

# Report Back on Land Data Products Breakout

Chris Justice (UMD),  
Jaime Nickeson (GSFC)  
Miguel Roman (USRA)

# Agenda (1.5 hrs)

- **Satellite Land Data Products (30 mins)**

- Summary Presentation on MODIS, VIIRS, LTDR, HLS, MuSLI, SMAP, ICESat2, ECOSTRESS, GEDI, NISAR data products – Chris Justice
- Summary of CEOS Land Product Validation Working Group – Jaime Nickeson

- **Brief summary of use and needs presentations from TE Program Elements (30 mins)**

- CMS – Megan McGroddy
- ABoVE – Scott Goetz

- **Open Group Discussion on Future Data Product Needs (30 mins )**

- Group Suggestions

# Topics

- Data Products from TE relevant Missions Inc. ISS short-lived Missions (Ecostress/GEDI)
- Coarse resolution product continuity MODIS>JPSS VIIRS
- NASA moderate resolution global products (HLS, MUSLI)
- Product Generation and Commitment for Reprocessing (inc. post mission)
- Product Validation Funding – Accuracy Assessment
  - Contributing to international standards (CEOS LPV)
- Land Product Stewardship and Curation

# Issues Raised

- Continuing NASA's global reputation on science quality global data products
- The EOS Era is ending > MODIS has moved to Senior Review > NASA SNPP VIIRS next > operational data continuity starting with NOAA 20
- NASA Land Data Product Activities more fragmented and relatively underfunded
- Product Validation receiving less funding than needed
- NASA encouraging use of international Land Data Products (ESA/JAXA) – more missions, different approach and different standards re. data products
- CEOS Land Product Validation Sub-group – international forum for setting validation standards
  - NASA much less engaged in CEOS LPV than previously
  - International Validation Standards and Protocols more important than previously
- NASA Data Processing exploring Cloud Computing options (e.g. AWS)
  - Major issues of data quality and curation
- GCOS ECV's now being expanded with new ExV's Biodiversity and Ag (GEO/CEOS)
- Community input to NASA on the future of Land Products would be helpful

# Observations and Recommendations from the Discussion

- More attention and funding needed for new Mission Data product Lifecycle
- Funded Product Generation activities (Collections/Reprocessing) need to be extended beyond instrument life - for short-lived missions e.g. GEDI, Ecostress
- The EOS and SMAP model of including validation funding as integral part of the Mission Budget - should be generally adopted for future missions
  - As a result, the Soil Moisture Community relatively well organized
- ICESat2 Land Product Validation needs more attention
- More follow-up needed on TE-funded PI proposals that involve data generation and data management plans
- Data curation plans needed for Cloud-generated products - QA metadata, Collections, Validation
  - Tools and guidance needed for Cloud-based processing

- Increased NASA-funded Participation in CEOS LPV needed
  - Biomass Community relatively well coordinated as NASA was involved from the outset
  - Other product Suites relevant to TE - less so
- CEOS Carbon Action directly relevant to TE Program
  - Recommend that sub-elements within NASA's TE Program (e.g., CMS, ABoVE, TE-R&A,) and the respective missions PIs and relevant parts of instrument teams (MODIS/VIIRS/ECOSTRESS/GEDI/IceSAT2/SMAP/OCO-3) contribute to and provide recurring updates to NASA's TE program leads: <http://ceos.org/home-2/the-ceos-carbon-strategy-space-satellites/>.
- Contributions can include:
  - An updated list of Fiducial Reference measurements collected by TE investigators and NASA field campaigns
  - Participation in inter-comparison exercises (e.g., CEOS-WGCV ACIX II - CMIX: <https://earth.esa.int/web/sppa/meetings-workshops/hosted-and-co-sponsored-meetings/acix-ii-cmix>)
  - Inclusion of new data products into the CEOS-LPV database (contact Jaime Nickeson for more info: [Jaime.Nickeson@nasa.gov](mailto:Jaime.Nickeson@nasa.gov))
- Continued NASA Citizen Science initiative needs to augment data collection