Geophysical Research Abstracts,
Vol. 12, EGU2010-29-1, 2010
EGU General Assembly 2010

Analysis of the dynamic parameters of the Persian Gulf and Oman Sea based on the combination of the satellite altimetry and IRG04 and EGM2008 local and global geoid models

Ramin Kiamehr (1), Sayed Mohammad Taghi Sadatipour (2), and Majid Abrehdari (3)

(1) Islamic Azad University, Zanjan Branch, Dept. of Surveying, Zanjan, Iran (ramin@infra.kth.se), (2) Islamic Azad University, Tehran North Branch , (3) Islamic Azad University, Tehran North Branch

The Sea Surface Topography (SST) is on the most important parameter in oceanography. It can be used for the unification of the height datums and current circulation analysis. In main idea of this research is determination of two separate SST models for the Persian Gulf and Oman Sea. The models are constructed based on the combination of the most recent local and global geoid models (IRG04 and EGM2008) and Topex/Poseidon satellite altimetry data. The time series analysis of the Topex/Poseidon satellite altimetry was used based on the least-squares method for the estimation of the tide and Mean Sea Level (MSL) parameters in. The tide and MSL parameters computed and evaluated independently versus the satellite altimetry data. The spatial resolution of the SST model based on the IRG04 local geoid model is better than the EGM2008 global model. Using of the SST model based on the IRG04 local model is highly recommended in the future studies for current analysis and geodetic datum unification in the study area.