MetPy: An Open-Source Toolkit for Meteorology

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unidata

UCAR

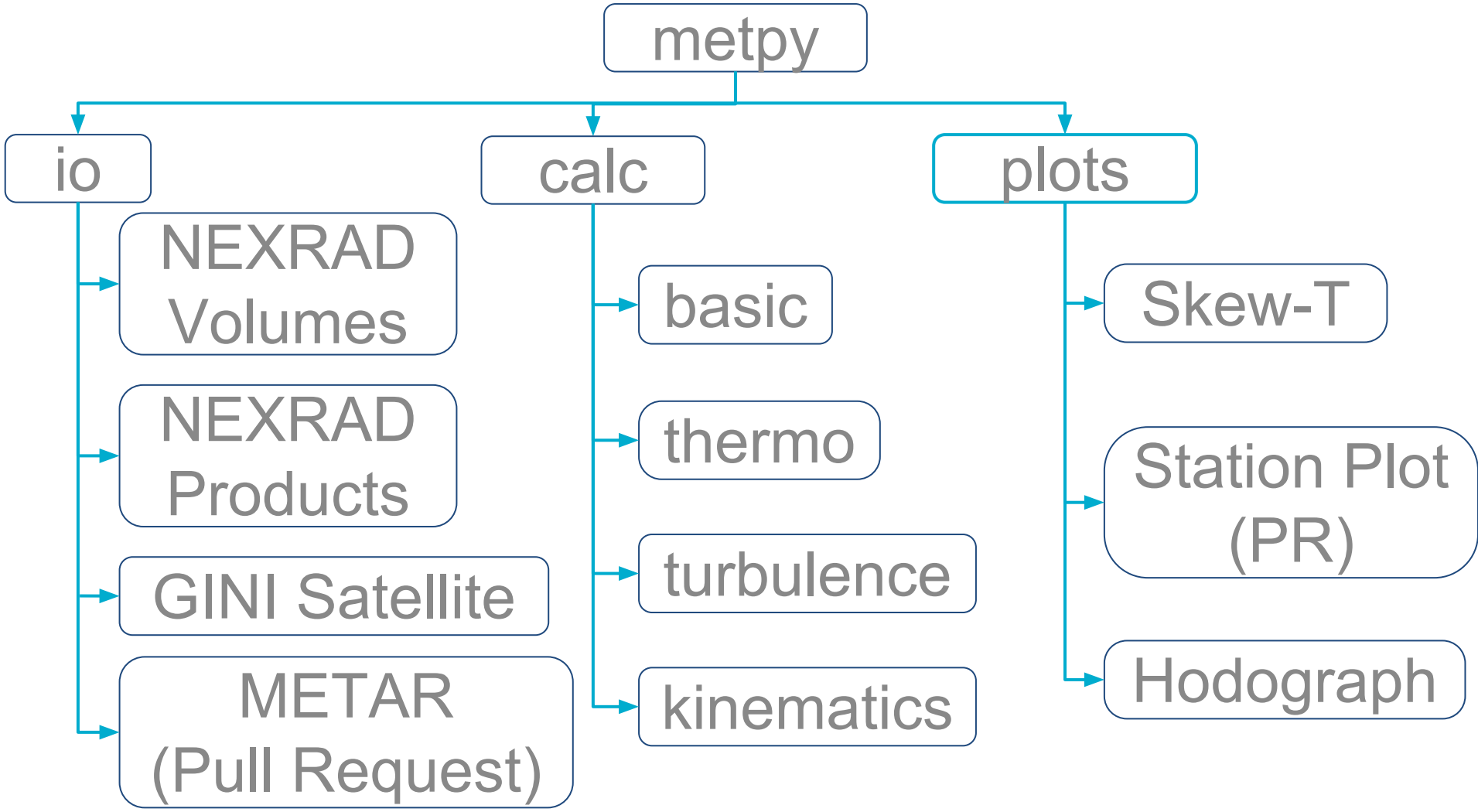
MetPy?

- Python toolkit for meteorology
- Pythonic GEMPAK?
- Intended to be general: education, research, etc.
- Goal is to become a community resource to find useful pieces

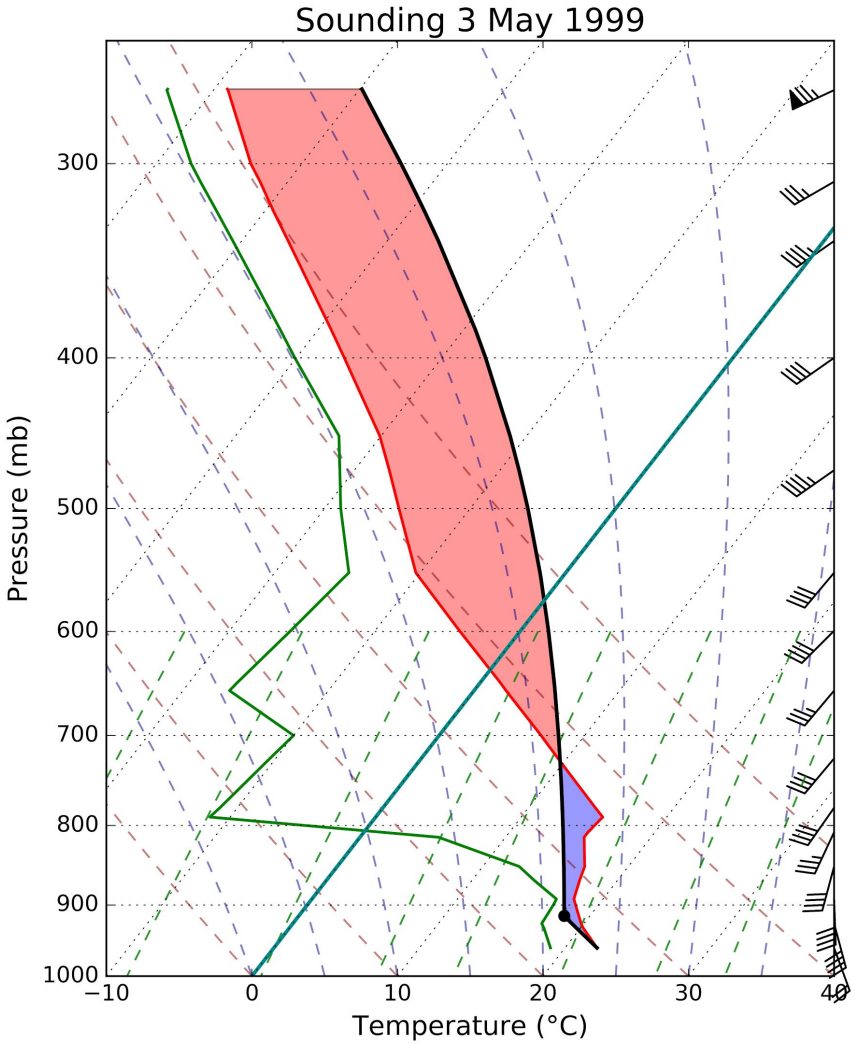
Design Philosophy

- Fit well with scientific Python ecosystem (NumPy, Matplotlib, etc.)
- Simple to use with your own data
- Unit-correctness built-in (using pint)
- Good online documentation, with citations to literature when appropriate

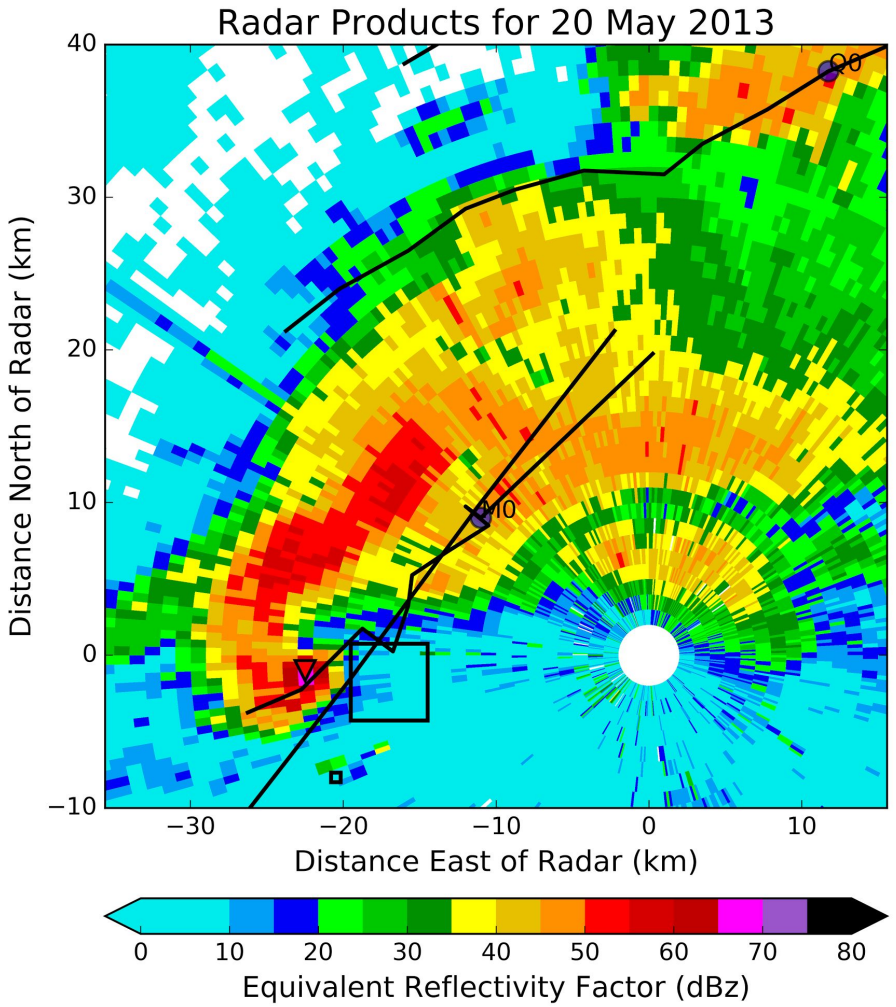
Features


metpy
io
calc
plots
NEXRAD Volumes
NEXRAD Products
GINI Satellite
METAR (Pull Request)
basic
thermo
turbulence
kinematics
Skew-T
Station Plot (PR)
Hodograph

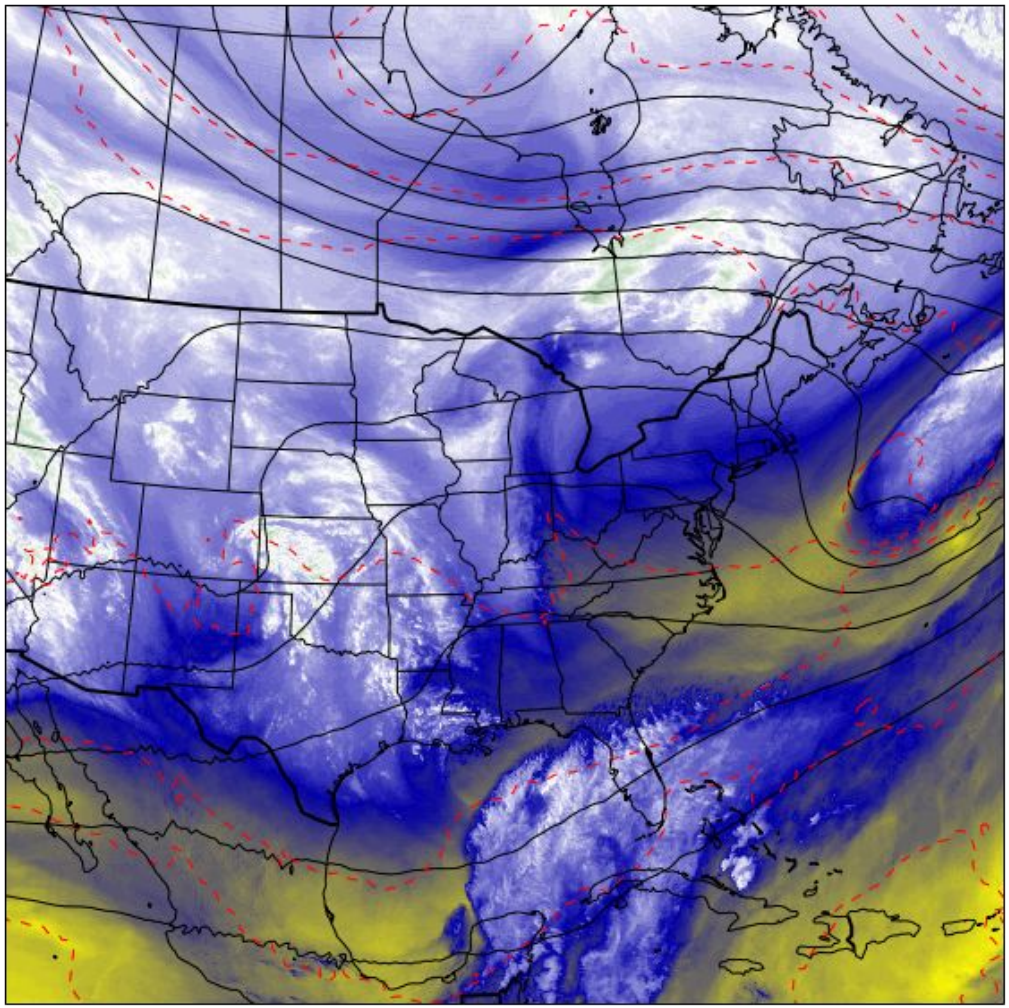
Example - Skew-T LogP



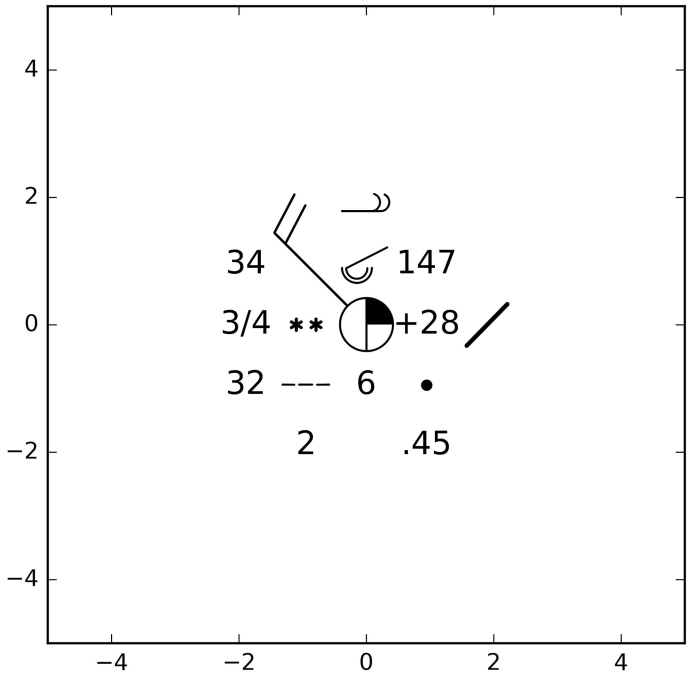
Example - NIDS Products



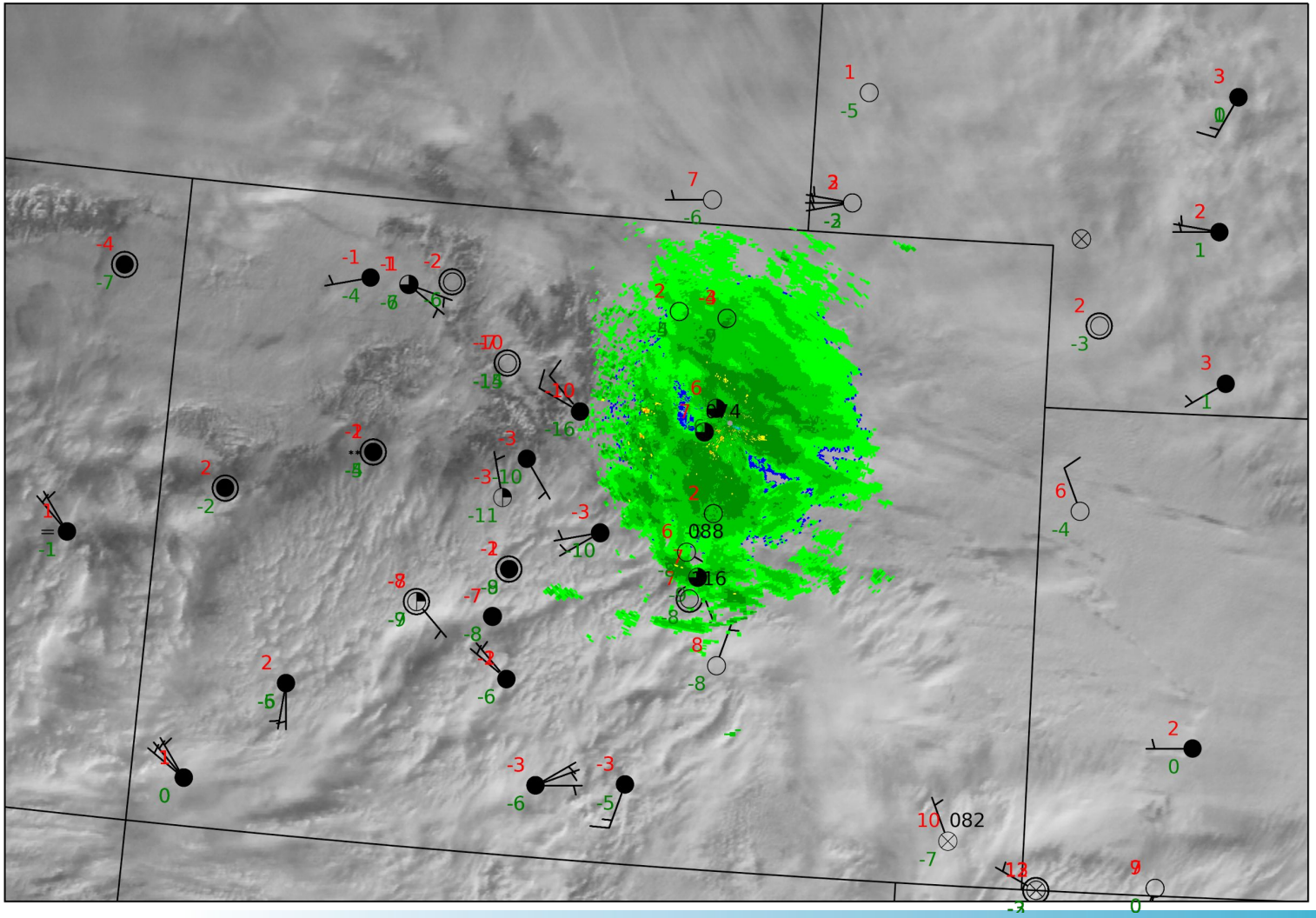
Example - Water Vapor and GFS



Example - Station Plot



Satellite + Radar + METAR



What's coming...

- More calculations (e.g. CAPE)
- Upper air report parsing
- GEMPAK file I/O (?)
- See issue tracker for more of our ideas (or add your own!): http://github.com/metpy/MetPy/issues

Development

- Automated testing (95% test coverage): Travis-CI
- Automated Documentation Builds: Sphinx + Read The Docs
- Automated code quality checking
  - PEP8
  - Cloud Tools

Where to get MetPy

- Supports Python 2.7 and >= 3.3
- PyPI: https://pypi.python.org/pypi/MetPy
  - pip install metpy
- Conda: https://anaconda.org/Unidata/MetPy
  - conda install metpy

Want to get involved?

- Open issues
  - Bug reports
  - Feature Requests
- Contributions!
  - Pull requests for new code
  - Documentation/Examples (more pull requests!)
- Unidata Community Survey: https://www.surveymonkey.com/r/VXWSQPR

Resources

- Code: http://github.com/metpy/MetPy
- Documentation: http://metpy.readthedocs.org
- Mailing List: python-users@unidata.ucar.edu
- Twitter: @metpy (or @dopplershift)

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