Royal Netherlands Navy

Online availability of data of the Netherlands Hydrographic Service

In many cases, it is possible to reuse our data. There are several online opportunities to view or download our data yourself.[1] The Terms of Use are given below.

INSPIRE

The European INSPIRE Directive poses an obligation on Member States to publish geographic data in an automated way as web services. In the Netherlands, the Netherlands Hydrographic Service is responsible for a number of data sets in the North Sea. This results in geographic data that is automatically available against minimal use restrictions almost every type of use.

Details about the data sets and their web services are available at the National Georegistry (NGR), at www.nationaalgeoregister.nl . Choose "zoeken", "geavanceerd zoeken", and select at "Organisatie" the option: "Ministerie van Defensie, Koninklijke Marine, Dienst der Hydrografie". This way, you will be presented with information of each data set about the data set itself, the view service, and the download service. It is also possible to view and download the web services through the NGR. The locations of the web services are also given in Table 1 and 2.

The Open Data Viewer of the Informatiehuis Marien (IHM) shows the web services for the North Sea, and downloading is possible too. See www.informatiehuismarien.nl/open-data-viewer.

The registrations of the NGR are reproduced at
- data.overheid.nl
- inspire-geoportal.ec.europa.eu
- data.europa.eu.

EMODNet

The EMODNet programme of the European Commission gives an overview of the available bathymetric data in the European seas and the Caribbean Sea, which can then be requested, visualised and downloaded in a web environment. The bathymetry web site of the project is emodnet.ec.europa.eu/en/bathymetry. The locations of the web services are given in Table 3.
- A bathymetric grid of all depths is available for visualisation and download, with a resolution of 1/16' (115 m), via the Map Viewer.
- Grids of specific areas are available in higher resolutions as "HR-DTM" via the Map Viewer.
- Information on bathymetric grids is available via the "Sextant Catalogue Service" at sextant.ifremer.fr/documentation/emodnet_bathymetry/api/catalogue.html.
- Individual bathymetric surveys are available at the "CDI data Discovery and Access Service" at cdi-bathymetry.seadatanet.org.

The programme also has a web site with information om human activities at sea, emodnet.ec.europa.eu/en/human-activities. Information available includes:
- wreck information,
- cables and pipelines,
- offshore installations and wind farms.

The European Commission uses EMODnet data sets to create the European Atlas of the Seas. See www.european-atlas-of-the-seas.eu.

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[1] Delivery is also possible through the form at www.defensie.nl/onderwerpen/hydrografie. Go to "Sales of nautical charts and publications" and subsequently to "Apply for hydrographic data".

DCDB

The worldwide bathymetric grid of the IHO Data Center for Digital Bathymetry (DCDB), available at www.ngdc.noaa.gov/iho.
- The bathymetric data of the Kingdom of the Netherlands finds its way to the DCDB through EMODnet.
- The IHO/IOC General bathymetric Chart of the Oceans (GEBCO) is based on the DCDB. The GEBCO map is available at www.gebco.net.
- The International Bathymetric Chart of the Caribbean (IBCCa) is a regional UNESCO-IOC project of GEBCO. Maps are available at gebco.net/about_us/committees_and_groups/scrum/ibcca/.
- GEBCO and the Nippon Foundation cooperate in the Seabed 2030 project, which aims for a full worldwide grid of depth data per 2030. See. www.seabed2030.org.
- The MACHC Seabed2030 subproject shows the DCDB data via a WebApp on www.iho-machc.org/seabed2030.html.

GEBCO and the DCDB also maintain web services, see Table 3.

Electronic Navigational Charts (ENCs)

- The Open Data Viewer of the Informatiehuis Marien (IHM) shows the Netherlands ENCs for the North Sea, see www.informatiehuismarien.nl/open-data-viewer. They are also available as a WMS (Table 3).
- The Meso-American and Caribbean Hydrographic Commission (MACHC) provides online access via MACHC ENC Online to the Caribbean ENCs of selected countries, see www.iho-machc.org. Also available as a WMS (Table 3).
- The Value Added Resellers (VARs) of the International Center for ENCs (IC-ENC) offer online view services. The VARs are given at www.ic-enc.org/distribution.
- IC-ENC also offers a Product Development & Testing (PDT) licence for the new generation of S-100 ENCs and additional data sets, at www.ic-enc.org/pdt-licence.
- Commercial parties offer products and services that are based on nautical charts and publications under licence, including online web services. To apply for a licence, we refer to UKHO (Derived Chart Producer (DCP) and Derived product Producer (DPP) at www.ukho.gov.uk/copyright) or IC-ENC (Distribution Partner (DP) www.ic-enc.org/distribution).

Maritime zones, limits and boundaries

- Data describing the location of the maritime boundaries and zones of the Kingdom of the Netherlands are available via our web site www.defensie.nl/onderwerpen/hydrografie. See the Section "Maritime limits and boundaries". In general, updates are available within a few days at the web site, and possibly with a delay as a web service.
- Worldwide deposits of legislation on marine boundaries and zones are done at the Division of Ocean Affairs and law of the Sea of the United Nations (UN DOALOS). It is made public in their Maritime Space database, at www.un.org/Depts/los/LEGISLATIONANDTREATIES.

Vertical references

- The geoid and the Lowest Astronomical Tide (LAT) for the Nederlands part of the North Sea, as well as the difference between both, are published on www.defensie.nl/onderwerpen/hydrografie. See the Section "Coordinate systems at sea", and then "Coordinate reference systems for depth measurement at sea". These are the results of the NEVREF project of Delft University of Technology (NLLAT2018 and NLGEO2018). More information at www.nsgi.nl.

Datasets at other government agencies

- *Waterinfo Rijkswaterstaat*: water levels and predicted tides referenced to NAP/MSL at waterinfo.rws.nl.
- *Geoweb Rijkswaterstaat*: Bathymetry of Rijkswaterstaat and Inland ENC's at https://maps.rijkswaterstaat.nl/GeoWebPortaal/.
- *Maritime Stepping Stones (MaSS) of the Rijksdienst voor het Cultureel Erfgoed (RCE)*: Dutch wrecks worldwide at mass.cultureelerfgoed.nl/.
- *Nederlandse Olie- en Gasportaal (NLOG) of TNO-Geologische Dienst Nederland (GDN)*: Offshore installations (like platforms, pipelines, and wells) at www.nlog.nl.

- *Data en Informatie van de Nederlandse Ondergrond (DINO-loket) of TNO-GDN*: seabed data at www.dinoloket.nl.
- *Informatiepunt Leefomgeving (IPLO)*: data of the inernal and coastal waters at www.iplo.nl/thema/water.

Feedback

We welcome you experiences with online services, preferably through our online feedback form for questions, remarks and complaints at our web site www.defensie.nl/onderwerpen/hydrografie.

Terms of Use

- ENCs and other nautical products:
  - Commercial use of the product is prohibited, with the exception of activities for which the Hydrographic Service has granted explicit permission. This means that you may not, for example, generate a substantial income directly or indirectly from the product provided. This also applies to the provision of this product to others free of charge in a manner damaging to the commercial interests of others.
  - You are not permitted to make the product available to others without explicit prior consent from the Hydrographic Service.
  - You must delete the product if you no longer need it.
  - The data provided may not be used for navigation, because the data sets are not linked and are not updated according to the Notices to Mariners.
  - The Hydrographic Service reserves the right to exercise its moral rights (Article 6bis, Berne Convention) in respect of the reproduced materials that contain the data provided.
- Open Datasets:
  - The data provided may not be used for navigation, because the data sets are not linked and are not updated according to the Notices to Mariners.
  - The Hydrographic Service reserves the right to exercise its moral rights (Article 6bis, Berne Convention) in respect of the reproduced materials that contain the data provided.

Table 1: links of INSPIRE web services North Sea

data set	name	URL
Geographic names at sea and large internal waters (harmonised)	INSPIRE View Service: INSPIRE Download Service: ATOM feed:	https://inspire1.bathy.online/geoserver/gnwms/wms https://inspire1.bathy.online/geoserver/gn/ows https://inspire1.bathy.online/atom/c672845b-09f4-4864-8436-48503d574235.atom
Maritime boundaries (harmonised)	INSPIRE View Service: INSPIRE Download Service: ATOM feed:	https://inspire1.bathy.online/geoserver/boundary/wms https://inspire1.bathy.online/geoserver/boundary/wfs https://inspire1.bathy.online/atom/a69b72c5-e892-4b41-a1f1-bc133d6858db.atom
Territorial Sea (harmonised)	INSPIRE View Service: INSPIRE Download Service: ATOM feed:	https://inspire1.bathy.online/geoserver/tz/wms https://inspire1.bathy.online/geoserver/tz/ows https://inspire1.bathy.online/atom/bb11be63-bd38-4632-bf54-df44c423a529.atom
Contiguous Zone (harmonised)	INSPIRE View Service: INSPIRE Download Service: ATOM feed:	https://inspire1.bathy.online/geoserver/cz/wms https://inspire1.bathy.online/geoserver/cz/ows https://inspire1.bathy.online/atom/881942f5-d3df-4f2d-8aa2-48af1cbc806e.atom
Exclusive Economic Zone (harmonised)	INSPIRE View Service: INSPIRE Download Service: ATOM feed:	https://inspire1.bathy.online/geoserver/eez/wms https://inspire1.bathy.online/geoserver/eez/ows https://inspire1.bathy.online/atom/e8b84fae-00b3-49c1-80c1-df8f69f64e8c.atom
Baseline (harmonised)	INSPIRE View Service: INSPIRE Download Service: ATOM feed:	https://inspire1.bathy.online/geoserver/baselinews/wms https://inspire1.bathy.online/geoserver/baseline/ows https://inspire1.bathy.online/atom/d7ab6903-1152-450b-b81d-042682dcfd03.atom
Bathymetry deeper than 10 m LAT (harmonised)	INSPIRE View Service: OGC WCS:	https://inspire.bathy.online/geoserver/bathy/wms https://inspire.bathy.online/geoserver/bathy/wcs
Eems Mouth according to the Eems Dollard Treaty (harmonised)	INSPIRE View Service: INSPIRE Download Service: ATOM feed:	https://inspire1.bathy.online/geoserver/MarineRegion/wms https://inspire1.bathy.online/geoserver/MarineRegion/wfs https://inspire1.bathy.online/atom/b3ed10bc-479a-4277-9683-56c908a7fa83.atom
Zones according to the EU Common Fisheries Policy until 3M and 6M (harmonised)	INSPIRE View Service: INSPIRE Download Service: ATOM feed:	https://inspire1.bathy.online/geoserver/am/wms https://inspire1.bathy.online/geoserver/am/wfs https://inspire1.bathy.online/atom/6d74776c-d8d7-41d8-a9b5-d3a8e257c65b.atom
Block division NL Continental Shelf according to the Mining Act and Boundary Area according to the Supplementary Agreement to the Eems Dollard Treaty (harmonised)	INSPIRE View Service: INSPIRES Download Service: ATOM feed:	https://inspire1.bathy.online/geoserver/ProspectingAndMiningPermitArea/wms https://inspire1.bathy.online/geoserver/ProspectingAndMiningPermitArea/wfs https://inspire1.bathy.online/atom/2951a1cc-32d8-4c2c-b461-e06e70877350.atom
Netherlands part of the PSSA Wadden Sea (harmonised)	INSPIRE View Service: INSPIRE Download Service: ATOM feed:	https://inspire1.bathy.online/geoserver/pssa_nl/ows https://inspire1.bathy.online/geoserver/pssa_nl/ows https://inspire1.bathy.online/atom/4e2499d4-b4f2-41df-97e2-7ae7aa1e34c9.atom
LAT/ETRS89-separatie: NLLAT2018 t.o.v. GRS80 (geharmoniseerd)	INSPIRE View Service: INSPIRE Download Service:	https://inspire.bathy.online/geoserver/LAT_ETRS89/wms https://inspire.bathy.online/geoserver/LAT_ETRS89/wfs
NAP/ETRS89-separatie: NLGEO2018 t.o.v. GRS80; (geharmoniseerd)	INSPIRE View Service: INSPIRE Download Service:	https://inspire.bathy.online/geoserver/NAP_ETRS89/wms https://inspire.bathy.online/geoserver/NAP_ETRS89/wfs
NAP/LAT-separatie: NLGEO2018 t.o.v. NLLAT2018 (geharmoniseerd)	INSPIRE View Service: INSPIRE Download Service:	https://inspire.bathy.online/geoserver/NAP_LAT/wms https://inspire.bathy.online/geoserver/NAP_LAT/wfs

Table 2: links of INSPIRE web services Caribbean Sea

data set	name	URL
Bathymetry (harmonised)	*Sint Maarten, Saba, Sint Eustatius* INSPIRE View Service Caribbean Sea: OGC WCS Caribbean Sea:	 https://inspire.bathy.online/geoserver/carib_N/wms (Sint Maarten, Saba, Sint Eustatius) https://inspire.bathy.online/geoserver/carib_N/wcs (Sint Maarten, Saba, Sint Eustatius)
	Aruba, Curaçao, Bonaire INSPIRE View Service Caribbean Sea: OGC WCS Caribbean Sea:	 https://inspire.bathy.online/geoserver/carib_S/wms (Aruba, Curaçao, Bonaire) https://inspire.bathy.online/geoserver/carib_S/wcs (Aruba, Curaçao, Bonaire)

Table 3: URLs of web services of the IHO community

dataset	naam	URL
European bathymetric grid	OGC WMS: OGC WMTS: OGC WFS: OGC WCS: REST:	https://ows.emodnet-bathymetry.eu/wms https://tiles.emodnet-bathymetry.eu https://ows.emodnet-bathymetry.eu/wfs https://ows.emodnet-bathymetry.eu/wcs https://rest.emodnet-bathymetry.eu/
Worldwide bathymetric grid	OGC WMS (Mercator): OGC WMS (North pole area): OGC WMS (South pole area): REST (DCDB):	https://www.gebco.net/data_and_products/gebco_web_services/web_map_service/mapserv https://www.gebco.net/data_and_products/gebco_web_services/north_polar_view_wms/mapserv https://www.gebco.net/data_and_products/gebco_web_services/south_polar_view_wms/mapserv https://gis.ngdc.noaa.gov/arcgis/rest/services/web_mercator/multibeam_dynamic/MapServer https://gis.ngdc.noaa.gov/arcgis/rest/services/multibeam_mosaic/ImageServer https://gis.ngdc.noaa.gov/arcgis/rest/services/multibeam_mosaic_subsets/ImageServer https://gis.ngdc.noaa.gov/arcgis/rest/services/csb/MapServer https://gis.ngdc.noaa.gov/arcgis/rest/services/web_mercator/trackline_combined_dynamic/MapServer/1
ENCs	OGC WMS:	https://gis.charttools.noaa.gov/arcgis/rest/services/MACHC/MACHC_ENCOnline_Public/MapServer/exts/MaritimeChartService/WMSServer