

Toolik 2016 Met Station Update

Lily Cohen

Jessica Cherry

Brie Van Dam

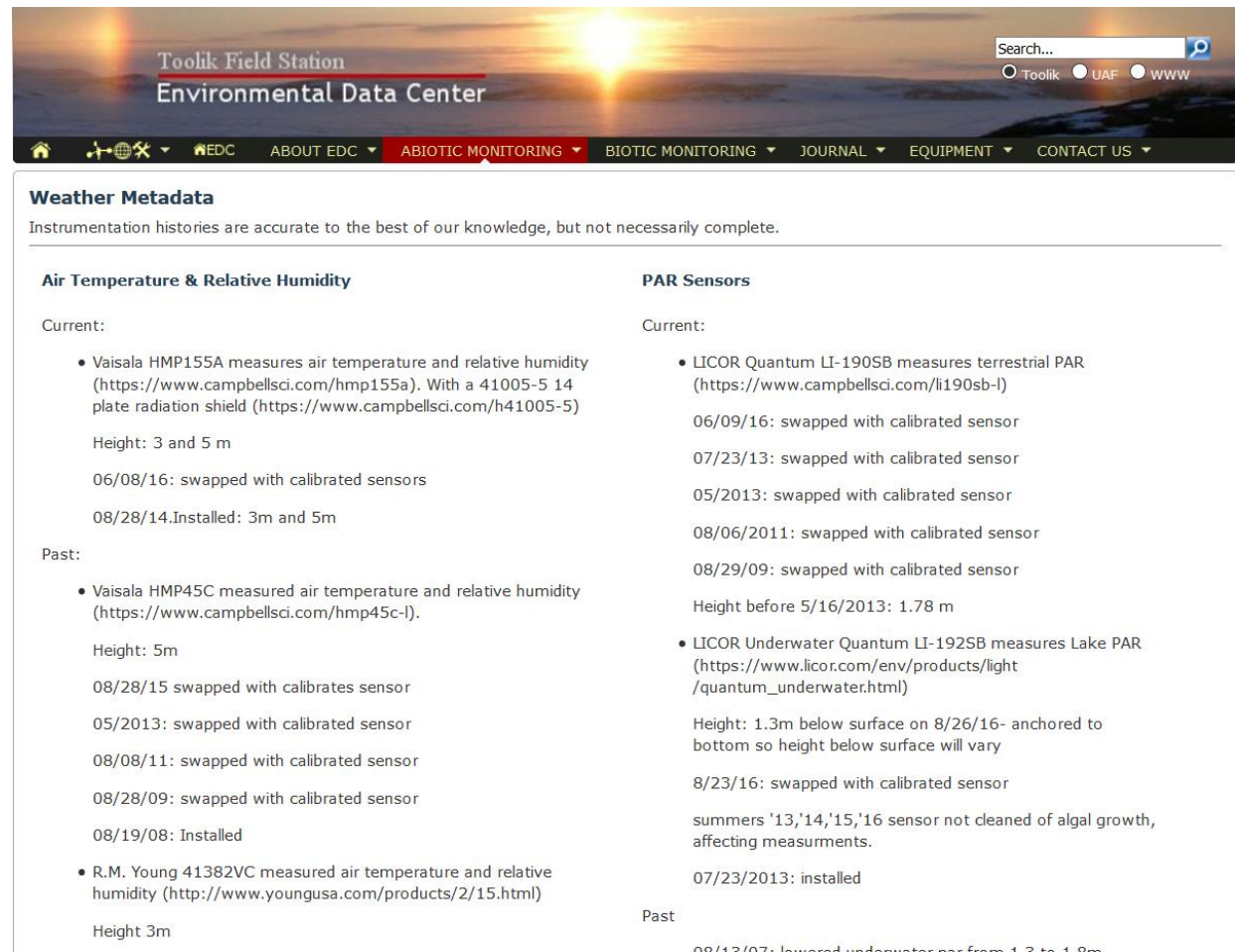


Met Station Team Goals

- Provide the best possible meteorological data in a timely manner
- Provide consistent data through instrument changes, upgrades, and maintenance
- Use best data management practices
- Follow best field practices
- Create value added products

Instrumentation Metadata

- Available on website
- When user downloads data from website, metadata is also downloaded
- Continuing project



The screenshot shows the website for the Toolik Field Station Environmental Data Center. The header includes the site name, a search bar, and navigation links for Toolik, UAF, and WWW. The main content area is titled "Weather Metadata" and contains two columns of information.

Weather Metadata
Instrumentation histories are accurate to the best of our knowledge, but not necessarily complete.

Air Temperature & Relative Humidity

Current:

- Vaisala HMP155A measures air temperature and relative humidity (<https://www.campbellsci.com/hmp155a>). With a 41005-5 14 plate radiation shield (<https://www.campbellsci.com/h41005-5>)
Height: 3 and 5 m
06/08/16: swapped with calibrated sensors
08/28/14: Installed: 3m and 5m

Past:

- Vaisala HMP45C measured air temperature and relative humidity (<https://www.campbellsci.com/hmp45c-l>).
Height: 5m
08/28/15 swapped with calibrates sensor
05/2013: swapped with calibrated sensor
08/08/11: swapped with calibrated sensor
08/28/09: swapped with calibrated sensor
08/19/08: Installed
- R.M. Young 41382VC measured air temperature and relative humidity (<http://www.youngusa.com/products/2/15.html>)
Height 3m

PAR Sensors

Current:

- LICOR Quantum LI-190SB measures terrestrial PAR (<https://www.campbellsci.com/li190sb-l>)
06/09/16: swapped with calibrated sensor
07/23/13: swapped with calibrated sensor
05/2013: swapped with calibrated sensor
08/06/2011: swapped with calibrated sensor
08/29/09: swapped with calibrated sensor
Height before 5/16/2013: 1.78 m
- LICOR Underwater Quantum LI-192SB measures Lake PAR (https://www.licor.com/env/products/light/quantum_underwater.html)
Height: 1.3m below surface on 8/26/16- anchored to bottom so height below surface will vary
8/23/16: swapped with calibrated sensor
summers '13,'14,'15,'16 sensor not cleaned of algal growth, affecting measurements.
07/23/2013: installed

Past

08/13/07: lowered underwater sensor from 1.3 to 1.8m

Snow depth data

- Data available on website starting in November 2014
- Instrument is a depth sensor attached to main met tower



Further 2016 accomplishments

- Evaporation gauge collected data all summer
- Replaced broken barometer
- Swapped many instruments for calibration
- 2016 provisional data provided on request
- Created plan to clean underwater PAR sensor and attached buoy for easier maintenance
- Replaced torn mesh panel on Pluvio wind shield
- Calibrated both precipitation gauges
- Updated website with new photos and instrumentation changes
- Ongoing maintenance

Goals for 2017

- Acquire and install BF5 sunshine sensor – diffuse PAR
- Update TFS data on Imiq Hydroclimate Database
- Organize data logger enclosure
- Improve instrumentation metadata

