

**Title:**

Radiosonde measurements collected by the Center for Multiscale Applied Sensing (CMAS) during the ESCAPE and TRACER field campaigns in Houston, TX in 2022

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**1.0 Data Set Description**

- Introduction or abstract

Data from 46 Graw Radiosondes launched from the Center for Multiscale Applied Sensing mobile observatory at variable location within a 50-km radius domain around Houston, TX between 29 May 2022 to 27 June 2022.

- Data version number and date  
Version 1.4

- Data Status (Preliminary or Final)  
Final version.

- Time period covered by the data  
29 May 2022 to 27 June 2022

- Physical location (including lat/lon/elev) of the measurement or platform  
All radiosondes were launched within a 50-km radius domain around Houston, TX. The exact latitude and longitude of each radiosonde is given in each file.

- Data Frequency - Frequency of data collection (e.g., 5 minute, hourly, continuous, etc.).  
Variable.

- Data set restrictions (i.e., indicate if data set needs to be restricted, requires password protection, contains personal info, description of any licensing, etc.)  
No restriction.

**2.0 Instrument Description**

Dataset collected using Graw radiosondes launched according to vendor instructions.

**3.0 Data Collection and Processing**

- Description of data collection

Interpolated data collected by Graw radiosonde launched from the Center for Multiscale Applied Sensing mobile observatory truck (Lamer, K. et al. Going mobile to address emerging climate equity needs in the heterogeneous urban environment. Bulletin of the American Meteorological Society 103, E2069-E2080 (2022)).

- Description of derived parameters and processing techniques used  
Data was vertically interpolated and saved to NetCDF format
- Description of quality assurance and control procedures  
No quality assurance and control procedures applied.

#### **4.0 Data Format**

- Data file structure and file naming conventions  
Each radiosonde profile is provided in a NetCDF file.

File name GrawSonde\_LidarTruck\_RTS\_YYYYMMDD\_HHMMSS.nc

YYYY stands for the year of the data collection

MM stand for the month of data collection

DD stands for the day of data collection

HH stands for the hour of the launch in UTC

MM stands for stands for the minute of launch in UTC

SS stands for the second of launch in UTC

- List of parameters with units, sampling intervals, frequency, range  
time\_offset (sec),  
time (sec),  
pressure(hPa),  
temperature(degC),  
relative\_humidity(%),  
geopotential\_height(m),  
dewpoint\_temperature(degC),  
refractive\_index(-),  
modified\_refractive\_index(-),  
speed\_of\_sound(m/s),  
air\_density(g/m<sup>3</sup>),  
vapor\_pressure(hPa),  
potential\_temperature(degC),  
virtual\_temperature(degC),  
specific\_humidity(g/kg),  
wind\_speed(m/s),  
wind\_direction(deg from North, indicates the origin of the wind),  
longitude (deg),  
latitude(deg),  
geometric\_height(m)

#### **5.0 Data Remarks**

None

## **6.0 References**

None