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SUB-DECADAL VARIABILITY OF SEA SURFACE TEMPERATURES OFF THE NORTH ICELANDIC SHELF DURING THE 0-2 AND 6-8.2 KA INTERVALS

M.-A. SICRE (1), U. EZAT(1), E. GUIMBAUD (1), J. JACOB (2), J. EIRIKSSON(3), K.-L. KNUDSEN (4), E. JANSEN (5)

(1) Laboratoire des Sciences du Climat et de l'Environnement, UMR 1572, F-91198 Gif-sur-Yvette Cedex, France, (2) Institut des Sciences de la Terre, ISTO, 45067, Orléans Cédex2, France, (3) Earth Science Institute, University of Iceland, IS-101 Reykjavik, Iceland, (4) Departement of Earth Sciences, University of Aarhus, DK-8000 Aarhus, Denmark, (5) Bjerknes Centre for Climate Research, University of Bergen, Norway (sicrece.cnrs-gif.fr / Fax: 33 1 69 82 35 68 / Phone: 33 1 69 82 43 34

The North Atlantic Oscillation (NAO) is a major climatic mode of the Northern Hemisphere which affects temperature and precipitation patterns over the North Atlantic and Europe. Proxy records have been used to reconstruct NAO variability beyond the instrumental data record. However, decadal to multi-centennial variability has been mainly documented by continental records and there has been very few attempts to document ocean variability from marine sediment cores. Within the European project PACLIVA, we generated a high-resolution Sea Surface Temperature (SST) record from the marine core MD99-2275 (66˚33'N; 17˚42'W; 470 m water depth) retrieved from the north Icelandic shelf. Here, we present a unique SST time series derived from alkenone paleo-thermometry for the last 2 ka and 6-8.2 ka interval, with a mean temporal resolution of 4-5 years. The age model we used is constrained by several dated tephra layers and ^{14}C dates. Our results indicate a general cooling trend from 11˚C to 7˚C towards present. Superimposed to this cooling several marked oscillations are observed with higher variability around 7-8.2 ka. We discuss the possible expression of NAO phases during climatic periods such as Medieval Warm Period (MWP) and Little Ice Age (LIA). Comparison between our SSTs data and the oxygen isotope of the Crag Cave speleothem around the 8.2 ka event provides a coherent picture of the regional climate changes.