MODAPS Status for Production and Distribution

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May 4, 1999
MODAPS Status

• MODIS Level 2, Level 2g and Level 3 Daily Ocean and Land products were tested in an N-day production test and PGEs run within the MODIS baseline resources

• Ingest portion of SIPS interface works and MODAPS is able to receive and ingest Level 1 products from GSFC DAAC

• Integration of PGEs into the at-launch MODAPS system is underway this month in preparation for the 3-day MOSS-2 End-to-End test
MODAPS Status

- MODAPS will run at-launch Level 2 and Level 3 Daily products during the MOSS-2 test
- MODAPS integration of all at-launch PGEs will complete at the end of May with the exception of 8-day Atmosphere and 16-day Land PGEs
- Acceptance testing of the at-launch MODAPS system will be completed in June
Open Items

- Mismatches in metadata between our products and ECS ESDTs will prevent archiving of products
  - SDST will send examples of all products with at-launch metadata to the DAACs and work with DAACs and ECS contractor to fix problems
- Ocean ESDTs
  - Schedule for completion needed
- Operations Agreements with DAACs
  - Sol Broder (Ops), Mike Jones (MODAPS), Robert Wolfe (Land)
- Network bandwidth to SCFs
  - Sol is keeping an eye on this and Mike Moore provide status today
- SIPS Deliver
Open Items

• **Level 1A subsetter uses cp and mv**
  – Waiver requested from ESDIS, will miss delivery date if not allowed

• **MEBDOS**
  – Improvements requested by Science Team not done yet

• **Valid Metadata Ranges and V0 WWW interface**
  – Valid ranges for metadata need to be correct to support search and order

• **Browse**
  – Low priority at present

• **Hardware reconfiguration for launch**
  – Need to assemble at-launch system and upgrade 16 processors to 250Mhz
    expect 3 days downtime
Status - Level 1

• MOSS-2 June ETE Test PGEs
  – PGE01 Level 1A and Geolocation V2.1  4/19
  – PGE02 Level 1B V2.1.5 (launch capable)  5/07
  – PGE03 Cloud Mask, Atmospheric Profiles:  4/30

• Required update or addition for launch
  – PGE03 works w/o ancillary data  5/30
  – PGE71 L1A subsetter V2.0  6/09

• Desired update for launch
  – PGE02 Level 1B V2.2 (improved physics)  5/30
Status - Atmosphere L2, L3

• **Tested?**
  – All Level 2 PGEs were tested in N-day test

• **Integration in V1 MODAPS**
  – PGE04 and PGE06 by 5/7 *
  – PGE05 by 5/14*
  – Daily Atmosphere (PGE 69, 56) by 5/30*
  – Monthly Atmosphere (PGE 57) in June
  – Weekly Atmosphere (PGE 70) in June/July
  – Improved PGE06 in July or August

* MOSS 2 PGEs
Status - Ocean L2, L3

- **Level 2**
  - PGE09 and PGE10, done*

- **Level 3**
  - Interim Daily Ocean product PGE20, done*
  - Integrate Ocean L3 products by 5/18**
  - Test production rules for Ocean processing
  - Integrate PGEs from 4/23 delivery

* MOSS-2 PGE
** Will use PGEs from 2/28 delivery in most cases
Status - Land L2, L3

• Tested?
  – All at-launch L2 and L2G PGEs were tested in the MODAPS N-day test or engineering tests
  – All at-launch L3 Daily PGEs were tested in the N-day test
  – PGEs which produced 8-day, 16-day and CMG products have not been tested
Status - Land L2, L3

- Integration into V1 MODAPS
  - PGE 7 (Snow) done*
  - PGE 8 (Sea Ice) by 5/7*
  - PGEs 12-15 (Level 2g) by 5/7*
  - PGE 16 (Land Surface Temp) by 5/14*
  - PGE 22 (L3 Aggregation) by 5/14*
  - PGE 33 (L3 Daily LAI/FPAR) by 5/14*
  - PGE 43 (L3 Snow Daily) by 5/14*

* MOSS 2 PGEs
Status - Land L3

• Integration into V1 MODAPS
  – 8-day PGEs
    • Snow (PGE 45) done
    • Land Surface Reflectance (PGE 21) by 5/31
    • Fire (PGE 29) by 5/31
  – 16-day PGEs
    • 250m VI (PGE 25) by 6/30
    • 1km VI (PGE 23) by 7/15
    • BRDF/Albedo (PGE 35) by 7/15
Online storage
• 100% L1B 1km bands online for 1 day (64GB)
• 10% L2-L4 volume online up to 3 days (104GB)
• L1B 250m and 500m bands needed? (35GB)
• L1B OBC needed? We don’t get this

Nearline storage
• Keep L2-L4 products for 12 days (348GB*12 = 4.2TB)
Q/A and Validation Distribution Resource

Network Data Transfer to SCFs
• Up to 10% of 1x product volume to SCF from MODAPS
• UP to 10% of 1x product volume to SCF from DAACs
• ftp pull after order or ftp push for “standing orders”

Distribution via media
• 4 DLT 7000 tape drives
• Top speed w/o compression is 5MB/sec per drive
Q/A and Validation Resources

Software
IDL and ENVI
PCI EASI/PACE
ESRI’s ARC/INFO
LDOPE’s Q/A database*

Workstations
Shortage of seats,
Plan to add PCs
running Linux

Manpower
Ocean Q/A
Atmosphere Q/A

* Contact David Roy or Robert Wolfe, access via WWW
Estimating Production

- Tested PGEs fall within MODIS resource baseline so for these a 50% production level should be achievable
- The resources required to make Level 3 weekly, 16 day and monthly products have not been measured during production, estimate for these a 25% - 50% production level
- Current system is running with half the disk space, half the processors all at 195Mhz and data transfers both internal and external across FDDI
- Final benchmarks from testing after MOSS-2
System and Software Updates

- Operating System patches will be tested on either the development system, modular, or the acceptance test system, mo1, before being rolled into the production system.
- Updates to existing PGEs will take from 1 to 10 or more working days to get into production depending on the nature and complexity of the change.
- New PGEs can take several months to bring into the system if new loaders are required and if their ESDTs are not registered in the ECS system.
System Update Plan

• V2 MODAPS system will be delivered at the end of L+6 months

• It has as design goals:
  – Faster disk I/O
  – Faster loaders
  – A more robust scheduler
  – Better operator support tools
  – Capability to fill in holes in processing

• A decision with regard to hardware architecture will also be made for 2000 based on results of prototyping