Geophysical Research Abstracts,
Vol. 10, EGU2008-A-01005, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-01005
EGU General Assembly 2008

The VANIMEDAT project: decadal and interdecadal sea-level variability in the Mediterranean Sea and the Northeastern sector of the Atlantic Ocean.

D. Gomis (1), E. Álvarez-Fanjul (2), M. N. Tsimplis (3), M. Marcos (1), A. Pascual (1), S. Ruiz (1), S. Monserrat (1), F. Mir (1), G. Jordà (1), M. G. Sotillo (2), B. Pérez (2), I. Ferrer (2), R. Aznar (4), S. Josey (3), G. Larnicol (5), S. Somot (6)

(1) IMEDEA (UIB-CSIC), Mallorca, Spain, (2) Puertos del Estado, Madrid, Spain, (3) National Oceanography Centre, Southampton, UK, (4) Univ. Complutense de Madrid, Spain, (5) Collecte Localisation Satellites, Toulouse, France, 6) Météo-France, Centre National de Recherches Météorologiques, Toulouse, France. (damia.gomis@uib.cat / Fax: +34 971173426 / Phone: +34 971173236)

We present a review of the results obtained in the framework of VANIMEDAT, a 3-year project funded by the Spanish Marine Science and Technology Program. The main aim of the project is the study of the decadal and interdecadal sea-level variability of the Mediterranean Sea and the Atlantic sector surrounding the Iberian Peninsula. The results presented here will cover: i) The consistency between the two major sea-level data sets: tide gauge records and altimetry; a key issue has been to evaluate the differences between both data sets and to determine whether they are due to the different observational techniques, to actual differences between coastal and open-sea level or to both; as an application, we will present a reconstruction of Mediterranean sea level that covers the last decades of the XX century. ii) Sea level trends, paying special attention to the quantification of the sea-level response to the different forcings (atmospheric pressure and wind, heat fluxes and the mass budget); in particular, we will show that the response to the atmospheric forcing, which has a zero-trend at global scale, has been one of the major contributions to Mediterranean sea-level trends in the last decades of the XX century. iii) The computation of sea level from baroclinic model runs; in particular we will focus on the evaluation of the steric component of sea-level

variability from long-term regional hindcasts and from future climate scenarios.