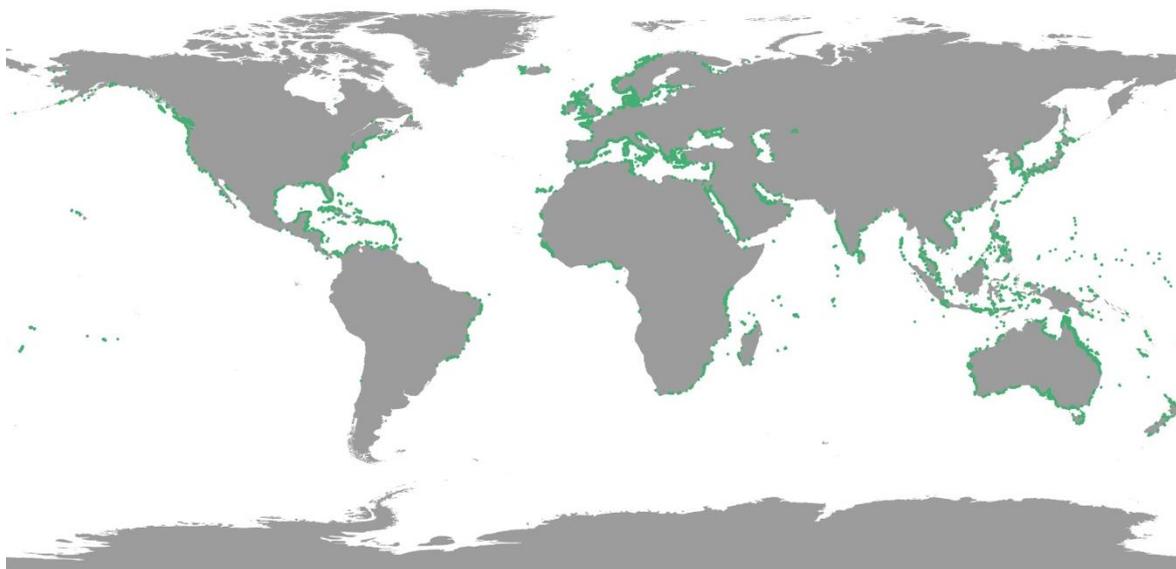


## Global Distribution of Seagrasses



### Description:

This dataset shows the global distribution of seagrasses, and is composed of two subsets of point and polygon occurrence data. The data were compiled by UNEP World Conservation Monitoring Centre in collaboration with many collaborators (e.g. Frederick Short of the University of New Hampshire), organisations (e.g. the OSPAR Convention for the Northeast Atlantic sea), and projects (e.g. the European project Mediterranean Sensitive Habitats "Mediseh"), across the globe (full list available in "Metadata\_Seagrass.dbf").

UNEP-WCMC, Short FT (2020). Global distribution of seagrasses (version 7.0). Seventh update to the data layer used in Green and Short (2003). Cambridge (UK): UN Environment World Conservation Monitoring Centre. URL: <http://data.unep-wcmc.org/datasets/7>

Other cited reference(s):

Green EP, Short FT (2003). World atlas of seagrasses. Prepared by UNEP World Conservation Monitoring Centre. Berkeley (California, USA): University of California. 332 pp. URL: <https://archive.org/details/worldatlasofseag03gree>

### Citation:

Belluscio A, Panayiotidis P, Gristina M, Knittweis L, Pace ML, Telesca L, Criscoli A, Apostolaki ET, Gerakaris V, Frascchetti S, Spedicato MT, Lembo G, Salomidi M, Mifsud R, Fabi G, Badalamenti F, Garofalo G, Alagna A, Ardizzone GD, Martin CS, Valavanis V (2013). Task 1.1. Seagrass beds distribution along the Mediterranean coasts. In: Mediterranean Sensitive Habitats (MEDISEH), final project report (Eds. M Giannoulaki, A Belluscio, F Colloca, S Frascchetti, M Scardi, C Smith, P Panayotidis, V Valavanis, MT Spedicato). DG - MARE, specific contract SI2.600741. Heraklion (Greece): Hellenic Centre for Marine Research. 557 pp. URL: <http://mareaproject.net/download/71>

Telesca L, Belluscio A, Criscoli A, Ardizzone G, Apostolaki ET, Frascchetti S, Gristina M, Knittweis L, Martin CS, Pergent G, Alagna A, Badalamenti F,

	<p>Garofalo G, Gerakaris V, Pace ML, Pergent-Martini C, Salomidi M, 2015. Seagrass meadows (<i>Posidonia oceanica</i>) distribution and trajectories of change. <i>Scientific Reports</i> 5: 12505. URL: <a href="http://www.nature.com/articles/srep12505">http://www.nature.com/articles/srep12505</a></p> <p>OSPAR Commission. (2015). OSPAR Threatened and/or Declining Habitats 2015. URL: <a href="http://www.ospar.org/work-areas/bdc/species-habitats/list-of-threatened-declining-species-habitats">http://www.ospar.org/work-areas/bdc/species-habitats/list-of-threatened-declining-species-habitats</a>. Data URL: <a href="http://www.emodnet-seabedhabitats.eu/download">http://www.emodnet-seabedhabitats.eu/download</a>.</p>
<b>Temporal range:</b>	1934-2020
<b>Geographic range:</b>	Global
<b>Supplementary information:</b>	<p>Attribute table: Automatically generated number (OBJECTID); Metadata ID linking to the source of the dataset, found in the associated metadata table (datasetID); ISO 3166-3 character code of country or territory where the feature is located (ISO3); ISO 3166-3 character code of the sovereign country in which the feature is located (ParentISO3) ISO 3166-2 sub-national code(s) where the feature is located (subISO3); information reported by the data provider regarding the composition and condition of the feature, or other relevant notes (BIO_CLASS, fieldNotes); description of habitat (habitat); habitat code of a classification scheme, e.g. EUNIS or JNCC (habitatID); Scientific (Latin) name(s) of family, genus and species (family, genus, scientific); URN code that the species corresponds to (nameAccord); common or vernacular name of the species in English (vernacular); area calculated using GIS, in square kilometres (AREA_SQKM); date of data collection (of survey), supplied as text in the format YYYY-MM-DD/YYYY-MM-DD (ISO date format) (eventDate); verification by government or expert (verif); automatically generated length and area of the feature (Shape_Length; Shape_Area)</p>
<b>Purpose of creation:</b>	This dataset was originally developed alongside the publication by Green and Short (2003), and was the first authoritative and comprehensive global synthesis of the spatial distribution and status of seagrasses.
<b>Creation methodology:</b>	This dataset was created from multiple sources (in 128 countries and territories), including maps (of varying scales), expert interpolation and point-based samples. Before inclusion in the dataset, occurrence records were reviewed using published reports, peer-reviewed literature and expert consultation.
<b>Version:</b>	7.0 (October 2020)

**Version 7.0 (October 2020):** The dataset structure was reverted to Version 4.0, with single part features and similar attribute list structure (see supplementary information). The following changes were made to the polygon dataset:

- Replaced 2 polygons of UAE data (ID# 445) with 4964 more accurate and up-date-data (ID# 574)
- Added 96 polygons to Watamu Bay in Kenya
- Added 66 Polygons in Portugal (Metadata ID # 576) from EMODnet Seabed data
- Added 113 Polygons in Ireland (Metadata ID #577) from EMODnet Seabed data
- Added 367 Polygons in Norway (Metadata ID #578) from EMODnet Seabed data
- Added 582 Polygons in the UK (Metadata ID #579) from EMODnet Seabed data
- Added 39 polygons in Spain (Metadata ID #580) from EMODnet Seabed data
- Removed 50 polygons in France (Metadata ID #491) and replaced them with 506 more detailed polygons in France from the EMODnet Seabed data; original map\_ID FR003016 (Metadata ID #581)
- Added 18559 polygons in France (Metadata ID #581) from the EMODnet Seabed data
- Erased ID#490 USA data from a dataset formerly titled 491\_Florida found in the Seagrass data sources folder with a 20 meter buffer. 937 Polygons remained that were so far missing from our dataset. These 937 polygons within Florida have been added as Metadata ID #489.
- Removed 5.916 polygons ID#491 and replaced them with 7.403 more accurately placed polygons ID#582 from EMODnet data in Italy
- Removed 4106 polygons ID#491 in Greece and replaced them with 4.495 more accurately placed polygons ID#583 from EMODnet data
- Deleted 4 polygons with metadata ID#418 in Italy and Malta, as those have been replaced with higher resolution data with Metadata ID #582 and #491

#### Data lineage:

**Version 6.0 (June 2018):** Geographic attributions (ISO3 and Parent ISO3 codes) of points and polygons in the datasets have been matched to the World Vector Shoreline Plus and VLIZ World EEZ v10 geographic layers. This improves the accuracy of these datasets for national and regional studies. ISO3 codes need to be updated regularly due to codes becoming obsolete or EEZ boundaries being adjusted. Multipart points and polygons features were created to reduce the complexity of the attribute tables, merging those with identical attributes. This reduces the processing power required to handle the data while maintaining the level of detail required. The habitat datasets have been quality checked for obsolete ISO3 codes, overlapping claims identified and "Not reported" consistently used for missing values rather than NA or blanks.

**Version 5 (December 2017):** Standardises the feature and metadata attributes using a new schema, which aligns the attributes used across the habitat datasets curated by UNEP-WCMC. The updated attribute schema is outlined in "Supplementary Information." Specific changes include the addition of information on level of protection (e.g. PROTECT, PROTECT\_FEAT, PROTECT\_STAT), indication of whether the data have received expert or government verification (VERIF), and information on

the start and end dates of data collection (i.e. START\_DATE, END\_DATE). The new schema will be used to inform a set of quality indicators, assessing changes in data quality over time. This dataset supersedes versions 3.0 and 4.0 of the seagrass dataset, which was an updated version of the dataset used in Green and Short (2003).

**Version 4 (2016):** The following changes were made to the dataset:

- Removed 69 polygons (approx. 708 sq km; ID #20) and replaced with better Corsican data (ID #491);
- Added 19,327 polygons (approx. 11,184 sq km) of Posidonia seagrass in Europe, from the MEDISEH project (ID #491);
- Added 6,681 polygons (approx. 421 sq km) of seagrass in British Columbia (ID #492);

Total spatial changes reflected in the polygon feature class: Removed 708 square kilometres (69 polygons) and added 1,297,092 hectares / 12,970 sq km (35,416 polygons). The seagrass extent (after dissolve by ISO3) is 344,958 sq km.

Total change in area between versions 3 and 4 (after dissolve by ISO3) is 7,950 sq km. Total changes to the point dataset include the addition of 8,887 data points.

**Version 3.0 (2015)** incorporated over 16,600 square kilometres of seagrass occurrence data obtained in October 2013 from the Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), and Coastal Services Center (CSC) of the United States. Once dissolved, total seagrass extent in version 3.0 equates 314,173 sq km (184,814 polygons).

- Added 9,211 polygons (approx. 1307 sq km) from OSPAR's 2015 habitat data (ID#495 - 519);
- Incorporated 1 polygon from Malta (58.95 sq km) (ID #493);
- Incorporated 1,533 seagrass occurrence data points (not Posidonia) from MEDISEH (ID #494); and Added 7,227 seagrass occurrence data points from OSPAR's 2015 habitat data

<b>Category:</b>	Biogenic habitat
<b>Keywords:</b>	coastal, marine, blue carbon, seagrass, habitat, biogenic, ecosystem
<b>Similar datasets:</b>	WCMC-015, Mediseh-002

**Limitations:**

Validation (of version 1) was also undertaken through a global seagrass workshop comprising experts from 23 countries. As the dataset contains overlapping polygons, a dissolve operation (by ISO3) in GIS is required before surface area calculations are carried out. Based on recent genetic and morphometric analysis, *Halophilla johnsonii*, *Halophilla hawaiiiana*, *Halophilla ovata* and *Halophilla minor* are now considered to be morphological variations of, and therefore conspecific with, *Halophilla ovalis*. *Zostera mucronata*, *Zostera muelleri* and *Zostera novazelandica* are now considered to be morphological variations of, and therefore conspecific with, *Zostera capricorni*. Note that the older components of the dataset (particularly in version 1) are likely to have been fitted to the best shoreline data available at the time, i.e. ESRI's "Digital Chart of the World" and "MundoCart digital database(both derived from Operational Navigation Charts). As a result, there may be placement errors when mapped onto recent shoreline datasets (e.g. GSHHD, Open Street Map), e.g. Belize.

<b>Maintenance frequency:</b>	Data are updated in intervals that are uneven in duration.		
<b>Main access/use constraint:</b>	UNEP-WCMC General Data License		
<b>Other access/use constraints:</b>	In relation to the data provided by the Mediseh project (Bellusci et al. 2013; Telesca et al. 2015) for the Mediterranean basin, users must comply with article 11.10.3 of the Framework Contract with the European Commission, i.e. any re-distribution of these data: 1) requires prior written authorisation from the Commission (Directorate-General for Maritime Affairs and Fisheries, Brussels, Belgium), 2) shall mention the amount paid by the European Union (EUR 568,996). party that accepts accountability and responsibility for the data and ensures appropriate care and maintenance of the resource		
<b>Organisation type:</b>			
<b>Contact Organisation:</b>	UN Environment World Conservation Monitoring Centre		
<b>City:</b>	UN Environment World Conservation Monitoring Centre		
<b>E-mail:</b>	marine@unep-wcmc.org		
<b>Data format(s):</b>	Vector (polygon); Vector (point); KML (.kml); WMS;	<b>Dataset size (uncompressed):</b>	853 MB (polygons), 21 MB (points)
<b>Webpage and/or download:</b>	<a href="http://data.unep-wcmc.org/datasets/7">http://data.unep-wcmc.org/datasets/7</a>		
<b>Factsheet:</b>	<a href="http://wcmc.io/seagrass">http://wcmc.io/seagrass</a>		
<b>Resolution, scale:</b>	1:1,000,000	<b>Reference system:</b>	WGS 1984
<b>West bounding:</b>	-176.6	<b>East bounding:</b>	178.6
<b>South bounding:</b>	-46.9	<b>North bounding:</b>	70.0
<b>Metadata standard:</b>	UNEP-WCMC specific	<b>Date of metadata:</b>	15/10/2020