SONMICAT-BCN: experiences using ICESat Laser, airborne LiDAR, in situ measurements and GOCE gravity in Barcelona harbour

Abstract

SONMICAT –the integrated sea level observation system of Catalonia– aims at providing high-quality continuous measurements of sea and land levels at the Catalan coast from tide gauges and from modern geodetic techniques for studies on long-term sea level trends, but also the calibration of satellite altimeters, for instance. Up to now, the system has started at l'Estartit and Barcelona harbours.

A description of the actual SONMICAT infrastructure and campaigns at Barcelona harbour are presented.

Especially, an airborne LiDAR campaign was made in July 2014, flying along two ICESat/GLAS target tracks over Barcelona area, in order to compare both methodologies. Advantages and disadvantages with respect to various aspects are discussed, a short overview and the major differences between these two technologies are outlined; and results of this comparison are presented.

Moreover, the comparison between the GOCE gravity field solutions with existing local and regional gravity fields models are presented.

Additional data

Detailed information about all these work can be found at SONMICAT website:

http://sonmicat.blogspot.com.es/p/lps16-poster-id.html