**HRECOS Pier 84 Weather Metadata**

**Last updated: 03/24/2025**

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**Station Overview**
Location: Ilion Marina (43.019750, -75.028472)

Data collection period: 12/21/2012 – present

Parameters: air temperature, barometric pressure, precipitation, daily cumulative rainfall, relative humidity, wind speed, direction, and gusts

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**Station Description:**
The purpose of the Hudson River Park Pier 84 station is to generate a consistent and precise stream of water quality and atmospheric data to the general public and interested stakeholders. The goal in collecting this data is to ultimately inform Hudson River management policies, restoration efforts, and extreme event planning. This station was selected due to its location near the NYC Harbor and in lower Manhattan, one of the world's most heavily developed and densely populated urban environments.

The Hudson River Park Pier 84 station is located on the southeastern piling at the end of Pier 84's finger pier. The meteorological station is located approximately 3 meters above the water. All data is recorded every 15 minutes by a CR200 datalogger and transmitted online every hour.

https://waterdata.usgs.gov/monitoring-location/01376515/#parameterCode=00010&period=P7D&showMedian=true

**Special Remarks:**

| Date | Remark |
|---|---|
| **1/1/2014-6/17/2015** | All rain data flagged as suspicious due to sensor overestimating rainfall amounts. |
| **3/3/2016-6/27/2016** | No data during this period. Equipment was in factory for routine maintenance and inspection. |
| **5/18/2017** | Bird spikes installed |
| **August 2024** | Station was vandalized and telemetry equipment was stolen. Station continues to collect data, but they are not available in real-time. |

**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 (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: capacitive
Model#: WXT520
Range: -52°C to +60°C
Accuracy: ±0.3°C

Parameter: Relative humidity
Units: %
Sensor Type: Capacitive
Model#: WXT520
Range: 0 to 100%
Accuracy: ±3% (0-90%); ±5% (90-100%)

Parameter: Barometric pressure
Units: hPa
Sensor Type: capacitive
Model#: WXT520
Range: 600 to 1100 hPa
Accuracy: ±0.5 hPa at 0 to +30 °C; ±1 hPa at -52 to +60 °C

Parameter: Precipitation
Units: mm
Sensor Type: acoustic
Model#: WXT520
Range: 0-200 mm/hr
Accuracy: 5%

Parameter: Wind direction
Units: Degrees
Sensor Type: Ultrasound
Model#: WXT520
Range: 0-360 Degrees
Accuracy: ± 3 Degrees

Parameter: Wind speed
Units: m/s
Sensor Type: Ultrasound
Model#: WXT520
Range: 0 to 60 m/s
Accuracy: ± 3% at 10 m/s