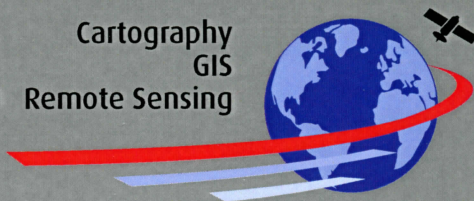


Erdsicht - Einblicke in geographische
und geoinformationstechnische Arbeitsweisen

Cartography
GIS

Remote Sensing



Daniel Karthe, Sergey Chalov,
Nikolay Kasimov, Martin Kappas (eds.)

Water and Environment in the Selenga-Baikal Basin



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The water resources of the Selenga River/Lake Baikal system are of fundamental importance for the ecosystems and socio-economic development of the region. In this large-scale river and lake basin, there are strong contrasts between regions of relatively pristine nature and massive anthropogenic impacts on the environment. Climate change effects are more pronounced than in most other parts of the earth, and the transition from socialism into a more market-oriented economy has led to a boom in mining but also to a partial collapse of environmental monitoring and urban waste water management systems. Moreover, the expansion of agriculture and mining has triggered a considerable land cover change, rising water consumption, and the release of contaminants that had previously been unknown to the region. The consequences for the water resources and the aquatic and terrestrial ecosystems depending on them have become increasingly visible in recent years.

This book, which is based on contributions to the 2014 "Bringing Together Selenga-Baikal Research Conference", provides a multidisciplinary insight into current water-related challenges and strategies for their solution from the viewpoint of the international scientific community.



Dr. Daniel Karthe works as a scientist at the Helmholtz Centre for Environmental Research in Magdeburg, Germany. He has coordinated several international research projects on water resources management in the Selenga River Basin. Having obtained his PhD from Goettingen University (2009), his research interests include Integrated Water Resources Management (IWRM), hydrology, water quality, water hygiene, and urban water management. Currently, he is the speaker of the working group of Hydrology of the German Geographical Society.



Prof. Dr. Sergey R. Chalov received his M.Sc. and Ph.D degrees in Fluvial Processes and Hydrology from the Faculty of Geography, Lomonosov Moscow State University, in 2004 and 2007 respectively. His research interests cover a vast range of water-related topics, including fluvial processes, environmental hydraulics, hydraulic risks, sediment transport, transboundary rivers and sediment transport. He is the author of more than 90 journal papers and 4 books and has a significant expertise on the Selenga River Basin.



Prof. Dr. Nikolay Kasimov is the President of the Faculty of Geography at the Lomonosov Moscow State University and Head of the Department of Landscape Geochemistry and Soil Geography. He is a full member of the Russian Academy of Sciences and serves as First Vice-President of the Russian Geographical Society. Prof. Kasimov is among Russia's leading experts in environmental geochemistry. He coordinated numerous international research projects, including the Russian Geographical Society's project on Selenga-Baikal research. He is the author of more than 300 scientific publications.



Prof. Dr. Martin Kappas is Professor for Physical Geography and holds the Chair of Cartography, Geographic Information Systems (GIS), and Remote Sensing (RS) at the Institute of Geography, Goettingen University. His research interest is the use of RS / GIS and in situ data to study landscape dynamics, including land cover / land use change (LULCC) for the future development and evaluation of ecosystem services under changing societal development. Another long-term research focus is the investigation of climate and human impact on vegetation in Central Asia where he developed methods for the acquisition of biophysical variables (LAI, fPAR etc.) to model NPP, GPP, NEP, and ecosystem services.

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