ASC Mini-SoDAR Ten Minute Average Data at the North West Granite Site

SOD-NWG

Author(s):	Regarding data questions contact:
John C. Pace Mailing address: Meteorology Division, West Desert Test Facility, Dugway Proving Grounds, Dugway, Utah Tel./Fax.: 435-831-5101/ , E-mail and web: john.c.pace.civ@mail.mil, http://www.dugway.army.mil/Meteorology.aspx	Laura S. Leo Mailing address: 156 Fitzpatrick Hall of Engineering, Notre Dame, IN, USA, 46556 Tel./Fax.: 574-631-8419/574-631-9236 E-mail and web: LauraSandra.Leo.13@nd.edu, https://engineering.nd.edu/profiles/lleo

1.0 Data Set Overview

1.1 Time period covered by the data

May of 2013

1.2 Physical location (latitude, longitude, elevation)

40.201830, -113.34939, 1307.21

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
130,6.64,337
120,5.06,320
110,5.19,321
100,5.56,333
90,5.13,338
80,4.99,344
70,5.43,346
60,5.39,350
50,5.18,344
40,5.28,349
30,5.01,344
20,4.67,343
```

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. 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.