



Insignificant solar-climate effects at decadal periods on ocean sea level, surface temperatures and heat content

John Moore (1,2,3), Aslak Grinsted (4), and Svetlana Jevrejeva (5)

(1) Beijing Normal University, College of Global Change and earth System Science, Beijing, China (john.moore@bnu.edu.cn), (2) Arctic Centre, University of Lapland, Rovaniemi, Finland, (3) Thule Institute, University of Oulu, Oulu, Finland, (4) for Ice and Climate, University of Copenhagen, Denmark., (5) Proudman Oceanographic Laboratory, Liverpool, UK,

We examine the links between the 11 year solar cycle and ocean variability. We analyze 3 independent data sets: global sea level, sea surface temperature, and ocean heat content using a variety of statistical methods and noise backgrounds. The choice of noise background (white or red noise, bootstrapping, and Fourier transformed) in testing quasi-monochromatic signals such as total solar irradiance and spatio-temporally complex signals such as global sea level is critically important in deciding significance levels. We find that only a combination of selective use of data and implausible choice of noise background can provide evidence of significant correlation