

Readme file for UND Doppler Lidar Data at Orange Site

This dataset corresponds to one of the three Halo Doppler Lidars deployed by University of Notre Dame. For more information on the data processing, please contact Raghu Krishnamurthy at rkrishn1@nd.edu or Joe Fernando at hfernand@nd.edu

The data frequency of the raw data varies for the period of study. Processed data will be submitted to the EOL archive in the near future.

Type of Lidar	Start Time*	End Time*	GPS (X, Y Z)	Data Type
Scanning Doppler	May 1, 2017 00:00 hrs	June 15, 2017 23:59 hrs	39.713779° -7.736594° 311.1 Portuguese UTM 34007.998 5132.015 311.1	Raw (*.hpl)

* Several downtimes during the campaign, but Lidar was under repair from May 7th, 2017 1400 hrs UTC to May 23, 2017 0800 hrs.

Data format

The data format & parameters of the Lidar data are provided below and as well in the header of each uploaded file:

Sample Data Format of each Lidar data file below:

```
Filename:      User1_116_20170531_101007.hpl
System ID:    116
Number of gates: 1500
Range gate length (m):18.0
Gate length (pts): 6
Pulses/ray:  3000
No. of waypoints in file:27
Scan type:    User file 1 - csm
Focus range:  65535
Start time:   20170531 10:10:19.68
Resolution (m/s): 0.0382
Altitude of measurement (center of gate) = (range gate + 0.5) * Gate length
Data line 1: Decimal time (hours) Azimuth (deg) Elevation (deg) Pitch (deg) Roll (deg)
Data line 2: Range Gate Doppler (m/s) Intensity (SNR + 1) Beta (m-1 sr-1)
i3,1x,f6.4,1x,f8.6,1x,e12.6 - repeat for no. gates
.....
```

The scanning Doppler Lidar datasets will contain the raw post-processed Doppler shifted radial velocity measurements, strength of the signal return (SNR), backscatter, and the location of the scanner (in polar Azimuth & elevation coordinates). No corrections to the Lidar azimuth or elevation angle is performed to this dataset.