Land Product Validation (LPV) Sub-group Meeting

Fernando Camacho – (EOLab/U. Valencia) – Chair
Vice Chair – Vacant
Subgroup meeting
07 Dec 2020

NEXT LPV TELECON 03 Mar 2020
Attendance

Participants
Fernando Camacho
Jaime Nickeson
Zhuosen Wang
Michael Cosh
Pontus Olofsson
Frank Göttzsche
Dominique Carrer
Carsten Montzka

Excused
Marie Weiss
Gareth Roberts
Andrew Edwards
Glynn Hulley

Sophie Bontemps
Andrew Edwards
Jadu Dash

Absent
Laura Duncanson
Thomas Nagler
Hongliang Fang
Sylvain Leblanc
Luigi Boschetti
Else Swinnen
Joshua Gray
Tomoaki Miura
John Armston
Mat Disney
Victor Rodríguez-Galiano
Proposed agenda items

• Welcome
• Ian Grant
• CEOS Supersite and Biomass Val Meeting
• CEOS Work Plan
• LPV Work Plan
• Updated CEOS CV Portal
• Status of Working Group
• Focus Area review and update status
• Focus Area Reporting
Ian Grant – *In memory*

Dr. Ian Grant  
*Bureau of Meteorology*  
*Australia*

Dr. Ian Grant passed away peacefully on 30 November 2019 surrounding by his family and friends.

He served as co-lead of the Surface Radiation focus area group during the last two years.

He contributed to the Albedo validation protocol, and during the last year lead the development of the Downwelling Radiation Validation Protocol - A conference paper in the Solar World Congress 2019 was accepted and is now available in our wiki.

The CEOS LPV group will miss him and acknowledge his significant contributions while with us!
CEOS Supersite and Biomass Validation meeting

Agenda will be consolidated in January.

Meeting 2nd-6th March, 2020 → Next LPV teleco 2nd Week of March
New Cal/VAL actions

• CV-20: Surface Reflectance Round Robin (S3R) (WGCV LPV & IVOS)
• CV-21: Biomass Intercomparsion (BRIX-2) (WGCV LPV)
• CV-22: Digital Elevation Models Intercomparsion (DEMIX) (WGCV TMSG)
• CV-23: SAR Calibration inventory and joint use assessment (WGCV SAR)
LPV Work Plan 2019-2022

Any new LPV action in the 2019-2022 time frame that you would like to be included in the LPV work plan FA group, please let us know!

This will help us to track our progress and our reporting to WGCV.
Updated CEOS cal/val portal

http://calvalportal.ceos.org/

Your comments are desired and welcome!

In order to download/upload documents within the doc_repository in the Portal, you will need to have an account - you can request one by sending email to paolo.castracane@esa.int
Status of Working Group

• Please remember to mention LPV at your meetings and with colleagues, and in presentations. Foster more involvement by encouraging them to join the listserv. This will eventually help to increase our pool of candidates for the future!!!

• Volunteer your name if you are non-European and interested in the Vice-Chair position. You have the best access to the land validation community.
• Position details are included in 10-Jul telecon notes and posted on the wiki.
• We have a potential candidate but no confirmation at this time.

• AND, still looking for a volunteer to help with Snow focus area.
Annual Web Site and Listserv Review

• Please let’s wrap this up!
• **New content is not required**, but review of current content is.
• All focus areas were sent the input needed in April to complete the updates.
• Before sending newsletter to your community, please make sure your listserv information is current. If you know a colleague has moved institutions, make sure we have the updated address. Please add colleagues (post docs or other collaborators) not currently on your list who may not be aware of LPV yet.
### Focus Area Review/Update Status

Status of updates by focus area.

Some only need a review, changes are not required, just assure all is current!

<table>
<thead>
<tr>
<th>Focus Area</th>
<th>Letter sent to leads</th>
<th>Home Page Review / Update</th>
<th>Products Reviewed / Updated</th>
<th>Collaboration Review / Update</th>
<th>References Updated</th>
<th>Listserv review/ update</th>
<th>Letters to community</th>
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<tbody>
<tr>
<td>Landcover</td>
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<td>Oct 2019</td>
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<tr>
<td>Surface Rad/Albedo</td>
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<td>Dec 2019</td>
<td>Oct 2019</td>
<td>Dec 2019</td>
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<tr>
<td>Fire/Burn</td>
<td>Apr 2019</td>
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<td>Feb 2019</td>
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<td>Sept 2019</td>
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<tr>
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<td>Apr 2019</td>
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<td>Oct 2019</td>
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<td>Vegetation Index</td>
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<td>Sep 2019</td>
<td>May 2019</td>
<td>Sep 2019</td>
<td>May 2019</td>
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<td>May 2019</td>
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</tbody>
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Action needed!!
Focus Area Reports

- Fire/Burn Area
- Phenology
- LST&E
- Surface radiation
- Soil Moisture
- Vegetation Indices
- Snow
- Biomass
- Land Cover
- Biophysical (LAI/FAPAR)
• Website update
  – EPS LAI/FAPAR product added to Product List,
  – SEVIRI LAI/FAPAR information corrected
  – OLCI FAPAR contact directed to ESA Helpdesk

• Abstract deadlines
    (H. Fang will attend both).

• Remote Sensing special issue
  – “Remote Sensing of Biophysical Parameters” (deadline: Nov 27, 2020)
    Editors: J. García-Haro (U. Valencia), H. Fang (CAS), and M. Campos-Taberner (U. Valencia)
    http://www.mdpi.com/journal/remotesensing/special_issues/Biophysical_Parameters
Gave a talk at the 2019 AGU session - Satellite Land Surface Product at Medium, High, and Very High Resolution: Algorithms, Validation, and Applications I on the

- Global validation of the NASA MODIS and VIIRS burned area products
Phenology
• Very sad news. Our co-lead Dr. Ian Grant passed away.

• Product list on LPV website

We found some typo in the data links. Some products have updated the data portal to access the data.

New products:

The C3S/COPERNICUS AVHRR Surface Albedo /LAI /FAPAR v1.0 is now released to public via the CDS see links below for:

Surface albedo: https://cds.climate.copernicus.eu/cdsapp#!/dataset/satellite-albedo?tab=overview


VGT Surface Albedo v1.0 was already available -> 35 years of surface albedo available with AVHRR+VGT v1.0.
Comparison with MODIS (cultivated site)

Courtesy: J. Sánchez-Zapero (EOLAB)
Surface Radiation (3/5)

Copernicus Climate Change Service (C3S/ECMWF)

More details available in:
C3S_312a_Lot9_VITO_2016SC1
Product Quality Assessment Report
(Sánchez-Zapero et al. 2019)
Surface Radiation (4/5)

Copernicus Climate Change Service (C3S/ECMWF)

AVHRR-NOAA7 Full globe albedo
- No Snow mask – V1 (312a - Lot9)

Resolution: 4km x 4km

1982-05-20T00:00:00.000000000

1982-NOAA7

0.5

0.4

0.3

0.2

0.1

0.0

Albedo
• **Past meeting:**

D. Carrer attended AGU 2019 and gave an oral presentation entitled “35-years of Land Surface Albedo and 15-years of Down-Welling Short-Wave Radiation retrievals from Earth Observations in the framework of two European space programs”

• **Upcoming meetings**

16th Baseline Surface Radiation Network (BSRN) Scientific Review and Workshop – June 29-July 3, 2020, Bologna, Italy

International radiation Symposium – July 6-10, 2020, Thessaloniki, Greece

• **Special issues:**
- “Remote Sensing of Land Surface and Earth System Modelling”. For more information about the Special Issue, please see (P.de Rosnay):
  
  https://www.mdpi.com/journal/remotesensing/special_issues/Land_Surface_Earth_System_Modeling

- Extended deadline (June 2020) for Remote Sensing special issue on "Recent Advances in Satellite Derived Global Land Product Validation”. For more information about the Special Issue, please see:
  
LST & Emissivity

Kick off next week for the ESA LST AOD WV

Participated in the 2019 Fall AGU Meeting Session (San Francisco, Dec 2019): ‘Taking the temperature of the Earth: uncertainties, trends, and applications across all Earth surface domains’.
Soil Moisture (1/2)

SMOS
- Celebrating 10 years in 2020!

SMAP
- Field Experiment: SMAPVEX19/20 will support vegetation water content product as well, scheduled for Summer and Fall Deployment.

NISAR
- The NASA-ISRO Synthetic Aperture Radar mission (~mid-2022) will monitor in L-band via radar at a high resolution (~100m) nominally every 12 days (2 overpasses/12 days).
- L+S ASAR flights Spring 2020?
- Science Team Selections, 3 with soil moisture focus (~$1 million in 2020 for development of SM algorithms)

AMSR3
- Set for launch in 2022
Soil Moisture (2/2)

Other

- Field campaign summer 2019 completed: SARSense C- and L-band SAR in support for the ESA mission candidate ROSE-L
- U.S. National Soil Moisture Network Strategy near completion,
- Good Practices Protocol: Closed for contributions, filling gaps, homogenizing content
- New release of the ISMN python package, further info on: https://ismn.readthedocs.io/en/latest/
- New release of the pytesmo soil moisture validation toolbox: https://pytesmo.readthedocs.io/en/latest/?badge=latest. In addition to EO-based soil moisture products also models are implemented for cross-comparison (GLDAS Noah, ERA Interim)

Workshops:

- Earth Explorers for Climate - The contribution from SMOS. 18 - 20 March 2020, at the Eden Project in Cornwall, UK. In celebration of the 10th anniversary of the SMOS mission
- National Soil Moisture Workshop (U.S.) August 12-13, 2020, Beltsville, MD.
- 6th Satellite Soil Moisture Validation and Application Workshop, Sept 15-17, 2020, Perugia, Italy (site)
- 7th Satellite Soil Moisture Validation and Application Workshop, Fall 2022, New Orleans, USA
Vegetation Indices

Invited talk given at the AGU session: Satellite Land Surface Product at Medium, High, and Very High Resolution: Algorithms, Validation, and Applications I
Snow
Above Ground Biomass

- Currently in Australia trying to close out the aboveground biomass protocol documentation.
- Attending the Supersites and Biomass Validation Workshop in Canberra in March.
- GEDI data will be available to the public this month!
• Currently in the process of writing version 3 of the GFOI Methods and Guidance document. Pontus will be attending a meeting of the authors next week in Bilbao, Spain. More will be reported next time.