J01: Satellite Remote Sensing for Earth Science Applications

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Session Description

Satellite remote sensing enables monitoring of the solid Earth, the hydrosphere, oceans and atmosphere. Modern satellite missions achieve spatial resolutions as low as 25 cm and temporal resolutions of one day. This allows for studying Earth system processes with unprecedented spatio-temporal resolution. Contemporary sensors achieve sensitivity levels which rival airborne surveys. In addition, contemporary satellite missions equipped with diverse sensors enable data fusion and more integrated analyses. We invite contributions, which employ satellite remote sensing observations from MICROWAVE SENSORS: scatterometry, altimetry, Synthetic Aperture Radar (SAR) including interferometric, polarimetric, or tomographic; OPTICAL SENSORS: LiDAR, multispectral, thermal, radiometric; as well as GEOPHYSICAL SENSORS: gravity, magnetic. The focus lies on the application of such observations towards an improved understanding of the targeted Earth system and its changes over time. The session is intended to bring together scientists from any of the CGU and CSAFM sections and create a truly interdisciplinary exchange. Contributions, which demonstrate how observations from comparable (constellations) or complementary sensors can be fused and applied to understand multi-scale Earth system processes, are of particular relevance. Those applications range from land cover and forestry, oceanography and hydrology, including sea ice and glaciers, through natural hazard and environmental assessment to natural resources and engineering problems.

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