HRECOS Mohawk River at Lock 8 Weather Metadata

Last updated: 03/25/2024

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Station Overview
Location: Lock 8 Park, Mohawk River (42.8302,-73.9925)

Data collection period: 10/20/2012

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

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Station Description:
The weather station at Lock 8 is just NW of the Lock 8 buildings. Sensors are installed on a 10’ tower that is above nearby vegetation and over 15 meters from any nearby structure. Data is reported to a nearby CR1000 datalogger.

Dew point and daily cumulative rainfall are calculated by the HRECOS database in real-time.

Special Remarks:

Date	Remark
10/20/2012	Barometric pressure sensor failure. All data rejected.
12/29/2013	Significant rain event not recorded. Site visit on 12/30 revealed that the rain bucketwas full of ice, and the wind sensor was frozen in position. Rain bucket cleared same day and wind sensor de-iced on 12/31.
8/14/2014	Upgraded wind monitor installed. Other sensors swapped with newly calibrated versions
6/22/2018-8/3/2018	PAR sensor failure
4/16/2024	Rain bucket unclogged. A large amount of water was funneled through at one time.
3/7/2025	Equipment swapped out with newly calibrated components. No barometric pressure sensor.

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

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
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: mmoles/m^2
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

Parameter: Soil temperature
Units: Celsius
Sensor type: Aluminum-housed thermistor
Model#: CS109
Range: -50 C to 70 C
Accuracy: ± 0.2 C