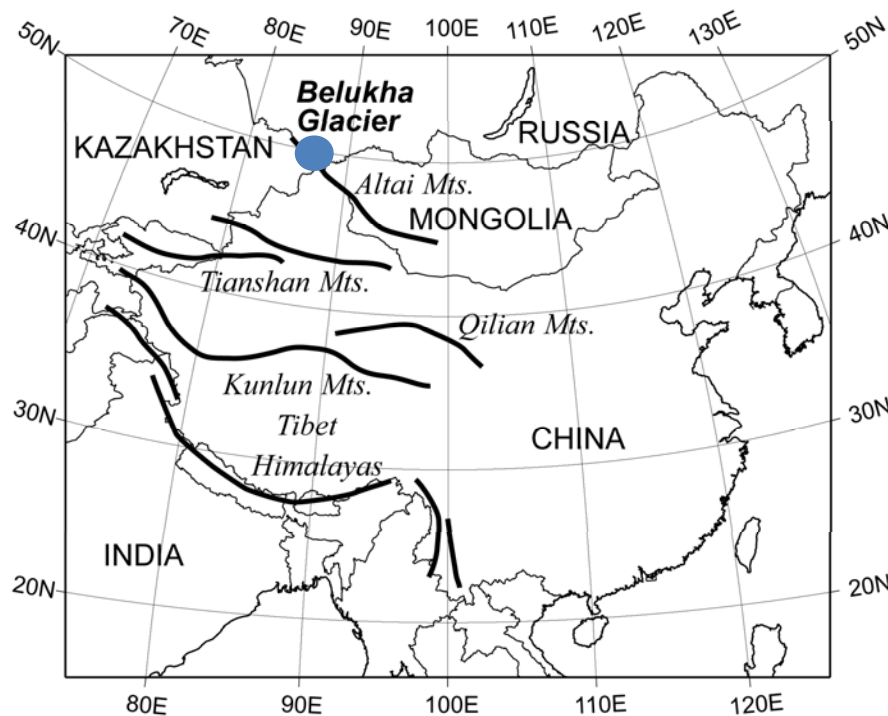


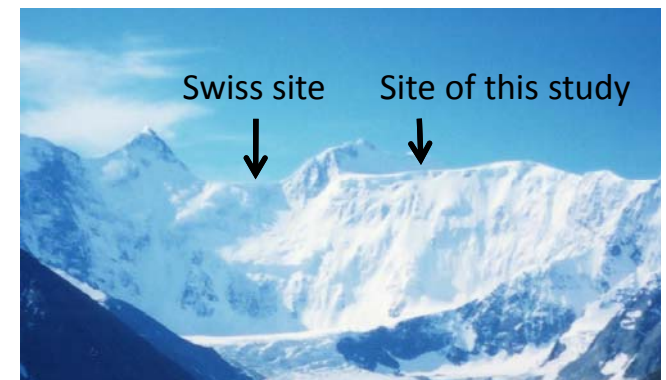
Re-evaluation of past summer temperature reconstruction by melt features in Belukha ice cores, Russian Altai

S. Okamoto, K. Fujita, H. Narita, J. Uetake, N. Takechi, T. Miyake, F. Nakazawa, V. B. Aizen, S. A. Niktin, M. Nakawo

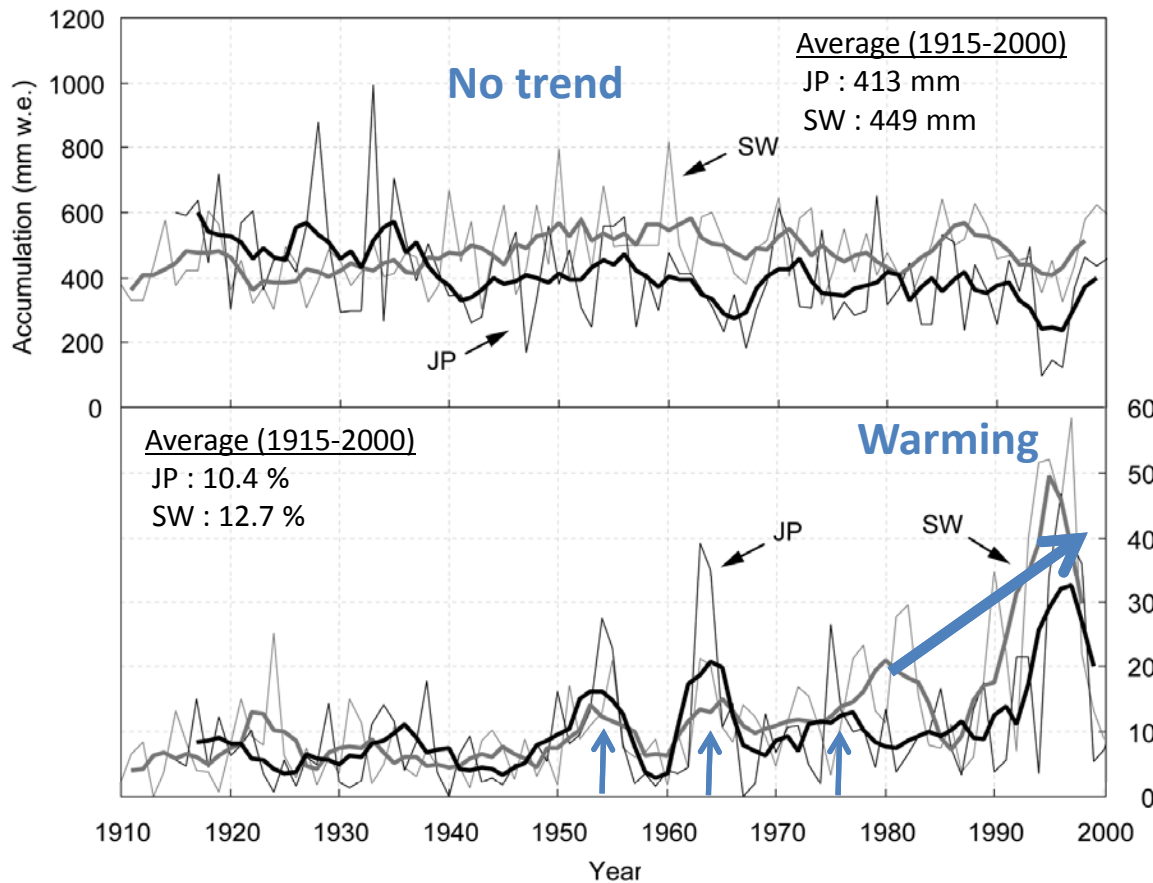
Belukha Glacier



- In August 2003, Japan group drilled 171 m long ice core.
- In July 2001, Swiss-Russian group drilled 140 m long ice core.



Comparison with Swiss core (accumulation and MFP)



Annual accumulation : no significant correlation ($r=0.02$)

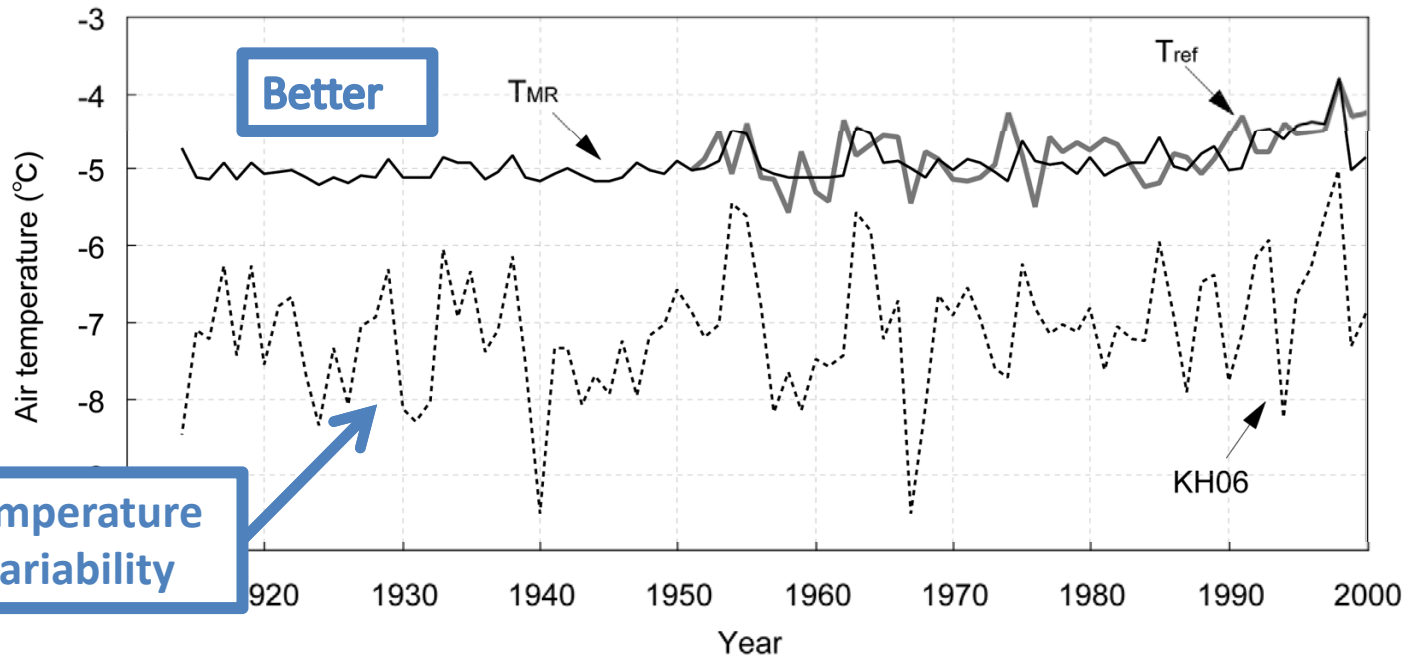
5-year running mean : significant correlation ($r=0.78$, $p<0.01$)

Annual MFP : significant correlation ($r=0.47$, $p<0.001$)



The harmonic fluctuations show representativeness of MFPs as climatic proxy.

Reconstruction of summer temperature



- **T_{ref}** : “Reference temperature” derived from instrumental temperature.
- **KH06** : The empirical formula in the previous study [Henderson et al. 2006].
- **T_{MR}** : Multi-regression formula derived from MFP and annual accumulation.

$$T_{MR} = 0.0045AMT + \frac{65}{b_a} - 5.3$$

AMT : annual melt feature thickness (mm) *b_a* : annual accumulation (mm w.e.)