MetPy for your Data
Analyzing Meteorological Observations in Python

SHORT COURSE ORGANIZER
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SUN 8 JAN

8:30 A.M. **SETUP USER SYSTEMS (optional)**
- Installation instructions will be sent out ahead of time
- This is an optional time to help troubleshoot anyone having problems

9:00 A.M. **ARRIVAL AND INTRODUCTIONS** Drew Camron
- Introduce speakers, their backgrounds. Have participants quickly state their names and what they hope to gain from the course.
- Launch into Jupyter Lab environment locally or on the cloud

9:15 A.M. **Radar Data** Ryan May
- Access NEXRAD data on THREDDS Data Server or AWS s3(demo, exercise)
- Read data with MetPy, PyART (demo)
- Explore unique considerations for radar data structures (demo, learner check-in)
- Visualize single- and multi-product plots (demo, exercise)

10:30 A.M. **COFFEE BREAK**

10:45 A.M. **Satellite Imagery and Gridded Data** Jon Thielen
- Access GOES-16/17 data on THREDDS Data Server or AWS S3 (demo)
- Read data using MetPy together with Xarray (demo, exercise)
- Discuss metadata for coordinate systems, image reprojection
- Visualize using image plots with various geospatial overlays using MetPy and Cartopy (demo, exercise)
- Combine with previous radar data (exercise)

12:00 P.M. **LUNCH (on your own)**

1:15 P.M. **Surface Observations** Kevin Goebbert
- Access remotely-hosted archives of surface observation data (demo, exercise)
- Read data (eg METAR text, GEMPAK file) (demo)
- Process data and accompanying metadata (eg units) (demo, exercise)
- Apply MetPy with Matplotlib to plot station models (exercise)

2:30 P.M. **COFFEE BREAK**

2:45 P.M. **Upper Air Observations** Drew Camron
- Access remotely-hosted upper-air observations and atmospheric profiles (demo)
- Read and process data and their units (demo)
- Highlight MetPy plotting capability for upper-air maps and profiles (demo, exercise)
- Calculate meteorological quantities on processed data, explore documentation (exercise)
- Explore opportunities for crossover with previous workflows (demo)

3:35 P.M. **WRAP UP**
- Gather feedback from participants on how the course will be of use to their work and general course feedback.

3:45 P.M. **ADJOURN**