

MODERN DEVELOPMENTS IN GEOSPATIAL MANAGEMENT IN THE FIELD OF MARINE CADASTRE

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Abstract

There is growing world-wide use of modern geospatial software to calculate maritime limits and boundaries both as part of work on the Article 76 of UNCLOS and for maintenance or delimitation of these limits. In the very dynamic and rapidly changing coastal environment, the territorial sea baseline model will evolve and thus impact dependent maritime limits. Juridical maritime limits and boundaries also play an important role in marine cadastres, defining the Sovereign rights and responsibilities in the territories they delimit. It is therefore essential that they be updated and managed efficiently in order to affect marine cadastres appropriately.

Since new baseline models, maritime limits and boundaries must typically be published before they become official, it is a common practice to incorporate them in official nautical charts. In a common hydrographic production database environment, where they can be easily combined with hydrographic data, they become available and traceable for effective management. The resulting integration with recent and relevant marine information about the coastline, shipping lanes, marine protected areas and territorial sea baselines also allows fast updating of relevant nautical charts.

The use of a hydrographic production database offers interesting advantages in the management and updating of marine boundaries. The transfer of existing geospatial maritime limits and boundaries data to a hydrographic database environment does require that a compatible data model be adopted. One international standard, S-57, offers distinct benefits to marine data managers. For instance, new custom object and attribute acronyms may be added to allow better flexibility and management of legal maritime data. For variants on marine cadastre applications, the catalog of object and attribute acronyms can also be expanded.

This paper examines the possibilities of a hydrographic production database solution to allow more effective management of maritime limits and boundaries.