

## MarineRegions.org: a standard list of marine georeferenced place names and areas

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One of the data systems that are being developed and managed within the LifeWatch taxonomic backbone framework is Marine Regions. This system serves as the geographic backbone for large-scale integrated marine biogeographic databases. The system is an integration of the VLIMAR Gazetteer (Claus et al, 2010) and the VLIZ Maritime Boundaries Geodatabase (Claus et al, 2014).

The identity of each marine geo-object within the database is given by the Marine Regions Geographic IDentifier (MRGID), which is unique and persistent. Each different geo-object is defined by a place type (administrative or physical) and its vector coordinates (either point, line or polygon), but can have multiple synonyms. The structure of the database is an open hierarchy where each geographic unit points to one or more other units applying different relation types. Such hierarchical structure is essential to integrate quantitative and qualitative natural history and distributional data (Reusser and Lee, 2011).

Marine Regions is connected to different data and information systems, such as the World Register of Marine Species (WoRMS) and its Global Species Databases, the MarBEF Data System, the SCAR-Marine Biodiversity Information Network or the Integrated Marine Information System (IMIS). By linking Marine Region's MRGIDs with species unique AphiaIDs (Vandepitte et al, 2015) the geographical distribution of species can be obtained and visualised. Moreover, the Marine Regions gazetteer is one of the main geographical web services that are offered within the LifeWatch virtual e-Lab. Using these web services allows the user to retrieve a list of marine species per geographical area, a distribution list of geographical areas per species, or to perform quality control of biodiversity datasets.

With regards to content, Marine Regions provides regional and global checklists, integrates several thematic gazetteers and provides geographic data on different administrative or managerial areas and boundaries. The amount of data has nearly tripled since 2005, from 14,332 geo-objects to the current 47,449 marine geographic places with more than 60,945 place names (as of January 2016). The number of unique visitors to the Marine Regions portal has increased in the last two years from 50294 to 86793. The number of downloads per year has constantly increased from 859 in 2008 (when statistics begin) to 8784 in 2015.

### References

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