

September 18, 2002

## MODIS sensor Working Group (MsWG) Summary

**Attendance:** Bill Barnes, Stuart Biggar, Vincent Chiang, Roger Drake, Wayne Esaias, Bob Evans, Shaida Johnston, Chris Moeller, Junqiang Sun, Gary Toller, Jack Xiong, Eric Vermote, Joe Esposito

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### Scheduled Items

#### Item 1 Terra and Aqua MODIS Instrument Status

BB) Aqua MODIS safe mode (09/12.02, day 2002255) recovery, 2 extra detectors became inoperable: B6-D16, 17 (SBRS order). Safe hold was due to S/C

RD) B6-D16 was inoperable above 285°K pre-launch.

JX) MCST will check the SD/SDSM data for B6 detector status.

There are always changes in TEB when safe hold occurs, usually about  $\pm$  1%.

This time B32 shows ~ 3% gain change.

RD) Is there a gain change in B23?

JX) B23 changes by roughly 2% (behavior is like B32)

RD) This is consistent with the change between TV2 -> TV3.

BB) Need to do Band-Band registration.

Terra MODIS Formatter switched from A to B on September 17, 2002

BB) Terra formatter swapped from side A to side B. Transition was smooth. Miami will look at the data to confirm there are no changes caused by the formatter swap.

#### Item 2 LUTs Related Issues (Aqua and Terra)

Working with Ocean Group on Terra LUT issues

JX) LUT V4.0.7.1 tested at the DAAC. This LUT will be used for collect 4 reprocessing and forward processing, and by Miami for testing the RVS/m<sub>1</sub> LUTs. MCST will add piecewise additions to the LUT for forward processing. MCST will use fitted m<sub>1</sub> results for collect 5 LUTs.

Aqua LUT issues

JX) The current value of  $a_0$  is the pre-launch value. Only one LUT delivery has occurred to date. MCST needs to deliver new LUTs to account for the safe-holds that have occurred. The next delivery will be in 2 weeks. For B31-36,  $a_0=0$  will be used. No m<sub>1</sub> fitting – use average measured m<sub>1</sub> added piecewise to account for changes.

CM) For B31-36, what is the difference between pre-launch value of  $a_0$  and  $a_0=0$ ?

JX) MCST needs to compare  $a_0 = 0$  and  $a_0 \neq 0$  for Aqua (*MCST Action: compare  $a_0 = 0$  and  $a_0 \neq 0$  for Aqua*).

#### Item 3 SWIR OOB Correction Test Results

Plotted with the same scale (to Wisconsin)

JX) Comparing before/after SWIR OOB correction we find that B5 improvement seen; B7 minimal effect; B26 some striping improvement.

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MCST will use SWIR OOB correction in m1 for LUTs and in L1B. Chris Moeller needs this update in order to analyze the B5-B26 correction.

CM) MCST should also look at a cold scene (look at scenes in various thermal ranges) for 'day mode at night' data collection to check SWIR OOB correction.

JX) MCST needs to get data. MCST will check coefficient differences and image differences.

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### ***Around the Table***

**Participant:** Stuart Biggar – Kurt sent a new result, B1-8 difference is smaller (~ 5%) than the 10% difference between Aqua and Terra reported at the STM. The new data is affected by smoke. Kurt will get more data this weekend.

**Participant:** Chris Moeller – Looked at SWIR data (day mode at night). B24, B25, and B28 are correlated with the SWIR. However, can see no reason to change B28 for another band in the SWIR OOB correction. B28 may be used.

**Participant:** Bob Evans – Miami has merged the Terra and Aqua thermal (night) data. For VIS and NIR comparison is consistent with time of day and angle of incidence.

**Participant:** Roger Drake – Supporting Terra and Aqua. Mainly working on the Aqua dropped command problem.

JX) Is the command dropout at the S/C level or at the MODIS level?

RD) The current belief is spacecraft to MODIS timing is causing the problem (S/C level)

BE) What was the cause of the recent safe hold?

RD) The spacecraft changing from low-resolution to high-resolution fine pointing mode during which the S/C reported a shift of 1.7°, which is above the 1.0° limit, causing a S/C safe hold.

No MsWG meeting next week (2002-09-25)

Next meeting in two weeks (2002-10-02)