

CSSS_10: Geosensing

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Session Description

Technological advancements in sensors continue to expand our geophysical understanding of the Earth and the physical processes it supports. Sensors with the capacity to receive, and measure geographically referenced environmental stimuli at unprecedented spatial and temporal resolution, together with novel ‘big data’ strategies, has allowed us to perceive the world in previously unimaginable ways. Sensors can be satellite-based providing multi-spectral information about the Earth’s surface (imagery, land cover, vegetation indices), air-borne providing detailed images and scans of physical structures and environmental processes (drones, planes or helicopters), or proximal measuring near, on, or under the Earth’s surface to understand physical characteristics (pressure, temperature, humidity, mineralogy, porosity, water content) and phenomena (wind, rain, pressure, earthquakes). While an extensive range of sensors are available to geoscientists including geologists, geophysicists, hydrologists, soil scientists, proper utilization of such data and integration with models that support decision making have often lagged behind. This session will focus not only on advances in sensing techniques but, equally importantly, advances in integration of sensed properties and sensing systems with simulation models to understand complex environmental processes while supporting decision-making tools. Research on recent advances and developments in the fundamental, experimental, methodological and modelling studies to characterize and quantify various environmental properties and processes that interact at multiple spatial and temporal scales are invited to submit to the session (oral and poster).

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Joint Session Submission: CGU Earth Surface Processes