

International Open Data Practices & DOORS Harmonization Manual

Introduction to EOVs for physical and biogeochemical parameters

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EOV - Essential Ocean Variable

The EOVs are defined by GOOS

<https://goosocean.org/what-we-do/framework/essential-ocean-variables>

There are 4 types of EOVs

- Physics – Biochemistry - Biology and Ecosystems – Cross-disciplinary (including human impact)

IOC, WMO and EuroGOOS data policy :

- Physics EOV are core variable that should circulate freely

GOOS EOV – controlled vocabularies

GOOS does not provide EOV controlled vocabularies

Funded by Fair-Ease project, the NVS created and manages the **EXV** vocabulary : Essential Variables

- <https://github.com/nvs-vocabs/EXV>

Labels are based on the WMO, UNEP, ISC, IOC-UNESCO 2022 GCOS 245 report: The 2022 GCOS ECVs Requirements (<https://library.wmo.int/idurl/4/58111>)

EOV data management – Copernicus agregator

Copernicus Marine service in situ produces global ocean EOV products

- <https://marine.copernicus.eu/about/producers/insitu-tac>

The delayed mode EOV products are updated every 6 months, each product is homogeneous with:

- Quality control performed by scientists
- Copernicus Marine in situ NetCDF format
- Fully documented
Product User Manual (PUM), Quality Information Document (QUID), Synthesis Quality Overview (SQO)
- DOI for traceability

EOV parameters	copernicus marine product doi	catalogue ID
subsurface temperature and subsurface salinity - CORA	https://doi.org/10.17882/46219	INSITU_GLO_PHY_TS_DISCRETE_MY_013_001
subsurface current	https://doi.org/10.17882/86236	INSITU_GLO_PHY_UV_DISCRETE_MY_013_044
sea level	https://doi.org/10.17882/93670	INSITU_GLO_PHY_SSH_DISCRETE_MY_013_053
sea state - wave (height, period, direction, spectrum)	https://doi.org/10.17882/70345	INSITU_GLO_WAV_DISCRETE_MY_013_045
chlorophyll, oxygen, nutrients (nitrate, phosphate, silicate)	https://doi.org/10.17882/86207	INSITU_GLO_BGC_DISCRETE_MY_013_046
carbon	https://doi.org/10.17882/99089	INSITU_GLO_BGC_CARBON_DISCRETE_MY_013_050

EMODnet chemistry produces regional BGC EOV products

- <https://emodnet.ec.europa.eu/en/chemistry>

The delayed mode EOV products are regularly updated (2, 3 years)

The BGC EOVs are found in the « Eutrophication and Acidity » products

EOV data management from an observation network

Argo data management is documented on
<http://www.argodatamgt.org/Documentation>

Data processing chain to decode, perform RT QC and NetCDF format
<https://doi.org/10.17882/45589>

For each EOV, there is a cookbook that documents the data processing, how to calculate the parameter from distinct sensors.

For each EOV, there is a quality control manual to document the real-time(automated) and delayed mode QC (scientific adjustments).

We build on this strong expertise to manage Glider data

International marine data initiatives and regional partnerships

Thank you for your attention

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