ECOOP IP

European COastal-shelf sea OPerational Observing and forecasting system Integrated Project

Report template: Task 9.2 V1 development (including TOP demonstration where applicable)

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ECOOP WP09 – 05.01

Deliverable no: D9.2.9.2

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Document Change Record

Author	Modification	Issue	Date
G. Broström	Final version	01	30.09.2009

1.   PUBLISHABLE EXECUTIVE SUMMARY

This document describes a template for writing the ECOOP D9.2.x.2 deliverable reports; x = [1-8], and contains instructions for using the template. The focus of the report series is

- to describe the development of the V0 system to the V1 system of various Decision support systems (DeSS),

- describe how ECOOP data are used within the various DeSS,

- if applicable, outline the experience of the model experiments during the Target Operational Period (TOP),

- Describe the path for the development of the V2 system.

2.   INTRODUCTION

2.1. Background

The overall aim of the ECOOP project is to "consolidate, integrate and further develop existing European coastal and regional seas operational observing and forecasting systems into an integrated pan- European system targeted at detecting environmental and climate changes, predicting their evolution, producing timely and quality assured forecasts, providing marine information services (including data, information products, knowledge and scientific advices) and facilitate decision support needs." WP9 addresses the final phrase, i.e., *to facilitate decision support needs*, and aims "to develop integrated marine services in support of marine environmental management in European coastal areas (EuroDeSS, European Decision Support System), based on information products generated by the ECOOP system of systems." (All quoted passages above and in the following are excerpts from the ECOOP Annex I document.)

ECOOP WP9 will design and develop elements of a EuroDeSS for the European Shelf and Coastal Seas building upon the ECOOP observational and modelling products. The specifications of EuroDeSS will be defined in collaboration between product providers, service developers and selected users. WP9 has the following specific objectives:

- To evaluate existing elements of decision support systems (DSS) operating in European coastal seas.
- To define the specifications of EuroDeSS, in collaboration with end-users and GEOSS/ GMES stakeholders.
- To develop components of EuroDeSS in selected targeted areas where elements of such systems already exist.
- To operate and demonstrate the value of EuroDeSS for the Target Operational Period (TOP).
- To evaluate the performance of EuroDeSS and assess its impact, in consultation with end users.

WP9 is organised in three Tasks:

- T9.1: EuroDeSS specifications & standards
- T9.2: Development, management and demonstration of EuroDeSS for targeted applications/areas
- T9.3: EuroDeSS evaluation including user perspectives

The present work belongs to Task T9.2, whose specific aims are:

- Develop targeted application elements of an integrated EuroDeSS according to the specifications laid down in Task 9.1.
- Demonstrate the usefulness and applicability of EuroDeSS through user-oriented demonstrations in a representative range of European coastal areas.

The targeted application elements are: marine security (including support to marine oil spill response and search-and-rescue), ecosystem health and fisheries assessment. Eight regional demonstrations are included to represent a range of European coastal areas:

1. Marine security (oil spill and search-and-rescue support) in the northern North Sea
2. Ecosystem health in the North Sea

3. Marine security and Ecosystem health in the Aegean Sea
4. Marine security in the Iberian coast and the Western Mediterranean
5. Ecosystem health in the Bay of Bothnia
6. Oil-spills forecast in the Levantine
7. Ecosystem health in the Adriatic
8. Fisheries assessment in the North Sea

Task T9.2 builds on the existing applications that the partners bring into ECOOP. These systems will be developed towards EuroDeSS according to the methods and technology specifications emerging from T9.1 and will utilise data products from EuroMISS (European Information System of Systems). A close coordination with EuroMISS development in WP8 is necessary. Key technologies are expected to include standardised formats for data exchange and OGC-compliant web-services for data and information dissemination.

Through the development, implementation and testing of the targeted application elements, T9.2 will lay the foundation for an assessment of the benefits of ECOOP products for coastal ocean users (cf. T9.3). In addition, it is expected that the EuroDeSS methodology developed will be ready for relocation to other areas and to other marine decision support applications.

2.2. Purpose of this report

The primary purpose of the report is to provide a roadmap for the description, development and implementation of the EuroDeSS elements for the different target applications. It will help the Subtask teams in 9.2 to format the final report describing the V1 DeSS, the experience gained during the TOP (where available), and a plan for the development to the V2 system.

3.   OUTLINE OF THE FORMATTING

This manual will describe the formatting in two ways

- As an example described in Appendix A where the report for 9.2.1.2 is used as an example.

- The main description of the formatting as outlined in this section

In the example document we use

- yellow text to indicate instructions that should be removed, and

- red text for text that requires editing to the specifications for each report.

- Text without colour coding is general and may be used in each report. However, the text can be removed or altered depending on the scope of each report.

- … three dots implies that more text should be written.

In the following subsections we will describe the theme of the report and what we suggest to be included in the report.

3.1. Sections

An important aspect of the work in T9.2 is to identify the pre-ECOOP V0 versions of the system, and to provide a roadmap for the development of a working ECOOP standard of the DeSS systems, here called the V1 system. Accordingly we argue that the V0 system should be discussed to some degree (however, as the V0 system and the roadmap to the V1 system was described in a previous report it is not necessary to describe the V0 system in detail), and that the implementation of the V1 system should be described. For those partners who where involved in the TOP period, the experience from the TOP should be outlined. Finally the plans for development to the post-ECOOP (V2) system should to be outlined. This can for example be considered in section 3, or in the discussion section. We suggest the following sections for the report:

Executive summary: This is just what the title indicates – a summary that can be independently published. Max ½ page.

Introduction: i) Provide an introduction to the ECOOP project (you may use the text in the appendix). ii) Give the background to your DeSS and describe the specific role of your DeSS in ECOOP (this should be specific for each DeSS). iii) Give some brief description of the organisation of the report.

Development of the system: i) provide a general overview of the DeSS, and a brief description of the V0 version of the system. ii) Describe the development to the V1 system (as was outlined in the previous report), describe what data that are used in the DeSS, and outline how ECOOP data is used in the DeSS. iii) Describe what data that is produced by the DeSS, and who will use these data.

Demonstration: The report should include a demonstration of the system. It is also useful to include the background for the demonstration.

Discussion: Finally the report should include a discussion where the role of ECOOP is described. The development to the V2 system may be discussed here.

Each DeSS is of course free to change the sections and the structure of the sections to fit each DeSS. However, it is important that WP9.2 provides a uniform reporting interface toward ECOOP, and toward the users of the DeSS. An example using the met.no DeSS in 9.2.1 is shown in the appendix, and in this report we use the following structure.

1. Executive summary

2. Introduction

    a. General overview

    b. Background to S9.2.1

    c. Organisation and intended readership

3. System description

    a. MET-NO oil spill fate forecast system

        i. DeSS summary and the V0 system

        ii. Forcing data needed by the system

        iii. Development to DeSS applicationV1 system

        iv. Interfacing the ECOOP systems

        v. Products delivered

    b. NERSC system

4. Demonstration

    a. MET-NO oil spill fate forecast service

        i. Background to the demonstration

        ii. Outline of the weather and ocean forcing

        iii. Oil spill scenarios

        iv. Results from the demonstration

    b. NERSC system

5. Discussion

    a. Roadmap for the V2 system

6. References

3.2. Text formatting

The word formatting is based on the using

- Heading 1 is used for section heading.

- Heading 2 is used for sub-section heading.

- Heading 3 is used for sub-sub-section heading.

- Texte 1 is the standard mall for normal text.

- Texte 1 is also used for table text, figure text, and references.

- Note that the headings are formatted using field codes, and that the field describing the list of contents needs to be updated.

3.3. References

References should be written according to the standard defined by the EuroGOOS extended abstract series. Below are some examples of the formatting

Broström, G., K.H. Christensen, and J.E. Weber (2008). A quasi-Eulerian quasi-Lagrangian view of surface wave induced flow in the ocean. *J. Phys. Oceanogr.* 38, 112-1130.

Dahlin, H., N.C. Flemming, P. Marchand, and S.E. Petersson (eds.) (2006). European Operational Oceanography: Present and Future, Proceedings of 4th EuroGOOS Conference. EuroGOOS Office and European Commission, 822-829.

Phillips, O.M. (1977). The dynamics of the upper ocean. Cambridge University Press, Cambridge, 336 pp.

Ryder, P. (2007). Sustainable Marine Environmental Information Services to Meet Collective European Needs, EuroGOOS Publication no. 26, EuroGOOS Office, 36-38.

4.   CONCLUSION

This report contain suggestions for formatting the ECOOP 9.2.x.2 report series, where x=1:8 represents the different DeSS in ECOOP WP9.2. We argue that each DeSS should follow these guidelines as close as possible such that WP9.2 will provide a uniform interface to ECOOP management, ECOOP collaborators, and users of the EuroDeSS outlined by ECOOP WP9.2.