Balancing maritime sector development and environmental planning, supporting socio-economic growth and ensuring environmental services

PLASMAR and MarSP

two MSP project initiatives in Macaronesia

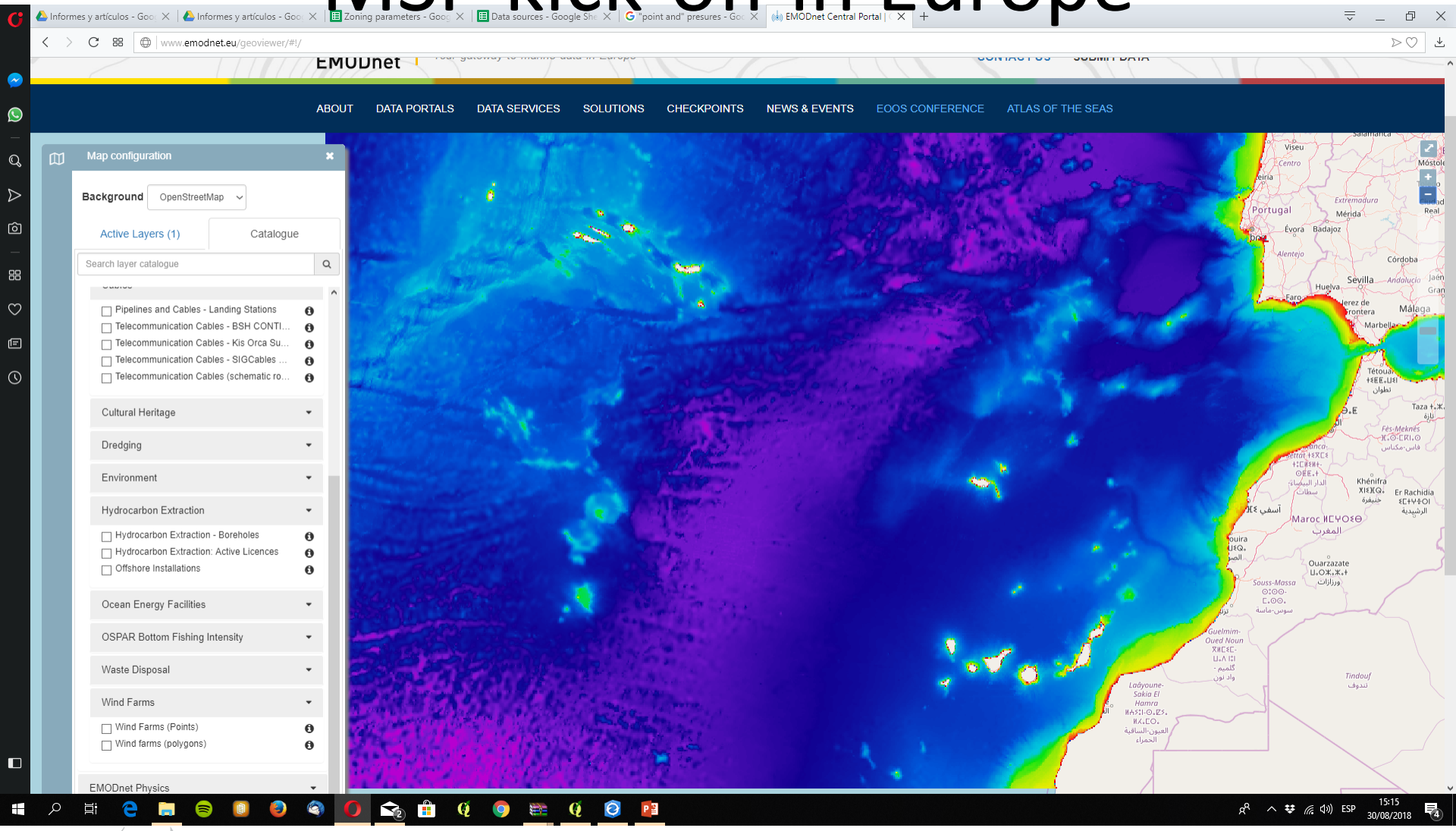
Andrej Abramic PhD, EOCOAQUA institute @ ULPGC

EUROPEAN COMMISSION

DIRECTORATE-GENERAL FOR MARITIME AFFAIRS AND FISHERIES

European MSP Platform

MSP kick-off in Europe



EUROPEAN COMMISSION

DIRECTORATE-GENERAL FOR MARITIME AFFAIRS AND FISHERIES

Workshop 'Maritime Spatial Planning for Islands'
Gran Canaria – 11 September 2018
#MSP4Islands

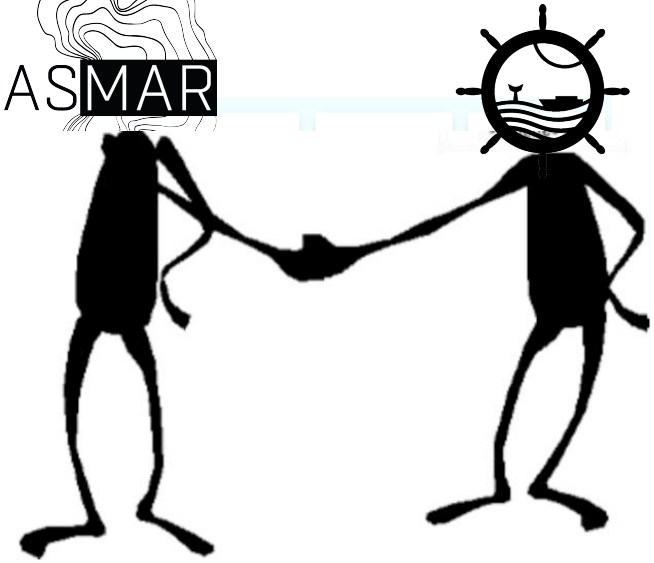
European MSP Platform

Two project initiatives on MSP

Cofunded - **European Regional Development Fund**, INTERREG

- Collaboration Research & Administration
- Common objective – Finalize 1st MSP for Macaronesia

PLASMAR



ECOAQUA-ULPGC

Cofunded - **European Maritime and Fisheries Fund**

Current uses and projection for MSP in Macaronesia

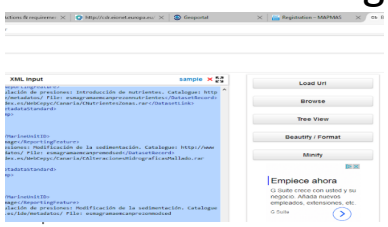
ANALYZED SECTORS	EU State / World prospect	MADEIRA State / Prospect	AZORES State / Prospect	CANARIES State / Prospect
Aquaculture			RD&I	
Blue biotechnology			RD&I	
Renewable ocean energy		RD&I	X X	RD&I
Deep-sea mining		X X	RD&I ?	RD&I ?
Coastal & maritime tourism (incl. cruises)				
Fisheries				
Maritime transport				
Shipbuilding & shipgear		X X		
Offshore oil & gas (in deep water)		X X	X X	X X
Desalination			X X	

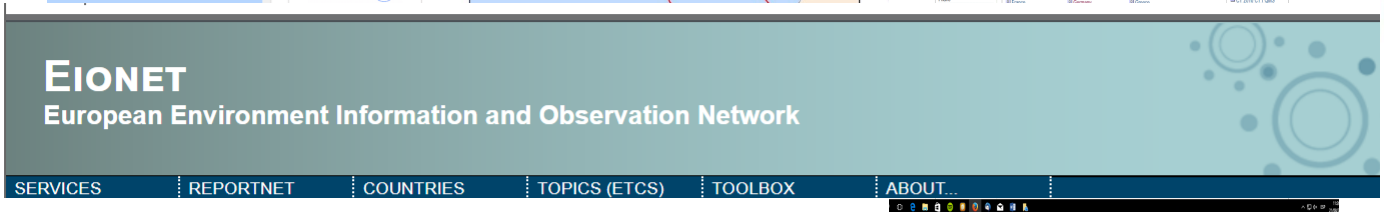
for Islands' 2018

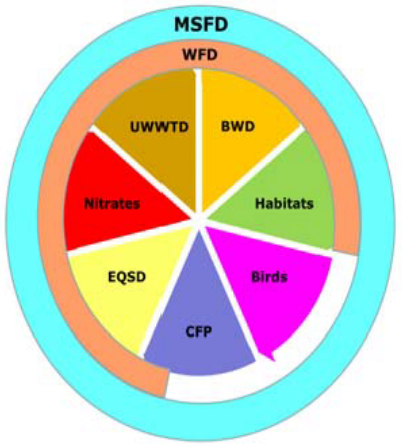
European MSP Platform

MSP & Environmental Legislation

- Analysis on environmental legislation Implementation (applies on the sea)
- To understand **what is already done within environmental policies/directives implementation, so that can be considered and potentially reused** in the MSP process.
- **Marine Strategy Framework Directive** as Integrated Marine (environmental) Management
- **European Environment Information and Observation Network** (EIONET) & REPORTNET, by EEA
- **Compatibility** of sustainable maritime sectors development with implementation of the MSFD
- **Marine data, monitoring, programmes of measures, assessments** regarding the 1st MSFD cycle 2012-2018







Mapping environmental issues/solutions maritime sectors

– Following **marine environment framework given by MSFD – Good Environmental Status** 11quality descriptors/**42 criteria elements given by COM 2017/848/EC**

– Analyzing all **GES criteria VS maritime activities**, technical and scientific reports, workshops and enquiries

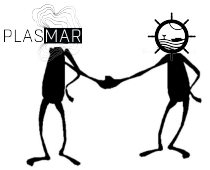
– **Identifying pressures, mitigation, solutions, monitoring**

– Finalized finfish aquaculture and offshore wind energy analysis

This deliverable will provide checklist :

- **Facilitate EIA process**, including **EIS& EID**
- **What are the alternatives** and if is possible to avoid pressure and related impact
- If there are **mitigation measures** and if can be applied
- What type of **monitoring** is necessary to establish to secure that maritime activity not pass the sustainability thresholds for all three phases (construction, operations, decommissioning)
- **Trade offs,** local economy VS marine environment

Data collection
PLASMAR data framework



MSFD Good Environmental Status	Marine Protected Areas	(Coastal) Land Use	Oceanography	Maritime activities/Uses
• MSFD reports, EIONET • EMODnet • WISE • IEO, CSIC, SniMAR, SIGmar, GRAFCAN…	• Nationally designated areas (CDDA) • Natura 2000 • IEO, CSIC, SniMAR, SIGmar, GRAFCAN	• CORINE • Copernicus • GRAFCAN	• Copernicus • EMODnet • GEBCO • IEO	• Local/National data (SniMAR, SIGmar, GRAFCAN…) • EMODnet • IEO

NATURA 2000

GEBCO

EMODnet

European Environment Agency

WISE
WATER INFORMATION SYSTEM FOR EUROPE

sni mar
Sistema Nacional de Informação do Mar

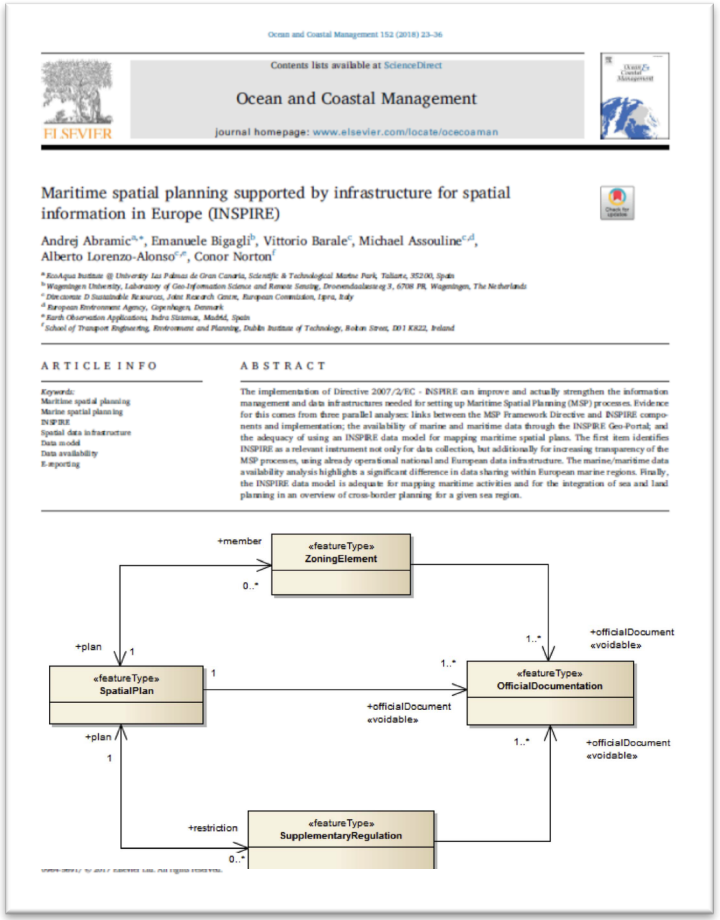
opernicus
Europe's eyes on Earth

CSIC
Consejo Superior de Investigaciones Científicas

GRAFCAN

INSPIRE data Management & MSP
INSPIRE data model

- ULPGC updated citizen science project Poseidon –(2016) **INSPIRE complainant** - test
- Common workshop/**training on data management – *hands on*** - development of the basic infrastructure that can be used by partners for data flow
- Development of the **catalogues** of metadata, **data harmonization, data flows, data sharing – within MSP platforms**
- **MSP INSPIRE data model** – current data model for "planned land use" needs adoption for maritime uses
- MSP **e-reporting** in 2021
- Abramic et al. 2018 ***MSP supported by INSPIRE***



Ocean and Coastal Management 152 (2018) 23–36

Contents lists available at ScienceDirect

Ocean and Coastal Management

journal homepage: www.elsevier.com/locate/ocecoaman

Maritime spatial planning supported by infrastructure for spatial information in Europe (INSPIRE)

Andrej Abramic[a,*], Emanuele Bigagli[b], Vittorio Barale[c], Michael Assouline[c,d], Alberto Lorenzo-Alonso[e,f], Conor Norton[f]

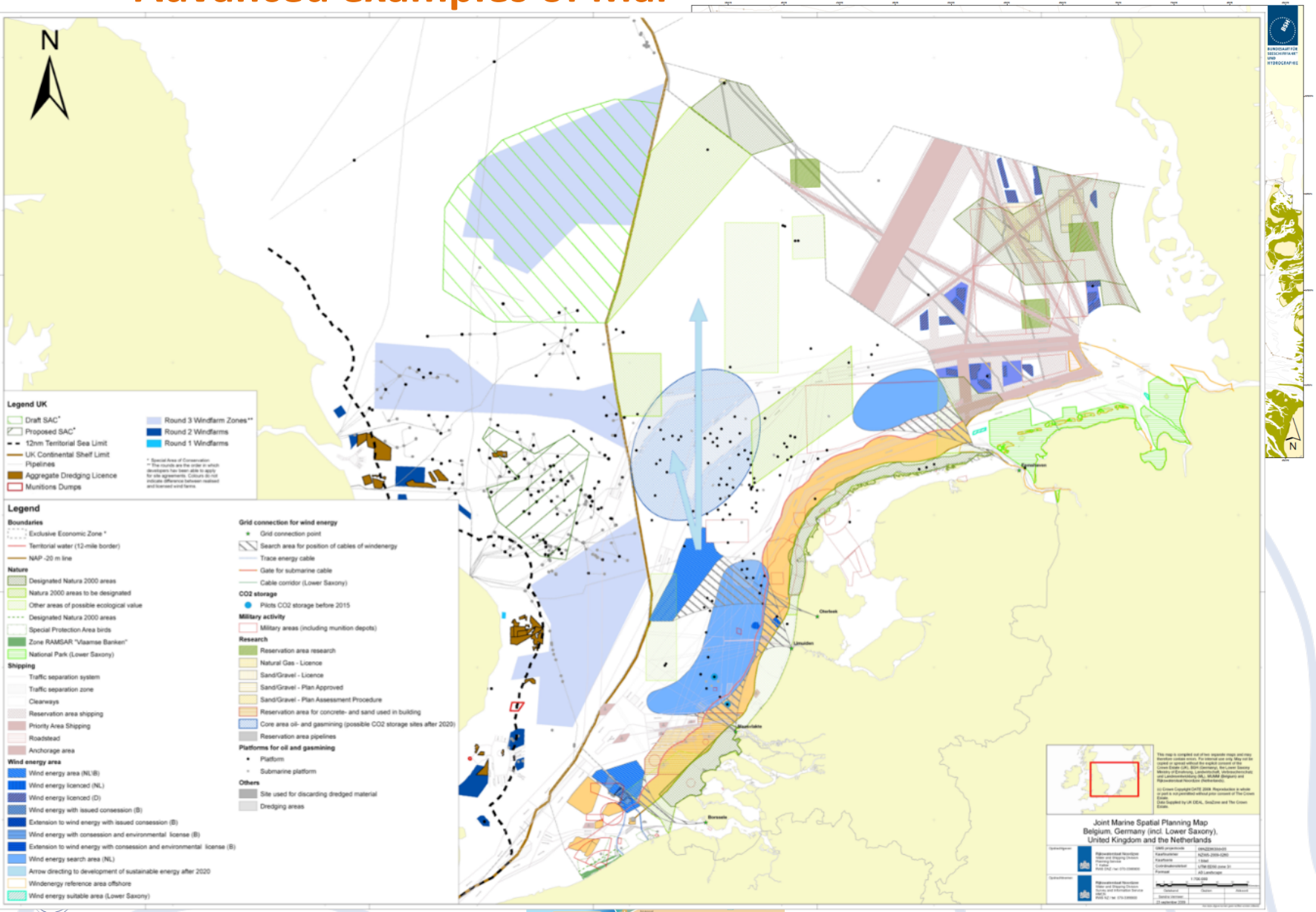
ARTICLE INFO

ABSTRACT

The implementation of Directive 2007/2/EC - INSPIRE can improve and actually strengthen the information management and data infrastructures needed for setting up Maritime Spatial Planning (MSP) processes. Evidence for this comes from three parallel analyses: links between the MSP Framework Directive and INSPIRE components and implementation; the availability of marine and maritime data through the INSPIRE Geo-Portal; and the adequacy of using an INSPIRE data model for mapping maritime spatial plans. The first item identifies INSPIRE as a relevant instrument not only for data collection, but additionally for increasing transparency of the MSP processes, using already operational national and European data infrastructure. The marine/maritime data availability analysis highlights a significant difference in data sharing within European marine regions. Finally, the INSPIRE data model is adequate for mapping maritime activities and for the integration of sea and land planning in an overview of cross-border planning for a given sea region.

Cross-border use case North Sea

Advanced examples of Maritime Spatial Planning in EU



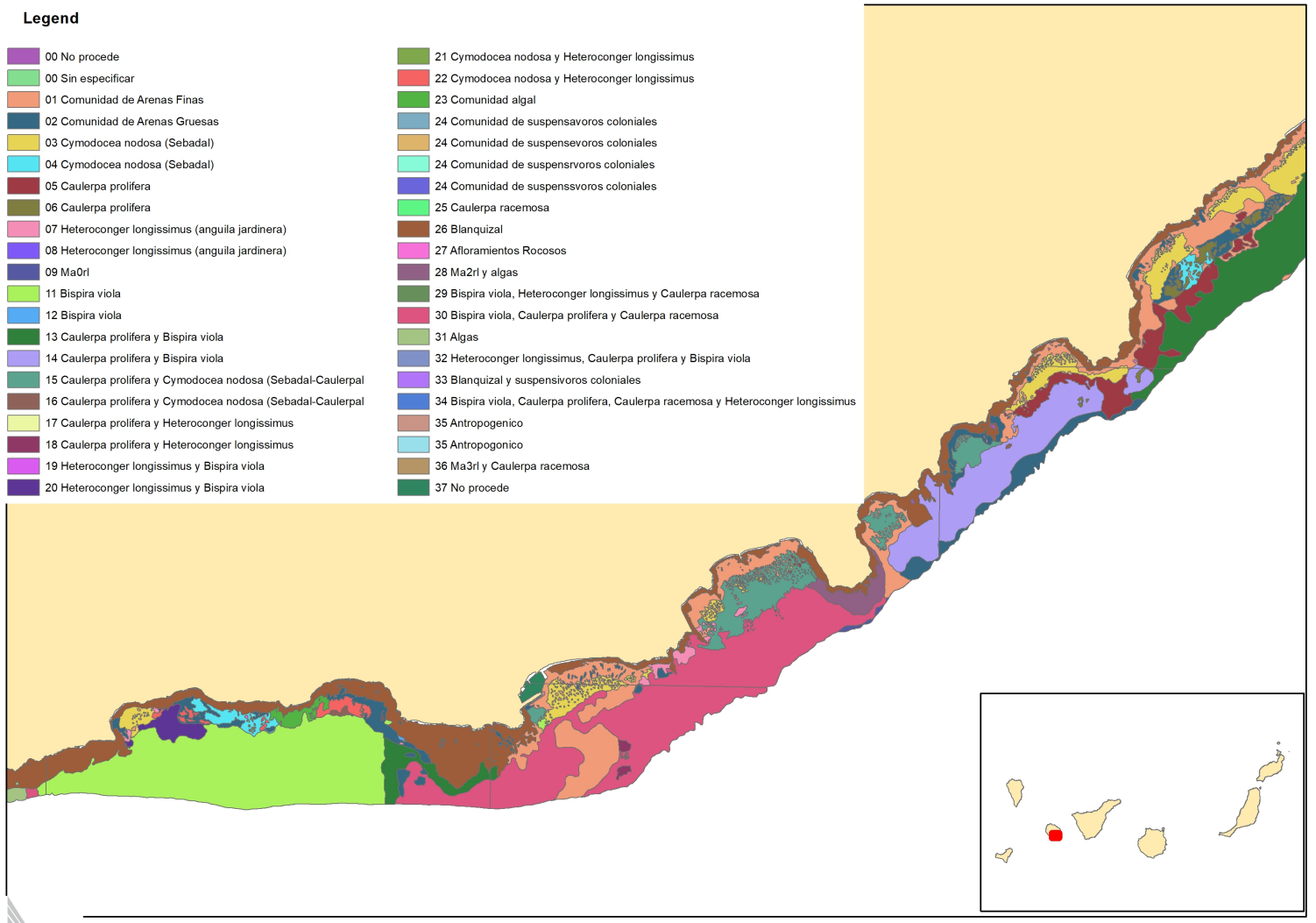
Example - Harmonization of benthic habitats cartography

- "Estudios Ecocartográficos de Canarias": benthic habitats cartographies for all islands and depths 0-50m.

Table 1: Main characteristics of the benthic habitats cartographies of the Canary Islands. Contractor: [1]Ministerio de Medio Ambiente; [2]Cabildo Insular de Tenerife. Own elaboration.

Island	Years	Authors	Nr. cats. legend
Lanzarote, Graciosa y Alegranza[1]	2000 (2000-2003)	UTE: HIDTMA, IBERINSA, CIS y TOPONORT	39
Fuerteventura y Lobos[1]	2003 (2003-2006 8??)	UTE: HIDTMA e IBERINSA	12
Gran Canaria[1]	Norte 2005 (2006-2007)	TYPSA	20
	Sur 2001 (2000-2002)	UTE: INTECSA-INARSA, TECNOAMBIENTE y GEOMYTSA	16
Tenerife[2]	2001-2006 - Buenavista-Arona 2001-2002 - Arona-Fasnia 2003 - Fasnia-R. Anaga 2004-2005 - R. Bermejo-Buenavista: 2006	UTE: LA ROCHE CONSULTORES, S. L., ESTUDIO ITAC S.L.	25
La Palma[1]	2003 (2003-2004)	UTE: ALATEC, ESGEMAR S.A., GRUPO INTERLAB S.A.	13
La Gomera[1]	2003 (2003-2006)	UTE: INTECSA-INARSA, TECNOAMBIENTE y GEOMYTSA	38
El Hierro[1]	2003 (2003-2006)	UTE: INTECSA-INARSA, TECNOAMBIENTE y GEOMYTSA	12
			176

La Gomera - 38 different habitat clasification

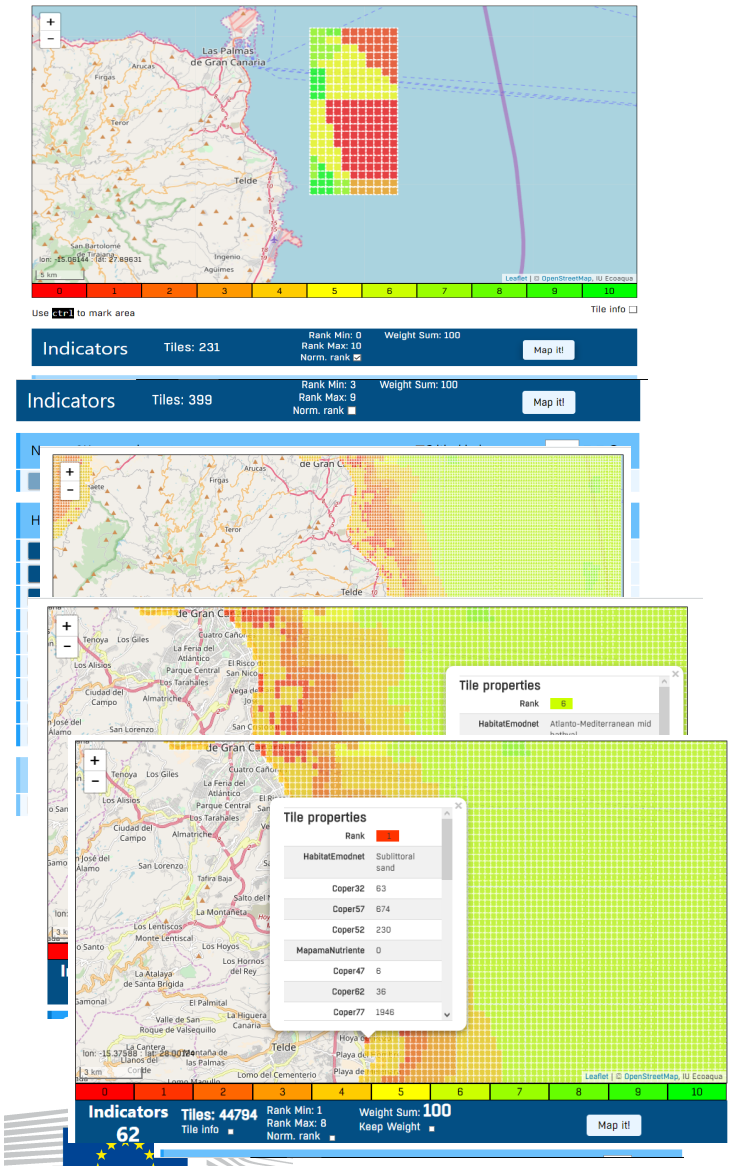


La Gomera. 14 habitats IEHE

With INSPIRE data model we used three classification standards:

- European Nature Information System (**EUNIS**) – 26 categories; not enough detail for MACaronesia
- Marine Strategy Framework Directive (**MSFD**)-12 habitats categories; Very broad classification
- **Spanish Inventory of Marine Habitats and Species** – 43 categories
- This data prodcut is availble on the: http://www.geoportal.ulpgc.es

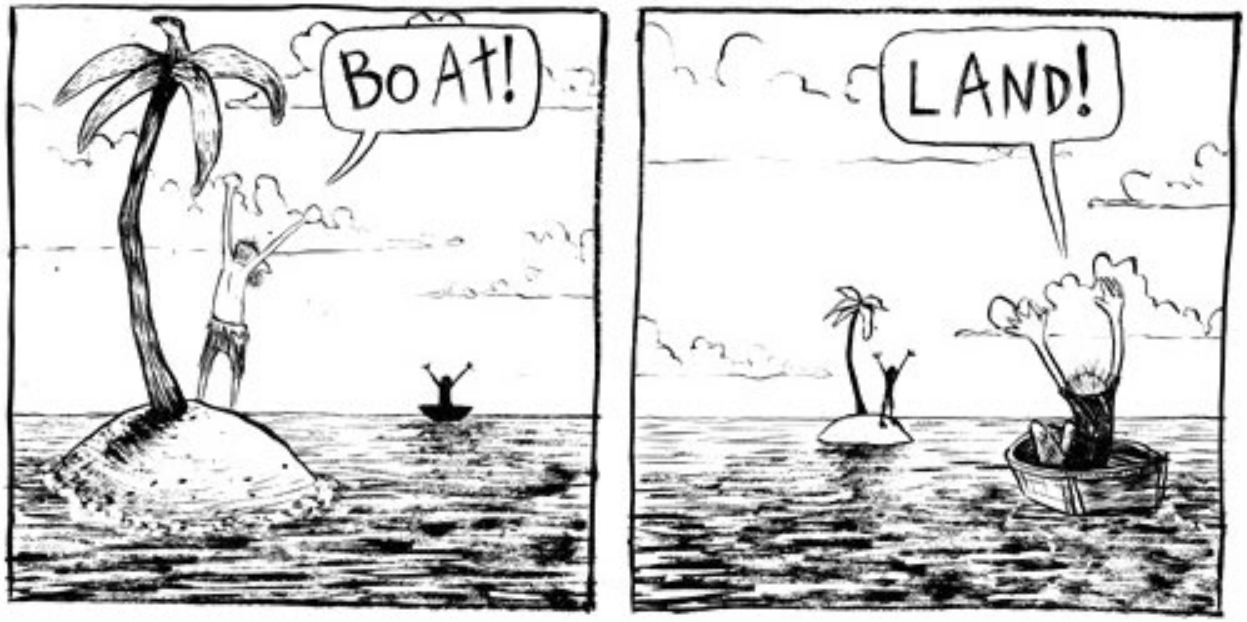
DSS / AI Expert System – INDIMAR



- **Still on development**, fulfilling with data, training the system – establishing **weight on each parameter VS maritime activities**
- **Interactive system,** easy development - no need experts in programming – **all partners are participating**
- Rotation of the results within the partners and **adjusting for the local environment**
- Will **provide maps on location for the studied maritime activities where env. impact is minimized**
- Results will be used to **establish new methodology for MSP zoning**
- Will define **Environmental trade-off**
- Will be defined **what is necessary to monitor** in operational phase and **what is necessary to analyze before license is provided**
- **DSS will be publicly open**, but with already defined parameters weights
- **Facilitate EIA process** and encourage investment

Thank you for your attention

…and patience



www.plasmar.eu
www.marsp.eu
andrej.abramic@ulpgc.es