

Proceedings of the 1st International Conference on

Remote Sensing and Geoinformation Processing in the Assessment and Monitoring of Land Degradation and Desertification

In support of the
UN Convention to Combat Desertification

Trier, Germany,
7-9 September, 2005

Edited by Achim Röder & Joachim Hill

RGDD



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Edited by Achim Röder & Joachim Hill
March 2006, Remote Sensing Department, University of Trier, Germany

Cover photograph: SeaWiFS image courtesy of NASA Earthexplorer

Reference

URL: <http://ubt.opus.hbz-nrw.de/volltexte/2006/362>

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Preface

In past years, desertification and land degradation have caused substantial environmental and societal implications. This has sparked a range of measures and initiatives, such as the formulation of the UN Convention to Combat Desertification (UNCCD). While decision-makers and politicians are seeking solutions on national and global levels, land managers are actively tackling the problem on local areas with a strong emphasis on prevention and mitigation strategies. Notwithstanding the scale addressed, it is obvious that any measure taken against desertification, or the design of dedicated early warning systems, must take into account the spatial and temporal dimensions of process driving factors. Equally important, past and present reactions of ecosystems to physical and socio-economical disturbances or management interventions need to be understood. In this context, remote sensing and geoinformation processing support the required assessment, monitoring and modelling approaches, and hence provide an essential contribution to the scientific component of the struggle against desertification.

Funded by DG Research of the European Commission and convened by the Remote Sensing Department of the University of Trier, the '1st International Conference on Remote Sensing and Geoinformation Processing in the Assessment and Monitoring of Land Degradation and Desertification (RGLDD)' intended to promote scientific exchange between specialists working on the interface of remote sensing, geoinformation processing, desertification/land degradation research and its socio-economic implications.

The conference gained widespread attention and attracted an international audience from all parts of the world, which underlines the global dimension of the problem. This was particularly emphasised by Ambassador Hama Arba Diallo, Executive Secretary to the UN Convention to Combat Desertification (UNCCD), who delivered a welcome address to the participants and officially opened the conference. From the vast number of submitted abstracts, more than 100 contributions were accepted for oral and poster presentation, addressing different facets of remote sensing and geomatics in the context of land degradation and desertification monitoring and assessment. Each of the sessions was introduced by a background study specifically prepared for the conference.

The different thematic sessions were complemented by demonstrations of national, regional and local networks and their implementations of desertification assessment and monitoring procedures as undertaken in the context of the regional annexes of the UNCCD. In this context, considerable scientific progress attained in the past years was highlighted, following which a

suite of approaches are now perceived as operational elements in national and international efforts to combat desertification.

Obviously, remote sensing methodologies and geoinformation processing techniques have considerably matured in the past years, which is underlined by the wide range of application studies presented during the conference. Beside continuous conceptual improvements and refinements, it was concluded that the scientific community should promote the use of advanced methodologies in operational monitoring and assessment frameworks and in the context of sustainable land management. Still, the availability of appropriate data remains a crucial issue, strongly justifying initiatives such as the recently established GEOSS (Global Earth Observation System of Systems) that builds upon national capabilities for observation and information generation to generate user-oriented information products in different fields. The conclusions of RGLDD you find documented here make a strong case for the continuation of well-established data acquisition missions and the maintenance of long-term archives of remote sensing based data sets on local, regional and global levels.

The large interest in the RGLDD conference, the high quality of contributions and the enthusiasm of its participants indicate that the use of remote sensing systems and spatial data in general is gaining importance within the field of global land degradation and desertification assessments. However, beside all technical advances to be expected, science is challenged to ensure this progress will be contributing to the human well-being and social welfare in affected regions of our planet. The European Commission has always been committed to these goals and will continue to support this field of research in the future.

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