

## PLOCAN Observatory Data Policy

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# PLOCAN OBSERVATORY DATA POLICY

## THE PLOCAN OBSERVATORY

The PLOCAN observatory consists of four components that contribute to a broad range of coastal and regional sampling missions and services:

- Coastal observing system: coastal component, expandable, permanent observing system, that will also serve as instrumentation test-bed; initially planned for depths ranging from 20m to 600m
- Open-ocean deep water observatory: regional component, located 60 miles north of the archipelago in 3670m water depth (a.k.a. ESTOC site).
- Offshore platform observing system (2021): coastal, located on the platform physical structure, observes seabed, water column, ocean surface and atmosphere
- Mobile observing system: coastal, regional and global observation missions including the characterization of the Atlantic Ocean. The fleet also serves for external support in national and international initiatives

## INTRODUCTION

In order to contribute to better and faster knowledge of the global ocean and related processes from in-situ observations, the observatory generally has a full and open data policy. For greater efficiency, broadest compliance and use from the scientific community and society at large, the observatory data services and data formats will generally be based on open standards<sup>1</sup>. Data will also be made available real-time whenever feasible or with minimal delays. This document covers several key aspects of the PLOCAN observatory data policy, with a focus on data services, data access, data formats including metadata, and data quality. Finally, The PLOCAN Observatory Data Policy complies with the European Directive on Infrastructures for Spatial Information<sup>2</sup>, the GEOSS Data Sharing Principles<sup>3</sup>, EMODNET data ingestion policy and more generally FAIR<sup>4</sup> principles.

N.B.:

- Some observatory data servers and services are currently at development stage or under test and may suffer changes in availability and functionality until they become fully operational
- This policy does not apply to observations which have been made solely for the purpose of the PLOCAN testbed activities, which may involve different policy aspects and criteria than those that govern the PLOCAN observatory
- This document may be modified without prior notice.

## DATA ACCESS

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<sup>1</sup> "Open standard" refers to the European Union definition. See [http://en.wikipedia.org/wiki/Open\\_standard](http://en.wikipedia.org/wiki/Open_standard)

<sup>2</sup> Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)

<sup>3</sup> Global Earth Observation System of Systems Data Sharing Principles: [http://www.earthobservations.org/geoss\\_dsp.shtml](http://www.earthobservations.org/geoss_dsp.shtml)

<sup>4</sup> Findable, Accessible, Interoperable, Reusable. For more information: <https://www.go-fair.org/fair-principles/>

## GENERIC DATA

The PLOCAN observatory is committed to provide full and open access to generic data with minimum delay to the public. The delay may be a function of the time needed for quality control (QC) to ensure data errors are properly identified and corrected or removed, and the uncertainty of measurements are properly assessed and documented. For real-time services, data quality control can sometimes be automated and may be limited to simple criteria, like those typically attributed to instrument failures, communication gaps etc. Improvements in real-time QC procedures will be implemented progressively as they become available.

On scientists request, a period of non-disclosure of data may be granted, which may not exceed six months. Minimal handling fees may be charged to users for special basic requests. Data products needing special data post-processing services may also be made available on request for minimal fees.

Data of demonstrated commercial value will generally be handled on a case by case basis.

## SENSITIVE DATA

The PLOCAN infrastructure has as its main vocation to help contribute to new developments in the ocean science and technology-related sectors. In some cases, non-disclosure of sensitive data may also be requested for a given period, for example when acquired with instruments under test, for strategic reasons, etc.

The observatory data policy is also open and may be adapted to specific requirements established in special programmes for particular types of data, such as the Integrated Ocean Drilling Program, and which may prevail on this data policy.

Data classified for security and environment protection reasons, and other exceptions as defined by the INSPIRE directive, will be stored and made available as soon as they will be de-classified. Access to classified data will be granted on request to agreed scientists

## CITATION OF DATA

Data users are requested that all data produced by the observatory are cited in reports, websites and publications with proper authorship, in agreement with common and standard practices (e.g., using doi: when possible or other form of traceable acknowledgement). When data or data products are used for websites the PLOCAN logo shall be displayed. Co-authorship of publication may be requested by the owner or principal investigator of the instrument. Citation of data will at least include the Principal Investigator, and where provided the names of those who collaborated in the production of the data.

Format examples for data citation:

Cianca, Andrés; LÍnas, O., (...) (2019): Oceanographic data from 2013 to 2014 at ESTOC station, PLOCAN Observatory. doi:10.1591/PANGAEA.72142 *(NB: if doi is available)*

Barrera, Carlos; Morales, Tania; Moran, Rayco, (...). (2019): Salinity data obtained from PLOCAN gliders from in 2014 at ESTOC site, PLOCAN Observatory. *(NB: Add URL to dataset or data portal if available)*

In addition the following citation must be added:

E. Delory, J. Hernández-Brito and O. Llíneas, "The PLOCAN observatory: A multidisciplinary multiplatform observing system for the central-eastern Atlantic ocean," OCEANS 2011 IEEE - Spain, Santander, 2011, pp. 1-6. doi:[10.1109/Oceans-Spain.2011.6003593](https://doi.org/10.1109/Oceans-Spain.2011.6003593)

## DATA CURATION

Data curation is a core and potentially intensive day-to-day background activity of the data management process, and as such needs to be optimized in order not to overload the organization with unnecessary products. The activities and products of the PLOCAN observatory data curation process have been chosen on scientific and technical criteria mainly, focusing on guaranteeing exploitation of data across time and disciplines without the need to interact with the data producer. This implies the standardization of data and metadata formats, documentation of data quality, and long-term accessibility through proper archiving system, requirements which are in agreement with the INSPIRE directive and the GEOSS.

## DATA FORMAT AND METADATA

In order to warrant data discoverability and traceability, data formats, metadata and ontologies are based on open and globally adopted standards, wherever applicable.

## DATA QUALITY

Data quality control (QC) and sensor-related metadata including sensor quality assurance (QA) procedures and history are mandatory and documented based on open standard practices when available. QA/QC is a requirement for data release and the responsibility of the principal investigator or owner of the system, instrument or sample collector that acquired the observations and fed the data to the servers.

## DATA ARCHIVAL

All data are secured on a long-term archiving system. Data are stored in an open and self-descriptive format.

## GLOSSARY

This glossary is meant to describe in as much detail as possible the concepts that have been addressed or underpin the data policy content. It is intended for the organization internal activities and persons in charge of implementing them, but may also be useful to a broader audience for understanding of the coverage of this document.

**FAIR:** Findable, Accessible, Interoperable, Reusable

**Generic/basic data:** Excludes data classified for security and environment protection reason. In specific and exceptional cases, data of high strategic interest may be excluded from this category for a limited time period.

**Observatory data:** include:

**Ocean physical data:** Temperature, salinity, light transmission or attenuation, currents, waves, pressure, sea level, and sound speed.

**Ocean chemistry data:** Nutrients such as phosphates, nitrates, nitrites and silicates; chemical tracers such as helium, tritium, freon and argon; pollutants such as petroleum hydrocarbons, organochloride and organophosphorus pesticides, polychlorinated biphenyls (PCBs) and heavy metals. Carbon dioxide, pH. Data may represent chemicals in water samples or biota.

**Ocean biology data:** Primary productivity; concentrations of pigments in phytoplankton, such as chlorophyll-a; species lists; biomass of phytoplankton, zooplankton, benthos and nekton; and bioluminescence.

**Meteorological data:** Air temperature, sea-surface temperature, dew point temperature, pressure, wind speed and direction, wind and swell waves, weather, short- and long-term radiation, visibility, cloud cover and type, and ice accretion.

**Geophysical, geological and geochemical data:** bathymetry, magnetics, gravity, seismic and other quantitative geophysical data; geological data including station locations, collection/storage locations, preliminary descriptions of seafloor samples recovered, and all descriptions and analytical data, including geochemistry, derived from sediment and rock samples, including data from and for the Integrated Ocean Drilling Program (IODP)

#### **Open standards and common practices:**

Data format: UNIDATA NetCDF (ESTOC data comply with the NetCDF Oceansites profile, Glider data comply with netCDF EGO profile)

Data metadata: ISO 19115, ISO 19139, Climate and Forecast (CF) metadata conventions

Services: Unidata OPENDAP/THREDDS , ERDDAP (under development)

Other formats are under development

## **MORE INFO**

- **Data portals**
  - [Observing platforms](#)
  - [Fixed Metocean platforms \(SIBOY\)](#)
  
- **Data services**
  - [THREDDS server](#)
  - [GIS Server \(PLOCAN Test Site information shared via WMS services, under request\)](#)

PLOCAN web site: [www.plocan.eu](http://www.plocan.eu)

PLOCAN Observatory e-mail: [observatory@plocan.eu](mailto:observatory@plocan.eu)

## **TERMS AND CONDITIONS**

Except where otherwise noted (see the [Data access](#) section of this document), PLOCAN observatory data is licensed under the Creative Commons Attribution 4.0 International License (CC BY 4.0)



For more information:

<https://creativecommons.org/licenses/by/4.0/>