

CEOS Land Product Validation (LPV) Fire Disturbance Status

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2022 GOFC Fire IT Meeting

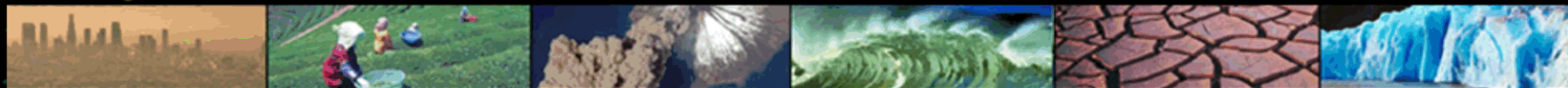
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National Aeronautics and Space Administration
Goddard Space Flight Center

<https://lpvs.gsfc.nasa.gov/>

CEOS Working Group on Calibration and Validation



Land Product Validation Subgroup

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The mission of the CEOS Land Product Validation (LPV) subgroup is to coordinate the quantitative validation of satellite-derived products. The focus lies on standardized intercomparison and validation across products from different satellite, algorithms, and agency sources.

The sub-group consists of **10 Focus Areas**, with 2/3 co-leads responsible for each land surface variable (essential climate and biodiversity variables).

CEOS VALIDATION HIERARCHY

Validation Stage - Definition and Current State		Variable
0	No validation. Product accuracy has not been assessed. Product considered beta.	
1	Product accuracy is assessed from a small (typically < 30) set of locations and time periods by comparison with in-situ or other suitable reference data.	Snow Fire Radiative Power Biomass
2	Product accuracy is estimated over a significant (typically > 30) set of locations and time periods by comparison with reference in situ or other suitable reference data. Spatial and temporal consistency of the product, and its consistency with	fAPAR Phenology Burned Area LAI

LPV Subgroup Background

- Mission is to coordinate the quantitative validation of satellite-derived land products
- New LPV subgroup Chair is Mike Cosh (March 1st)
- Vice Chair search in progress
- Land subgroup consists of 10 focus areas
- 2-3 co-leads responsible for each focus area
- Each focus area covers one or more land-surface variables
 - Land cover, LAI, FPAR, soil moisture, VI, biomass, **fire disturbance**, etc.
 - Some are also essential climate variables (ECVs)
- “Fire Disturbance”
 - Active fire, fire radiative power (FRP), burned area
- Each focus area to produce a citable validation protocol tailored to their land variable(s)

Example: Biomass



Committee on Earth Observation Satellites



Working Group on Calibration and Validation
Land Product Validation Subgroup

Aboveground Woody Biomass Product Validation

Good Practices Protocol

Version 1.0 – 2021

Editors: Laura Duncanson, Mat Disney, John Armston, Jaime Nickeson, David Minor, Fernando Camacho



Duncanson, L., Armston, J., Disney, M., Avitabile, V., Barbier, N., Calders, K., Carter, S., Chave, J., Herold, M., MacBean, N., McRoberts, R., Minor, D., Paul, K., Réjou-Méchain, M., Roxburgh, S., Williams, M., Albinet, C., Baker, T., Bartholomeus, H., Bastin, J.F., Coomes, D., Crowther, T., Davies, S., de Bruin, S., De Kauwe, M., Domke, G., Dubayah, R., Falkowski, M., Fatoyinbo, L., Goetz, S., Jantz, P., Jonckheere, I., Jucker, T., Kay, H., Kellner, J., Labriere, N., Lucas, R., Mitchard, E., Morsdorf, F., Naesset, E., Park, T., Phillips, O.L., Ploton, P., Puliti, S., Quegan, S., Saatchi, S., Schaaf, C., Schepaschenko, D., Scipal, K., Stovall, A., Thiel, C., Wulder, M.A., Camacho, F., Nickeson, J., Román, M., Margolis, H. (2021). Aboveground Woody Biomass Product Validation Good Practices Protocol. Version 1.0. In L. Duncanson, M. Disney, J. Armston, J. Nickeson, D. Minor, and F. Camacho (Eds.), Good Practices for Satellite Derived Land Product Validation, (p. 236): Land Product Validation Subgroup (WGCV/CEOS), doi:10.5067/doc/ceoswgcvt/lpv/agb.001

Fire Disturbance Status

- Active Fire
 - Discussed at previous Fire IT meetings
 - Protocol/best-practices document never produced
- Burned Area
 - Boschetti et al. (2010) draft protocol

DRAFT

**International Global Burned Area Satellite Product Validation Protocol
Part I – production and standardization of validation reference data
(to be followed by part II – accuracy reporting)**

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LPV Goals for IT Meeting

- Solicit assistance with protocol formulation and writing
 - Active Fire – draft from scratch
 - Burned Area – update Boschetti et al. (2010) draft protocol
- Initiate discussion of unresolved issue(s)
 - Active Fire
 - Guidance re. “contemporaneous” observations
 - w/out protocol, threshold has ballooned from \pm minutes to \pm ~5 hours
 - Burned Area
 - Cropland-appropriate protocol
 - FireCCI long-unit validation
 - BARD recommendations re. validation vs. training