



## **Bathymetry mapping with remote sensing methods for supporting Marine Spatial Planning in Cyprus**

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Marine Spatial Planning (MSP) refers to a public process, investigating and dealing with the spatial and time-based distribution of human activities in marine areas for achieving the ecological, economic and social intentions which are usually identified over a political process. The implementation of an exact MSP is essential for all coastal countries especially for Cyprus, an island with a geostrategic position in the area of eastern Mediterranean. The main purpose of MSP is to integrate various marine activities, thus improving the sustainable growth of the marine area.

Considering that sea activities are being carried out at the bottom of the sea, sea column and the sea surface, bathymetrical data are considered as a crucial component for an integrated MSP. Focusing on this sector, the aim of this paper is to study the available Remote Sensing (RS) techniques and methods to obtain bathymetric data. Some of the RS methods used in the past include either active sensors (e.g., lidar, radar) or passive sensors (e.g., multispectral, hyperspectral). By combining optical satellite images and reducing considerably systematic error, researchers are able to obtain reliable bathymetric data. In the framework of this study, multispectral imagery will be used with different resolution from different satellites, such as Worldview 2, Landsat-5/7/8, IKONOS and Sentinel 1-2. This method will yield a Digital Terrain Model (DTM) for specific marine areas of Cyprus.