# MetPy's Recent Updates and the Road to 1.0

7Python 321

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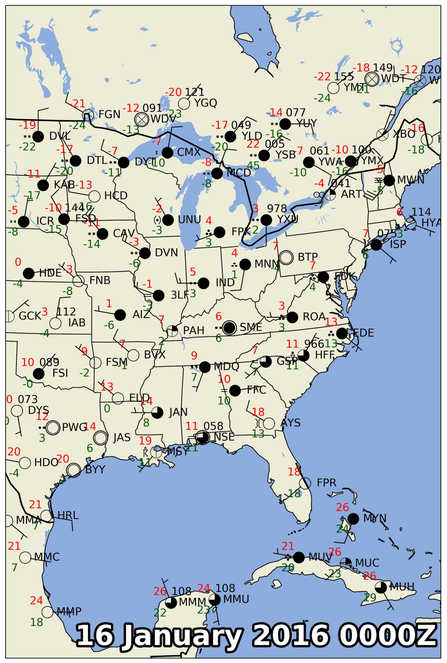
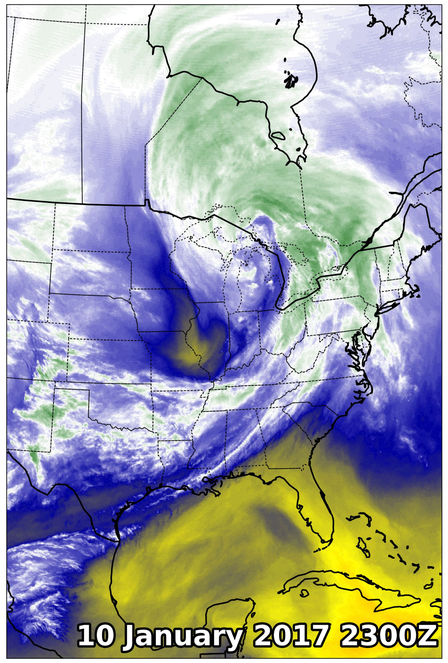
## What's new in MetPy?

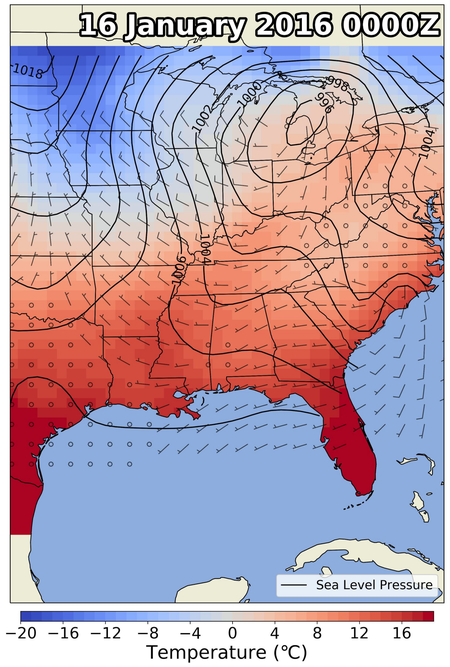
- New calculations
  - Saturation Mixing Ratio
  - Equivalent Potential Temperature
  - Coriolis Parameter
  - Level of Free Convection
- Gridding (provisional API):
  - Barnes
  - Cressman
  - Nearest Neighbor
  - Natural Neighbor
  - Radial Basis Function
- Accessing sounding data in Wyoming and Iowa State archives



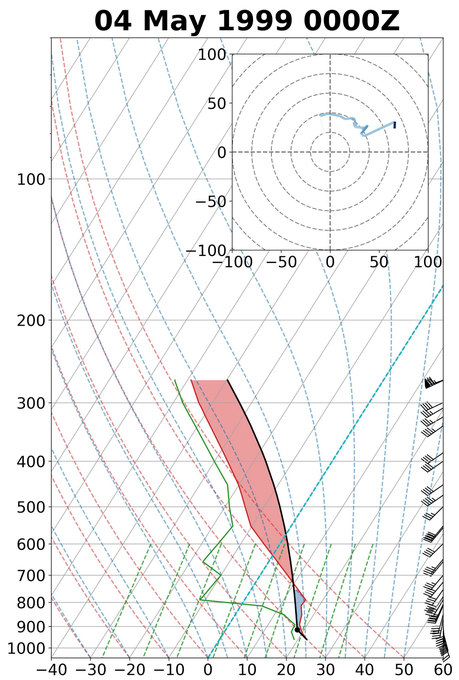

Station Plot




GINI Satellite File




Gridded Data




Hodograph

## What is MetPy?

MetPy is an open-source Python package for meteorology. It works well with other scientific Python libraries, offering scripted weather analysis capabilities similar to those in tools like GEMPAK. The guiding principle is to work easily with any dataset that can be read into Python.

- Reading data (e.g. NEXRAD data)
- Meteorological calculations
  - Lifted Condensation Level (LCL)
  - Dry and Moist Adiabatic Lapse Rates
  - Dewpoint
  - Many more...
- Meteorology-specific plotting (e.g. Skew-T)

## What's up next?

MetPy's near-term focus is better GEMPAK parity:

- GEMPAK's diagnostic calculations
- Improved integration with xarray library
- Simplified plotting interface
- Other short-term plans:
  - METAR parsing
  - Tools for reducing point data for plotting
  - Improved unit-related error messages
  - Many more examples

## What's the long-term plan?

MetPy 1.0 will be the first release to promise stable APIs--though we have not changed APIs so far. Things we would like to have in place:

- Automated Parameter Calculation (automatically calculate requested parameter based on those available in dataset)
- BUFR Support
- Meteograms
- Improved Natural Neighbor run-time

To request a feature, report a bug, or see the current plans, visit:
https://github.com/Unidata/MetPy/issues

For more information, see MetPy's documentation at:
https://unidata.github.io/MetPy

@metpy

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