

MODIS Technical Team Meeting
Thursday, October 9, 2003
GSFC Building 33, Room E125

Vince Salomonson chaired the meeting. In attendance were Robert Wolfe, Wayne Esaias, Ed Masuoka, Gerhard Meister, Jack Xiong, Skip Reber, Dorothy Hall, Steve Kempler, Eric Vermote, Michael King, and Shaida Johnston, with Yolanda Harvey taking the minutes.

1.0 Upcoming Meetings

- MODIS Science Team Meeting, Baltimore-Washington International Airport (BWI) Marriott — POSTPONED – Date TBD
- EOS Science Working Group on Data (SWGd), November 5-6, Greenbelt Marriott, MD
<http://swgd.gsfc.nasa.gov/schedule.htm>
- NPP Science Team Kickoff Meeting, November 4-6, 2003. Annapolis, MD.
- 2003 Fall AGU Meeting. December 8-12, San Francisco, California, USA. Abstracts deadlines past.
<http://www.agu.org/meetings/fm03/>

2.0 Meeting Minutes

2.1 General Discussion

Salomonson mentioned the PCRs from the PIP meeting on October 8, 2003. Johnston said that she would follow-up on the relevant ones.

Salomonson reported that he did a study of the MODIS refereed publications on the ISI “Web of Science” for Diane Wickland. In the year 2003, the total number of MODIS refereed pubs is 89 (so far); interestingly, for this year more papers were published by people not affiliated with us than by MODIS scientists. For all years, there was a total of 437 papers, 230 over four years, and 92 in the year 2002. For the search, he looked for ever paper that had MODIS as a keyword. One anomaly he came across in his search was that the Web of Science wasn’t picking up many MODIS Ocean articles. There are many more of those articles listed on the MODIS site’s publication list than on the Web of Science, and he wasn’t sure why.

Esaias asked about a programmatic review that was supposed to occur at some point during the proposals, and wondered if anyone had heard anything about it. King said that he hadn’t.

2.2 Instrument Status

Xiong reported that the scattered light investigation is ongoing, which affects Oceans. Xiong suggested that it might be a scan-angle dependent scattering issue. The impact could be as high as 30%, according to the work by ALI.

2.2.1 Terra MODIS

Xiong reported that MODIS IOT has completely resolved the Terra SSD anomaly issue working together with FOT and MISR team. The Aqua inclination maneuver was successfully completed on October 7, 2003, and has returned to normal operations.

Finally, Gene Waluschka is performing an ongoing offline analysis of the scattering in the mismatched optics.

Salomonson noted that at the most recent Terra telecon, there was a discussion of whether or not to do a second Deep Space Maneuver (DSM). The MISR people are not sure that they want to do another because they haven't finished their analysis of the last DSM. Most people at that meeting seemed ambivalent. He asked if we had finished our analysis, and Xiong said yes. Salomonson said that he thought we ought to revisit it. Meister said that if SeaWiFS is going to participate in another DSM, it will have to be in December or earlier, since SeaWiFS will end at the beginning of next year. SeaWiFS would like to do another comparison with MODIS since they only did the one, and they got such good results. More data is always better. Reber said that he thinks there might be an argument of doing another DSM before everyone has finished their analyses of the last one. With only two data points all you can do is interpolate/extrapolate with a straight line, while the actual behavior is probably more complicated. Salomonson said that there will be another one, the issue is just when. Xiong said that the maneuver is valuable to MODIS because of the lunar aspect, not just the rvs.

2.2.2 Aqua MODIS

No update provided.

2.3 DAAC

Kempler reported that reprocessing continues, as does forward processing. ECS 6A-08 went up last week with minimal problems, which was good. The issue this week is with the data pool, in which they found a few corrupted granules. They're working on tracking down the source of corruption, and think it could have something to do with bringing the systems down for Hurricane Isabel.

Kempler reported that there is another big order on the horizon from Australia; they want products from that region of the world, which will be in the terabytes of data range. Johnston asked if they know that we can push the data currently being reprocessed directly to them, and Kempler said that their talks haven't gotten that far. Masuoka said that if they're interested in subsetting data, we could probably do that on the fly. Salomonson asked what they're going to use the data for, and Kempler said that he did not ask and was not told (note: GES DAAC, as a data provider, does not generally ask what the data will be used for.).

Kempler mentioned that he was still working the reduced budget at the DAAC such that it would have minimum total impact. Salomonson said that we really want the user community to continue to grow, and was concerned that the coming budget cuts would endanger that growth. Kempler said that these cuts will make it much more difficult to completely satisfy our users.

2.4 MODAPS

Masuoka was happy to report that Oceans reprocessing started October 2nd on the mtvs2 system, and have already completed the May 2002 data month. On mtvs3 they completed January and February of 2001. The x-rates for Oceans and Land reprocessing and forward processing are very high (~17X), and the server is running at 100 percent CPU capacity. If we augment the server, we could possibly go even faster.

Unfortunately, funding cuts will endanger our ability to process so quickly, so it's likely that these x-rates will not be maintained. The DAAC is ingesting all this data with no problems at a rate of 16x.

Masuoka said that Martha Maiden has asked for a history of product changes, so he's gone back and compared the 93 sps listing to the 96, 99, and current baselines. These results have been submitted to HQ/Maiden.

Masuoka said that he's looked at the archive capacity and what is sent to ESDIS; the project's concern is not to delete the second collection, because people are still ordering it. We might also have to do a hardware upgrade. Reber commented that he's been seeing numbers different from Masuoka's, so he might want to make sure that the right people have the right numbers.

2.5 Oceans

Esaias said that he was pleased to see reprocessing start and get up to speed.

Esaias said that there's a group called GODAE that is running a pilot project using high-resolution ocean SST. At a recent meeting they determined they want to include MODIS SST data (all SST data at L2); they would also like to get in near real time (within 8 hours). Esaias said that this is a sign of MODIS' success. These data assimilation studies are focused on small-scale issues not resolved by AVHRR, but which MODIS does, so this is a sign of our success. Hall asked if they would want sea ice surface temperatures as well, and Esaias said that he wasn't sure, but would ask. JPL is the lead for the DAAC doing this, and they're finding out how soon they'll need the data. He noted that Mike Teague had volunteered to set up the subscription, and that it wouldn't be too complicated. Esaias also noted that brightness temperatures are not being archived, so he needs to find out if they're going to want that data as well. GODAE is going to take a week's worth of MODIS data and figure out how to work with it, and then set up their subscription. King asked if we could give them the relevant algorithms and let them forward process their own data, and Esaias said that it might be an option since they've done it successfully with NOAA.

Reber asked how the project is going that sends data out to co-investigators and then to Miami. He wondered because it was a hot topic a few weeks ago, and hasn't been mentioned recently. Masuoka is in charge of this effort and will have it completed soon.

Esaias also noted that there are discussions of transitioning support for MOBY and NPP from NASA to NOAA. There hasn't been any word yet on that, though.

2.6 Atmospheres

King reported that Eric Vermote's group produced a nice image of Africa that King took with him to a conference in Mozambique Africa, and was so successful that he received requests for additional copies from Botswana.

He said that he's been looking at stats of cloud properties using a tool that will soon be available. Tropical stats of cloud cover from 20 North to 20 South. The original stats were from Paul Menzel using 20 years of HIRS data with 11 different NOAA satellites (from 1979 to 2001). Looking at the cloud-cover percentage using monthly L3 data;

MODIS agrees with ISCCP and is somewhat less cloudy than Menzel's HIRS results. These results are based on two of four cloud-mask bits. If MODIS is compared to ISCCP on CO2 slicing alone, the results would be similar to Menzel's, but he suspected that the cloud-top properties would be similar. Kempler noted that the tool was originally designed for TRIMM, but was adapted for MODIS. King said that it doesn't presently visualize Land or Oceans data. Overall it's a very nice tool, and we're still exploring what it can do. Right now it's only available through the DAAC from Goddard domains, so it's not yet accessible to the general public. Kempler said that they're working that out. King said that depending on funding, they might be able to add enhancements to it.

King showed two MODIS granules of Hurricane Isabel, and explained an analysis done of it. It was mostly ice clouds, though some were cumulus water clouds. This was similar to comparable studies done on other thick ice clouds, that the thicker the clouds (larger the optical thickness), the smaller were the ice particle sizes. Cloud top temperature was around 175K near the eye wall, with 80 hPa of pressure (pretty high clouds). It was an interesting case study.

3.0 Action Items

3.1 New Action Items

None.

3.2 Old Action Items

3.2.1 Tech Team to further discuss TRW using MODIS data for validation of the NPP/NPOESS production process.

Status: Open.

3.2.2 PIP to develop list of items to go into work plan for the new contract (EMD).

Status: Open.

3.2.3 Ed Masuoka to invite a NOAA delegate to the weekly MODIS Tech Team meetings or the PIP meetings.

Status: Open. Masuoka sent the invitation.

3.2.4 Kempler to bring back some proposals for how the disciplines can deal with the DAAC distribution problem.

Status: Open.

3.2.5 Masuoka to pursue MODAPS sending L1A Ocean subsets to University of Miami.

Status: Open.