

BlueEarth Data

Daniel Twigt

Gert-Jan Schotmeijer

Arjen Luijendijk

Tony Minns

BlueEarth Data



What is it?

An open digital platform to collect, combine and share water and sub-soil related data to:

“Explain the past and explore the future”

datasets

GLOSSIS

GLOFFIS

Shoreline

MetOcean

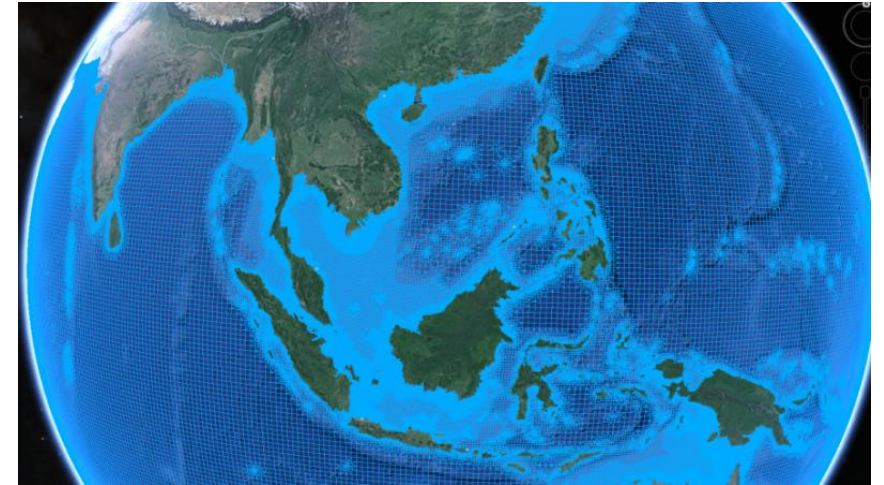
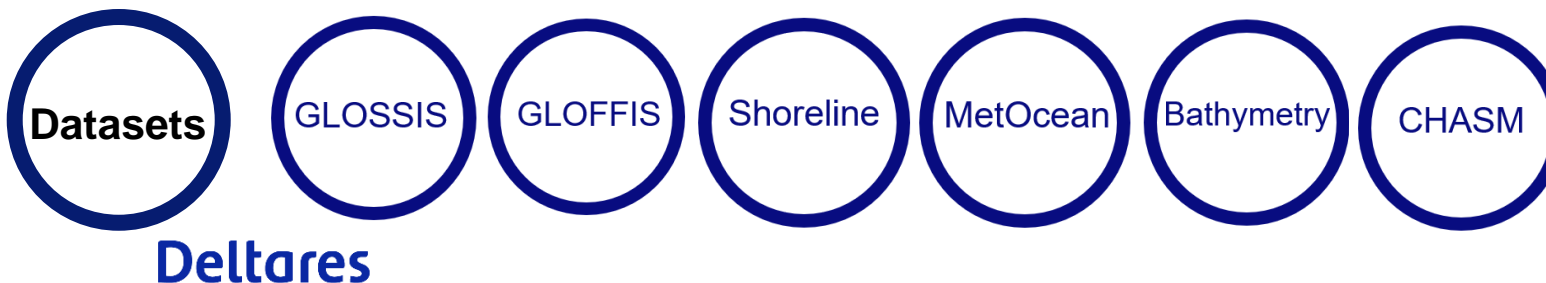
Bathymetry

CHASM

GLOSSIS

real-time water level and storm-surge forecasts

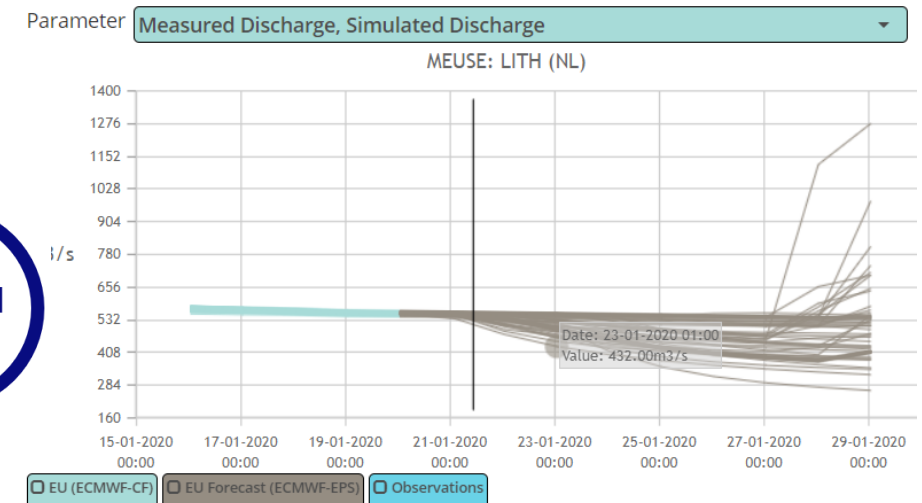
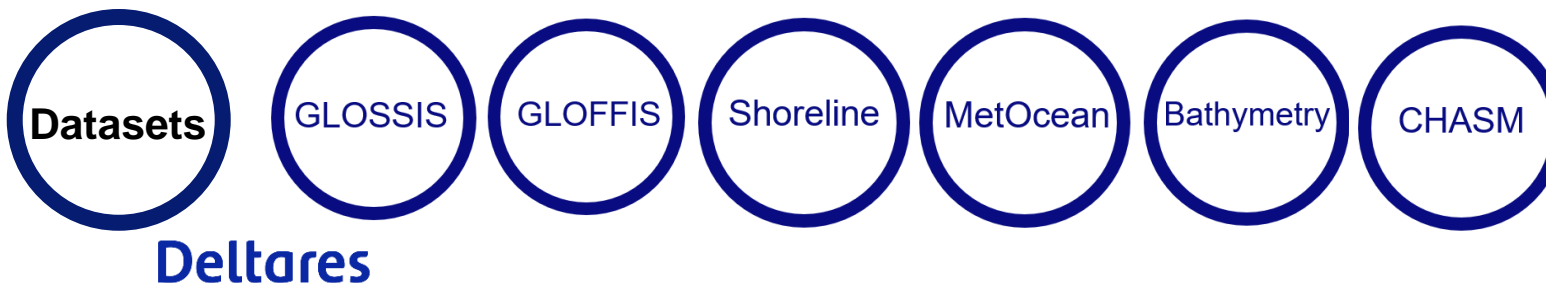
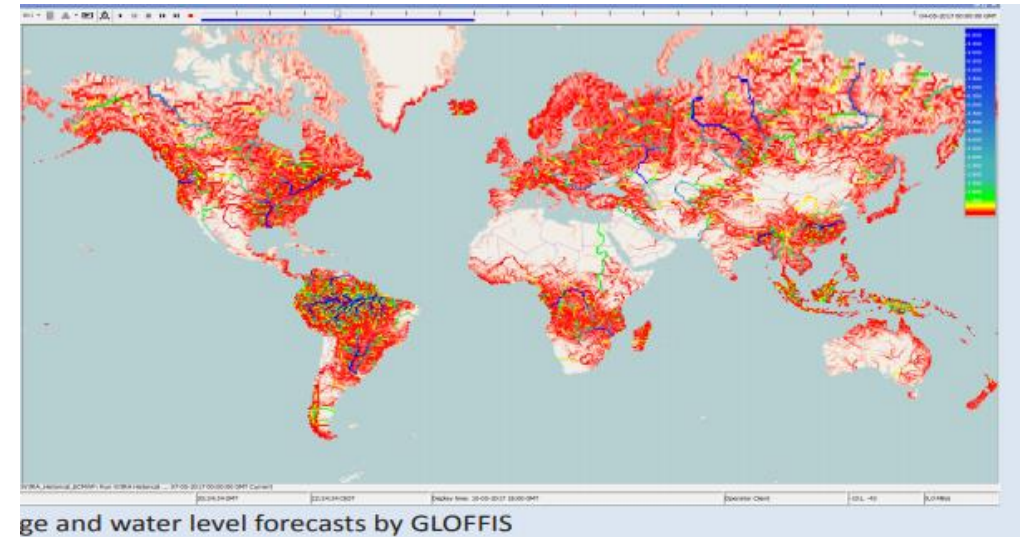
- Real-time, medium-term forecasts
- Historical timeseries
- Anywhere
- Ingredients:
 - Deltares expertise (hydrodynamics, storm surge, wave, bathymetry)
 - Computational engine: Delft3D based GTSM model
 - Forecasting engine: Delft-FEWS
 - Storage: Deltares OpenArchive



GLOFFIS

real-time hydrological forecasts at world-wide scale

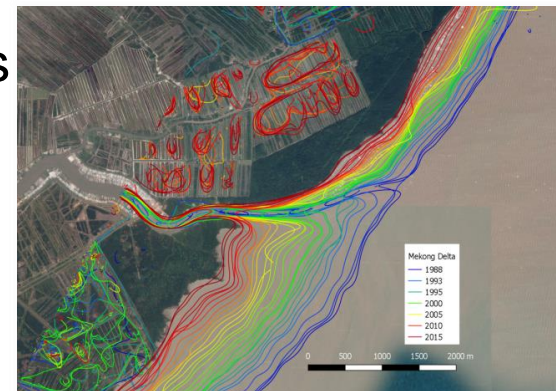
- Medium-term and seasonal fluvial flow forecasts
- Historical timeseries
- Anywhere
- Ingredients:
 - Deltares expertise (hydrology, WRM, forecasting)
 - Computational engine: wFlow, Dflow-1D based models
 - Forecasting engine: Delft-FEWS
 - Storage: Deltares OpenArchive



ShorelineMonitor

Historic time series of shoreline positions

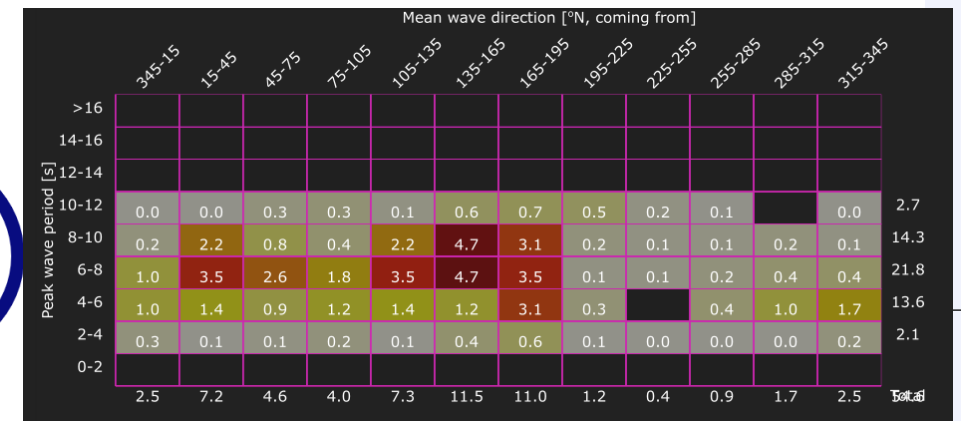
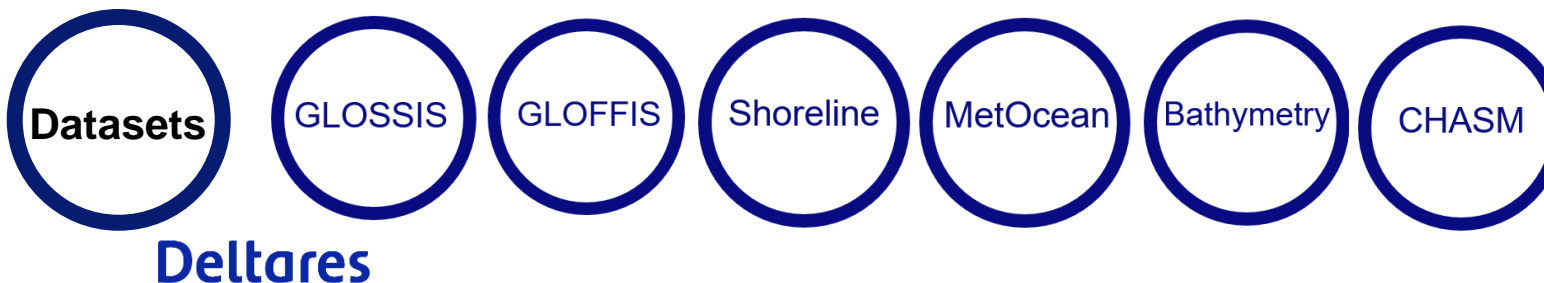
- Period: 1984 - 2017
- Every 500m alongshore
- Globally
- Ingredients:
 - Deltares expertise (future delta's, coastal evolution, coastal development)
 - Computational engine: satellite-derived using Landsat archive
 - Forecasting engine: data-driven projections (w.i.p.)
 - Storage: Google



MetOcean database

Historic wind and wave climates

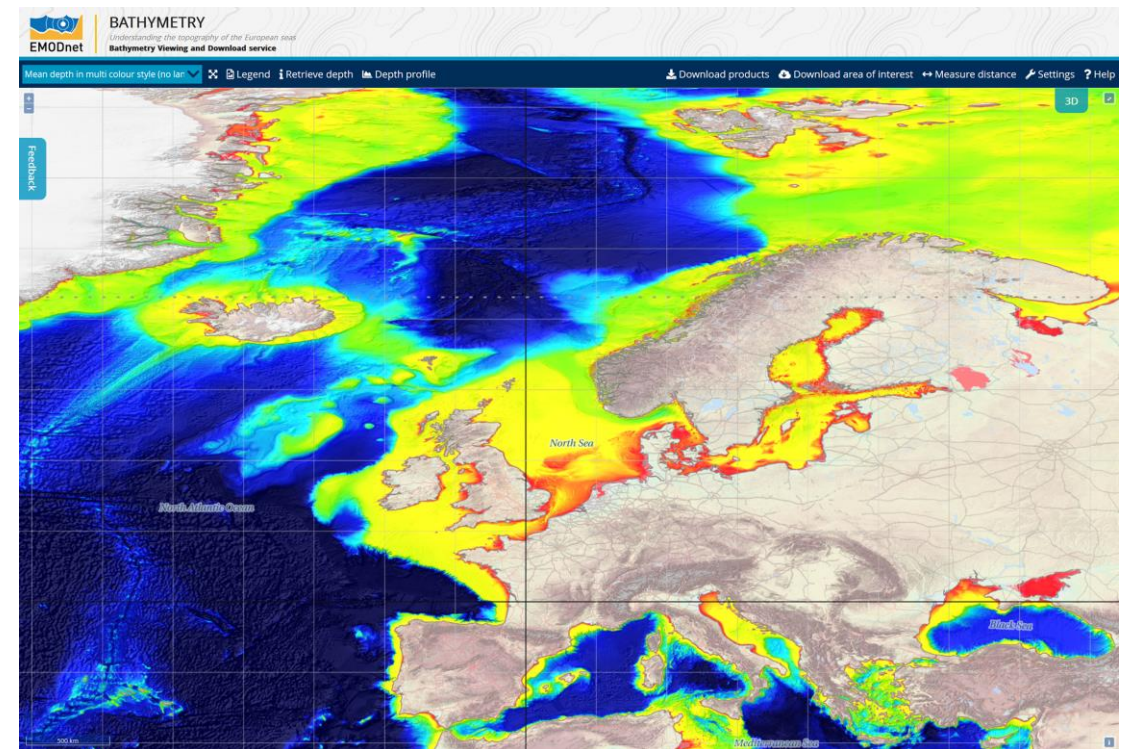
- Period: 1979 - 2015
- Point and map data
- Globally every ~25 km
- Ingredients:
 - Deltares expertise (safe delta's, design conditions, coastal evolution, offshore wind)
 - Computational engine: statistics based on global (external) models (ERA-Interim, ERA5, CFSR)
 - Storage: Deltares OpenArchive



Bathymetry

Multiple DEM data sets for land and sea

- GEBCO (0.5km resolution globally)
- EMODnet for EU
- Topography: MERRITT / SRTM
- Ingredients:
 - Deltares expertise (safe and future delta's, design conditions, coastal evolution, offshore wind, and many more...)
 - Providing access to external sources
 - Storage: external sources



EMODnet Bathymetry Portal

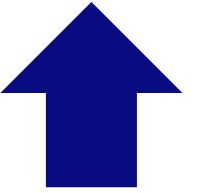
CHASM

CHASM is a TKI project, carried out between Deltares and Whiffle, focusing on high-resolution atmospheric sea modelling for offshore wind.

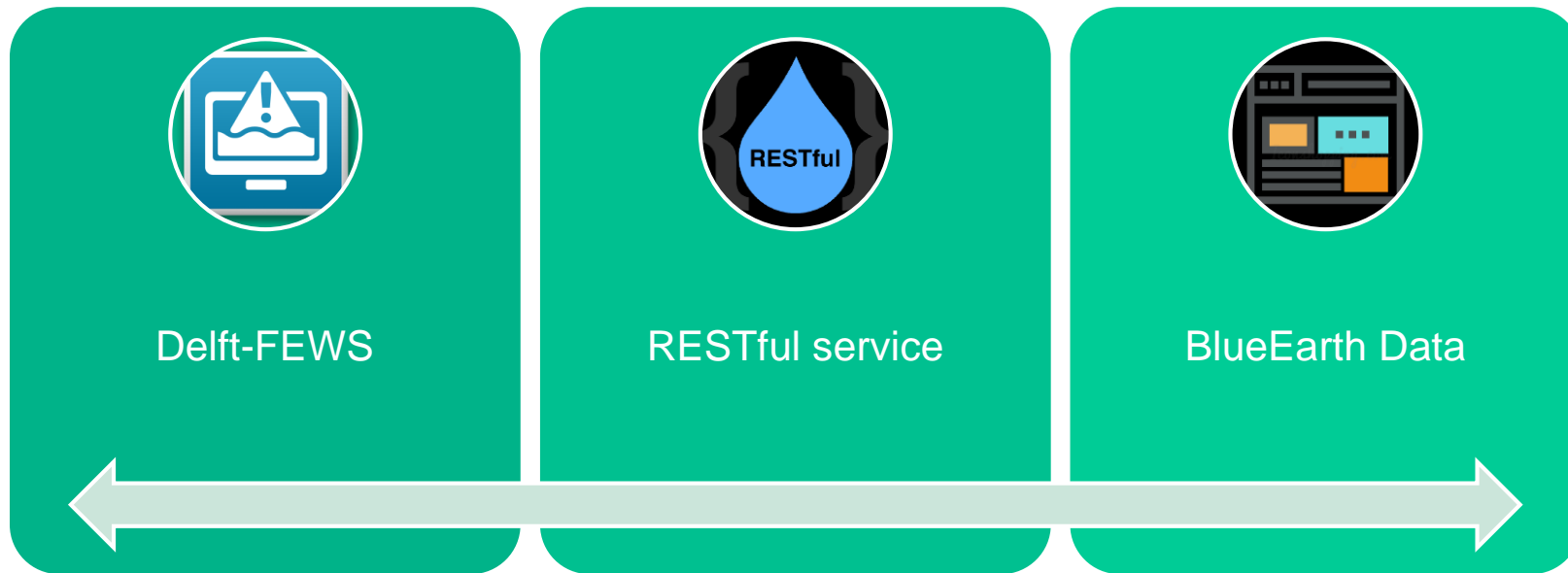
After project completion, we have the obligation to make the project data available for a period of 5 years:

- Full dataset of ~1TB in 4TU data repository (trial)
- Registration of dataset metadata in Deltares Data Portal
- Sample datasets in BlueEarth Data, with reference to (1) and (2)

Delft-FEWS



BlueEarth Data connects to Delft-FEWS and the Open Archive using the Delft-FEWS web services.

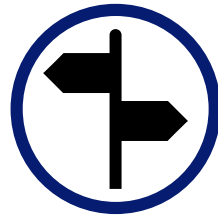


Deltares



Why is Deltares offering this?

- The world is changing towards data services
- Connect provider and user
- Dare to Share Data



Future plans?

- Adding more datasets (very soon)
- API's for seamless integration
- Modelbuilder integration/connection
- Building the BED-community

BlueEarth Data



How to get involved?

- Visit BlueEarthData.org and register
- BED-community platform
- No Break-Out session today → Nov 16th

BlueEarth User Day: Explain the past, explore the future

Monday, 16 November 2020

Location, Room

GoToWebinar


Date

16 November 2020

Time

09:00 - 12:30 CET / CEST (Delft time, UTC+2)

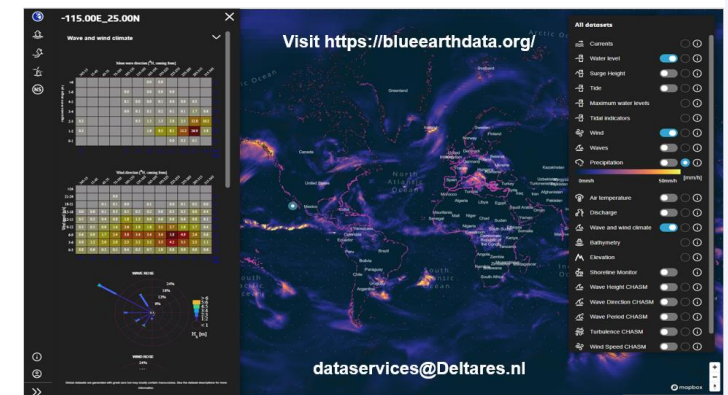
Type of event

 User Day

Registry fee

€ Free

Deltares





-115.00E_25.00N

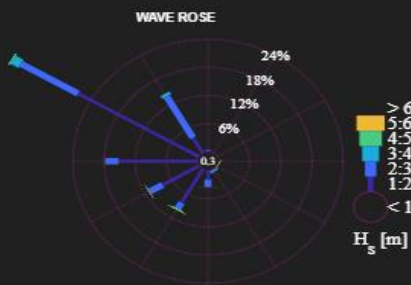


Wave and wind climate



		Mean wave direction [°N, coming from]												
		345-15	15-45	45-75	75-105	105-135	135-165	165-195	195-225	225-255	255-285	285-315	315-345	
Wave height [m]	>6							0.0	0.0					0.0
	5-6					0.0		0.0	0.0					0.0
	4-5					0.1	0.0	0.0	0.1	0.0	0.0	0.3		0.0
	3-4					0.0	0.1	0.1	0.2	0.1	0.1	1.7	0.6	0.0
	2-3	0.2				0.3	1.5	1.3	2.8	2.5	12.8	10.2		0.0
	1-2	0.2					1.9	8.3	8.1	15.2	26.9	3.8		0.0
	0-1								0.0	0.2	0.1			0.0
		0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

		Wind direction [°N, coming from]												
		345-15	15-45	45-75	75-105	105-135	135-165	165-195	195-225	225-255	255-285	285-315	315-345	
Wind speed [m/s]	>24													0.0
	21-24					0.0								0.0
	18-21			0.1	0.1	0.0		0.1		0.0	0.1	0.2	0.0	0.0
	15-18	0.0	0.0	0.1	0.3	0.5	0.2	0.2	0.0	0.3	0.3	0.8	0.4	0.0
	12-15	0.5	0.2	0.4	0.8	1.8	1.2	0.9	0.6	0.6	0.6	0.8	0.1	0.0
	9-12	0.3	0.5	0.9	1.4	2.6	1.9	1.8	2.5	2.7	1.8	1.7	0.4	0.0
	6-9	0.6	0.9	1.7	2.4	3.8	3.4	3.4	3.4	5.8	4.9	2.6	0.6	0.0
	3-6	0.8	1.2	2.0	2.0	2.3	2.2	2.2	3.3	4.5	3.5	2.3	1.1	0.0
	0-3	0.8	0.6	0.5	0.5	0.4	0.5	0.7	1.0	0.8	0.9	0.9	0.6	0.0
		0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4



Global datasets are generated with great care but may locally contain inaccuracies. See the dataset descriptions for more information.

Visit <https://blueearthdata.org/>

All datasets

- ☐ Currents
- ☒ Water level
- ☐ Surge Height
- ☐ Tide
- ☐ Maximum water levels
- ☐ Tidal indicators
- ☒ Wind
- ☐ Waves
- ☐ Precipitation
- ☐ Air temperature
- ☐ Discharge
- ☒ Wave and wind climate
- ☐ Bathymetry
- ☐ Elevation
- ☐ Shoreline Monitor
- ☐ Wave Height CHASM
- ☐ Wave Direction CHASM
- ☐ Wave Period CHASM
- ☐ Turbulence CHASM
- ☐ Wind Speed CHASM

dataservices@Deltares.nl

mapbox

© Mapbox © OpenStreetMap Improve this map