

Flux Tower data measured at 20Hz and 1Hz provided by Dugway Proving Ground West Slope Tower 1

WS1

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1.0 Data Set Overview

1.1 Time period covered by the data

Approximately September - October 2012 and May 2013. For specific times please refer to individual file names.

1.2 Physical location (latitude, longitude, elevation)

40.10263, -113.31998, 1312.899318

1.3 Instrument type

Flux Tower

1.4 Data provider

University of Utah

1.5 Web address references

<http://www3.nd.edu/~dynamics/materhorn/>

https://www.eol.ucar.edu/field_projects/materhorn-x

2.0 Instrument Description

Surface 28m tower using RM Young 81000 Ultrasonic anemometers

No Photo Available

2.1 Instrument website

<http://www.alumatower.com/>, (Aluminum Tower)

<https://www.campbellsci.com/cr3000>, (CR3000 Datalogger)

<https://s.campbellsci.com/documents/us/manuals/loggernet.pdf>

TOA5 file format description (Appendix B, pages: B-4, B-3)

<https://www.campbellsci.com/hmp45c-1>, (Temperature / Relative Humidity Probe)

<https://www.campbellsci.com/cs106>, (Barometer)

<http://www.youngusa.com/products/6/3.html>, (RM Young 81000)

2.2 Table of specifications

Accuracy	Range	Frequency	Resolution
See individual instrument websites	See individual instrument websites	See individual instrument websites	See individual instrument websites

3.0 Data Collection and Processing

3.1 Description of data collection

3.2 Description of derived parameters and processing techniques used

Original data files are provided.

3.3 Description of quality assurance and control procedures

This dataset was not subject to any quality control or processing it has been provided in its original form.

3.4 Data intercomparisons

4.0 Data Format

4.1 Data file structure

TOA5, (ASCII csv with header)

4.2 File naming convention

dataProvider_instrument[_identifier]_tableNumber_rate_instrumentType_startDateAndTime_endDateAndTime.extension

4.3 Data format

comma delimited ASCII

4.4 Data layout

Each file has four header lines. First header line contains information on the logger and the consecutive three lines provides the column headers (variables, units and measurement types) for all subsequent rows of data contained within the file.

4.5 List of parameters with units, sampling intervals, frequency, range

Variable names usually contain the variable type and the height of the measurement in meters. 05 refers to a measurement taken at 0.5m. As an example u16 means "u" wind component measured at 16 m.

4.6 Data version number and date

raw, v1.0, October 2016

4.7 Description of flags, codes used in the data, and definitions

4.8 Data sample

The data sample is provided in the Filtered_Headers.txt. Please look for the file name in the Filtered_Headers.txt for the corresponding data sample.

5.0 Data Remarks

5.1 PI's assessment of the data

- 1) For the U and V wind components' direction, please consult the sensor's reference manual.
- 2) Tower began running on October 1 at 23:36 UTC but only the sonics at 32, 20, 10 and 5 were functioning
- 3) Data collected on October 6 has time stamp error. Last Data Record According to Logger: 07/17/2092 06:58:00; Approximate Pick up time: 10/6/2012 10:57:00 PM UTC
- 4) Time Clock Error; Last Data Record 07/17/2092 06:58:00; Approximate Pick up time 10/6/2012 10:57:00 PM UTC
- 5) On October 6, 2012 at 23:18 the entire tower, except the T/RH at 32 meters, is behaving normally
- 6) T/RH at 32 meters never runs due to cabling issue
- 7) Card Removed At: 10/09/2012 20:08:00

5.2 Missing data periods

5.3 Software compatibility

6.0 References

- [1] Fernando, H. J. S., E. R. Pardyjak, S. Di Sabatino, F. K. Chow, S. F. J. DeWekker, S. W. Hoch, J. Hacker, J. C. Pace, T. Pratt, Z. Pu, J. W. Steenburgh, C. D. Whiteman, Y. Wang, D. Zajic, B. Balsley, R. Dimitrova, G. D. Emmitt, C. W. Higgins, J. C. R. Hunt, J. G. Knievel, D. Lawrence, Y. Liu, D. F. Nadeau, E. Kit, B. W. Blomquist, P. Conry, R. S. Coppersmith, E. Creegan, M. Felton, A. Grachev, N. Gunawardena, C. Hang, C. M. Hocut, G. Huynh, M. E. Jeglum, D. Jensen, V. Kulandaivelu, M. Lehner, L. S. Leo, D. Liberzon, J. D. Massey, K. McEnerney, S. Pal, T. Price, M. Sghiatti, Z. Silver, M. Thompson, H. Zhang, T. Zsedrovits, 2015: The MATERHORN – Unraveling the Intricacies of Mountain Weather, BAMS, doi: <http://dx.doi.org/10.1175/BAMS-D-13-00131.1>.