

**ISPRS Book Series**

in Photogrammetry, Remote Sensing and Spatial Information Sciences

**Book Series Editor: Paul Aplin**

**Volume 8**

## **Recent Advances in Remote Sensing and Geoinformation Processing for Land Degradation Assessment**

Land degradation and desertification are amongst the most severe threats to human welfare and the environment, as they affect the livelihoods of some 2 billion people in the world's drylands, and they are directly connected to pressing global environmental problems, such as the loss of biological diversity or global climate change. Strategies to combat these processes and mitigate their effects at the land-management and policy level require spatially explicit, up-to-date information, which can be provided based on remote sensing data and using geoinformation processing techniques.

**Recent Advances in Remote Sensing and Geoinformation Processing for Land Degradation Assessment** introduces the current state of the art in this field and provides an overview of both conceptual and technological advances of the recent past. With a specific focus on desertification and land degradation, the volume covers the assessment of related biophysical indicators, as well as complementary qualitative information at different spatial and temporal scales. It is shown how remote sensing data may be utilized in the context of assessing and monitoring affected ecosystems and how this information may be assimilated into integrated interpretation and modelling concepts. In addition, different case studies are provided to demonstrate the implementation of these methods in the frame of different local settings.

The volume will be of interest to scientists and students working at the interface of ecosystem services, land degradation/desertification, spatial ecology, remote sensing and spatial modelling, as well as to land managers and policy makers.

**Achim Röder** is a senior scientist and lecturer with the Remote Sensing Department, University of Trier, and has been involved in research on desertification and land degradation for more than 10 years. His present research focuses on the characterization of landscape trends using time series analysis, and the derivation of biophysical indicators under consideration of scaling effects and transitions.

**Joachim Hill** has been head of the Remote Sensing Department, University of Trier, since 1994. His research focuses on the application of hyper- and multispectral remote sensing techniques to derive biophysical vegetation parameters and their assimilation in ecosystem models, and on mapping and monitoring land degradation phenomena in dryland ecosystems.

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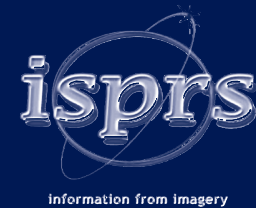
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**Edited by Achim Röder and Joachim Hill**

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