

**"Single sonic Playa" - RM Young 81000 ultrasonic anemometer
data measured at 20Hz provided by the University of Utah from the
Playa site
SONIC-PL**

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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)

40.13497065, -113.4521665, 1296.576507

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

Data from a half meter RM Young 81000 Ultrasonic anemometer mounted near the half meter CSAT3. Data may be used to compare the two instruments.

No photograph 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)

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

2.2 Table of specifications

Accuracy	Range	Frequency	Resolution
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

Consult individual file headers.

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

```
"TOA5", "3080", "CR3000", "3080", "CR3000.Std.22", "CPU:Single_Sonic.CR3",  
"62369", "Single_Sonic"  
"TIMESTAMP", "Ux", "Uy", "Uz", "T_Sonic", "diagnostic", "FW"  
"TS", "m/s", "m/s", "m/s", "deg C", "m/s", "deg C"  
", "Smp", "Smp", "Smp", "Smp", "Smp", "Smp"  
"2012-10-07 21:08:38.5", "NAN", "NAN", "NAN", "NAN", "NAN", -24.61117  
"2012-10-07 21:08:38.55", "NAN", "NAN", "NAN", "NAN", "NAN", 12.97345  
"2012-10-07 21:08:38.6", 0.45, 2.23, -0.46, 13.46, 0, 13.1524  
"2012-10-07 21:08:38.65", 0.44, 2.15, -0.46, 13.29, 0, 13.53811
```

5.0 Data Remarks

5.1 PI's assessment of the data

1) Data was taken sporadically throughout the experiment.

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. Kniewel, D. Lawrence, Y. Liu, D. F. Nadeau, E. Kit, B. W. Blomquist, P. Conry, R. S. Coppersmith, E. Cregan, 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>.