Title: VORTEX-SE Meso18-19 UAH RaDAPS Surface Station Dataset

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1.0 Dataset Overview

The UAH Rapidly Deployable Atmospheric Profiling System (RaDAPS) is a mobile atmospheric profiling system that contains a 915 MHz wind profiler, a Microwave Profile Radiometer, a ceilometer, Micro Rain Radar, and a mounted surface station. RaDAPS often operated 24 hours a day when located at SWIRLL. Unless time periods are provided, RaDAPS did not record any surface data. The UAH Berm surface data can be used when RaDAPS was located at SWIRLL.

> IOP 0
> Location: 34.72484, -86.64625 (UAH)
>
> IOP 1
> Location: Location: 34.725, -86.647 (UAH)
>
> IOP 2
> Location: 34.725, -86.647 (UAH)
>
> IOP 4
> Location: 34.725, -86.647 (UAH)
>
> IOP5
> Time Period: 2019/02/23 2131Z - 2019/02/24/0300Z
> Location: 34.7862, -88.2089
>
> IOP 7
> Time Period: 2019/03/09 1830Z - 2019/03/10 0100Z
> Location: 34.8078, -88.2595
>
> IOP8
> Time Period: 2019/04/13 2300Z - 2019/04/14 0800Z
> Location: 34.8077, -88.2597
>
> IOP9
> Time Period: 2019/04/18 1700Z - 2019/04/19 0150Z
> Location: 34.0848, -87.5943

2.0 Instrument Description

RaDAPS uses a Lufft WS700-UMB Weather Sensor. This sensor measures:
- Temperature
- Relative Humidity
- Precipitation Intensity,type, and quantity
- Wind Direction and Speed
- Radiation

3.0 Data Collection and Processing

Data is collected every 20 seconds. There is no data processing.

4.0 Data Format

The UAH RaDAPS surface station data files are named radaps_YYYYMMDD_sfc.dat, where:

YYYY -> year
MM   -> month
DD   -> day
sfc.dat -> sfc station data

A sample data line is given below:

(Column #) | 0   1   2 3   4 5   6   7   8   9   10   11 12   13 14 15 16 17
        | 101,2016,219,1928,0,28.5,74.1,23.4,24.8,29.09,30.7,0.9,16.2,3.6,6, 0,"Rain",0.1

The data file records, column by column, are:

COLUMN   VARIABLE
----
0   -> Program Constant
1   -> Year
2   -> Julian Day
3   -> Hour & minute (UTC)
4   -> Second.fraction-of-second (UTC)
5   -> Temperature at 8m (C)
6   -> RH (%)
7   -> Wet Bulb (C)
8   -> Wind Chill (C)
9   -> Pressure (in Hg)
10   -> Wind Direction (deg)
11   -> Wind Speed (mph)

12	->	Wind Direction (deg) (Gust)
13	->	Wind Speed (mph) (Gust)
14	->	Solar Radiation (kJ/Kg)
15	->	Precipitation (in)
16	->	Precipitation Type
17	->	Precipitation Rate (in)

5.0 Data Remarks

- RaDAPS only recorded sfc data for IOP 8 and IOP 9