



meets the sea



Making Maps with Open Data and Open Source Software

Hands on workshop using *R* and *QGIS*

Anja Eggert, 14 October 2024

[You can download the R code from the ORDS-MV GitHub account:](https://github.com/ORDS-MV/Workshop-ORDS-Meets-the-Sea-)

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[We use following R libraries:](#)

basic packages:

```
tidyverse      # tidy universe
viridis        # nice colours
readxl         # read Excel files, if needed
```

spatial packages we use:

```
rnaturalearth  # vector data of the world
terra          # read raster data, also NetCDF
tidyterra      # plot terra raster objects
```

```
sf                # read vector data, also shapefiles
ggspatial         # adding scale bars and north arrows
```

optional spatial packages:

```
ggmap             # also possible
osmdata           # retrieve OSM or Google maps
maps              # to make very basic maps
```

ICES fish survey packages we use:

```
icesDatras        # acces ICES survey data
icesVocab          # look up species codes
```

[Please install the libraries if required:](#)

```
# for instance the tidyverse package
install.packages("tidyverse")
```

[For Docker users: we prepared a Docker file on GitHub:](#)

```
# Build the docker image from the Dockerfile
# in this repository:
docker build -t ords_iow_marine_data:latest .

# Start a docker container from this image:
docker run -t --rm -v "$(pwd)":/home/rstudio/workspace -w
/home/rstudio/workspace -e USERID=$(id -u) -e GROUPID=$(id -g)
-p 127.0.0.1:8787:8787 ords_iow_marine_data:latest
```

We use following Open Source Data:

Data	URL
Copernicus Marine Data Store: Baltic Sea	https://data.marine.copernicus.eu/products?facets=areas%7EBaltic+Sea
IOW Baltic Sea topography	https://www.io-warnemuende.de/topography-of-the-baltic-sea.html
Access IOWDB - the Oceanographic Database of IOW	https://odin2.io-warnemuende.de/
icesDatras R package on GitHub	https://github.com/ices-tools-prod/icesDatras?tab=readme-ov-file
HELCOM Metadata catalogue: Baltic Sea Drainage Basin	https://metadata.helcom.fi/geonetwork/srv/api/records/9e132cda-8f69-4f7a-9c66-8b9859e61441
HELCOM Metadata catalogue: Baltic Sea Bathymetry	https://metadata.helcom.fi/geonetwork/srv/api/records/8b46e4c7-f911-44ab-89e6-2c8b8d9fa2c0
HELCOM Metadata catalogue: Baltic Sea Coastline	https://metadata.helcom.fi/geonetwork/srv/api/records/e1ee256a-03a1-4619-b1e6-ec058f59459e
Eurostat Data Browser: population size	https://ec.europa.eu/eurostat/databrowser/view/tps00001/default/table?lang=en&category=t_demo.t_demo_pop