# MODIS Science Team Meeting
# July 13-15, 2004
# Baltimore Airport Marriott Hotel

**Opening Plenary session**

**-8:30 A.M.-12:00 P.M.—General Background and Status for all Team Members**

**-8:30-9:00 A.M.: Introduction and Overview—V. Salomonson**

**-9:00-9:30 A.M.: The Headquarters Perspective and Guidance—D. Wickland**

**-9:30-10:00 A.M.: Earth Science Enterprise Data Processing Future Plans—M. Maiden**

**-10:00-10:30 A.M.: Break**

**-10:30-11:00 A.M.: MODIS Data Processing, Archiving and Product Distribution Overview—S. Johnston**

**-11:00-11:30 A.M: MODAPS Processing Details (land and atmospheres)—E. Masuoka**

**-11:30 A.M.-12:00 P.M. Ocean Color Processing Details—C McClain/G. Feldman**

**Poster Session—12:00-2:30 P.M.** **(a light lunch will be available so folks can eat and mingle amongst the posters at the same time)—General Interaction and Familiarization for All Team Members (posters will be able to remain up during the whole meeting)**

**Discipline Group Meetings July 13-3:00 P.M. through July 14—5:00 P.M.**

**MODIS Calibration and Characterization Support Team (MCST) Group Meeting July 14, 7-9 P.M.**

# MODIS Science Team Meeting
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(continued)

**July 15, 2004**

**Plenary Session-8:00 A.M.-12:30 P.M.—General Progress Reports and Strategy Planning for Future**

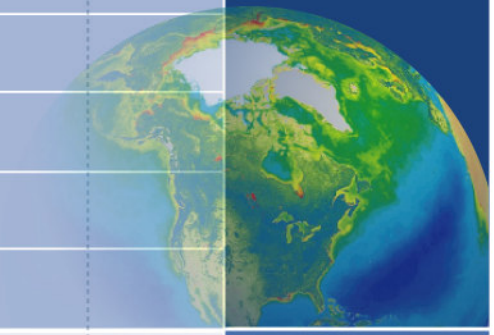
**-8:00-8:20 A.M.: Instrument Status and Prospects—J. Xiong**
**-8:20-8:40 A.M.: NEO Gateway—Progress and Goals—D. Herring and K. Ward**
**-8:40-9:00 A.M.: NOAA/NESDIS MODIS Transition to Operations Plan—Mitch Goldberg and B. Ramsey**
**-9:00-9:45 A.M.: Land Group Summary and Plans—C. Justice**
**-9:45-10:00 A.M.: Break**
**-10:00-10:45 A.M.: Oceans Group Summary and Plans—C. McClain**
**-10:45-11:30 A.M.: Atmospheres Group Summary and Plans—M. King**
**-11:30 A.M.-12:30 P.M.: Discussion and Plans for the next 6 months re: coordinated and collective actions related major thrusts and interdisciplinary activity, etc.—V. Salomonson, Science Team members, NASA HQ Program Managers, et al.**

# RoadMap
Carbon Cycle & Ecosystems

Field Campaign
Technology
Partnership
Unfunded
Funded

Knowledge Base Development

| ACTIVITIES | OUTPUTS | GOALS |
|---|---|---|
| Human Ecosystems-Climate Interactions (Coupling Model-Data Fusion, Assimilation) | Integrated Global Analysis | Global productivity & land cover change at fine resolution; biomass & carbon fluxes quantified; useful ecological forecasts & improved climate change projections |
| (T) High-Resolution Atmospheric $CO_2$ | Sub-regional sources/sinks | |
| (T) Profiles of Ocean Particles | Carbon export to deep ocean | |
| (T) Physiology & Functional Groups | Models w/improved ecosystem functions | |
| Southern Ocean Carbon Program | Process controls identified; errors in sink reduced | |
| (T) New Ocean Carbon/Coastal Event Observations | Reduced uncertainties in fluxes and coastal C dynamics | |
| (T) Vegetation 3-D Structure, Biomass & Disturbance | Terrestrial carbon stocks & species habitat characterized | |
| Global $CH_4$: Wetlands, Flooding & Permafrost | $CH_4$ sources characterized and quantified | |
| Global Atmospheric $CO_2$(OCO) | Regional carbon sources/sinks quantified for planet | |
| North American Carbon Program | North America's carbon budget quantified | |
| Land Use Change in Amazonia | Effects of tropical deforestation quantified; uncertainties in tropical carbon source reduced | |



| | | | |
|---|---|---|---|
| Landsat | LDCM | LDCM II | SYSTEMATIC OBSERVATIONS |
| Ocean Color (SeaWiFS, MODIS)<br>Vegetation (AVHRR, MODIS) | Ocean Color/Vegetation (VIIRS/NPP) | Ocean/Land (VIRS/NPOESS) | |
| Case Studies | Process Understanding | Models & Computing Capacity | IMPROVEMENTS |
| IPCC NA Carbon | NA Carbon | IPCC Global C Cycle | Global C Cycle | REPORTS |

2002 2004 2006 2008 2010 2012 2014 2015

# Some Collected Thoughts About Thrusts and More

## Accessing and Utilizing Products:

- -make it so state, local, and federal goverment agency personnel, community college folks, etc., can get the products they want and need easily
- -attributes: simplicity, intuitive interfaces, good subsetting, reducing volume, etc. (OCDPS has displayed many of those attributes including SeaDAS offers tools, familiar environment, etc.). How to work with DAAC (doing a lot now) and land and atmospheres products at that level (??). Evolving toward distributed/discipline processing should be a positive direction. NEO/Herring-Ward ideas are examples, others??
- -need to be constantly finding out what the "customer" wants and adapting.
- -continue to collaborate and be supportive insofar as possible of efforts regarding Direct Broadcast, real-time, bent-pipe efforts like that at NOAA/NESDIS
- -QA information—how much to provide; i.e., just give the "best" or also various levels of usability attached to products or available
- -prioritizing products: "standard", "experimental/developmental", "validated" for DAAC-archive

## Metrics:

- -no. of products distributed; e.g., files, volumes, granules, etc. (??)
- -classes of users: private industry (.com), academia (.edu), government (.gov), etc. versus privacy concerns

Climate-quality data sets:

- -defining “climate-quality”
  - -NRC 2004—a “CDR” –a time series of measurements of sufficient length, accuracy and stability to determine climate variability and change.
- -need to learn how to merge in a CDR sense MODIS data sets with predecessor data sets (e.g., AVHRR, CZCS) and future data sets (e.g, NPOESS VIIRS)
- -”collections” are hard for some to deal with; e.g., journal reviewer comment-there may be “primary products” (e.g., radiances) versus level level 2 and above “secondary” products to be treated appropriately
- -land and atmospheres are pretty close and MODIS oceans; e.g, radiances and chlorophyll, etc are hopefully going to make it too—important implications for VIIRS
- -as stability/consistency is being sought algorithms in developing data sets need to look for stability in the inputs to the algorithms; e.g., GMAO inputs.

Metric(s): “uncertainties”, accuracies, precisions

- -helps modelers, others to see in quantitatively/summary-fashion what is occurring and captured in more detailed QA documentation
- -captures in essence the progress over time.

Use of Data in Models (climate, weather, ecological, mesoscale, etc.):

-one goal is to see data assimilated into the big GCM climate and weather modeling groups; e.g., ECMWF, GMAO, NCEP, GFDL, GISS, NCAR/ CCM, UK Met Office, Japan Meteorological Agency, etc.

-"collections" are challenging for modeling groups

-grids desired are usually lat/long grids like CMG, but often much higher resolution (e.g, 1 km).

-some groups want monthly (e.g, 28 or 29-day February, 30 and 31-day other months, not 32-day months; or sub-weekly, daily and "they" will fill in the gaps.

-Modelers often want remote-sensing folks to "fill in values" or help them aggregate-up.

-provide the tools for gridding/regridding.

Metrics: (input ($$), output (pubs), outcome (science results), impact (applications-decisions, economic, etc.)

-Publications need to be tracked

-Key science results

-Noteworthy application results (e.g., $$ saved, lives saved, etc.)

Interdisciplinary Efforts:

-how to further such efforts?
-several instances already exist (land product use by atmospheres, SST use by atmospheres, obvious use of cloud cover screening by land and oceans

Education of students:

-would like to know the number of students being supported and substantively helped through graduation
-other measures??

Continue Outreach/Workshops (“getting the word out”)

-Land/Missoula workshop in August
-Snow/Ice in November in Greenbelt
-more??

Miscellaneous

-Thanks to Barbara Conboy, Natasha Vozza, Brandon Maccherone Kathy Regal, and the hotel staff
-Thanks to all who have come, participated in discussions, discussion groups and so on.
-please dump your presentations, even posters, to Barbara Conboy et al. as you leave if you haven't already
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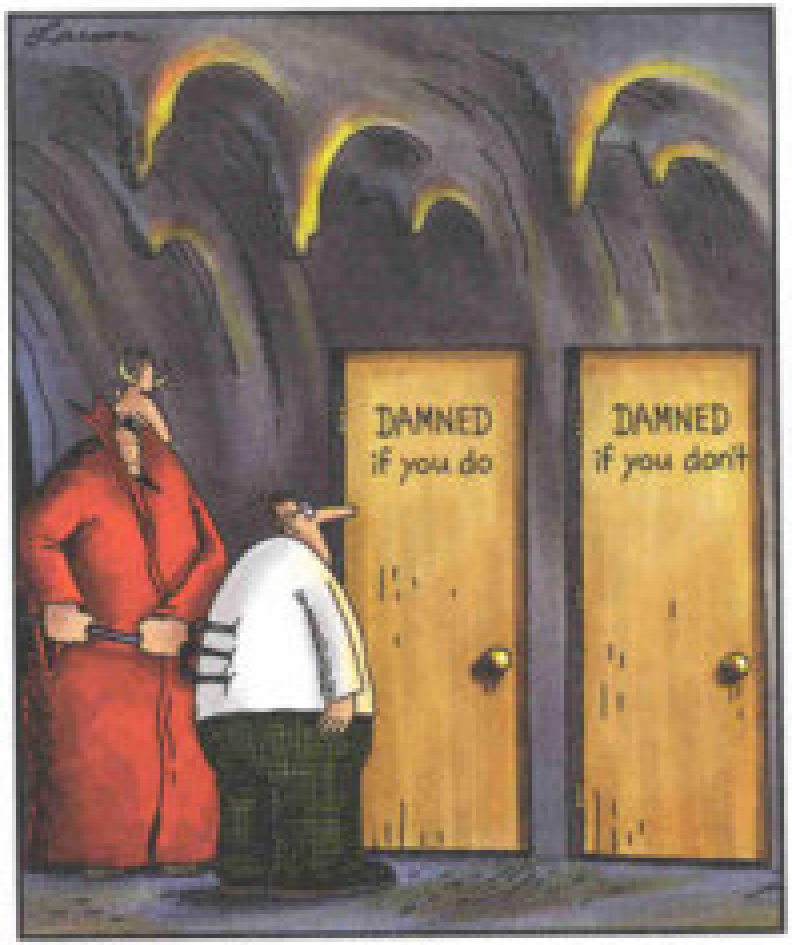
Brandon.F.Maccherone.1@gsfc.nasa.gov

Next Meeting:

-~six months—January 2005
-solicit, particularly from new members, what would help make the Team meetings more effective and/or other Science Team procedures can be improved
-having posters seemed valuable and positive—propose to continue at next meeting




"C'mon, c'mon—it's either one or the other."