

Schodack Island Meteorological Metadata  
Latest Update: September 20, 2011

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An example citation:

2010 Schdocak Island Meteorologic Data (finalized) courtesy of the Hudson River Environmetnal Conditions Observing System (<http://www.hrecos.org>)

**Entry Verification:**

Data collection is performed according to the HRECOS Quality Management Plan and the HRECOS Estuary Stations Quality Assurance Project Plan available at [www.hrecos.org](http://www.hrecos.org). This station is quality level C and does not verify data. All data are provisional and subject to change.

**Site Location and Character:**

The meteorological instrumentation is on a small island (42°30'4.32"N 73°46'49.37"W) just west of Schodack Island State Park (SISP) and just south of the I-90 by-pass bridge. Sensors (precipitation, relative humidity, temperature, solar radiation, wind speed and direction) are attached to the tower holding the navigation aids (marker # 197). The island is at least 130 m from either shore so there is no interference from nearby vegetation or ridgelines.

The island is owned by the U.S. Coast Guard. Permission for research work can be obtained through the U.S. Coast Guard Saugerties, NY office ((845) 246- 7612).

**Data Collection Period:**

Weather data have been collected at Schodack Island since 4/25/2008. Barometric Pressure instrumentation was added on 7/13/2010.

### **Inspection Results**

06/05/2009 - Gary Wall cleaned out some detritus and spider webs from the rain gauge. At the time, the anemometer appeared to be operating smoothly and there was nothing on or blocking the PAR sensor. The RH radiation shield looked clean as well.

7/13/2010 - Site was visited by Gary Wall and Alene Onion. The rain gauge was partially blocked by detritus. New barometric pressure, rain gauge, and wind direction sensors were installed as well as a newly calibrated relative humidity and temperature sensor.

### **Other remarks/ notes including data coded "see Metadata":**

7/13/2010 – 7/16/2010

The connecting cable was partially blocking the movement of the newly installed wind sensor. This was remedied on 7/16/2010.

## Sensor Specifications

General Information	Date first operational	4/25/08
	Date of first transmission	4/25/08
	Data Logger Model	CR10X_PB accessed from shore by a Campbell RF401 spread spectrum radio
	Data Transmitter	Airlink Raven Cellular Modem
	Collection Interval	15 min
	Temperature	Sensor Type
Sensor Model		Vaisala HMP45A/D
Units		Celsius
Operating temperature		-40°C to +60 °C
Range		-40°C to +60 °C
Accuracy		± 0.2 °C @ 20 °C
Date of last calibration		2/1/2010
Relative Humidity	Sensor Type	Vaisala HUMICAP© 180 capacitive thin film polymer
	Sensor Model	Vaisala HMP45A/D
	Units	Percent
	Operating temperature	N/A
	Temperature Dependence	± 0.05% RH/°C
	Range	0.8 to 100% RH
	Accuracy	at 20 °C: ± 2% RH (0-90%), ±3% RH (90-100%)
	Date of last calibration	2/1/2010
Wind Speed	Sensor Type	3-cup anemometer
	Sensor Model	MetOne model 034B
	Units	mph
	Range	0-100 mph
	Accuracy	<22.7mph=0.25mph, >22.7 ±1.1%
	Date of last calibration	2/2010

Wind Direction	Sensor Type	balanced anodized aluminum vane
	Sensor Model	MetOne model 034B
	Units	degrees
	Range	360° mechanical, 356° electrical
	Accuracy	±4 degrees
	Date of last calibration	2/2010
Radiation	Sensor Type	ISO-9060 Secondary Standard compliant
	Sensor Model	Kipp & Zonen CM 11
	Units	W/m <sup>2</sup>
	Light Spectrum Waveband	305-2800 nm
	Temperature Dependence	<±1% (-10 to 40deg C)
	Stability	NA
	Operating temperature	-40°C to 80°C
	Sensitivity	4-6 □V/W/m <sup>2</sup>
	Date of last calibration	unknown
	Precipitation	Sensor Type
Sensor Model		Handar 444B
Units		millimeters (mm)
Rainfall per tip		1 mm
Range		NA
Accuracy		±3.0% up to 100 mm/hr
Date of last calibration		2/2010
Barometric Pressure		Sensor Type
	Sensor Model	PTB110
	Units	mbar
	Humidity	Non-condensing
	Range	500-1100 mbar
	Accuracy	+/- 0.3 mbar at +20°C
	Date of last calibration	2/2010

**QAQC flag definitions:**

	Flag	Description
Automatic Data Flags	0	Acceptable data
	5	Data that demonstrate a dramatic increase or decrease from the previous value. This flag will be applied to all parameters except chlorophyll, radiation, rainfall, wind direction, and wind direction standard deviation where dramatic increases and decreases are expected. The boundaries for these flags are: <ul style="list-style-type: none"> <li>○ <math>x &gt; 3(\text{previous value})</math> for Acidity, Dissolved Oxygen, Water Level, Water Temperature, Barometric Pressure, and Absolute Pressure.</li> <li>○ <math>x &lt; 1/3(\text{previous value})</math> for Specific Conductivity, Salinity, and Relative Humidity.</li> <li>○ <math>x &gt; 10 + 3(\text{previous value})</math> for Turbidity, Wind Gusts, and Wind Speed.</li> <li>○ <math> x  &gt; 10 + 3(\text{previous value})</math> for Air Temperature</li> </ul>
	6	Flat lined data (20 or more repeated records of the same value). This flag will be applied to all parameters except specific conductivity, chlorophyll, radiation, and rainfall where flat lined data is expected. For the same reason, this flag will not be applied to salinity data from Norrie Point.
	30	Hydrological data outside three standard deviations of the seasonal mean. The seasons will be defined by the solstices and equinoxes.
	40	Hydrological data outside four standard deviations of the seasonal mean. The seasons will be defined by the solstices and equinoxes.
	100	Data outside the range of the instrument.
	Added by Site Manager	0
10,000		Suspicious data according to a final review by the site manager
20,000		Corrected Data
500,000		Rejected data according to a final review by the site manager.
Added by HRECOS Coordinator	5,000	Data from instruments that exceed the post-deployment warning level as defined by the HRECOS quality management plan
	9,000	Data from instruments that exceed the post-deployment alarm level as defined by the HRECOS quality management plan

**QAQC Comment Code definitions:**

Comment Codes Added By Site Managers	General Errors	Hyd + Met	GIM	instrument malfunction	GPF	power failure/low battery	
			GIT	instrument recording error, recovered telemetry data	GQR	rejected due to QAQC checks	
			GMC	no instrument deployed due to maintenance/calibration	GSM	see metadata	
		Hyd	GIC	no instrument deployed due to ice	GOW	out of water event	
			GNF	deployment tube clogged/no flow			
		Met	GMT	instrument maintenance	GIM	program reload	
			GPD	power down			
		Sensor Errors	Hyd	SBO	blocked optic	SPC	post calibration out of range
				STF	catastrophic temperature sensor failure	SSDN	sensor drift, record not corrected
	SCF			conductivity sensor failure	SSDC	sensor drift, record corrected	
	SDF			depth port frozen	SSM	sensor malfunction	
	SDP			DO membrane puncture	SOW	sensor out of water	
	SDO			DO suspect	SSR	sensor removed (not deployed)	
	SIC			incorrect calibration/contaminated standard	STS	turbidity spike	
	SNV			negative value	SWM	wiper malfunction/loss	
	Met		SIC	incorrect calibration constant, multiplier or offset	SOC	out of calibration	
			SNV	negative value	SSM	sensor malfunction	
			SSN	not a number/unknown value	SSR	sensor removed	
	Comments		Hyd	CAF	acceptable calibration/accuracy error of sensor	CRE	significant rain event
				CBF	biofouling	CSM	see metadata
				CCU	cause unknown	CTS	turbidity spike
				CDA	DO hypoxia <28 percent saturation	CWD	data collected at wrong depth
		CDB		disturbed bottom	CAP	depth sensor in water, affected by atmospheric pressure	
		CDF		data appear to fit conditions	CAB	algal bloom	
		CFK		fish kill	CVT	possible vandalism/tampering	
		CIP		surface ice present at sample station	CMC	in field maintenance/cleaning	
		CLT		low tide	CMD	mud in probe guard	
		CND		new deployment begins			
		Met	CAF	acceptable calibration/accuracy error of sensor	CSM	see metadata	
			CDF	data appear to fit conditions	CVT	possible vandalism/tampering	
			CRE	significant rain event			