



ULYSSES
DATA FOR SCIENCE

**Lagrangian Observations and Modeling to Characterize Floating Marine Litter
Dynamics in the Bay of Biscay**

Lohitzune Solabarrieta, Oihane Cabezas, Maria C. Uyarra y Anna Rubio.

MARINE LITTER

**A global challenge with local
impacts**

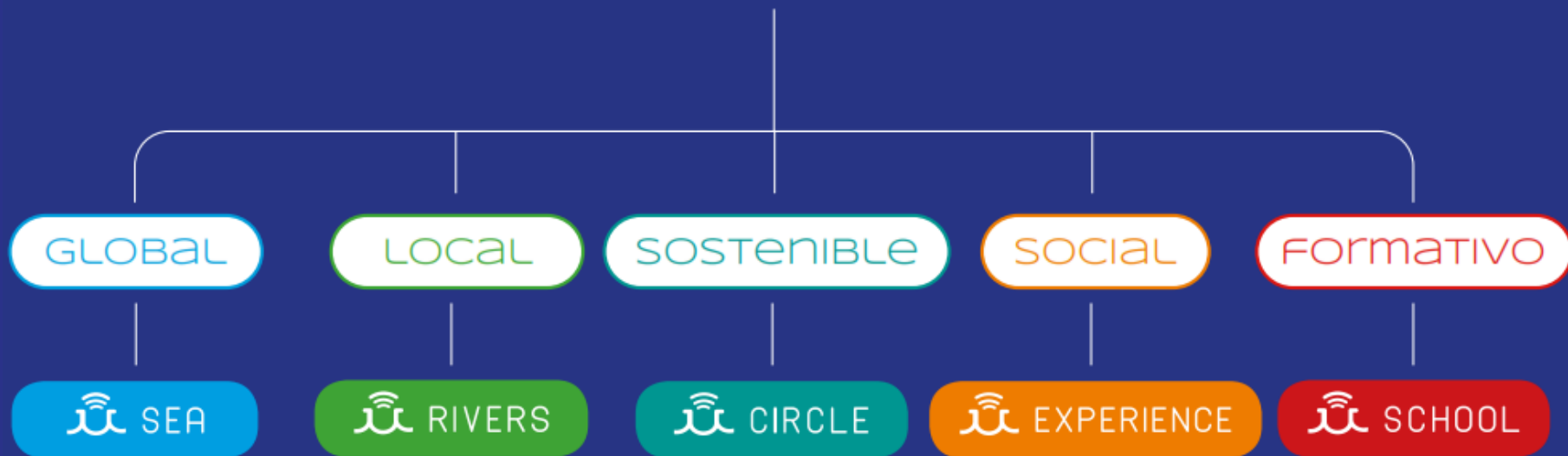
**Lohitzune Solabarrieta
lsolabarriet@azti.es**

ULYSSES DATA FOR SCIENCE: HOLISTIC MARINE LITTER PROJECT

- Data collection using **sensors, cameras and drifting devices** to track marine litter pathways
- Integrated analysis of **rivers–coast–open sea interactions**
- Generation of scientific knowledge to support **effective mitigation strategies**
- Includes **education, public awareness and circular economy actions**
- Contributes to developing a **global strategy to reduce marine litter**



UN PROYECTO **INTEGRAL**





SCHOOLS

Development of two game-based, interactive learning units alongside school training programmes to raise awareness of environmental issues, foster responsible attitudes, and empower young students to take community-based action to protect marine ecosystems.



Propuesta fichas
wooden

2



europa **press**

BBK se suma a Ulysses Data for Science para concienciar sobre la contaminación plástica en mares y ríos vascos

Desarrollará en Bizkaia Ulysses School y Ulysses Experience, una propuesta interactiva para adentrarse en esta problemática

Europa Press País Vasco

Publicado: martes, 21 enero 2023 12:19



BILBAO, 21 Ene. (EUROPA PRESS) -

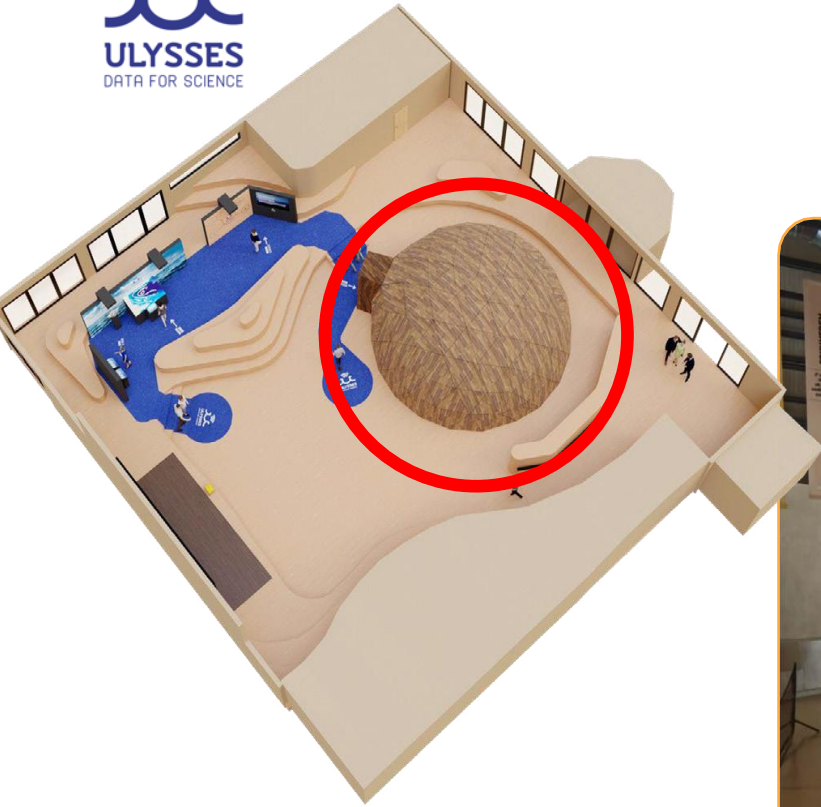
BBK se ha adherido al proyecto Ulysses Data for Science, una iniciativa impulsada desde hace más de 3 años por la Fundación Data for Science y liderada institucionalmente por el Gobierno Vasco para abordar el problema de la contaminación plástica en el Golfo de Bizkaia y los ríos vascos.

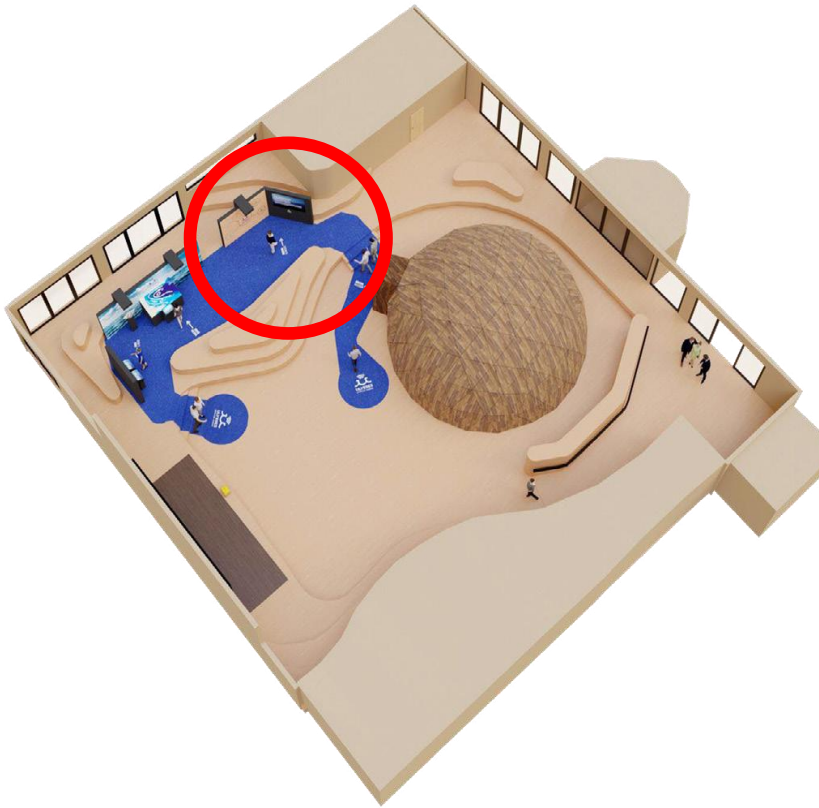
Se trata, según ha informado la fundación bancaria, de "un ambicioso proyecto que combina investigación científica, educación ambiental y promoción de la economía circular para mitigar los efectos de los plásticos en los ecosistemas acuáticos"

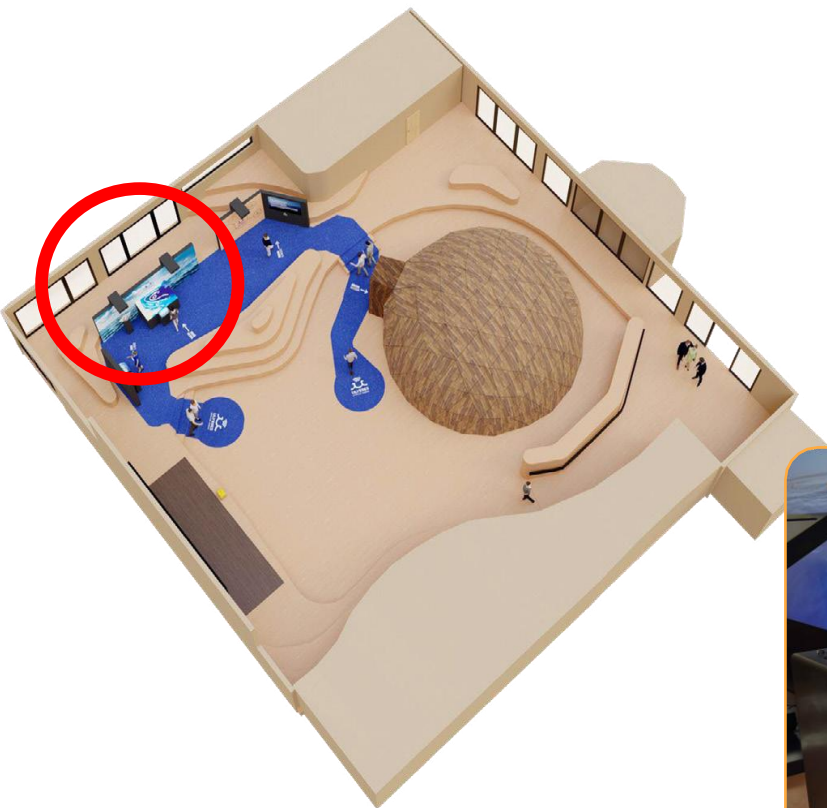


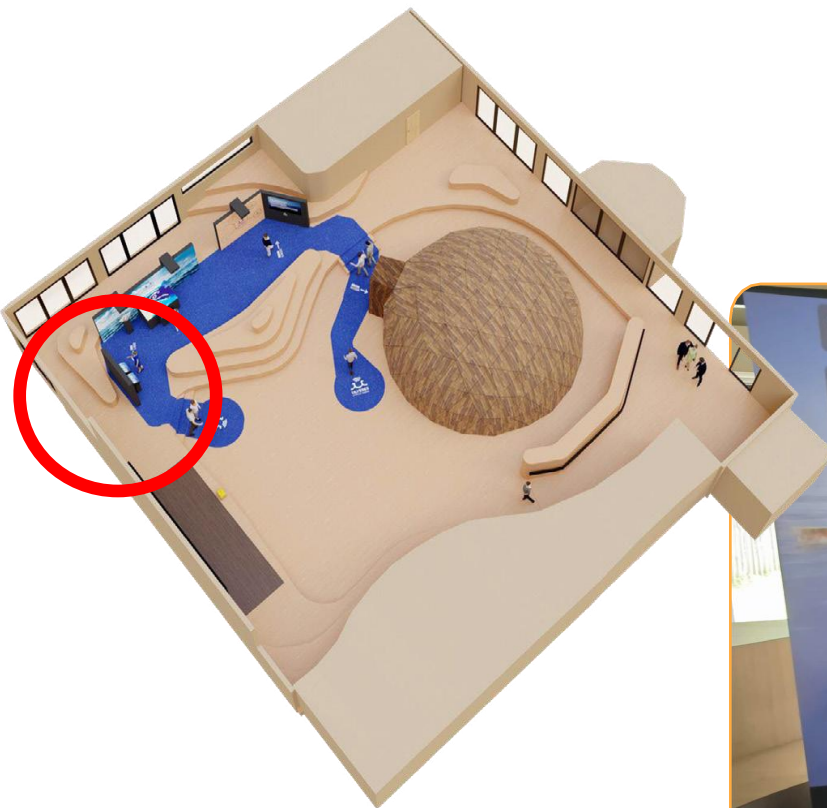


The Ulysses Experience, launched in 2025 at BBK Klima Space (Bizkaia), immerses visitors in an interactive journey combining a 360° dome introduction with hands-on exploration through data displays, real-time simulations, and gamified marine litter collection and sorting activities.







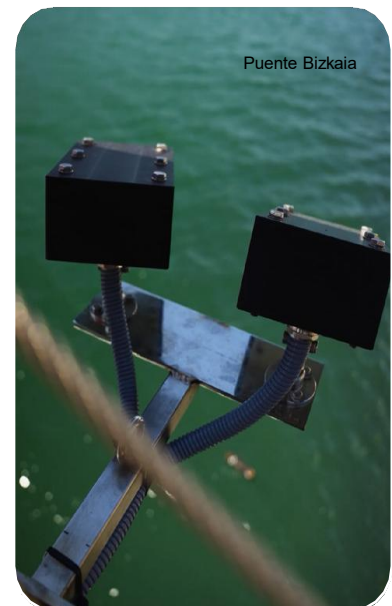




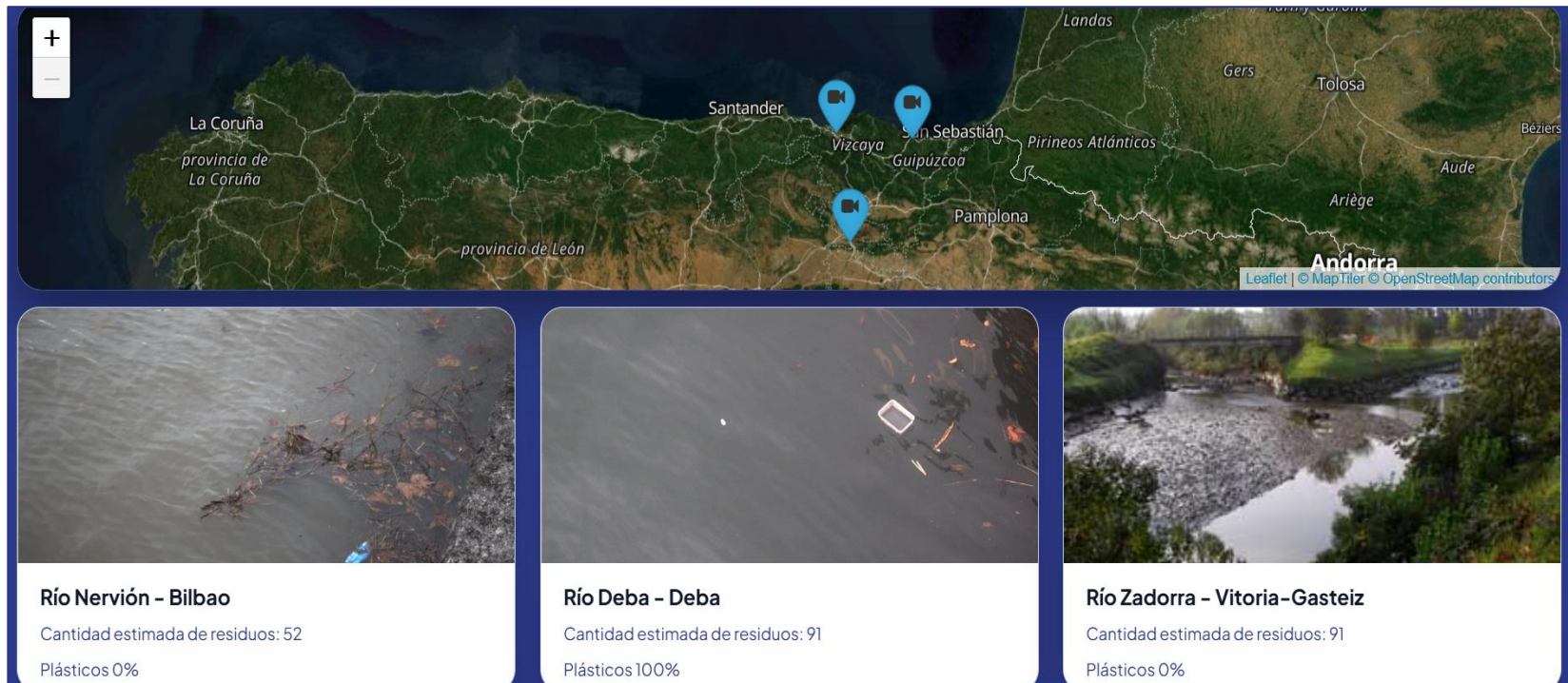
RIVERS

Ulysses Rivers generates knowledge on the quantity, typology, and aggregation hotspots of riverine litter in the Basque region, supporting authorities with actionable data, fostering transferable solutions, and engaging local stakeholders to promote prevention, mitigation, and environmental responsibility.

Videometry installation in Nerbioi river



Videometry stations on the website





SEA

Ulysses Sea spans from the development of fleet-integrated technologies to the transmission of collected data to the international scientific community, enabling analysis and application in future projects.

LAUNCH OF 1050 DRIFTERS + AUTONOMOUS VEHICLE

LAGUNTZAILEA

DECATHLON

Ongi etorri **ULYSSES** proiektura! 📡❤️

Lagundu iezaguzu itsasoko zaborrei aurre egiten.

Gailu bat edo zabor pilaketa bat aurkitu duzu?

Erregistratu, dagokion ikonoan klik eginez:

Wooden • Traveller • Coconut • Zabor pilaketa

Une bat baino ez dizu hartuko 🍌



Wooden



Traveler



Coconut



Zabor pilaketa

500

500

50



LAUNCH OF 1050 DRIFTERS + AUTONOMOUS VEHICLE

Ikerketa zientifikoa
Investigación científica
Recherche scientifique
Scientific research

Aurkitzen banauzu, erregistratu nazazu
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W001

Science by AZTI
Made by ALBAOLA

Ikerketa zientifikoa
Investigación científica
Recherche scientifique
Scientific research

Aurkitzen banauzu, erregistratu nazazu
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RANGER

Type	Advanced sensing vessel
Location	Frontal zones of the Bay of Biscay
Measurements	GPS, weather station, echosounders, high-resolution cameras, hydrophone
Dimensions	5.81 m length, 1.96 m beam, 0.85 m draft
Units	1





WOODEN

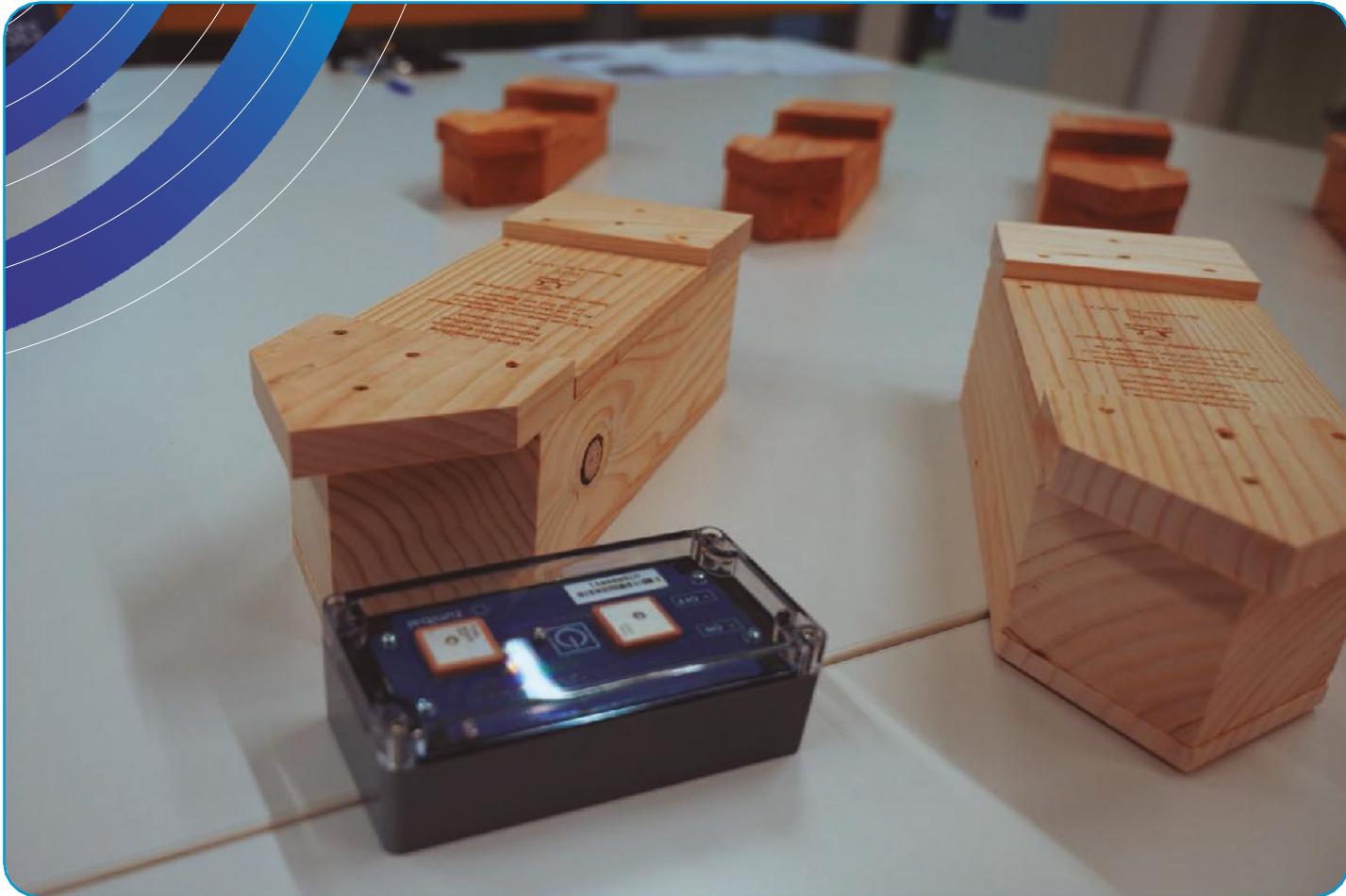
Type	Wooden boats simulating litter drift
Location	Rivers, river mouths, estuaries and transitional waters
Measurements	Deployment and recovery positions
Dimensions	30cm * 8cm * 9cm
Units	500





TRAVELLER

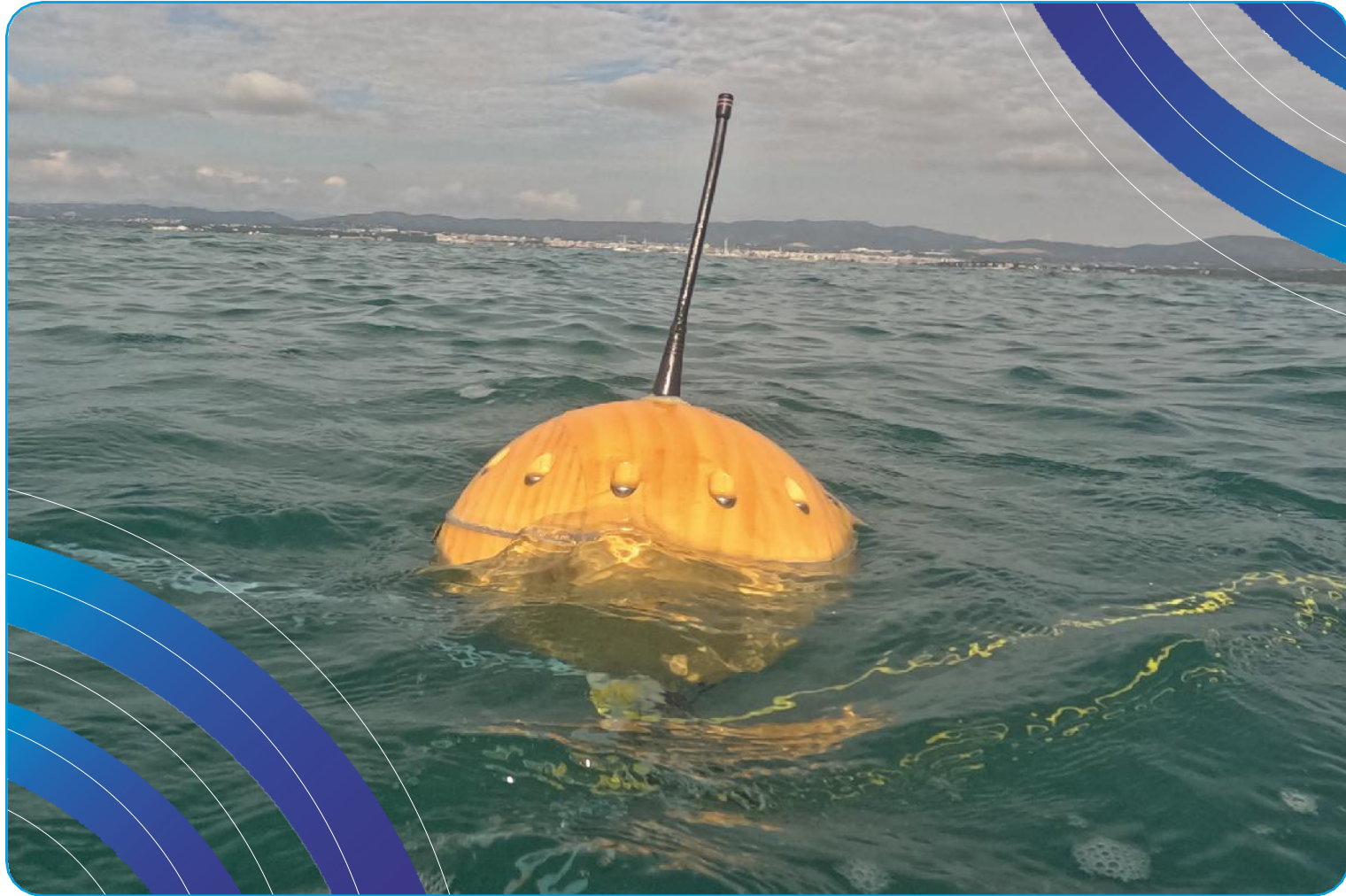
Type	GPS-enabled modular drifting units
Location	River mouths, estuaries and transitional waters
Measurements	Deployment and recovery positions + GPS Near Real Time drifting positions
Dimensions	30cm * 8cm * 9cm
Units	500



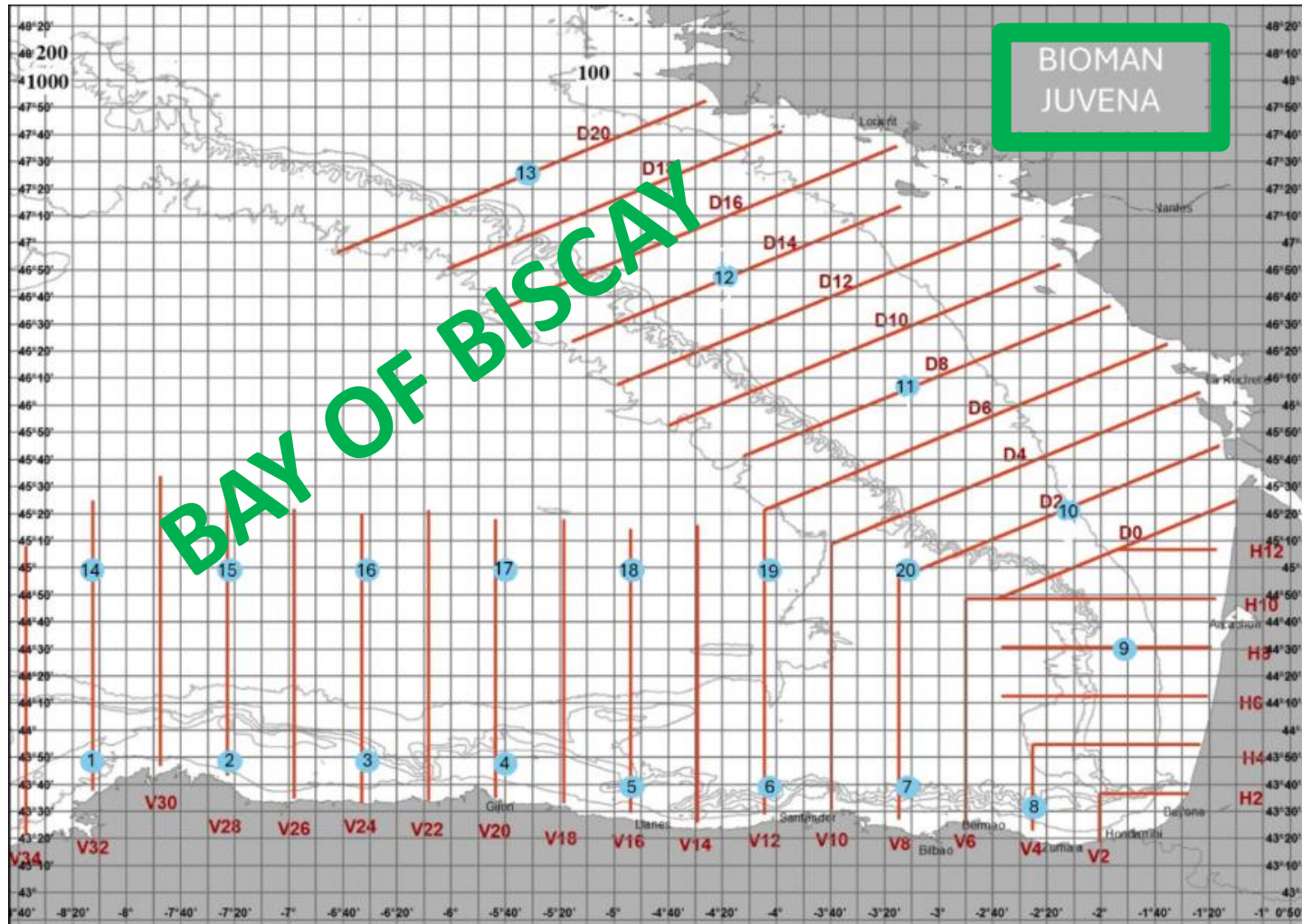


COCONUT

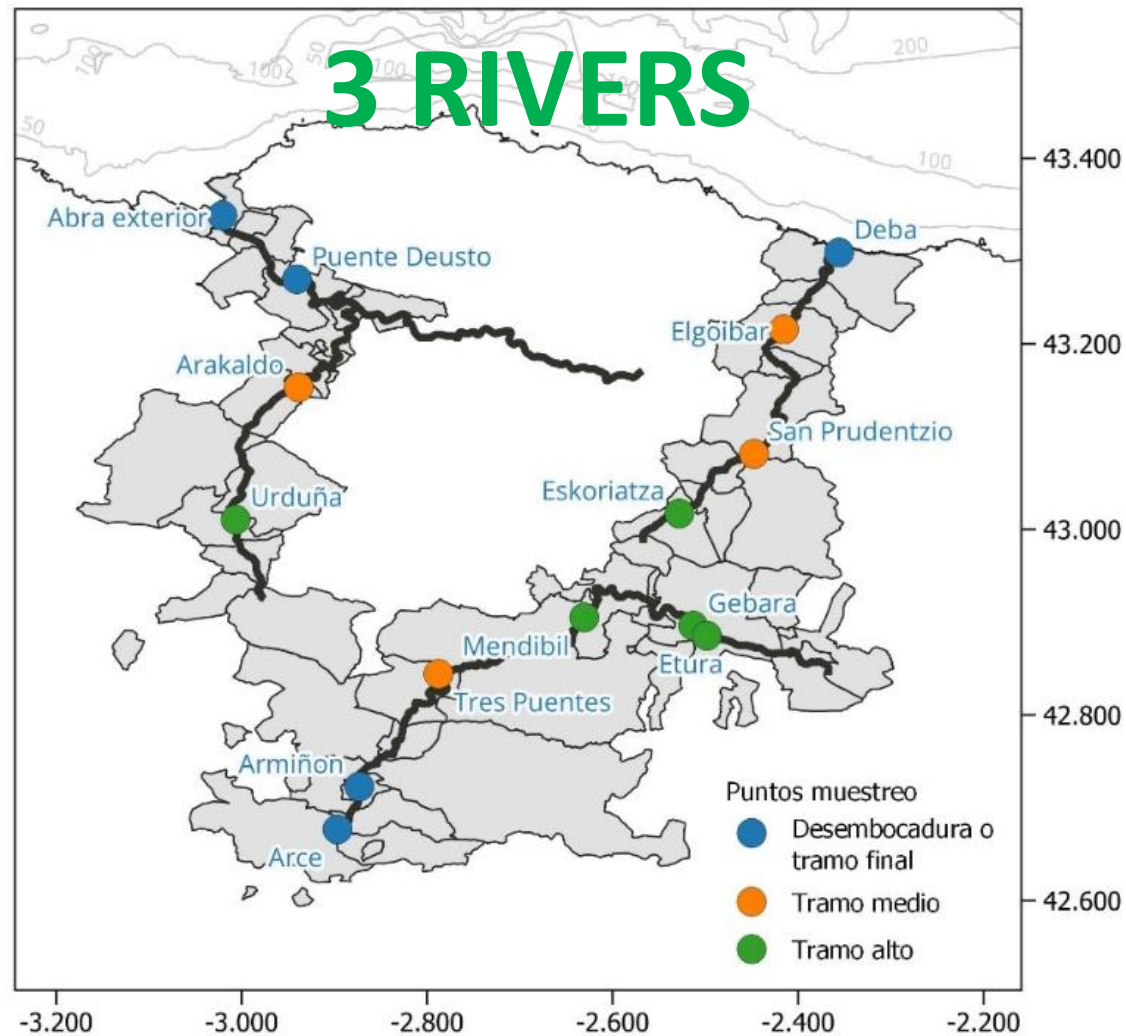
Type	Oceanographic drifting buoys
Location	River mouths, estuaries, transitional Waters and open ocean
Measurements	Deployment and recovery positions + GPS Near Real Time drifting positions and temperature sensor
Dimensions	20 cm diameter
Units	500



1050 DEVICES DEPLOYMENT PLAN



1050 DEVICES DEPLOYMENT PLAN



1050 DEVICES DEPLOYMENT PLAN

					Nº de barcos a lanzar		
Año	Estación	Mes lanzamiento	Punto lanzamiento	Medios empleados	WOODEN	TRAVELLER	COCO
2026	Invierno	Feb 2026	Río Nervión	Desde puente, 3 puntos por río	15	15	0
		Feb 2026	Río Zadorra	Desde puente, 3 puntos por río	15	15	0
		Feb 2026	Río Deba	Desde puente, 3 puntos por río	15	15	0
		Feb 2026	Regueros costeros avistados	Campaña multidispositivo Barco AZTIMAR	10	10	10
	Primavera	Abr 2026	BIOMAN 2026	B/O Margalef, Emma Bardan...	120	120	0
		Abr 2026	Río Nervión	Desde puente, 3 puntos por río	15	15	0
		Abr 2026	Río Zadorra	Desde puente, 3 puntos por río	15	15	0
		Abr 2026	Río Deba	Desde puente, 3 puntos por río	15	15	0
		Abr 2026	Regueros costeros avistados	Campaña multidispositivo Barco AZTIMAR	10	10	10
	Verano	Jul 2026	Río Nervión	Desde puente, 3 puntos por río	15	15	0
		Jul 2026	Río Zadorra	Desde puente, 3 puntos por río	15	15	0
		Jul 2026	Río Deba	Desde puente, 3 puntos por río	15	15	0
		Jul 2026	Regata UK-Donostia	Regatistas	40	40	0
		Jul 2026	Regueros costeros avistados	Campaña multidispositivo Barco AZTIMAR	10	10	15
	Otoño	Sep 2026	JUVENA 2026	B/O Margalef, Emma Bardan...	120	120	0
		Oct 2025	Río Nervión	Desde puente, 3 puntos por río	15	15	0
		Oct 2026	Río Zadorra	Desde puente, 3 puntos por río	15	15	0
		Oct 2026	Río Deba	Desde puente, 3 puntos por río	15	15	0
		Nov 2026	Regueros costeros avistados	Campaña multidispositivo Barco AZTIMAR	10	10	15
Total					500	500	50

DELAYED / PERMISSIONS

LAGRANGIAN APPROACH FOR DATA ANALYSIS

- >500 trajectories
- 500 start/finish locations
- Spatial coverage
- 1 year temporal coverage

MORE THAN DATA VALIDATION!!!



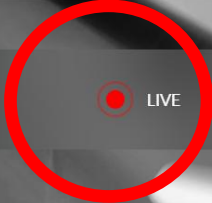
PLATFORM

<https://ulyssesproject.org/>

← → ↺ 🏠 🌐 ulyssesproject.org/home-eng ⌵ ☆ 📁 📄 👤 ⋮

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THE PROJECT ▾ MEDIA CONTACT

  LIVE  EU ES EN FR

 EU MISSIONS
RESTORE OUR OCEAN & WATERS





Oihane C. Basurko
Investigadora Tecnologías
Pesqueras A. 

 COLLABORATE

REGISTER YOUR 





ULYSSES
DATA FOR SCIENCE

DevicesVideo camerasCitizen scienceRowingRelated eventsRegisterEUESENFR

MapTable

DEVICE TYPE

- ☒ Traveller
- ☒ Wooden
- ☒ Coconut
- ☒ Ranger

DEVICE STATUS

- ☒ In the water ☐
- ☒ Collected ☐

DEVIDE ID

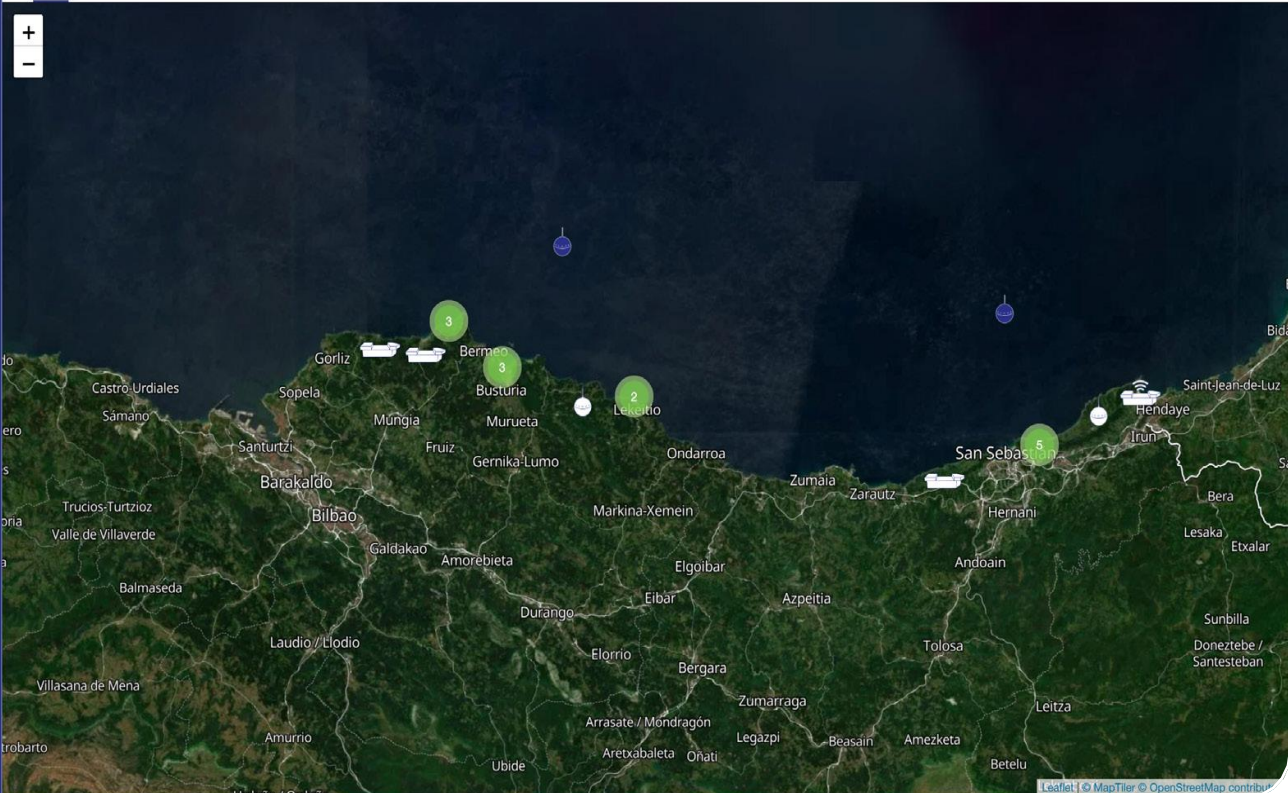
Search ID...

CURRENT OCEANOGRAPHIC INFORMATION

None

+

-



Leaflet | © MapTiler © OpenStreetMap contributors

[Map](#)
[Table](#)

DEVICE TYPE

- ☒ Traveller
- ☒ Wooden
- ☒ Coconut
- ☒ Ranger

DEVICE STATUS

- ☒ In the water 
- ☒ Collected 

DEVIDE ID

CURRENT OCEANOGRAPHIC INFORMATION

ID	Launch date	Launch latitude	Launch longitude	Status	Recovery date	Recovery latitude	Recovery longitude	Message
C501	2026-02-19	43.48156	-2.66371	Recovered	2026-02-22	43.44608	-2.78417	
C502	2026-02-19	43.4602	-2.59068	Adrift	-	-	-	
C503	-	-	-	not launched	-	-	-	
C504	2026-02-20	43.38816	-2.19829	Recovered	2026-02-23	43.38484	-2.58308	
C505	2026-02-20	43.38935	-1.9574	Adrift	-	-	-	
C506	2026-02-20	43.36638	-2.09801	Recovered	2026-02-23	43.37625	-1.85276	
C507	2026-02-20	43.40786	-2.33179	Recovered	2026-02-22	43.37685	-2.50993	
Ranger Mission 1	2026-02-24	43.33253	-1.92638	Adrift	-	-	-	
T011	2026-05-26	43.33555	-1.93098	not launched	-	-	-	
T501	2026-02-19	43.40521	-2.69719	Adrift	-	-	-	
T502	-	-	-	not launched	-	-	-	
T503	2026-02-19	43.33253	-1.92638	Recovered	2026-02-22	43.39377	-1.79361	Mensaje sintetico
T504	2026-02-20	43.33253	-1.92638	Adrift	-	-	-	
T505	2026-02-20	43.40521	-2.69719	Recovered	2026-02-23	43.37674	-2.51002	Mensaje sintetico
T506	2026-02-20	43.33253	-1.92638	Recovered	2026-02-23	43.32696	-1.9752	Mensaje sintetico
T507	2026-02-20	43.40521	-2.69719	Recovered	2026-02-23	43.45552	-2.75075	Mensaje sintetico
W501	2026-02-19	43.40521	-2.69719	Recovered	2026-02-20	43.43046	-2.80598	Prueba escenarios
W502	2026-02-19	43.33253	-1.92638	Adrift	-	-	-	
W503	-	-	-	not launched	-	-	-	
W504	2026-02-20	43.33253	-1.92638	Recovered	2026-02-21	43.31003	-2.07139	Prueba escenarios
W505	2026-02-20	43.40521	-2.69719	Adrift	-	-	-	

DATE FROM

13/02/2026

DATE TO

13/02/2026

PRESENCE OF

- ☒ Plastics
- ☒ Foam
- ☒ Organic matter
- ☒ Marine life
- ☒ Oils / petroleum

REGUERO_4

ID REGUERO_4

Date 2026-02-13

Latitude 43.28322

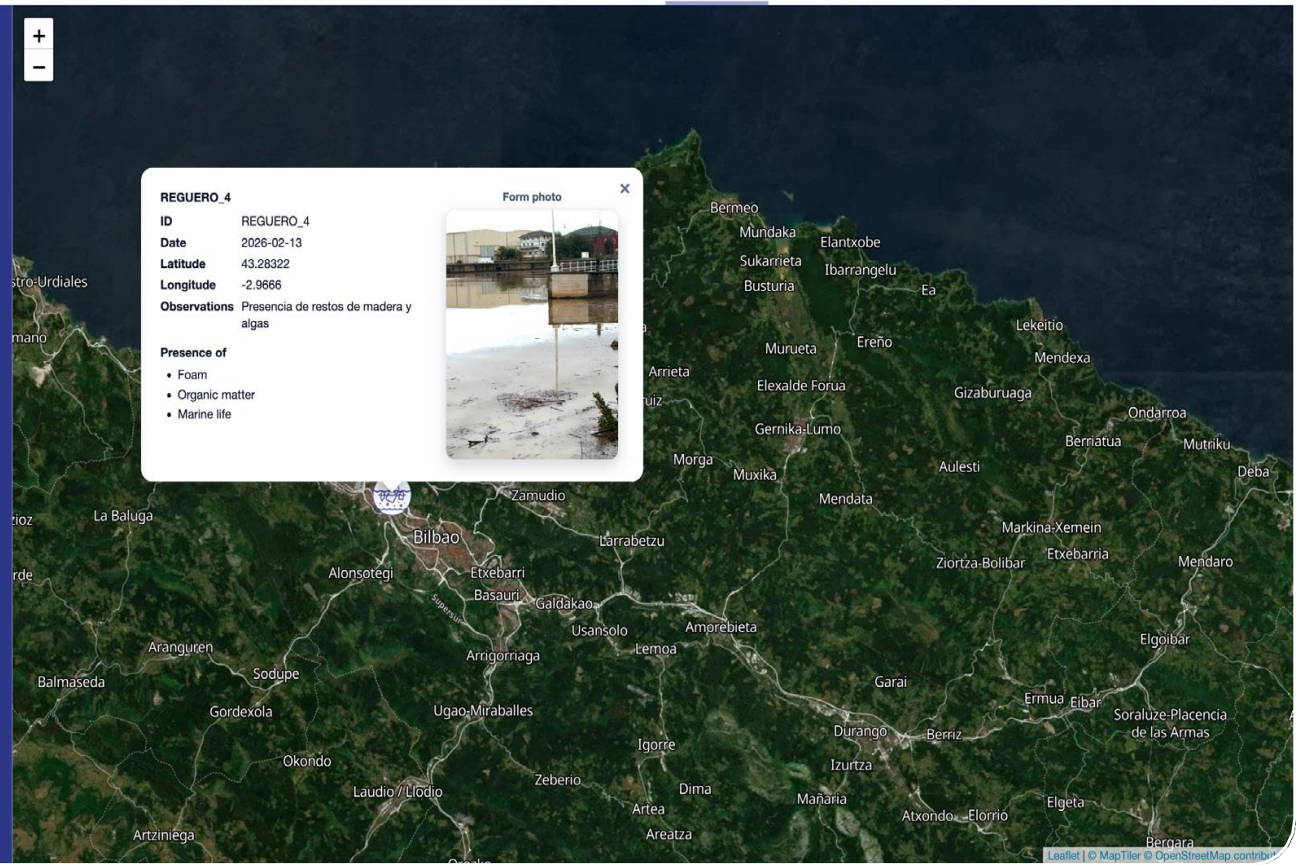
Longitude -2.9666

Observations Presencia de restos de madera y algas

Presence of

- ☐ Foam
- ☐ Organic matter
- ☐ Marine life

Form photo



Ikerketa zientifikoa
Investigación científica
Recherche scientifique
Scientific research

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Recherche scientifique
Scientific research

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T001

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Welcome to **ULYSSES!** 🇪🇺💙

Help us fight marine litter.

Have you found a device or a slick?

Register it by tapping the corresponding icon:

Wooden · Traveller · Coconut · Slick

It will only take a moment 🙌

PARTNER

DECATHLON



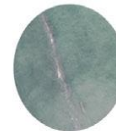
Wooden



Traveller



Coconut



Slick

THANK YOU!



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DATA FOR SCIENCE

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