

Interactive
Comment

Interactive comment on “The Northeast Asia mountain glaciers in the near future by AOGCM scenarios” by M. D. Ananicheva et al.

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Response to the Reviewer #1

Comments to “specific comments”

1. Values of temperature change (warming) are given in comparison with GCM (ECHAM 4) for 2040-2069 and approved by WMO baseline “contemporary period” 1960-1989. Models do not involve individual years (this is for them like “white noise”). Averaged over 30 years values are useful because this period is close to the time of adaptation of glaciers to climate (J’ohannesson at al, 1989). The sizes of glaciers of the SE Siberia are those that the ratio of their thickness to ablation gives 30-50 years as a time of adaptation. For this case the hypothesis of the ELA being in the middle

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between the highest and lowest point of glacier system (mentioned in our paper) is appropriate.

J'ohannesson, T., Raymond, C.F., and Waddington, E.D.: Timescale for adjustments of glaciers to changes in mass balance, *J. Glaciol.*, 35(121), 355-369, 1989

2. In fact, we don't say about the warming process between 2040 and 2069. While considering the temperature diapason from 3.1 to 4.0 °C, it means the verity of temperature between spaces (regions).

3. About captions to Fig 3.

May be it is not clear in the text. In fact, in winter warming is stronger inside the continent (because of weakening the Siberian High), and in summer it shifts toward Sea of Okhotsk

We agree that text should be edited concerning the description of Fig. 3. However in any case summer warming in Siberia is more important for the glacier reduction. Winter warming leads to increase of precipitation and accumulation

4. The reviewer is right that the abbreviation for North, South, etc and word Range should be the same throughout the text, and the authors will correct this.

The authors will follow the technical corrections of the reviewer and make necessary amendments.

We are very grateful to the reviewer.

Interactive comment on *The Cryosphere Discuss.*, 4, 707, 2010.

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