

taken from the core at depths around the midpoint and bottom of the ice body were dated at 14270 and 17070 years B.P., respectively. The dates of reworked till overlying the ice body and of twigs found in the till layer were > 23000 and < 10000 years B.P., respectively. Therefore the massive ice is considered to have been formed before 10000 years B.P. and, accordingly, to be not segregated ice origin but buried ice origin.

On the other hand, oxygen isotopic composition and pollen content show a decreasing trend from the bottom to top of the ice body. Correlation between these trends and the determined dates indicates that the massive ice body was not formed in Mackenzie Delta but had moved from south of the delta before 10000 years B.P.; namely, it is a relict ice body of the Laurentide ice sheet.

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AN APPARENT 1-YEAR LAG RELATIONSHIP  
OF HEAVY SNOW YEARS  
BETWEEN EURASIA AND NORTH AMERICA  
(ABSTRACT)

Tomohiko IWASAKI

*Department of Geophysics, Faculty of Science, Kyoto University,  
Kitashirakawa Oiwake-cho, Sakyo-ku, Kyoto 606*

The purpose of this study is to investigate the interannual variability of winter snow cover in the Northern Hemisphere, using the satellite-derived monthly snow cover data from 1967 to 1987. The data were supplied in digitized form by the National Oceanic and Atmospheric Administration/National Environmental Satellite Data Information Service (NOAA/NESDIS).

An empirical orthogonal function (EOF) analysis is done to see the typical pattern of snow cover variations during winter. The first component of the EOF (EOF1), which represents about 40% of the total variance, shows concurrent snow cover patterns between Eurasia and North America. The score of the EOF1 is similar to the time series of winter snow cover in the Northern Hemisphere. The second component of the EOF (EOF2), which represents over 20% of the total variance, shows a seesaw pattern between the eastern and western parts of Eurasia and North America. This EOF2 shows the importance of subcontinental-scale snow variation.

I examined time series of mean snow cover for key regions of the Northern Hemisphere to investigate variations depicted in the EOF patterns in more detail. We selected two key regions which represent continental-scale snow variation. One is the eastern part of Eurasia and the other is the western part of North America. The time series of the two key regions show an apparent 1-year lag relationship of heavy snow cover years; winters with extensive snow cover over Eurasia tend to be followed by extensive snow cover over North America during the succeeding winters.

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