

Special Issue

Remote Sensing-Based Digital Soil Mapping of Organic Carbon Stocks

Message from the Guest Editor

Soil organic carbon (SOC) stocks are critical for soil health, agricultural resilience, and climate-change mitigation, yet they are difficult to quantify consistently across space and time. Field sampling provides essential ground truth but is often sparse, costly, and hard to scale, especially when SOC stocks must account for depth, bulk density, and uncertainty. Earth observation (EO) offers spatially continuous information on vegetation, surface conditions, moisture, temperature, terrain, and land management that strongly control SOC distribution. Advances in multisensor remote sensing (optical, hyperspectral, thermal, SAR, LiDAR) and data-driven modelling now enable more robust and repeatable SOC stock mapping. This Special Issue focuses on remote sensing-based digital soil mapping of SOC stocks through the integration of in situ data, EO covariates, and spatial-temporal modelling, including data fusion, ML and hybrid methods, stock computation, uncertainty analysis, and spatiotemporal monitoring.

Guest Editor

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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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