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| **Metadata: Passaic Valley Sewerage Commission**  **C:\HRECOS\HRECOS_logo.small.TIF**  **Location:** Passaic Valley Sewerage Commission  Newark Bay, NJ ([40.713239, -74.123086](https://www.google.com/maps/place/40%C2%B042'47.7%22N+74%C2%B007'23.1%22W/@40.713239,-74.123086,2803m/data=!3m2!1e3!4b1!4m2!3m1!1s0x0:0x0))  **Data collection period:** 03/13/2014 – present.  **Parameters:** acidity, water depth, dissolved oxygen, specific conductance, salinity, turbidity, and water temperature. | |
| **Disclaimer:**HRECOS is a research project. No warranty—either express or implied—is made for any information presented by this program.  This project was funded by an agreement awarded by the Environmental Protection Agency to the New England Interstate Water Pollution Control Commission (NEIWPCC) in partnership with the New York-New Jersey Harbor & Estuary Program.  Researchers interested in accessing this station to co-locate monitoring equipment should contact the station manager. | |
| **Contacts**:  Brittney Flaten, HRECOS Coordinator  NY State Dept. of Environmental Conservation  256 Norrie Point Way, Staatsburg, NY 12580  Phone: 845-889-4745  Email: brittney.flaten [at] dec.ny.gov | Rusbel Hernandez, Station Manager  Passaic Valley Sewerage Commission  600 Wilson Avenue, Newark, NJ 07105  Email: rhernandez [at] pvsc.nj.gov |
| **Station details:**  The hydrologic station is located at the north end of the PVSC dock on the Kearny Point Reach of the Passaic River, adjacent to “USGS Tide Gage 01392650 Passaic River at PVSC at Newark NJ”. A YSI EXO2 water quality sonde measures dissolved oxygen, pH, specific conductance, salinity, turbidity, depth, and water temperature every 15 minutes. The sonde is housed in a locked 4” diameter PVSC pipe which is bolted to the concrete sea wall. The sonde sits on a bolt set across the bottom of the pipe, which is set approximately 1 meter above the bottom of the river. The bottom 2 feet of the pipe is perforated with numerous holes to allow free water flow past the sensors. Data is recorded by a CR200 datalogger and transmitted to the HRECOS database via cellular modem. | |
| **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. 2014. Passaic River Hydrologic Station data. Accessed April 13th, 2014. <http://www.hrecos.org/>.” | |
| **Data Quality Assurance:**  Data collection and verification have been performed since the establishment of this station according to the HRECOS Quality Assurance Project Plan, which is available at [www.hrecos.org.](http://www.hrecos.org) See the following pages for comment code definitions. | |
| **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  [GIC] no instrument deployed due to ice  [GNF] deployment tube clogged/no flow  [GOW] out of water event  Sensor Errors  [SBO] blocked optic  [STF] catastrophic temperature sensor failure  [SCF] conductivity sensor failure  [SDF] depth port frozen  [SDP] DO membrane puncture  [SDO] DO suspect  [SIC] incorrect calibration/contaminated standard  [SNV] negative value  [SPC] post calibration out of range  [SSD] sensor drift  [SSM] sensor malfunction  [SOW] sensor out of water  [SSR] sensor removed (not deployed)  [STS] turbidity spike  [SWM] wiper malfunction/loss  Comments  (CAB) algal bloom  (CAF) acceptable calibration/accuracy error of sensor  (CAP) depth sensor in water, affected by atmospheric pressure  (CBF) biofouling  (CCU) cause unknown  (CDA) DO hypoxia < 28 percent saturation  (CDB) disturbed bottom  (CDF) data appear to fit conditions  (CFK) fish kill  (CIP) surface ice present at sample station  (CLT) low tide  (CMC) in field maintenance/cleaning  (CMD) mud in probe guard  (CND) new deployment begins  (CRE) significant rain event  (CSM) see metadata  (CTS) turbidity spike  (CVT) possible vandalism/tampering  (CWD) data collected at wrong depth  (CWE) significant weather event | |

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| Parameter | Units | Sensor type | Model | Range | Accuracy | Resolution | Other |
| **Acidity** | Hydrogen ion concentration (pH) | Glass combination electrode | 599702 | 0 – 14 units | ±0.1 pH units within ±10°C  of calibration temperature;  ±0.2 pH units for entire temp range | 0.01 units | N/A |
| **Conductivity** | microSiemens per cm (µS/cm) | 4-electrode nickel | 599870-01 | 0 – 200 µS/cm | 0-100 µS/cm: ±0.5% of  reading or 0.001 µS/cm,  whichever is greater;  100-200 µS/cm: ±1% of  reading | 0.0001 to 0.01 µS/cm  range-dependent | N/A |
| **Dissolved oxygen** | Air saturation (%)  ¾¾¾¾  mg/L | Optical, luminescence lifetime ¾¾¾¾  Calculated | 599100-01 | 0 – 500%  ¾¾¾¾  0 – 50 mg/L | 0 – 200%: ±1%  200 – 500%: ±5%  ¾¾¾¾  0 – 20 mg/L: ±0.1 mg/L or 1% (whichever is greater);  20 – 50 mg/L: ±-5% | 0.1%  ¾¾¾¾  0.01 mg/L | N/A |
| **Turbidity** | Formazin Nephelometric Units (FNU) | Optical, 90° scatter | 599101-01 | 0 – 4000 FNU | 0-999 FNU: 0.3 FNU or  ±2% of reading, whichever is greater; 1000-4000 FNU: ±5% of reading | 0-999 FNU: 0.01 FNU  1000-4000 FNU: 0.1 FNU | N/A |
| **Water temperature** | Celsius (°C) | Thermistor | 599870-01 | -5 to +50°C | -5 to 35°C: ±0.01°C  35 to 50°C: ±0.05°C | 0.001°C | N/A |
| **Salinity** | Practical salinity units | Calculated from conductivity and temperature | 599870-01 |  |  |  |  |
| **Water level** | Meters | Pressure transducer | Integrated in sonde (YSI EXO2) | 0 – 10 m | 0 – 15 ft: ±0.01 ft (0.003 m);  15 – 35 ft: ±0.065%;  35 – 50 ft (0.006 m) | Max. traceable rate: 3 ft/minute | Non-vented depth sensor |

**Table 1. YSI EXO2 sensor specifications.**