

**MODIS Science Team Member
Quarterly Report
(July-Sept, 1997)**

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a) Focus activities during the reporting period

Emphasis was given to the development of the V2 code for atmospheric correction using the MODIS synthetic data set. The V2 code is the at-launch version in terms of interfaces/volumes/loads.

Some time has also been devoted to improve the reference code for atmospheric correction (6S) and to prototype MOD09 algorithm testing using SeaWiFS data.

Vermote represented the land group at the weekly TT meetings and discipline group meetings.

Surface Reflectance Code

An interim delivery of the MOD09 L2 surface reflectance algorithm was delivered on July 15, 97 and the official V2.0 delivery was made in September. This version included :

- Use of MOD05 (water vapor) and MOD07 (total ozone) as inputs.
- New transmittance and path radiance tables created with the latest version of 6S.

- Enabling the code to process bands 1 and 2 at 500 m resolution.
- Enhanced error handling to limit the number of conditions that will cause the processing to abort.
- Processing of MODIS aggregated visible bands at 1 km.
- Enhanced processing algorithm allowing handling of different bands independently, so that failure to process one band will not impact the processing of the other bands.
- ECS required metadata.

Synthetic Data Set

- Careful inspection of the science output and comparison with 6S revealed a lack of accuracy in the current simulated L1B data, we acquired the simulation code from SDST and are working on improving the computation of the atmospheric radiance.

- We defined a set of synthetic datasets that we need for the evaluation of our products and will produce these datasets using the improved simulation code. They include 250 m and 1 km granules over North America, 1 full 250 m orbit and one 1km global dataset so as to test the algorithms in different realistic situations.

Radiative transfer modeling

Added the spectral response of MODIS 3.75 micron band and of the 8 SeaWiFs bands to 6S.

b) Meetings Attended:

- Weekly Technical Team Meetings
- MODLAND/SDST meeting 7/29 - 7/31 at GSFC