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Special Issue Reprint

Land Degradation Assessment with Earth Observation

Edited by: Elias Symeonakis

This Special Issue (SI) on "Land Degradation Assessment with Earth Observation" comprises 17 original research papers with a focus on land degradation in arid, semiarid and dry-subhumid areas (i.e., desertification) in addition to temperate rangelands, grasslands, woodlands and the humid tropics. The studies cover different spatial, spectral and temporal scales and employ a wealth of different optical and radar sensors. Some studies incorporate time-series analysis techniques that assess the general trend of vegetation or the timing and duration of the reduction in biological productivity caused by land degradation. As anticipated from the latest trend in Earth Observation (EO) literature, some studies utilize the cloud-computing infrastructure of Google Earth Engine to cope with the unprecedented volume of data involved in current methodological approaches. This SI clearly demonstrates the ever-increasing relevance of EO technologies when it comes to assessing and monitoring land degradation. With the recently published IPCC Reports informing us of the severe impacts and risks to terrestrial and freshwater ecosystems and the ecosystem services they provide, the EO scientific community has a clear obligation to increase its efforts to address any remaining gaps—some of which have been identified in this SI—and produce highly accurate and relevant land-degradation assessment and monitoring tools.

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