

Final report of 2017 Unidata Equipment Awards project
“University of Miami Data Server 2017” (UCAR subcontract (SUBAWD000105)
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Thanks to this Unidata award, the mighty server and the many data and code resources at

Repository Contents:

- AMIE-DYNAMO data archive
- Datasets hosted on this UM server
- GCM nudging project
- South Asian Monsoon loops
- The Mapes IDV collection
- Aggregated dataset links
- DRILSDOWN Case Studies
- IDV Bundles
 - AMS LMT Lab Manual
 - Chapter 1
 - LMT_1.2
 - LMT_1.2_RT

weather.rsmas.miami.edu have a secure future for many years to come. A new server (currently called *weather2*; this gets confusing so pay attention!) has been procured and installed. The contents of *weather* have been copied over by remote sync. This was necessary since the old *weather* server had begun to express RAID disk errors and desperately needs a disk rebuild – but it is not so easy to host over 50 TB of OpenDAP-accessible datasets for users while the disk array rebuilds!

Now with two almost-mirrored machines, *weather2* can now take over services as weather.rsmas.miami.edu while *weather* is refurbished as the new *weather2* (I told you this gets confusing). The point is, the *weather* twins can switch roles within minutes, keeping all this hardware drama invisible to our service users.

This setup provides Unidata systems designers and community members with a useful testbed for inter-machine portability and backup experiments: How can we keep the comprehensive Unidata suite of software (LDM, THREDDS, RAMADDA, etc.) running while the hardware is swapped out? Our likely approach has been called “Unidata in a box”: a vision for the Age of Containerization, before the Cloud Age takes over, if indeed that is the future.

Admittedly, this was not a flashy award project – indeed, the flashy thing would have been to experience a failure of the server during the first semester of hosting the free IDV bundles for the new, IDV-based Lackmann-Mapes-Tyle textbook lab manual! (shameless plug:

<https://bookstore.ametsoc.org/catalog/book/synoptic-dynamic-meteorology-lab-manual>). Still, it puts the Unidata suite on a firm footing in Miami for the next decade or so, as the twin machines can be swapped and the older one refurbished as they age. This allows our larger dreams (some of them funded) to proceed: to bring Unidata’s technology stack to the oceanography and climate research communities (as well as the realtime weather folks), starting from Miami but open to the world. We are grateful for the infrastructure that supports us to participate in this community-based showcasing of Unidata’s great tools.

