

ECOLOGICAL observing System in the Adriatic Sea: oceanographic observations for biodiversity

Priority Axis 3: Environment and Cultural Heritage

Specific Objective 3.2: Contribute to protect and restore biodiversity

D5.4.1 Report on data policy for the ECOSS project

WP5 – Design and implementation of data infrastructure

A5.4 – Open science approaches for full reuse of information

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1. Introduction

The ECOlogical observing System in the Adriatic Sea (ECOAdS) is the main output of ECOS project. It is intended to integrate existing and new data and results from ecological and oceanographic research and monitoring programs with Natura 2000 conservation strategies. The purpose of ECOAdS is to support all stakeholders involved in marine conservation at regional, national and transnational levels, by providing data and tools to analyze and visualize data needed to address the conservation issues. As such, the ECOAdS aims to reach an audience as broad as possible, and to provide the audience with meaningful and easy to interpret data and results.

To support this aim, this document sets out a policy for maximizing discoverability, accessibility, and reuse of outputs available through the ECOAdS web portal (<https://ecoads.eu>) and other results of ECOS project. The primary concern is striking a balance between ownership rights of data providers and the need to provide the end users with outputs according to “Open science” principles, in accordance with various strategies and directives at EU level. Therefore, this document focuses primarily on data policy and licenses that will enable end users maximum access to the needed data and tools, without compromising the terms and conditions under which the data are provided to ECOAdS. In doing so, this data sharing policy aims to reflect the spirit of Open science principles, while aligning to applicable international policies and laws.

Other relevant documents

This report is meant to be used in conjunction with other documents produced within the ECOS project. These are available at ECOS project website (<https://www.italy-croatia.eu/web/ecos>). The most relevant documents are:

D5.1.1 – Report on data/information availability and infrastructure/tools requirements

2. Terms

Below, the terms used throughout this document are listed, together with their definitions:

End User – any natural or legal person who accesses or downloads the Data assets or Source code from ECOAdS web portal, or views or downloads the project outputs from the ECOS website

ECOAdS Database – a database holding data provided for the purpose of ECOAdS by the ECOS project partners or Data contributors

Data Asset – any raw or edited data and related metadata or results of analyses and visualizations of the data that are made available to End Users via ECOAdS, either as single data record or a set of data records.

Data Contributor – natural or legal person who owns data and makes it available through ECOAdS web portal

Data Format – this defines a format in which data accessible through ECOAdS is transferred to End Users.

License Agreement – an agreement between ECOS project and Data contributors or End users on terms and conditions under which Data assets and Source code are shared

Data source – any external source from which ECOAdS pulls data and information and makes it available to End Users, subject to License Agreement with Data contributor

Source Code – The source code of tools and services for data editing, analysis, selection and visualization, developed for ECOAdS within ECOS project and available in the form of open source software

3. Logical framework and scope

Logical framework

To conform with the primary aim of ECOAdS to provide the End Users with easy access to relevant ECOSSE project outputs according to Open Science principles, the definition of what can be shared shall be made between ECOSSE project and Data Providers. End Users shall then have an access via ECOAdS to those Data Assets defined as accessible to them.

Therefore, this report concerns the data sharing policies for a two-step process:

1. Contribution of data by other sources (Data Contributors) for integration into ECOAdS
2. Sharing of ECOSSE project outputs
 - a. Data Assets available at ECOAdS web portal
 - b. Source Code developed in ECOSSE for the ECOAdS web portal
 - c. Project deliverables available at ECOSSE website

Project outputs available through ECOAdS web portal

These are Data Assets available to End Users through ECOAdS web portal, and Source Code developed in the ECOSSE project. The policy for contribution to these project outputs is detailed in Chapter 4. The policy for sharing and use of these project outputs is detailed in Chapter 5 and Chapter 6.

Project deliverables available through ECOSSE website

These are publicly available reports, studies, reviews and promotional materials produced within the ECOSSE project and available at www.italy-croatia.eu/ecoss in Pdf format. The policy for sharing and use of these project outputs is detailed in Chapter 7.

4. Contribution of data policy

General conditions

Data contributors can be natural or legal persons who have right to grant access to their respective Data assets to a third party, in this case to the ECOS project for the purpose of implementation and sharing the Data assets through the ECOAdS. The Data contributors are usually data originators, organizations they are affiliated to or agencies that fund the work that produced the Data assets.

The Data sharing policy of ECOS project acknowledges the right of Data contributors to define the terms and conditions under which the data from their respective Data source are provided to ECOAdS and further shared with End users. Data contributors are encouraged to provide unrestricted access to their Data assets whenever possible and to use standard Creative Commons licenses for their sharing. However, this is not always possible due to existing internal data sharing policies of Data contributors. It is therefore desirable that Data contributors precisely specify which restrictions apply to access their respective Data assets, and that these restrictions are applied before the End Users access the Data assets available through ECOAdS web portal. As ECOAdS is foreseen to integrate various existing Data sources, the access restrictions shall be defined individually with each Data contributor, where access policies and licenses are not already in place for the Data assets. For this purpose, individual License agreements may be used which will clearly define what parts of Data Assets will be accessible through ECOAdS.

To increase the discoverability of ECOAdS, it is advisable that individual agreements with Data contributors also include reciprocal linking, e.g., web portals of Data contributors also include a hyperlink to ECOAdS web portal.

Costs

In the spirit of Open science principles, and to ensure long-term sustainability of ECOAdS, no cost shall be incurred by either party for contributing the data to ECOAdS, regardless of other terms and conditions defined agreement between the ECOS and Data contributors.

Quality

The Data contributors are sole bearers of responsibility for the quality and accuracy of Data assets shared with ECOAdS.

Liability

The Data contributors will not be held liable for misuse or misinterpretation of Data assets provided by them, either by ECOAdS managing team or by End users.

5. Data assets sharing policy

General conditions

As a general rule, once the Data Assets that can be shared via ECOAdS are defined between Data Contributors and ECOS project, these will be provided to End Users according to Open science principles, non-discriminatory, free of charge, without liability for consequences that the use of Data assets may result in, and in an open and standard Data Format. Therefore, Data Assets at ECOAdS web portal are considered freely available, and End Users should only be informed about the applicable data sharing License that reflects these principles.

Open science principles

No single definition of this term exists. According to Vicente-Sáez & Martínez-Fuentes (2018) Open Science is transparent and accessible knowledge that is shared and developed through collaborative networks. For the purpose of this document, by “sharing” it is understood that open data and content can be freely used, modified, and shared by anyone for any purpose.

Non-discrimination

Regardless of End User category and the related data sharing policy applied, no discrimination in granting the End users the access to ECOSSE project outputs shall be made based on their nationality, gender, age, religion, ethnic origin, sexual orientation or affiliation to an organization.

Free of charge

Any type of data asset accessible via the ECOAdS web portal or outputs of the ECOSSE project accessible via ECOSSE website are to be provided to end users free of charge. Free of charge means that no payment will be required for downloaded content and the use of it thereafter. However, the costs that the end users may incur related to internet access and data transfer required for access to ECOAdS are not the liability of ECOSSE project, its partners, or the owner of ECOAdS.

Liability

Data Assets are provided through ECOAdS web portal “as is”. ECOSSE project, project partners and Data Contributors cannot be held responsible for quality and accuracy of Data Assets, misuse and misinterpretation of Data Assets by the End Users, or any consequences arising from the use of Data Asset by the End Users.

Data Format

In order to maximize the usability of Data Assets, these shall be provided in an open and standard format that is widely used and freely available. The links for download of software needed for manipulation of the used Data Format shall be listed on the ECOAdS web portal.

GDPR

According to Article 13 of the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 (GDPR – General Data Protection Regulation) on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, the processing shall be based on the rule of fairness, legality

and transparency for the safeguard of privacy and rights. To conform with this Regulation, the End users which are natural persons will, for the purpose of registration, have to agree to GDPR policy of ECOS project. Therefore, the technical solution for registration on ECOAdS web portal will need to have functionality to display the End users the GDPR policy of ECOS project and offer an option to agree with it.

Data assets sharing policy

As the definition of what is available through ECOAdS is to be made at the data contribution step (Chapter 3), the End Users shall have access via ECOAdS only to those Data Assets defined to be openly accessible. As such, all Data Assets accessible via ECOAdS shall be shared under a common sharing policy. To facilitate the access to Data Assets, the End Users shall be only notified of the sharing policy when viewing and downloading the Data Assets. The sharing policy shall also be included into metadata of the downloaded Data Assets.

Some basic elements that mirror the Open science principles can be envisaged on the principles at the core of the sharing policy:

1. The Licensor (ECOS project, e.g., its representative) grants the Licensee (End user) the right to retrieve and use Data Assets available at ECOAdS web portal in accordance with the sharing policy.
2. The Data Asset may be data, either as single data record or set of data records, result of data analysis or visualization, or Source code to run the data analysis or visualization.
3. The Data assets are provided free of charge.
4. The Data assets are provided in standard Data Format that can be read by freely available software packages.

5. The Licensor and the Data Contributors are not to be held liable for correctness of data held within the Data Assets, or for the use and interpretation thereof by the Licensee.
6. Licensee has right to use the Data assets for any purpose, provided the source of Data is acknowledged.
7. Licensee is required to inform the Licensor of any problems encountered in using the Data assets.

Implementation of Creative Commons licenses

To facilitate the access to Data assets, the Open science principles listed above may be combined with a standard Creative Commons License. This brings advantage of presenting End users with a familiar and commonly used licensing scheme. Two Creative Commons licenses are candidates and considered here: CC BY and CC BY SA.

CC BY 4.0 License

Under this license, the users are free to adapt the contents and share original or adapted contents under condition that they provide attribution to Data Contributor.

To share means the users are free to copy and redistribute the contents in any medium or format.

To adapt means the users are free to edit, transform and build upon the contents for any purpose, even commercially.

To provide attribution means the users have to give appropriate credit to Data Contributor, provide a link to license, indicate if the Data assets were modified, and state that sharing does not imply endorsement by the Data Contributor.

Further details are available here: [LINK](#).

CC BY SA License

This license entails same terms and conditions and the CC BY License, except that if the contents were adapted, they must be shared under identical terms, i.e. no additional restrictions may be applied to modified Data assets.

Further details are available here: [LINK](#).

6. Source code sharing policy

The Source code of the software implemented in the ECOAdS is to be available as open source software, without any restrictions. The ECOAdS website shall contain a link to a repository from which the Source Code can be downloaded.

7. Project deliverables sharing policy

Project deliverables foreseen to be produced as defined in the project's Application Form and classed as "Public" by the ECOSSE project Steering Committee are to be made publicly available, without any restrictions under a CC-BY 4.0 license, at the project ECOSSE website (www.italy-croatia.eu/ecoss). Project deliverables shall be uploaded in Pdf format. ECOSSE project and its partners cannot be held responsible for misuse and misinterpretation of contents of project deliverables by the End users, or any consequences arising from the use of project deliverables by the End users.

ECOSSE project team is committed to regularly update the project deliverables on the website, however, the website is not maintained by the ECOSSE project. Therefore, ECOSSE project team is not responsible for eventual unavailability of the project deliverables due to technical problems with the website.

ECOSS project partners shall be committed to make available any work that includes or builds upon the outputs of the project as open access publications, either in open access journals or in institutional or domain repositories, under CC-BY 4.0 license, in order to ensure long term sustainability of results, their discoverability and unrestricted access.

8. Annexes

Source data

Following is the list of existing databases in Italy and Croatia. The details can be found in D5.1.1 – Report on data/information availability and infrastructure/tools requirements. The list can be updated as the development of the ECOAdS proceeds, and the terms and conditions of Individual data sharing policies between the ECOSS project and Data Contributors shall be defined.

1. Reporting system of the Adriatic Sea monitoring for MSFD
Managed/owned by: Institute of Oceanography and Fisheries
License: currently restricted
ECOAdS integration: no
2. Fishery database for demersal, pelagic and coastal fisheries and for aquaculture
Managed/owned by: Institute of Oceanography and Fisheries
License: not available
ECOAdS integration: no
3. Marine Environmental Database of the Adriatic Sea (MEDAS)
Managed/owned by: Institute of Oceanography and Fisheries
License: not available
ECOAdS integration: no

4. OGS-NODC
Managed/owned by: National Institute for Oceanography and Seismology OGS
License: available upon request and citing the source
ECOAdS integration: limited
5. Copernicus Marine Service
Managed/owned by: Mercator Ocean
License: available to registered users
ECOAdS integration: full
6. Dynamic Ecological Information Management System – Site and dataset registry (DEIMS-SDR)
Managed/owned by: CNR-IREA, LTER Europe, UBA, ILTER, KLIMETO
License: CC-BY
ECOAdS integration: full
7. GET-IT LTER-ITALIA
Managed/owned by: CNR-IREA, LTER Italy
License: CC-BY
ECOAdS integration: full
8. GET-IT ISMAR Venezia
Managed/owned by: CNR-ISMAR
License: CC-BY
ECOAdS integration: full
9. IFON – Italian fixed-point Observatories Network
Managed/owned by: CNR-ISMAR, CNR-IRBIM
License: CC-BY
ECOAdS integration: full
10. DEXT3R (Arpae-marefe network)
Managed/owned by: Arpae
License: Free access
ECOAdS integration: limited
11. NEURAL forecasting suite

Managed/owned by: Institute of Oceanography and Fisheries
License: Available on demand
ECOAdS integration: no

12. AdriSC (Adriatic Sea and Coasts) forecasting suite
Managed/owned by: Institute of Oceanography and Fisheries
License: Available on demand
ECOAdS integration: no

13. Delta Po Park Veneto Geoportal
Managed/owned by: Delta Po Park Veneto
License: Free access
ECOAdS integration: limited

Template questionnaire

The following is a template questionnaire available for collecting information from Data contributors about data resource to be shared through the ECOAdS.

DATA RESOURCE INFORMATION
Name
Responsible organization/institution/program
Contact person
Contact email
URL
Description
Please, describe the data resource, providing any useful information to understand its content, origin, and scope
Data sharing policy
Please, state if the data sharing policy is defined or not
Data sharing policy description
Please, provide URL if data sharing policy exists, or a short description of data sharing policy or options
Temporal extent
Spatial coverage
Geographical names (e.g., northern Adriatic, Po River delta, N2K site name, etc.)
Data format
Describe if the resource is available as a single dataset (CSV, XLS, ...), as a service, or as a complex database

Availability through standard services List available services, e.g., WMS, WFS, WCS, CSW, ...
Data type Describe if the data are raw data, quality-checked data, elaborations or derived products
Parameters List the parameters or variables measured, with their units of measure

Standard licenses

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