# Preface

The monograph is based on the past several-year research results, which were obtained during the study of modern and old glaciations of the Georgian Caucasus. As a result of these surveys, the latest materials on the modern glaciers' morphology, morphometry, and dynamics have been obtained, as well as on structure of moraines and the river terraces, geodynamics of the relief, snow and firn lines location.

At various times, we conducted field surveys in almost every glacier basins in the southern and northern slopes of the Georgian Caucasus. Apart from the field researches, we used the remote sensing method. After processing the latest aerial images (Landsat L5, L8 OLI, ASTER) by modern computer programs (ArcGIS, ENVI, Google Earth), we got the quite accurate information about the glaciers difficult to access. This mainly refers to the glaciers that are located in the temporarily occupied Abkhazeti and Tskhinvali region, where it is so far impossible for us to conduct field research. During our research we also used the traditional methods: glacio-geomorphological, cartographical, aerial image processing, and petrographic.

The monograph includes a number of new statements and conclusions; among them the following are essential:

1. Principally new numerical and qualitative characteristics of present glaciers and their dynamics have been derived and full databases of Georgia's modern glaciation have been composed;
2. Valley glaciers fluctuation synchronicity has been revealed after the Little Ice Age (LIA) maximum;
3. Reconstruction of the Late Pleistocene (Wurmian) and Holocene glaciations has been investigated. The maps of the distribution of the Late Pleistocene glaciation of the Georgian Caucasus have been compiled.

The main theoretical statements and conclusions have been developed in the Vakhushti Bagrationi Institute of Geography in Georgia. During 2014–2015, certain part of the research has been performed in the United States of America, in the Glaciology and Remote Sensing Laboratory of the Climate Change Institute of the University of Maine, also, during 2015–2016—in Canada, at the University of Northern British Columbia.

Data obtained on present state and dynamics of the glaciers of Georgia can be used for water supply and development of hydropower in the settlements of mountainous areas. Quantitative data obtained on the present state of the nival–glacial system is necessary for the design and construction of the tourist-recreational objects in the high mountain zone, as well as for the development of tourism and alpinism.

We hope that this monograph will be of great assistance for the public who is interested in any information about glaciers of Georgia.

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The authors of the photos used in this book: Levan Tielidze, Ramin Gobejishvili Davit Tsereteli, K.P. Rototaeva, and Giorgi Gotsiridze. The photos of the glaciers made by the Italian photographers Vittorio Sella and Mor Von Dechy in the nineteenth century and the nineteenth–twentieth-century photos of the glaciers kept in the fund of the Museum of Geography at Tbilisi State University are also used.

Author will accept all the topic-related comments with gratitude.

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