Geophysical Research Abstracts,
Vol. 11, EGU2009-3689, 2009
EGU General Assembly 2009

Precipitation Maxima and Upwelling Trends at the NAO Southern Pole during the Last Millenium

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Last millennium, continental and marine conditions, off Porto / NAO's southern-pole, are reconstructed from a sediment archive through a high-resolution multiproxy study. Sea Surface Temperature (SST) correlates to land- and sea-based Northern Hemisphere Temperature records and solar insolation. Precipitation is anti-correlated with NAO, but strong flooding events occur at times of climate deterioration, cooling and sun activity transitions. Primary productivity decreases, phytoplankton community changes and water column structure shifts from mixed to stratified at AD1850. An alteration hypothesized to reflect a decrease in annual upwelling while winter upwelling rises. It is also since $\pm$ 350 yr ago that our records become coherent with AMO suggesting that the climatic situation used as the calibration data set in reconstructions, maybe a poor analogue for the pre-AD1850 state.