**HRECOS Schodack Landing Weather Metadata**

**Last updated: 08/20/2024**

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Station Overview

Location: Schodack Island, ([42.501200, -73.780381](https://maps.google.com/maps?q=42%C2%B030%274.32%22N++73%C2%B046%2749.37%22W&hl=en&ie=UTF8&sll=42.027038,-73.925957&sspn=0.012082,0.01929&t=h&z=16&iwloc=near))

Data collection period: 4/25/08 – 4/8/13; 12/11/13 – present

Parameters:air temperature, barometric pressure, dew point, radiation (total1, PAR2), precipitation, precipitation, relative humidity, wind speed, direction, and gusts

Contacts:

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Station Description:

The Schodack Island weather station is on a small rock pile island just west of Schodack Island State Park and just south of the I-90 by-pass bridge. All sensors are attached to the tower holding the U.S. Coast Guard navigation aids (marker # 197), except for the barometer, which is onshore. The island is at least 130 meters from either shore so there is no interference from nearby vegetation or ridgelines. Meteorological sensors report the following parameters every 15 minutes. Dew point and daily cumulative rainfall are calculated in real-time. Data is transmitted from a Campbell Scientific CR1000 datalogger via RF401 radios to a CR800 datalogger onshore.

Special Remarks:

|  |  |
| --- | --- |
| **Date** | **Remark** |
| **06/05/2009** | Rain bucket unclogged |
| **7/13/2010** | Rain bucket unclogged. Sensors replaced with newly calibrated ones. |
| **7/13/2010-7/16/2010** | Wind monitor deployed incorrectly |
| **11/3/2011- 11/28/2011** | Power failure |
| **12/20/2011** | Equipment maintenance |
| **8/2012** | Equipment maintenance |
| **4/8/2013 – 12/11/2013** | Communications failure |
| **12/11/2013** | Sensors replaced with newly calibrated ones |
| **4/21/2014** | Wind monitor was deployed incorrectly in Dec 2013. All data corrected retroactively. |
| **11/16/2021** | Equipment maintenance |

Distribution Terms:

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Data Quality Assurance:

Data collection and verification have been performed on all parameters (except velocity; see below) since the establishment of this station (January 2011) according to the HRECOS Quality Assurance Project Plan, which is available at [www.hrecos.org](https://nysemail-my.sharepoint.com/personal/brittney_flaten_dec_ny_gov/Documents/www.hrecos.org)

Remark on velocity: The level gage and velocity meter have been maintained by the U.S. Geological Survey since their adoption/installation by the agency in September 2016. Water elevation is verified by USGS annually, while velocity is only a working dataset and is primarily purposed for short-term operational use. USGS-verified data may have been corrected based on field measurements, sensor calibrations, sensor cleanings, and other observations using standard USGS methodology. Unverified data is provisional and is subject to revision.

Code Definitions

*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/calibration

[GPF]  power failure/low battery

[GQR]   rejected due to QAQC checks

[GSM] see metadata

[GMT] instrument maintenance

[GDP] power down

[GPR] program reload

Sensor Errors

[SIC] incorrect calibration constant, multiplier or offset

[SNV] negative value

[SSN] not a number/unknown value

[SOC] out of calibration

[SSM] sensor malfunction

[SSR] sensor removed

Comments

(CAF) acceptable calibration/accuracy error of sensor

(CDF) data appear to fit conditions

(CRE) significant rain event

(CSM) see metadata

(CVT) possible vandalism/tampering

Weather Sensor Specifications Until 12/11/2013

Parameter: Air temperature

Units: Celsius

Sensor Type: Platinum resistance thermometer

Model#: HMP45AC

Range: -40 C to +60 C

Accuracy: ±0.2°C at 20°C

Parameter: Relative humidity

Units: %

Sensor Type: Capacitive polymer

Model#: HMP45AC

Range: 0 to 100%

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

Temperature dependence: ±0.05%/°C

Parameter: Barometric pressure

Units: mbar

Sensor Type: Silicon capacitive

Model#: CS106

Range: 500 to 1100 mbar

Accuracy: ±0.3 mb @ +20°C; ±0.6 mb @ 0° to 40°C; ±1.0 mb @ -20° to +45°C; ±1.5 mb @ -40° to +60°C

Parameter: Precipitation

Units: mm

Sensor Type: Tipping bucket with magnetic switch

Model#: CS TE525WS-L

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

Parameter: Radiation (PAR)

Units: W/m2

Sensor Type: Pyranometer

Model#: Kipp and Zonen CM 11

Range: Light spectrum 305-2800 nm

Parameter: Wind direction

Units: Degrees

Sensor Type: Mechanical vane

Model#: MetOne 034B

Accuracy: ± 4 Degrees

Parameter: Wind speed

Units: m/s

Sensor Type: Mechanical propeller

Model#: MetOne 034B

Range: 0 to 100 m/s

Accuracy: ± 1.1 m/s

Weather Sensor Specifications After 12/11/2013

Parameter: Air temperature

Units: Celsius

Sensor Type: Platinum resistance thermometer

Model#: HC2S3

Range: -40 C to +60 C

Accuracy: ±0.1°C at 23°C

Parameter: Relative humidity

Units: %

Sensor Type: Capacitive polymer

Model#: HC2S3

Range: 0 to 100%

Accuracy: ±0.8% at 23°C

Parameter: Barometric pressure

Units: mbar

Sensor Type: Silicon capacitive

Model#: CS106

Range: 500 to 1100 mbar

Accuracy: ±0.3 mb @ +20°C; ±0.6 mb @ 0° to 40°C; ±1.0 mb @ -20° to +45°C; ±1.5 mb @ -40° to +60°C

Parameter: Precipitation

Units: mm

Sensor Type: Tipping bucket with magnetic switch

Model#: CS TE525WS-L

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

Parameter: Radiation (PAR)

Units: mmoles/m2

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

Model#: LI190SB

Temperature dependence: 0.15% per °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