Oceans Report
MODIS Science Team Meeting

March 22-24, 2005

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Ocean Biology Processing Group

Current Status & Progress Since the July 2004 Science Team Meeting

- **MODIS/Aqua Ocean Color Processing**
  - Level-0 to Level-3 processing fully supported in SeaDAS
    - Support for MacIntosh now available
  - Major differences between SeaWiFS & MODIS/Aqua resolved (seasonalities and longer time trends)
  - Reprocessing executed recently after several months of algorithm testing & evaluation
  - OBPG working on reducing striping in Level-1 & Level-2 data (mirror side & detector-to-detector calibration consistency) in collaboration with MCST
    - Refinements in solar and lunar calibration data analysis
    - Refinements atmospheric corrections

Current Status & Progress *(cont.)*

- **Calibration & Validation**
  - Jim Mueller & Carol Johnson leading a calval working group: error budget & future measurement strategy (e.g., coastal zone)
    - Workshop held at NIST in November
- **Product Suite & Algorithm Selections**
  - Algorithm teams established at July meeting
  - Comprehensive chlorophyll algorithm development data set to be released very soon by OBPG
    - Draft document describing data set and QC procedure completed & to be submitted for publication
  - 2-day workshop held in February
  - Inadequate validation data sets for many products (e.g., inherent optical properties)
    - Need to solicit additional data from community
    - Limited data sources, e.g., calcite
  - Product recommendations to be vetted with community at Ocean Color Research Team meeting in April with subsequent generation of new products by OBPG.

Current Status & Progress *(cont.)*

- **Product Suite & Algorithm Selections *(cont.)***
  - Chlorophyll: Janet Campbell to host an algorithm selection/data analysis mini-workshop
  - K(490): Revised algorithm recommended
    - addresses algorithm problem in clear waters
  - Primary Productivity: Mike Behrenfeld developing a productivity website & to recommend a baseline algorithm
  - Calcite: Barney Balch to select from 2 published algorithms once more validation data from recent cruises is processed
  - POC: Clark algorithm recommended
  - PAR: Watson Gregg and Robert Frouin to provide sensor specific & multi-sensor based products
  - IOPs (absorption & scattering products): TBD
    - Issues of overall data quality raised
  - SST: Miami group continue extensive field data collecton & refinements in product continue to address both sensor & atmospheric error sources

Current Status & Progress *(cont.)*

- **Product Suite & Algorithm Selections *(cont.)***
  - Atmospheric correction
    - Menghua Wang working on using 1260 & 1640 nm bands for turbid water corrections (black ocean assumption)
    - Miami group demonstrated methodology for incorporating Saharan dust detection & spectral matching atmospheric correction algorithm in standard processing
- **MODIS/Terra**
  - Several team members expressed desire for Terra ocean data processing
    - Team members to provide Paula with justifications
  - HQ to consider pending continued progress on MODIS/Aqua, budgets, and other considerations