Title: VORTEX-SE 2018 UAH RaDAPS Surface Station Dataset

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1.0 Dataset Overview

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.

IOP 1
Time Period: 2018/03/19 1537Z to 2018/03/20 0044Z
Location: 34.547, -85.934

IOP 2A
Time Period: 2018/03/28 0000Z to 2018/03/29 0000Z
Location: Location: 34.725, -86.647 (UAH)

IOP 2B - 2018/03/29 0000Z to 2018/03/30 0000Z
Location: 34.725, -86.647 (UAH)

IOP 3
Time Period: 2018/04/03 2307Z to 2018/04/04 0243Z
Location: 34.655, -87.348

IOP 4 - Did not deploy

UFO 1 - Did not deploy

IOP 5
Time Period: 2018/04/14 1715Z to 2018/04/14 2354Z
Location: 34.725, -86.657 (UAH)

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 (m/s)

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

5.0 Data Remarks

*Only have data available for:

- IOP 3
- UFO 1