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| **C:\HRECOS\HRECOS_logo.small.TIFMetadata: Piermont Pier Weather Station**  **Location:** Piermont Pier, NY ([41.043, 73.896](https://maps.google.com/maps?q=41.043+N++73.896W&hl=en&sll=41.042899,-73.899214&sspn=0.013093,0.01929&t=h&gl=us&z=15) )  **Data collection period:** 4/25/2008 – present  **Parameters:** air temperature, barometric pressure, dew point, radiation (PAR), precipitation, daily precipitation accumulation, relative humidity, wind speed, direction & gusts. | |
| *Disclaimer: HRECOS is a research project. No warranty—either express or implied—is made for any information presented by this program.*  Piermont meteorological station is located on Piermont Pier, owned and operated by the village of Piermont. Permission for research work can be obtained through Piermont Mayor Christopher Sanders. | | |
| **Contacts**:  Brittney Flaten, HRECOS Coordinator  NY State Dept. of Environmental Conservation  256 Norrie Point Way  Staatsburg, NY 12580  Phone: 845-889-4745 x117  Email: brittney.flaten [at] dec.ny.gov | Tim Kenna, Station Manager  Lamont-Doherty Earth Observatory  61 Route 9W - PO Box 1000  Palisades, NY 10964-8000  Email: tkenna [at] ldeo.columbia.edu | |
| **Station details:**  The meteorological instrumentation is on the roof of a small maintenance building at the end of Piermont Pier in the village of Piermont, NY (41.043 N, 73.896 W).  This station uses a HOBO Weather Station Data Logger with a SolarStream wireless data transceiver, in combination with sensors that report the following parameters every 15 minutes: air temperature, barometric pressure, dew point, radiation (PAR), precipitation, daily precip. accumulation, relative humidity, wind speed, direction & gusts. See the section titled “Sensor Specifications” for more information. All sensors are attached to a satellite tower with the exception of barometric pressure, which is located inside the logger box.  The building is at least 3 m from tree growth and the sensors are not shaded. | | |
| **Notes:**   * 05/28/2010: Rain cap was not on the rain gauge. Based on site visits, this must have occurred sometime between 5/20 and 5/28. Data for this period was marked as suspicious. * 10/14/2010: Everything in good working order. Nothing to report. * 03/11/11: Sensors in good working order - telemetry had been malfunctioning – was able to fix. * 07/8/2011: Everything in good working order. Nothing to report. * 11/8/2011 - 12/11/2011: Data was lost during this period. Although data was assumed to have been logged during this time, it got accidentally erased while trying to fix the telemetry portion of the station during December 2011. * 12/14/2011: Sensors in good working order – replaced telemetry motherboard to resume sending of data online. * 2/2/2012: Discovered that the RM Young wind sensor that was installed on 1/21/11 is shading solar radiation sensor at a certain time (around mid-day) of the day. * 6/7/2012: RM Young is still shading solar radiation sensor. * 9/12/2012: RM Young issue discussed above resolved on 7/31/12 by moving solar radiation arm; Logger batteries died on 9/11/12; replaced batteries and restarted system on 9/12/12. * Late Oct. 2012: No formal inspection; quick visual inspection revealed that Hurricane Sandy blew off rain gauge cover, rendering rain measurements suspicious from then until rain gauge cover is replaced in the near future. * August 2016 Simultaneous RM YOUNG and ONSET wind speed/direction sensors running for comparison checks. Firmware on Data Logger fixed to not peg at 0N orientation. * April 2017: Redundant collocated complete weather station tripod added to site. | | |
| **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. Piermont Meteorological Station data. Accessed April 13th, 2016. <http://www.hrecos.org/>.” | | |
| **Data Quality Assurance:**  Data collection and verification have been performed since 6/21/2010 according to the HRECOS Quality Assurance Project Plan, which is available at [www.hrecos.org](http://www.hrecos.org) | | |
| **QAQC 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 | | |

**Table 1. Weather station sensor specifications.**

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| Parameter | Model | Sensor type | Units | Range | Accuracy | Temp dependence | Misc. |
| **Air temperature** | S-THB-M002 | 12-bit Temperature/RH Smart Sensor | °C | -40°C to 75°C (-40°F to 167°F) | +/- 0.21°C from 0° to 50°C (0.38°F from 32° to 122°F) | NA | NA |
| **Barometric pressure** | S-BPA-CM10 | Silicon capacitive | mbar | 660-1070 mbar | ±3.0 mbar over full pressure range at 25°C (77°F) Maximum Error of ±5.0 mbar over -40°C to 70°C | NA | NA |
| **Precipitation** | S-RGA-M002 | Tipping bucket | mm | 0–10 cm per hour | ±1.0% at up to 20 mm or 1" per hour | NA | 6” diameter funnel, 0.2 mm/tip |
| **Radiation** | S-LIB-M003 | Silicon pyranometer (300 to 1100 nm) | W/m2 | 0 to 1280 W/m2 | ±10 W/m2 or ±5% | ±0.38 W/m2; °C from 25°C | NA |
| **Relative humidity** | S-THB-M002 | 12-bit Temperature/RH Smart Sensor | % | 0 to 100% | +/- 2.5% from 10% to 90% RH (typical), to a maximum of +/- 3.5% | NA | NA |
| **Wind direction** | RM Young 05106 | Mechanical vane | Degrees | 355° electrical | ±3° | NA | NA |
| **Wind speed** | RM Young 05106 | Mechanical propeller | m/s | 0 to 100 m/s | ±0.3 m/s or 1% of reading | NA | NA |