



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

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Past summer temperature has been reconstructed by melt features in Belukha ice core in a previous study. We evaluated a climatic representativeness of isotope, net accumulation and melt feature by comparing two Belukha ice cores retrieved by different institutions and dated by different methods. We find a significant correlation between seasonal changes in stable isotope in precipitation and air temperature. However, no significance was found between annual changes in stable isotope in ice core and temperatures. Melt features in both the ice cores show a significant correlation, but trend and average of net accumulation are different. In addition, we re-evaluate an equation for summer temperature reconstruction used in a previous study and find that the previous study has underestimated temperature. We establish an alternative equation to obtain more plausible summer temperature by melt feature and net accumulation record.