Remote Sensing of Regional Soil Moisture

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Message from the Guest Editors

Land surface soil moisture conditions play a key role in controlling the water and energy cycle at the land surface. Therefore, soil moisture monitoring is important to obtain reliable information about the spatial distribution and temporal dynamics of land surface water content.

The demand on soil moisture observations to run hydrological simulation models and assess regional water scarcity is increasing at the regional management scale.

Novel developments on in-situ sensor technologies and terrestrial monitoring networks provide an essential point-based component for satellite based product validation. In turn, this may be fundamental for innovations of satellite remote sensing based soil moisture retrieval approaches.

Key Topics

- Advances in remote sensing techniques to provide (time series of) spatially distributed soil moisture data
- Recently available and near future satellite data products
- Airborne cal/val experiments to present future potential innovations
- Case studies at regional scale
- Approaches for remote sensing/ in-situ observation integration
- Studies using data assimilation e.g. into hydrological models, plant growth models or discussing concepts

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