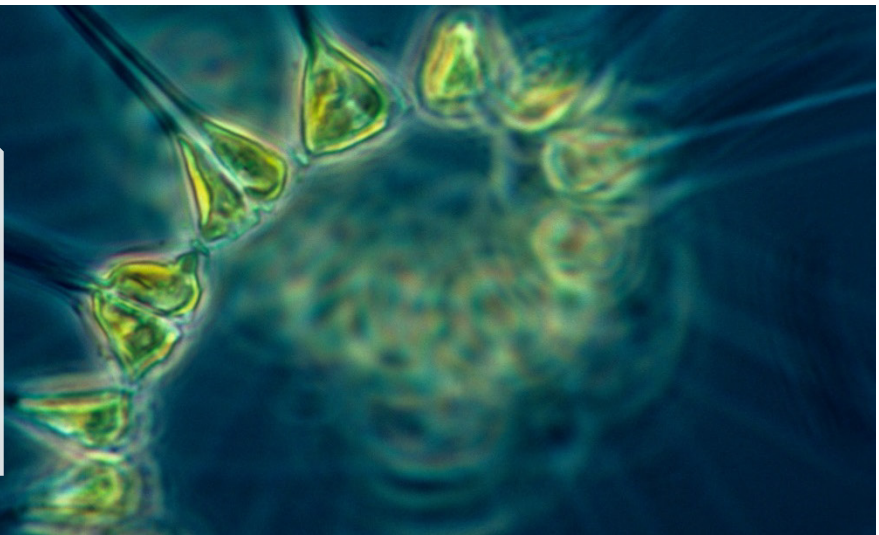


# Plankton

## ESSENTIAL CLIMATE VARIABLE (ECV) FACTSHEET



### ECV IN BRIEF

**Domain:** Ocean  
**Subdomain:** Biological/Ecosystems  
**Scientific Area:** Biosphere  
**Products:** Phytoplankton  
 Zooplankton



### Plankton

Plankton are at the base of the marine food web and generally not fished by humans. Changes in the plankton will have impacts on the rest of the marine ecosystem including on the carbon cycle, living marine resources used by humans and threatened marine species including apex predators. Climate variability significantly impacts plankton in the ocean, both the microflora (phytoplankton) and the microfauna (zooplankton), over both short and long timescales.

### ECV Product<sup>1</sup>

PRODUCT	DEFINITION	REQUIREMENTS				
		FREQUENCY	RESOLUTION	REQUIRED MEASUREMENT UNCERTAINTY	STABILITY	STANDARDS/ REFERENCES
<b>Phytoplankton</b>	Diversity: # species per unit sample Biomass: weight by volume (mg/l)	Requirements under assessment by GOOS Biology & Ecosystems Panel (as of 2018)				
<b>Zooplankton</b>	Diversity: # species per unit sample Biomass: weight by volume (mg/l)	Requirements under assessment by GOOS Biology & Ecosystems Panel (as of 2018)				

### Data Sources<sup>2</sup>

- ▶ Continuous Plankton Recorder Survey (CPR)  
<https://www.cprsurvey.org/data/our-data/>
- ▶ International Group for Marine Ecological Time Series  
<https://igmets.net/>

<sup>1</sup> Current Products and Requirements as in the Implementation Plan 2016 (GCOS-200). GCOS is reviewing and will update the requirements until 2022. More information on: [gcos.wmo.int](http://gcos.wmo.int) and [climatedata.wmo.int](http://climatedata.wmo.int).



- ▶ Phytoplankton Time Series  
<https://www.st.nmfs.noaa.gov/copepod/time-series/index-pts.html>
- ▶ Ocean Biogeographic Information System (OBIS)  
[www.iobis.org](http://www.iobis.org)
- ▶ Global Ocean Ship-based Hydrographic Investigations Program (GO-SHIP)  
<http://www.go-ship.org/DataDirect.html>
- ▶ OceanSITES  
<http://www.oceansites.org/data/>

## Global Map of Zooplankton

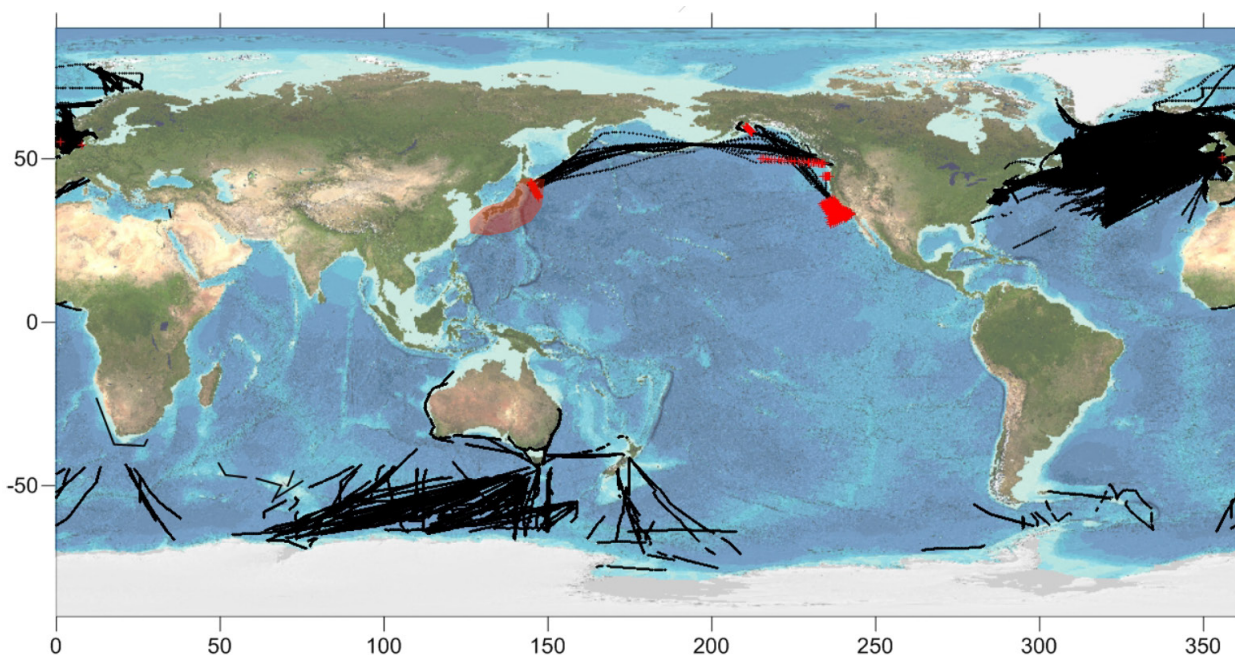


Figure: Global map of current zooplankton observations. Black points show CPR samples, red points indicate long term zooplankton sampling stations that could provide diversity measurements (note that this map is incomplete with regard to zooplankton monitoring stations).

Data source: <https://www.cprsurvey.org/data/our-data/>

<sup>2</sup> This list provides sources for openly accessible data sets with worldwide coverage for which metadata is available. It is curated by the respective GCOS ECV Steward(s). The list does not claim to be complete. Anyone with a suitable dataset who would like it to be added to this list should contact GCOS.



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