Geomatic applied to spatial analysis on chilean insular territory

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Abstract

This article highlights the contribution of geomatics technologies in cadastral studies in Caleta San Juan Bautista in Robinson Crusoe island (Juan Fernandez archipelago), and in Hanga Roa, Easter Island, both located off the coast of central and northern Chile, respectively. In this case, was resorted to use integrating satellite images with high spatial resolution (QuickBird_II), using global positioning equipment GPS and geographic information systems (GIS). The result obtained with high precision measurements, solved various problems of georeferencing the map of land use and occupation of these villages, mostly in Easter Island to protect its cultural heritage. This situation too approached from the standpoint of cadastral with bathymetry support in-area study relating from the definition of the highest tide line for the case of Robinson Crusoe.

In this context, the creation of the cartographic base, supported by the use of satellite images combined with the mosaic map update, allowed to formalize the status of illegal occupations in the center of Easter Island for the transfer of land ownership prosecutors in traditional owners, and also land in the coastal area whose lands were located within the range of 80 meters in the case of Robinson Crusoe island, under the administration of the undersecretary of the Navy; both islands were required by the Ministry of National Assets for future transfer. Unlike Easter Island, a study of environmental risk it was development in Robinson Crusoe could simulate the impact caused by a tsunami with a wave of 5 meters above the civic center of the island. Thus, it is evident the usefulness of resorting to the integration of geomatics technologies to innovate in terms of urban growth planning in these remote places, with their natural characteristics respective.

Keywords: cadastral applications, geomatic, remote sensing, urban management.