

Title: PERiLS 2022 UAH MAPNet MIPS Surface Dataset

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1.0 Dataset Overview

The UAH Mobile Atmospheric Profiling Network (MAPNet) Mobile Integrated Profiling System (MIPS) was deployed for all 4 PERiLS deployments. Surface data is collected via a 10-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 1400Z to 2022/03/22 2300Z

Location: 32.82905, -88.48475 elevation: 65 m

IOP 2

Time Period: 2022/03/30 1730Z to 2022/03/31 0132Z

Location: 34.0079941, -88.47614 elevation: 44 m

IOP 3

Time Period: 2022/04/05 0130Z to 2022/04/05 1940Z

Location: 32.498719, -86.424616 elevation: 151 m

IOP 4

Time Period: 2022/04/13 1430Z to 2022/04/13 2208Z

Location: 36.53955, -89.7034077 elevation: 85 m

2.0 Instrument Description

The UAH MIPS has a 10 meter tower with 3 instruments mounted to it and stored using a Campbell Scientific data logger:

- RM Young 05103 wind monitor
- Campbell Scientific 107 thermistor temperature probe
- CS106 Vaisala Barometer

More information regarding the MIPS surface station and the MIPS platform can be found here:

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

3.0 Data Collection and Processing

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

4.0 Data Format

The UAH MIPS surface station data files are standard CSV files and follow the naming convention: mips_YYYYMMDD_sfc.dat, where:

YYYY -> year

MM -> month

DD -> day

sfc.dat -> sfc station data

Column Header data is provided below:

COLUMN VARIABLE

-
- 0 -> Program Constant
 - 1 -> Year
 - 2 -> Julian Day
 - 3-4 -> Hour & minute, Seconds(UTC)
 - 5 -> battery voltage (V)
 - 6 -> wind speed (m/s)
 - 7 -> wind direction (deg)
 - 8 -> temperature (C)
 - 9 -> pressure (hPa)