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The role of the upper Subtropical North Atlantic ocean on Atlantic Variability

I. Polo (1), B. Rodríguez-Fonseca (1), J. Sheinbaum (2)

(1)Geophysics and meteorology department, UCM (ipolo@fis.ucm.es) (2)Physical Oceanography department, CICESE (julios@cicese.mx)

The summer Subtropical North Atlantic (SNA) Sea Surface Temperature (SST) anomalies have recently been connected with the winter atmospheric variability in the Atlantic European sector. Many studies have pointed out the wind-induced surface heat flux changes as the major cause of the subtropical Atlantic SST anomalies. Nevertheless, there is one exception is the coastal region off Northwest Africa, near the so-called Guinea Dome, where the coastal upwelling by alongshore winds significantly affect the SST. As the SNA region is the subtropical branch of the Atlantic Tripole and the northern part of the inter-hemispheric mode, this work analyses the subsurface thermal behaviour of this region in order to determine the role of the subtropical Atlantic ocean dynamics in generating surface anomalies which influence on European climate and Tropical Atlantic Variability.