



## *Deliverable D3.7*

# *MANIFESTS Exercise tool*



*Centro Tecnológico del Mar – Fundación CETMAR*



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Protection

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# 1. Introduction

*Marine pollution accidents involving Hazardous and Hazardous Substances (HNS) can lead to the formation of toxic, flammable and even explosive clouds that can put crew, responders, coastal civilians and the environment at risk.*

*The objective of the MANIFESTS Project (funded by the Directorate-General for European Civil Protection and Humanitarian Aid Operations, or DG-ECHO) is to address such incidents and strengthen response capacities by creating decision support tools and operational guidelines, as well as facilitating access to existing knowledge on these types of substances.*

*Specifically, work package 3 aims to enhance training capacities and develop key resources and methodologies for the formulation of training exercises of different scale, complexity and phases of intervention.*

*Marine pollution exercises emulate emergencies with the aim of training and testing the procedures, resources and/or response teams included in the contingency plans and thus improve the ability to respond to marine pollution accidents. After the exercise, an evaluation is carried out and recommendations are issued to improve plans, the availability of resources or staff training.*

*As part of WP3, CETMAR has developed an application for the formulation of exercises called "MANIFESTS Exercise Tool" whose main objective is to provide support and training before, during and after exercise. This tool facilitates the access to manuals, guides and exercises carried out by other organizations, provides resources describing the basic principles of exercising, and makes available a formulation tool that will guide users in the process of designing, preparing and developing their own exercises.*

## 2. MANIFESTS Exercise tool

*The MANIFESTS Exercise package consists of an online portal that gives access to a series of functionalities related to exercising, and has a private administration area that allows you to manage its contents.*

*The online portal is available in the link <https://exercisetool.cetmar.org/> (Fig. 1) and has the following functionalities:*

- *A learning section ("Basic principles") with didactic contents about types of exercises, methods for formulating exercises, phases, etc.*
- *An online database of marine pollution exercises carried out by organizations at national and international level. The database also contains documentation developed before, during and after exercises, and allows users to search and retrieve data from the inventories.*
- *An agenda that allows users to create an exercise program, scheduling milestones or tasks for each exercise, and set-up alarms that will be received by email.*
- *A tool to guide users to create their exercises by using forms, and downloading or uploading checklists, templates, and other useful documentation.*

*The application also counts on an administration area of private access that is managed by CETMAR and allows to add, modify and delete data from each section of the application.*

It is available in four languages: English, Spanish, Portuguese and French.

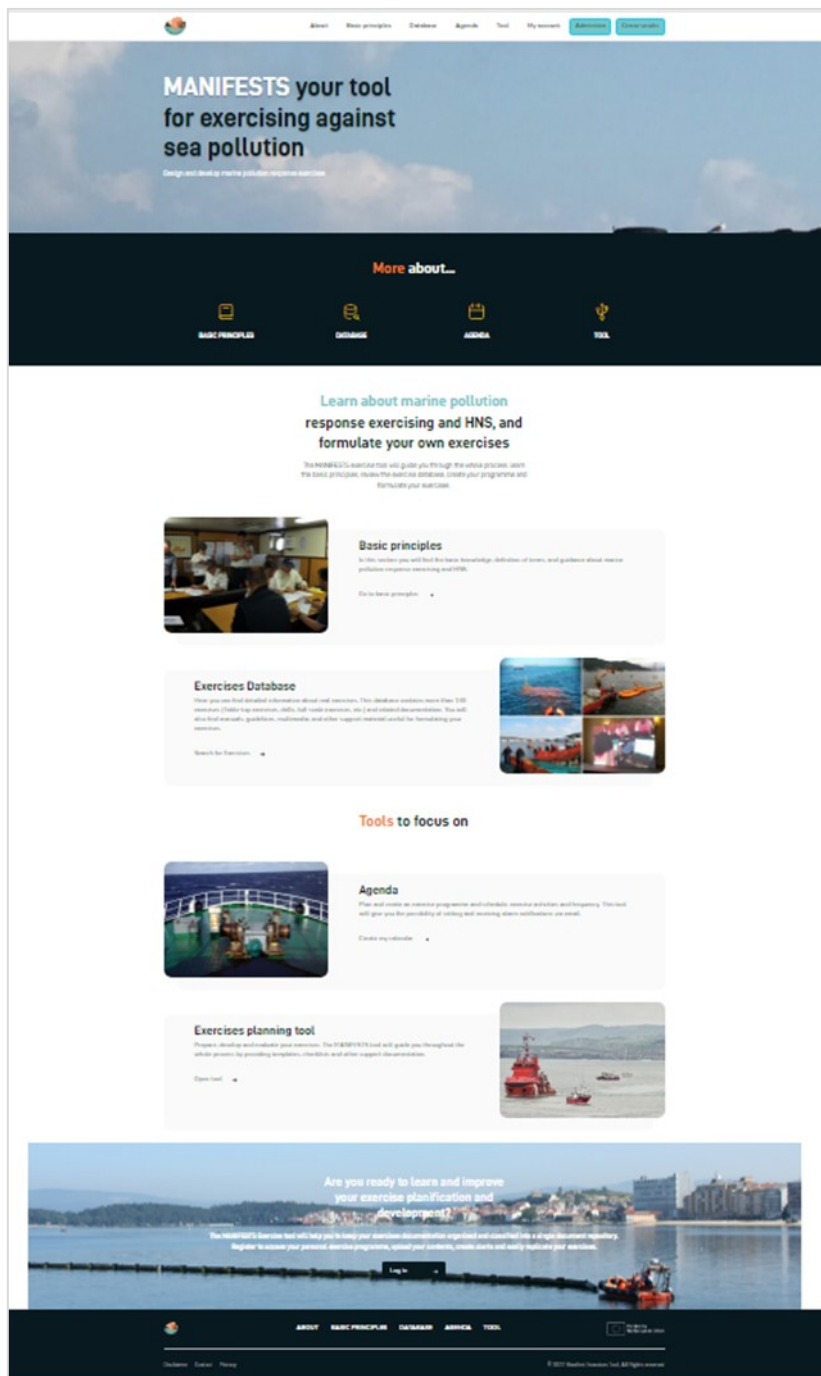


Fig 1 Functionalities of the MANIFESTS Exercise Tool

The portal with all the functionalities and administration area is currently stored in the CETMAR server. However, users will be able to migrate the tool to their own server upon request to CETMAR (see users and permissions section below).

## 2.1. Users and permissions of the online portal

The MANIFESTS Exercise Tool can be used in two different ways:

- By using the online application (stored in the CETMAR server): users will be able to register in the site and save their data, or use all functionalities without registering as guest users with a temporary account that will be deleted in the next 24 h.
- By migrating the application to their server, upon request to CETMAR. In this case, the sections Basic principles and Database of exercises will be linked to the application stored in CETMAR to ensure they remain updated, and the data concerning the Agenda and Formulation Tool will store data locally in their server.

In addition to this, the application online offers users the possibility to register in the site or enter as guests users:

- Create a user account: users will be able to create, save and manage their exercises and upload related documentation.
- Enter as guest user: users will be able to use all functionalities of the tool and download reports created during the session, but data will be deleted within the next 24 hours.

Table I summarises users' permissions:

	REGISTERED USER	UNREGISTERED USER
<b>BASIC PRINCIPLES</b>	Full access for consultation	Full access for consultation
<b>EXERCISES DATABASE</b>	Full access for consultation	Full access for consultation
<b>AGENDA</b>	<ul style="list-style-type: none"> <li>✓ Create programme</li> <li>✓ Create alerts</li> <li>✓ Save &amp; print</li> <li>✓ Retrieve your data</li> </ul>	<ul style="list-style-type: none"> <li>✓ Create programme</li> <li>✗ Create alerts</li> <li>✓ Save &amp; print</li> <li>✗ Retrieve your data</li> </ul>
<b>EXERCISE TOOL</b>	<ul style="list-style-type: none"> <li>✓ Create, execute, evaluate exercises</li> <li>✓ Export &amp; print reports</li> <li>✓ Upload files</li> <li>✓ Save &amp; retrieve your data</li> </ul>	<ul style="list-style-type: none"> <li>✓ Create, execute, evaluate exercises</li> <li>✓ Export &amp; print reports</li> <li>✗ Upload files</li> <li>✗ Save and retrieve your data</li> </ul>

Table I. User's permissions when accessing the site

## 2.2. Basic principles

The online portal has a didactic section (Fig II) that includes texts and training materials to provide support to users. They include:

- Information about classifications and types of exercises
- Information about Programming and Planning of exercises
- Checklists and other support documentation
- HNS relevant links.

Each section has a downloadable power point presentation or links to relevant information. Texts, documents and table of contents included in this section was based on a literature review and contents are cited accordingly. This task was carried out in collaboration with the Centro de Seguridad Marítima Integral Jovellanos (Sociedad de Salvamento y Seguridad Marítima, SASEMAR) and INTECMAR (partner of the MANIFESTS project) in the framework of a collaboration agreement between the three institutions.

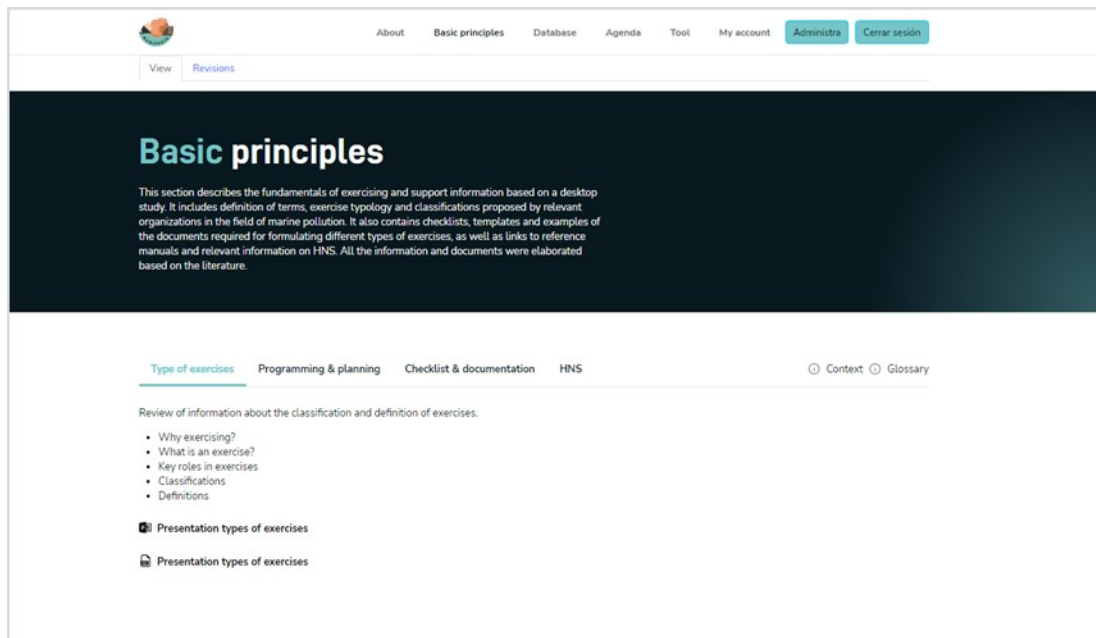


Fig II Basic principles section

### 2.3. DB exercises & Support documentation

The database of exercises (Fig III) contains inventories of exercises and resources related to them (briefing and debriefing reports, multimedia files, press releases, etc.).

These inventories include links to public data of relevant national and international organizations that carry out marine pollution exercises, and which is currently available online.

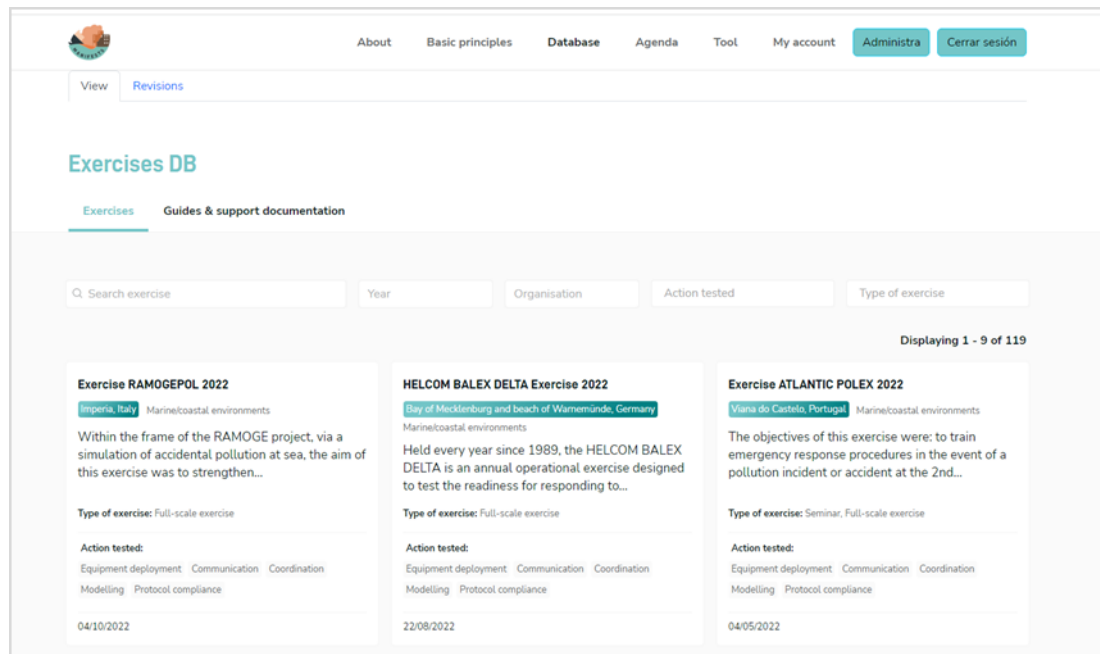


Fig III – Screenshot of the database of exercises

The search engine allows users to filter data according to the following fields:

- Name of the exercise
- Year
- Organisation
- Action tested
- Type of exercise

For each exercise, a brief description and links to the associated documentation available (reports, press releases, videos) are shown (Fig IV)

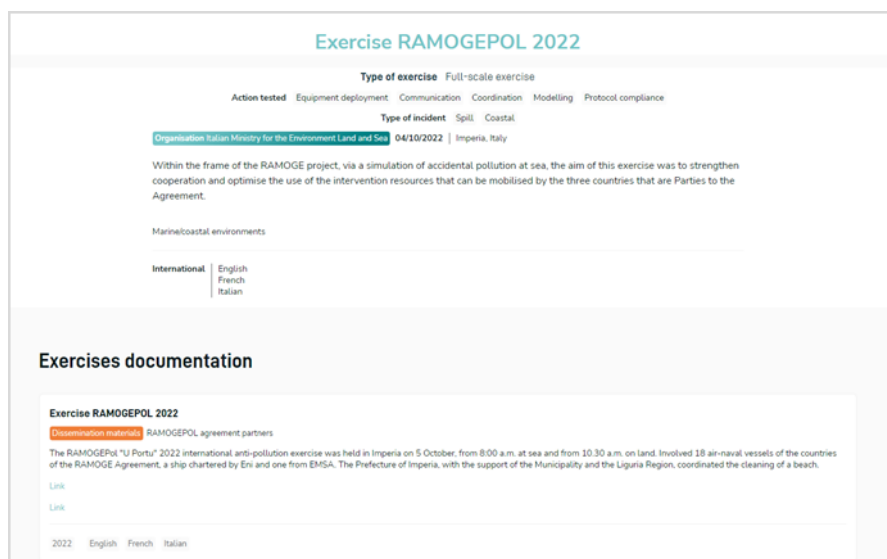
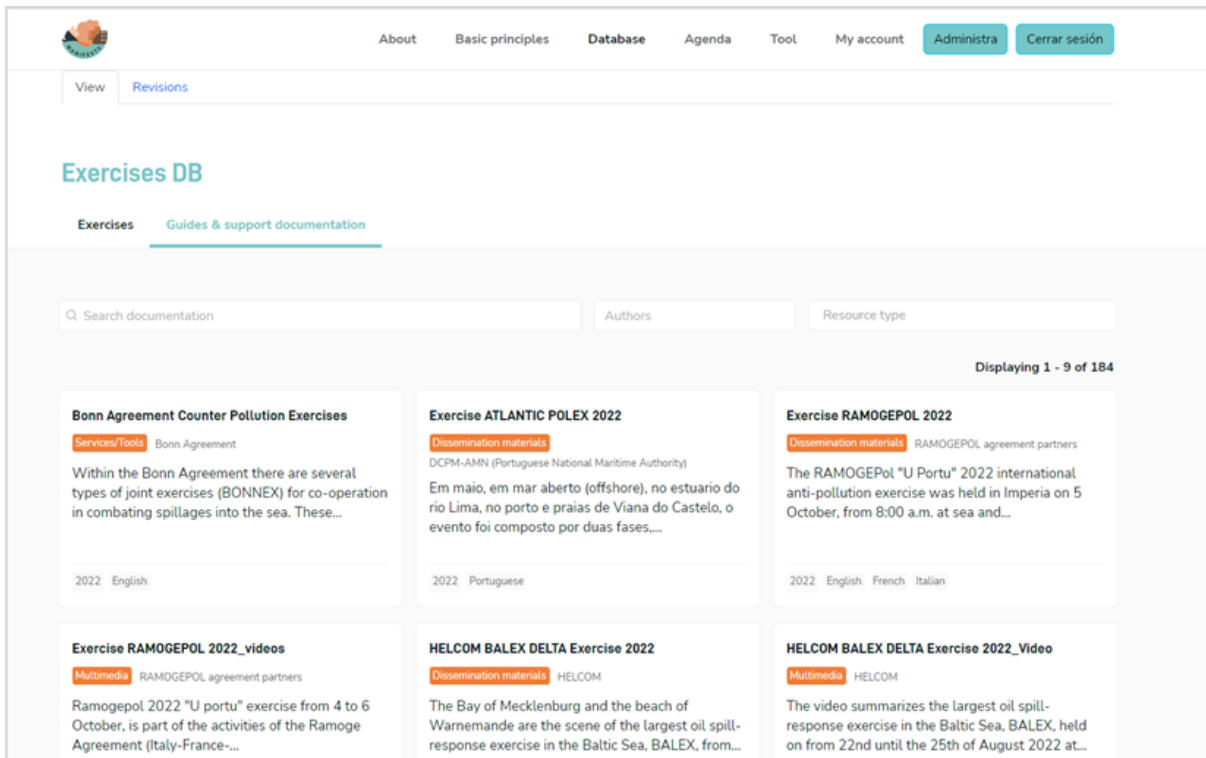


Fig IV – Screenshot of the exercise detail and description



In addition to this, the web portal shows a list of key documentation for the formulation of exercises, including manuals, guidelines, protocols, books, reviews, etc (Fig V).



The screenshot shows the 'Exercises DB' web portal. At the top, there is a navigation menu with links for 'About', 'Basic principles', 'Database', 'Agenda', 'Tool', 'My account', 'Administra', and 'Cerrar sesión'. Below the navigation, there are tabs for 'View' and 'Revisions'. The main heading is 'Exercises DB', with sub-tabs for 'Exercises' and 'Guides & support documentation'. A search bar is present with the text 'Search documentation'. Below the search bar, there are filters for 'Authors' and 'Resource type'. The results section displays 'Displaying 1 - 9 of 184' items. The visible items include:

- Bonn Agreement Counter Pollution Exercises** (Services/Tools, Bonn Agreement): Within the Bonn Agreement there are several types of joint exercises (BONNEX) for co-operation in combating spillages into the sea. These... (2022, English)
- Exercise ATLANTIC POLEX 2022** (Dissemination materials, DCPM-AMN (Portuguese National Maritime Authority)): Em maio, em mar aberto (offshore), no estuário do rio Lima, no porto e praias de Viana do Castelo, o evento foi composto por duas fases,... (2022, Portuguese)
- Exercise RAMOGEPOL 2022** (Dissemination materials, RAMOGEPOL agreement partners): The RAMOGEPol "U Portu" 2022 international anti-pollution exercise was held in Imperia on 5 October, from 8:00 a.m. at sea and... (2022, English, French, Italian)
- Exercise RAMOGEPOL 2022\_videos** (Multimedia, RAMOGEPOL agreement partners): Ramogepol 2022 "U portu" exercise from 4 to 6 October, is part of the activities of the Ramoge Agreement (Italy-France-...)
- HELCOM BALEX DELTA Exercise 2022** (Dissemination materials, HELCOM): The Bay of Mecklenburg and the beach of Warnemünde are the scene of the largest oil spill-response exercise in the Baltic Sea, BALEX, from...
- HELCOM BALEX DELTA Exercise 2022\_Video** (Multimedia, HELCOM): The video summarizes the largest oil spill-response exercise in the Baltic Sea, BALEX, held on from 22nd until the 25th of August 2022 at...

Fig V – Guides and support documentation

The search engine in this section allows users to filter data basing on the following fields:

- Name of the exercise
- Authors
- Type

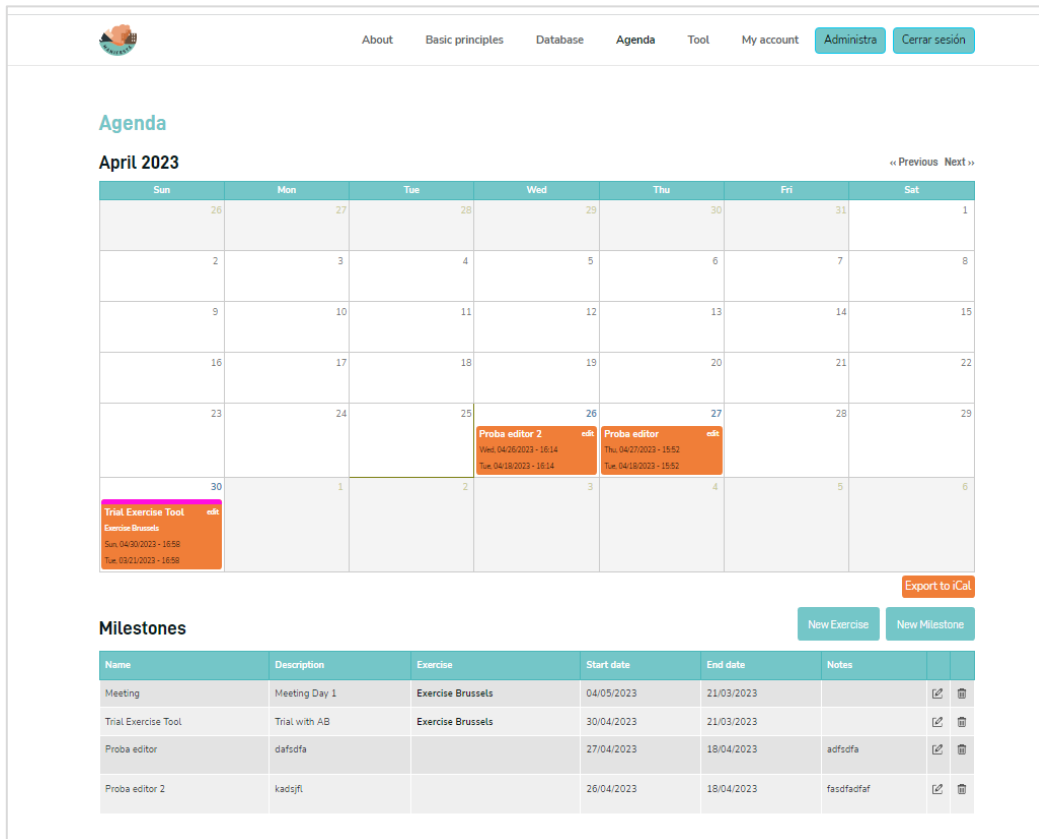
CETMAR will be responsible for maintaining the database updated and for feeding it with new exercises and support documentation.

A Booklet was elaborated including all these resources for facilitating the use and uptake by stakeholders (Annex I) as a compilation of the knowledge generated by expert organisations and EU projects addressing exercising.

## 2.4. Exercise Programme Agenda

The exercise program agenda (Fig VI) allows users to plan an exercise schedule for an entire period (defined by the user). The application allows users to view the programme created in a table or directly in the calendar. In addition, registered users will be able to save their planning and set-up alerts to receive notifications by email.

For each type of exercise, users can schedule the periodicity, the date of the next exercise and include notes, if needed. For each exercise, the Agenda offers the possibility to create Milestones with customized alerts.



The screenshot shows the 'Agenda' page of the MANIFESTS tool. At the top, there is a navigation bar with links for 'About', 'Basic principles', 'Database', 'Agenda', 'Tool', 'My account', 'Administra', and 'Cerrar sesión'. Below the navigation bar, the 'Agenda' section displays a calendar for April 2023. The calendar shows dates from 26 to 30, with events for 'Trial Exercise Tool' (Sun 30) and 'Proba editor' (Wed 26 and Thu 27). Below the calendar, there is an 'Export to iCal' button and a 'Milestones' section with 'New Exercise' and 'New Milestone' buttons. The Milestones table is as follows:

Name	Description	Exercise	Start date	End date	Notes		
Meeting	Meeting Day 1	Exercise Brussels	04/05/2023	21/03/2023			
Trial Exercise Tool	Trial with AB	Exercise Brussels	30/04/2023	21/03/2023			
Proba editor	dafsdfa		27/04/2023	18/04/2023	adfsdfa		
Proba editor 2	kadsjft		26/04/2023	18/04/2023	fadsfaofaf		

Fig VI - Agenda

## 2.5. Exercise formulation tool

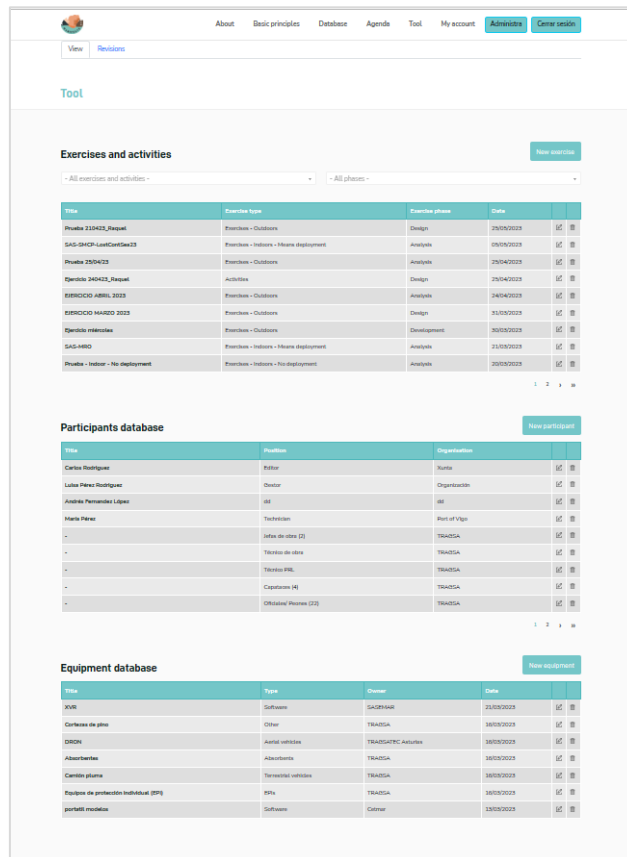
The Exercise formulation tool provides support in the analysis, design, development, implementation and evaluation of exercises and allows for the standardisation of all related documentation.

This tool has the following functionalities:

- Allows users to create new exercises: users can navigate through a series of forms that guide them through the different phases of the exercise. Registered users will be able to store the information contained in the forms.
- Once completed, the interface allows users to export data to an RTF file.
- The basic data of the exercise is auto-completed from one form to the next
- For those users who have registered, it allows them to save the information of their exercises, access and edit old exercises that they have created and create new exercises based on data from previous exercises.
- Registered users will only be able to access exercises that they created.

The home page of the exercise tool show three tables that users can create/modify with new records: a table of exercises, a table of participants and a table of equipment. Users can edit the data in these tables, access previous exercises, add and edit participants of their organization or from others, and add/modify/delete equipment when available.

The button "New exercise" in the upper corner of the webpage allows users to create new exercises (Fig VII).



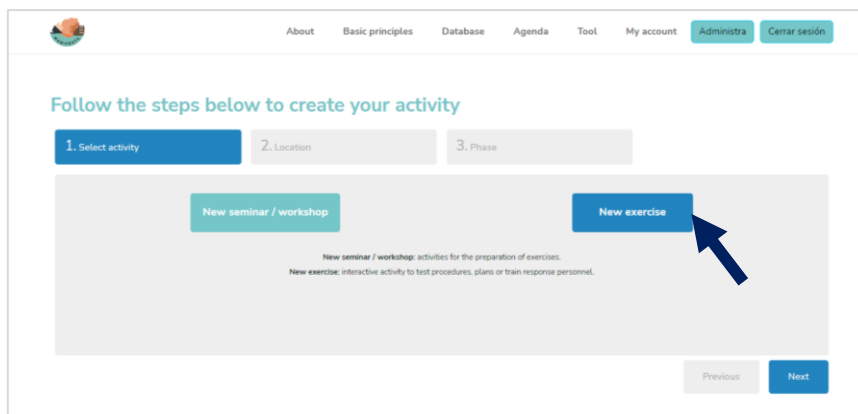
The screenshot shows the 'Tool' section of the website. It features three main databases, each with a 'New' button in the top right corner:

- Exercises and activities:** A table with columns: Title, Exercise type, Exercise phase, Date, and icons. A 'New exercise' button is located in the top right.
- Participants database:** A table with columns: Title, Position, and Organization. A 'New participant' button is located in the top right.
- Equipment database:** A table with columns: Title, Type, Owner, and Date. A 'New equipment' button is located in the top right.

Fig VII – Exercise formulation tool

### 2.5.1. Creation of new activities/exercises

To create an exercise, the tool allows users to select the type of activity (seminar/workshop or exercise), the type of exercise (indoors only/ outdoors), and the phase (Analysis, Design, Development, Implementation and Evaluation), see Fig VIII.



The screenshot shows a form titled "Follow the steps below to create your activity". It has three steps: 1. Select activity, 2. Location, and 3. Phase. Under step 1, there are two buttons: "New seminar / workshop" and "New exercise". A blue arrow points to the "New exercise" button. Below the buttons, there is a small text box explaining the difference between the two options.

New seminar / workshop: activities for the preparation of exercises.  
 New exercise: interactive activity to test procedures, plans or train response personnel.



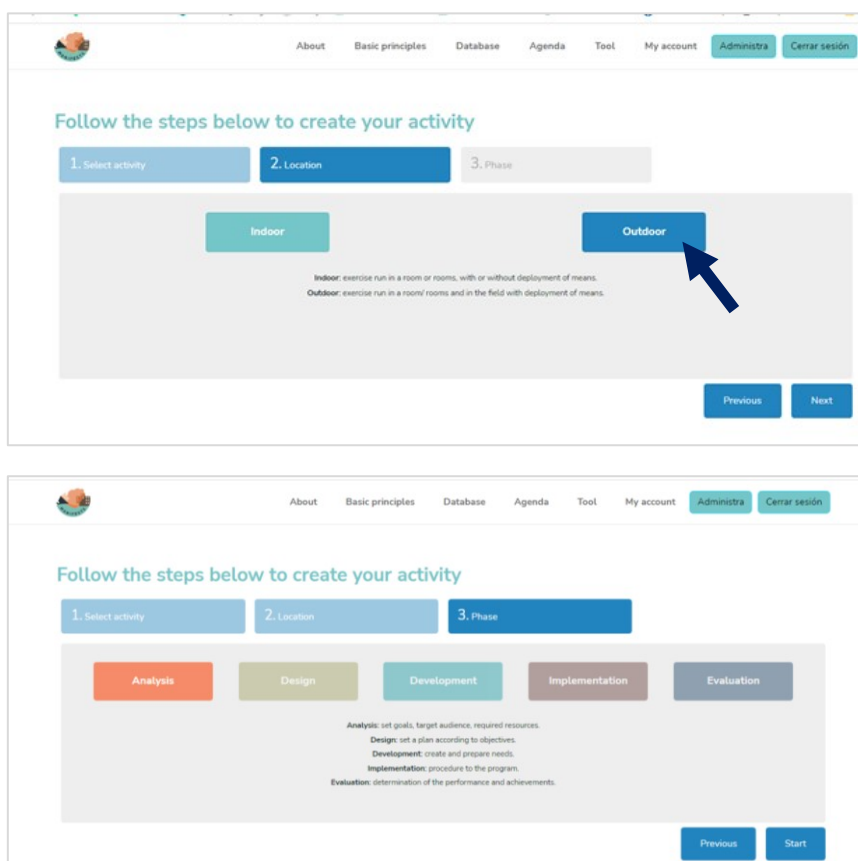


Fig VII – Sequence of choices to create a training exercise or activity

The interface will show different forms depending on the type of exercise selected, and phase.

## 2.5.2. Preparation of the activity/exercise

Once the type of activity or exercise has been defined and the phase has been selected, a form will open that allows users to complete it as they gather the necessary data. Registered users will be able to save the information and continue editing at any time.

For the **Analysis phase** (Fig VIII), the form allows to fill the basic details of the exercise (Name, dates), and to download a checklist that can be filled and uploaded again to be stored with the rest of the exercise documentation.

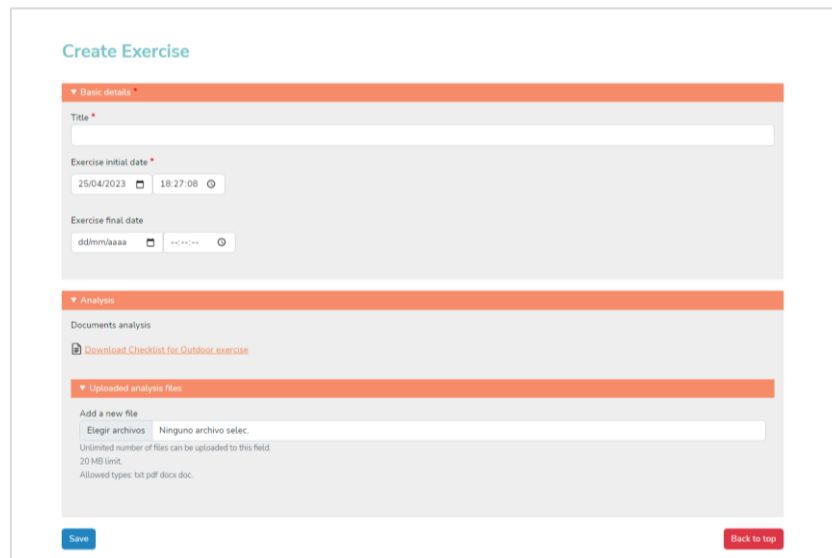


Fig VIII. Analysis phase

For the **Design phase** (Fig IX), in addition to the basic details and the specific checklist, the preliminary information for the briefing can be filled with information of the participants, their roles, the objectives of the exercise and the equipment.



Fig IX. Design phase

The tables of participants and equipment can be filled with information previously stored in the general table that the user can create before creating an exercise, and can be used for all exercises of their organization.

Users can also define and describe the objectives and scope of the exercise, and select the equipment that will be required for the exercise.

During the **Development phase** (Fig X), in addition to the data above, users will be able to modify the details included in the pre-briefing and to create the briefing report, including also a description of the scenario and a storyboard detailing all the events of the exercise, and other additional information required.

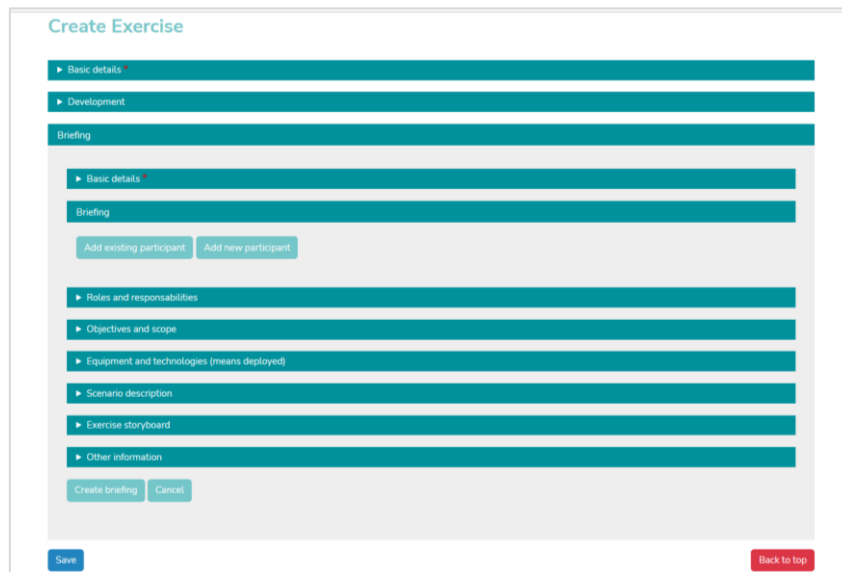


Fig X. Development phase

Registered users can also save additional documentation related to the exercise (maps, pictures, etc.).

During the **Implementation phase** (Fig XI), in addition to the basic details of the exercise and the specific checklist for this phase, the tool provides a series of supporting documentation such as "templates for injects" and "evaluation templates" for participants and evaluators that users can download from the application and upload once filled.

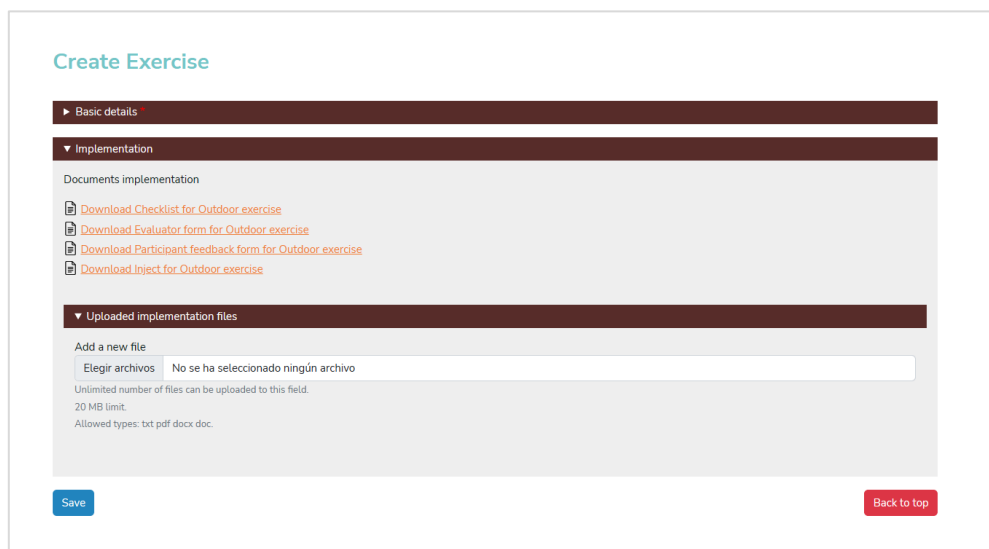


Fig XI. Implementation phase

For the **Evaluation phase** (Fig XII), in addition to the basic details and the specific checklist, similar to the preparation phase, a form will open that will allow users to create the "debriefing report". To create this report users have two phases/options: a "Hot wash", which includes several questions that can be asked to the participants in a meeting immediately after the exercise, to get the first impressions, and a "Post exercise report", with more detailed information.



The screenshot shows a web form titled "Create Exercise" with a sub-section for "Debriefing". The "Debriefing" section is expanded to show its sub-sections: "Basic details", "Evaluation", "Hot wash", and "Post exercise report". Each sub-section is represented by a dark blue bar with a right-pointing arrow. At the bottom of the "Debriefing" section, there are two buttons: "Create debriefing" (green) and "Cancel" (grey). Below the "Debriefing" section, there are two buttons: "Save" (blue) and "Back to top" (red).

Fig XII. Evaluation phase

For registered users, this form will retrieve the basic information of the exercise taken from the briefing form. In this form, users will be able to evaluate the degree of compliance of the objectives by using rubrics.

The briefing and debriefing forms can be exported in RTF and PDF format as a "briefing report" and/or "debriefing report".

### 3. Sustainability of the MANIFESTS exercises tool

The application will be managed by CETMAR through an administration area, and will ensure that its contents are frequently reviewed and updated. To do so, CETMAR will:

- Review and update the contents of the basic principles, insert or modify images, manage the documents of the repository and create links to them.
- Review and update the database of exercises, and the inventory of documents of the database and create / modify / delete records
- Review and edit texts of the public interface.



## *Annex I*

# *A selection of resources dealing with Exercising using the MARINER - MANIFESTS Knowledge tool*

*WP3: Application of response tools, in-situ training and Table-Top Exercises*

*WP6: Dissemination strategy, capitalisation and visibility*



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## Introduction

*Marine pollution accidents involving Potentially Hazardous and Noxious Substances (SNPP or HNS) can give rise to the formation of toxic, flammable and even explosive clouds that can put in risk the crew, those responsible for the response, the coastal civilian population and the environment.*

*The objective of the MANIFESTS Project (funded by the Directorate-General for European Civil Protection and Humanitarian Aid Operations, or DG-ECHO) is to address this type of incidents and strengthen response capacities by creating decision support tools and operational guidelines, as well as facilitating access to existing knowledge on this type of substances.*

*Specifically, work package 3 aims to enhance training capabilities and develop a tool to support the formulation of exercises, which provides the key resources and methodologies for the development of exercises of different scale, complexity and intervention phases.*

*Marine pollution exercises are organised activities through which personnel can practise their response capacities and check contingency plans and their procedures. They can encompass incident assessment and decision making, cooperation among organizations, communication, mobilization or deployment of equipment and the development of personnel competence through continual improvement.*

*With the help of the [MARINER-MANIFESTS Knowledge Tool](#), and based on a criterion guided selection of HNS resources, this booklet provides an example on how the knowledge generated by expert organisations and EU projects have addressed HNS related issues relevant for exercising.*

*A total of 57 resources with 98 links to different contents had been selected keeping in mind the considerations mentioned earlier and the following criteria:*

- *Free online availability*
- *No confidentiality restrictions*
- *Development completed*
- *No limits in the geographic scope of application or easy adaptability to other areas*
- *Prioritisation of operational materials vs scientific publications*

*To facilitate the reading of the booklet, resources have been listed in chronological order (most recent resources appear first) and grouped into 6 different categories according to resource types: guidelines and standards, books and reviews, training activities and learning modules, services and*



*tools, dissemination materials and multimedia. For each resource, a basic description (title, summary, organisations, year of publication, language and link to resource) is provided.*



## Guidelines /Standards

### Preparing Scotland Exercise Guidance

**Summary:** The guidance sets out the factors involved in the exercise process and incorporates a set of templates that can be used across the diverse area of civil contingencies, from individual agency internal exercises to multi-agency live play exercises.

**Organisations:** Scottish Government's Resilience Division

**Publication year:** 2022

**Language:** English

[Link to guide](#)

[Link to website](#)

### Mass Rescue Operations Guidance

**Summary.** The IMRF's mass rescue operations (MRO) guidance is provided in 30 separate chapters. The information is grouped into five primary subject areas: 'Philosophy & Focus', 'Planning', 'Resources', 'Command, Control, Coordination, Communication', and 'Training, Exercises and Drills, and Learning from Experience'.

**Organisations:** International Maritime Rescue Federation (IMRF)

**Publication year:** 2022

**Language:** English

[Link to website](#)

[Link to guide](#)

## *HELCOM Manual on Co-operation in Response to Marine Pollution*

**Summary:** *This Manual is intended for Response Commanders and Supreme On-Scene Commanders leading the multinational response operations at sea and on the shore. It is also meant for personnel participating in the multinational response operations and for authorities dealing with national contingency planning and strategic development. It also gives a framework for exercises.*

**Organisations:** *Baltic Marine Environment Protection Commission - Helsinki Commission (HELCOM)*

**Publication year:** *2021*

**Language:** *English*

[Link to website](#)

[Link to manual](#)

## *Marine HNS Response Manual*

**Summary:** *The objective of the Marine HNS Response Manual is to provide operational guidance for first responders and decision-makers during a maritime incident at sea or in port involving HNS. The manual does not cover all aspects of an incident involving HNS, but specifically addresses relevant offshore and onshore spill response techniques (but excludes topics such as search and rescue, salvage, medical treatment).*

**Organisations:** *Multi-regional Bonn Agreement, Helsinki Commission (HELCOM), Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC)*

**Project:** *WestMOPoCo*

**Publication year:** *2021*

**Language:** *English*

[Link HELCOM](#)

[Link REMPEC](#)

## Safe exercise best practices

**Summary:** *Safe exercise best practices guide is part of the Exercise and Preparedness tools to help organizations and jurisdictions maintain safety protocols for in-person exercises. This guide is organized by exercise phase: pre-exercise, conduct, and post-exercise. It addresses safety and security, venue access and validation, health and real-world incident considerations for each phase.*

**Organisations:** *Federal Emergency Management Agency (FEMA)*

**Publication year:** *2021*

**Language:** *English*

[Link to guide](#)

[Link to website](#)

## Virtual exercise best practices

**Summary:** *When the COVID-19 pandemic restricted travel and in-person meetings, many federal and state, local, tribal, and territorial (SLTT) organizations continued their preparedness efforts through virtual exercises. The Federal Emergency Management Agency (FEMA) National Exercise Division (NED) developed this collection of virtual exercise best practices from across all levels of stakeholders. These approaches help organizations effectively use virtual exercises to validate capabilities and drive continuous improvement. This guide provides:*

- *Benefits and challenges to conducting a virtual exercise*
- *Considerations for platform testing and pre-conduct logistics; and*
- *Actions to take before, during and after a virtual exercise.*

**Organisations:** *Federal Emergency Management Agency (FEMA)*

**Publication year:** *2021*

**Language:** *English*

[Links](#)



[Link to workbook](#)

## Technical guide for UCPM Full-scale exercises

**Summary:** This manual is addressed to all the people and organizations involved in the preparation, development and implementation of civil protection exercise projects framed in the Union Civil Protection Mechanism (UCPM) and presented to the different call for proposals that the European Commission, more specifically DG ECHO, announces on an annual basis (<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home>). This document aims to provide practical advice and common terminology about the particulars of exercising under the UCPM framework to facilitate the process of applying for a call for proposals.

**Organisations:** Directorate-General for European Civil Protection and Humanitarian Aid Operations (DG-ECHO)

**Publication year:** 2021

**Language:** English

[Link](#)

## The Bonn Agreement Counter Pollution Manual: Chapter 1.14: Exercises

**Summary:** The Bonn Agreement Counter Pollution Manual contains the decisions to facilitate joint operations to combat pollution or to put the Bonn Agreement into practice. Chapter 1.14 outlines the types of joint exercises (BONNEX) for co-operation in combating spillages into the sea.

**Organisations:** Bonn Agreement Secretariat

**Publication year:** 2020

**Language:** English

[Link](#)

## *Homeland Security Exercise and Evaluation Program (HSEEP)*

**Summary.** *The Homeland Security Exercise and Evaluation Program (HSEEP) provides a set of fundamental principles for exercise programs, as well as a common approach to program management, design and development, conduct, evaluation, and improvement planning.*

**Organisations:** *Federal Emergency Management Agency (FEMA)*

**Publication year:** *2020*

**Language:** *English*

[Link](#)

## *Oil Spill Response Exercise Guidance: A Manual for Planning, Conducting, and Evaluating Exercises*

**Summary:** *The Guidance is part of a dedicated effort to improve DEC's Oil Spill Response Exercise Program to better serve the needs of regulated oil operators, response action contractors, state and federal agencies, and other exercise stakeholders, while improving oil spill response readiness within the State of Alaska.*

**Organisations:** *Alaska Department of Environmental Conservation (ADEC) - Division of Spill Prevention and Response*

**Publication year:** *2018*

**Language:** *English*

[Link](#)

[Link to website](#)

## *Medical facilities assessment. Checklist for medical professionals in the oil and gas industry*

**Summary:** Oil and gas operations occur in different countries and locations across the world, where the quality of medical infrastructure, available treatments and specialities may differ greatly. It is therefore important for companies to assess the medical facilities available, to ensure that they can provide optimal health care for their workers. This checklist provides a series of Yes/No, sliding scale and open answer questions to help company health professionals when making these assessments, and aid in company decision making when selecting a medical facility.

**Organisations:** IPIECA, International Association of Oil & Gas Producers

**Publication year:** 2017

**Language:** English

[Link](#)

## *Multiple casualty planning and preparation. Checklist for medical emergency response planning for the oil and gas industry*

**Summary:** The Multiple casualty planning and preparation checklist provides a practical form of guidance which aids medical and operational personnel to assess and improve preparedness to manage multiple casualty events. Through a series of Yes/No answers, the checklist guides the user through the key elements which need to be considered when developing a medical emergency response plan, such as communications, on and off-site facilities, training and drills and risk assessment.

**Organisations:** IPIECA, International Association of Oil & Gas Producers

**Publication year:** 2017

**Language:** English

[Link](#)

## *Preparedness to maritime chemical accidents in the Baltic Sea Region*

**Summary:** *The aim of this report is to give an overview on the level of information and competence related to preparedness of maritime HNS incidents in different in Baltic Sea region countries. The report contains selected results of two surveys that were connected with WP2 (“Operational plans and standard operational procedures for SAR operations”) and WP4 (“Chemical data bank for joint use for maritime and environmental authorities and shipping companies”). Besides the survey data, publicly available information has been used.*

**Project:** ChemSAR

**Publication year:** 2017

**Language:** English

[Link](#)

## *Development of the Manual on Conduction of Oil Spill Response Operational Exercise (NOWPAP DELTA)*

**Summary:** *This manual was developed to assist the NOWPAP members to more efficiently unify the process of preparing and conducting exercises and based on the experience of conducting the exercises of the NOWPAP members in accordance with the agreement of the 15th NOWPAP MERRAC FPM (May 2012).*

**Organisations:** NOWPAP-MERRAC (Northwest Pacific Action Plan - Marine Environmental Emergency Preparedness and Response Regional Activity Centre)

**Publication year:** 2016

**Language:** English

[Link](#)

## *Oil spill exercises- Good practice guidelines for the development of an effective exercise programme*

**Summary:** *This document provides guidance on constructing an exercise programme that is suitable for meeting an organization's or facility's requirements. This guidance is aimed at those persons responsible for ensuring oil spill contingency plans are practised and verified.*

**Organisations:** *IPIECA*

**Publication year:** *2016*

**Language:** *English*

[Link](#)

## *Public Health Toolkit for Shoreline Response to Maritime Chemical Incidents*

**Summary:** *The manual is aimed at emergency responders, planners and public health professionals and aims to provide an overview of key aspects of shoreline incident response, particularly in respect of incidents involving hazardous chemicals (HNS). The manual also provides a collation of usable documents relevant to planning for such events, as well as links to additional reference materials.*

**Organisations:** *ARCOPOL Plus project Consortium, Public Health England (PHE)*

**Project:** *Atlantic Regions' Coastal Pollution Response (ARCOPOLplus)*

**Publication year:** *2014*

**Language:** *English*

[Link](#)

## Checklists for use in planning, responding and recovery phases

**Summary:** A series of 14 quick reference checklists for use in planning, responding and recovery phases of shoreline incidents involving hazardous and noxious substances (HNS) and oils. These include: public health management, response plans, toxicological datasheets, Standard Operating Procedures (SOPs), detection and alert, exercise and training, response, public health countermeasures, Personal Protective Equipment (PPE), decontamination, environmental sampling and monitoring, risk communication, recovery and audits.

**Organisations:** ARCOPOL Plus project Consortium, Public Health England (PHE)

**Project:** Atlantic Regions' Coastal Pollution Response (ARCOPOLplus)

**Publication year:** 2013

**Language:** English

[Link](#)

## A Guide to Emergency Planning Arrangements in Northern Ireland

**Summary:** This is the second edition of the guidance and replaces the version published in 1998. It is intended to act as a framework on which plans can be built in a structured manner so that plans are compatible and easy to build together into an effective response to any emergency, whatever the cause and circumstances.

**Organisations:** Department of Health, Northern Ireland Health Service

**Publication year:** 2011

**Language:** English

[Link](#)

[Link to website](#)

## *The Exercise Planners Guide*

**Summary:** *This publication provides guidance to those who have to design and carry out emergency exercises. Experienced emergency planning officers and safety officers may wish to use it as a check list.*

**Organisations:** *Maritime & Coastguard Agency UK*

**Publication year:** *2006*

**Language:** *English*

[Link](#)

## *Hazardous Materials Tabletop Exercises Manual*

**Summary:** *These tabletop exercises are intended to provide an opportunity for communities to test their ability to respond to hazardous materials (HazMat) incidents. The exercises provide the opportunity to identify the response and coordination issues that could arise during a variety of hazardous materials scenarios and make the decisions to resolve those issues.*

**Organisations:** *Federal Emergency Management Agency (FEMA)*

**Publication year:** *2006*

**Language:** *English*

[Link to manual](#)

## Reports

### Exercise series PLAN RIBERA

**Summary:** Full-scale exercises to combat sea pollution, promoted by the Spanish National Authority in the frame of the 'Plan Estatal de Protección de la Ribera del Mar contra la Contaminación', with the implication of the relevant national, regional and local authorities.

**Organisations:** MITECO (TRAGSA), SASEMAR, DGMM.

**Publication years:** 2013-2022

**Language:** Spanish

[Link to website](#)

[Link to Report Exercise Gran Canaria 2018](#)

[Link to Report Exercise Cádiz 2013](#)

[Link to Report Exercise Murcia 2018](#)

[Link to Report Exercise Pontevedra 2014](#)

[Link to Report Exercise Pontevedra 2019](#)

[Link to Report Exercise Tarragona 2014](#)

[Link to Report Exercise Bilbao 2019](#)

[Link to Report Exercise Granada 2015](#)

[Link to Report Exercise Tenerife 2021](#)

[Link to Report Exercise Mallorca 2016](#)

[Link to Report Exercise Cádiz 2021](#)

[Link to Report Exercise Asturias 2016](#)

[Link to Report Exercise Santander 2021](#)

[Link to Report Exercise Valencia 2016](#)

[Link to Report Exercise Mallorca 2021](#)

[Link to Report Exercise Tenerife 2017](#)

[Link to Report Exercise Sálvora 2022](#)

[Link to Report Exercise Huelva 2017](#)

[Link to Report Exercise Cádiz 2022](#)



## Exercise series ATLANTIC POLEX

**Summary:** Full-scale exercises to combat sea pollution, promoted by the Direção de Combate à Poluição of the Portuguese National Maritime Authority.

**Organisations:** DCPM-AMN (Direção de Combate à Poluição do Mar, Autoridade Marítima Nacional)

**Publication years:** 2016-2022

**Language:** Portuguese

[Link to exercise 2016](#)

[Link to exercise 2021](#)

[Link to exercise 2017](#)

[Link to exercise 2022](#)

[Link to exercise 2018](#)

## Drills & Exercises EMSA Annual Reports

**Summary:** To achieve the level of performance for pollution response required by the EMSA, the agency performs regular training, drills, Equipment Condition Tests (ECTs) and exercises. These reports summarise the drills and exercises carried out from 2013.

**Organisations:** European Maritime Safety Agency (EMSA)

**Publication years:** 2013- 2022

**Language:** English

[Link to website](#)

[Link Report 2016](#)

[Link Report 2021](#)

[Link Report 2015](#)

[Link Report 2020](#)

[Link Report 2014](#)

[Link Report 2019](#)

[Link Annex Report 2014](#)

[Link Report 2018](#)

[Link Report 2013](#)

[Link Report 2017](#)



## ***Notification exercises EMSA (2013-2021)***

**Summary:** Notification exercises are usually conducted in conjunction with operational exercises. In addition, 'standalone' notification exercises are occasionally carried out. The aim of these exercises is to test and implement agreed procedures and lines of communication for reporting incidents and for requesting and providing assistance. These exercises are usually launched by the Member States.

**Organisations:** European Maritime Safety Agency (EMSA)

**Publication year:** 2013- 2021

**Language:** English

[Link to Annual Reports](#)

## ***BALEX Delta exercises (2022- 1990)***

**Summary:** HELCOM BALEX exercises aim to test the procedures documented in the HELCOM Response Manual and response capability of the Contracting Parties in case of a major accident and an international response operation.

**Organisations:** HELCOM (Baltic Marine Environment Protection Commission –Helsinki Commission)

**Publication year:** 1990- Present

**Language:** English

[Link to full list](#)

[Link to Balex Delta 2012](#)

[Link to Balex Delta 2013](#)

[Link to Balex Delta 2014](#)

[Link to Balex Delta 2018](#)



## *Joint industry/government IMS 300 training and exercise*

*Summary: A national training on Incident Management Systems 300 (IMS 300) was organized for Remote Online Delivery from Tuesday 20th to Wednesday 22nd July 2021. It was followed by a one-day exercise facilitated by Shell and Total Energies. The training and exercise gathered the key stakeholders in the National Oil Spill Contingency Plan from different government ministries, agencies and authorities, as well as non-government organizations and Industry.*

*Organisations: Global Initiative West Africa Coastal Areas Framework (GIWACAF)*

*Publication year: 2021*

*Language: English*

[Link](#)

## *Exercises ANED-POLMAR*

*Summary: Exercises of assistance to vessel in difficulty (ANED) and maritime pollution (POLMAR) organized by the French maritime prefectures. This exercises were implemented as part of the annual training planned by the civil security response organization (ORSEC) at sea.*

*Organisations: Premar de la Manche et de la mer du Nord, Premar Atlantique, Premar Mediteranée.*

*Publication year: 2021- 2006*

*Language: French*

[Link of exercises Premar-Atlantique](#)

[Link to exercise POLHARBOR 2021](#)

[Link to exercise ANED POLMAR 2019](#)

[Link to exercise Atlantique 2017](#)

[Link to exercise Antipol 2017](#)

[Link to exercise Polmar 2017](#)

[Link to exercise Gascogne 2016](#)

[Link to exercise ANED-POLMAR 2016](#)

[Link to exercise POLMAR 2015](#)

[Link to exercise Roches-Douvres 2015](#)

[Link to exercise MANCHEX 2014](#)

[Link to exercise ORSEC POLMAR 2012](#)

[Link to exercise POLLUX 2006](#)



## Exercises RAMOGEPOL

**Summary:** *The RAMOGE Agreement is an intergovernmental cooperation agreement between the French, Italian and Monegasque States for the conservation of the marine environment. Every year, coordinated RAMOGEPOL exercises are organized to simulate accidental pollution with the aim of optimizing the use of the means of intervention mobilized by the three countries to combat marine pollution.*

**Organisations:**

**Publication year:** 2022- 1993

**Language:** French, Italian

[Link to project website](#)

## POLMAR WORKSHOP 2021

**Summary:** *Tuesday October 5, 2021, anti-pollution experts from the French Navy and fishermen from La Turballe took part in a workshop organized jointly by the maritime prefecture of the Atlantic and the delegation to the sea and at the coast (DML) of the Departmental Directorate of Territories and the Sea (DDTM) of Loire-Atlantique.*

**Organisations:** Préfecture maritime de l'Atlantique

**Publication year:** 2021

**Language:** French

[Link to newsletter](#)



## *ARRT Table top exercise 2020*

*Summary: Exercise simulation a discharge from Trans Alaska Pipeline System to Yukon River.*

*Organisations: Alaska Regional Response Team (ARRT)*

*Publication year: 2020*

*Language: English*

[Link](#)

[Link to player manual](#)

## *UK National Contingency plan exercises: CELTIC DEEP (2020), SHEN (2018), GREY SEAL (2016), DRAGON (2014).*

*Summary: Multi-agency exercises to test the United Kingdom's (UK) response to a major shipping incident within the UK Exclusive Economic Zone (EEZ).*

*Organisations: Maritime & Coastguard Agency UK*

*Publication years: 2020- 2014*

*Language: English*

[Link to exercise Celtic Deep](#)

[Link to exercise Shen](#)

[Link to exercise Grey Seal](#)

[Link to exercise Dragon](#)



## *Exercise MASE POLMAR 2019*

*Summary: The MASE POLMAR 2019 exercise is a pilot regional action led by the Indian Ocean Commission through the European Union-funded Regional Maritime Safety Programme.*

*Organisations: Indian Ocean Commission*

*Publication year: 2019*

*Language: English*

[Link](#)

## *Table Top Exercise on the EU Operational Guidelines - Places of Refuge (2013- 2019)*

*Summary: Reports on the Table Top Exercises - Places of refuge from 2013 to 2019.*

*Organisations: European Maritime Safety Agency (EMSA)*

*Publication years: 2013- 2019*

*Language: English*

[Link Report Exercise Rotterdam 2013](#)

[Link Report Exercise Malta 2015](#)

[Link Report Exercise Norway 2017](#)

[Link Report Exercise Gran Canaria 2019](#)



## *Real scale exercise in Senegal (SAMAREX 2019)*

**Summary:** *The "SAMAREX 2019" oil spill deployment exercise is organized by the Senegalese authorities with the objective to test their National Oil Spill Contingency Plan in line with the recommendations edited by the International Maritime Organization.*

**Organisations:** *Global Initiative West Africa Coastal Areas Framework (GIWACAF)*

**Publication year:** *2019*

**Language:** *English*

[Link](#)

## *Transboundary oil spill response exercise between Angola and Namibia (2019)*

**Summary:** *This workshop and table top exercise was held simultaneously in Luanda and Walvis Bay from 6th to 9th August 2019, with the intention to test key issues related to trans-boundary spill incidents such as communication between Angola and Namibia, assistance mechanisms, the mobilization of international resources and the provisions of respective national plans that would be activated in the case trans-boundary oil spill incidents.*

**Organisations:** *Global Initiative West Africa Coastal Areas Framework (GIWACAF)*

**Publication year:** *2019*

**Language:** *English*

[Link](#)



## List of exercises carried out - REMPEC (2018-1999)

**Summary:** Reports on the exercises from 1999 to 2018. Including links to:

- Regional Alert Exercise, "MEDIPOLEX 99", December 1999.
- Communication Exercise (Sophisticated Test) between REMPEC and SET/Porto Marghera, Italy, June 2003.
- Exercise SYREX 2003: Syrian National Oil Spill Response Exercise, December 2003.
- Communication Exercise (Sophisticated Test) between REMPEC and the Spanish ICE Center (Civil Protection Unit), June 2004.
- Regional Alert/Communication Exercise, "MEDIPOLEX 04", December 2004.
- Communication Exercise (Sophisticated Test) between the (MEPD, Greece), REMPEC (liaison centre) and the German ICE Center (BASF), December 2006.
- Communication Exercise (Sophisticated Test) between the (EEAA, Egypt), REMPEC (liaison centre) and the UK ICE Center (NCEC), October 2008.
- Coordinated Surveillance Operation in the Western Mediterranean (OSCAR-MED) organized by REMPEC in cooperation with Italy, France and Spain, October 2009.
- Communication Exercise for the activation of the Mediterranean Assistance Unit (MAU), carried out between Israel, REMPEC and Federchimica, December 2009.
- MALTEX 2012, Malta, September 2012.
- RAMOGEPOL HAVEN 2011, Italy, October 2011.
- Istanbul Oil Spill National Exercise, Istanbul Turkey, September 2011.

**Organisations:** Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC)

**Publication years:** 1999- 2018

**Language:** English

[Link](#)





## *BALEX DELTA 2018 information booklet*

**Summary:** *This booklet serves as guide to the BALEX DELTA 2018 exercise that simulates a cargo ship running aground in harsh weather, causing it to loose containers with chemicals and breach its hull. It contains, a wealth of background information about the exercise. It also encompasses general information about the event and Karlskrona.*

**Organisations:** *BALEX DELTA 2018\_HELCOM*

**Project:** *BALEX DELTA 2018 Project*

**Publication year:** *2018*

**Language:** *English*

[Link](#)

## *BALEX DELTA 2018: Main Exercise Evaluation*

**Summary:** *Report evaluating the exercise*

**Organisations:** *BALEX DELTA 2018\_HELCOM*

**Project:** *BALEX DELTA 2018 Project*

**Publication year:** *2018*

**Language:** *English*

[Link](#)



## *Exercises NEMESIS*

**Summary:** Full-scale multinational Exercises taken place annually within the Exclusive Economic Zone of the Republic of Cyprus, with the aim of training fight against marine pollution.

**Organisations:** JRCC Larnaca, EMSA.

**Publication year:** 2014- 2021

**Language:** English

[Link to Exercise Nemesis 2018](#)

[Link to Exercise Nemesis 2020](#)

[Link to Exercise Nemesis 2019](#)

[Link to Exercise Nemesis 2021](#)

## *SEA-PT Exercises Reports (2017- 2013)*

**Summary:** Series of exercise report developed by the Shannon Estuary Anti-pollution Team (SEA-PT) as part of their exercise programme from 2013 to 2017. SEA-PT consists of the Port Company, Local Authorities, Offshore Industry and Oil Importers and was initiated to form a unified coordinated response to pollution incidents on the Shannon Estuary.

**Organisations:** Shannon Estuary Anti-pollution Team

**Publication years:** 2017-2013

**Language:** English

[Link to exercise Cathach 2013 Report](#)

[Link to exercise Deer Island 2014 Report](#)

[Link to exercise Fenit 2015 Report](#)

[Link to exercise HNS 2016 Report](#)

[Link to exercise Limerick 2016 Report](#)

[Link to exercise County Clare 2017 Report](#)



## *MIRG Exercises 2016*

**Summary:** *Table Top and Full Scale Exercises to test response capacities and coordination of representatives of the English, French, Belgian and Dutch MIRGs, MRCC's and the European Civil Protection organisation.*

**Organisations:** *MIRG-EU project consortium*

**Publication year:** *2016*

**Language:** *English*

[Link to Table Top Exercise information](#)

[Link to Full Scale Exercise information](#)

[Link to Full Scale Exercise Video](#)

## *Exercises to check efficiency of Local Contingency Plans implemented in the frame of ARCOPOL Plus: Exercises in Galicia*

**Summary:** *Several training exercises organised by INTECMAR, GardaCostas de Galicia (CMRM) and other relevant institutions for training the tools developed by ARCOPOL team, such as the dispersion models (in air and at sea), 3D Barriers models, ARCOPOL viewers, and for checking the existing HNS know how and communications. Moreover, besides these ARCOPOL exercises, others organized by NETMAR Project and SASEMAR were also used to test ARCOPOL tools. This report contains a brief description of the exercises, as well as all the documentation and debriefings when available.*

**Organisations:** *ARCOPOL project Consortium.*

**Project:** *ARCOPOLplatform*

**Publication year:** *2015*

**Language:** *Spanish / Galician*

[Link](#)



## *Command and control exercises for response to HNS spills.*

*Summary: NMCI (National Maritime College of Ireland) developed command and control exercises for response to HNS spills in the following areas:*

*(1) HNS spill at sea near a special area of conservation.*

*(2) Potential HNS incident in port.*

*(3) HNS event at the entrance to a busy port.*

*These exercises have been validated by the Irish Naval Service.*

*Organisations: ARCOPOL project Consortium.*

*Project: Atlantic Regions' Coastal Pollution Response (ARCOPOL)*

*Publication year: 2015*

*Language: English*

[Link](#)

## *Celtic Coast Exercise*

*Summary: The aim of the exercise was to test response arrangements/plans to maritime pollution incidents in Dyfed Powys as well as test the primacy/interaction between the MCA's National Contingency Plan & the CCA. The scenario revolved around a collision between an oil tanker and a container ship just off the Pembrokeshire Coast (Wales, UK).*

*Organisations: ARCOPOL project Consortium.*

*Project: Atlantic Regions' Coastal Pollution Response (ARCOPOL)*

*Publication year: 2011*

*Language: English*



[Link](#)

## Training activity /Learning module

### *Training Package on HNS spill Management*

**Summary:** PowerPoint presentations and posters in pdf format covering training for responders on general aspects of HNS, incident prevention and preparedness, incident response and post-crisis actions. Topics covered include maritime transport, regulations, accident causes, chemical behaviour, and marine and shoreline response techniques for the different vessels transporting HNS, responder protection, environmental monitoring, communications and compensation funds.

**Organisations:** MARINER project Consortium.

**Project:** MARINER

**Publication year:** 2018

**Language:** English

[Link](#)



## *Course IS-120.C: An Introduction to Exercises*

**Summary:** *The Course Objectives include: Develop a baseline knowledge of exercise fundamentals. Identify the tasks necessary to complete each phase of the exercise process. Define how exercises complete the preparedness process. Identify the role of exercises in validating capabilities. Identify phases of exercise evaluation and the improvement planning process.*

**Organisations:** *Federal Emergency Management Agency (FEMA)*

**Publication year:** *2018*

**Language:** *English*

[Link](#)

## *Course I IS-130.A: How to be an Exercise Evaluator*

**Summary:** *This Independent Study course is a new offering that introduces the basics of emergency management exercise evaluation and improvement planning. It also provides the foundation for exercise evaluation concepts and practices as identified in the Homeland Security Exercise and Evaluation Program.*

**Organisations:** *Federal Emergency Management Agency (FEMA)*

**Publication year:** *2018*

**Language:** *English*

[Link](#)



## *Jornada: La contaminación marítima por sustancias químicas y su integración en los Planes de Contingencia en Galicia*

*Summary:* These presentations were used in the conference organized on May 19, 2015 at the CETMAR facilities (Vigo). The objective of the seminar was to point out the dangers involved in the transport of chemical substances and to make known the tools available to improve our preparation to deal with a maritime spill of these substances.

*Organisations:* ARCOPOL project Consortium.

*Project:* Atlantic Regions' Coastal Pollution Response (ARCOPOL)

*Publication year:* 2015

*Language:* Spanish

[Link](#)

## *Enhancing public health awareness, preparedness and response to shoreline maritime chemical incidents*

*Summary:* Workshops in UK, Ireland and Spain aiming to enhance working knowledge of all phases of maritime shoreline incident response with a specific focus on public health implications from oil and HNS, via interactive presentations, e-learning and exercise scenarios.

*Organisations:* ARCOPOL project Consortium.

*Project:* Atlantic Regions' Coastal Pollution Response (ARCOPOL)

*Publication year:* 2015

*Language:* English / French / Spanish

[Link](#)



## *Documents for exercises: Tempest series*

**Summary:** *The intention of this series of maritime exercises is to exercise and evaluate the immediate and ongoing response of emergency services, maritime agencies and public health organisations to a chemical incident of public health concern. The Tempest exercises are available in an exercise pack.*

**Organisations:** *ARCOPOLplus project Consortium.*

**Project:** *Atlantic Regions' Coastal Pollution Response (ARCOPOLplus)*

**Publication year:** *2014*

**Language:** *English*

[Link](#)

## *E-learning: Management of Maritime Shoreline Incident Response*

**Summary:** *This course offers an overview of chemical incidents, the potential health and environmental consequences of shoreline incidents; how such risks can be reduced through co-ordinated planning and preparedness, and the impact mitigated through effective response.*

**Organisations:** *ARCOPOLplus project Consortium.*

**Project:** *Atlantic Regions' Coastal Pollution Response (ARCOPOLplus)*

**Publication year:** *2014*

**Language:** *English /Portuguese*

[Link English \(CardiffMet\)](#)

[Link Portuguese \(CIIMAR\)](#)





## *Case studies*

**Summary:** *These are 8 case studies to illustrate approaches adopted in incident management, including the "Exercise Celtic Coast" case study.*

**Organisations:** *ARCOPOLplus project Consortium.*

**Project:** *Atlantic Regions' Coastal Pollution Response (ARCOPOLplus)*

**Publication year:** *2014*

**Language:** *English*

[Link](#)

## *Course IS-5.A: An Introduction to Hazardous Materials*

**Summary:** *This Independent Study course is intended to provide a general introduction to hazardous materials that can serve as a foundation for more specific studies in the future.*

**Organisations:** *Federal Emergency Management Agency (FEMA)*

**Publication year:** *2013*

**Language:** *English*

[Link](#)



## *HNS Training Manual*

***Summary:** This Manual consists of three volumes: Vol. 1 is the introductory level of the training course and it has the purpose of giving sufficient preparedness for and response to marine HNS incidents to the participating trainees; Vol. 2 aims to bring trainees to managerial level, and to provide them with the capacity to function as administrators and/or senior managers that can deal with incidents involving HNS promptly, properly, effectively, and successfully. Vol. 3 focuses on the operational level and aims to train students to acquire skills and knowledge for responding to and handling HNS incidents.*

***Organisations:** Northwest Pacific Action Plan - Marine Environmental Emergency Preparedness and Response - Regional Activity Centre (NOWPAP-MERRAC)*

***Publication year:** 2011*

***Language:** English*

[Link](#)



## Scientific publications

### *UUV's in Maritime Spill Response Exercise Cathach*

**Summary:** Exercise Cathach was a large training exercise which utilised and evaluated the use of Unmanned Underwater Vehicles (UUV's) and sensors in a maritime spill Incident involving oil and harmful and noxious substances (HNS). The exercise was a first in terms of the level of robotic systems deployed to assist in survey, surveillance and inspection roles, assessing the scene in real-time before committing first responders for respond and recover operations. The evaluation showed the effectiveness of these technologies to operate in harsh conditions and the efficiency and usability of the real-time data from operations in the field.

**Organisations:** Shannon Estuary Anti-pollution Team

**Publication year:** 2015

**Language:** English

[Link](#)

## Services /Tools

### *Exercise Simulation System Document (ESSD)*

**Summary:** The ESSD is a compilation of information and resources that would typically be available in any community as they respond to and manage an emergency or disaster. The ESSD provides support for exercises ranging from the very simple to increasingly complex with participation of all levels of government (i.e., Federal, State, territorial, Indian, county, and local). When combined with scenarios, the ESSD facilitates the Incident Action Planning process and allows students to practice the on-scene and off-scene coordination required by the National Incident Management System (NIMS) within the structure of an Emergency Operations Center (EOC).

**Organisations:** Federal Emergency Management Agency (FEMA)

**Publication year:** 2020

**Language:** English

[Links](#)



## ChemSAR eLearning environment and materials

**Summary:** ChemSAR presents operational plan (OP) and standard operational procedures (SOPs), learning materials, chemical data portal, simulation game, and other supporting links on hazardous and noxious substances (HNS) incidents at sea. These eLearning materials are supplementary to already existing SAR materials, e.g., national guidelines, SAR education and training as well as the International Aeronautical and Maritime Search and Rescue Manual by the International Maritime Organization.

**Organisations:** ChemSAR project Consortium, Baltic Sea Region.

**Project:** ChemSAR- Operational plans and procedures for maritime search and rescue in hazardous and noxious substances (HNS) incidents

**Publication year:** 2019

**Language:** English

[Link](#)

## ARCOPOL Web tool

**Summary:** Web viewer based on an open client built by INTECMAR for Galicia (NW Spain) that shows over a map all the information needed by the response manager during the emergency operations. This viewer is able to display static data (coastline, ESI line, special protected areas, etc), model results (winds, currents, spills) and observations (drifter tracks, pictures, spill observations etc.). This web is fed by several OGC services as WMS and WFS and other as THREDDS or Opendap and obtain data from different geodata bases and servers of Galician agencies (INTECMAR, MeteoGalicia). The last upgrades include two new functionalities: the visualization of the atmospheric plume dispersion modelled with ALOHA (for accidents producing toxic clouds) and a search tool for places' names (beaches, capes, towns etc).

**Organisations:** ARCOPOL project Consortium.

**Project:** Atlantic Regions' Coastal Pollution Response (ARCOPOL)

**Publication year:** 2015

**Language:** Spanish

[Link](#)



## *Dissemination materials*

### *HSEEP Video Series*

*Summary: FEMA has developed a series of short videos that provide a brief overview of topics related to the design, development, conduct, and evaluation of exercises.*

*Organisations: Federal Emergency Management Agency (FEMA)*

*Publication year: 2021*

*Language: English*

[Link](#)

## *Multimedia*

### *BALEX Delta exercises video series*

*Summary: Video series with an insight of one of the world's largest Maritime Response exercise taking place in the Baltic Sea and preparing for major oil and chemical spills.*

*Organisations: HELCOM*

*Publication year: 2005- present*

*Language: English*

[Link to full list](#)

[Link Exercise Sweeden 2005](#)

[Link Eexercise Poland 2006](#)

[Link Exercise Estonia 2007](#)

[Link Exercise Lithuania 2010](#)

[Link Exercise Latvia 2014](#)

[Link Exercise Poland 2015](#)

[Link Exercise Sweeden 2018](#)

[Link Exercise Estonia 2020](#)

[Link Exercise Finland 2021](#)

[Link Exercise Germany 2022](#)



## *Video Exercise ANED POLMAR POLHARBOR 2021*

*Summary: On Wednesday September 29 and Thursday September 30, 2021, an “Assistance to Vessel in Trouble (ANED) and Pollution Response at Sea (POLMAR)” exercise took place off Le Havre. Organized jointly by the maritime prefecture of the Channel and the North Sea, the prefecture of Seine-Maritime and HAROPA PORT, in connection with the prefecture of the Western defense and security zone.*

*Organisations: Préfecture maritime de la Manche et de la mer du Nord, Préfecture de la Seine-Maritime & HAROPA PORT*

*Publication year: 2021*

*Language: French, English*

[Link](#)

## *Video: Dealing with HNS spills at sea*

*Summary: This video highlights the main aspects to consider when dealing with HNS spills at sea. It shows in a friendly way different techniques that can be used when a HNS spill takes place. The video contains animated frames combined with real images from the field exercises organised in the frame of MARINER project and also during the international exercise SCOPE 2017 and the Spanish national exercise HUELVA 2017.*

*Organisations: MARINER project Consortium*

*Project: MARINER*

*Publication year: 2018*

*Language: English*

[Link](#)



## *BONNEX Delta 2013 exercise video*

**Summary:** *The Bonn Agreement held its main counter pollution response exercise BONNEX Delta in Cherbourg in 2013. This video outlines the full exercise from briefing to completion.*

**Organisations:** *Bonn Agreement Secretariat*

**Publication year:** *2014*

**Language:** *English*

[Link](#)

## *Video explaining the experiments and use of drifters to follow slicks*

**Summary:** *The aim of this video is to warn fishermen and other sectors about the use of drifters and their importance in combatting marine pollution.*

**Organisations:** *DRIFTER Project consortium*

**Project:** *DRIFTER, DRIFTER: HNS, Oil and Inert Pollution: Trajectory Modelling and Monitoring*

**Publication year:** *2010*

**Language:** *Spanish*

[Link](#)