ICAP-Ensemble Meeting
AOT & Radiation Verification
(Really, what is mostly new in remote sensing)

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In cooperation with **James Hansen** and **Doug Westphal**, NRL

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Overview

First half (Reid):

- Follow-up on NRLs to-do list verification from last meeting.
- What is new in the satellite world?
- Multi-model verification: How is it different?

Second Half (Hyer):

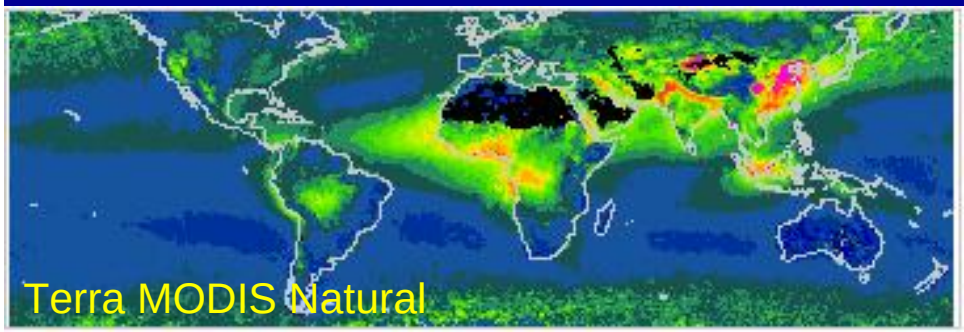
- Latest on MODIS grade products for assimilation and verification.
- What we did.
- Where to get it.

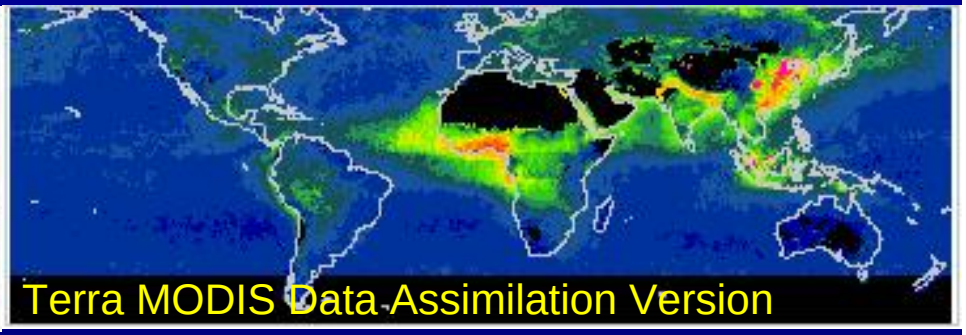
NRL's verification to-do list from Oxford

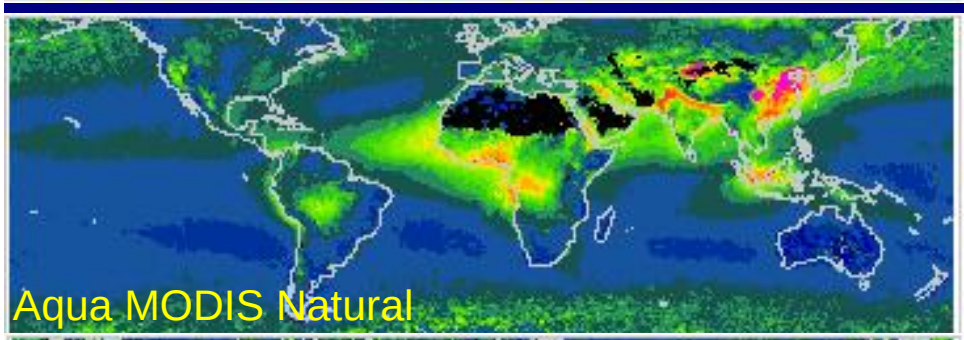
We agreed to take a first shot at AOT and radiation verification. ECMWF signed up for surface.

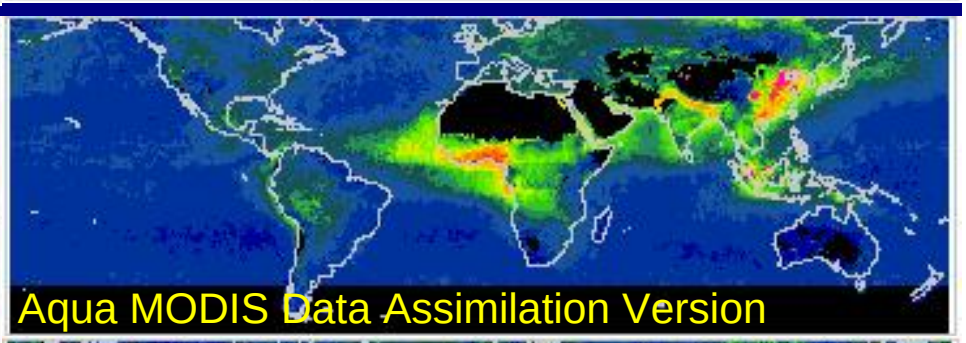
- Develop a dust AOT consensus (Walter yesterday).
- Develop an AOT own analysis (Randy in 2 hours).
- We were going to give a first try to an ICAP AOT CLIPER as a verification baseline (me in 2.5 hours).
- Get a list out of our top visibility verification sites (ICAP 1000?).
- Coordinate along with Luke on an AERONET verification product.

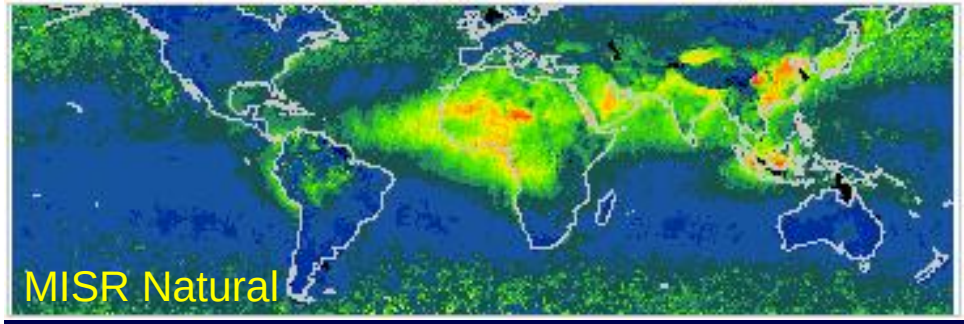
Updated Data Assimilation Grade AOT

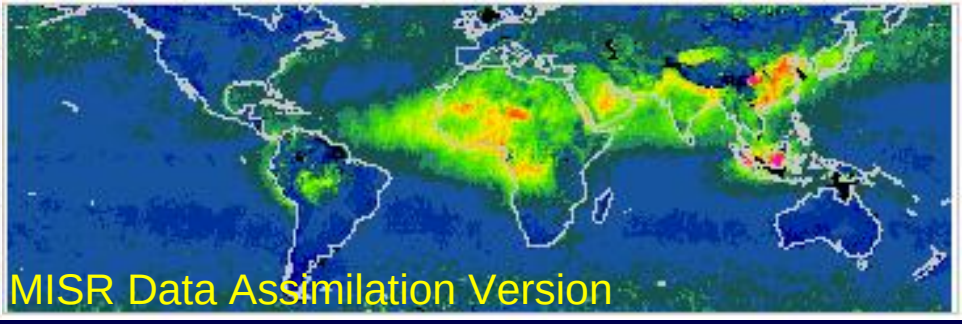


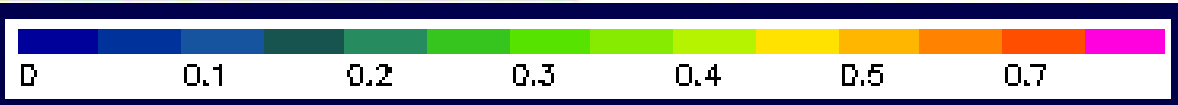








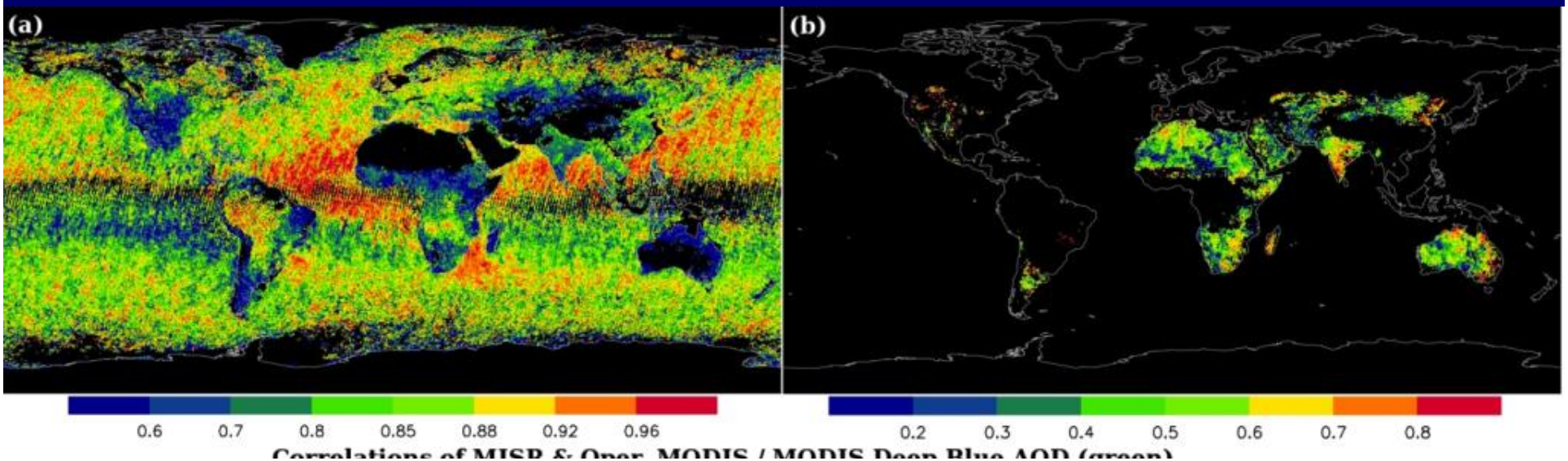




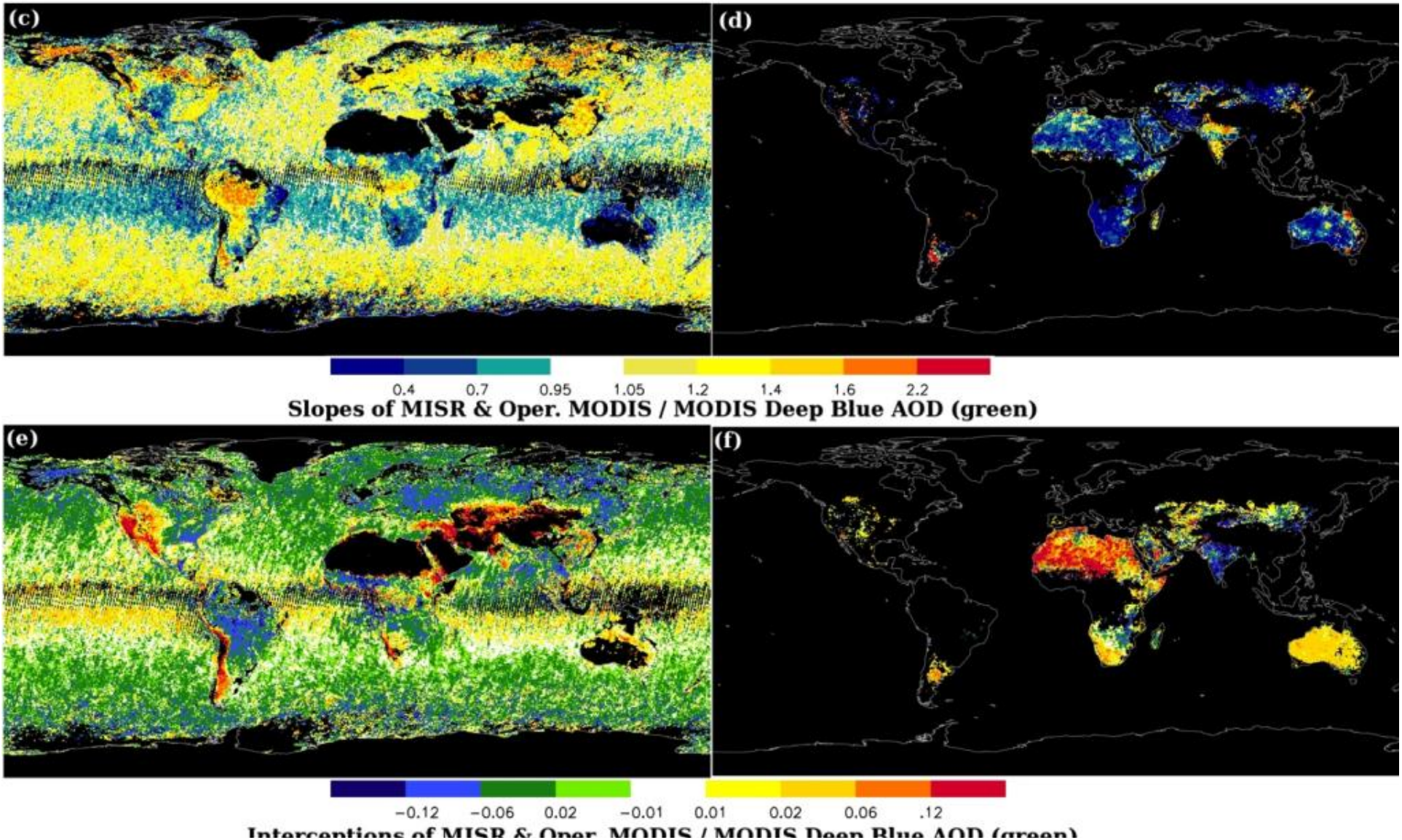
AOT (Green)

Shi Completed first global pairwise intercomparison. To be submitted in the next week. Includes geotif and kml

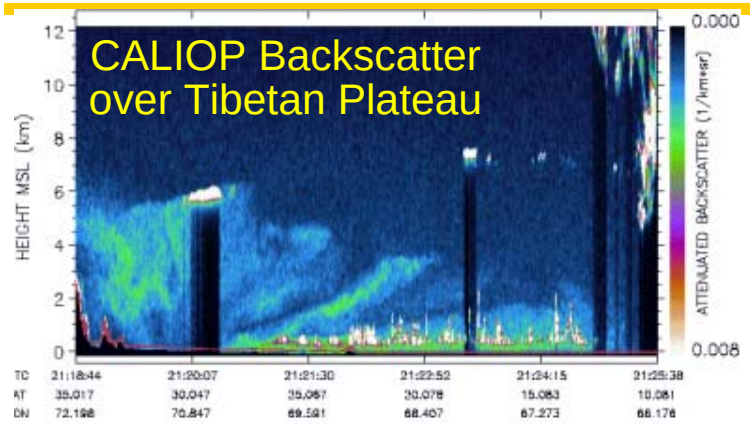
- Through product cross comparison we mapped regional error AOT error.
- We directly staid out of the "who's best" realm, although the presupposition was definitely in favor of MISR.
- There were no surprises, and everybody has problems with cloud bias.
- But, we are now on a firmer footing for spreading error covariance from Ed Hyer's AERONET based analysis

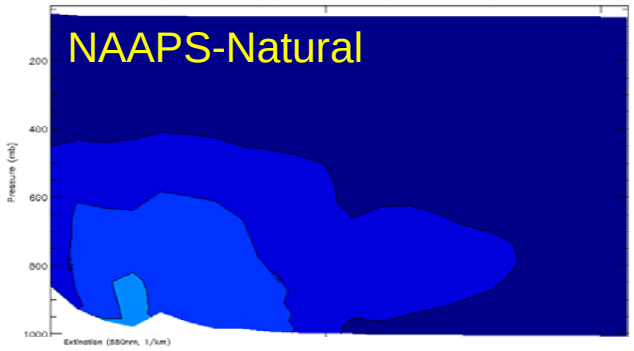


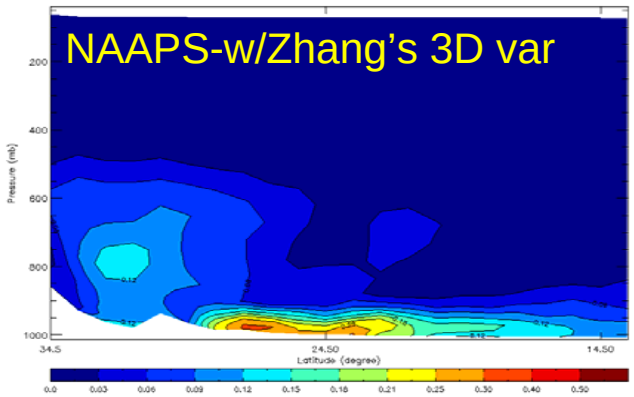
Slope and Intercept

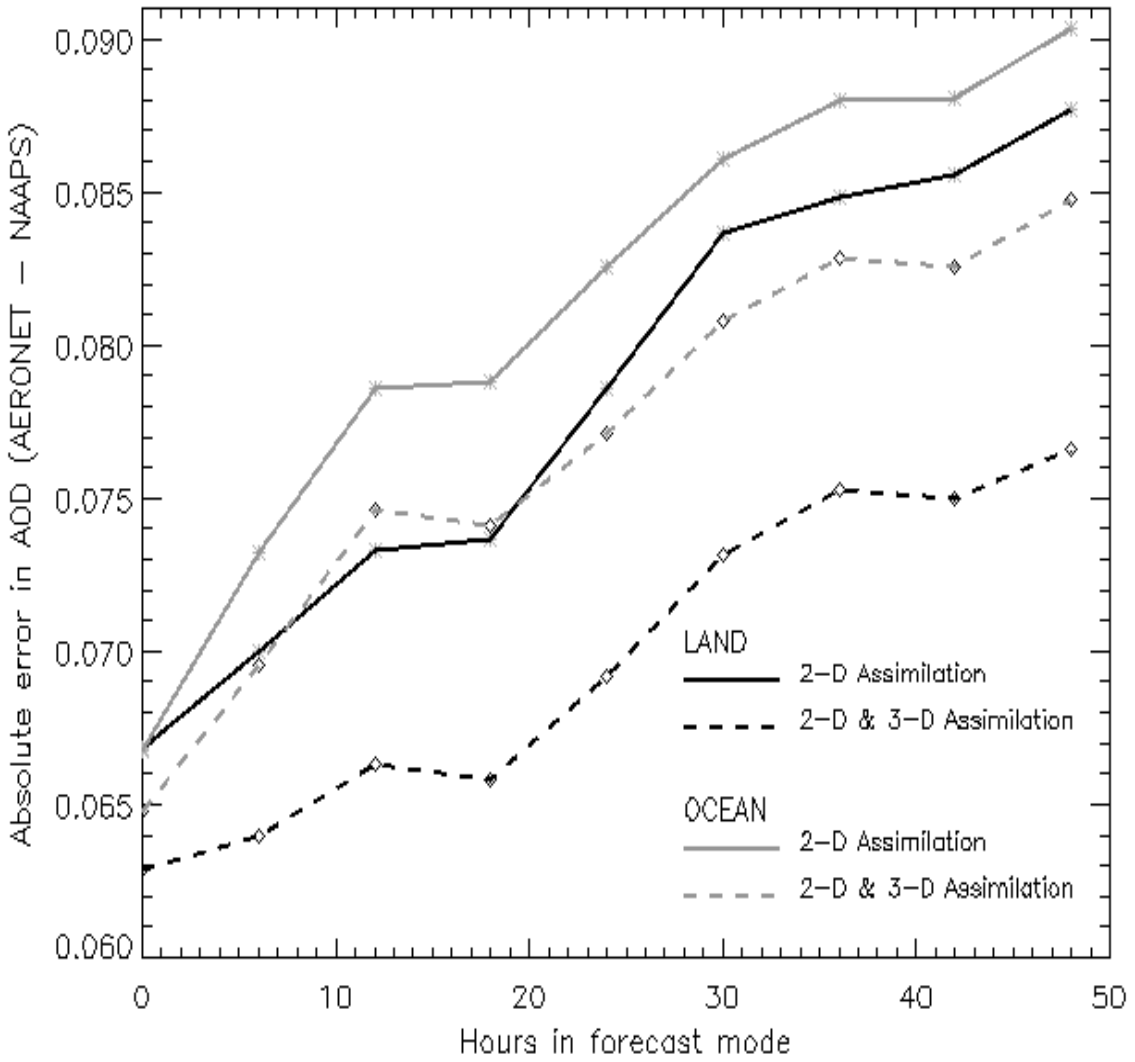


Our first 3D Var test runs complete (Zhang assimilated Campbell's product). Even withoug EnKF, no surprise, you get vertical distribution right, you get a better forecast….









Other news

GEWEX: Just came out of a GEWX Aerosol Assessment Panel (GAAP) meeting. Our voice is getting heard.

NPP/JPSS:

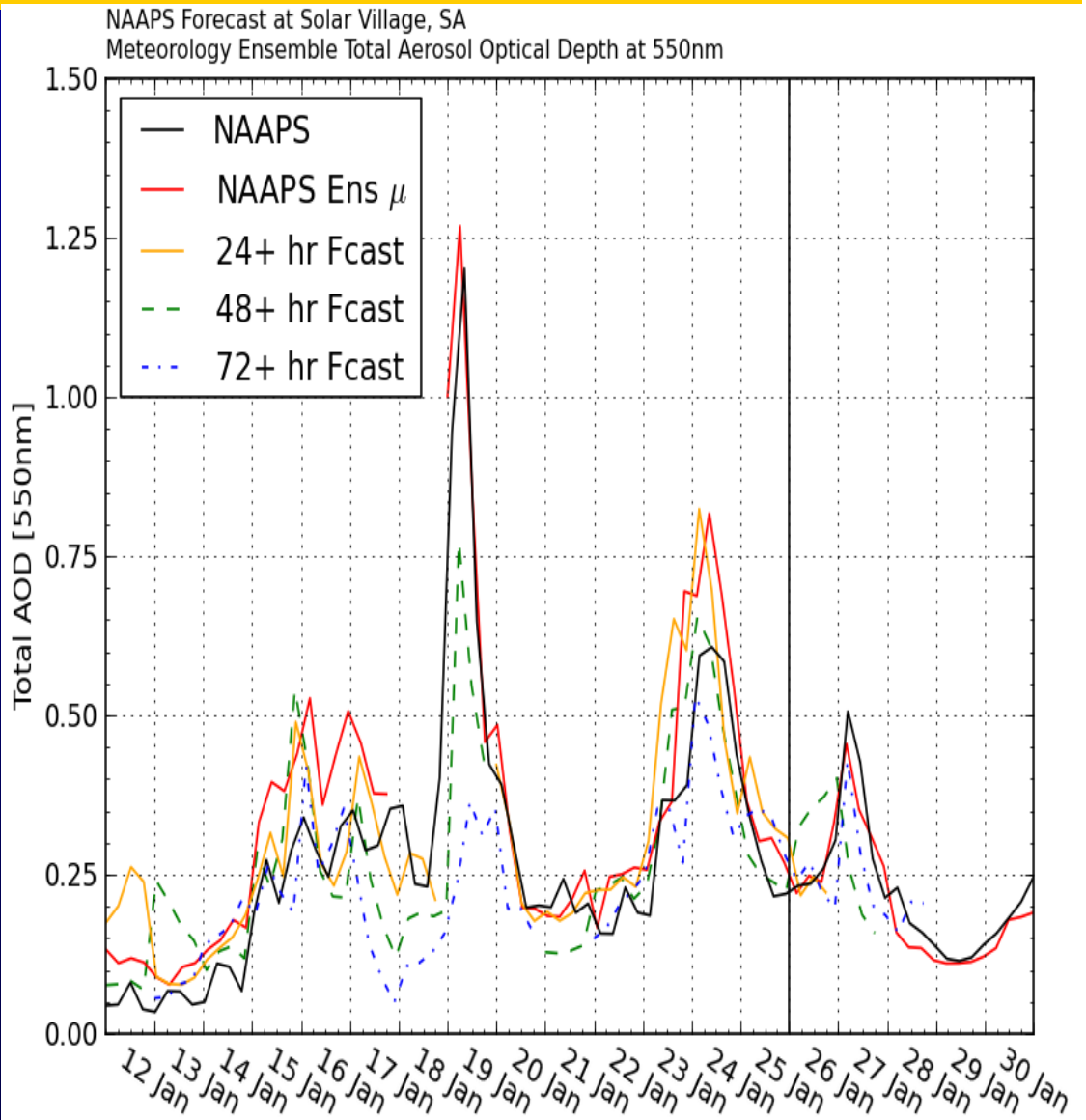
- Launch date still October.
- On product verification be honest I think we have to do this ourselves.
- Good news is that the MODIS team was picked up by NASA ensuring MODIS technology persistence, and the PEATE is really easy to work with.

Lidar: Lidar continuity looks much better than it did last year.

- Thanks LaRC!
- EarthCARE-ATLID is still alive. Now waiting until 2016
- There will likely be an HSRL on ISS in 2013.

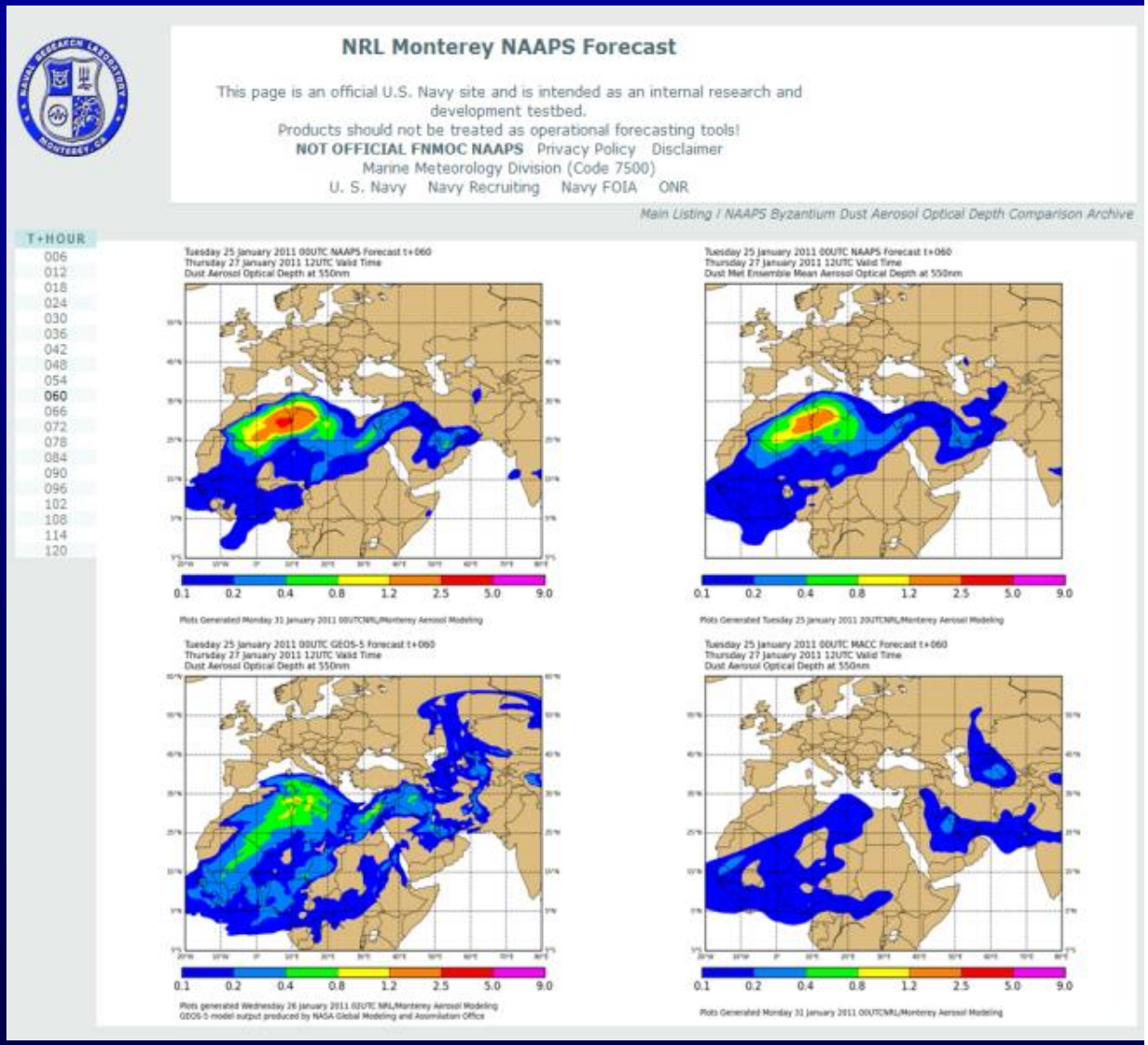
Single Model Verification Tools

- Walter has gone far to generate verification tools.
- These are being coded in Python as per our previous agreement.
- There is a lot of information.
- But we still need to have first cut metrics to work on.

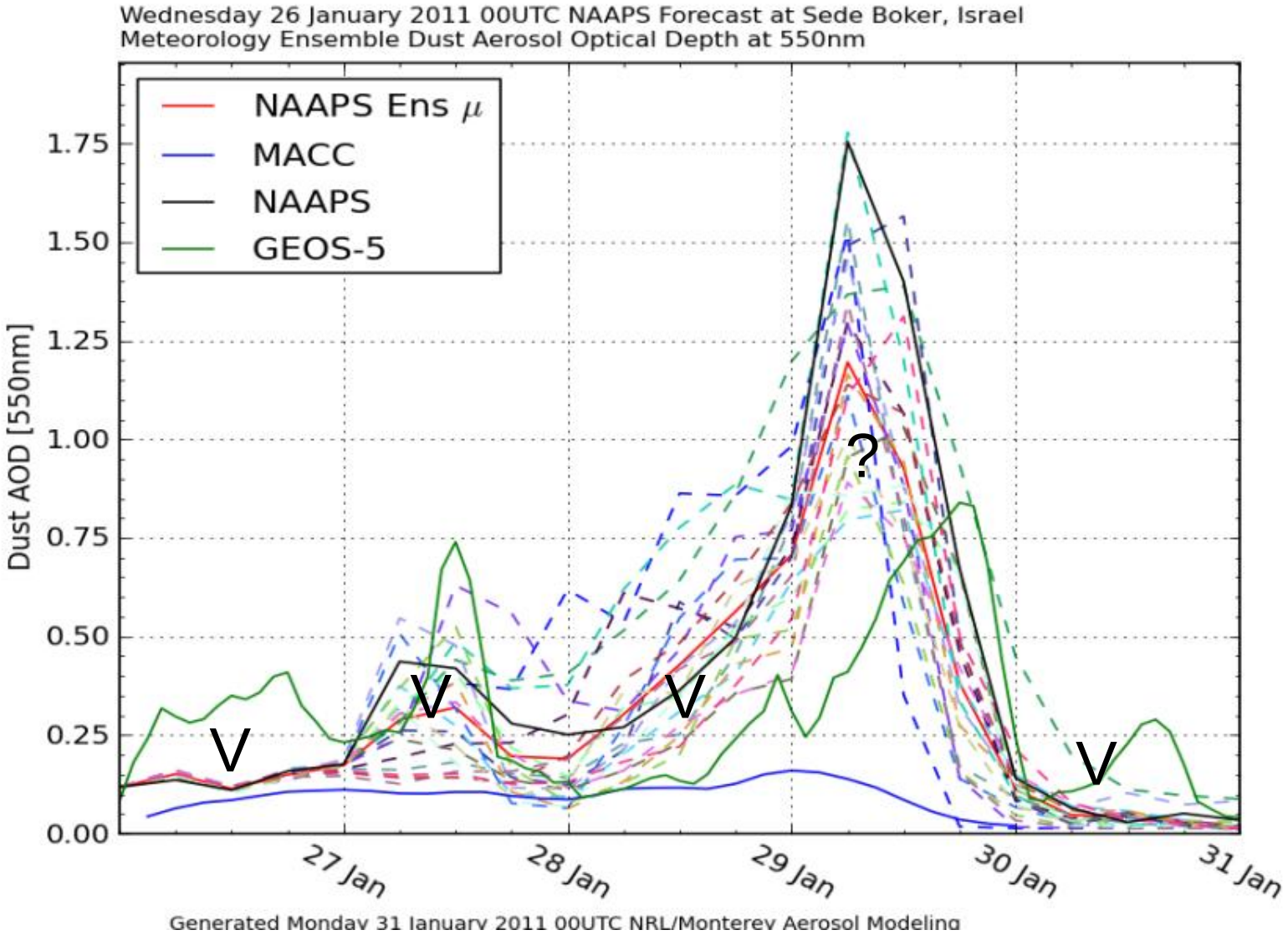


Multi Model Comparisons

- Model members: Developmental NAAPS, NAAPS Ensemble, ECMWF, NASA GMAO
- Angela was right, just getting into the same plotting environment makes all of the difference.
- Just looking day we see huge differences in magnitude, but everyone gets the main features.
- Each model appears to come out on top in some category.
- Now we need to be quantitative. Wait for discussion….



Example: Multi-model Comparisons
Need to get people out of Cairo?



Part II: Over Land-Hyer