

**ASC Mini-SoDAR Ten Minute Average Data at the South West
Granite Site**
SOD-SWG

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1.0 Data Set Overview

1.1 Time period covered by the data

from 12:46 05/06/2013 to 00:00 06/01/2013

1.2 Physical location (latitude, longitude, elevation)

40.035976, -113.28164700000001, 1312.5899999999999

1.3 Instrument type

SoDAR

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

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

```
200,NaN,NaN
190,NaN,NaN
180,NaN,NaN
170,NaN,NaN
160,NaN,NaN
150,NaN,NaN
140,NaN,NaN
130,NaN,NaN
120,5.91,114
110,8.96,145
100,9.4,141
90,11.35,144
80,10.92,136
70,11.02,140
60,11.56,143
50,11.07,137
40,11.23,137
```

30, 11.22, 139
20, 11.06, 137

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. 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. 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>.