PYTHON FOR SYNOPTIC METEOROLOGY USING METPY

SHORT COURSE ORGANIZER
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SUN 6 JAN

8:30 A.M. **ARRIVAL AND INTRODUCTIONS**. Ryan May
- Introduce speakers, their backgrounds. Have participants quickly state their names and what they hope to gain from the course.

8:35 A.M. **SETUP USER SYSTEMS.** John Leeman
- Install required software for the course and get a copy of course materials.

9:15 A.M. **INTRODUCTION TO CARTOPY**. Kevin Goebbert
- Making figures with maps using standard Matplotlib calls will be shown.
- Plotting with geographically referenced data in Python will be introduced.

10:00 A.M. **COFFEE BREAK**

10:30 A.M. **SIPHON FOR REMOTE DATA ACCESS.** Ryan May
- Demonstrate the use of Siphon to access remote datasets through a variety of services that permit downloading all or portions of datasets

11:15 A.M. **SKEW-T ANALYSIS**. John Leeman
- Use MetPy's plotting functions to produce a publication quality plot.
- Use MetPy's calculation functions to calculate parameters such as CAPE, CIN, bulk shear, and more from upper air data.

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

1:00 P.M. **QUASIGEOSTROPHIC ANALYSIS.** Kevin Goebbert
- Use remote data access tools with MetPy and Cartopy to perform a quasigeostrophic analysis of a mid-latitude cyclone
- The creation of a four-panel plot will be demonstrated.

1:45 P.M. **ISENTROPIC ANALYSIS**. Ryan May
- Download remote data and use MetPy and CartoPy to generate isentropic maps
- The creation of a cross-section will be demonstrated

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

2:45 P.M. **VISUALIZING SATELLITE IMAGERY.** John Leeman
- Retrieve satellite imagery from a THREDDS server and plot it on a map with appropriate colorbars.
- Add annotations to maps generated

3:30 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**

4:00 P.M. **AMS ANNUAL MEETING PRESIDENTIAL FORUM**