precip difference from 12 (193) 1100 (128) to 12 (193)

1115 (.254) is greater than 5 mm

151 12 193 1200 Precip difference from 12 (193) 1200 (2.54) to 12 (193)

1215 (17.018) is greater than 5 mm

151 12 193 1215 Precip difference from 12 (193) 1215 (17.018) to 12 (193)

1230 (6.096) is greater than 5 mm

The rain data above are considered correct and remain unchanged.

150 17 198 1900 Rel hum difference from 17 (198) 1900 (84.975) to 17 (198)

1915 (.06675) is greater than 25%

150 17 198 1915 Rel hum difference from 17 (198) 1915 (.06675) to 17 (198)

1930 (88.184) is greater than 25%

The relative humidity datum recorded at 1915 on 198 is considered incorrect, deleted and

replaced with 55555. Correction is below:

Array CalD JulianD Time Error

150 17 198 1915 Technician changed rhum 150 Array data from 17 ( 198) 1915

Array CalD JulianD Time Error

150 19 200 1200 Air temp difference from 19 (200) 1200 (30.68) to 19 (200)

1215 (26.828) is greater than 3.0 degrees C

The air temperature data above are considered correct and remain unchanged.

Array CalD JulianD Time Error

151 18 199 1545 Precip difference from 18 (199) 1545 (11.938) to 18 (199)

1600 (6.096) is greater than 5 mm

The precipitation data above are considered correct and remain unchanged.

Array CalD JulianD Time Error

150 20 201 1500 Air temp difference from 20 (201) 1500 (31.188) to 20

(201) 1515 (25.344) is greater than 3.0 degrees C

151 20 201 1515 Precip difference from 20 (201) 1515 (3.556) to 20 (201)

1530 (11.684) is greater than 5 mm

151 20 201 1530 Precip difference from 20 (201) 1530 (11.684) to 20 (201)

1545 (2.54) is greater than 5 mm

The air temperature and precipitation data above are considered correct and remain

unchanged.

Array CalD JulianD Time Error

151 21 202 1745 Precip difference from 21 (202) 1745 (1.27) to 21 (202)

1800 (7.874) is greater than 5 mm

151 21 202 1815 Precip difference from 21 (202) 1815 (8.128) to 21 (202)

1830 (.508) is greater than 5 mm

The precipitation data above are considered correct and remains unchanged.

Array CalD JulianD Time Error

150 22 203 1830 Air temp difference from 22 (203) 1830 (29.328) to 22

(203) 1845 (25.303) is greater than 3.0 degrees C

151 22 203 1845 Precip difference from 22 (203) 1845 (5.334) to 22 (203)

1900 (.254) is greater than 5 mm

The air temperature and precipitation data above are considered correct and remain

unchanged.

Array CalD JulianD Time Error

151 24 205 800 Precip difference from 24 (205) 800 (7.874) to 24 (205) 815

(1.27) is greater than 5 mm

151 24 205 915 Precip difference from 24 (205) 915 (6.604) to 24 (205) 930

(.762) is greater than 5 mm

The precipitation data above are considered correct and remain unchanged.

Array CalD JulianD Time Error

150 28 209 1230 Air temp difference from 28 (209) 1230 (30.42) to 28 (209)

1245 (27.362) is greater than 3.0 degrees C

150 28 209 1430 Air temp difference from 28 (209) 1430 (30.341) to 28

(209) 1445 (25.258) is greater than 3.0 degrees C

The above air temperature data are considered correct and remains unchanged.

Array CalD JulianD Time Error

150 30 211 1900 Rel hum difference from 30 (211) 1900 (75.745) to 30 (211)

1915 (.06674) is greater than 25%

150 30 211 1915 Rel hum difference from 30 (211) 1915 (.06674) to 30 (211)

1930 (83.701) is greater than 25%

The relative humidity datum recorded at 1915 on 211 was deleted and replaced with

55555. Correction is below:

Array CalD JulianD Time Error

150 30 211 1915 Technician changed rhum 150 Array data from 30 ( 211) 1915

August 2001

Array CalD JulianD Time Error

151 1 213 1345 Precip difference from 1 (213) 1345 (.508) to 1 (213) 1400

(6.604) is greater than 5 mm

151 1 213 1400 Precip difference from 1 (213) 1400 (6.604) to 1 (213) 1415

(.508) is greater than 5 mm

The precipitation data above are considered correct and remains unchanged.

Array CalD JulianD Time Error

151 5 217 1200 Precip difference from 5 (217) 1200 (4.064) to 5 ( 17) 1215

(11.684) is greater than mm

151 5 217 1215 Precip difference from 5 (217) 1215 (11.684) to 5 (217)

1230 (1.27) is greater than 5 mm

151 5 217 1715 Precip difference from 5 (217) 1715 (6.35) to 5 (217) 1730

(.508) is greater than 5 mm

151 6 218 245 Precip difference from 6 (218) 245 (.508) to 6 (218) 300

(6.35) is greater than 5 mm

151 6 218 430 Precip difference from 6 (218) 430 (1.016) to 6 (218) 445

(6.858) is greater than 5 mm

The precipitation data shown above are associated with Tropical Storm Barry. They

are considered correct and remain unchanged.

Array CalD JulianD Time Error

150 9 221 Air temperature is less than minimum temperature (24.915) for

this date errors occurred on every 15 min instantaneous reading from 0015 to 0715.

Array CalD JulianD Time Error

101 9 221 Air temp average in 1 hour data is less than 24 hour minimum

(24.915) for this date error occurred for every hour between 0100 and 0700.

The above errors were associated with the storage module exchange at 1051 on 221 which resulted

in missing 5 second data which is used to calculate hourly and daily arrays. Therefore, hourly

arrays (101, 102) for 1100 and all 24-hour arrays (241, 242, 243, 244) were deleted

and replaced with 55555 for this date. Corrections are listed below:

Array CalD JulianD Time Error

101 9 221 1100 Technician changed entire 101 Array data from 9 ( 221) 1100

to 9 ( 221) 1100

102 9 221 1100 Technician changed entire 102 Array from 9 ( 221) 1100

to 9 ( 221) 1100

241 9 221 2400 Technician changed entire 241 Array from 9 ( 221) 2400

to 9 ( 221) 2400

242 9 221 2400 Technician changed entire 242 Array from 9 ( 221) 2400

to 9 ( 221) 2400

243 9 221 2400 Technician changed entire 243 Array data from 9 ( 221) 2400

to 9 ( 221) 2400

244 9 221 2400 Technician changed entire 244 Array data from 9 ( 221) 2400

to 9 ( 221) 2400

Array CalD JulianD Time Error

150 11 223 1245 Air temp difference from 11 (223) 1245 (29.623) to 11

(223) 1300 (25.825) is greater than 3.0 degrees C

The temperature data above are considered correct and remain unchanged.

Array CalD JulianD Time Error

150 18 230 1200 Air temp difference from 18 (230) 1200 (31.225) to 18

(230) 1215 (26.751) is greater than 3.0 degrees C.

The air temperature data above are considered correct and remain unchanged.

Array CalD JulianD Time Error

150 20 232 1430 Rel hum difference from 20 (232) 1430 (61.728) to 20 (232)

1445 (100) is greater than 25%

150 20 232 1445 Rel hum difference from 20 (232) 1445 (100) to 20 (232)

1500 (65.532) is greater than 25%

The relative humidity datum recorded at 1445 on 232 was considered incorrect, deleted and

replaced with 55555. Correction is below:

Array CalD JulianD Time Error

150 20 232 1445 Technician changed rhum 150 Array data from 20 ( 232) 1445

Array CalD JulianD Time Error

150 21 233 1545 Rel hum difference from 21 (233) 1545 (66.802) to 21 (233)

1600 (0.06674) is greater than 25%

150 21 233 1600 Rel hum difference from 21 (233) 1600 (0.06674) to 21 (233)

1615 (42.31) is greater than 25%

The relative humidity datum recorded at 1600 on 233 was considered incorrect, deleted and

replaced with 55555. Correction is below:

Array CalD JulianD Time Error

150 21 233 1600 Technician changed rhum 150 Array data from 21 ( 233) 1600

Array CalD JulianD Time Error

150 22 234 1130 Rel hum difference from 22 (234) 1130 (39.579) to 22 (234)

1145 (0) is greater than 25%

150 22 234 1145 Rel hum difference from 22 (234) 1145 (0) to 22 (234) 1200

(39.175) is greater than 25%

150 22 234 1630 Rel hum difference from 22 (234) 1630 (51.784) to 22 (234)

1645 (0.06673) is greater than 25%

150 22 234 1645 Rel hum difference from 22 (234) 1645 (.06673) to 22 (234)

1700 (48.581) is greater than 25%

The relative humidity data recorded at 1145 and 1645 on 234 were considered incorrect, deleted

and replaced with 55555. Correction is below:

Array CalD JulianD Time Error

150 22 234 1145 Technician changed rhum 150 Array data from 22 ( 234) 1145

150 22 234 1645 Technician changed rhum 150 Array data from 22 ( 234) 1645

Array CalD JulianD Time Error

150 25 237 1115 Rel hum difference from 25 (237) 1115 (55.526) to 25 (237)

1130 (100) is greater than 25%

150 25 237 1130 Rel hum difference from 25 (237) 1130 (100) to 25 (237)

1145 (56.191) is greater than 25%

The relative humidity datum recorded at 1130 on 237 was considered incorrect, deleted

and replaced with 55555. Correction is below:

Array CalD JulianD Time Error

150 25 237 1130 Technician changed rhum 150 Array data from 25 ( 237) 1130

Array CalD JulianD Time Error

150 29 241 1500 Rel hum difference from 29 (241) 1500 (64.864) to 29 (241)

1515 (0) is greater than 25%

150 29 241 1515 Rel hum difference from 29 (241) 1515 (0) to 29 (241) 1530

(68.267) is greater than 25%

The relative humidity datum recorded at 1515 on 241 was considered incorrect , deleted

and replaced with 55555. Correction is below:

Array CalD JulianD Time Error

150 29 241 1515 Technician changed rhum 150 Array data from 29 ( 241) 1515

September 2001

Array CalD JulianD Time Error

151 1 244 200 Precip difference from 1 (244) 200 (6.858) to 1 (244) 215

(254) is greater than 5 mm

The precipitation data above are considered correct and remain unchanged.

Array CalD JulianD Time Error

151 3 246 1215 Precip difference from 3 (246) 1215 (9.906) to 3 (24) 1230

(0.254) is greater than 5 mm

150 3 246 1200 Air temp difference from 3 (246) 1200 (27.164) to 3 (246)

1215 (23.521) is greater than 3.0 degrees C

The precipitation and air temperature data above are considered correct and remain

unchanged.

Array CalD JulianD Time Error

151 6 249 2300 Precip difference from 6 (249) 2300 (5.334) to 6 (249) 2315

(0 .254) is greater than 5 mm

The precipitation data above are considered correct and remain unchanged.

Array CalD JulianD Time Error

151 11 254 1815 Precip difference from 11 (254) 1815 (0 .508) to 11 (254)

1830 (7.62) is greater than 5 mm

151 11 254 1830 Precip difference from 11 (254) 1830 (7.62) to 11 (254)

1845 (0.508) is greater than 5 mm

150 11 254 1715 Air temp difference from 11 (254) 1715 (30.385) to 11(254)

1730 (27.384) is greater than 3.0 degrees C

The precipitation and temperature data above are considered correct and remain unchanged.

Array CalD JulianD Time Error

150 12 255 1900 Air temp difference from 12 (255) 1900 (26.871) to 12 (255)

1915 (23.606) is greater than 3.0 degrees C

The air temperature data above are considered correct and remain unchanged.

150 13 256 1715 Air temp difference from 13 (256) 1715 (28.058) to 13 (256)

1730 (23.868) is greater than 3.0 degrees C

The air temperature data above are considered correct and remain unchanged.

150 21 264 Air temperature is less than minimum temperature

(22.195) for this date errors occurred on every 15 min instantaneous reading from 0015 to 0830.

Array CalD JulianD Time Error

101 21 264 Air temp average in 1 hour data is less than 24 hour

minimum for this date error occurred for every hour between 0100 and 0800.

The above errors were associated with the storage module exchange at 1054 on 264 which resulted

in missing 5 second data which is used to calculate hourly and daily arrays. Therefore, hourly

arrays (101, 102) for 1100 and all 24-hour arrays (241, 242, 243, 244) were deleted

and replaced with 55555 for this date. Corrections are listed below:

Array CalD JulianD Time Error

101 21 264 1100 Technician changed entire 101 Array data from 21 ( 264) 1100

102 21 264 1100 Technician changed entire 102 Array from 21 ( 264) 1100

241 21 264 2400 Technician changed entire 241 Array from 21 ( 264) 2400

242 21 264 2400 Technician changed entire 242 Array from 21 ( 264) 2400

243 21 264 2400 Technician changed entire 243 Array data from 21 ( 264) 2400

244 21 264 2400 Technician changed entire 244 Array data from 21 ( 264) 2400

Array CalD JulianD Time Error

150 30 273 1945 Rel hum difference from 30 (73) 1945 (65.273) to 30 (273)

2000 (100) is greater than 25%

150 30 273 2000 Rel hum difference from 30 (273) 2000 (100) to 30 (273)

2015 (64.145) is greater than 25%

The relative humidity datum recorded at 2000 on 273 was considered incorrect, deleted and

replaced with 55555. Correction is below:

Array CalD JulianD Time Error

150 30 273 2000 Technician changed rhum 150 Array data from 30 ( 273) 2000

October 2001

Array CalD JulianD Time Error

150 2 275 1815 Air temp difference from 2 (275) 1815 (22.389) to 2 (275)

1830 (19.359) is greater than 3.0 degrees C

The air temperature data above are considered correct and remain unchanged.

Array CalD JulianD Time Error

150 10 283 1945 Rel hum difference from 10 (283) 1945 (86.21) to 10 (283)

2000 (0) is greater than 25%

150 10 283 2000 Rel hum difference from 10 (283) 2000 (0) to 10 (283) 2015

(88.08) is greater than 25%

The relative humidity datum recorded at 2000 on 283 was considered incorrect, deleted and

replaced with 55555. Correction is below:

Array CalD JulianD Time Error

150 10 283 2000 Technician changed rhum 150 Array data from 10 ( 283) 2000

Array CalD JulianD Time Error

151 13 286 2400 Precip difference from 13 (286) 2400 (1.778) to 14 (287) 15

(9.652) is greater than 5 mm

The precipitation data above are considered correct and remain unchanged.

Array CalD JulianD Time Error

150 14 287 115 Air temp difference from 14 (287) 115 (25.137) to 14 (287)

130 (21.814) is greater than 3.0 degrees C

151 14 287 30 Precip difference from 14 (287) 30 (5.588) to 14 (287) 45

(0.254) is greater than 5 mm

151 14 287 130 Precip difference from 14 (287) 130 (1.778) to 14 (287) 145

(14.224) is greater than 5 mm

151 14 287 145 Precip difference from 14 (287) 145 (14.224) to 14 (287)

200 (1.524) is greater than 5 mm

The air temperature and precipitation data above are considered correct and remain unchanged.

Array CalD JulianD Time Error

101 25 298 Pressure average in 1 hour data is less than 24 hour

minimum ( 1012.7) errors occurred for every hourly array between 0100 and 0700.

The above errors were associated with the storage module exchange at 0956 on 298 which resulted

in missing 5 second data which is used to calculate hourly and daily arrays. Therefore, hourly

arrays (101, 102) for 1000 and all 24-hour arrays (241, 242, 243, 244) were deleted

and replaced with 55555 for this date. Corrections are listed below:

Array CalD JulianD Time Error

101 25 298 1000 Technician changed entire 101 Array data from 25 ( 298) 1000

102 25 298 1000 Technician changed entire 102 Array from 25 ( 298) 1000

241 25 298 2400 Technician changed entire 241 Array from 25 ( 298) 2400

242 25 298 2400 Technician changed entire 242 Array from 25 ( 298) 2400

243 25 298 2400 Technician changed entire 243 Array data from 25 ( 298) 2400

244 25 298 2400 Technician changed entire 244 Array data from 25 ( 298) 2400

November 2001

Array CalD JulianD Time Error

150 9 313 1515 Rel hum difference from 9 (313) 1515 (37.053) to 9 (313)

1530 (62.287) is greater than 25%

The relative humidity data above are considered correct and remain unchanged.

December 2001

Array CalD JulianD Time Error

150 3 337 Air temp is less than minimum temp (14.764) for this date

errors occurred for every 15 min array between 0015 and 0915.

101 3 337 Air temp average in 1 hour data is less than 24 hour

minimum (14.764) errors occurred for every hourly array between 0100 and 0900.

Array CalD JulianD Time Error

101 3 337 Pressure average in 1 hour data is less than 24 hour

minimum (1018.6) errors occurred for every hourly array between 0100 and 0700.

The above errors were associated with the storage module exchange at 0952 on 337 which resulted

in missing 5 second data which is used to calculate hourly and daily arrays. Therefore, hourly

arrays (101, 102) for 1000 and all 24-hour arrays (241, 242, 243, 244) were deleted

and replaced with 55555 for this date. Corrections are listed below:

Array CalD JulianD Time Error

101 3 337 1000 Technician changed entire 101 Array data from 3 ( 337) 1000

102 3 337 1000 Technician changed entire 102 Array from 3 ( 337) 1000

241 3 337 2400 Technician changed entire 241 Array from 3 ( 337) 2400

242 3 337 2400 Technician changed entire 242 Array from 3 ( 337) 2400

243 3 337 2400 Technician changed entire 243 Array data from 3 ( 337) 2400

244 3 337 2400 Technician changed entire 244 Array data from 3 ( 337) 2400

Array CalD JulianD Time Error

150 23 357 215 Air temp difference from 23 (357) 215 (11.499) to 23 (357)

230 (17.82) is greater than 3.0 degrees C

The air temperature data above are considered correct and remain unchanged.

Array CalD JulianD Time Error

150 27 361 915 Rel hum difference from 27 (361) 915 (91.351) to 27 (361)

930 (66.18) is greater than 25%

150 27 361 1945 Rel hum difference from 27 (361) 1945 (98.408) to

27 (361) 2000 (0.0669) is greater than 25%

150 27 361 2000 Rel hum difference from 27 (361) 2000 (0.0669) to 27 (361)

2015 (100) is greater than 25%

The relative humidity datum recorded at 0915 on 361 is considered correct and

remains unchanged. The relative humidity data recorded at 2000 was considered

incorrect, deleted and replaced with 55555. Correction is below:

Array CalD JulianD Time Error

150 27 361 2000 Technician changed 150 Array data from 27 ( 361) 2000

12) 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](http://www.nerrsdata.org/get/landing.cfm) throughout the fall of 2022.

January 2001

Missing data for the following dates and times may have been due to daytime cloud cover and

lack of battery charging during daylight hours, resulting in insufficient battery power

during nighttime hours. There were no manipulations of the weather station, such as module

exchange or sensor maintenance, performed on these dates.

Array CalD JulianD Time Error

150 7 7 2145 Missing 150 Array data (15 minute data) from 7 (7) 2145

to 8 (8) 300

101 7 7 2200 Missing 101 Array data (Hourly Averages) from 7 (7) 2200

to 8 (8) 300

102 7 7 2200 Missing 102 Array data (Hourly Average Wind

Parameters) from 7 ( 7) 2200 to 8 ( 8) 300

241 7 7 2400 Missing 241 Array (Daily Averages)

242 7 7 2400 Missing 242 Array (Daily Average Wind Parameters)

243 7 7 2400 Missing 243 Array (Daily Max/Time Values)

244 7 7 2400 Missing 244 Array (Daily Min/Time Values)

August 2001

Missing data for the following dates and times may have been due to daytime cloud cover and

lack of battery charging during daylight hours, resulting in insufficient battery power

during nighttime hours. There were no manipulations of the weather station, such as module

exchange or sensor maintenance, performed on these dates.

Array CalD JulianD Time Error

150 20 232 2330 Missing 150 Array data (15 minute data) from 20 ( 232) 2315

to 21 ( 233) 500

101 20 232 2400 Missing 101 Array data (Hourly Averages) from 20 (232)

2400 to 21 (233) 500

102 20 232 2400 Missing 102 Array data (Hourly Average Wind

Parameters) from 20 ( 232) 2400 to 21 ( 233) 400

241 20 232 2400 Missing 241 Array (Daily Averages)

242 20 232 2400 Missing 242 Array (Daily Average Wind Parameters)

243 20 232 2400 Missing 243 Array (Daily Max/Time Values)

244 20 232 2400 Missing 244 Array (Daily Min/Time Values)

November 2001

Missing data for the following dates and times may have been due to daytime cloud cover and

lack of battery charging during daylight hours, resulting in insufficient battery power

during nighttime hours. There were no manipulations of the weather station, such as module

exchange or sensor maintenance, performed on these dates.

Array CalD JulianD Time Error

241 1 305 2400 Missing 241 Array (Daily Averages)

242 1 305 2400 Missing 242 Array (Daily Average Wind Parameters)

243 1 305 2400 Missing 243 Array (Daily Max/Time Values)

244 1 305 2400 Missing 244 Array (Daily Min/Time Values)

101 2 306 2300 Missing 101 Array data (Hourly Averages) from 2 (306) 2300

to 3 (307) 300

102 2 306 2300 Missing 102 Array data (Hourly Average Wind Parameters)

from 2 (306) 2300 to 3 (307) 300

150 2 306 2215 Missing 150 Array data (15 minute data) from 2 ( 306) 2215

to 3 ( 307) 400

December 2001

Missing data for the following dates and times may have been due to daytime cloud cover and

lack of battery charging during daylight hours, resulting in insufficient battery power

during nighttime hours. There were no manipulations of the weather station, such as module

exchange or sensor maintenance, performed on these dates.

Array CalD JulianD Time Error

150 19 353 345 Missing 150 Array data (15 minute data) from 19 (353)

345 to 19 (353) 1000

101 19 353 400 Missing 101 Array data (Hourly Averages) from 19 (353)

400 to 19 (353) 1000

102 19 353 400 Missing 102 Array data (Hourly Average Wind Parameters)

from 19 ( 353) 400 to 19 ( 353) 900

13) Other Remarks/notes

**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](http://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](http://www.nerrsdata.org/get/landing.cfm) throughout early 2023.

We seem to get a lot of relative humidity errors. Usually, these occur in 150 arrays when

the relative humidity reading will jump to 100 or fall to zero in one 15-min record and

then go back to the range of values occurring prior to the error. We are in the process of

ordering new sensors and will have the current ones calibrated this summer.

During the storage module exchange on January 17, 2001 the wind vane appeared to be

oriented too much to the east (more than 30 degrees). Technician used hand-bearing

compass and backed the vane up to orient as near due north as possible. The orientation

was then checked with Research Coordinator and other staff during the February module

exchange and determined that orientation was correct at its present position.

Rain Events:

January

Date RainAmount (mm)

11 14.224

12 .254

15 .254

18 .254

19 10.414

20 .508

23 .762

30 8.636

31 9.652

February

Date RainAmount (mm)

16 .254

17 1.016

22 2.794

23 15.748

26 .508

27 1.270

March

Date RainAmount (mm)

4 1.270

8 12.446

9 10.160

12 64.516

13 101.600

14 5.588

15 6.096

17 6.858

18 20.574

19 23.114

20 11.938

25 21.590

26 .254

28 2.794

29 42.418

31 .508

April

Date RainAmount (mm)

3 .254

4 1.016

8 .254

9 .254

11 .254

14 5.588

15 1.016

25 2.032

May

Date RainAmount (mm)

June

Date RainAmount (mm)

1 8.636

8 3.048

9 2.032

10 11.684

11 90.678

12 10.668

13 13.716

17 2.286

18 15.748

19 .254

21 .254

22 12.192

23 .762

24 .254

29 48.006

30 27.686

July

Date RainAmount (mm)

1 .254

2 6.096

6 .254

8 45.974

10 16.002

11 5.842

12 42.418

14 25.146

15 .254

17 1.524

18 18.288

19 4.064

20 17.780

21 23.876

22 5.588

24 38.100

26 .254

28 .254

29 .254

30 .254

31 3.302

August

Date Rainamount (mm)

September

Date RainAmount (mm)

1 19.812

2 2.032

3 15.494

4 4.318

6 8.890

8 .254

11 9.906

12 8.382

13 5.080

14 .254

20 7.620

21 .254

23 1.016

24 20.320

27 .254

October

Date Rainamount (mm)

3 .254

4 .254

5 1.524

6 1.778

13 1.778

14 38.100

24 .508

25 .254

November

Date Rainamount (mm)

9 .254

13 .508

14 2.286

20 .254

23 22.352

24 .254

26 .254

27 .254

28 .508

30 4.064

December

Date RainAmount (mm)

3 .254

6 .254

7 .254

8 .254

9 .254

10 .762

11 .508

12 .254

14 .254

17 .762

21 .254

23 4.318

24 .508

25 .254

26 .508

27 51.054

28 5.588