

**Title:** PERiLS 2022 UAH MAPNet RaDAPS Surface Dataset

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**1.0 Dataset Overview**

The UAH Mobile Atmospheric Profiling Network (MAPNet) Rapidly Deployable Profiling Systems (RaDAPS). Data is collected via a 6-meter, retractable meteorological tower. When high winds or lightning is in the vicinity, the tower is often lowered. Logbooks have been provided to help the user determine if/when the tower was lowered among other references. This data has undergone preliminary quality control and should be considered final.

IOP 1

Time Period: 2022/03/22 1430Z to 2022/03/22 2230Z

Location: 33.233778, -88.643729 elevation: 90 m

IOP 2

Time Period: 2022/03/30 1430Z to 2022/03/31 0215Z

Location: 33.595558, -88.987904 elevation: 87 m

IOP 3

Time Period: 2022/04/05 1023Z to 2022/04/05 1747Z

Location: 32.1659, -86.9086 elevation: 126 m

IOP 4

Time Period: 2022/04/13 1445Z to 2022/04/13 2145Z

Location: 36.40374,-90.1161 elevation: 86 m

**2.0 Instrument Description:**

The surface station is mounted on a tower that is raised to 6 meters above ground level. The tower is outfitted with a Vaisala WXT520 Weather Transmitter. This sensor provides:

- Temperature
- Relative Humidity
- Pressure
- 2-D sonic wind
- Precipitation type/rate

For detailed information regarding RaDAPS, see the link below:

<https://www.nsstc.uah.edu/mapnet/facilities/radaps.php>

### 3.0 Data Collection and Processing

Data is collected at 1 second intervals. Data have been quality controlled to remove erroneous data. Orientation corrections were also applied when necessary.

### 4.0 Data Format

1 data file per day is available.

The WXT data files are named max\_YYYYMMDD\_wxt.dat, where:

YYYY -> year

MM -> month

DD -> day

wxt.dat -> wxt520 station data

The data file records, column by column, are:

COLUMN VARIABLE

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0 -> Year  
1 -> Julian Day  
2 -> Hour, Minute, Seconds (UTC)  
3 -> Data Flag  
5 -> wind direction (deg)  
6 -> wind speed (m/s)  
7 -> air temperature (F)  
8 -> Humidity (%)  
9 -> pressure (hPa)  
10 -> Rain accumulation (mm)  
11 -> Rain Intensity (mm/hr)  
12 -> hail accumulation (hits/cm<sup>2</sup>)  
13 -> hail Intensity (hits/cm<sup>2</sup>/hr)  
14 -> Heater Temperature (F)  
15 -> Heater Voltage (V)  
16 -> Sensor voltage (V)