

Reserve Name: JOB NERR Meteorological Metadata
Months and years the documentation covers: 01/01/2024 to 12/31/2024
Latest Update: 04/08/2025

I. Data Set and Research Descriptors

1) Principal investigator(s) and contact persons

Jobos Bay National Estuarine Research Reserve

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2) Entry verification

Data is uploaded from the CR1000 data logger to a Personal Computer (IBM compatible). Files are exported from Logger Net in a comma-delimited format and uploaded to the CDMO where they undergo automated primary QAQC and become part of the CDMO's online provisional database. During primary QAQC, data are flagged if they are missing or out of sensor range. The edited file is then returned to the Reserve where it is opened in Microsoft Excel and processed using the CDMO's NERRQAQC Excel macro. The macro inserts station codes, creates metadata worksheets for flagged data and summary statistics, and graphs the data for review. It allows the user to apply QAQC flags and codes to the data, append files, and export the resulting data file to the CDMO for tertiary QAQC and assimilation into the CDMO's authoritative online database. For more information on QAQC flags and QAQC codes, see Sections 11 and 12.

A Campbell Sci. transmitter is used to deliver data to the NOAA GOES satellite, NESDIS ID # 3B018394 and NWS Location ID JOXP4. The transmissions are scheduled hourly and contain four (4) datasets reflecting fifteen-minute data sampling intervals. The telemetry data is flagged as "Provisional" data and after going through QAQC process is considered "Authentic" dataset used for long term monitoring and study. This data can be viewed by going to <http://cdmo.baruch.sc.edu> or <http://nerrsdata.org>.

During the Third quarter of 2024, data management is performed by Angel Dieppa and Edlyn Jusino. Thereafter, data management is performed by Angel Dieppa.

3) Research objectives

The principal objective is to record long-term meteorological data to track changes in meteorological conditions that can be associated to changes in estuarine habitats and conditions and regionally as well. A secondary objective is to promote the access and use of reliable baseline information by federal and local agencies, universities, researchers, educators and local communities to enhance the process by which they make decisions regarding their daily activities. This data is also invaluable in the identification and development of future monitoring and research activities.

This meteorological weather station is located 0.40 Km off the Jobos Bay coast and records data and information on the conditions affecting the estuary. The station is part of a System Wide Monitoring Program (SWMP) designed to evaluate the relative contributions of climate on coastal forcing and watershed inputs to hydrodynamics, nutrient dynamics, and other ecological processes within the estuary. Data is used as a reference of atmospheric conditions for ongoing research projects at the Reserve as support from NERR and for other short and long-term environmental monitoring projects within the Reserve.

4) Research methods Campbell Scientific data telemetry equipment was installed at the JOJBMET station on 07/20/06 and transmits data to the NOAA GOES satellite, NESDIS ID #3B018394. The transmissions are scheduled hourly at 0:01:00 after the hour and contain four (4) data sets reflecting fifteen-minute data sampling intervals. Upon receipt by the CDMO, the data undergoes the same automated primary QAQC process detailed in Section 2 above. The “real-time” telemetry data becomes part of the provisional dataset until undergoing secondary and tertiary QAQC and assimilation in the CDMO’s authoritative online database. Provisional and authoritative data are available at <http://cdmo.baruch.sc.edu> or <http://nerrsdata.org>.

All data recorded in Atlantic Standard Time (AST) year-round.

The 15-minute Data is collected in the following formats for the **CR1000**:

Averages from 5-second data:

Air Temperature (°C), Relative Humidity (%), Barometric Pressure (mb),
Wind Speed (m/s), Wind Direction (degrees), Battery Voltage (volts),
Maximum and Minimum Air Temperature (°C) and their times from 5-second
data (these data are available from the Reserve).

Maximum Wind Speed (m/s) and time from 5-second data

Wind Direction Standard Deviation (degrees)

Totals:

Precipitation (mm), PAR (millimoles/m²), and Cumulative Precipitation
(mm) (Cumulative precipitation is no longer available via export from the
CDMO. Please contact the Reserve or the CDMO for more information or
to obtain these data).

Calibration plan follows SWMP SOP’s. Wind Sensor, Temp, RH, Solar Radiation, Barometer are calibrated on a one or 2-year basis and Rain Bucket in a yearly basis.

Calibration information:

Recommended calibration frequency for the MET station sensors:

- Temperature/Humidity- yearly recalibration
- Rain Gauge- yearly recalibration
- Wind Speed/Direction- yearly or every 2 years (depending on the sensor)
- Barometric Pressure- every 2 years’ recalibration

- PAR- every 2 years' recalibration
- CR1000-every 5 years (required beginning 2014, one-year initial grace period)

5) Site location and character

The Jobos Bay National Estuarine Research Reserve (JBNERR) is located on the southern coastal plain of the island of Puerto Rico, a reserve within the West Indies geographical area. JBNERR is composed of two major areas: (1) Mar Negro, located on the western margin of the Bay, and (2) Cayos Caribe (a chain of 17 tear-shaped islets located to the southeast) and Cayos Barca (a chain of 7 tear-shaped islets located to the southwest boundaries) both with a back-reef system. The Mar Negro area comprises the bulk of the Reserve and consists of mangrove forests and a complex system of lagoons and channels interspersed with salt and mud flats. Coral reefs and sea grass beds, with small beach deposits and upland areas fringe Cayos Caribe and Cayos Barca mangrove islands.

A description of the specific sampling station follows:

The weather station is situated in front of the JBNERR Visitor's Center, located in the community of Aguirre in Salinas, Puerto Rico. Its coordinates are latitude 17 57' 23.34" N and longitude 66 13' 22.56" W. The tower base is about 9m above sea level, approximately 110m north of Jobos Bay's southern shoreline. The station is installed in a 10-meter tower in front of the Main Building, the wind and PAR sensors are above the building height. At 11 meters to the northwest side of the tower there is a tree with a height of 15 meters presenting a minor obstruction to the sensors. In the southern region of Puerto Rico where JBNERR is located the winds persist from southeast and northeast, therefore the tree does not represent a significant obstruction for the winds. The high of the sensors is as follow: wind sensor (9.75 m high), Temperature/ Humidity sensor (2.7m high), Barometric Pressure sensor (2.7 m high and inside the CR1000 enclosure), and PAR Sensor (9.60 m high) are all located on a 10m galvanized tower following the descriptions outlined in the CDMO Manual V 5.1. The Tipping Bucket Rain gauge is located to the SW side of the tower 1 meter over the ground. The sensors are wired to a CR1000 following the protocol in the CDMO Manual.

Station measurements [Instructions/Remove: At a minimum, include the tower height and all sensors and their heights on the tower. Use the notes column to add more detail and to specify where height is measured from - ground/platform/marsh/mean high water. If the tower is on a platform, it includes platform height.]

Tower and sensor heights	Height (<i>meters</i>)	Notes
Tower	10	
Platform (<i>if applicable</i>)	N/A	
Temperature/Relative Humidity	2.90	
Barometric Pressure	2.25	
Wind	10	
PAR	10	
Precipitation gauge	3.80	

The weather station is at the following distance from SWMP stations used for water quality monitoring:

- 2.2 Km. from Station 09
- 4.2 Km. from Station 10
- 1.8 Km. from Station 19
- 3.1 Km. from Station 20

SWMP Station Timeline

Station Code	Station Name	SWMP Status	Location	Active Dates	Reason Decommissioned	Notes
jobjbmct	Jobos Bay Weather	P	17° 57' 23.34 N, 66° 13' 22.56 W	01/01/2001 – 12/31/2024	NA	NA

6) Data collection period

The weather station was installed in 1999. On 7/20/06 new telemetry equipment was installed. From January 1st to December 31, 2024, data was collected and saved in a computer where the meteorology station is connected via wire and transmitted via NOAA-GOES near real time telemetry.

During the year 2024 data is acquired following SWMP SOP's. This is in 15 minutes' interval year-round.

Raw file start and end dates and times:

File Start Date and Time	File End Date and Time
01/01/2024 00:00	01/02/2024 08:00
01/02/2024 08:15	02/02/2024 08:00
02/02/2024 08:30	03/01/2024 08:00
03/01/2024 08:15	04/03/2024 11:45
04/03/2024 12:00	04/22/2024 02:30
04/22/2024 03:00	04/24/2024 08:45
04/24/2024 09:00	05/02/2024 08:00
05/02/2024 08:15	06/04/2024 08:30
06/04/2024 08:45	07/01/2024 08:15
08/02/2024 08:00	09/04/2024 08:45
09/04/2024 09:00	10/01/2024 07:45
10/01/2024 08:00	11/01/2024 08:00
11/01/2024 08:15	12/02/2024 07:45
12/02/2024 08:00	12/31/2024 23:45

7) Distribution

NOAA retains the right to analyze, synthesize and publish summaries of the NERRS System-wide Monitoring Program data. The NERRS retains the right to be fully credited for having collected and processed the data. Following academic courtesy standards, the NERR site where the data was collected should be contacted and fully acknowledged in any subsequent publications in which any part of the data is used. 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.

Requested citation format:

NOAA National Estuarine Research Reserve System (NERRS). 2016. System-wide Monitoring Program. Data accessed from the NOAA NERRS Centralized Data Management Office website: <http://www.nerrsdata.org/>; accessed 12 October 2019.

NERR meteorological data and metadata can be obtained from the Research Coordinator at the individual NERR site (please see 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 www.nerrsdata.org. Data is available in comma-delimited format.

8) Associated researchers and projects

The Jobos Bay NERR maintains four water quality monitoring stations as part of the System Wide Monitoring Program (SWMP) to monitor variability in the estuarine environment. Meteorological station collects continuous information that supports water quality data intended to address short-term variability and long-term changes in estuarine water parameters within the bay (i.e., localized impacts of seasonal storms and hurricane events, variability due to tidal circulation, seasonal and inter-annual differences in rainfall, magnitude and influence of major events such hurricanes, the spatial extent of oceanic and tidal forcing.

Our water quality monitoring program is a key component of SWMP. Variables measured include Temperature, Dissolved Oxygen, Turbidity, pH, Salinity, Chl-a fluorescence, and Depth in 4 permanent stations equipped with YSI data sondes. At the same stations, nitrogen, phosphorus, and chlorophyll are measured monthly.

II. Physical Structure Descriptors

9) Sensor specifications

Sensors working from 10/11/2018 to 05/06/2021.

Parameter: Temperature

Units: Celsius

Sensor type: Platinum resistance temperature detector (PRT)

Model #: HMP45C Temperature and Relative Humidity Probe

Operating Temperature: -40°C to +60°C

Range: -40°C to +60°C

Accuracy: ± 0.2 °C @ 20°C

Serial Number: F16400118

Date of Calibration: 03/16/2018

Dates of Sensor Use: 10/11/2018– 05/06/2021

Parameter: Relative Humidity

Units: Percent

Sensor type: Vaisala HUMICAP® 180 capacitive relative humidity sensor

Model #: HMP45C Temperature and Relative Humidity Probe
Range: 0-100% non-condensing
Accuracy at 20°C: +/- 2% RH (0-90%) and +/- 3% (90-100%)
Temperature dependence of RH measurement: +/- 0.05% RH/°C
Serial Number: F16400118
Date of Calibration: 03/16/2018
Dates of Sensor Use: 10/11/2018– 05/06/2021

Parameter: Barometric Pressure
Units: millibars (mb)
Sensor type: Vaisala Barocap © silicon capacitive pressure sensor
Model #: PTB110 (CS106)
Operating Range: Pressure: 500 to 1100 mb;
Temperature: -40°C to +60°C;
Humidity: non-condensing
Accuracy: ± 0.3 mb @ 20°C; +/- 0.6 mb @ 0°C to 40°C; +/- 1 mb @ -20°C to 45°C; +/- 1.5 mb @ -40°C to 60°C
Stability: ± 0.1 mb per year
Serial Number: F1610094
Date of Calibration: 03/14/2018
Dates of Sensor Use: 10/11/2018– 05/06/2021

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-L Wind Monitor
Range: 0-60 m/s (134 mph); gust survival 100 m/s (220 mph)
Accuracy: +/- 0.3 m/s
Wind sensor Mod 051003-L
Serial Number: 100693
Date of Calibration: 03/16/2018
Dates of Sensor Use: 10/11/2018– current as of 05/06/2021

Parameter: Wind direction
Units: degrees
Sensor type: balanced vane, 38 cm turning radius
Wind sensor Mod 051003-L
Serial Number: 100693
Date of Calibration: 03/16/2018
Dates of Sensor Use: 10/11/2018– 05/06/2021

**Sensor oriented to True North.

Parameter: Photosynthetically Active Radiation (PAR)
Units: mmol 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 μ A per 1000 μ mol s⁻¹ m⁻²
Serial Number: Q43066

PAR Multiplier = 1.379691
Date of Calibration: 03/21/2018
Dates of Sensor Use: 10/11/2018– 05/06/2021

Parameter: Precipitation (non-heated rain gauge)
Units: millimeters (mm)
Sensor type: Tipping Bucket Rain Gauge
Model #: TR-525USW (Texas Instrument)/TE525WS(Campbell Scientific)

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
Rain Gauge SN 43619-410
Most recent calibration: 05/07/2019, 06/04/2018

New set of sensors working from 05/06/2021 to present

Parameter: Temperature
Units: Celsius
Sensor type: 1000 Ω Platinum Resistance Thermometer (PRT)
Model #: EE181 Temperature and Relative Humidity Probe
Operating Temperature: -40°C to +60°C
Range: -40°C to +60°C
Accuracy: ± 0.2 °C @ +23°C
Serial Number: 201516001280B1
Date of Calibration: 4/16/2020
Dates of Sensor Use: 05/06/2021– current as of 12/31/2024

Parameter: Relative Humidity
Units: Percent
Sensor type: HC101
Model #: EE181 Temperature and Relative Humidity Probe
Range: 0-100% non-condensing
Accuracy: -15 to 40 °C: $\leq 90\%$ RH $\pm (1.3 + 0.003 \cdot \text{RH reading})$ % RH
 -15 to 40 °C: $> 90\%$ RH $\pm 2.3\%$ RH
 -25 to 60 °C: $\pm (1.4 + 0.01 \cdot \text{RH reading})$ % RH
 -40 to 60 °C: $\pm (1.5 + 0.015 \cdot \text{RH reading})$ % RH
Temperature dependence on RH measurement: typically, 0.03% RH/°C
Note: This sensor caps relative humidity values at 100%, measured values >100% are altered to 100%
Serial Number: 201516001280B1
Date of Calibration: 4/16/2020
Dates of Sensor Use: 05/06/2021 – current as of 12/31/2024

Parameter: Barometric Pressure
Units: millibars (mb)
Sensor type: Vaisala Barocap © silicon capacitive pressure sensor
Model #: PTB110 (180CA)
Operating Range: Pressure: 500 to 1100 mb; Temperature: -40°C to +60°C;
Humidity: non-condensing
Accuracy: ± 0.3 mb at +20°C, ± 0.6 mb at 0°C to 40°C, ± 1 mb at -20°C to +45°C, ± 1.5 mb at -40°C to +60°C
Stability: ± 0.1 mb per year

Serial Number: S1720920

Date of Calibration: 4/27/2020

Dates of Sensor Use: 05/06/2021– current as of 12/31/2024

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 05108-L Wind Monitor

Range: 0-100 m/s (0-224 mph)

Accuracy: ± 0.3 m/s (± 0.6 mph) or 1% of reading

Resolution: (0.1666 m/s)/(scan rate in seconds) or (0.3726 mph)/(scan rate in seconds)

Serial Number: WM179096

Date of Calibration: 07/23/2020

Dates of Sensor Use: 05/06/2021– current as of 12/31/2024

Parameter: Wind direction

Units: degrees

Sensor type: balanced vane, 38 cm turning radius

Wind sensor Mod 05108-L

Serial Number: WM179096

Date of Calibration: 07/23/2020

Dates of Sensor Use: 05/06/2021– current as of 12/31/2024

**Sensor oriented to True North.

Parameter: Photosynthetically Active Radiation (PAR)

Units: mmol m⁻² (total flux)

Sensor type: High stability silicon photovoltaic detector (blue enhanced)

Model #: Apogee SQ-110-SS

Light spectrum waveband: 410 to 655 nm

Temperature dependence: 0.06 $\pm$ 0.06 % per °C

Stability: <2% change over 1 yr

Operating Temperature: -40°C to 70°C; Humidity: 0 to 100%

Sensitivity: 0.2 μ mol.m⁻² s⁻¹

Serial Number: SQ-110-SS-L10_31176

PAR Multiplier = 0.025

Date of Calibration: 05/06/2021

Dates of Sensor Use: 05/06/2021– current as of 12/31/2024

Parameter: Precipitation (non-heated rain gauge)

Units: millimeters (mm)

Sensor type: Tipping Bucket Rain Gauge

Model #: RG-2000-C

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

Rain Gauge SN 43619-410

Most recent calibration: 12/21/2022

Datalogger:

CR1000:

The CR1000 has 2 MB of Flash EEPROM that is used to store the Operating System. Another 128 K Flash is used to store configuration settings. A minimum of 2 MB SRAM is (4 MB optional upgrade) available for program storage (16K), operating system use, and data

storage. Additional storage is available by using a compact flash card in the optional CFM100 Compact Flash Module.

Data logger Campbell Sci.

CR1000-RMA

Serial Number: 5248

Date of Calibration: 05/29/2015

Date Installed: 06/19/2015 – current as of 12/31/2024

CR1000 Firmware Version (s): New firmware 06/19/2015, version unknown.

CR1000.Std.28, date of update unknown

CR1000.Std.32.05, date of update unknown

CR1000 Program Version(s):

JOBJBMET_V5.5_041608 used from 04/16/2008 to 02/27/2015

JOBJBMET_V5.5_022715 used from 02/27/2015 to 06/17/2015

JOBJBMET_V5.5_022715 used from 06/17/2015 to 10/10/2018

JOBJBMET_V5.5.1_101018.cri used from 10/11/2018 to 04/20/2021

JOBJBMET_V5.5.4_050621 used from 05/06/2021 as of 12/31/2024.

10) Coded variable definitions

Sampling station:

Sampling site code:

Station code:

Jobos Meteorology

jb

jobjbmets

11) QAQC flag definitions

QAQC flags provide documentation of the data and are applied to individual data points by insertion into the parameter's associated flag column (header preceded by an F_). During primary automated QAQC (performed by the CDMO), -5, -4, and -2 flags are applied automatically to indicate data that is above or below sensor range or missing. All remaining data are then flagged 0, as passing initial QAQC checks. During secondary and tertiary QAQC 1, -3, and 5 flags may be used to note data as suspect, rejected due to QAQC, or corrected.

-5 Outside High Sensor Range

-4 Outside Low Sensor Range

-3 Data Rejected due to QAQC

-2 Missing Data

-1 Optional SWMP supported Parameter

0 Passed Initial QAQC Checks

1 Suspect Data

2 *Open - reserved for later flag*

3 *Open - reserved for later flag*

4 Historical Data: Pre-Auto QAQC

5 Corrected Data

12) QAQC code definitions

QAQC codes are used in conjunction with QAQC flags to provide further documentation of the data and are also applied by insertion into the associated flag column. There are three (3) different code categories, general, sensor, and comment. General errors document general problems with the CR1000, sensor errors are sensor specific, and comment codes are used to further document conditions or a problem with the data. Only one general or sensor error and one comment code can be applied to a particular data point, but some comment codes (marked with an * below) can be applied to the entire record in the F Record column.

General Errors

GIM	Instrument malfunction
GIT	Instrument recording error, recovered telemetry data
GMC	No instrument deployed due to maintenance/calibration
GMT	Instrument maintenance
GPD	Power down
GPF	Power failure / low battery
GPR	Program reload
GQR	Data rejected due to QA/QC checks
GSM	See metadata

Sensor Errors

SDG	Suspect due to sensor diagnostics
SIC	Incorrect calibration constant, multiplier or offset
SIW	Incorrect wiring
SMT	Sensor maintenance
SNV	Negative value
SOC	Out of calibration
SQR	Data rejected due to QAQC checks
SSD	Sensor drift
SSN	Not a number / unknown value
SSM	Sensor malfunction
SSR	Sensor removed

Comments

CAF	Acceptable calibration/accuracy error of sensor
CCU	Cause unknown
CDF	Data appear to fit conditions
CML	Snow melt from previous snowfall event
CRE*	Significant rain event
CSM*	See metadata
CVT*	Possible vandalism/tampering
CWE*	Significant weather event

13) Other remarks/notes

Data is missing due to equipment or associated specific sensors not being deployed, equipment failure, time of maintenance or calibration of equipment, or repair/replacement of a sampling station platform. Any NaNs in the dataset stand for “not a number” and are the result of low power, disconnected wires, or out of range readings. If additional information on missing data is needed, contact the Research Coordinator at the reserve submitting the data.

Relative Humidity data greater than 100 are within range of the sensor accuracy of +/-3% and are flagged and coded as suspect, <1> (CAF). Values greater than 103 are rejected <-3>.

Data recorded for all parameters (with the exception of cumulative precipitation) at the midnight timestamp (00:00) are the 15-minute averages and totals for the 23:45-23:59 time period of the previous day. Cumulative precipitation data at the midnight timestamp (00:00) are the sum of raw (unrounded) precipitation data from 00:00 to 23:59 of the previous day. Summing each individual 15-minute total precipitation value from the same period will result in small differences from cumulative precipitation due to rounding. It is especially important to note how data at midnight timestamps are recorded when using January 1st and December 31st data. **Note: Cumulative precipitation is no longer available via export from CDMO. Please contact the Reserve or the CDMO for more information or to obtain this data.**

All data for the year are coded with {CSM} in the F_Record to refer to the comments below that pertain to an entire record. When CSM is used in the individual record there are additional comments for that specific sensor/parameter.

Suspect Out of Calibration Data:

Suspect Data:

All barometric pressure data was rejected due to sensor problems.

Other Events:

Significant rain events 2024:

Date	Precipitation (mm)	Event associated with
02/06/2024 - 02/08/2024	39.88	Flood Watch associated with a Weather Event
03/21/2024 – 03/25/2024	46.74	Flood Watch associated with a Weather Event
04/22/2024	29.2	Flood Watch associated with a Weather Event Excessive Rainfall Risk / Flood Advisory / Hazardous Weather.
05/03/2024	19.3	Rain event
06/02/2024	56.9	Flood Watch associated with a Weather Event
06/03/2024	20.8	Flood Watch associated with a Weather Event
07/01/2024 - 07/02/2024	14.0	Hurricane Beryl passed south of Puerto Rico. Hurricane Warning. Tropical Storm Warning. Coastal Flood Advisory. Coastal Hazard Message.
07/19/2024	19.0	Rain event
08/13/2024- 08/14/2024	44.2	Tropical Storm Ernesto. Tropical Storm Warning. Coastal Flood Advisory. Coastal Hazard Message.
10/22/2024	23.4	Excessive Rainfall Risk
10/31/2024	24.9	Excessive Rainfall Risk
11/07/2024	18.8	Rain event
11/08/2024	17.0	Rain event
11/09/2024	41.4	Excessive Rainfall Risk
11/26/2024	14.5	Rain event

Details:

02/05/2024:

FLASH FLOOD WATCH

VIGILANCIA DE INUNDACIONES REPENTINAS

FOR THE FOLLOWING AREAS / PARA LAS SIGUIENTES ÁREAS
PUERTO RICO AND THE U.S. VIRGIN ISLANDS



VALID UNTIL
VÁLIDO HASTA

6:00 AM AST

THU FEB 08
JUE 08 DE FEB

Weather Forecast Office
San Juan PR
Monday, February 5th, 2024



POTENTIAL IMPACTS

3 TO 6 INCHES OF RAIN EXPECTED TUESDAY THROUGH THURSDAY.
THIS ACTIVITY MAY LEAD TO URBAN, SMALL STREAM, RIVER AND FLASH FLOODING, AS WELL AS MUDSLIDES.

POSIBLES IMPACTOS

SE ESPERAN DE 3 A 6 PULGADAS DE LLUVIA DE MARTES A JUEVES.
ESTAS LLUVIAS PODRÍAN RESULTAR EN INUNDACIONES URBANAS, DE RIACHUELOS, DE RÍOS Y REPENTINAS, AL IGUAL QUE DESLIZAMIENTOS.

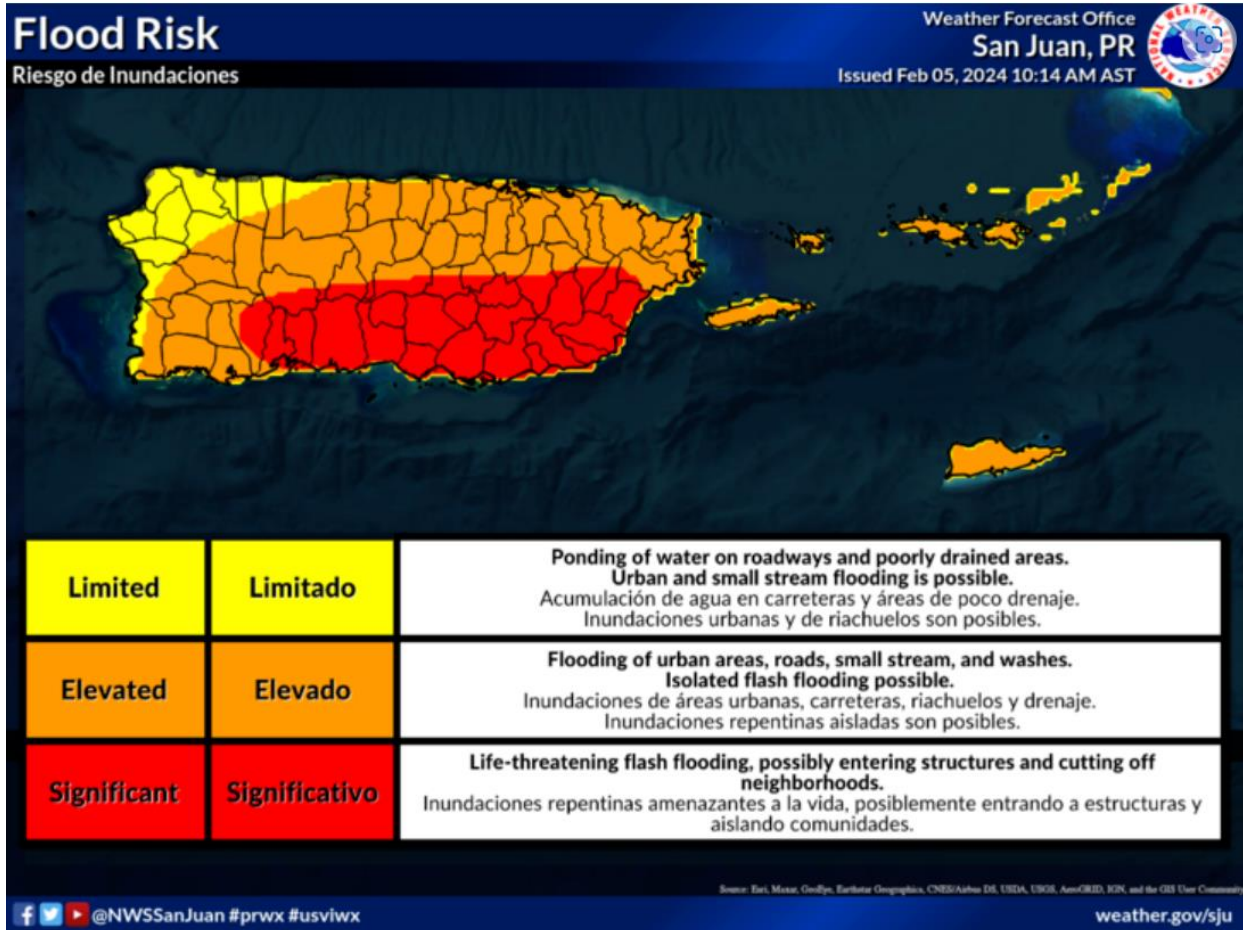
YOU SHOULD MONITOR LATEST FORECAST & BE PREPARED TO TAKE ACTION SHOULD FLASH FLOOD WARNINGS BE ISSUED.

DEBERÁN MONITOREAR EL PRONÓSTICO MÁS RECIENTE & ESTAR PREPARADO PARA TOMAR ACCIÓN EN CASO DE QUE SE EMITAN AVISOS DE INUNDACIONES REPENTINAS.

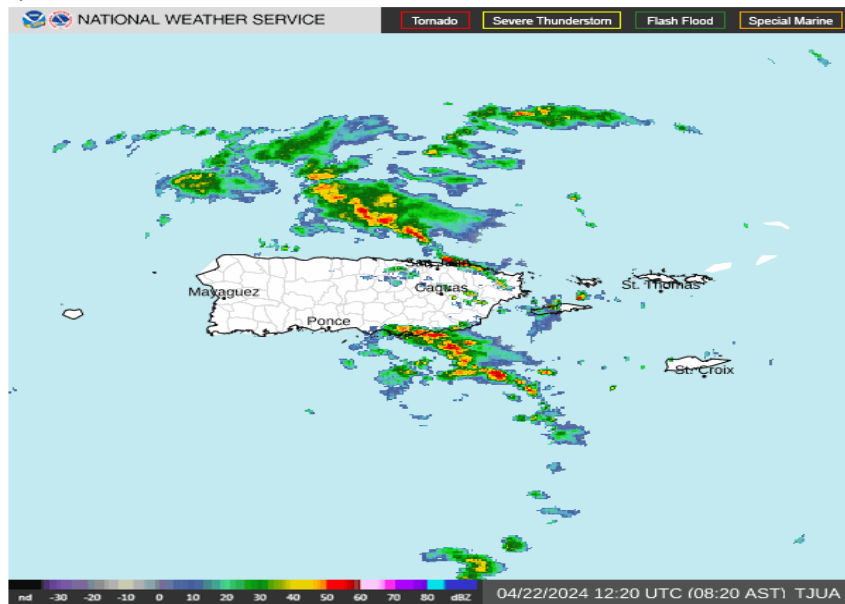


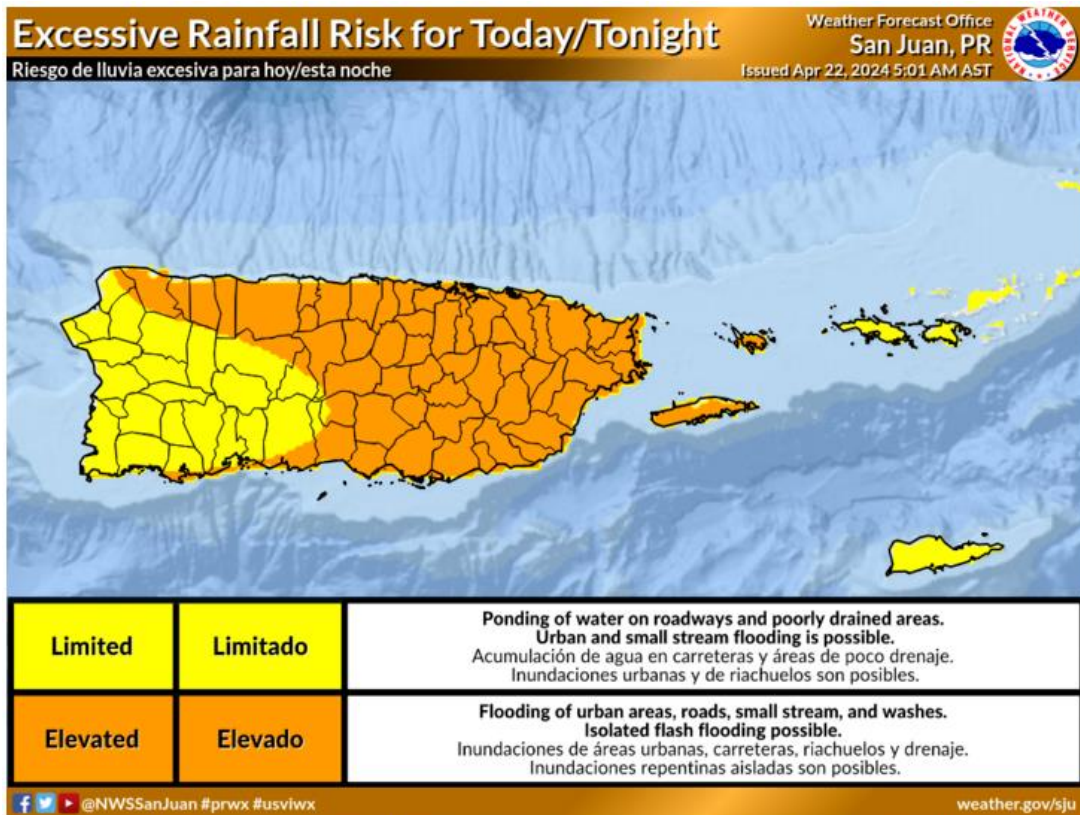
@NWSSanJuan

weather.gov/sju



04/22/2024:





An unstable and wet pattern will lead to limited to moderate excessive rainfall hazard levels or flooding impacts today. | Un patrón de tiempo húmedo e inestable provocará riesgo de lluvias de limitadas a moderadas de inundaciones hoy.

07/01/2024: Hurricane Beryl



Marine & Coastal Hazards for Tonight

Peligros Marítimos y Costeros para esta noche

Weather Forecast Office
San Juan, PR
Issued Jul 01, 2024 12:22 PM AST

Hazards	Peligros
Rip Current Statement	Comunicado de Corrientes Marinas
Small Craft Advisory	Advertencia para Embarcaciones Pequeñas
High Surf Advisory & Rip Current Statement	Advertencia de Resacas Fuertes & Comunicado de Corrientes Marinas

@NWSSanJuan #prwx #usvwx

weather.gov/sju

Marine and coastal conditions will start to deteriorate during the day, with Rip Currents and Small Craft Advisories in place, further deteriorating tonight to High Surf Conditions.

Marine and Coastal Hazards between Tonight and Tomorrow

Peligros Costeros y Marítimos entre esta noche y mañana

Weather Forecast Office
San Juan, PR
Issued Jul 01, 2024 11:48 AM AST

Hazards	Peligros
Rip Current Statement	Comunicado de Corrientes Marinas
Small Craft Advisory	Advertencia para Embarcaciones Pequeñas
High Surf Advisory & Rip Current Statement	Advertencia de Resacas Fuertes & Comunicado de Corrientes Marinas
Coastal Flood Advisory, High Surf Advisory & Rip Current Statement	Advertencia de Inundaciones Costeras, Advertencia de Resacas Fuertes & Comunicado de Corrientes Marinas

@NWSSanJuan #prwx #usvwx

weather.gov/sju

Swells from Beryl will further deteriorate Marine and Coastal Hazards between tonight and tomorrow.

Rip Current Risk for Today/Tonight

Riesgo de corrientes marinas para hoy/esta noche

Weather Forecast Office
San Juan, PR
Issued Jul 01, 2024 4:54 AM AST

Moderate	Moderado	Life-threatening rip currents are possible in the surf zone. Es posible que se experimenten corrientes marinas amenazantes a la vida en la zona de olas rompientes.
High	Alto	Life-threatening rip currents are likely in the surf zone. Es probable que se experimenten corrientes marinas amenazantes a la vida en la zona de olas rompientes.

@NWSSanJuan #prwx #usvwx

weather.gov/sju

Coastal conditions will start to deteriorate today and tonight with high risk of rip currents for all south-facing beaches due to the approach of Major Hurricane Beryl. Please refer to the CFWSJU for additional information regarding coastal hazards.

Rainfall likely starting tonight

Luvia probablemente comenzando esta noche

Weather Forecast Office
San Juan, PR
Issued Jul 01, 2024 4:23 AM AST

Limited	Limitado	Ponding of water on roadways and poorly drained areas. Urban and small stream flooding is possible. Acumulación de agua en carreteras y áreas de poco drenaje. Inundaciones urbanas y de riachuelos son posibles.
Elevated	Elevado	Flooding of urban areas, roads, small stream, and washes. Isolated flash flooding possible. Inundaciones de áreas urbanas, carreteras, riachuelos y drenaje. Inundaciones repentinas aisladas son posibles.

@NWSSanJuan #prwx #usvwx

weather.gov/sju

Although Major Hurricane Beryl will move over the Caribbean waters, south of the local islands, indirect impacts are still expected from its close approach. The broad moisture field of Hurricane Beryl, along with some external bands, could start affecting the eastern half of Puerto Rico and smaller islands by late tonight. Stay tuned for further updates!

HURRICANE BERYL

HURACÁN BERYL

BULLETIN | BOLETIN

11 AM AST JUL 01, 2024

LOCATION | LOCALIZACIÓN

18 MI E of Carriacou Island

COORDINATES | COORDENADAS

LAT 12.4 N - LON 61.3 W

MAX SUSTAINED WINDS | VIENTOS MÁX SOSTENIDOS

140 MPH

MOVEMENT | MOVIMIENTO

WNW or 285° at 20 MPH

MIN CENTRAL PRESSURE | PRESIÓN MIN CENTRAL

956 MB

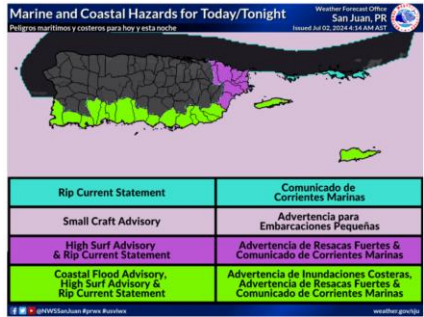
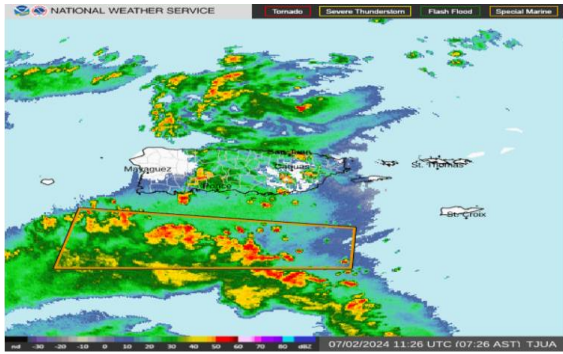
NO TROPICAL WATCHES OR WARNINGS FOR PUERTO RICO AND THE U.S. VIRGIN ISLANDS

NO EXISTEN VIGILANCIAS O AVISOS PARA PUERTO RICO Y LAS ISLAS VIRGENES ESTADOUNIDENSES

National Weather Service
San Juan, PR

NO TROPICAL WATCHES OR WARNINGS FOR PUERTO RICO AND THE USVI SUMMARY OF 1100 AM AST...1500 UTC...INFORMATION.....LOCATION...12.4N 61.3W ABOUT 35 MI...55 KM NE OF GRENADA ABOUT 15 MI...25 KM ESE OF CARRICOU ISLAND MAXIMUM SUSTAINED WINDS...140 MPH...220 KM/H PRESENT MOVEMENT...WNW OR 285 DEGREES AT 20 MPH...31 KM/H MINIMUM CENTRAL PRESSURE...956 MB...28.23 INCHES

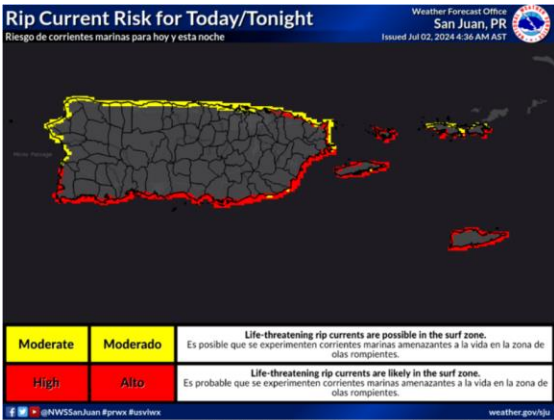
07/02/2024: Hurricane Beryl



Marine and Coastal Hazards for today and tonight, induced by the passage of Hurricane Beryl well south of the local islands.

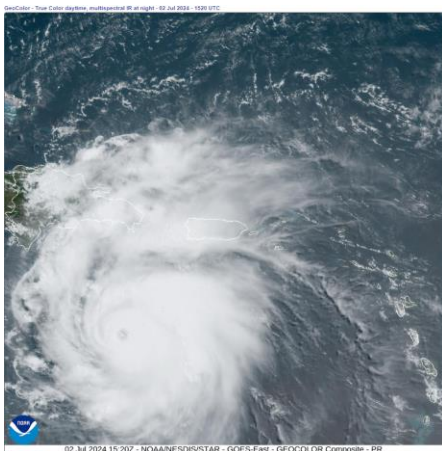


At 500 AM AST (0900 UTC), the eye of Hurricane Beryl was located near latitude 14.6 North, longitude 66.9 West. Beryl is moving toward the west-northwest near 22 mph (35 km/h) and is forecast to continue moving rapidly west-northwestward during the next couple of days and turn westward by Thursday. On the forecast track, the center of Beryl will move quickly across the southeastern and central Caribbean Sea today and is forecast to pass near Jamaica on Wednesday and the Cayman Islands on Thursday. Maximum sustained winds remain near 165 mph (270 km/h) with higher gusts. Beryl is a category 5 hurricane on the Saffir-Simpson Hurricane Wind Scale. Weakening should begin later today, but Beryl is still expected to be near major hurricane intensity as it moves into the central Caribbean and passes near Jamaica on Wednesday and the Cayman Islands on Thursday. Additional weakening is expected thereafter, though Beryl is forecast to remain a hurricane in the northwestern Caribbean. Hurricane-force winds extend outward up to 40 miles (65 km) from the center and tropical-storm-force winds extend outward up to 125 miles (205 km). The estimated minimum central pressure is 935 mb (27.61 inches).



Coastal conditions will deteriorate across all Caribbean beaches due to the passage of Hurricane Beryl. Please refer to the CFWSJU for additional information regarding coastal hazards.

At 11:50 am.



8-13-2024 to 8-15-2024: Tropical Storm Ernesto:



TROPICAL STORM ERNESTO

TORMENTA TROPICAL ERNESTO

BULLETIN | BOLETÍN

5 AM AST AUG 14, 2024

LOCATION | LOCALIZACIÓN
85 MI NNW of San Juan, PR

COORDINATES | COORDENADAS
LAT 19.5 N - LON 66.6 W

MAX SUSTAINED WINDS | VIENTOS MÁX SOSTENIDOS
70 MPH

MOVEMENT | MOVIMIENTO
NW or 315° at 16 MPH

MIN CENTRAL PRESSURE | PRESIÓN MÍN CENTRAL
996 MB

TROPICAL STORM WARNING REMAINS IN EFFECT FOR PR AND USVI

AVISO DE TORMENTA TROPICAL CONTINÚA EN EFECTO PARA PUERTO RICO Y LAS ISLAS VIRGENES ESTADOUNIDENSES.

Tropical Storm Ernesto
Wednesday August 14, 2024
5 AM AST Advisory 11
NWS National Hurricane Center

Current information: x
Center location 19.5 N 66.6 W
Maximum sustained wind 70 mph
Movement NW at 16 mph

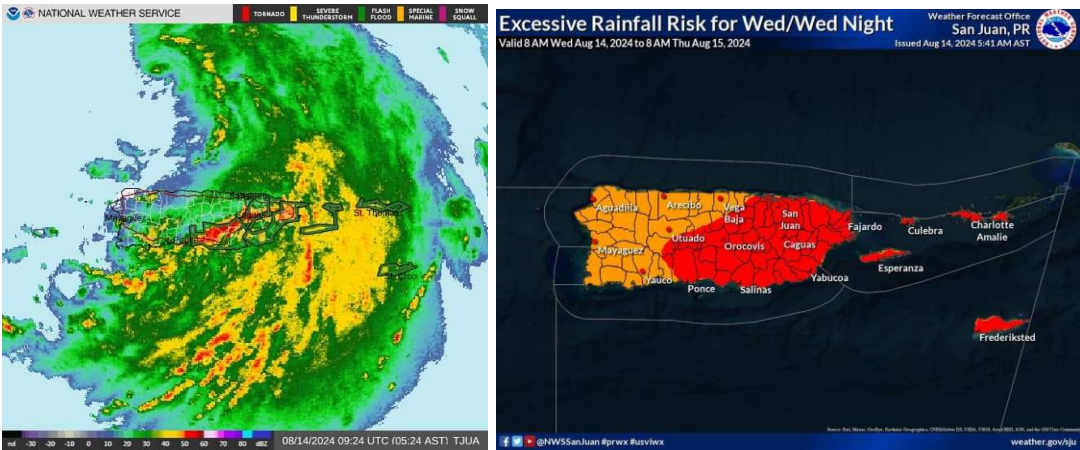
Forecast positions:
● Tropical Cyclone ○ Post/Potential TC
Sustained winds: D < 39 mph
S 39-73 mph H 74-110 mph M > 110 mph

Potential track area: Day 1-3 Day 4-5
Watches: Hurricane Trop Stm
Warnings: Hurricane Trop Stm
Current wind field estimate: Hurricane Trop Stm

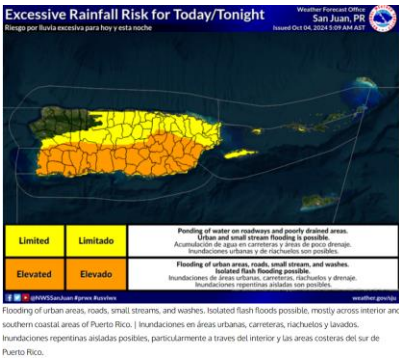


National Oceanic and Atmospheric Administration
U.S. Department of Commerce

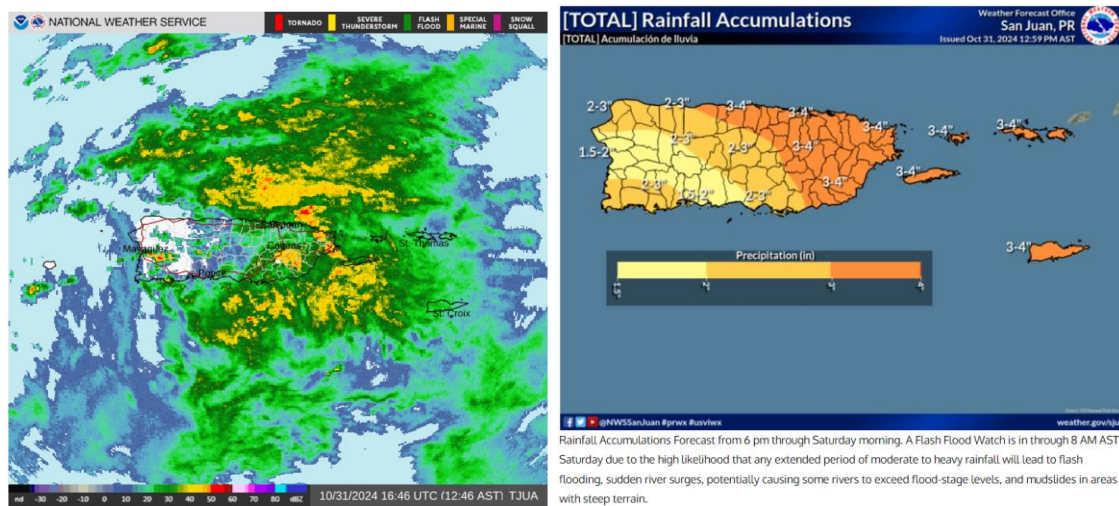
National Weather Service
San Juan, PR



10/4/2024:



10/31/2024:



New sensor installation:

Sensors installed on and working up to 12/31/2024:

Inventory for JOB - MET							
Logger-CR100006192015-IN SERVICE			Serial Number	Manufacture Year	Date in Service	SWMP	Last Update
5278	2004	06/19/2015	Yes	05/14/2016			
Type	Code	Model	Serial Number	Manufacture Year	Date in Service	SWMP	Last Update
precip	precip05072019	precip06042018	43619-410	2004	05/07/2019	Yes	05/13/2022
PAR	PAR05062021	SQ-110	SQ-110-SS-L10_31176	2020	05/06/2021	Yes	05/13/2022
wind	wind05062021	05108-5A	WM179096	2020	05/06/2021	Yes	05/13/2022
temp/RH	tempRH05062021	EE181-M1A1	201516001280B1	2020	05/06/2021	Yes	05/13/2022
BP	BP05062021	PTB110	S1720920	2020	05/06/2021	Yes	05/13/2022