4th International Earth Surface Working Group (IESWG-4)

(Hybrid meeting hosted by FMI-Helsinki) Apr 2022

Dear Colleagues,
We are happy to announce the 4th International Earth Surface Working Group (IESWG). Due to the global pandemic this meeting will be hybrid, kindly hosted by Finnish Meteorological Institute (FMI) in Helsinki, Finland.

The meeting web page can be found here with more information to follow:

IESWG-4 http://cimss.ssec.wisc.edu/iswg/meetings/2022/

We greatly appreciate the efforts of the past participants. Note, we discussed the potential to introduce ourselves as a new subgroup at the 49th Coordinated Group for Meteorological Satellites (CGMS). This went well and they wish for us to present again at the 50th meeting to summarize the IESWG-4. Further, we have been interacting with the World Meteorological Organization (WMO) for support of the surface modeling efforts.

The past ISWG meetings can be found here:
http://cimss.ssec.wisc.edu/iswg/meetings/2017
http://cimss.ssec.wisc.edu/iswg/meetings/2018
http://cimss.ssec.wisc.edu/iswg/meetings/2019

To register your contribution for IESWG-4 - please fill the form at:
https://forms.gle/5bgkErwEbdf8jA5V8

We are accepting both oral and poster presentations.

Focus of the Meeting:
- Use of EO-data for Cryosphere and Biosphere modelling applications: both IR/MW, active/passive remote sensing data relevant to study processes at the land-atmosphere interactions;
- Use of EO-data for Parameters optimisation: including land surface temperature, albedo, vegetation state, soil moisture, snow water equivalent, water-body extent, sea surface wind, salinity, canopy parameters, vegetation water content, sea-ice concentration, etc. and the resulting surface emissivity/reflectance spectra;
- Land Data Assimilation Systems (LDASs) : state of the operational land surface modelling and assimilation systems and recent developments; sensitivity studies of surface model parameters to remotely sensed data; outcomes of assimilating SMOS, SMAP, GPM observations and their combination with higher resolution sensors such as MODIS/VIIRS, Sentinel-3-OLCI;

- Radiative transfer and emissivity/reflectivity model development: VIS/IR/MW, all surface types, review of current parameterization for forward modelling surface boundary; description of available land emissivity databases/atlases (MW and IR); intercomparison/validation of physical models and retrieved emissivity (MW and IR, including land, ocean, and ice surfaces);
- Other relevant topics: model-data comparison efforts involving EO dataset and shared experiences from ongoing surface monitoring systems, use of multi-sensor/ multi-platform, multi-temporal approaches to maximize information over heterogeneous or rapidly changing surface types.

The International Surface Working Group (IESWG) will:
- Update recommendations to further the coordination and exploitation of Earth Observation data of terrestrial surfaces and land-atmosphere interactions;
- Update recommendations consistently with the evolution of available satellite systems and how to fill potential gaps in future observations;
- Maintain a record of the state-of-the science of Earth surface assimilation and prediction, and guide and focus reserach directions to identified gaps in understanding.

Previous IESWG contributions have been published in Special Issues.

Remote Sensing of Land Surface and Earth System Modelling:
https://www.mdpi.com/journal/remotesensing/special_issues/Land_Surface_Earth_System_Modeling

Advancing Earth Surface Representation via Enhanced Use of Earth Observations in Monitoring and Forecasting Applications:
https://www.mdpi.com/books/pdfview/book/1510

We look to continuing to work with all of you, and thank you all for your contributions.

Kind regards,

Benjamin Ruston (NRL-Monterey)
Ali Nadir Arslan (FMI)
Gianpaolo Balsamo (ECMWF)

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