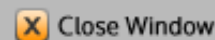




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CONTROL ID: 1470287**TITLE:** CHANGES IN THE SURFACE AREA OF GLACIERS IN NORTHERN EURASIA

ABSTRACT BODY: Glaciers are widely recognized as key indicators of climate change. Recent evidence suggests an acceleration of glacier mass loss in several key mountain regions. Glacier recession implies the landscape changes in the glacial zone, origin of new lakes and activation of natural disaster processes, catastrophic mudflows, ice avalanches, outburst floods, and etc. The presence of glaciers in itself threatens to human life, economic activity and growing infrastructure. Economical and recreational human activity in mountain regions requires relevant information on snow and ice objects. Absence or inadequacy of such information results in financial and human losses. A more comprehensive evaluation of glacier changes is imperative to assess ice contributions to global sea level rise and the future of water resources from glacial basins. One of the urgent steps is a full inventory of all ice bodies, their volume and changes

The first estimation of glaciers state and glaciers distribution in the big part of Northern Eurasia has been done in the USSR Glacier Inventory published in 1966 -1980 as a part of IHD activity. The Inventory is based on topographic maps and air photos and reflects the status of the glaciers in 1957-1970y. There is information about 23796 glaciers with area of 78222.3 km² in the Inventory. It covers 23 glacier systems on Northern Eurasia. In the 80th the USSR Glacier Inventory has been transformed in the digital form as a part of the World Glacier Inventory.

Recent satellite data provide a unique opportunity to look again at these glaciers and to evaluate changes in glacier extent for the second part of XX century. In the paper we report about 15 000 glaciers outlines for Caucasus, Pamir, Tien-Shan, Altai, Syntar-Khayata, Cherskogo Range, Kamchatka and Russian Arctic which have been derived from ASTER and Landsat imagery and could be used for glacier changes evaluation. The results show that glaciers are retreating in all these regions. There is, however, a rather large variability in degree of reduction very much depending on special local conditions and this was particularly notable with regard to smaller glaciers.

CURRENT SECTION/FOCUS GROUP: Global Environmental Change**CURRENT SESSION:** GC019. Environmental, Socio-economic and Climatic Change in Northern Eurasia and Their Feedbacks to the Global Earth System**INDEX TERMS:** [1621] GLOBAL CHANGE / Cryospheric change, [0758] CRYOSPHERE / Remote sensing, [0720] CRYOSPHERE / Glaciers, [0774] CRYOSPHERE / Dynamics.**AUTHORS/INSTITUTIONS:** T. Khromova, G. Nosenko, Institute of Geography , Russian Academy of Sciences, Moscow, RUSSIAN FEDERATION;**SPONSOR NAME:** Khromova Tatiana**CONTACT (E-MAIL ONLY):** tkhromova@gmail.com**TITLE OF TEAM:**

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