

Renewable Energy Research Laboratory

Department of Mechanical and Industrial Engineering University of Massachusetts 160 Governor's Drive Amherst, MA 01003-9265 Phone: 413-545-4359 Fax: 413-577-1301 www.ceere.org/rerl rerl@ecs.umass.edu



Data Update for Mt. Tom, Holyoke, MA December 2007

Prepared for Massachusetts Technology Collaborative 75 North Drive, Westborough, MA 01581

By Puneet Malhotra

Monthly Data Summary for December 2007

This update summarizes the monthly data results for the Mt. Tom monitoring site in Holyoke, MA, at 42° 14′ 59.2″ N, 72° 38′ 42.2″ W (NAD83). More information on the sensors and site, including the data, can be found at http://www.ceere.org/rerl/rerl_resourcedata.html.

Height	Wind Speed				Prevailing	Power Law
	Mean [m/s]	Max [m/s]	Turbulence Intensity	Good Data [%]	Wind Direction	Shear Exponent
24 m	4.04	15.47	0.2	78.987	-	0.47
37 m	4.96	19.38	0.15	80.376	337.5° NNW	0.47

Data Recovery

All raw wind data are subjected to a series of tests and filters to identify data that are faulty or corrupted. The gross percentage of data recovered (ratio of the number of raw data points received to data points expected) and net data recovered (ratio of raw data points which passed all QA control tests to data points expected) are shown below.

Gross Data Recovered [%]	85.791
Net Data Recovered [%]	75.998

The gross data recovered is less due to a malfunctioning vane sensor at a height of 24m and the net data recovery percentage is less because of a few hours of fault in the anemometers and a malfunctioning external temperature sensor and due to a few days of icing conditions as seen in the graph below, where the anemometer and vane sensors seem to have stopped working.

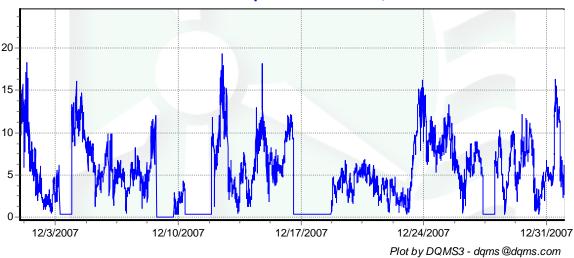
Maintenance Issues and Changes to Site Configuration

No maintenance issues were reported during the month.

Monthly Data Time Series

Seen below is a graph of wind speed at Mt. Tom for the month of December 2007, at the anemometer height of 37 m.

Mt Tom Wind Speed Time Series, 37m



The data was determined to be faulty for few days due to icing, as seen in the graph above.