

**ASC Mini-SoDAR Ten Minute Average Data at the Big Gap
Location
SOD-UUA**

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1.0 Data Set Overview

1.1 Time period covered by the data

September 1-7, 2012

May 1-30, 2013

1.2 Physical location (latitude, longitude, elevation)

40.045349, -113.23694, 1315

1.3 Instrument type

SoDAR

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

ASC SoDAR system capable of measuring horizontal wind speed and direction averaged over half hour periods from the surface to 200m above ground level



2.1 Instrument website

<http://www.minisodar.com/products/3000s/>

2.2 Table of specifications

Accuracy	Range	Frequency	Resolution
Wind Speed Accuracy: better than 0.5 m/s (WS > 2 m/s) Wind Direction Accuracy: ± 2 degrees (WS > 2 m/s)	Height range: 50 m - 400 m Wind Speed Range: 0 to 35 m/s	Operating Frequency: 2800 Hz (changeable as appropriate) Reporting Interval: User Selectable	10 m

3.0 Data Collection and Processing

3.1 Description of data collection

Continuous data collection was conducted during the entire field campaign, with 10 minute averages.

3.2 Description of derived parameters and processing techniques used

Data was split from continuous files into individual CSV files.

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

TXT files for each 10 minute averaged vertical profile The text files are in ASCII, CSV format.

4.2 File naming convention

dataProvider_instrument[_identifier]_rate_instrumentType_startDateAndTime_endDateAndTime.extension

4.3 Data format

comma delimited ASCII

4.4 Data layout

3 columns, for each height measurement: height, wind speed, wind direction

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

height is in meters, wind speed is m/s, and wind direction is in degrees from North

4.6 Data version number and date

raw, v1.0, October 2016

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

NaN means either out of range or missing data

4.8 Data sample

```
300, NaN, NaN
290, NaN, NaN
280, NaN, NaN
270, NaN, NaN
260, NaN, NaN
250, NaN, NaN
240, NaN, NaN
230, NaN, NaN
220, NaN, NaN
210, NaN, NaN
200, NaN, NaN
190, NaN, NaN
180, NaN, NaN
170, NaN, NaN
160, NaN, NaN
150, NaN, NaN
140, NaN, NaN
130, NaN, NaN
120, NaN, NaN
```

```
110, NaN, NaN
100, 10.72, 2+AL59
90, 10.18, 1
80, 9.49, 4
70, 9.31, 10
60, 10.04, 11
50, 9.92, 11
40, 9.85, 8
30, 9.57, 9
20, 8.93, 6
```

5.0 Data Remarks

5.1 PI's assessment of the data

5.2 Missing data periods

5.3 Software compatibility

6.0 References

- [1] <http://www.minisodar.com/products/3000s/>
- [2] Fernando, H. J. S., E. R. Pardyjak, S. Di Sabatino, F. K. Chow, S. F. J. DeWecker, 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>.