



STAR JPSS 2015 Science Team Meeting Land / Cryosphere Breakout Session

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Objectives



- NOAA operational land and cryosphere products
 - Current operational products
 - Ongoing algorithm improvement efforts
 - Relationship with other JPSS land production systems i.e. NASA
- Product validation
 - Ongoing validation resources and preparation for JPSS-1
 - Leveraging resources with other NOAA, US and international activities
 - Coordinated validation approach
- System development and new programmatic directions
 - NOAA Enterprise System and non-NOAA assets
- NOAA Operational Applications



Agenda (am)



Product overviews

- 8:45 Surface reflectance – Belen Franch
- 9:00 Vegetation index EDR and NDE Green Vegetation Fraction – Marco Vargas
- 9:15 Vegetation Health – Felix Kogan
- 9:30 Land surface albedo – Bob Yu
- 9:45 Land surface temperature – Bob Yu
- 10: 00 Active fire – Ivan Csiszar

10:15 Break

- 10:30 Surface type – Jerry Zhan
- 10:45 Sea ice characterization and thickness – Jeff Key
- 11:00 Sea ice concentration – Yinghui Liu
- 11:15 Sea ice surface temperature – Mark Tschudi
- 11:30 Binary snow cover – Peter Romanov
- 11:45 Snow fraction - Peter Romanov and Igor Appel
- 12:00 NASA SIPS Land Production and QA – Sadashiva Devadiga / Miguel Román

12:15 Lunch break



Agenda (pm)



Product validation and long-term monitoring

- 1:00 Validation datasets and interagency / international coordination - Miguel Román
- 1:30 JPSS 1 land validation plan overview – Ivan Csiszar
- 1:45 GOES-R land validation activities and coordination with JPSS – Bob Yu
- 2:00 Land product characterization system – Kevin Gallo
- 2:15 Land long-term monitoring system – Lori Brown / Tony Reale

NOAA Enterprise system

- 2:30 Land / cryosphere enterprise product assessment– Ivan Csiszar / Jeff Key
- 2:45 Non-NOAA data sources for operational land / cryosphere applications: mission status, data access and plans Marco Vargas / Bob Yu / Jeff Key / Ivan Csiszar

3:00 Break

NOAA operational applications of JPSS land and cryosphere products

- 3:15 NCEP – Mike Ek
- 3:30 National Ice Center– Sean Helfrich

Open discussion and wrap-up

- 3:45 - 5:00 *Overarching topics such as re-processing, gridding, CLASS RIP archives, Direct Broadcast, summary and action items*



NOAA Operational Product Status



- Evaluation and update of the heritage IDPS algorithms is practically complete
 - Products achieved validated stage 1 as defined by the NOAA JPSS program
 - Only remaining IDPS code change package is aerosol / SR (to implement validated algorithm in operations)
 - Reactive maintenance continues
 - Long-term monitoring in place / transitioning to systematic production
- NOAA ESPC (NDE) operational implementation
 - Additional / added-value products
 - Green Vegetation Fraction – fully operational
 - Vegetation Health – transition to operations
 - Active Fire – re-allocated to NDE – transition to operations
 - Snow Fraction – in development
 - Phenology (Risk Reduction) – in development
- JPSS Program Director's direction letter on algorithm development
- Program Level CCR to re-direct all Priority 3 and 4 products to ESPC



NOAA Operational Product Status



- NOAA Enterprise Algorithm Development
 - Common algorithms / ground system implementation options to leverage resources and ensure best algorithm solutions
 - Targets NOAA satellite assets i.e. JPSS and GOES-R
 - » Often results in the implementation of GOES-R algorithms to process JPSS data
 - » “Risk Reduction” algorithm package transitioning into operations
 - » Land products not part of this effort, but assessment is ongoing
- Use of non-NOAA assets for critical NOAA missions
 - In some regards the extension of NOAA Enterprise development
- New directions and framework for the Science Team’s activities
 - Reactive maintenance and long-term monitoring of operational products
 - Algorithm development towards ESPC implementation of enterprise solutions; testbeds, demonstration products, active user involvement
 - Different review / TTO process / documentation – follow SPSRB process
- Algorithm deliveries to STAR Algorithm Integration Team (AIT)



Moving forward



- JPSS-1 (-> to be renamed to NOAA-20 once operational) preparation
 - Suite of algorithms include significant improvements
 - TOC NDVI, full fire mask and FRP – implemented for Suomi NPP
 - JPSS-1 test datasets are becoming available
 - JPSS-1 validation plans
 - draft plans delivered; review / feedback ongoing
 - final plans due December 31
- NOAA – NASA ST coordination and collaboration
 - Algorithm development
 - keep algorithms in sync (i.e. SR, Active Fire)
 - seeking common algorithm solutions where possible (i.e. LST)
 - different algorithm solutions where necessary
 - NASA-unique features (SDR, output format etc.) to be addressed
 - Validation
 - leveraging approaches and resources
- JPSS-2 and beyond assessment



User involvement and added value products



- Close linkages between code cal/val and risk reduction activities
 - Risk reduction is also a platform for further algorithm changes
- Close collaboration with critical NOAA users
 - NOAA NCEP and other modeling groups – data assimilation
 - National Ice Center, Hazard Mapping System, CPC etc.
- Key Proving Ground Initiatives
 - e.g. Fire and Smoke, Land Data Assimilation
 - Joint Center for Satellite Data Assimilation as testbed
- Direct Broadcast CSPP and IPOPP and algorithm updates
- Development of new / level-3 and beyond products
 - GVF in operation
 - Gridded/composited LST, albedo etc.; LAI/fPAR
- Reprocessing
 - ongoing for select VIIRS bands / products (i.e. ocean)
 - planning / implementation for additional SDR and products