**Solid Earth
Discussions**

Interactive comment on "The Gregoriev Ice Cap length changes derived by 2-D ice flow line model for harmonic climate histories" *by* Y. V. Konovalov and O. V. Nagornov
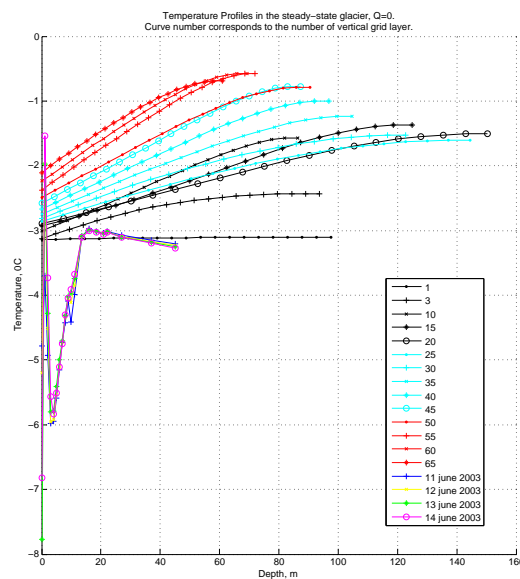
Y. V. Konovalov and O. V. Nagornov

yu-v-k@yandex.ru

Received and published: 9 February 2010

The comment was uploaded in the form of a supplement:
http://www.solid-earth-discuss.net/1/C36/2010/sed-1-C36-2010-supplement.zip
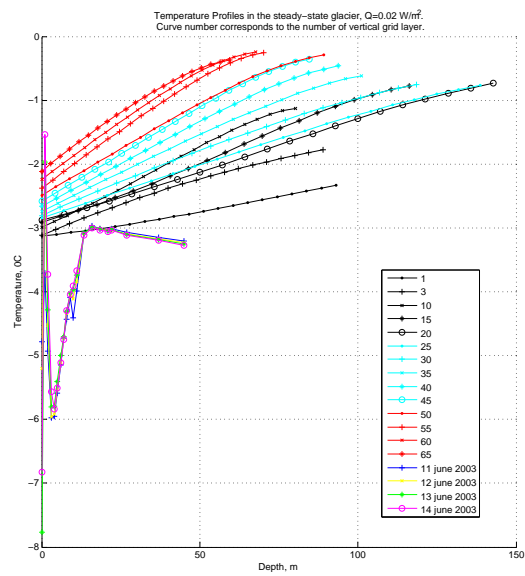
Interactive comment on Solid Earth Discuss., 1, 55, 2009.

Fig. 1. Temperature profiles in the steady-state glacier at different distances from the summit in the case of zero heat flux at the base.
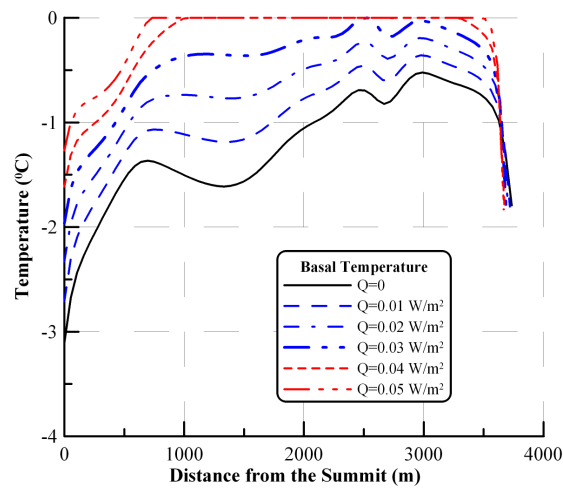
Temperature Profiles in the steady-state glacier, Q=0.01 W/m²
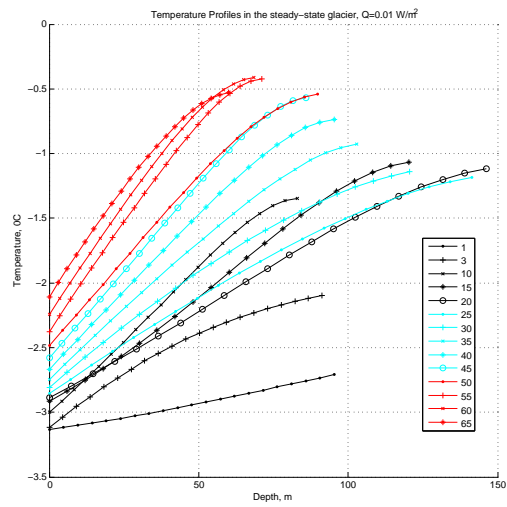
Fig. 2. Temperature profiles in the steady-state glacier at different distances from the summit in the case of Q=0.01 W/m^2.

C38

Temperature Profiles in the steady-state glacier, Q=0.02 W/m².
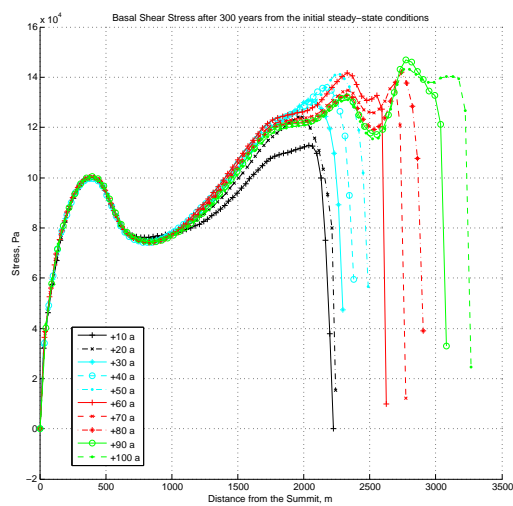Curve number corresponds to the number of vertical grid layer.

Fig. 3. Temperature profiles in the steady-state glacier at different distances from the summit in the case of Q=0.02 W/m^2.
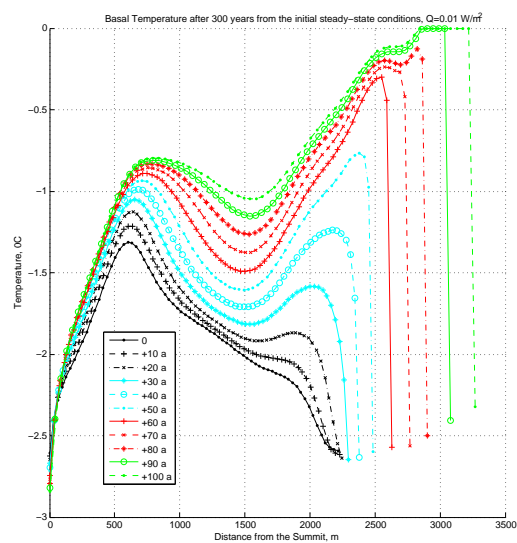
C39

Fig. 4. Basal temperature distributions along the flow line in the steady-state glacier obtained for different basal heat flux values.
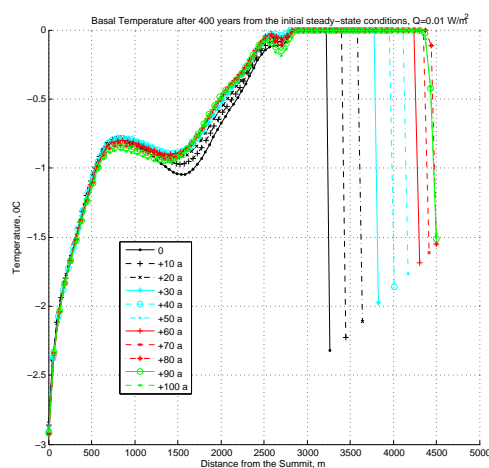
C40

Fig. 5. Basal shear stress distribution along the flow line for t in the range 300..400 years of harmonic climate history with 500-years periodicity (glacier advance).

C41

Fig. 6. Basal temperature distribution along the flow line for t in the range 300..400 years of harmonic climate history with 500-years periodicity (glacier advance) in the case of Q=0.01 W/mˆ2.

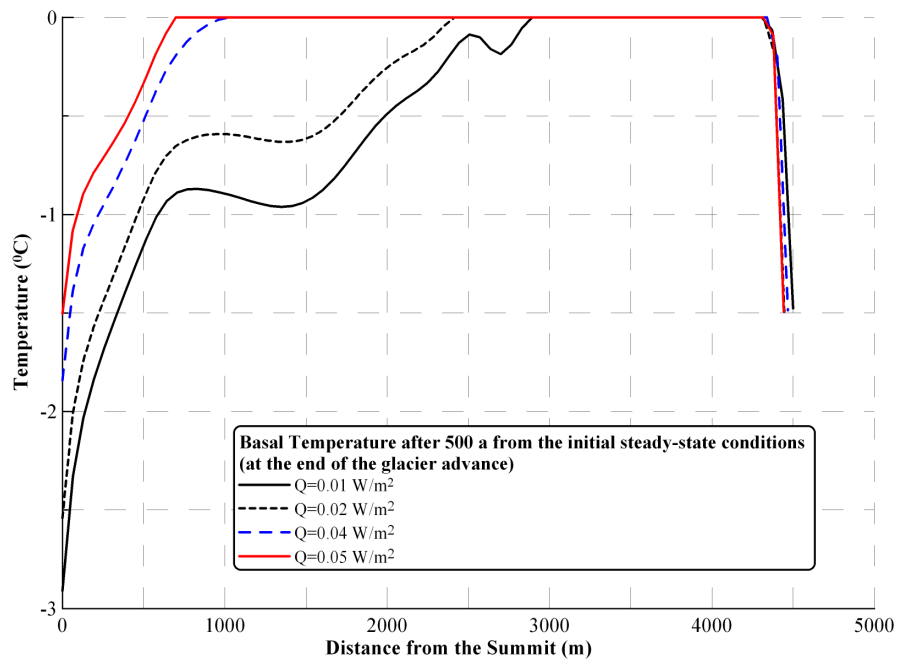C42

Fig. 7. Basal temperature distribution along the flow line for t in the range 400..500 years of harmonic climate history with 500-years periodicity (glacier advance) in the case of Q=0.01 W/mˆ2.
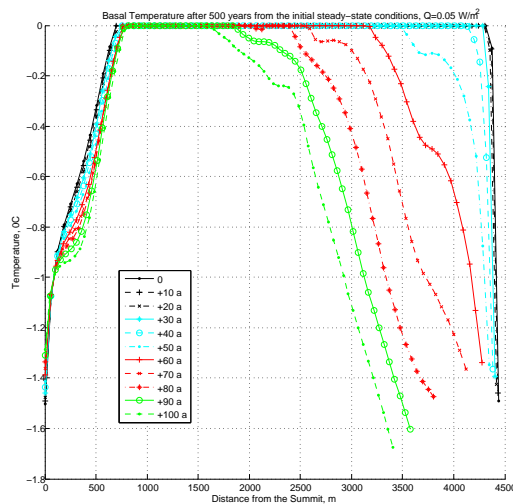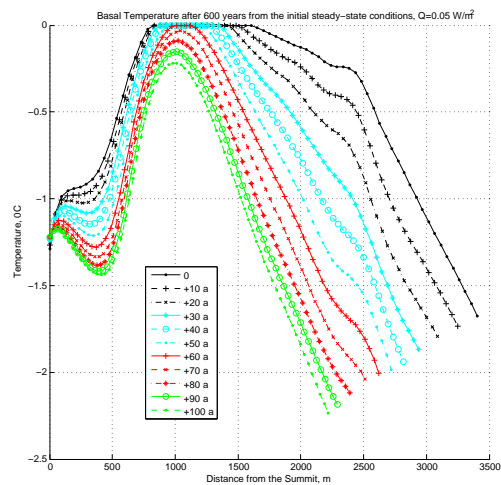
C43

Fig. 8. Basal temperature distributions along the flow line after 500 years from the steady-state conditions obtained for different basal heat flux values.

C44

Fig. 9. Basal temperature distribution along the flow line for t in the range 500..600 years of harmonic climate history with 500-years periodicity (glacier retreat) in the case of Q=0.05 W/m^2.

C45

Basal Temperature after 600 years from the initial steady-state conditions, Q=0.05 W/m²

Fig. 10. Basal temperature distribution along the flow line for t in the range 600..700 years of harmonic climate history with 500-years periodicity (glacier retreat) in the case of Q=0.05 W/mˆ2.

C46
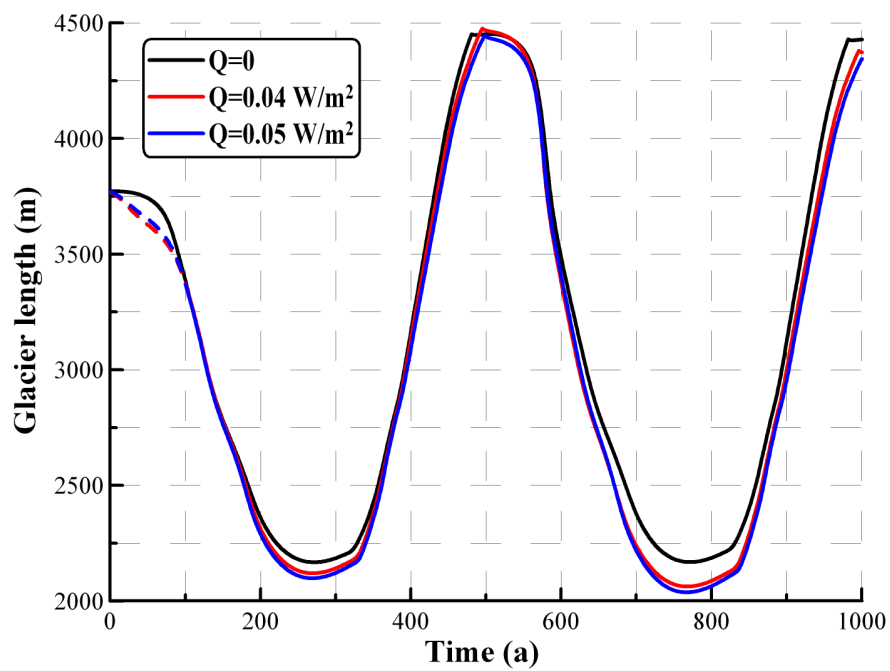
Fig. 11. Glacier length histories obtained for different basal heat flux values.

C47