

Weather Metadata

Last updated: 12/8/2025

Disclaimer: HRECOS is a research project. No warranty—either express or implied—is made for any information presented by this program.

Station Overview

Location: Port of Albany, Hudson River (42.61954, -73.75890)

Data collection period: 01/04/2011 – 4/10/2025

Parameters: air temperature, barometric pressure, dew point, radiation (PAR)*, precipitation, daily cumulative rainfall, relative humidity, wind speed**, direction***, and gusts.

Contacts

Brittney Flaten, HRECOS Coordinator

NY State Dept. of Environmental Conservation

Email: brittney.flaten [at] dec.ny.gov

Station Description

The Albany HRECOS Meteorological station began reporting on January 4th, 2011. It is mounted on the concrete bulkhead on the western shoreline of the Hudson River at the Port of Albany, just to the south of the Cargill Granary. Its coordinates are 42.61954 N, 73.75890 W. Sensors are installed on a 10' tower that is above nearby vegetation and over one hundred feet from nearby structures. Data are reported to a CR1000 datalogger.

Meteorological sensors at this site reports the following parameters every 15 minutes. Dew point and daily cumulative rainfall are calculated by the database.

* Until 6/27/2014, PAR was recorded as photon density ($\mu\text{mol s}^{-1} \text{m}^{-2}$). This was changed to total photon flux (mmole m^{-2}) to be consistent with other HRECOS weather stations.

**Until 6/24/2014, wind speed was recorded as resultant mean. From here on it will be recorded as normal wind speed.

***Although sensors are located a significant distance away from structures, a 2017 analysis by DEC Division of Air Resources suggested that the warehouse to the NW of the station is blocking NW winds. It was noted that NW winds are the second most common after S at the Albany Airport weather station (~8 mi. NNW).

Special Remarks

Date

Remark

01/04/2011 – 9/6/2011	Barometric pressure used the wrong coefficients. Historical data record was corrected.
10/06/2011	Rain bucket unclogged during site visit
12/22/2011 – 1/1/2012	Power failure
06/17/2012 – 6/18/2012	Power failure
09/06/2012	Wind sensor failure
11/08/2012	Wind sensor replaced
11/08/2012 – 11/15/2012	Wind sensor installed incorrectly; direction is incorrect
06/27/2014	Rain bucket calibration
07/15/2014	All sensors replaced with newly calibrated ones
6/27/2015	Rain bucket unclogged during site visit
8/4/2015	Rain bucket unclogged during site visit
5/23/2016	Discovered that data were offset by 17 minutes. Possible bad internal battery on server PC. Disabled automated time update in LoggerNet and corrected logger time (1:29 PM EST to 1:46 PM EST). Exact duration of time offset unknown, but likely less than 1 year.
8/2/2016	Rain bucket unclogged during site visit
6/26/2018	Rain bucket unclogged during site visit
4/10/2025	Weather station taken down- rebuilding is pending available funds to repair equipment.

Distribution Terms

HRECOS requests that attribution be given whenever HRECOS material is reproduced and re-disseminated and the HRECOS Coordinator be notified prior to publications including any part of the data. Example citation: “Hudson River Environmental Conditions Observing System. 2012. Albany Hydrologic Station data. Accessed April 13th, 2016. <http://www.hrecos.org/>.”

Data Quality Assurance

Data collection and verification have been performed on all parameters since the establishment of this station according to the HRECOS Quality Assurance Project Plan(s), which are available at www.hrecos.org

Code Definitions

Parameters

Name	Synonyms	Description	Units
ATMP	TAIR	Air temperature	Degrees Celsius
BARO	PRES	Air pressure	Millibars
DEWP		Dewpoint	Degrees Celsius
GST		Wind gust (15 min. max)	m/s
PAR		Photosynthetically active raditon	mmoles/m ²
RAD		Total radiation	Watts/m ²
RAIN	PRECIP	Rainfall	mm
RAINDC	PRECIP_TOT	Total daily precipitation accumulation	mm
RHUM	RELH	Relative humidity	%
STMP		Soil temperature	
WD	WDIR	Wind direction	Degrees
WDEV	SDWDIR	Wind direction standard deviation	Degrees
WSPD		Wind speed	m/s

Flag code definitions:

A	Accepted data
P	Provisional data
S	Suspect data, consult comment codes
R	Rejected data, consult comment codes
C	Corrected data, consult comment codes

Comment code definitions:

General Errors

GIM	Instrument malfunction
GIT	Instrument recording error, recovered telemetry data
GMC	No instrument deployed due to maintenance or calibration
GPF	Power failure
GQR	Rejected due to QAQC checks
GSM	See metadata
GMT	Instrument maintenance
GDP	Power down
GPR	Program reload

Sensor Errors

SIC	Incorrect calibration, multiplier, or offset
SNV	Negative value
SOC	Out of calibration
SSM	Sensor malfunction
SSR	Sensor removed for deployment
SSN	Not a number/unknown value

Other comments

CAF	Acceptable calibration/accuracy error of sensor
CDF	Data appear to fit conditions
CRE	Significant rain event
CSM	See metadata
CVT	Possible vandalism
CWE	Significant weather event

Weather sensor specifications

Parameter: Air temperature

Units: Celsius

Sensor Type: Platinum resistance thermometer

Model#: HMP45AC

Range: -40 C to +60 C

Accuracy: $\pm 0.2^{\circ}\text{C}$ at 20°C

Parameter: Relative humidity

Units: %

Sensor Type: Capacitive polymer

Model#: HMP45AC

Range: 0 to 100%

Accuracy: At 20°C : $\pm 2\%$ (0-90%); $\pm 3\%$ (90-100%)

Temperature dependence: $\pm 0.05\%/^{\circ}\text{C}$

Parameter: Barometric pressure

Units: mbar

Sensor Type: Silicon capacitive

Model#: CS106

Range: 500 to 1100 mbar

Accuracy: $\pm 0.3\text{ mb}$ @ $+20^{\circ}\text{C}$; $\pm 0.6\text{ mb}$ @ 0° to 40°C ; $\pm 1.0\text{ mb}$ @ -20° to $+45^{\circ}\text{C}$; $\pm 1.5\text{ mb}$ @ -40° to $+60^{\circ}\text{C}$

Parameter: Precipitation

Units: mm

Sensor Type: Tipping bucket with magnetic switch

Model#: CS TE525WS-L

Accuracy: Up to 1 in./hr: $\pm 1\%$; 1 to 2 in./hr: +0, -2.5%; 2 to 3 in./hr: +0, -3.5%

Parameter: Radiation (PAR)

Units: mmoles/m^2

Sensor Type: Silicon PV detector (400-700 nm)

Model#: LI190SB

Temperature dependence: 0.15% per $^{\circ}\text{C}$ max.

Parameter: Wind direction

Units: Degrees

Sensor Type: Mechanical vane

Model#: RM Young 05103

Range: 355 Degrees

Accuracy: ± 3 Degrees

Parameter: Wind speed

Units: m/s

Sensor Type: Mechanical propeller

Model#: RM Young 05103

Range: 0 to 100 m/s

Accuracy: ± 0.3 m/s or 1% of reading