



Harmonization and Networking for contaminant assessment in the Ionian and Adriatic Seas

Harmonized management of marine pollution in the Ionian and Adriatic Seas: a not so trivial task

Marina Lipizer and HarmoNIA partnership



NATIONAL INSTITUTE OF BIOLOGY



ARSO ENVIRONMENT
Slovenian Environment Agency



REGION OF WESTERN GREECE
full of surprises!



HarmoNIA 3rd Stakeholder Workshop, October, 24, 2019 - Patras, Greece

Marine pollution? What do we mean?

➔ A lot of different kinds (microbial pollution, eutrophication, marine litter, microplastic, **chemical pollutants**,...)

(heavy metals, hydrocarbons, pesticides/biocides, PCBs, DDTs, pharmaceuticals,...)



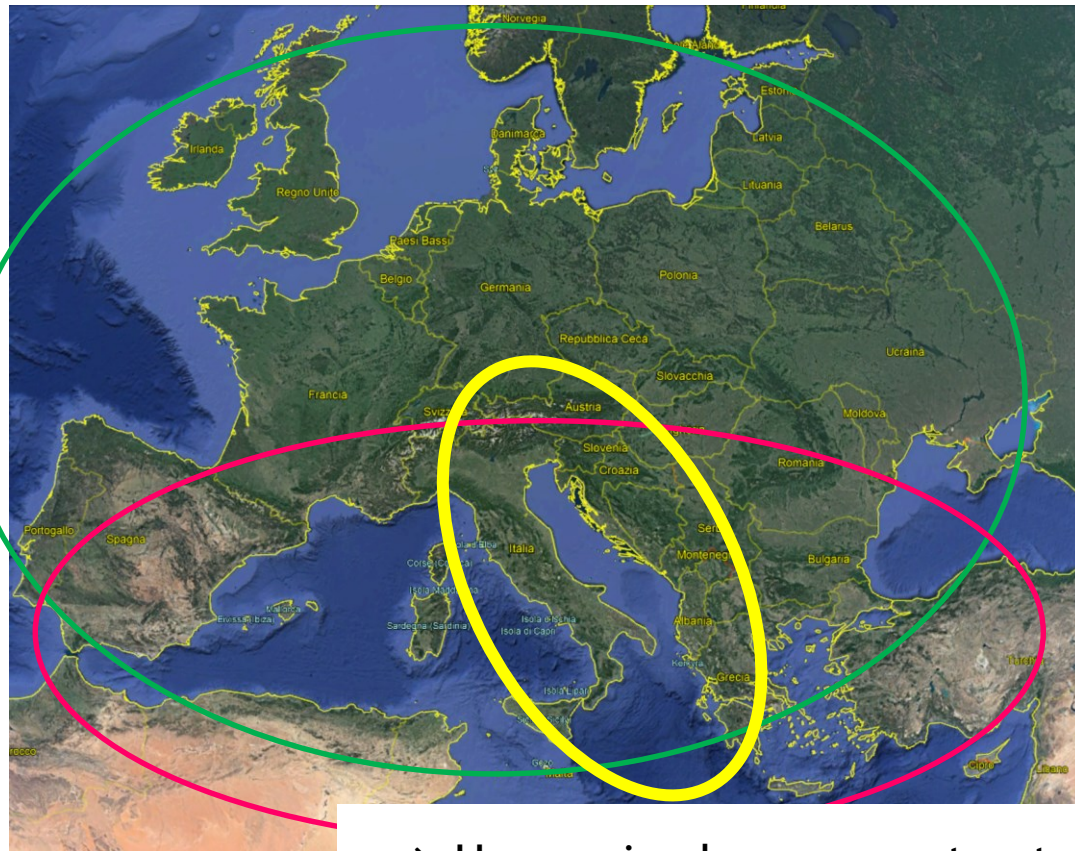
Are the Adriatic - Ionian Seas polluted?

➔ Legislative instruments indicate **how** to assess pollution (what to measure, how, where, when)

EU Marine Strategy
Framework Directive
(MSFD)

Not using exactly
the same criteria

In the Mediterranean:
Barcelona Convention
- MEDPOL - UNEP-MAP



➔ Harmonized assessment not so trivial!

Challenges in the ADRION region:

- ➔ The ADRION area is a hot spot of biodiversity - habitats and communities of great environmental importance
- ➔ Marine socio- economic activities rely on **Good Ecosystem Status**
- ➔ Pollution in the ADRION area is a key issue

From: 2017 Mediterranean Quality Status
 Report, UNEP/MAP
 Regional mercury assessment in sediments



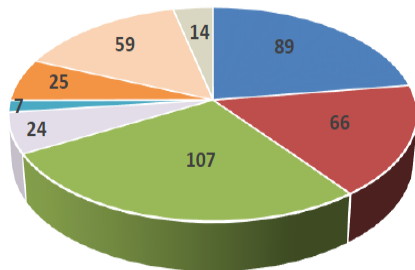
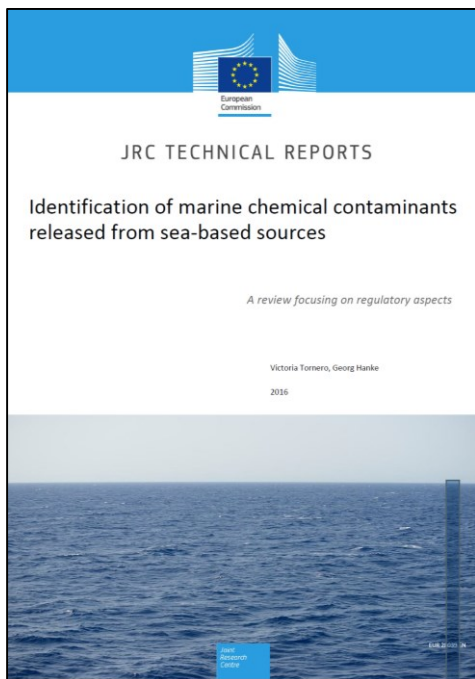
Oil & gas concessions and platforms



- ➔ Several maritime activities may threaten **Good Ecosystem Status**



Main sea-based sources of contaminants:

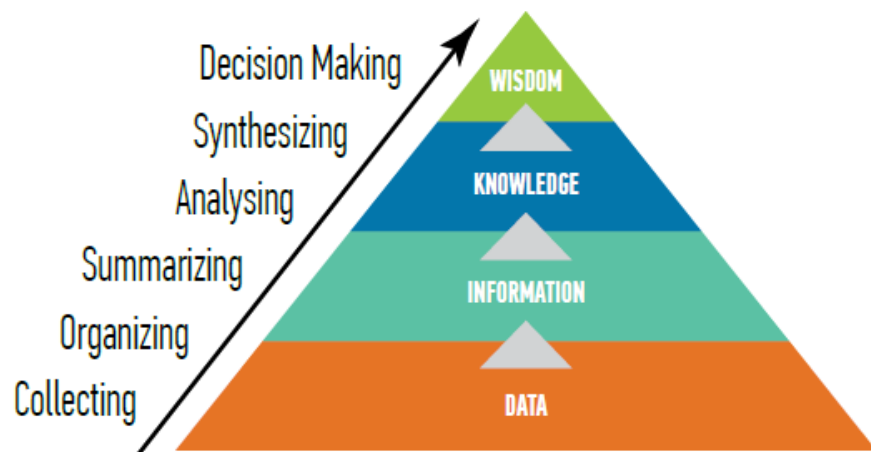


- Shipping
- Mariculture
- Offshore gas/oil activities

- Offshore renewable energy devices
- Seabed mining
- Dredging/dumping of dredged material
- Historical dumping sites
- Shipwrecks

Challenges:

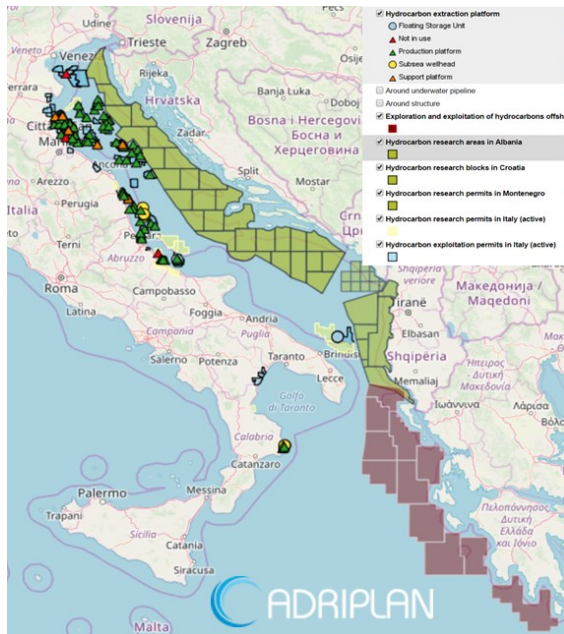
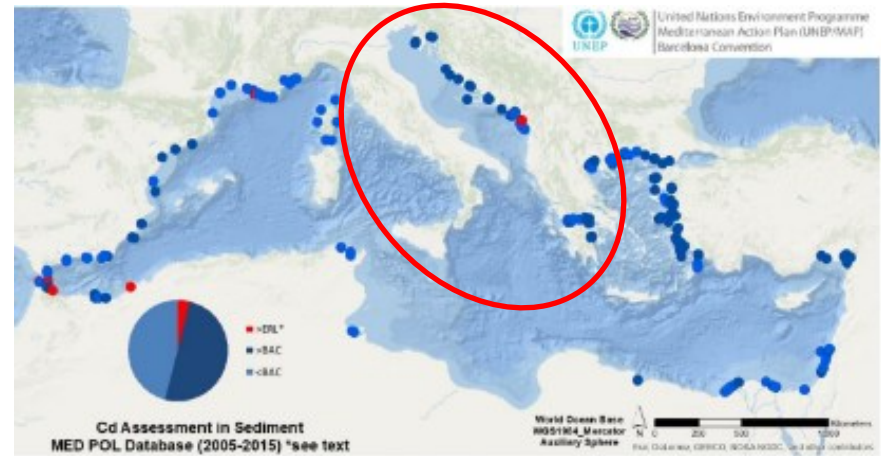
- ➔ Sustainable use of our common seas
- ➔ Need of **data** and information for decision making
- ➔ Good Environmental Status (GES) assessment: wide **heterogeneity** of information used for MSFD reporting



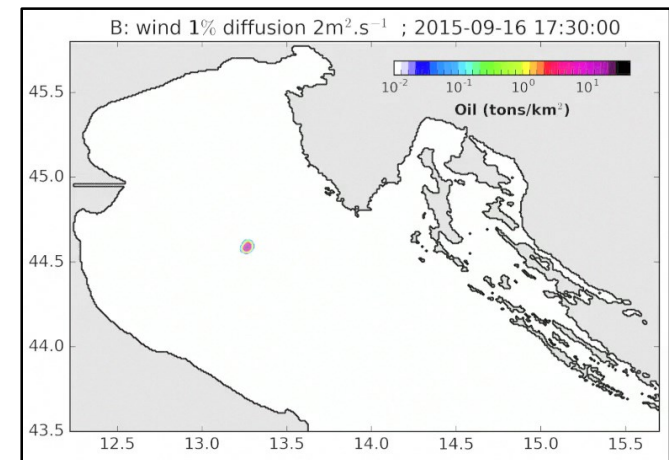
Gaps:

Transnational **shared approach** to evaluate impact of offshore activities: monitoring procedures, legal aspects, technical guidelines,...
Oil & gas concessions and platforms

Data
availability
for GES



Harmonized approach to evaluate **contaminant dispersion** from offshore activities and accidents



HarmonIA overall objective:

... to address the heterogeneity in **methodological approaches**, to overcome the **fragmentation** in geographical coverage of **data** availability on contaminants and to **propose** an approach for contaminant dispersion **risk assessment**.

Contribution to wider strategies & policies:



- ❑ Marine Strategy Framework Directive (MSFD, EU 2008)
- ❑ Protocols of the Barcelona Convention against pollution
- ❑ Maritime Spatial Planning (MSP, 2014)

HarmoNIA approach:

- ❑ Establish an Adriatic - Ionian network of agencies and institutes in charge of the assessment of marine contaminants
- ❑ Define best practices to tackle monitoring, assessment and evaluation of impacts due to contamination
- ❑ Collect and make accessible through a common and already available infrastructure regional datasets of contaminants for the Adriatic - Ionian region
- ❑ Propose a regional strategy for a shared and harmonized evaluation of the risk due to contaminant dispersion from different sources of pollution.

Network of institutions



Adopting:

Shared analytical protocols



Common data infrastructure



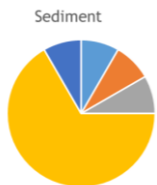
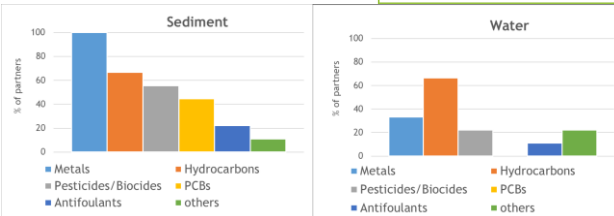
Shared assessment procedures



What we have done so far:

- ☐ Sharing best practices to support the harmonized **implementation of marine environmental directives** in the ADRION region

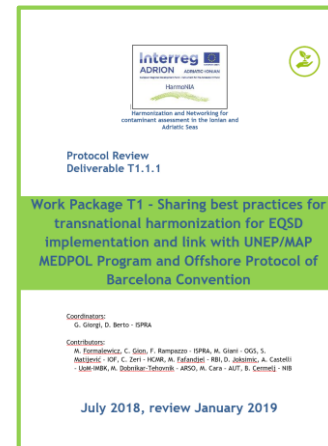
Considering heterogeneity in:



- DW-<200um (2010-2013), <63um (2014-2017)
- DW-<63um
- DW- < 2000 um
- DW-Whole sample
- WW-Whole sample



1. Transnational analysis of **protocols/methodologies** used to determine specific marine **contaminants**
2. Best practices for **harmonized** sampling/analytical/data Quality Control procedures



3. Best practices towards transnational harmonization of **Environmental Impact Assessment (EIA)** protocols for offshore activities

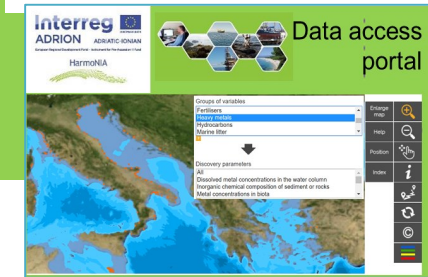
4. Best practices towards transnational harmonization of protocols for **monitoring the impact** of offshore **platforms**

5. Share **decommissioning** procedures

Shared analytical protocols

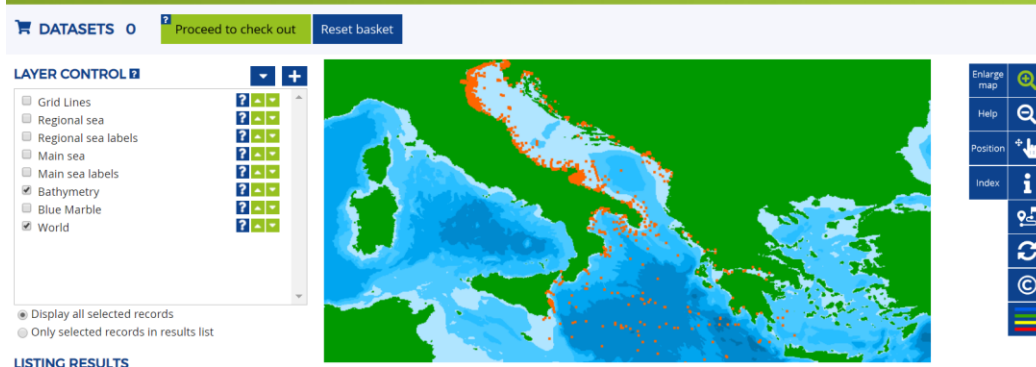


→ Harmonized monitoring!

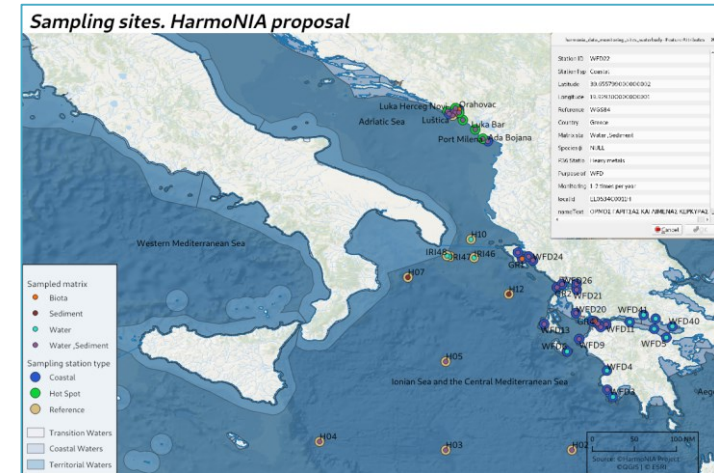


- Strengthen the **network of data infrastructures** to facilitate access and re-use of marine data

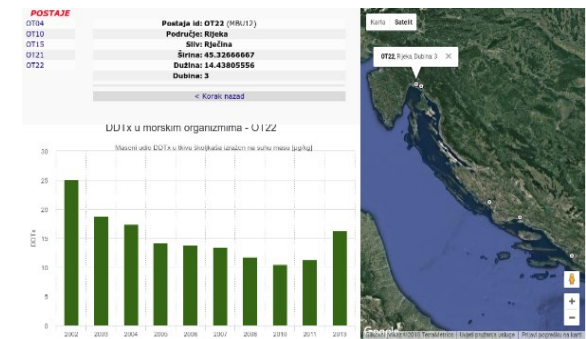
Make data **accessible** on a common infrastructure and provide **user-friendly** visualization of trends and compliance with legislation of marine contaminants



Provide easy access to metadata:



... and to data visualizations:



Common data infrastructure

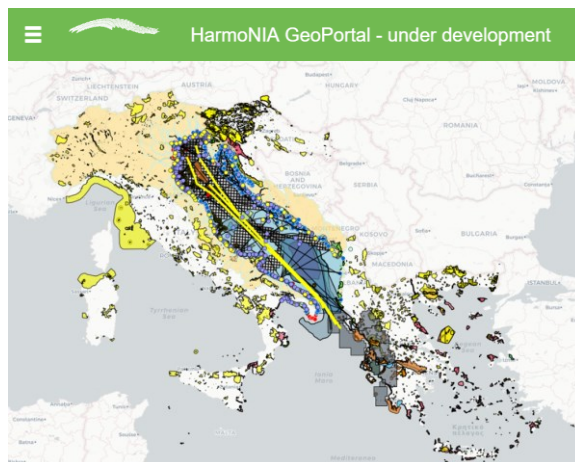


→ Accessible data!



❑ Supporting a coordinated approach of pollution management and in case of pollution accidents and defining a **common strategy** to assess contaminant dispersion risk along the coast

- Where are the main sources of pollution
- Collection of relevant information for the ADRION area to define vulnerability index along the coast and to define case study areas
- Organization of information in a GeoPortal - under development



➤ Use **hydrodynamic modelling** to predict contaminant dispersion in typical situations and in case study areas

➤ Evaluate **vulnerable** marine and coastal areas

➤ Evaluate the **probability** of the distribution of contaminants

➤ Propose a **methodology** for assessing risk index of contaminant dispersion and results in case study areas

Shared assessment procedures



→ Knowledge for decision making

What we have done so far:

☐ Sharing HarmonIA: stakeholder workshops, questionnaires, public engagement

1st Workshop: Athens, April 2018
 Setting the scene



2nd Workshop: Split, February 2019
 The offshore challenge



EU Researchers' Night 2018 & 2019



3rd Workshop: Patras, October 2019
 HarmonIA first results



Objectives:

- ☐ Share knowledge on procedures for monitoring, EIA, decommissioning
 - ☐ Help identify possible additional/missing information and data
 - ☐ Collect feedbacks to “tune” activities
 - ☐ Share needs which can be approached by HarmonIA
- ❖ Raise people awareness: make people think about pollution (not just plastic!), sources of pollution, polluting activities

Next steps:

4th Workshop: Trieste, March 2020
 HarmonIA achievements



What we wish for today:

- ❖ Share information at ADRION scale to face marine pollution: from monitoring to risk assessment
- ❖ Increase knowledge on needs and gaps for a sustainable management of the marine environment
- ❖ Share HarmonIA results and tools

HarmonIA challenges in synthesis:

- ❑ From **good monitoring** data to **good decision** making
- ❑ Harmonize monitoring protocols for **reliable assessment** of Good Environmental Status.
- ❑ Towards a **common strategy** to assess contaminant dispersion risk
- ❑ Best practices to support a **sustainable use** of the sea: the offshore challenge





Financed by Interreg ADRION Programme

SPECIFIC OBJECTIVE 2.2

ENHANCE THE CAPACITY IN TRANSNATIONALLY TACKLING
ENVIRONMENTAL VULNERABILITY, FRAGMENTATION, AND
SAFEGUARDING ECOSYSTEM SERVICES IN THE ADRION AREA

Project duration: 1.2.2018 - 31.03.2020

HarmonIA Partnership:
10 Project Partners
4 Associated Partners



Lead Partner: National Institute for Oceanography and
Applied Geophysics (OGS) - Trieste, Italy

Contact: Marina Lipizer, mlipizer@inogs.it



Thank you for your attention!

More information available on:

<https://harmonia.adrioninterreg.eu/>

HarmoNIA Geoportal:

<http://jadran.izor.hr/harmonia/#>

HarmoNIA video:

<https://www.youtube.com/watch?v=P1q4PRy5O6o&t=34s>

First HarmoNIA questionnaire:

https://docs.google.com/forms/d/e/1FAIpQLSdV6z-fO2zxej2F7g8_gP5_NWCkOAdVy5fXNambKaUmcAeuKg/viewform

HarmoNIA on facebook:

https://www.facebook.com/HarmoNIA-project-2034499366872633/?ref=aymt_homepage_panel&eid=ARDaeoqtGoJRY_IHhbG1QgGwTgOEPxFhj9df64METOaHk8KDEwwl2XE6NfrkgEx85fJRsggq4TnDrCW

