Title: PERiLS 2023 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: 2023/02/16 1430Z to 2023/02/17 0100Z
> Location: 32.6015, -88.1992 elevation: 61 m
>
> IOP 2
> Time Period: 2022/03/03 0040 to 2022/03/03 1215Z
> Location: 34.21916, -90.95392 elevation: 49 m
>
> IOP 3
> Time Period: 2022/03/24 1714Z to 2022/03/25 0245Z
> Location: 33.29846, -90.904305 elevation: 36 m
>
> IOP 4
> Time Period: 2022/03/31 1840Z to 2022/04/01 0800Z
> Location: 35.17621, -87.04821 elevation: 201 m
>
> IOP 5
> Time Period: 2022/04/05 1111Z to 2022/04/05 1830Z
> Location: 35.77341, -90.34875 elevation: 70 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

A Texas Electronics TE-525 was also added to the top of the truck for additional rainfall measurements.

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 data files arenamed radaps_YYYYMMDD_sfc.dat, where:

YYYY -> year
MM   -> month
DD   -> day

The data file records, column by column, are:

```
COLUMN       VARIABLE
-------------------------------------
0         ->  Program Constant
1         ->  Year
2         ->  Julian Day
3-4   ->  Hour & minute, Seconds(UTC)
5         ->  wind direction (deg)
6         ->  wind speed (m/s)
7         ->  temperature (F)
8         ->  Relative Humidity (%)
9         ->  Pressure (hPa)
10        ->  Precipitation Total (mm)
11        ->  Precipitation rate (mm/hr)
12        ->  Tipping Bucket rain rate (mm/sec)
```