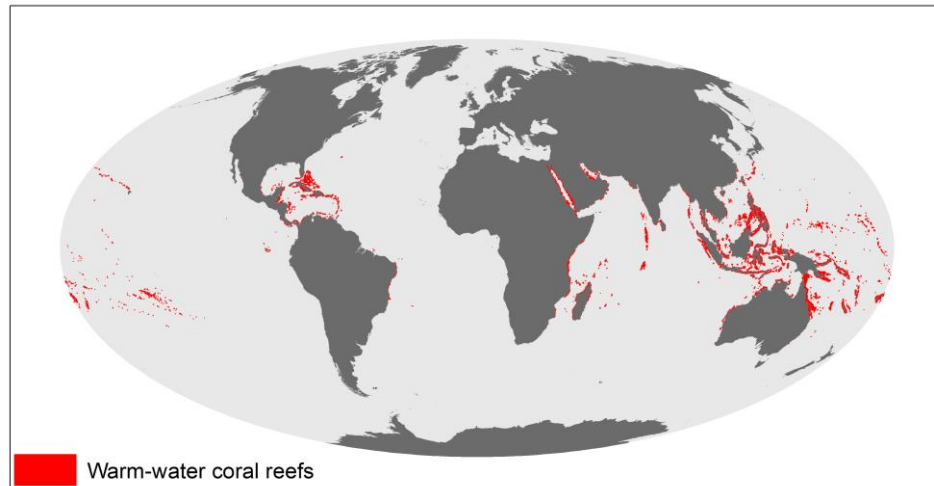


Global Distribution of Coral Reefs (2010)



Description:

This dataset shows the global distribution of coral reefs in tropical and subtropical regions. It is the most comprehensive global dataset of warm-water coral reefs to date, acting as a foundation baseline map for future, more detailed, work. This dataset was compiled from a number of sources by UNEP World Conservation Monitoring Centre (UNEP-WCMC) and the WorldFish Centre, in collaboration with WRI (World Resources Institute) and TNC (The Nature Conservancy). Data sources include the Millennium Coral Reef Mapping Project (IMaRS-USF and IRD 2005, IMaRS-USF 2005) and the World Atlas of Coral Reefs (Spalding et al. 2001).

Citation(s):

UNEP-WCMC, WorldFish Centre, WRI, TNC (2010). Global distribution of coral reefs, compiled from multiple sources including the Millennium Coral Reef Mapping Project. Version 1.3. Includes contributions from IMaRS-USF and IRD (2005), IMaRS-USF (2005) and Spalding et al. (2001). Cambridge (UK): UNEP World Conservation Monitoring Centre. URL: <http://data.unep-wcmc.org/datasets/1>

Andréfouët S, Muller-Karger FE, Robinson JA, Kranenburg CJ, Torres-Pulliza D, Spraggins SA, Murch B. (2006). Global assessment of modern coral reef extent and diversity for regional science and management applications: a view from space. Proceedings of 10th International Coral Reef Symposium: 1732-1745.

Citations for the separate entities:

IMaRS-USF (Institute for Marine Remote Sensing-University of South Florida) (2005). Millennium Coral Reef Mapping Project. Unvalidated maps. These maps are unendorsed by IRD, but were further interpreted by UNEP World Conservation Monitoring Centre. Cambridge (UK): UNEP World Conservation Monitoring Centre.

IMaRS-USF, IRD (Institut de Recherche pour le Développement) (2005). Millennium Coral Reef Mapping Project. Validated maps. Cambridge (UK): UNEP World Conservation Monitoring Centre.

Spalding MD, Ravilious C, Green EP (2001). World Atlas of Coral Reefs. Berkeley (California, USA): The University of California Press. 436 pp. URL: <https://archive.org/details/worldatlasofcora01spal>

A form of this dataset was used in the following publication:

Burke L, Reyter K, Spalding M, Perry A. (2011). Reefs at Risk Revisited. Washington, DC: World Resources Institute. 115 pp. URL: <http://www.wri.org/publication/reefs->

risk-revisited

Temporal range: 1954-2009

Geographical range: Global

Supplementary information (eg attribute table): Attribute table: geomorphological type (COV_TYPE); ReefBase classification by type and location (RB_ATTRIB; types: barrier reef, fringing reef, patch reef, shelf reef; locations: island, continental; classification available for 30% of the records); Reefbase code (RB_CODE; 2-barrier island, 3-barrier continental, 4-barrier atoll-bank, 5-fringing island, 6-fringing continental, 7-patch island, 8-patch continental; 9-patch atoll-bank, 10-shelf island, 11-shelf continental); ReefBase depth code (1-shallow reef, 2-variable depth reef, 3-deep reef; 4-shallow non reef); ReefBase coral classification by depth (RB_DEPTH_A; shallow, mixed, deep, non-reef); country code (ISO3_1); coral reef name (REEF_NAM_1; available for almost 3,000 reefs); island name (ISLAND_N_1); country name (COUNTRY_1); country sovereignty (SOVEREIG_1); source ID (SOURCE_ID, to be used with the "Coral_Source.mdb" table that lists 78 original sources of information); polygon perimeter (Shape_Leng; in m); polygon area (Shape_Area; in sq-m).

Purpose of creation: IMaRS-USF was funded by the Oceanography Program of NASA (National Aeronautics and Space Administration) to provide an exhaustive worldwide inventory of coral reefs using high-resolution satellite imagery, under the framework of the Millennium Coral Reef Mapping Project. As a fully validated Millennium Coral Reef Mapping Project product was not available at the global scale, there was a need to create an 'interim' global amalgamated map product. The dataset was hence created to further mobilise the Millennium Coral Reef Mapping Project products and their validation.

Creation methodology: Approximately 85% of this dataset originates from the Millennium Coral Reef Mapping Project, of which 35% was validated (by IMaRS-USF and IRD-Noumea) and 50% remains unvalidated (but was interpreted by UNEP-WCMC). Millennium Coral Reef Mapping Project products (validated or not) are at a consistent 30 m resolution (multispectral Landsat 7 images acquired between 1999 and 2002, <http://www.imars.usf.edu/MC/index.html>). Additional information regarding methodology and 'validated' and 'unvalidated' polygons can be obtained from <http://oceancolor.gsfc.nasa.gov/LANDSAT/HTML/README.html>.

Where there were no Millennium Coral Reef Mapping Project products, data (representing the remaining 15%) were compiled from other sources by UNEP-WCMC. These sources include data from the World Atlas of Coral Reefs (Spalding et al. 2001) and coral reef maps reproduced with permission from the Controller of Her Majesty's Stationery Office and the UK Hydrographic Office (www.ukho.gov.uk) © British Crown Copyright and/or database rights. The dataset is mostly fitted to ESRI's base layer.

Version: 1.3

Data lineage: This dataset supersedes the one used in the World Atlas of Coral Reefs (Spalding et al. 2001), and should by no means replace the official release of the Millennium Coral Reef Mapping Project. There may be future updates as better information becomes available and as further Millennium Coral Reef Mapping Project products become available. Changes to the original dataset (ver. 1.0) include:

- Ver. 1.1: Attributes were consolidated in July 2012;
- Ver. 1.2: Duplicate polygons were removed in April 2013;

- Ver. 1.3: further minor-scale corrections (spatial shifts reported by users, duplicate polygons) were carried out in April 2014, and were updated online on the 11th February 2015.

Category: Biogenic habitat

Keywords: coral reef, tropical, subtropical, marine, coastal, biogenic, habitat, benthic

Similar datasets: WCMC-09

Quality, limitation(s), fitness for use: While having global coverage, the dataset was compiled from multiple sources with varying scale and quality (outlined in "Coral_Source.dbf," which is included in the package). The dataset has yet to undergo external review.

The 'validated data' correspond to the final standard of Millennium Coral Reef Mapping Project products; they can evolve according to minor corrections and modifications, but no major changes should be expected. In the 'unvalidated data', boundaries of occurrence polygons are unchecked and associated attributes are incomplete. In some areas, unvalidated and validated polygons of differing shapes overlap.

As the dataset may still contain overlapping polygons, a dissolve operation (within a GIS) might be needed before surface area calculations are carried out. Most of the dataset's polygons align relatively well (spatially) to the base layer (coastline) of Open Street Map (used in ESRI ArcGIS software).

Maintenance frequency: Corrections are made on an ad-hoc basis.

Main access/use constraint: UNEP-WCMC General Data License (excluding WDPA). See www.unep-wcmc.org/policies/general-data-license-excluding-wdpa#data_policy and www.unep-wcmc.org/policies. For commercial use, please contact business-support@unep-wcmc.org.

Other access/use constraints: For display and use of data below global scale, please cite individual data sources (listed in "Coral_Source.dbf").

Contact organisation: UNEP World Conservation Monitoring Centre

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Data format(s): Vector (polygon; .shp)

Distribution format(s): Vector (polygon; .shp) **Dataset size (uncompressed):** 1.33 GB

Webpage and/or download: <http://data.unep-wcmc.org/datasets/1>

Dataset ID: WCMC-008

Other webpage: <http://www.arcgis.com/home/item.html?id=97071c96008d4ea6b0aabe4ed125661f>

Web map service: http://ec2-54-204-216-109.compute-1.amazonaws.com:6080/arcgis/rest/services/marine/WCMC_008_CoralReefs2010/MapServer

Factsheet: http://wcmc.io/warm_coral_reef

Resolution, scale:	Variable	Reference system:	WGS 1984
West bounding:	-180.0	East bounding:	180.0
South bounding:	-34.3	North bounding:	32.5
Metadata standard:	UNEP-WCMC Specific	Date of metadata:	29/05/2015