

Geoid and MDT in the Mediterranean area: the GEOMED2 project

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In the framework of the GEOMED2 project, the geoid over the Mediterranean area has been estimated based on the available gravity data. Land and ship-borne data have been collected and edited to derive a homogeneous and reliable dataset. Different Global Geopotential Models have been used when reducing for the low frequency component of the gravity signal and different approaches have been as well considered in accounting for the terrain effect. In estimating the geoid, Collocation, Stokes-Wong&Gore and the KTH methods have been applied to gravity data that has been gridded on a regular $2' \times 2'$ geographic grid in the area $30^\circ < \varphi < 48^\circ$, $10^\circ < \lambda < 40^\circ$. The geoid estimates have been provided over the same regular grid and then compared with altimeter data over the Mediterranean Sea in order to obtain different estimates of the Mean Dynamic Topography (MDT). In turn, this allowed the definition of the current pattern in the Mediterranean Sea. The results obtained using the different data/methods are here presented and discussed.