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## **Исследования гор. Горные регионы северной Евразии. Развитие в условиях глобальных изменений [Mountain Research. Mountain Regions of Northern Eurasia. Development in Global Change Conditions]**

Author: Stadelbauer, Jörg

Source: Mountain Research and Development, 34(4) : 422-423

Published By: International Mountain Society

URL: <https://doi.org/10.1659/mrd.mm148>

## Исследования гор. Горные регионы северной Евразии. Развитие в условиях глобальных изменений

[Mountain Research. Mountain  
Regions of Northern Eurasia.  
Development in Global  
Change Conditions]

Edited by V. M. Kotlyakov, Yu. P. Badenkov, and K. V. Chistyakov. Problems of Geography, Vol. 137. Moscow, Russia: Kodeks, 2014. 584 pp. Hardcopies available upon request from yubaden@mail.ru, at cost of postage. ISBN 978-5-904-280-38-3.

This book gives a broad overview of Russian research on mountains. Edited by a group of internationally known mountain researchers, it was published as volume 137 of the Russian Geographic Society's *Problems of Geography (Вопросы географии)* series, which has been in existence for nearly seven decades. The 26 articles in the book cover a wide range of topics and scientific approaches, offering general overviews as well as in-depth analyses on a regional or even local scale. They are grouped into 3 sections, of which the first focuses on natural, socioeconomic, and cultural diversity; the second considers the influence of global change on mountain systems; and the third emphasizes the need for sustainable development strategies. Among the different mountain areas in Russia, there is specific emphasis on the Altai, the Caucasus, the Urals, and the mountain ranges of the Far East.

In an introductory overview, the main editors Vladimir Kotlyakov, Yuri Badenkov, and Kirill Chistyakov underline the importance of scientific research for the implementation of regional development strategies in mountains. Mountains and highlands

cover more than half of Russia's territory; they host a significant part of the country's wealth in natural resources and are focal areas of biodiversity and nature conservation. Even if they are sparsely inhabited, they are a key factor in understanding Russia's spatial structure and economic development.

In the first main section, the diversity of Russian mountains is analyzed by very different methods. While Galina Samoilova and Irina Abessalomova take a rather traditional morphometric approach to reflect the diversity of Russia's main regions in terms of their mountainous terrain, Vladimir Kolosov and Aleksei Gunya look at the relationships between natural and sociopolitical factors. This latter article is the only one that, to a certain extent, takes account of the problem of regional conflicts—a problem that occurs particularly in the North Caucasus. Regarding this region, Aleksei Gunya takes a historical-geographic perspective to trace the consequences of land privatization, and a survey by Yelena Belonovskaya and Arkadi Tishkov illustrates some of the challenges of preserving the high biodiversity of the Caucasus as a whole. Focusing on other ranges, Dmitri Ganyushkin and Kirill Chistyakov use remote sensing to show the destructive geomorphological potential of mountain areas in Inner Asia, and Stepan Shiyatov, Pavel Moiseyev, and Andrei Grigoryev clearly document the direct impacts of climate change on vegetation using comparative photographs taken in the Southern Urals.

Articles in the second section examine how mountains in Russia are influenced by processes of global change. Vladimir Kotlyakov provides a comprehensive and systematic overview of environmental risks in Russia's mountains and explains some of the consequences these have for the population and the economy. For the North Caucasus (Teberda valley), Olga Solomina and colleagues use geochemical and palynological

methods to trace climatic changes during the late Holocene, while Valerii Mazepa and Stepan Shiyatov analyze changes in the tree line as an effect of climate change in the polar Urals. For the Altai, Andrei Shmyakin and coauthors investigate changes in regional climate under the influence of global change, and Kirill Chistyakov and colleagues present an ecosystematic analysis of natural landscape changes. As explained by Mariya Ananicheva, glaciers reflect climate change; she uses the example of northeast Siberia, where the melting process has significantly reduced the glaciated area in recent decades. The consequences of climate change can be seen in the change of mountain river runoff, as shown by Venjamin Semyonov in a general overview of all major mountain areas, and in the acceleration of risks and hazards, as shown by Fatima Khatsayeva and Vadim Tomayev for North Ossetia.

In the third section, several articles explore opportunities for sustainable development in mountain areas. Shakhmardan Muduyev explains how natural conditions, economic development, and regional policy interact in the mountain region of Dagestan. For the Altai Republic, Svetlana Buydysheva and colleagues describe the background and explore ideas for developing an ecological and economic region. In selected areas, the implementation of international programs such as the biosphere reserves of the United Nations Educational, Scientific, and Cultural Organization (UNESCO) offers a basis for development that allows for economic growth through various activities, including tourism, while fostering natural resource conservation (article by Yuri Badenkov et al). For the North Caucasus, in a historical retrospect, Raisa Grachova reveals indicators of a legacy of traditional land-use rights that were taken into account during the introduction of the Soviet kolkhozes but then abandoned during the privatization process in the 1990s; Aleksei Gunya evaluates landscape develop-

ment trends in the region's tourist areas; and, focusing on the Chechen Republic, Larisa Bytkayeva and Said-Emin Dzhabrailov examine landscape and settlement dynamics, while Umar Gairabekov and Halimat El'darova report on ecological factors influencing human health.

All of these articles build on long-standing research traditions. They are based on thorough investigation and are supported not only by references, but also by maps—mostly in color—as well as photographs and figures. Unfortunately, the English abstracts are rather short and do not always support understanding of the main findings.

While several articles identify natural risks as a key concern, socio-economic and political conflicts are widely ignored or reduced to problems of economic development and financial support for mountain areas (eg article by Vyacheslav Baburin et al concerning the Altai Republic). Omissions relate to the Caucasus in particular: For example, the prob-

lems related to the 2014 Olympic Winter Games and nature conservation in and around Sochi are addressed by Yuri Yefremov with reluctance; the social consequences of the Russian–Chechen wars do not seem to be a topic of geographical research; and the same is true of interethnic conflicts and social vulnerability in Dagestan, which could be a key topic of social geography studies, as forced migration in the past three decades has changed the population structure both here and elsewhere in the Caucasus (as well as in Central Asia). Other omissions concern the mountains of South Siberia, where conflicts between mining enterprises and local populations or damage to natural resources from mining activities would have provided interesting research topics. Sustainable development of mountain regions is a noble aim, but where are the targets for the various actors? Are there civil society actors who develop real strategies?

These critical comments are not intended to depreciate the high value of the book, however. There is no comparable survey on Russian mountains and Russian mountain research. Contributors from the Russian Academy of Sciences, as well as various universities and institutes, provide both comparative overviews and detailed studies. It is only because Russian has lost its importance as a world language that this 583 page compendium will fail to be widely recognized as a joint and successful effort of many researchers to open the window to the world of Russian mountains. A sponsor for scientific translation by a native speaker is needed!

#### AUTHOR

**Jörg Stadelbauer**

*joerg.stadelbauer@geographie.uni-freiburg.de  
Department of Environmental Social Sciences  
and Geography, University of Freiburg, 79085  
Freiburg, Germany*

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