

## HOLOCENE CLIMATIC RECORDS FROM ANTARCTIC ICE

### (Abstract)

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The climate of the Holocene is, for continental regions from middle and low latitudes, relatively well documented from pollen studies and other sources. To obtain a global picture, these data must be supplemented by climatic series from polar regions. Such information may be extracted from  $\delta D$  or  $\delta^{18}O$  ice-core profiles but the interpretation of these isotopic records suffers some limitations, (1) because, expected temperature changes being small, they can be obscured by noise effects in the isotope-temperature relationship, and (2) because they can be influenced, especially in coastal regions, by changes in origin of the ice.

With this in mind, we focus our presentation on Dome C and Vostok cores drilled on the East Antarctica Plateau and essentially undisturbed by ice-flow conditions. The detailed comparison between these continuous isotopic records makes it possible to know which part of the

isotopic signal is climatically significant. Spectral properties of these two records are also examined over the Holocene period. In addition, we present isotopic results obtained on a 950 m ice core drilled at Komsomolskaia (also on the East Antarctica Plateau) by the Soviet Antarctic Expedition. This core fully covers the Holocene and, although discontinuous, the new data help us to document the East Antarctica isotopic record.

From these data, an average climatic record is constructed which shows that the East Antarctica climate was fairly stable during the Holocene, marginally warmest around 10 kyear B.P. and coldest in periods around 1.5 and 6 kyear B.P. These features are discussed in relation with other Antarctic data (Byrd, Law Dome, Ross Ice Shelf) and with climate records from both southern and northern hemispheres