

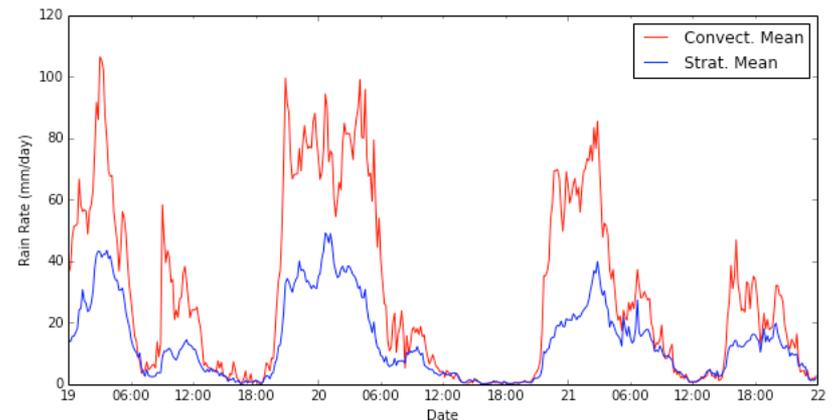
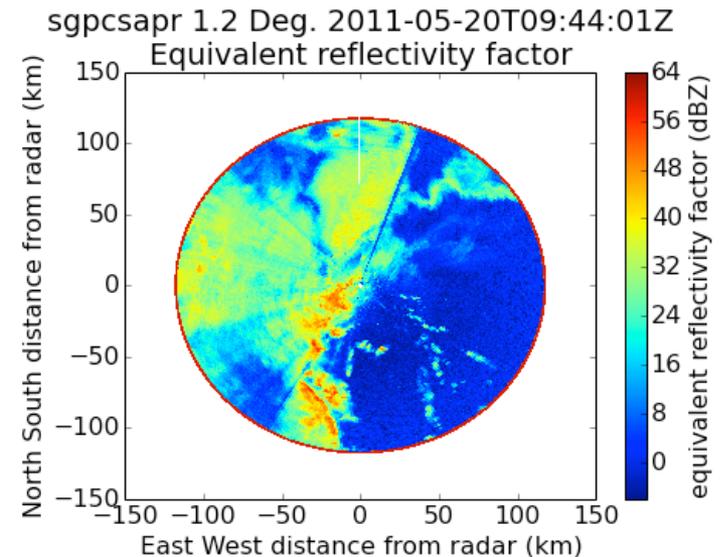
Argonne Translator Group Activities: Looking back on FY13 and towards FY14

Everybody talks about the weather, but nobody does anything about it.!
-Generally attributed to Mark Twain

Scott Collis and Jonathan Helmus
Contributions from many!

Our team is here to ensure ARM Radar data has the highest impact possible!

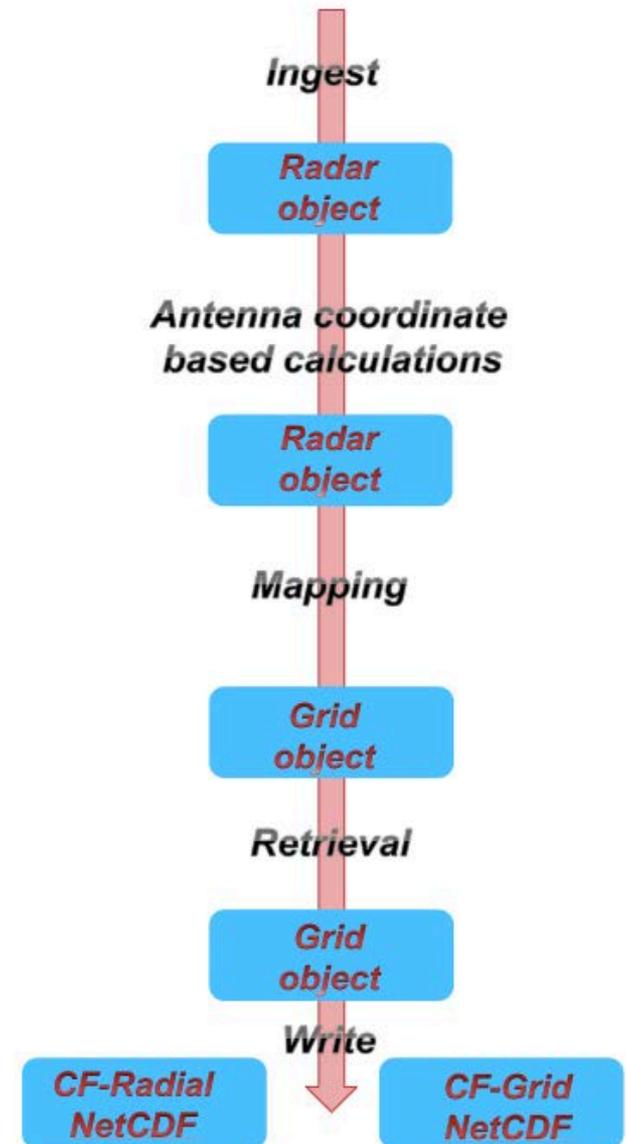
- Working with ARM mentors, ASR Pis and the wider community we strive to ensure data from the ARM 5-cm and 3-cm wavelength radars gets into the hands of those that need it in a form which they can use it.
- We are here to enable YOUR science. If we do not know the answer we know some one who probably does!
- We need your input! Through WG chairs, FG chairs and the translator group!



During your breakouts: Think about data needs!

Achievements to date

- Since it was ARM's first "radar centric" IOP initial development has focused on the MC3E IOP around SGP. In addition to some VAPs from Manus during AIME.
- VAPs aimed at radar data users: Corrected Moments in Antenna Coordinates CMAC.
- VAPs aimed at modeling and process understanding: MMCG, QPE and CONVV
- All implemented in a Python based community architecture
- Ingest now released for X-SAPR data, C-SAPR to follow soon!

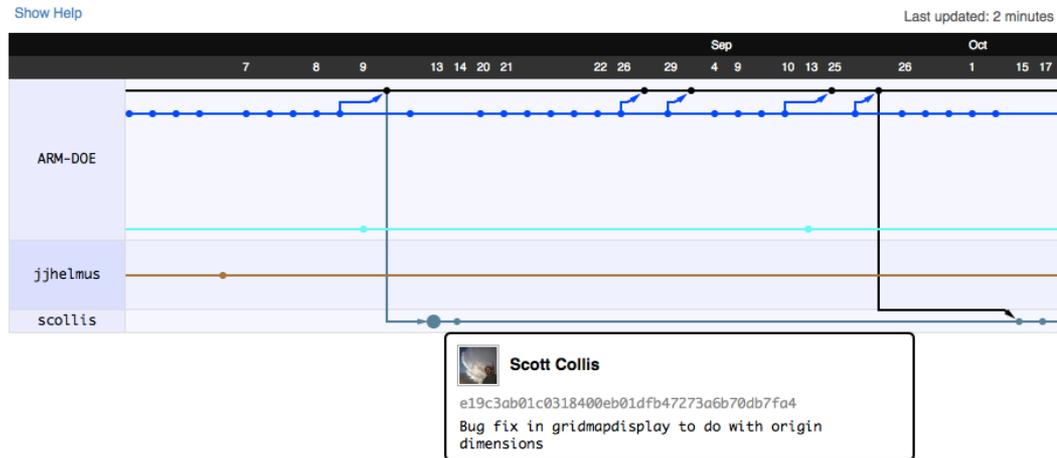


A bit more on Py-ART

- Community based code! Everything we do at Argonne will be released through the toolkit.
- Working within the architecture of Py-ART will greatly simplify the path from PI effort to production VAP.

The pyart network graph

All branches in the network using ARM-DOE/pyart as the reference point. [Read our blog post about how it works.](#)



Members of the pyart Network

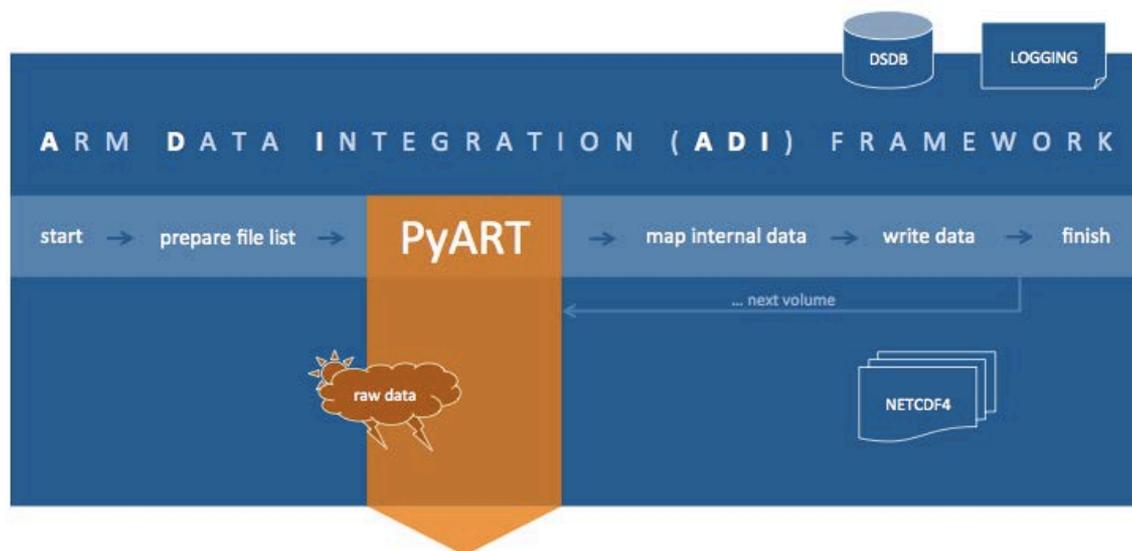
ARM-DOE created pyart and everyone else forked it. This is the family tree.

- ARM-DOE / pyart
 - aereinha / pyart
 - deeplycloudy / pyart
 - jjhelmus / pyart
 - josephhardinee / pyart
 - kirknorth / pyart
 - kmuehlbauer / pyart
 - nguy / pyart
 - paistis / pyart
 - scollis / pyart
 - vanandel / pyart

Think of it as the bridge between science and infrastructure!

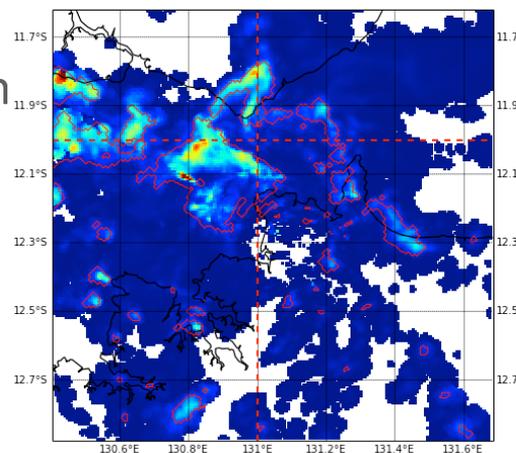
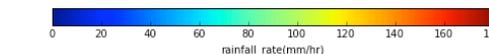
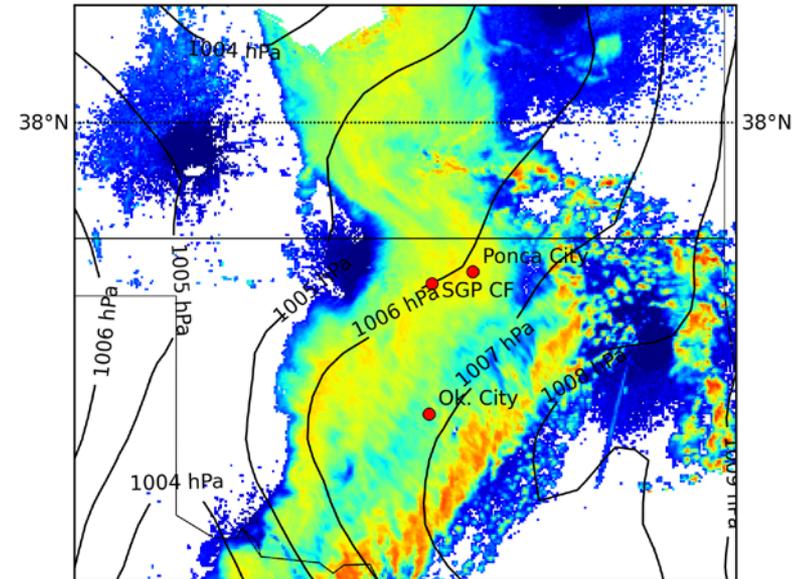
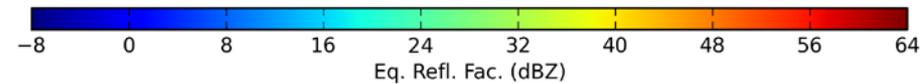
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X S A P R I N G E S T

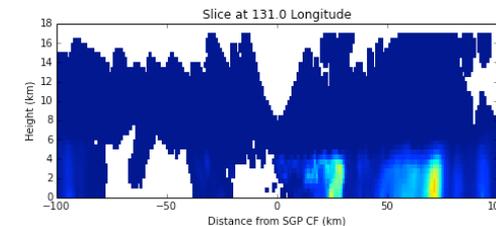
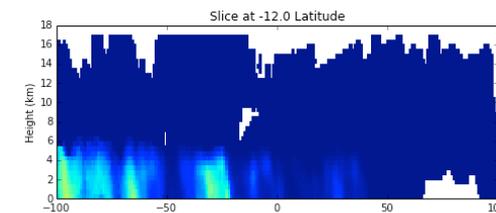


VAP Priorities Roadmap

- Tradeoff between applying established science to radar systems in well characterized areas and novel retrievals in “frontier” regions.
- Resource constrained. Many candidates for development. One Translator and developer who implement algorithms on ARM data in a **robust** manner.
- Retrieval development parallels and is coordinated with instrument development. Strong cross-laboratory linkages.
- Also involves data fusion with other ARM and external sensors



Sliced at 500.0 meters at 16:30 Z on 2006-01-23



Some examples

More established: Clear pathway to implementation

- VAD based winds at SGP, Darwin.
- Rainfall in Darwin (10 year CPOL record).
- Leveraging NEXRAD data at SGP and AMF deployments.
- Azores QPE (need Distrometer data)
- Vertical velocities in Darwin and SGP (instrument status dependent).
- Cell tracking lagrangian statistics.
- C/S partitioning (again, where we have distrometer data).
- UHF VAPs.

Less established: More science needed

- Filtering out sea clutter at NSA.
- Snowfall rates at NSA.
- Anything to do with ice.
- Single radar dynamical retrievals (Manus, C-SAPR2, NSA).

