

Twin Otter Airplane Mounted Doppler Wind LiDAR from the University of Virginia Measured over the Granite Mountain

LID-TODWL

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1.0 Data Set Overview

1.1 Time period covered by the data

10/06/2012

10/07/2012

10/09/2012

10/10/2012

10/14/2012

10/17/2012

1.2 Physical location (latitude, longitude, elevation)

For the exact coordinates consult corresponding flight data., 0, 0

1.3 Instrument type

LIDAR

1.4 Data provider

Simpson Weather Associates and University of Virginia

1.5 Web address references

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

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

<http://www.swa.com/research-library/documents-and-data-products>

2.0 Instrument Description

Twin Otter airplane used for inflight atmospheric measurements which included a profiling Doppler wind LiDAR



2.1 Instrument website

<http://www.swa.com/services/atmospheric-remote-sensing/airborne-and-ground-based-field-campaigns>

2.2 Table of specifications

Accuracy	Range	Frequency	Resolution
Consult the manufacturer specifications.	Consult the manufacturer specifications.	Consult the manufacturer specifications.	Consult the manufacturer specifications.

3.0 Data Collection and Processing

3.1 Description of data collection

Data collection, when available, was only conducted during intense observation periods (IOP).

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

ASCII csv

4.2 File naming convention

dataProvider_instrument_instrumentType_startDateAndTime.extension

4.3 Data format

comma delimited ASCII

4.4 Data layout

1. column	Height
2. column	Direction
3. column	Speed
4. column	U
5. column	V
6. column	W
7. column	SNR
8. column	GOF (Goodness Of Fit)
9. column	LOS removed (out of 12)
10. column	Latitude
11. column	Longitude

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

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

1700	320.03	3.3553	2.1553	-2.5716	-0.29796	25.102
	0.45438	0	40.226	-113.15	1459	
1650	318.91	3.1705	2.0839	-2.3894	-0.50798	25.043
	0.45716	0	40.226	-113.15	1459	
1600	318.65	3.0604	2.022	-2.2973	-0.68076	25.038
	0.49376	0	40.226	-113.15	1459	
1550	322.28	2.6054	1.594	-2.0609	-0.5956	25.15 0.56319
	0	40.226	-113.15	1459		
1500	324.93	3.6368	2.0894	-2.9767	-0.356	24.944
	0.66214	0	40.226	-113.15	1459	

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] 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>.
- [2] <http://www.cirpas.org/instrumentList.html>
- [3] <http://www.swa.com/services/atmospheric-remote-sensing/airborne-and-ground-based-field-campaigns>