Flux Tower data measured at 20Hz and 1Hz provided by Dugway Proving Ground at the Big Gap site

DPG32G

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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)

40.04485, -113.237, 1315

1.3 Instrument type

Flux Tower

1.4 Data provider

Dugway Proving Ground, University of Notre Dame

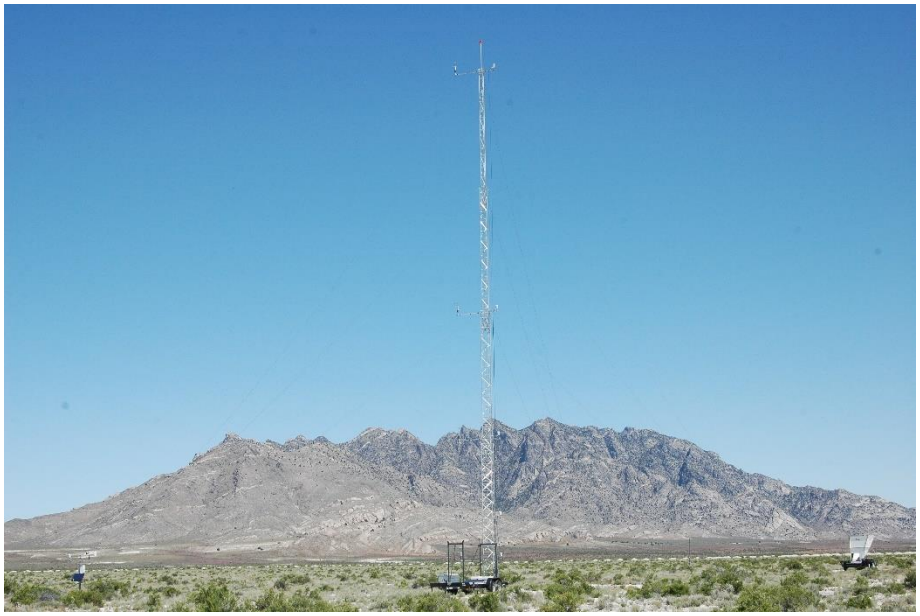
1.5 Web address references

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

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

2.0 Instrument Description

Surface tower including five levels of anemometers mounted at 2m, 4m, 8m, 16m, 28m above ground level. Also included are Temperature Relative Humidity Measurements, Barometric Pressure, and Thermocouples. During the Fall 2012 the anemometers used were RM Young 05103. During the Spring 2013 the anemometers were changed to RM Young 81000 ultrasonic sonic 3D anemometers.



2.1 Instrument website

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

https://www.campbellsci.com/cr5000, (CR5000 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-l, (Temperature / Relative Humidity Probe)

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

http://www.youngusa.com/products/7/5.html, (RM Young 05103 - Fall 2012)

http://www.youngusa.com/products/6/3.html, (RM Young 81000 - Spring 2013)

http://www.omega.com/pptst/5TC.html, (Thermocouples 5TC-GG-K-36-36)

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

Fall data: CSV without header

Spring data: TOA5, (ASCII csv with header)

4.2 File naming convention

dataProvider_instrument[_identifier]_rate_instrumentType_startDateAndTime_endDateAndTime.extension

4.3 Data format

comma delimited ASCII

4.4 Data layout

Spring data: 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

Fall data: Please consult records.xlsx; tab DPG32G_Fall

Spring data: 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

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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.
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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) Further notes (when available) for each recorded period is in the records.xlsx file.

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.