

# UPDATING THE NATIONAL COASTLINE OF PORTUGAL TO SUPPORT THE PORTUGUESE SUBMISSION UNDER ARTICLE 76 OF UNCLOS

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## **Abstract**

The national coastline is one of the most important features when considering the delimitation of all related maritime zones. Its physical location might be defined by the intersection line between the foreshore and a specific tidal datum. In the 1982 UNCLOS article 5 this line is defined as the low water line along the coast, as marked on large-scale charts of the coastal state. In Portugal this shoreline is fully represented in nautical charts at scale 1:150 000. The ambiguity in the definition of which “low water” to use, led the IHO to adopt the Lowest Astronomical Tides (LAT) as the world standard in 1997. The official Portuguese shoreline is divided in three major areas. These represent the Portuguese mainland and the Azores and Madeira archipelagos. Five distinct geodetic referencing frameworks are underlying those three geographic areas. Portugal is officially converting its cartography to the reference system PT-TM06/ETRS89 that use the GRS80 ellipsoid and is based on the ETRS89 (for the mainland) and to PTRAO8-UTM/ITRF93 that also use the GRS80 ellipsoid but is based on the ITRF93 (insular archipelagos). High spatial-resolution orthophotos and satellite imagery, together with GPS and conventional surveys, are used to infer the LAT line. However, as the remotely sensed data was already gathered, images were not taken at the same tidal level. To overcome this limitation, ancillary data, such as Digital Terrain Models and tidal data, have to be used to estimate the planimetric tidal range for each specific zone. Although the interpretation of the LAT line using this methodology and data was not the most desirable solution, it is significantly better than the one extracted from the 1:150 000 cartography.