

Land Product Validation (LPV) Sub-group Update



Gabriela Schaepman-Strub (University of Zurich) - Chair

Miguel Román (NASA GSFC) – Vice-Chair

Jaime Nickeson (NASA GSFC) - Support

Contributions by LPV focus area co-leads

WGCV-39

6-8 May 2015, DLR, Berlin, Germany

Achievements since WGCV-38

1. Progress of LPV contributions to CEOS WP 2014-16
2. Meetings and outreach
3. LPV collaborations
4. Focus area updates
5. Goals 2015

1. Progress CV11 & 12 (CEOS WP 2014-16)

- CV-11 extensively addressed in 2014 (website restructuring), since WGCV-38 minor updates, level of activity depending on focus area -> discussion of strategy with focus areas in May/June 2015
- CV-12 ongoing, 8 sites submitted for Sentinel-2 (ESA, F. Gascon)

CV-11: Validation of terrestrial ECV products	Q1 2015 – Q4 2016	The validation of terrestrial ECV products is in line with activities carried out in WGCV-Land Product Validation (LPV). The validation of ECVs covered within WGCV-LPV shall be strengthened. This includes (a) an update of validation stage, (b) ECV-specific synthesis of a state-of-the-art validation approach for each terrestrial variable with corresponding references and protocols, (c) ECV-specific identification of a golden standard for validation, and (d) continuation of development of ECV-specific validation protocols, including a community review process and updates. Results of each step will be made public via the WGCV-LPV website and finally the Cal/Val portal.	WGCV
CV-12: Evaluation of validation supersites and new validation approaches	Q2 2015	Evaluation of well-characterized supersites with data continuity prospects for validation purposes that allow for testing of products, algorithms, and validation strategies through radiative transfer modeling.	WGCV

2. Meetings and Outreach

- AGU'14
 - successful session, LPV presentation, next session planned for AGU'16
- EGU'15
 - Validation session merged BG2.9, CL5.1 - Earth observation for monitoring and modeling the global energy, water and carbon cycles over land using model-data integration
 - good mix of contributions, attendance, agreement to organize validation session again in 2016
 - LPV oral presentation
- NASA Carbon Cycle & Ecosystems Joint Science Workshop, April 2015
 - LPV poster
- ISRSE Berlin next week
 - LPV presentation

3. LPV Collaborations - CEOS

1. CEOS WGCV cross-cutting action contribution
 - Representation of LPV by E. Vermote (NASA)

2. CEOS WG Climate
 - Informal meeting on collaboration between WG Climate and WGCV/LPV during Climate Symposium, Oct. 14, Darmstadt
 - WG-Climate-CGMS working group meeting, March 2015, Geneva, Switzerland
 - LPV presentation on validation work and information available for ECVs
 - Potential for collaboration for gap analysis (LPV website information)

3. Other LPV Collaborations

1. GCOS TOPC, 16-17 March 2015, Birmensdorf, Switzerland
 - LPV update presented
 - Land surface temperature discussion (input on product improvement by NERC/EARTHTEMP, NASA JPL) -> action on TOPC chair (Koni Steffen) and G. Schaepman-Strub to set up a small working group to come up with a suitable definition for LST

2. ICOS
 - Informal meeting with ancillary measurement leads (Jan. 2015, Zurich), strengthening ICOS-LPV collaboration.
 - Several LPV focus area leads subscribed to ICOS mailing list to improve interaction. Mires protocol out, data call for grasslands.

3. QA4ECV
 - traceability chains for 3 land and 3 atm. ECVs available on the website <http://www.qa4ecv.eu/ecvs/>

4. Focus Area Update

Snow cover (T5)*, Ice	Thomas Nagler (ENVEO, Austria)	Tao Che (Chinese Academy of Sciences)
Surface radiation (Reflectance, BRDF, Albedo (T8)*)	Crystal Schaaf (U. Massachusetts)	Pending
Land cover (T9)*	Pontus Olofsson (Boston University)	Martin Herold (Wageningen University, NL)
FAPAR (T10)*	Arturo Sanchez-Azofeifa (U. Alberta)	Nadine Gobron (JRC, IT)
Leaf area index (T11)*	Oliver Sonnentag (U. Montreal)	Stephen Plummer (Harwell, UK)
Fire (T13)* (Active Fire, Burned Area)	Luigi Boschetti (University of Idaho)	Kevin Tansey (University of Leicester, UK)
Land surface temperature	Simon Hook (NASA JPL)	Jose Sobrino (University of Valencia, SP)
Soil moisture*	Tom Jackson (USDA)	Wolfgang Wagner (Vienna Uni of Technology, AT)
Land surface phenology	Matt Jones (U of Montana)	Jadu Dash (University of Southampton, UK)

Focus Area Updates (Selected)

Telecons since WGCV-38

- November, January, March
- Now using Adobe connect for increased communication possibilities

Land Cover

- Workshop and material compilation on training for land cover accuracy assessment in planning for 2015 (many support requests)

Land Surface Temperature

- Development of global lake temperature monitoring system in progress
- Several upcoming meetings with validation component
 - 4th meeting of the EarthTemp Network, 8-10 June 2015, U. of Reading
 - 3rd ESA GlobTemperature User Consultation Meeting , June 11-12 2015, U. of Reading
 - 3rd General Meeting of the International LST and Emissivity Working Group (ILSTE-WG) 12 June 2015.

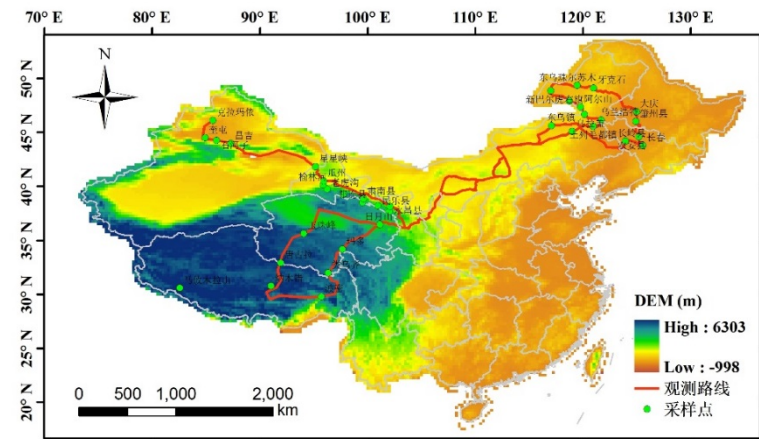
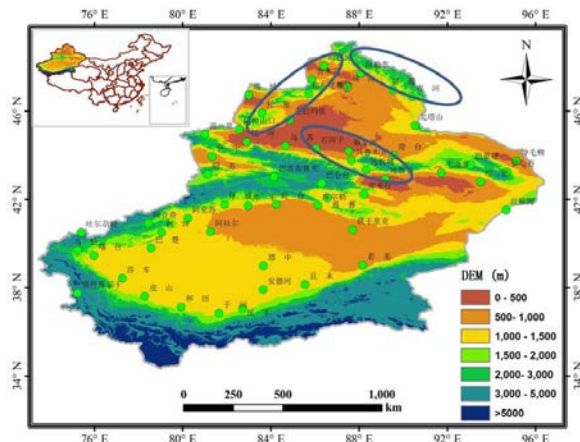
Snow

Validation activities by SNOWPEX (ESA funded) <http://snowpex.enveo.at/>

- Intercomparison of global snow extent products of 2 years is proceeding; 13 products (out of 14) received by now, 5 global SWE products.
- Global reference data set for validation in compilation, consisting of
 - Snow extent from high resolution sensors (Landsat)
 - In-situ data set of key regions in compilation.

Validation activities in China (Tao Che)

- Extensive field work for snow product validation in Dec'14 and Jan'15 (NW China).
- Snow depth measurements around meteorological stations (greent) to evaluate representativeness of station (point to pixel).
- Data and geolocation will be shared with snow research community.



FAPAR

- Collaboration with NPL on PAR sensor calibration and longtime drift assessment (about 40 calibrated sensors will be employed in Costa Rica, Germany, England, Brazil)
- FPAR data from enviro-net.org publicly available

Phenology

- 3rd International Phenology Validation workshop as side event to Phenology conference, October 5-8 2015, Turkey.

5. LPV Goals 2015

1. Paper

- Intercomparison and validation framework, update of validation stage definition
- Validation methodology and standards
- Validation stage for each variable
- Current limitations and ways forward

2. Consolidate strategy for each focus area

- May-June focus-area-specific telecons

3. Increase exchange of methodology between focus areas

4. Supersite selection

5. Planning of LPV subgroup meeting (Q1 2016)

6. Preparation of chair/vice-chair transition (Q1 2016)

LPV Focus-area Specific Strategy Meetings

Time frame

May – July 2015 -> doodle will be sent out

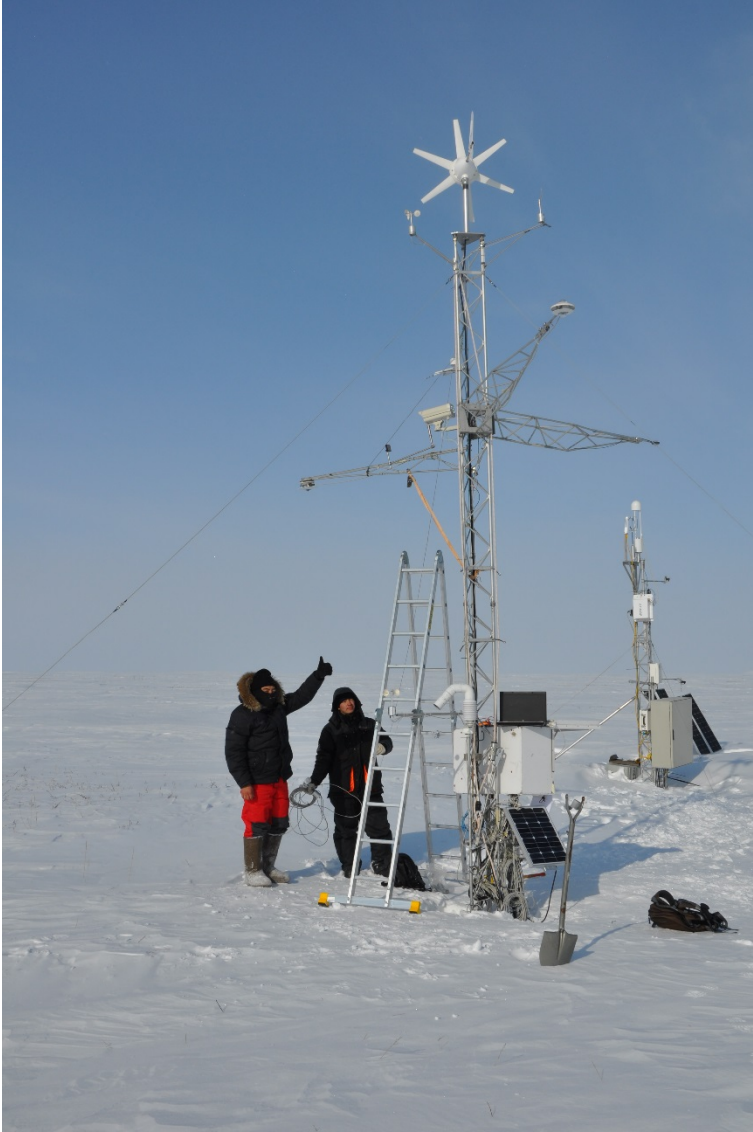
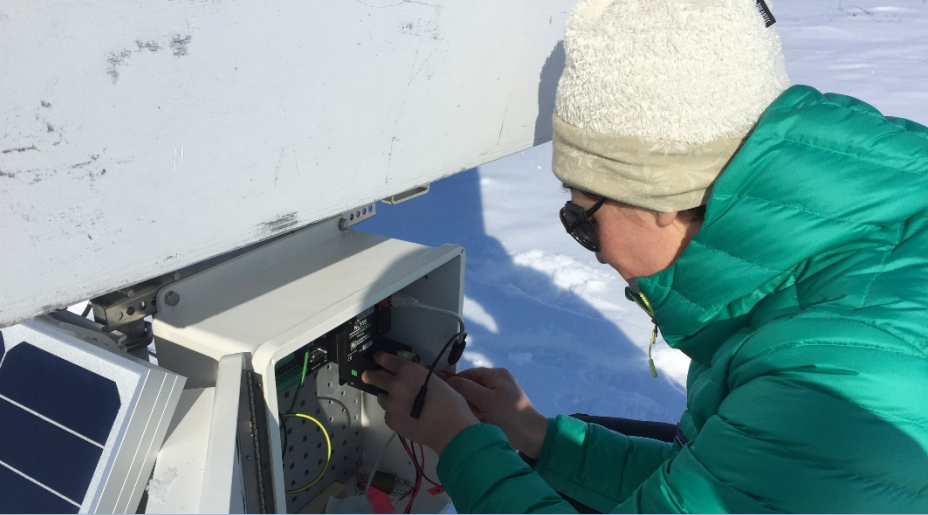
Aims

1. Review validation stage and activities (focus area co-leads)
2. Define next validation steps (focus area co-leads and LPV chair/co-chair)
3. Define goals and action items for 2015/2016 (focus area co-leads and LPV chair/co-chair)
e.g. protocol writing, GCOS interaction, focus-area specific meeting, fiducial reference data
4. Review organisation and contributions to focus area (terms, organisation)

Participants

1. Focus area co-leads
2. Gabriela (chair), Miguel (vice-chair), Jaime (support)
3. Guests (proposed by co-leads and chair)

Validation Data - Phenocam in Siberia



Switching from SWE to IWE



