Special Issue

Data Assimilation of Satellite-Based Observations into Land Surface Models

Message from the Guest Editors

The accurate characterization and simulation of hydrological and biophysical variables at the land surface pose a significant challenge, given the large spatial heterogeneity and human modifications of the land surface. The role of Land Surface Model (LSM) has evolved over the years, from the primary goal of providing boundary conditions to atmospheric models to being used as a monitoring and forecasting tool for estimating land surface conditions. As a result, there is a big emphasis on constraining the LSM estimates with observational inputs and coupling them with other models of the Earth system (e.g. river-routing models). Remote sensing observations are particularly useful in this context, as they are now unrestrictedly available at a global scale, high resolution, and long time periods. Many satellite-derived products relevant to the hydrological (e.g., soil moisture, snow depth and cover, terrestrial water storage), vegetation (e.g., LAI, NDVI, FAPAR, biomass), and energy (e.g., LST, albedo) cycles are already available. Data assimilation allows to spatially and temporally integrate the observed information into LSMs in a consistent way.

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Deadline for manuscript submissions

closed (30 November 2019)

Remote Sensing

an Open Access Journal by MDPI

Impact Factor 4.1
CiteScore 8.6

mdpi.com/si/20548

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Message from the Editor-in-Chief

Remote Sensing is now a prominent international journal of repute in the world of remote sensing and spatial sciences, as a pioneer and pathfinder in open access format. It has highly accomplished global remote sensing scientists on the editorial board and a dedicated team of associate editors. The journal emphasizes quality and novelty and has a rigorous peer-review process. It is now one of the top remote sensing journals with a significant Impact Factor, and a goal to become the best journal in remote sensing in the coming years. I strongly recommend *Remote Sensing* for your best research publications for a fast dissemination of your research.

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