

Skill assessment service for real-time ranking of met-ocean data products in the **IBI** area for emergency and **SAR** operators



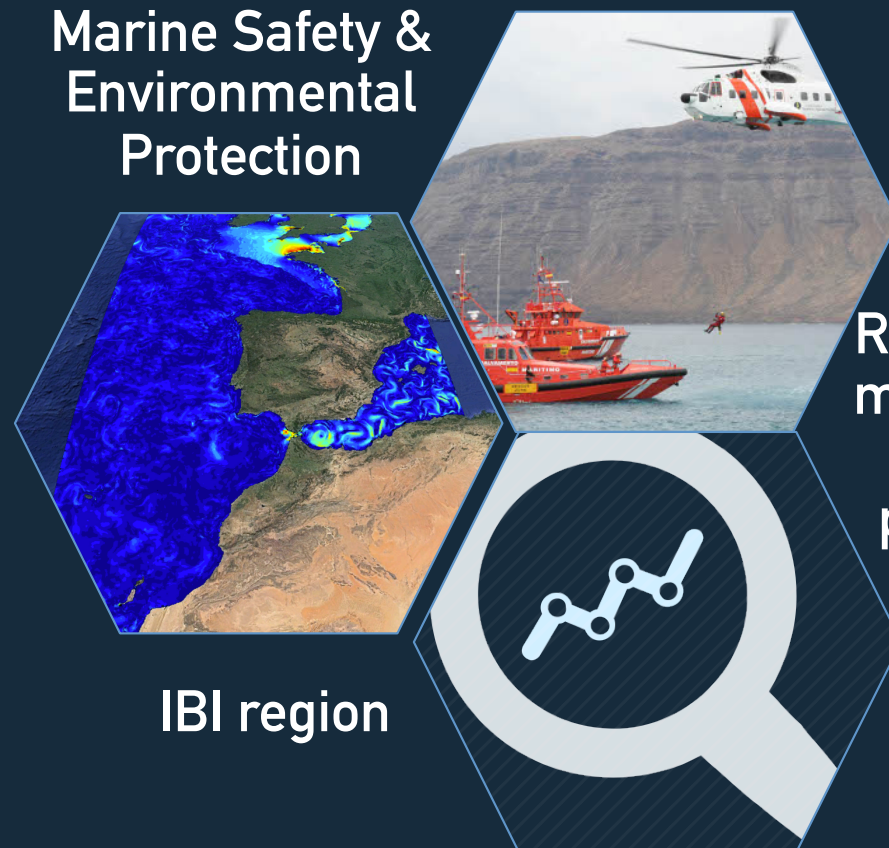
IBISAR DOWNSTREAM SERVICE

Emma Reyes Reyes / Project IP

OUTLINE

- 01 IBISAR highlights
- 02 IBISAR proposal numbers
- 03 Context
- 04 Working Packages & Tasks
- 05 Workplan
- 06 IBISAR service
- 07 Team & organisation
- 08 Impact on CMEMS
- 09 Benefits for targeted users
- 10 Dedicated webpage

Marine Safety &
Environmental
Protection

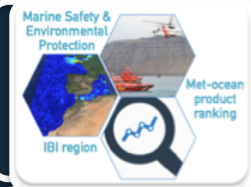


IBI region

Ranking of
met-ocean
data
products



01 IBISAR HIGHLIGHTS



PROPOSAL GOAL

- Improve, validate and promote the skill assessment service IBISAR



SERVICE MAIN AIM

- Provide real-time met-ocean product ranking in the IBI area for emergency responders



SAR OPERATORS NEEDS

- User-friendly automated skill assessment
- Confidence indicator of the forecast >> Easily interpretable metrics



CMEMS products

- CMEMS MFCs: current velocity forecast within the IBI region
- CMEMS INSITU & Satellite TACs: current velocity (IBI)
- Upcoming High-Frequency Radar surface currents (IBI)

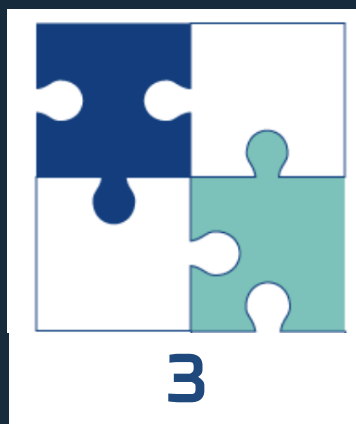


TEAM

- SOCIB : advanced MRI1 & data provider (public)
- AZTI : technological centre (private NPO²)
- RPS : downstream service provider (private)

¹ Marine Research Infraestructure; ² Non-Profit Organization

02 IBISAR PROPOSAL: BY THE NUMBERS



Public and
private
institutions



Scientists



Working
packages



IBI-
subregions



Budget



Months

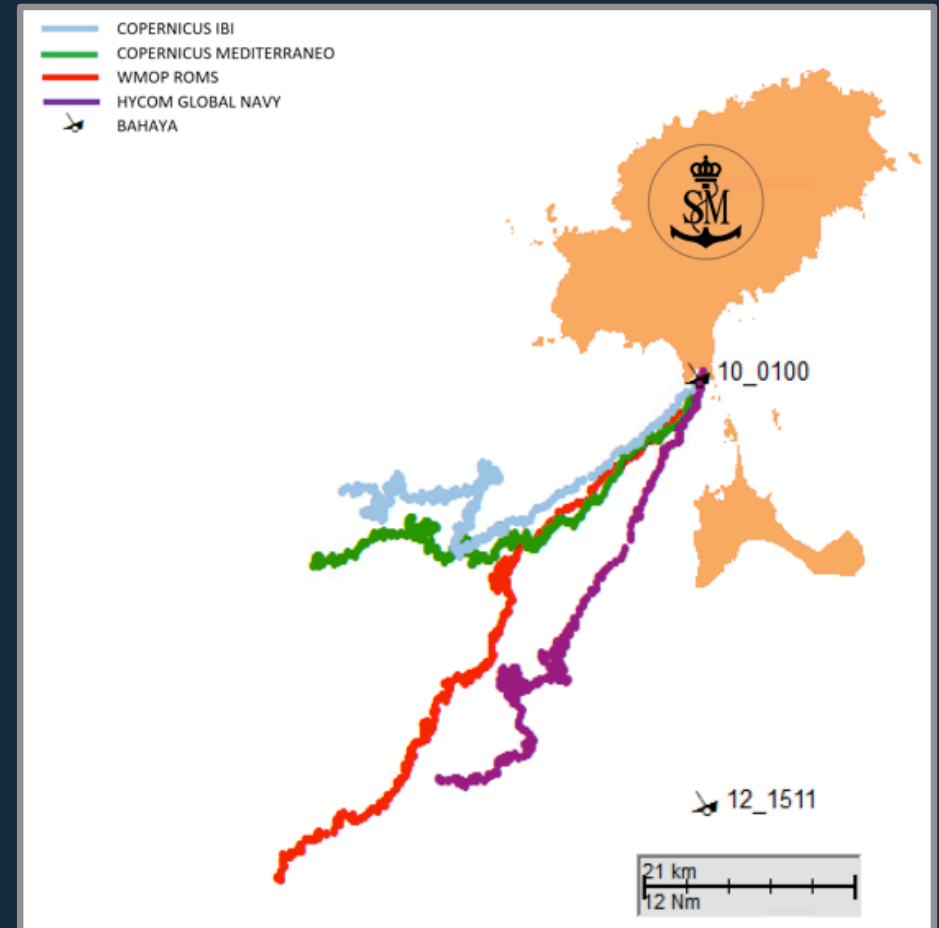


Downstream
service



Areas of
benefits

03 CONTEXT: SAR AGENCIES NEED DATA CONFIDENCE



Reliable met-ocean observations and forecasting are essential

Easily interpretable metrics

User-friendly automated skill assessment

Simulated trajectories from different models

04

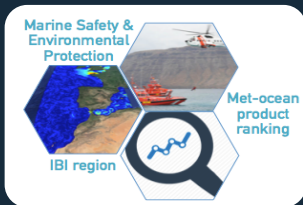
WORKING PACKAGES & TASKS



WP1: Data Inventory & collection

T1.1: Identification and compilation of CMEMS products

T1.2: Identification and compilation of complementary database



WP2: Service improvement, activation, test and maintenance

T2.1: Development & processing methods to obtain the datasets

T2.2: Activation of IBISAR service

T2.3: Monitoring and maintenance of IBISAR service



WP3: Skill assessment validation

T3.1, 3.2, 3.3 & 3.4: SA Validation in the IBI subregions (WSMED; NIBSH; GIBS; CADIZ)



WP4: Service Promotion

T4.1: Communication actions (Official mailing; video-tutorial; leaflet; conferences)

T4.2: Creation of IBISAR Dedicated Webpage

T4.3: Edition of the Use Case



WP5: Project Management

T5.1: Technical and administrative coordination

T5.2: Establishment and provision of the Action Plan

T5.3: Production of reports

T5.4: Organization of meetings

05 WORKPLAN

Months		May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Nov	March	
		T0+ ⁴	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18 ⁵	30 ⁶	March 2021	
WP	TASK	[2018]								[2019]												[2020]	[2021]
1	DATA INVENTORY & COLLECTION						M1.1							M1.2									
	Task 1.1 CMEMS products						D1.1							D1.2									
	Task 1.2 Complementary Data base																						
2	SERVICE IMPROVEMENT, ACTIVATION, TEST & MAINTENANCE							M2.2									M2.1					M2.3	
	Task 2.1 Processing methods to obtain datasets & integration of datasets						D2.1										D2.1'						
	Task 2.2 Activation of IBISAR							D2.2											D2.2'	D2.2'		D2.2'	
	Task 2.3 Monitoring & maintenance																						
	Subtask 2.3.1. User support service during the contract																		D2.3				
	Subtask 2.3.2. User support service after the end of the contract																					D2.3'	
3	SKILL ASSESSMENT VALIDATION					M3.1				M3.2				M3.3				M3.4					
	Task 3.1 SA Validation in the IBI-subregion WSMED (Ibiza Channel)																	D3.1					
	Task 3.2 SA Validation in the IBI-subregion NIBSH (Biscay Bay)																						
	Task 3.3 SA Validation in the IBI-subregion GIBS (Strait of Gibraltar)																						
	Task 3.4 SA Validation in the IBI-subregion CADIZ (Gulf of Cadiz)																						

⁴Month T0 corresponds to May 2018, expected date of notification of the contract.

⁵ Month T0+18 corresponds to November 2019 and to the end of the contract.

⁶ Month T0+30 corresponds to November 2020 (12 months after the end of the contract).

05 WORKPLAN

4	SERVICE PROMOTION																	M4.1 M4.2		M4.3
	Task 4.1 Communication Actions																			
	Subtask 4.1.1. Official mailing ⁷																	L4; P2		
	Subtask 4.1.2. Video tutorial & short videos of targeted users																	D4.2		
	Subtask 4.1.3. Leaflet																			
	Subtask 4.1.4. Meetings & Conferences ⁸							C1										C2		
	Task 4.2 Dedicated Webpage ⁹							P1										P1'	P1'	P1'
	Task 4.3 Use case form ¹⁰																	L5		
5	PROJECT MANAGEMENT		M5.1											M5.2					M5.3	M5.4
	Task 5.1 Technical and administrative coordination		1st ¹¹					2nd						3rd					4th	
	Task 5.2 Provision of the Action Plan ¹²		L1											L1'						
	Task 5.3 Production of reports ¹³							L2										L2'	L3	L3
	Task 5.4 Organization of meetings ¹⁴	KO						MM						MM				FM	EP	

⁷ P2= letter to the Member States; L4 = copy of the letter informing about the demonstration. [Service and Deliverables required for this lot-7]

⁸ C1=EOOS Conference, 21-23 November 2018, Brussels (to start presenting the recently launched Dedicated Webpage and the service itself) or C2= attendance to the National User Forum Meeting celebrated on an annual basis during the last quarter of the year. Attendance to an additional relevant conference (C3) is going to be considered over the year 2019.

⁹ P1= hyperlink to the draft of dedicated webpage; P1'=hyperlink to the dedicated web page. [Services required for this lot -7]

¹⁰ L5= "Use Case" form. [Deliverable required for this lot -7]

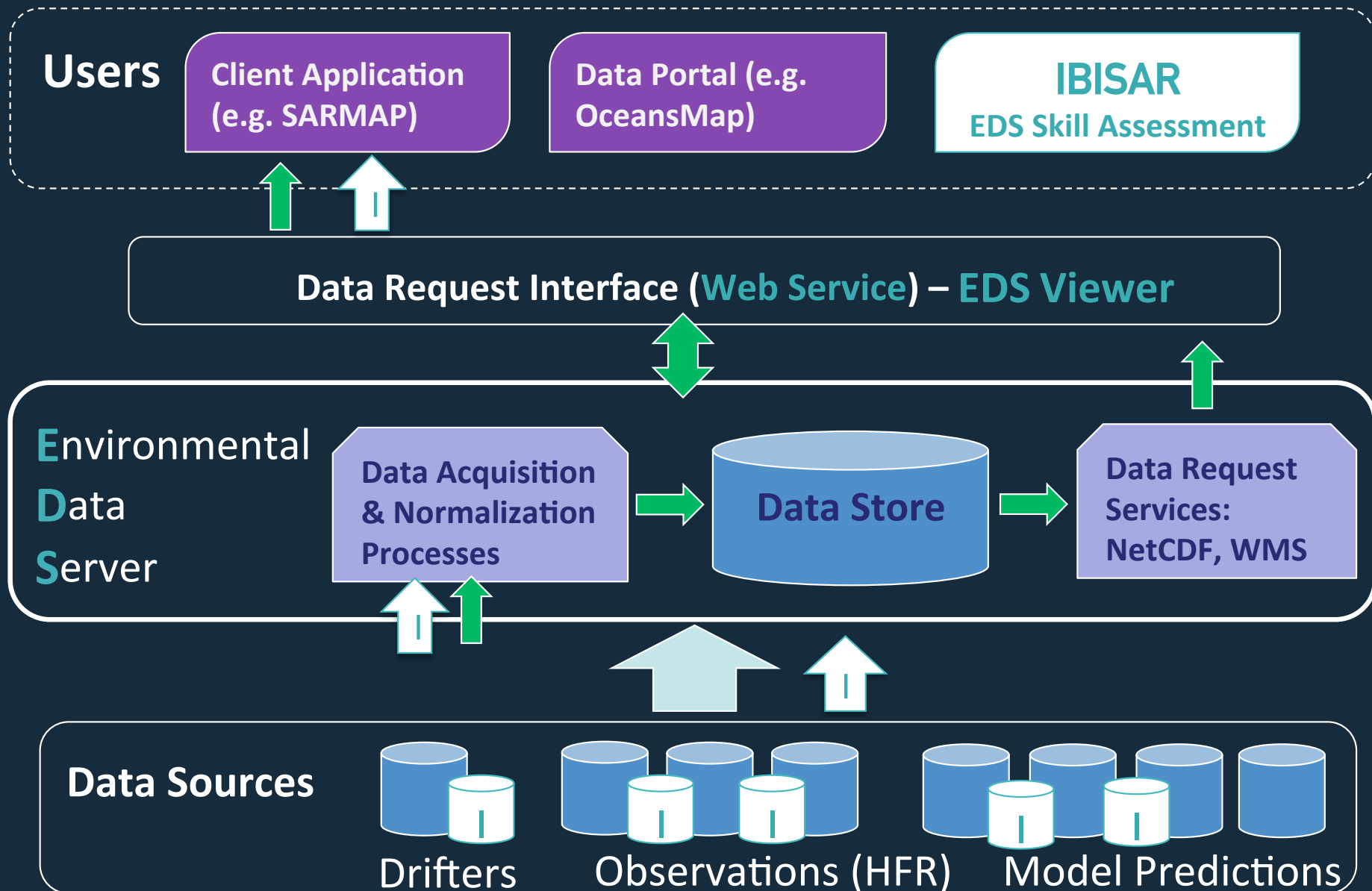
¹¹ Invoicing Management: 1st= first advance payment (20%) depends on the validation of the Action plan (L1); 2nd= second advance payment (30%) after the validation of the intermediate report (L2) and the hyperlink to the draft of the dedicated webpage (P1); 3rd=third advance payment (20%) after the validation of the update of the action plan (L1'); 4th= last payment (30%) depends on the validations of the final report (L2'); the hyperlink pointed on the dedicated webpage (P1'); the delivery of the "Use Case" form (L5) and of a copy of the Letter sent to the Member States (P2)

¹² L1=action plan over the 18-month period. L1'= updated version of L1. [Deliverables required for this lot -7]

¹³ L2 = intermediate report. L2' = final report. L3 = report with annual user statistics. [Deliverables required for this lot -7]

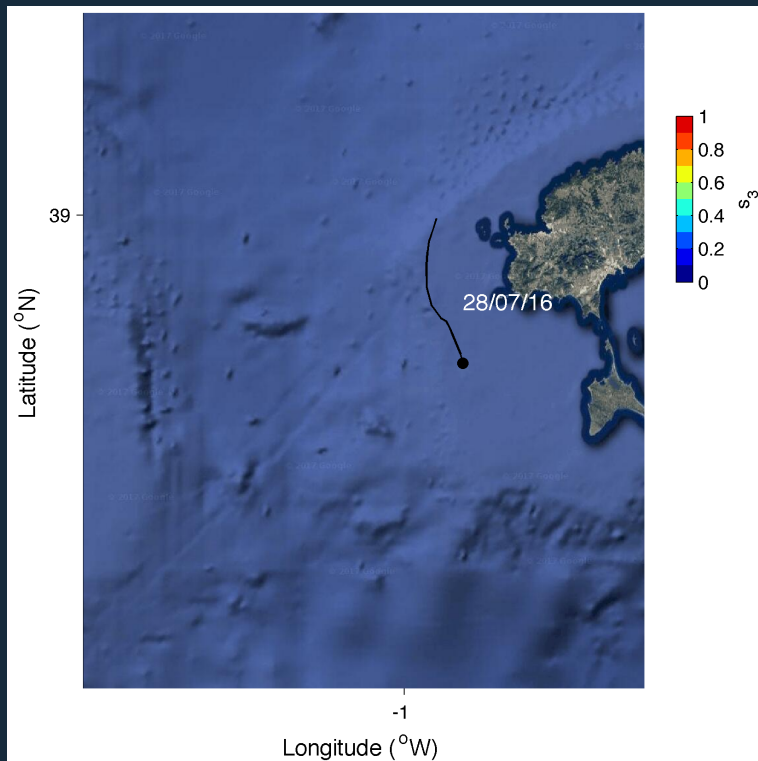
¹⁴ Meetings will take place via videoconference. KO = Kick-off meeting planned just after the notification of the contract. MM= Mid-term meetings (one of them will be a face-to-face meeting). FM= Final meeting. EP = End of action.

06 IBISAR SERVICE: MAIN ELEMENTS

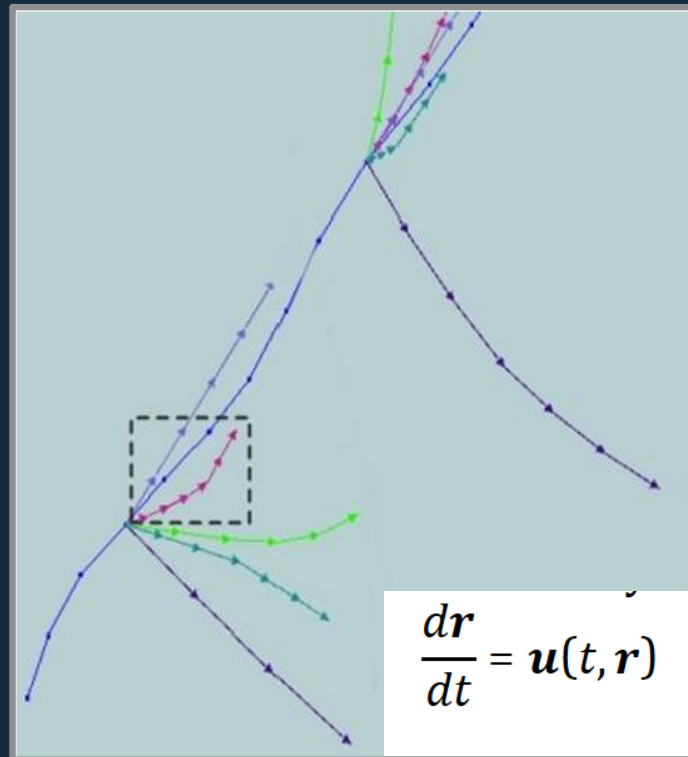


06 IBISAR SERVICE: SKILL ASSESSMENT IMPLEMENTATION

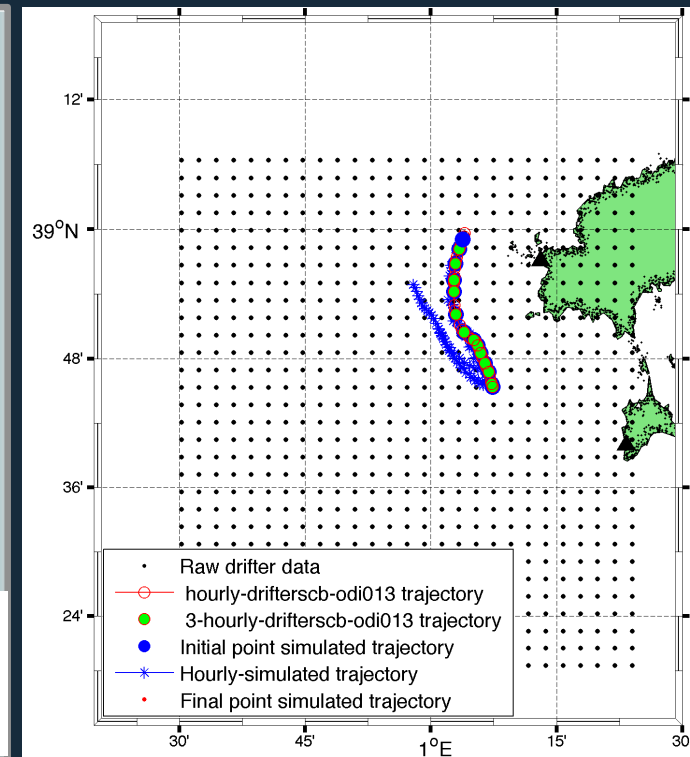
1) Subset model datasets
(position & time of drifter data)



2) Trajectory simulation
(for all available datasets)



3) Compare pairs observed vs.
predicted drifter trajectories

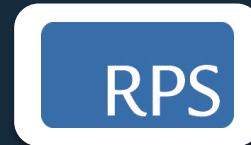


$$s = \frac{\sum_{i=1}^N d_i}{\sum_{i=1}^N l_{oi}}$$

Liu and Weisberg (2011)

07 TEAM & ORGANIZATION: WHO IS WHO?

Intersectoral PPP (Public-Private Partnership)



- Project Coordinator
- WP leader 1, 4 and 5
- Scientific excellence with impact on society
- Data management capacities
- Products and services strategy
- Outreach Service

- Project Co-Contractor
- WP leader 2
- Technical skills (ICT tools)
- Tailor-made products
- User-friendly tools
- Seamless service
- Industry involvement
- Ensure user uptake
- Large client base (25 countries)
- Australia & Asia Pacific, Europe and North America
- > 5000 employers

- Project Co-Contractor
- WP leader 3
- EU Projects coordination experience
- Coordination of HFR activities at EU level
- Leaders of CMEMS-SE INCREASE



- Main targeted user
- User-Feedback
- User-engagement



- Collaborator
- Responsible for IBI INSTAC and MFC
- Key actor in CMEMS, IBI region.

07 MULTIDICIPLINARY WORKING TEAM



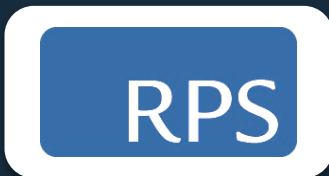
ADVANCED MRI¹ & DATA PROVIDER (PUBLIC)

- Emma Reyes (Coastal HF Radar, PI)
- Joaquín Tintoré (SOCIB's Director, Co-IP)
- Baptiste Mourre (Modelling and Forecasting)
- Paz Rotllán (Data Centre – Frontend developer)
- Ismael Hernández (PostDoc IBISAR)



TECHNOLOGICAL CENTRE (PRIVATE NPO)

- Julien Mader (Head of Marine Technologies Area)
- Anna Rubio (Senior Researcher)
- Luis Ferrer (Senior Researcher)



DOWNSTREAM SERVICE PROVIDER (PRIVATE)

- Eric Comerma (Senior Research Scientist)
- Tayebbeh S. Tajalli Bakshsh (Senior Research Scientist)

08 IMPACT ON CMEMS

- In line with the **user-uptake tenders objectives**:
 - Current **user's loyalty** reinforcement:
 - **Data accuracy** and **confidence** increase
 - **Data potential unlocking**
 - **New communities attraction**:
 - **Links** with potential users
 - **Engaging** with public **authorities** and **civil society**
 - Address **potential private sector** users
- In line with **user-uptake priorities**:
 - An **easy access** to CMEMS products
 - More **verification and validation** of CMEMS products
- **Promotion of HFR data** and its benefits for:
 - **INSTAC**: surface currents crucial to **improve CMEMS** areas of benefits
 - **MFCs**: as keystone for **validating models** and **improving** them

08 IMPACT ON CMEMS

- New innovative service:
 - to respond to targeted users
 - to increase applications of CMEMS products
 - to complement other assessment tools (i.e. NARVAL)
- Scientific activities contributing :
 - to the methodologies for surface current assessment
 - to the homogenization of metrics and accuracy values

09 BENEFITS FOR TARGETED USERS


- Single & user-friendly access point to reliable information.
- Updated inventory of datasets.
- Model evaluation error easily interpretable metrics.
- Better preparation at sea.
- Immediate & more secured response.
- Optimal search area planning.
- Effective resource allocation and search effort.
- Complement of decision-making support tools


10 DRAFT OF THE DEDICATED WEBPAGE

- Highly functional and user-friendly
- Multi-lingual (EN, ES, FR?)
- Content:
 - Service Overview
 - CMEMS products used
 - Benefits for users
- Link to IBISAR private service
- Contact details
- Link to active social media accounts
- “News” section or embedded Twitter timeline
- “Other related services” section
- Tutorial-video, videos of targeted users

Show me IBISAR!

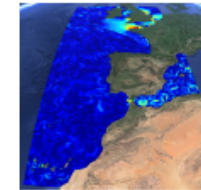
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IBISAR: a real-time met-ocean product ranking for emergency & SAR operators.

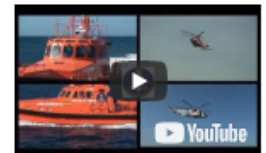
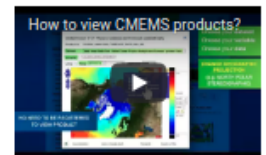


COASTAL
& MARINE
ENVIRONMENT






MARINE
SAFETY

- **Service overview.** A Environmental Data Server dashboard skill assesment service for real-time met-ocean product ranking in the IBI region for emergency responders & SAR operators.
- **CMEMS products used:**
 - CMEMS MFCs current velocity forecast available in the IBI region:
[GLOBAL](#) [NWS](#) [IBI](#) [MED](#)
 - CMEMS TACs NRT current velocity & satellite sea level products in the IBI region:
[GLOBAL](#) [NWS](#) [IBI](#) [MED](#)
 - Upcoming High-Frequency Radar Ocean surface currents
- **Benefits for users:**
 - get information instead of data
 - get user-friendly access to met-ocean products at 3 clicks
 - get support to select the best met-ocean product available
 - get access to easily interpretable & understable information metrics
 - support planning for effective resource allocation & search effort



Show me IBISAR!

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"Better met-ocean products, for better response"

SOCIB Balearic Islands
Coastal Observing
and Forecasting
System

THANKS FOR YOUR ATTENTION