The MetPy Roadmap: Replacing Legacy Meteorological Tools

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What is MetPy?
- Community Driven: We use feedback from scientists and educators to help plan development. Many users even contribute code to MetPy!
- Documented: Reproducibility of science is paramount in the computationally driven research world of today. We strive to document exactly how calculations are done with references to the relevant scientific literature.

Reducing time to science!

Challenges Facing Scientific Computing
- Units: MetPy uses unit aware calculations, but the scientific software ecosystem is still catching up and there are bumps to smooth out.
- Data Model: Meteorological data are complex. There are ungridded multidimensional observations, large gridded model output, and multiple coordinate systems. We are working to integrate XArray/Pandas as a data model for MetPy.

Where are we going?

Units
- MetPy uses unit aware calculations, but the scientific software ecosystem is still catching up and there are bumps to smooth out.

Data Model
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Tell us your suggestions!

Automated Solver
- Helpful Utilities
- Declarative Interface

Declarative Plotting
- We are in the process of developing a declarative plotting interface, somewhat reminiscent of GEMPAK that greatly reduces the barrier to entry by writing the “boiler plate” code for you!

How you can learn

Watch milestones on GitHub for upcoming features!
- Spring 2018:
  - BUFR reader
  - Wet bulb temperature
  - Skew-T improvements
  - Community contributions

Unidata has produced an online Python training course, as well as materials for our regional workshops that are freely available. These notebooks provide valuable training and examples.

Don’t forget!
conda update metpy

Join us every Monday morning for a coffee-break sized lesson on how to use MetPy! Checkout the Unidata Developer’s Blog and subscribe to our YouTube channel.

Examples are a great way to learn and get code to start you on your project. The MetPy examples and Unidata Python Gallery are great places to start!

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What is MetPy?
- File Formats
- Calculations
- Plotting

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