HRECOS Pier 25 Weather Metadata

Last updated: 08/21/2024

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Station Overview
Location: Pier 25, New York, NY (40.720474, -74.016363)

Data collection period: July 2018 – present

Parameters: air temperature, barometric pressure, dew point, precipitation, relative humidity, wind speed, direction, and gusts

Previous location: Pier 26, New York, NY (40.721538 , -74.015600)

Previous data collection period: 9/16/2016-July 2018

Previous parameters: air temperature, barometric pressure, dew point, precipitation, relative humidity, wind speed, direction, and gusts

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Station Description:
The purpose of the Hudson River Park Pier 26 station is to generate a consistent and precise stream of weather 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 meteorological station is located on the northwestern piling at the end of Pier 26. The station is equipped with a Vaisala WXT530 all in one instrument. Rainfall data is recorded using a supplemental TE525WS tipping bucket gage attached to the station. Data is recorded by a CR200 datalogger every 15 minutes and transmitted online every hour. Dew point is calculated in real-time using the relative humidity and air temperature data.

Special Remarks:

Date	Remark
9/16/2016-9/19/2016	Time zone on logger set incorrectly. Data from this period are one hour off.
10/7/2016	Averaging and update intervals changed to match those of Pier 84 station. Data prior to this time stamp are calculated using a 3-second interval rather than an 870-second interval. Intermittent jumps in wind gust values. Cause unknown and continuing to monitor.
July 2018	Station moved from Pier 26 to Pier 25 due to construction.

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#: WXT530
Range: -52°C to +60°C
Accuracy: ±0.3°C

Parameter: Relative humidity
Units: %
Sensor Type: Capacitive
Model#: WXT530
Range: 0 to 100%
Accuracy: ±3% (0-90%); ±5% (90-100%)

Parameter: Barometric pressure
Units: hPa
Sensor Type: capacitive
Model#: WXT530
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#: WXT530
Range: 0-200 mm/hr
Accuracy: 5%

Parameter: Wind direction
Units: Degrees
Sensor Type: Ultrasound
Model#: WXT530
Range: 0-360 Degrees
Accuracy: ± 3 Degrees

Parameter: Wind speed
Units: m/s
Sensor Type: Ultrasound
Model#: WXT530
Range: 0 to 60 m/s
Accuracy: ± 3% at 10 m/s