DMT ORGANIZATION – SUBSYSTEM STAFF

Instrument
- Denise Cooper
- Thomas Grepiotis
- Dianne Snyder
- Mark Timcoe

ERBE-like
- Dale Walikainen
- Jeremie Lande

Clouds
- Sunny Sun-Mack
- Ricky Brown
- Yan Chen
- Liz Heckert
- Rita Smith
DMT ORGANIZATION – SUBSYSTEM STAFF

Inversion
• Victor Sothcott
• Igor Antropov

SARB
• Tom Caldwell
DMT ORGANIZATION – SUBSYSTEM STAFF

TISA Gridding
• Josh Wilkins

TISA Averaging
• Cathy Nguyen
• Ed Kizer
DMT ORGANIZATION – SUBSYSTEM STAFF

**Systems/Optimization**  
Nelson Hillyer

**Production/Optimization**  
Carla Grune

**Product Web Support**  
- Churngwei Chu
- Cristian Mitrescu

**Configuration Mgmt.**  
- Tammy Ayers
- Dennis Keyes
- Joanne Saunders

**Task Manager**  
Walt Miller
DMT OVERALL TASKS

Algorithms

• Implementation
• Verification
• Validation assistance

Software

• Maintenance
• Configuration management
RECENT DMT ACTIVITY
DELIVERIES SINCE 05/16/17:

10 DROPBOX/COEFFICIENT
28 CODE
38
CODE DELIVERIES SINCE 05/16/17

INSTRUMENT (4)
- Gains (all instruments), FM6 code updates

INVERSION (1)
- Improve MATCH cc-code flexibility

TISA GRIDDING (1)
- Improve GEO satellite positional flexibility
CODE DELIVERIES SINCE 05/16/17

TISA AVERAGING (1)
Updated Nb-to-Bb coefficient code and snow/ice directional models, temporal and spatial restrictions, Terra+S-NPP support

CLOUDS (1)
MODIS C6.0 support

ERBE-like (3)
Daily snow filename-format handling, SRFs
CODE DELIVERIES SINCE 05/16/17

CERESLib (1)
Updated GRing.f90 module

CATALYST (9)
PGE automation support (TISA Avg, MODIS C6.0 support, Clouds/Inversion, FM6 testing, CldTypHist, Instrument, ERBE-like)

PR TOOL (7)
CATALYST PGE support, MODIS C6.0 support, PR creation, add Ed4 Inversion to Ed1-CV SSF stream
DEPRECATION OF EDITION 3 PGES

• Completed in June 2017 (data-date 3/31/17)
• MODIS Collection 5 To 6 – February 2017 overlap
• ...to 6.1
DEPRECAITION OF EDITION 3 PGE’S

Ed 2 Clouds & Inversion algorithms
Ed 1-CV SSF

Ed 3 Inversion-only
Ed 3 IES
Ed 3 SSF

Ed 4 Clouds & Inversion algorithms
Ed 1-CV SSF

Ed 4 Inversion-only
Ed 4 IES
Ed 4 SSF
• Deployed Version 2.2
• 100% CERES PGE code logic delivered to CATALYST
• CERES DMT leading technical maintenance

• Currently assessing:
  • Hardware and software requirements
  • Migration to cloud (coordinating with ASDC)
ORDERING TOOL

• Earthdata Login:
  • Becoming ubiquitous among EOSDIS systems
  • Integrated in test version of ordering tool
ORDERING TOOL

• Earthdata Login:
  • Easier to track users (no “fake” users)
  • Roll-out in the next few months

PUBLIC ORDERING TOOL FULLY FUNCTIONAL!
https://ceres-tool.larc.nasa.gov/ord-tool/
SOFTWARE RELEASE

• Beginning process of Open Source Software Release
  • Ed 4 Terra/Aqua code
  • Software assurance

It’s NASA Policy!
PRODUCT AVAILABILITY
## EDITION 4 TERRA AND AQUA:

<table>
<thead>
<tr>
<th>Product</th>
<th>Platform</th>
<th>Processed Thru</th>
<th>Publically Available?</th>
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</thead>
<tbody>
<tr>
<td>BDS</td>
<td>Terra, Aqua</td>
<td>Mar. ‘17</td>
<td>Yes</td>
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<tr>
<td>SSF</td>
<td></td>
<td>Mar. ‘17</td>
<td>Yes</td>
</tr>
<tr>
<td>SSF1deg-Hour</td>
<td></td>
<td>Feb. ‘17</td>
<td>Yes</td>
</tr>
<tr>
<td>SSF1deg-Day/-Month</td>
<td></td>
<td>Feb. ‘17</td>
<td>Yes</td>
</tr>
<tr>
<td>SYN1deg-Hour/3Hour/MHour</td>
<td>Terra+Aqua</td>
<td>Jan. ‘17</td>
<td>Yes</td>
</tr>
<tr>
<td>SYN1deg-Day/-Month</td>
<td></td>
<td>Jan. ‘17</td>
<td>Yes</td>
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## EDITION 4 TERRA AND AQUA (CONT.):

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<th>Publically Available?</th>
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<tbody>
<tr>
<td>CldTypHist</td>
<td>Terra+Aqua</td>
<td>Jan. ‘17</td>
<td>Yes</td>
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<tr>
<td>FluxByCldTyp</td>
<td>Terra, Aqua</td>
<td></td>
<td>Will be</td>
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<tr>
<td>EBAF Surface</td>
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<td>Aug. ‘16</td>
<td>Yes</td>
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<tr>
<td>EBAF ToA</td>
<td>Terra+Aqua</td>
<td>Jan. ‘17</td>
<td>Yes</td>
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</table>
## EDITION 1 S-NPP:

<table>
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<th>Product</th>
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<th>Processed Thru</th>
<th>Publically Available?</th>
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<tbody>
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<td>Jul. ‘17</td>
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<tr>
<td>SSF</td>
<td>S-NPP</td>
<td>Mar. ‘17</td>
<td>Yes</td>
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<tr>
<td>SSF1deg-Hour</td>
<td>S-NPP</td>
<td>Feb. ‘17</td>
<td>Yes</td>
</tr>
<tr>
<td>SSF1deg-Day/-Month</td>
<td></td>
<td>Feb. ‘17</td>
<td>Yes</td>
</tr>
<tr>
<td>SYN1deg</td>
<td>Terra+S-NPP</td>
<td>Dec. ‘13</td>
<td>Will be</td>
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</table>
RECENT PUBLIC RELEASES

• Ed 4 Terra & Aqua
  • EBAF Surface – Released June 16, 2017
  • SYN1deg
  • ES8

• Ed 1 S-NPP
  • ES8

Released September 13, 2017
• CERES FM6 installed on JPSS-1 satellite

• Instead of window channel – extra longwave

• FM6 ORR on October 4, 2017
Completed all pre-flight data flow testing

Supported 3 JPSS-1 GST BLK2.0 tests
  • Used JCT4/-5 test data and ran offline
  • Ran autonomous stream successfully

At-launch, daily, BDS and ES8 products
SYSTEMS – PLATFORM MIGRATION

• Powerchip to x86 architecture migration, some PGEs require Powerchips (7 outstanding to migrate)

• Will have Powerchips ~half-year more

• StorNext/DPO to unified IBM HPSS storage migration
CERES/ASDC Data Policy Plan

Current version:
Low-latency

1-back version:
Low-latency

2-back version:
High-latency

archive copy
archive copy
CONCLUSIONS

• FluxByCldTyp delivery imminent

• CATALYST integration is finalizing

• Terra/Aqua Edition 5: distant future

• S-NPP Edition 2: near future
TECHNICAL DEVELOPMENT
TIMELINE

- Stakeholder interviews
- Git/Bitbucket training and code in Bitbucket
- Code analysis

Image: https://scitools.com/
CODE ANALYSIS
VERSION CONTROL

• “Git on Board!” workshop, offered June 28, 2017
  • Local repositories
  • Remote repositories
  • Add-commit-push

• “Git Smart!” follow-up workshop, offered August 16, 2017
  • Branching
  • Merging
  • Remote collaboration
**ALL** CERES PGE production code is now in local and remote version control.
NEXT STEPS

- Code analysis
  - Code consultations
  - Initial pass of code revision
      - Request ultimate test case suite