MODIS TECHNICAL TEAM MEETING

Building 33, Room E125
September 1, 2000

Vince Salomonson chaired the MODIS Technical Team Meeting. Present were Ed Masuoka, Al Fleig, Domen, Dave Toll, Dorothy Hall, Bruce Ramsay, Steve Kempler, Bill Barnes, and Wayne Esaias, with David Herrring taking the minutes.

1.0 SCHEDULE OF EVENTS

• SWAMP Meeting U. of Toronto, Canada	Sept. 6-7
• EOS/SPIE Symposium on Remote Sensing Barcelona, Spain	Sept. 25-29
• SPIE's Remote Sensing Japan 2000 Sendai, Japan	Oct. 9-12
• VENICE-2000 (Oceans from Space) Venice, Italy	Oct. 9-13
• Ocean Optics XV Monaco	Oct. 16-20
• PORSEC 2000 Goa, India	Dec. 5-8
• AGU Fall Meeting San Francisco, CA	Dec. 15-19
• Aqua Launch	Dec. 21

2.0 MINUTES OF THE MEETING

2.1 Data System Review Committee Update

Justice and Masuoka discussed the latest from the SWAMP Working Group on Data Production recommendations regarding the EOS Data System. The report captured the new product volumes that MODIS would like to produce and the need to get to 4x reprocessing per MODIS instrument in order to produce a scientifically useful time series in a reasonable amount of time.

At the upcoming SWAMP Meeting in Toronto, Justice said the intent is to give more detail on current status of processing now, the impact that the system's current level of processing is having on the community's ability to do science, and the impact of the proposed capacity over the next year. Justice will also indicate the level of performance the Review Committee would like the system to reach.

Salomonson pointed out that the Science Team needs a steady flow of data with complete days. This enables the production of weekly and monthly composites, or the team members cannot establish trends over time. Any time substantial granules are missing from the archive, that makes it tougher to establish trends. Masuoka presented a chart showing thumbnail globes of last week of MODIS data processed (see Attachment 1).

Kempler agreed with Salomonson, stating it's been an education for the EOS Project to understand how important this is. The Team cannot do science when there are holes in the data. Some might see that 80 percent of the data are there and think things are good, but we can't do science with those holes. Salomonson suggested that Masuoka pick a parameter and develop a presentation that shows the impact on that product when there are holes in the data archive.

2.2 GDAAC Reports

Kempler reported that the GDAAC had problems with the production system when they installed the newest release of the processing software. In their current list of priorities, processing SAFARI data comes first and the GDAAC is making sure those data get out. He said there was also a "fire drill" yesterday in trying to get fire data out processed for granules over Montana and Idaho. He said the GDAAC is working with SDST to get the fire data out in a timely manner (within 24 hours).

There is another software upgrade planned for release in September—version 5.5. Kempler said the 5.5 release is very big and complicated, and he advocates pushing it back to later in the year. He is asking for the MODIS Science Teams' support on that.

2.3 Japanese Request for Data

Salomonson told the Team that Alfredo Huete was approached by the GLI team in Japan with a request for a significant volume of MODIS data. The GLI team would like to receive complete global days for a whole month. Masuoka said Michael King asked SDST to provide the Japanese sub-sampled MODIS data for testing. MODLAND is implementing the sub-sampling n Land Surface Reflectance code (PGE 11. The sub-sampled data will be sent to Japan on DLT (Digital Linear Tapes). Salomonson suggested having someone on the GLI team write him a letter with their specific request and he will respond accordingly. Masuoka noted that, currently, the EDG (EOS Data Gateway) ordering interface to EOSDIS is limited to requests of up to 15 GB per order, and that an entire day of MODIS Level 1B products is 186GB. Such a large request would need to be broken up into 13 separate orders if the GLI team orders the data from the GDAAC in the same fashion as an ordinary user.

2.4 SDST Reports

Fleig brought a data issue to the Team's attention that he feels should be addressed soon. On Terra, the ephemeris information is calculated onboard the spacecraft and is available as soon as the data are available. But on Aqua, there is no definitive ephemeris calculated onboard; currently, the plan is to calculate that information on the ground. This means that Aqua MODIS Direct Broadcast

data will come down with no ephemeris information in the data. Fleig feels that predictive ephemeris data calculated on the ground are nowhere near accurate enough to meet MODIS' geolocation goals. He said the Aqua plan would be to make ephemeris data available up to 24 hours after data is collected. But since ephemeris is calculated only after the last bit of data are collected for a given day, it could mean that ephemeris data are not available until 48 hours after a data drop. Fleig noted that NOAA uses predictive ephemeris information and the error in geolocation is 5 to 10 km. Says L0 to L1 processing can't start until ephemeris available.

Masuoka reported that the GDAAC is getting close to processing perfect days. Lately, all granules have been coming out of the GDAAC filled. He is hopeful that MODAPS will start receiving perfect days soon. Upon reviewing EDOS deliveries over the last few weeks, he said, the coverage looks good. There are still some bugs in version 5B of the ECS (EOSDIS Core System) production software at the GSFC DAAC that need fixing before we will get perfect days for the Level 1 products.

2.5 Operational Use of MODIS Data over Wildfires

Ramsay asked Herring if the Terra Rapid Response team succeeded in obtaining MODIS data over the Montana wildfires from the NOAA "bent pipe." Herring responded affirmatively. There were some problems initially and it took a couple of days to begin producing images operationally (within 24 hours of acquisition), but the team finally succeeded in producing images and sharing them with the Forest Service operationally. The main contributors to the effort are Chris Lynnes, GDAAC, Nazmi El Saleous, MODIS Land Group, and Gene Legg's team at NOAA. Herring explained that the objective is to pursue three parallel paths to obtaining Level 1b data. Then, Herring has three individuals standing by to make images of the fire pixels, burn scars, and smoke dispersion—Brian Montgomery and Reto Stockli, of the Rapid Response Team, and Rong Rong Li, who works with Yoram Kaufman. Herring explained that Reto lives in Switzerland and can get a 6-hour head start on making the images if made available via FTP on the same day of acquisition. The goal is have images ready for the Forest Service by 12 noon the day after acquisition to assist them in the daily firefighting strategy sessions.

Justice cautioned about using MODIS data at this time in an operational mode. He was concerned that doing so, or attempting to do so, could create false expectations about the current capabilities of the data system. He is not sure we can get a consistent flow of quality data out of the system at present. He reported that he will attend a GOFC (Global Observation of Forest Cover) meeting on Sept. 20. Justice said the Forest Service is invited to that meeting too. In the future, Justice plans to work with them in a systematic fashion. He feels they will have a lot of use for MODIS' 250 m data.

2.6 Ocean Group Reports

Esaias said he is interested in getting an update on the gain change for the ocean bands on the Aqua MODIS.

He said the Ocean Group had a good meeting with MCST to discuss destriping and polarization issues. Personnel at the University of Miami are making software tweaks over and above MCST's to normalize for MODIS' detectors in their Level 2 products. He emphasized that this now means their code is coupled with MCST's so that any tweak MCST makes must be accounted for in the University of Miami's code. He requested that MCST notify the Ocean Group ahead of any code changes so that Miami can implement their changes at the same time the new code goes into production.

2.7 MODIS Image Gallery

Salomonson asked where is the best place to see the latest MODIS images? Herring said MODIS Home Page. Barbara Conboy has asked that new MODIS images first appear on the MODIS Home Page's image gallery and then the Visible Earth site (http://visibleearth.nasa.gov) will pull the images from there in an automated fashion. Salomonson plans to send an e-mail asking the MODIS Team to submit any new images to Michael Heney (mheney@pop900.gsfc.nasa.gov) for placement on the Web.

2.8 Snow and Ice Algorithm

Hall said her team is currently having problems with snow data in foggy areas. The cloud mask is not mapping fog as clouds and the algorithm is not mapping it as snow. The product maps fog as non-snow-covered land. She is still investigating that problem. The snow product has been using the "definitely cloud" setting on the cloud mask, but she is considering changing to a different setting.

3.0 ACTION ITEMS

3.1 Action Items Carried Forward

1. Salomonson: work with Yoram Kaufman and Skip Reber to produce some metrics from the science community to help convince Congress that they shouldn't keep trying to challenge this group by cutting funding support every year.

2. Masuoka and Conboy: Work with Patent Counsel, Legal, and Procurement to resolve issues concerning MODIS Science Team Member software distribution. STATUS: Open. Met with Procurement personnel and Legal on August 28 to discuss data right issues as they relate to the MODIS university contracts. Awaiting decision by Patent Counsel and Legal on course of action.

3. MODIS Science Team: Send updates on MODIS metadata terms / valids to Skip Reber (reber@skip.gsfc.nasa.gov). These are terms that enable users to search MODIS data. This is part of a request to the Terra Instrument teams to update metadata terms. STATUS: This action is still open.

4. Discipline Leads: Send feedback to Murphy and Guenther on setting flags for dead (non-functional) detectors while they are set to zero. Currently, MCST

would like MODIS Science users to provide feedback on which detectors are dead. STATUS: This action is still open.

5. Discipline Leads: Send MODIS Data Product table updates to Skip Reber with a copy to Murphy. The MODIS Data Products table is on the Web at: http://eosdatainfo.gsfc.nasa.gov/eosdata/terra/modis/modis_dataprod.html. STATUS: This action is still open.

6. Masuoka: Represent MODIS concerns on data throughput to EDOS. STATUS: The Review Committee is now preparing a report articulating the impacts to the community.