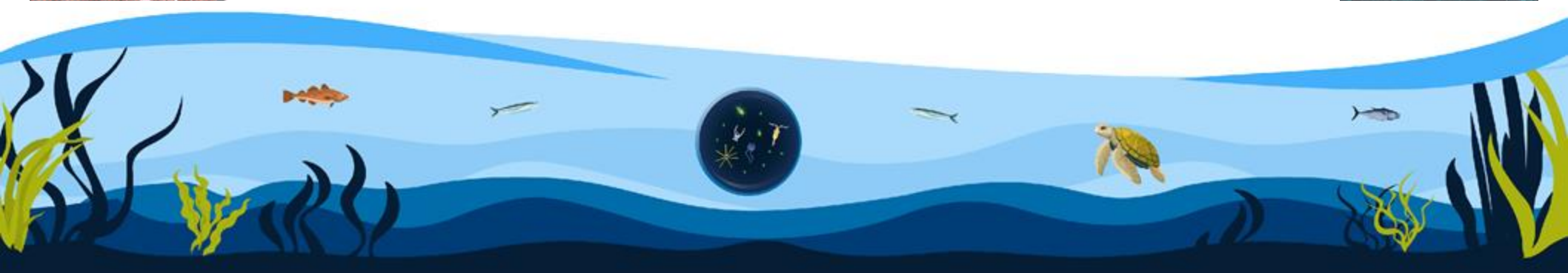


Baltic Sea Science Congress 2025

Knowns and unknowns of gelatinous zooplankton in the central Baltic Sea – a comprehensive overview



Florian Lüskow
Lina Mtwana Nordlund
Uppsala University – Campus Gotland

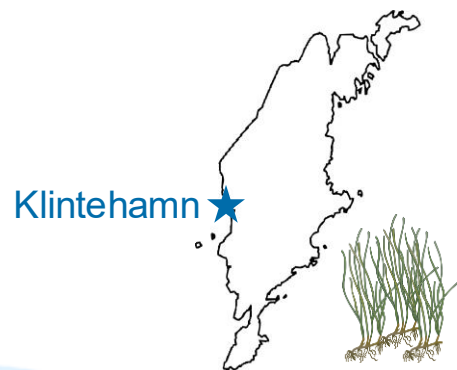


Soft spot for jellies...

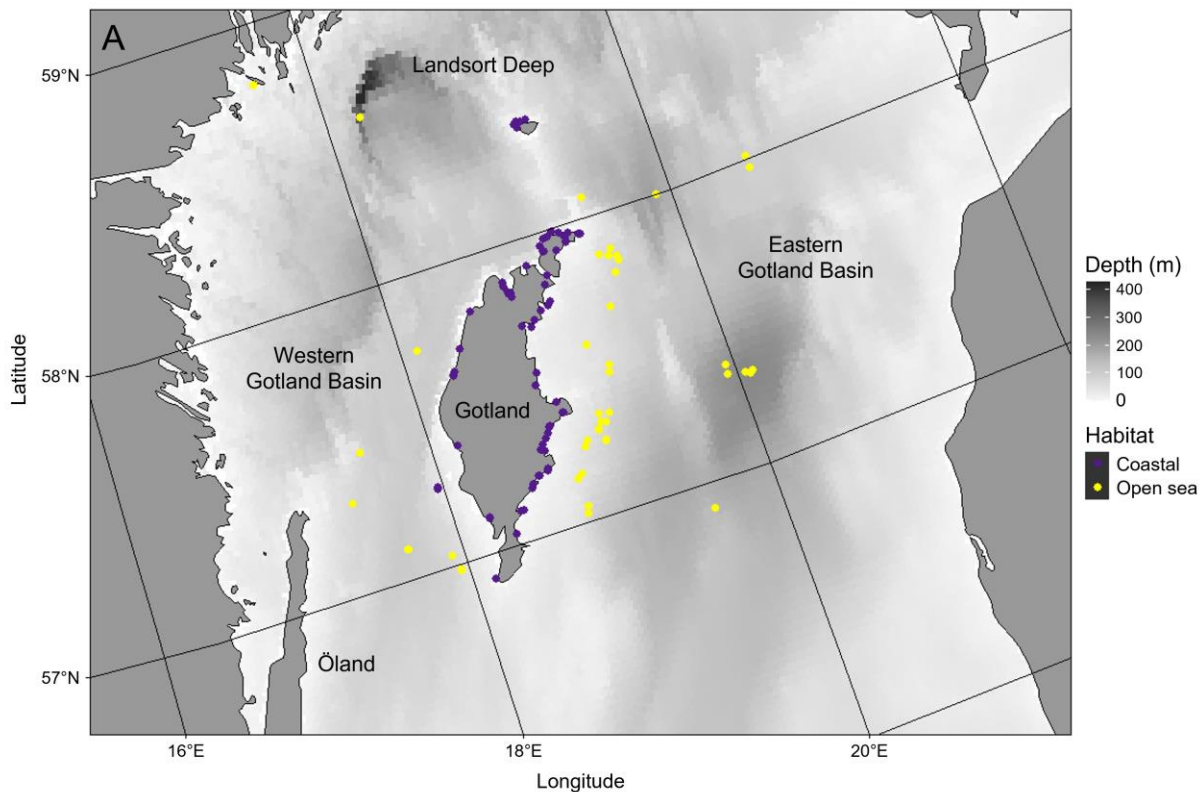
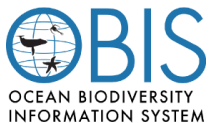




Seagrass-associated fish fauna monitoring around Gotland in 2022



Data sources:





Rarely seen: *Cyanea capillata*
Lion's mane jelly
<https://www.mdpi.com/1424-2818/13/2/57>

Salinity range: 4–8

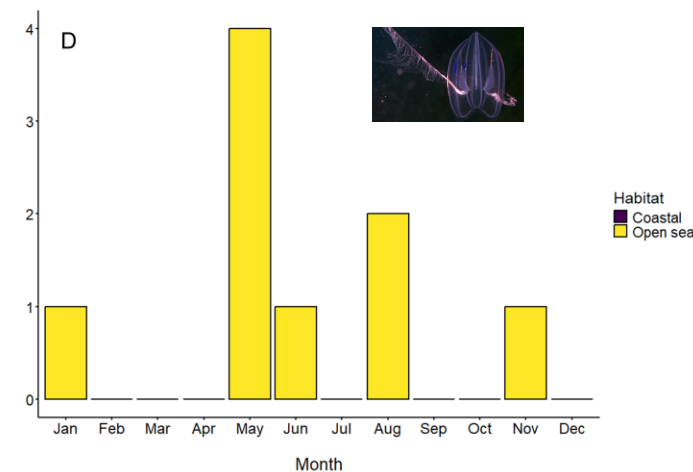
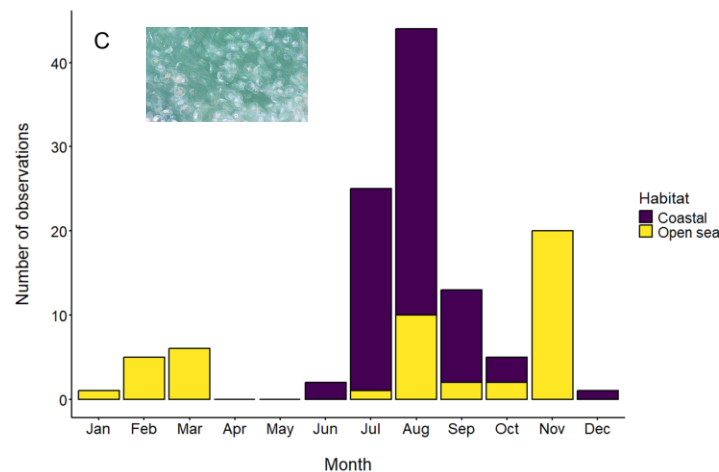
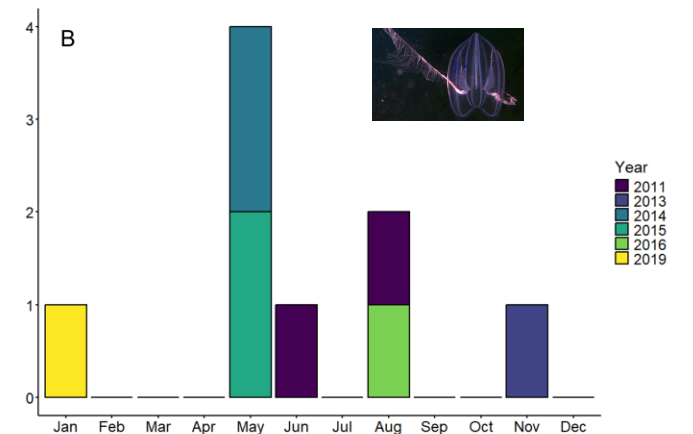
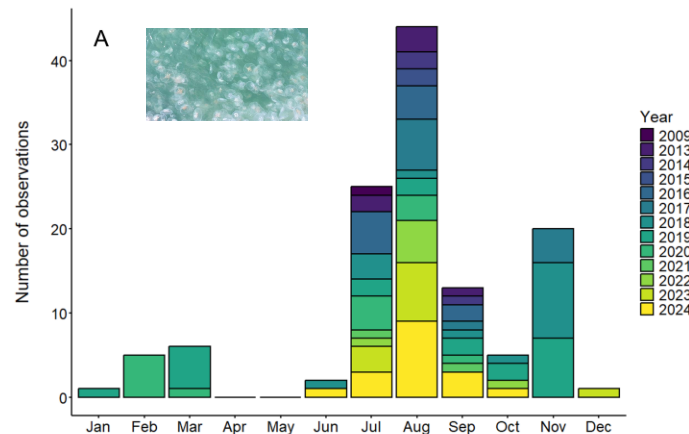
Species	Literature	OBIS	SBDI	iNaturalist®
<i>Aurelia aurita</i> (Linnaeus, 1758)	×	×	×	×
<i>Cyanea capillata</i> (Linnaeus, 1758)	×			
<i>Mertensia ovum</i> (Fabricius, 1780)	×	×	×	
<i>Mnemiopsis leidyi</i> A. Agassiz, 1865 *		×	×	
<i>Pleurobrachia pileus</i> (O. F. Müller, 1776) *		×		

Misidentifications?

Missing of entire groups:

- Cubo- and hydromedusae
- Siphonophores
- Thaliaceans

- Seasonality of observations
- Most observations are when most people are at the beach or on the water
- But: jellies are recorded year-round
- Arctic comb jelly is less often seen than moon jelly, and only in the open sea

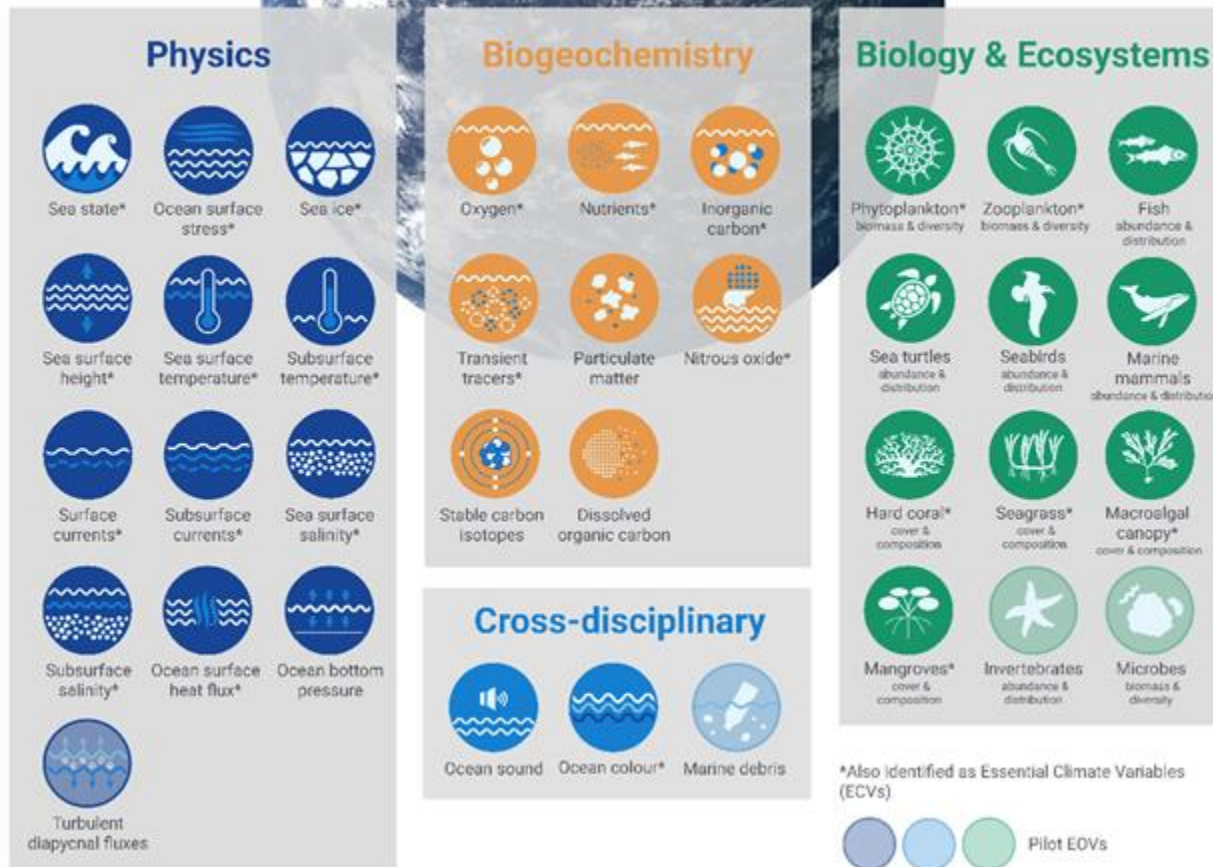


There is very little data available!

- One part of the solution: the data must flow!
- Findable, Accessible, Interoperable, and Reusable (FAIR)
- The desk drawer is not the right place
- The Essential Ocean Variables (EOVs) also contribute to global assessments...



Essential Ocean Variable (EOV): Zooplankton biomass and diversity ... including jellies!



Establishing pathways in the Ocean Biodiversity Information System (OBIS) to enable FAIR data

Integrating GZ Data in EOVS

1

Data Collection

Collecting data with FAIR principles in mind is easier than you might think, and will ultimately lead to more GZ observation data becoming available. You can start by including the following in your data collection:

EOV Sub-variables

- Biomass
 - Total and/or per taxon, per unit volume or per unit area of water
- Abundance
 - By taxon, per unit volume per unit area water

FAIR data

- Date YYYY-MM-DD
- Time HH:MM:SS
- GPS Coordinates: decimal degrees
- Record sampling methods & devices

Go a step further by including EOV Supporting Variables and Environmental Variables!
See EOV specification sheets for details

2

Data Formatting

After data collection consider formatting data according to international biodiversity standards (e.g., Darwin Core). See some general guidelines below

Formatting

- Steps to **organise** data can include:
- Use standard names for data columns
 - Arrange species presence in rows (instead of columns)
 - Separate data into thematic tables
 - Location information (coordinates, depth, location name, country, etc.)
 - Species presence
 - Variables measured, sampling devices, protocols

Interoperability

- Use **controlled vocabulary** with URLs to make data machine-readable. Include **identifiers** for taxa, biological observations, people, etc. when possible
- Ensure data are connected to standard definitions
 - Increase user understanding
 - Make data origins easily traceable
 - Allow other computers to connect to & read data

Data do not have to be perfectly organised
See manual.obis.org for detailed guidance

Get help from members of the OBIS network

3

Publish FAIR Data

Publishing your data in a FAIR way will:

1. Make it easily discoverable,
2. Make it easier to cite with e.g., DOIs
3. Contribute to our global understanding of marine life

How to do this?

There are a few ways to ensure data will be FAIR. The easiest is to connect with an OBIS Node who will help you.

Why publish with OBIS?

- User-friendly online publishing platform (IPT) for file uploads
- Built-in tools to map data columns to Darwin Core standard
- Simple form-based entry to record dataset metadata
- Once data are public, become part of the global OBIS database

4

Use & Access Open Data

OBIS data are freely accessible and offer:

- Standardised marine biodiversity data from thousands of datasets
- Species presence & absence data
- Data in point, polygon, or line transects
- Abundance, biomass, & other biotic information
- Information derived from DNA, tracking, acoustic, & imaging data
- Sampling information & metadata describing datasets

Use

Access

Access these data through:

- obis.org
- R package robis
- Full data exports

We need to think new when it comes to monitoring!

Combining least-invasive sampling methods for gelatinous zooplankton monitoring

- Aim to Replace, Refine, and Reduce (3R) the impact
- Application of emerging technologies

Environmental DNA (eDNA)

Platforms of Opportunity (e.g., Destination Gotland)

Community Science

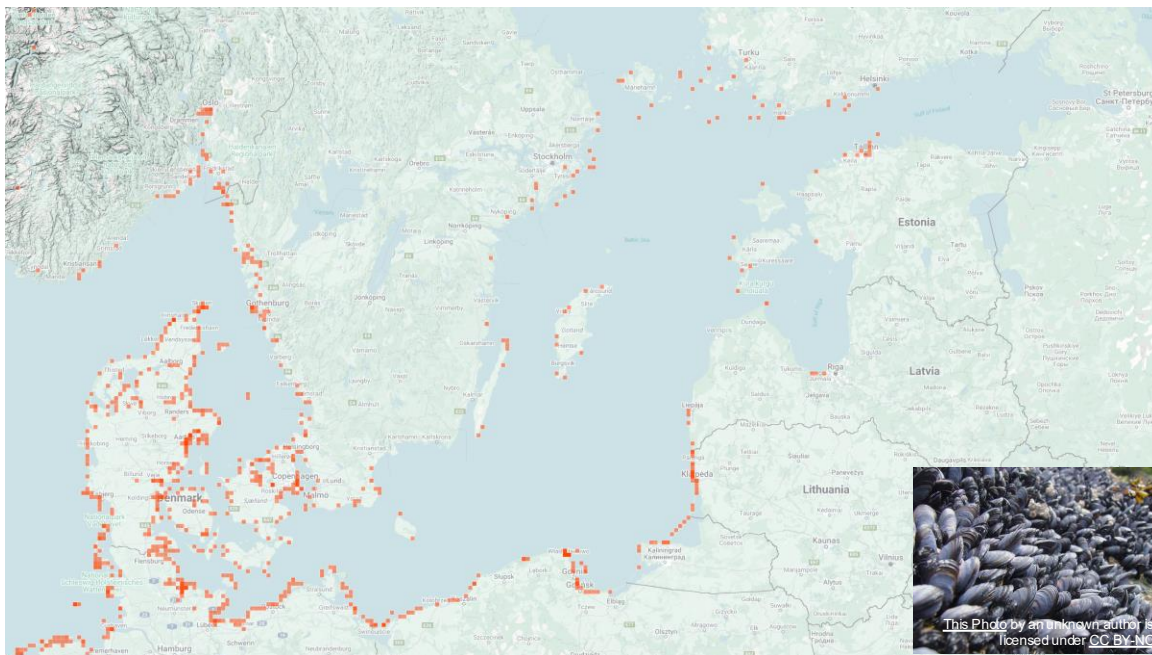


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Community science




iNaturalist search for
Mytilus edulis complex
(access: 3 March 2025)



Credit: Ian networks

Community science

➤ BioBlitz planned for June and August 2025



Gotland Marin BioBlitz

About

Members 4

Gotland Marin BioBlitz is a project that focuses on the underwater biodiversity around the largest island in the Baltic Proper - the Swedish Gotland - via a BioBlitz campaign in summer 2025. Read more about the project at bioecoocean.org/marine-bioblitz-gotland.

Know more >

Only members of the project


Project diary

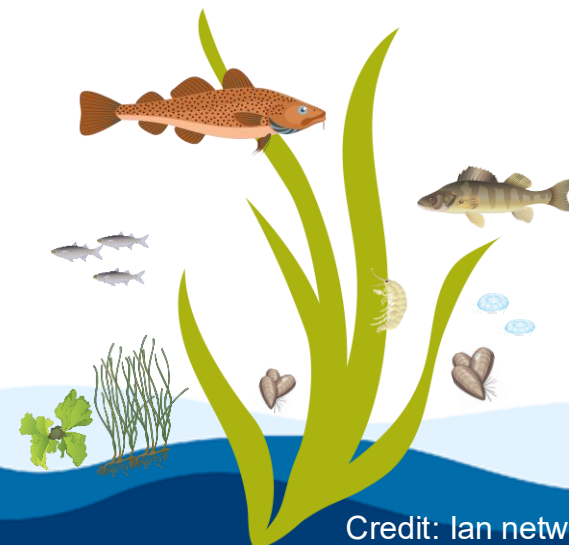
Overview 5 REMARKS 3 SPECIES 2 IDENTIFIERS 1 NOTE

Statistics

Recent comments →

See all





Credit: Ian networks

We need to think new when it comes to monitoring!

Combining least-invasive sampling methods for gelatinous zooplankton monitoring

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Environmental DNA (eDNA)

Platforms of Opportunity (e.g., Destination Gotland)

Community Science

Remotely operated vehicles (ROVs) and drones

Snorkelling and Diving

Social Media Data Mining (SMDM)



https://www.livcamerastore.com/chasing-f1-fish-finder-drone-underwater-fishing-camera?gad_source=1&gclid=Cj0KCQAw0e8BhC0ARuAGMeD54U8A4uHqBcbEiC1aHf1HrBmJGONtLb-VsFpmzX13L_K1BwvACEALw_wcB



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Where do we go from here?

- Data need to be available to advance our understanding of the ocean (incl. jellies!)
- Make your data FAIR
- We encourage everyone to think and act outside their comfort zone if we are going to achieve change



Credit: Ian networks



Contact: Florian Luskow
florian.luskow@geo.uu.se
 BlueSky: [@fluskow.bsky.social](https://bsky.social/@fluskow)



Jellyfish and Ctenophores Around Gotland in the Baltic Sea – Local Data Contributing to Global Assessments





Contact: BioEcoOcean@uu.se



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