

Editorial

Ecological Remote Sensing: A Challenging Section on Ecological Theory and Remote Sensing

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Ecosystems can now be studied from space, in large numbers, but with high spatial and spectral detail. Furthermore, a strict link between ecological theory and remote sensing algorithms is now being put forward. However, no journals, for the time being, are giving enough space to theoretical and empirical papers devoted to the development of new modelling techniques, algorithms and statistical approaches applied to ecological remote sensing.

This section is concerned with the application of ecological theory at different levels, by using remote sensing data, for studying patterns and processes, ruling out the life of individual organisms, populations, communities and entire ecosystems. The application of ecological theory to remote sensing data includes several challenges such as (i) scale issues, (ii) data gathering and analysis, and (iii) software development.

The aim of the Ecological Remote Sensing Section of *Remote Sensing* is to provide a fast and robust reviewing process on new ideas involving the use of remote sensing for ecological studies.

The section framework includes (but is not limited to) remote sensing applications to: biodiversity estimate, computational ecology, ecological informatics, ecological modeling, entropy theory, fuzzy set theory applied to remote sensing data classification, global change, software development, spatial ecology, species distribution modeling.

The Editorial Board (https://www.mdpi.com/journal/remotesensing/sectioneditors/ecological_remote_sensing) of the section includes well known names of remote sensing and ecology fields, as well as young and promising researchers, giving us the possibility to look at papers from different perspectives, enhancing their intrinsic value.

Inspiring Special Issues are now available, such as “Remote Sensing of Ecosystem Diversity” (deadline: 31 December 2021), “Tracking Biological Invasions in Rapidly Changing Environments” (deadline: 28 February 2022), “Application of Machine Learning in Marine Ecology” (deadline: 31 March 2022), “Adding the Third Dimension to Biodiversity Mapping” (deadline: 31 May 2022), “Remote Sensing of Ecosystems in Cold Regions” (deadline: 31 January 2022) and “Monitoring Bird Movements Using Weather Radar Data” (deadline: 30 April 2022). We are obviously planning to structure additional Special Issues on interesting topics in ecology and remote sensing. Furthermore, a Feature Paper Special Issue is currently open (deadline: 31 December 2021).

I believe that this section will be highly successful given the undeniable necessity to create opportunities for young and experienced researchers to publish robust papers on ecological remote sensing.



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Short Biography of Author



Duccio Rocchini (born in 1975 in Siena, Italy) is Full Professor at Alma Mater Studiorum University of Bologna from December 2019, after having been Associate Professor in Biology and Ecology at the University of Trento, from February 2017. He attained his PhD in 2005 under the supervision of Prof. Alessandro Chiarucci, dealing with remote sensing applied to the study of plant communities.

After having collaborated with international researchers from institutions like U.S. Geological Survey, University of Nottingham (School of Geography, UK), Ashoka Trust for Research in Ecology and the Environment (India), University of California Los Angeles (Department of Geography, US), he joined the Fondazione Edmund Mach in Trento in 2009, in the Dr. Markus Neteler's GRASS GIS and Remote Sensing group, promoting open source algorithms for ecology.

Over the years, he has promoted the use of remote sensing for the study of biodiversity change in space and time, publishing more than 160 ISI papers on this theme.

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