



# Challenges, needs and potential solution for region to feed the Ocean Decade

Dr Karim HILMI  
(Former) National Focal Point at DBCP  
MONGOOS CO Chair  
National Focal Point and Vice Chair (Group V)  
at IOC-UNESCO  
[karimhilmi15@gmail.com](mailto:karimhilmi15@gmail.com)



# Summary

Part 1. United Nations Decade of Ocean Science for Sustainable Development (2021-2030)

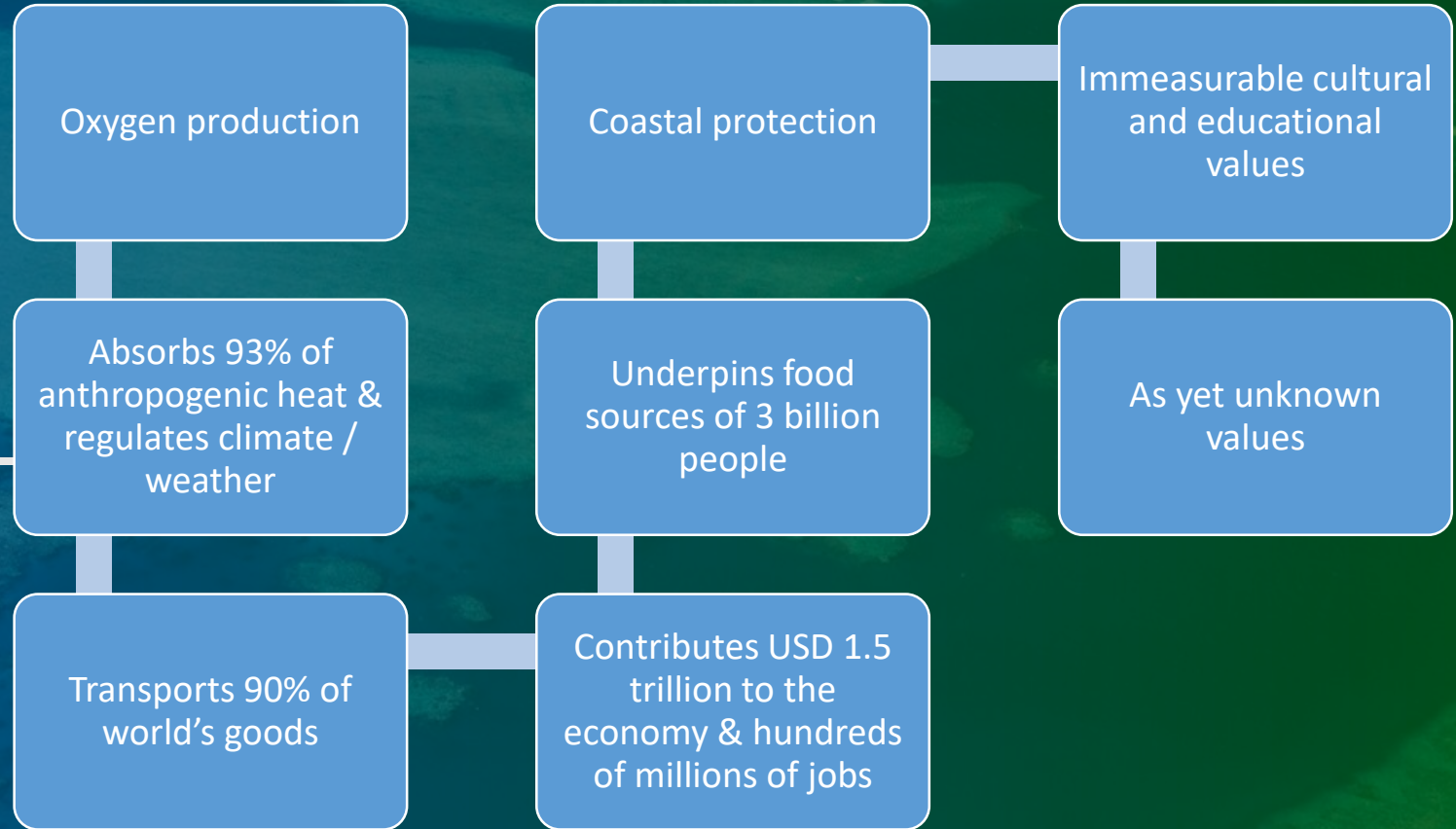
1

Part 2. Ocean Decade Africa Road Map and its priorities

Part 3. Examples of DBCP activities in the Mediterranean Sea

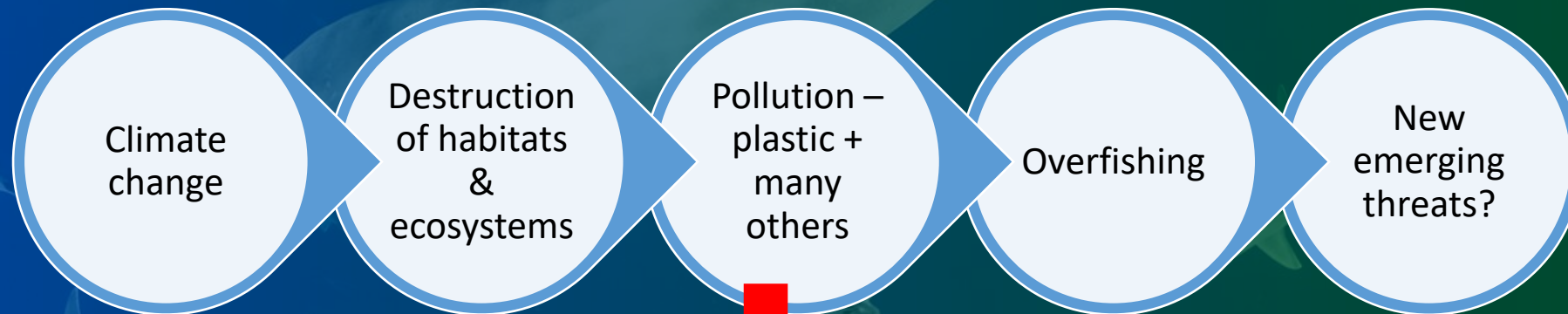
Part 4. Challenges, needs and potential solution for the southern region to feed the Ocean Decade

Why an Ocean  
Decade?  
~~...because~~  
humanity  
depends on  
the ocean...



# ...but the ocean is under threat

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**No longer linear nor predictable - potential for negative feedback loops via ocean-climate nexus**



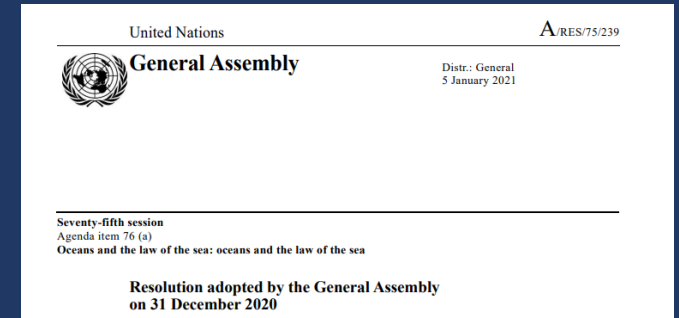


# Towards the Ocean Decade: 2017 - 2021



2016-2017

2020



304. Welcomes the steps taken by the Intergovernmental Oceanographic Commission to prepare the implementation plan for the United Nations Decade of Ocean Science for Sustainable Development (2021–2030) in consultation with Member States, specialized agencies, funds, programmes and bodies of the United Nations, as well as other intergovernmental organizations, non-governmental organizations and relevant stakeholders, and takes note with appreciation of that plan;

305. Requests that the Intergovernmental Oceanographic Commission regularly consult with, and report to, Member States on the United Nations Decade of Ocean Science for Sustainable Development and its implementation;

306. Invites the Secretary-General to inform the General Assembly on the implementation of the United Nations Decade of Ocean Science for Sustainable Development through his report on oceans and the law of the sea, on the basis of information to be provided by the Intergovernmental Oceanographic Commission;

2018-2019



## Where we are



- Science based on **curiosity & competent for problem diagnostic**
- **Observing system for climate and emerging data service**
- **Major knowledge gaps, weak ocean literacy**
- **Funding base mostly on research model**
- **Hugely uneven capacity, especially low in developing countries/SIDS**

## Where we would like to be

- Science providing **solutions** and **codesigned for action**
- **Adequate ocean data and information system/services**
- **Ocean literate society and well-informed decisions**
- **Demonstrated value chain, resources and commitment**
- **CD/ transfer of technology: no one is left behind**

# PART 1: Decade Vision & Mission



2021  
2030 United Nations Decade  
of Ocean Science  
for Sustainable Development



**unesco**

Intergovernmental  
Oceanographic  
Commission

## *Vision*

*The science we need for the ocean we want*

\*\*\*

## *Mission*

*Transformative ocean science solutions for sustainable development, connecting people and our ocean.*



*«The Ocean Decade creates the conditions for this revolution by facilitating a paradigm shift in the design and delivery of qualitative and quantitative ocean knowledge to inform solutions that will contribute to the 2030 Agenda for Sustainable Development» .*



# Decade Action Framework

2030 AGENDA & REGIONAL  
AND GLOBAL POLICY  
FRAMEWORKS



DECADE OUTCOMES

“THE OCEAN  
WE WANT”



## OCEAN DECADE CHALLENGES

The most immediate and pressing needs of the Decade, Challenges may evolve throughout the Decade and new Challenges will be added. Each Challenge contributes to one or more Decade outcomes.



## DECADE OBJECTIVES

The steps in the process from the ocean we have to the ocean we want. Objectives are relevant to all Challenges. Prioritisation and translation of objectives into Actions will vary depending on context.



## DECADE ACTIONS

The tangible initiatives and endeavours that will be implemented by a wide range of Decade stakeholders to fulfil the objectives and thus achieve the Challenges.





# Decade Outcomes



*Describe the 'ocean we want' at the end of the Decade.*

1. A **clean ocean** where sources of pollution are identified, reduced or removed.
2. A **healthy and resilient ocean** where marine ecosystems are understood and managed.
3. A **productive ocean** supporting sustainable food supply and a sustainable ocean economy.
4. A **predicted ocean** where society understands and can respond to changing ocean conditions.
5. A **safe ocean** where life and livelihoods are protected from ocean-related hazards.
6. An **accessible ocean** with open and equitable access to data, information, and technology and innovation.
7. An **inspiring and engaging ocean** where society understands and values the ocean in relation to human wellbeing and sustainable development.



# Objectives and Actions of the Ocean Decade

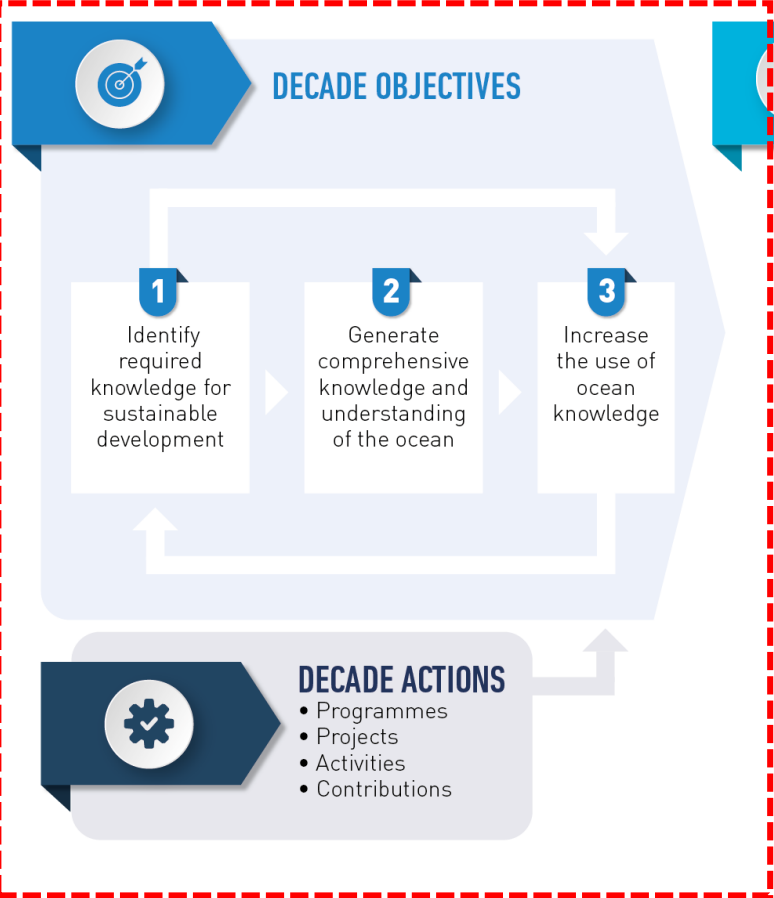


**"THE SCIENCE WE NEED"**

UN Decade of Ocean Science for Sustainable Development



**"THE OCEAN WE HAVE"**










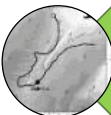


## DECADE OUTCOMES



- A clean ocean
- A healthy & resilient ocean
- A productive ocean
- A predicted ocean
- A safe ocean
- An accessible ocean
- An inspiring & engaging ocean

# Ocean Decade Challenges

“  
*Challenges will evolve over the life of the Decade.*”

-  Address land and sea-based sources of pollutants and contaminants.
-  Protect, monitor, manage and restore ecosystems under multiple stressors
-  Optimise the role of the ocean to sustainably feed the world's population.
-  Contribute to equitable and sustainable development of the ocean economy.
-  Understand the ocean-climate nexus, build resilience and improve predictions and forecasts.
-  Expand multi-hazard warning systems and mainstream community preparedness and resilience.
-  Ensure a sustainable ocean observing system that delivers timely data and across all ocean basins.
-  Develop a comprehensive digital representation of the ocean.
-  Ensure comprehensive capacity development and equitable access to data, information, knowledge and technology.
-  Identify and overcome barriers to the behaviour change that is required for a step change in humanity's relationship with the ocean.

**2030 AGENDA & REGIONAL AND GLOBAL POLICY FRAMEWORKS**



**DECADE OUTCOMES**

**"THE OCEAN WE WANT"**



**OCEAN DECADE CHALLENGES**

The most immediate and pressing needs of the Decade, Challenges may evolve throughout the Decade and new Challenges will be added. Each Challenge contributes to one or more Decade outcomes.



**DECADE OBJECTIVES**

The steps in the process from the ocean we have to the ocean we want. Objectives are relevant to all Challenges. Prioritisation and translation of objectives into Actions will vary depending on context.



**DECADE ACTIONS**

The tangible initiatives and endeavours that will be implemented by a wide range of Decade stakeholders to fulfil the objectives and thus achieve the Challenges.

**Transformative**

**Knowledge & Solutions Challenges:**

1. Marine Pollution
2. Protect and Restore Ecosystems
3. Sustainable Blue Food
4. Sustainable Ocean Economy
5. Ocean-Climate Nexus

**Infrastructure Challenges:**

6. Community Resilience
7. Ocean Observations

**Foundational Challenges:**

9. Capacity Development
10. Behaviour Change

**Decade Programmes, Projects, and Contributions solicited on a regular basis**







# United Nations Ocean Decade for Africa

The Science we Need for the Ocean we Want in Africa

The booklet has been published by the Western Indian Ocean Marine Science Association (WIOMSA) in partnership with the Intergovernmental Oceanographic Commission's Sub Commission for Africa and the Adjacent Island States (IOC AFRICA), UNESCO Regional Office for Eastern Africa.

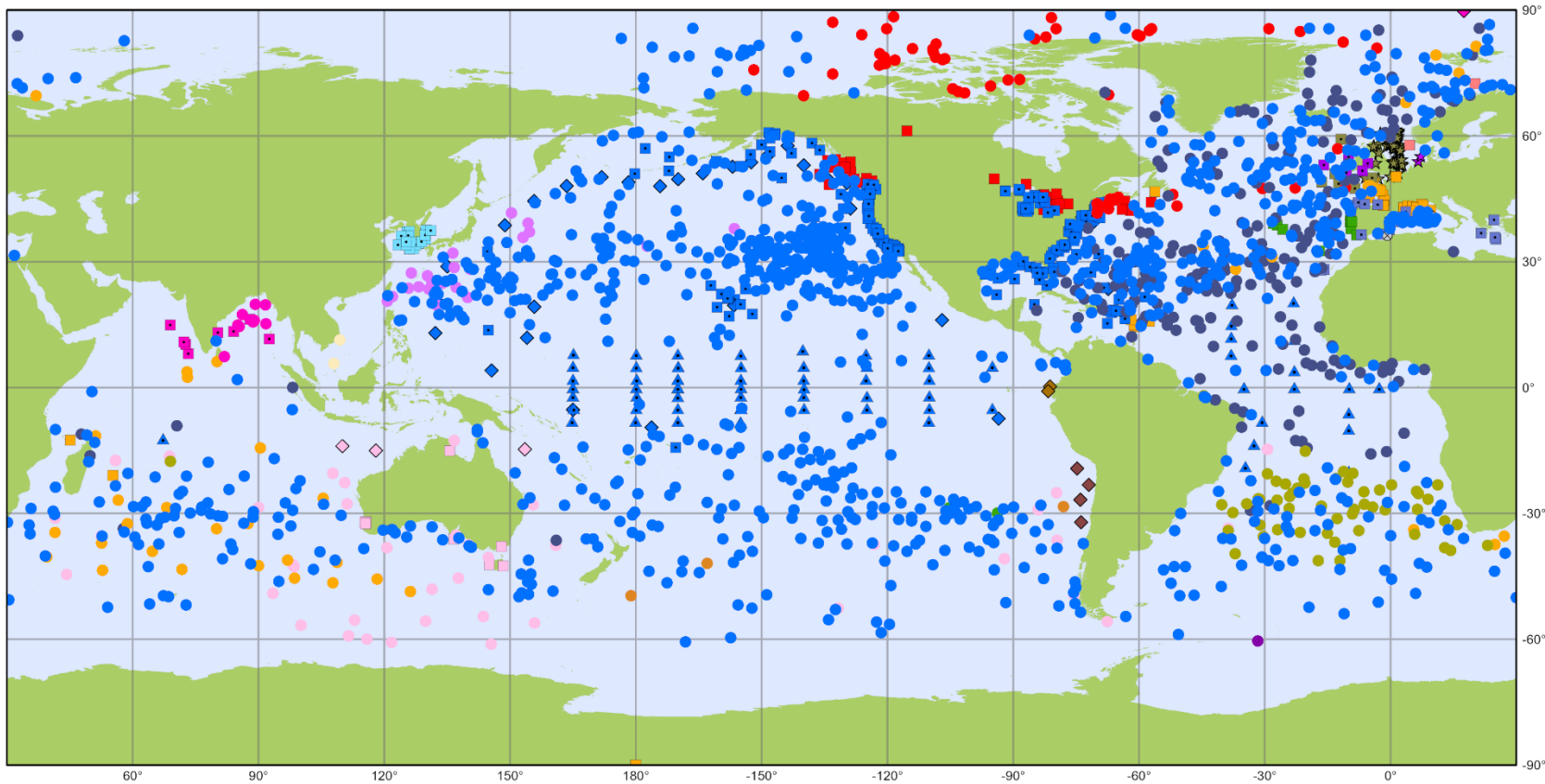
For further information visit:  
[oceandecade.org](http://oceandecade.org)  
[ioc-africa.org](http://ioc-africa.org)  
[wiomsa.org](http://wiomsa.org)



Its production has been coordinated by the Western Indian Ocean Early Career Scientists Network (WIO-ECSN) as part of the implementation plan of the UN Decade of Ocean Science for Sustainable Development. The booklet provides an overview of challenges that need to be addressed in the region in order to achieve “the science we need for the ocean we want in Africa”.







Data Buoy Cooperation Panel

Platform Operating Countries

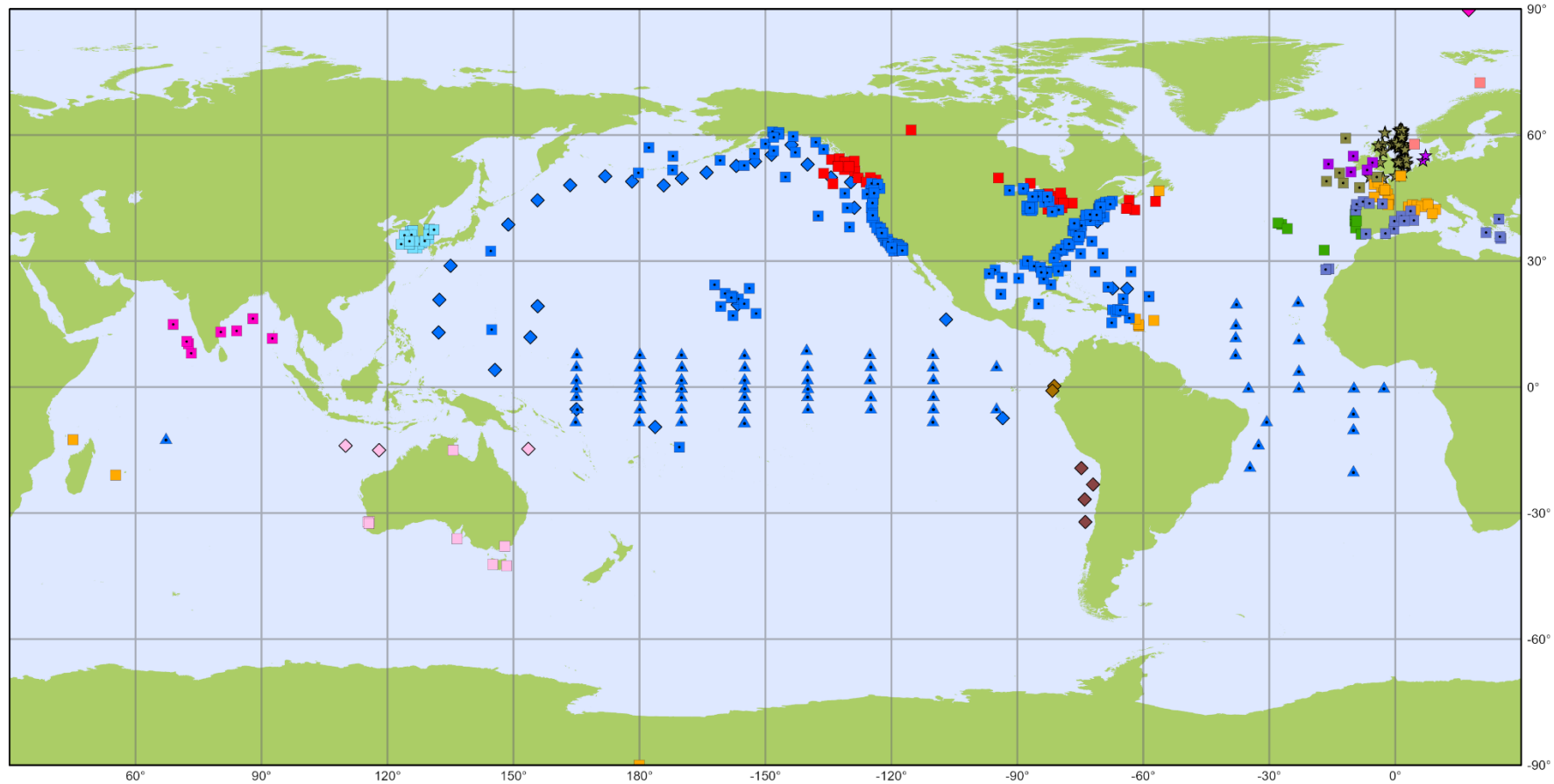
October 2022

Platforms operational during the month. GTS data as received by Meteo France.

- |                        |                   |                            |                          |                    |                        |
|------------------------|-------------------|----------------------------|--------------------------|--------------------|------------------------|
| <b>Drifting Buoys</b>  | ● INDIA (9)       | <b>Coastal/National MB</b> | ■ UK (6)                 | <b>Tropical MB</b> | ◆ USA (30)             |
| ● AUSTRALIA (40)       | ● ITALY (2)       | ■ AUSTRALIA (8)            | ■ IRELAND (5)            | ▲ USA (71)         | <b>Fixed Platforms</b> |
| ● CANADA (59)          | ● JAPAN (21)      | ■ NORWAY (2)               | ■ USA (200)              | ★ GERMANY (2)      | ★ GERMANY (2)          |
| ● EUROPE (218)         | ● NEW ZEALAND (3) | ■ CANADA (33)              | ■ SPAIN (15)             | ★ UK (89)          | ★ UK (89)              |
| ● FRANCE (40)          | ● UK (54)         | ■ FRANCE (29)              | ■ INDIA (8)              | ◆ AUSTRALIA (3)    | ★ USA (1)              |
| ● GERMANY (1)          | ● USA (1004)      | ■ GREECE (4)               | ■ REPUBLIC OF KOREA (21) | ◆ CHILE (4)        |                        |
| ● HONG KONG, CHINA (2) | ⊗ Other (4)       | ■ PORTUGAL (9)             | ◆ ECUADOR (2)            | ◆ INDIA (1)        |                        |



Generated by ocean-ops.org, 2022-11-01  
Projection: Plate Carree (-150,0000)



Data Buoy Cooperation Panel

Moored buoys and other fixed platforms

October 2022

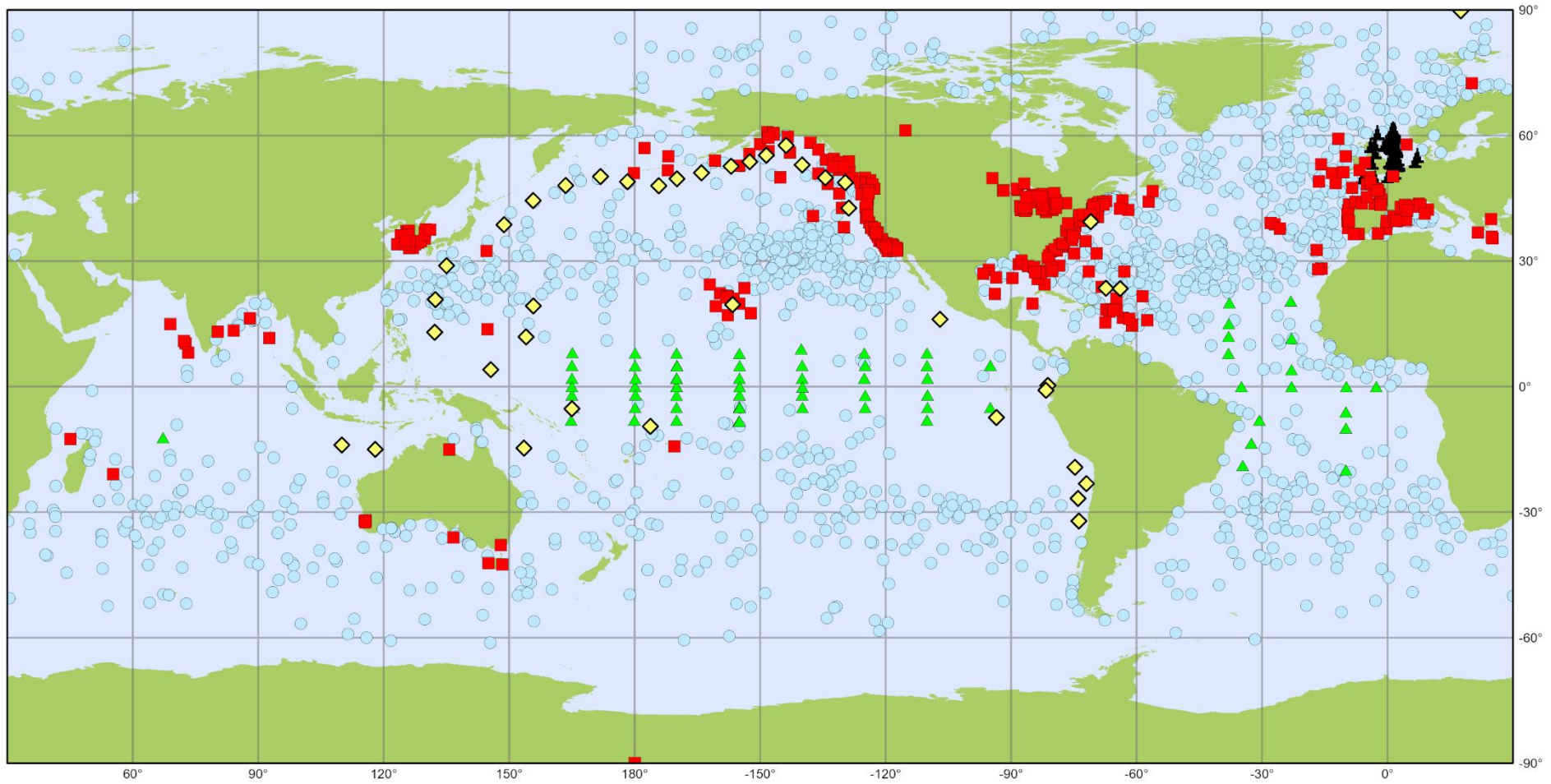
Platforms operational during the month. GTS data as received by Meteo France.

- |                            |                |                          |                    |                        |
|----------------------------|----------------|--------------------------|--------------------|------------------------|
| <b>Coastal/National MB</b> | ■ GREECE (4)   | ■ SPAIN (15)             | <b>Tsunameters</b> | ◆ USA (30)             |
| ■ AUSTRALIA (8)            | ■ PORTUGAL (9) | ■ INDIA (8)              | ◇ AUSTRALIA (3)    | <b>Fixed Platforms</b> |
| ■ NORWAY (2)               | ■ UK (6)       | ■ REPUBLIC OF KOREA (21) | ◆ CHILE (4)        | ★ GERMANY (2)          |
| ■ CANADA (33)              | ■ IRELAND (5)  | <b>Tropical MB</b>       | ◆ ECUADOR (2)      | ★ UK (89)              |
| ■ FRANCE (29)              | ■ USA (200)    | ▲ USA (71)               | ◆ INDIA (1)        | ★ USA (1)              |



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Projection: Plate Carree (-150,0000)





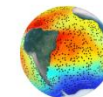
Data Buoy Cooperation Panel

Operational Platforms

October 2022

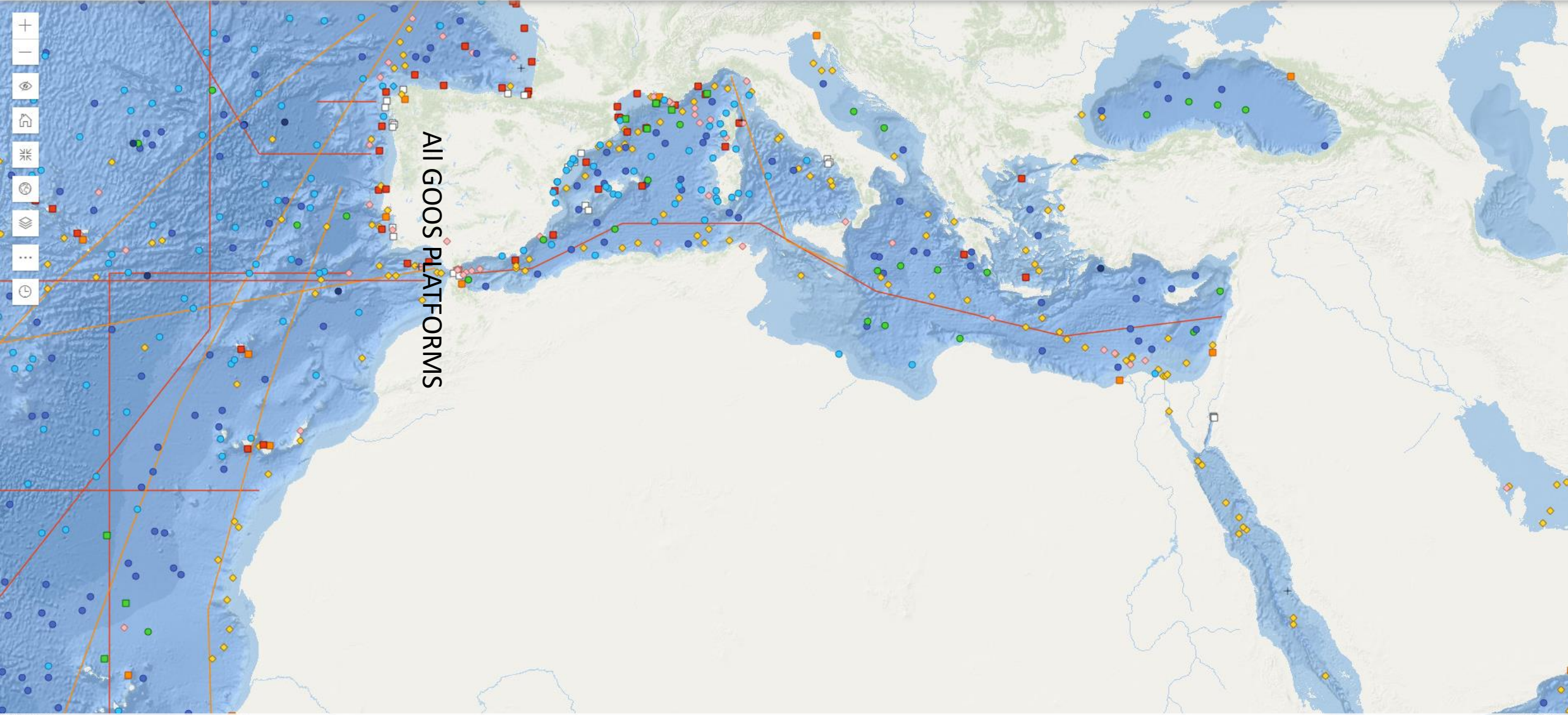
Platforms operational during the month. GTS data as received by Meteo France.

- ◆ Tsunameters (40)
- ▲ Fixed Platforms (92)
- Coastal/National MB (340)
- Drifting Buoys (1 457)
- ▲ Tropical MB (71)

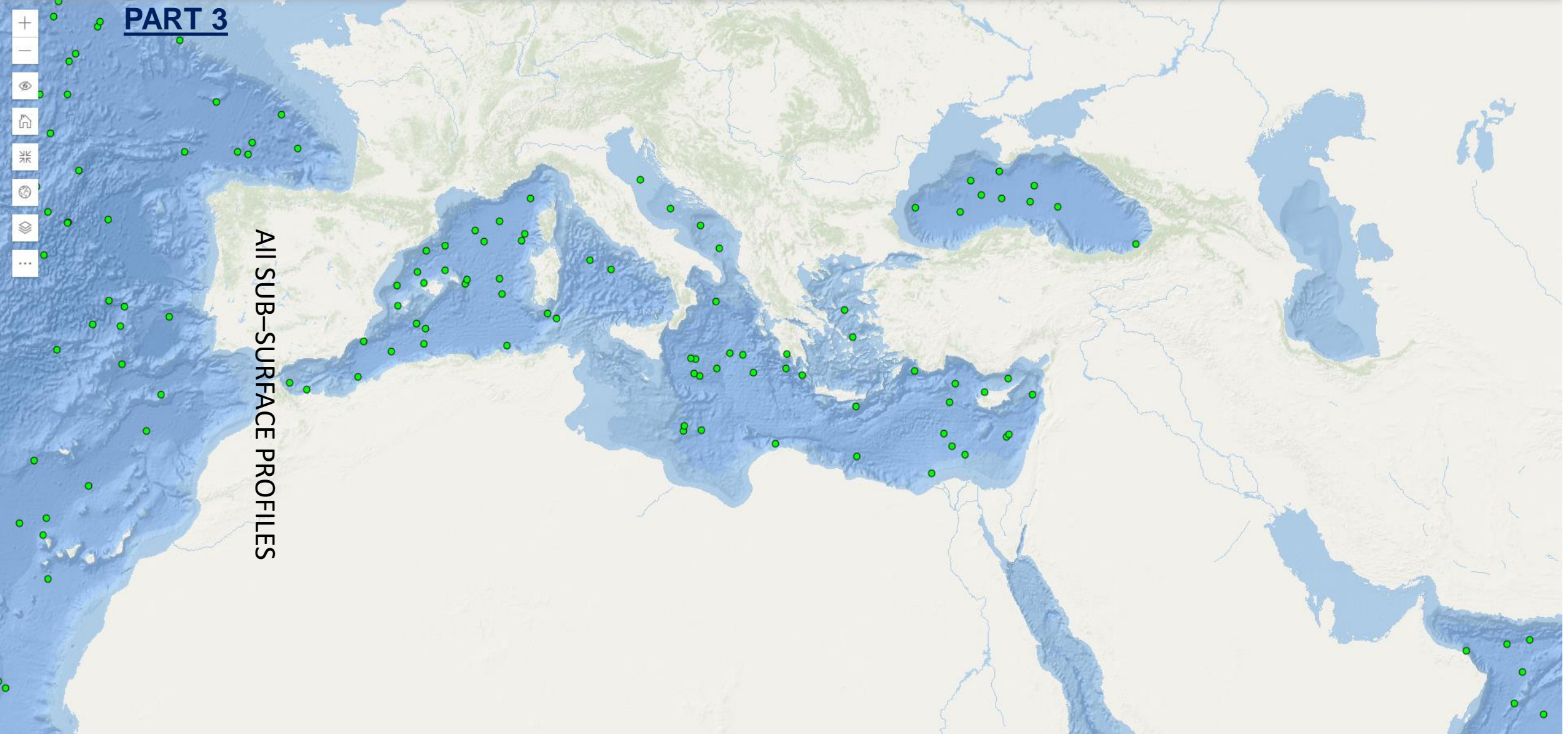


Generated by ocean-ops.org, 2022-11-01  
 Projection: Plate Carree (-150,0000)



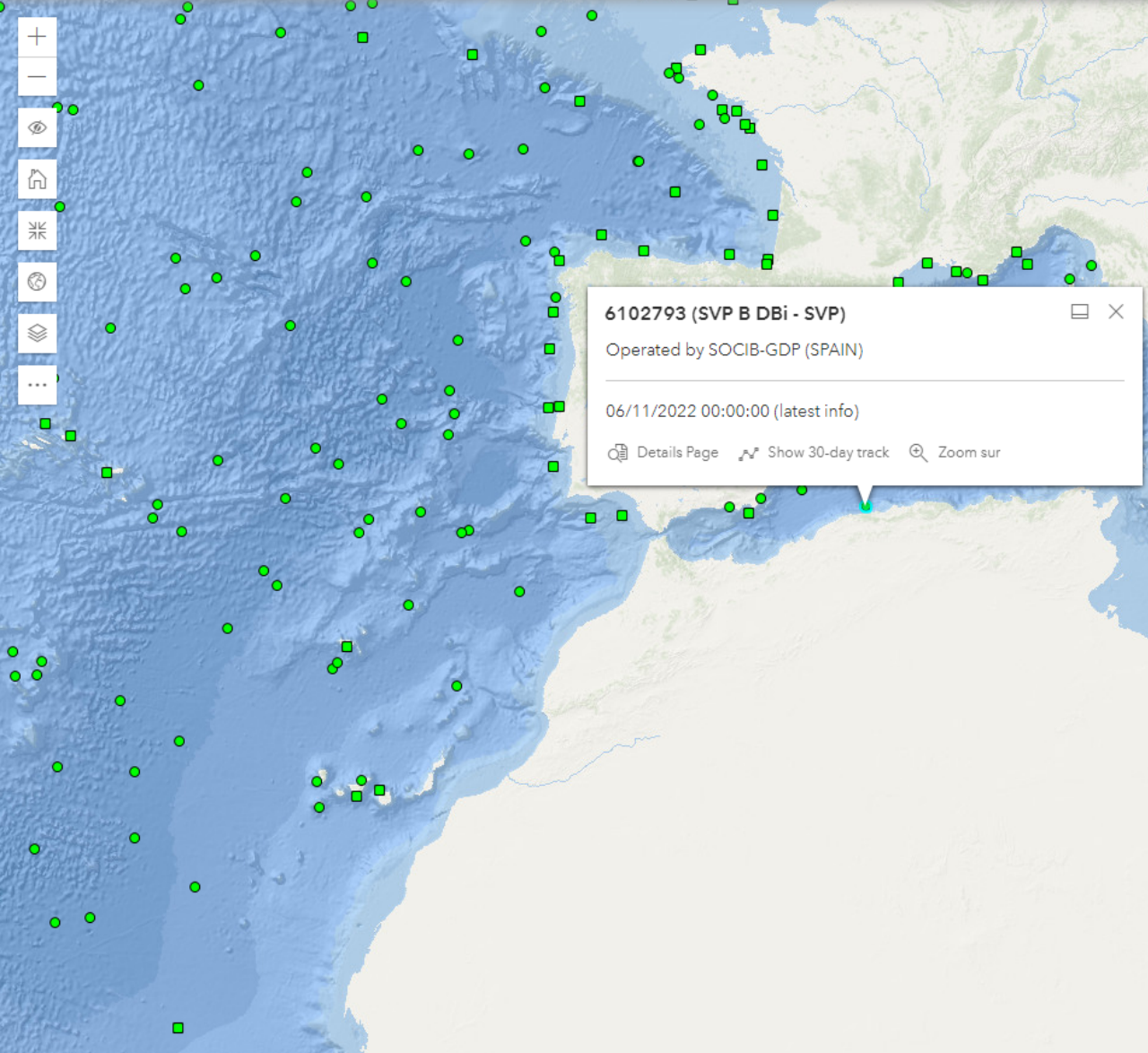






**PART 3**

ALL SUB-SURFACE PROFILES



**6102793 (SVP B DBi - SVP)**

Operated by SOCIB-GDP (SPAIN)

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06/11/2022 00:00:00 (latest info)

[Details Page](#)
[Show 30-day track](#)
[Zoom sur](#)

### Inspect Platform 6102793

[About](#)
[Event log](#)
[Data](#)
[QC](#)
[Operator](#)

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#### Main information

[Set as sample](#) | [Set & View on map](#)

Reference	6102793	WMO ID	6102793
Internal ID	60252840	WIGOS ID	0-22000-0-6102793
Status	OPERATIONAL <a href="#">i</a>	Networks	<a href="#">View in OSCAR</a> Global Drifter Array
Country	SPAIN (SOCIB-GDP)		E-SURFMAR
Model	<a href="#">SVP B DBi</a> (SVP)		DBCP
		Ship	<a href="#">SOCIB (2950 - Spain)</a>
		Cruise	SOCIB Palma-Blanes 2021

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#### Tracking lifecycle

	Deployed	Latest observation
Latitude	41.3149	36.771
Longitude	2.7024	1.946
Date	2021-10-05T16:54:00	2022-11-05T23:00:00

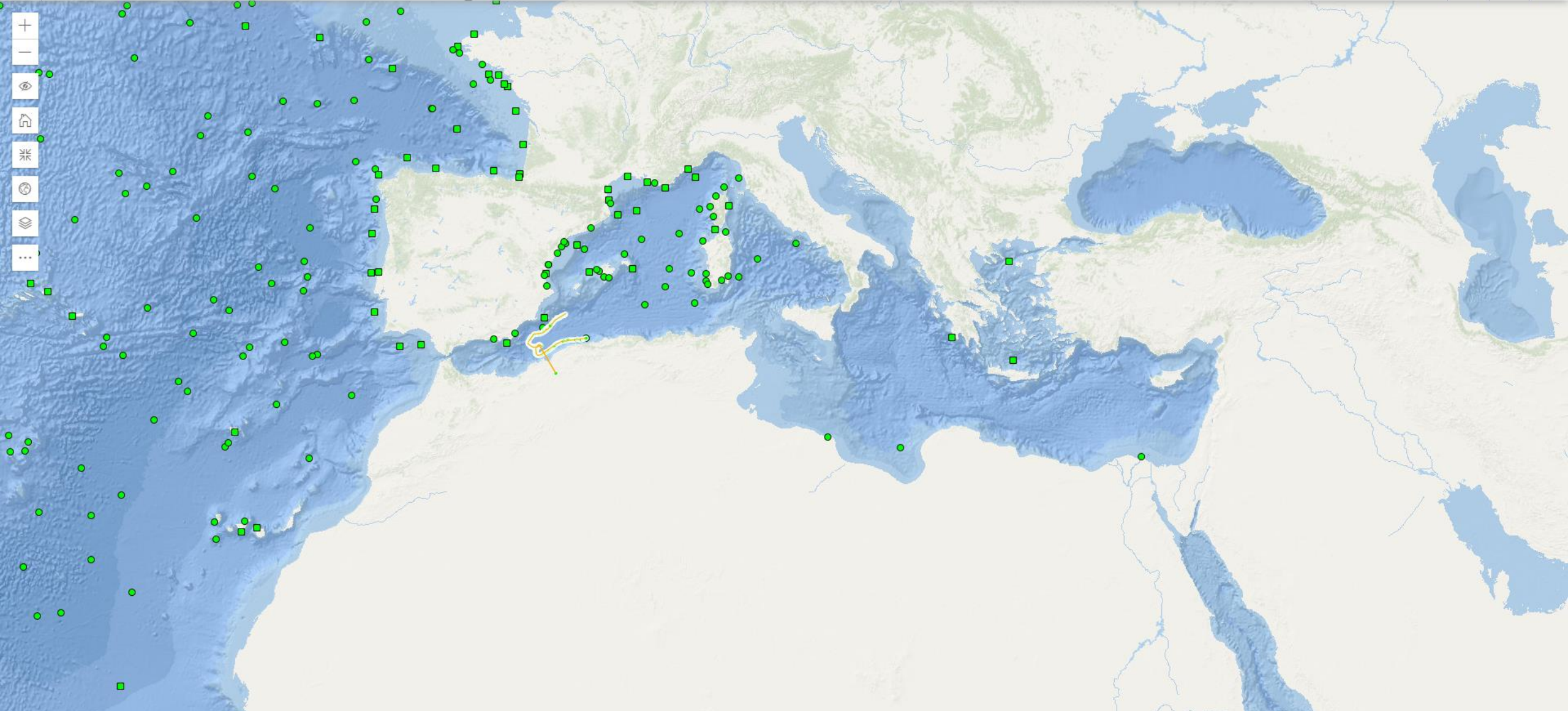
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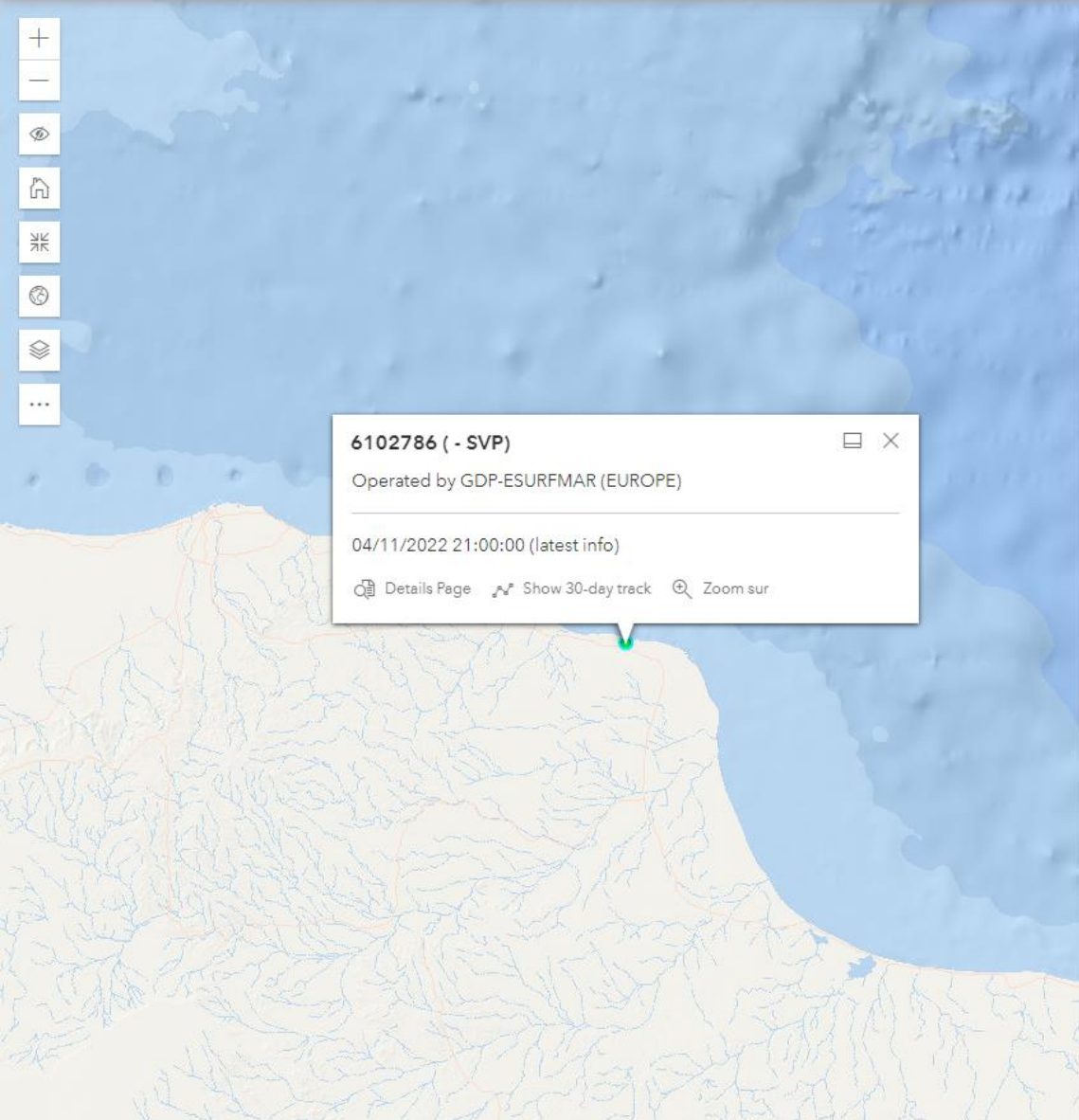
#### Technical details

[Sensors](#) | [Display detailed variables](#)

[GENERIC\\_BAROMETER](#)  
[BAROMETER\\_GENERIC](#)







### Inspect Platform 6102786

[About](#)
[Event log](#)
[Data](#)
[QC](#)
[Operator](#)

[Set as sample](#) | [Set & View on map](#)

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**Main information**

Reference	6102786	WMO ID	6102786
Status	OPERATIONAL	WIGOS ID	0-22000-0-6102786
Country	EUROPEAN UNION (GDP-ESURFMAR)	Telecom	IRIDIUM (# 300234067976540)
Model	<a href="#">SVP B Pacific Gyre (SVP)</a>	Networks	Global Drifter Array
			DBCP
		Ship	<a href="#">Laura Bassi (487A - Italy)</a> 🇮🇹
		Cruise	MED_2021

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**Tracking lifecycle**

	Deployed	Latest observation
Latitude	38.4	32.405
Longitude	17.7	14.958
Date	2021-07-20T00:00:00	2022-11-04T20:00:00

Sep 2021    Nov 2021    Jan 2022    Mar 2022    May 2022    Jul 2022    Sep 2022    Nov 2022

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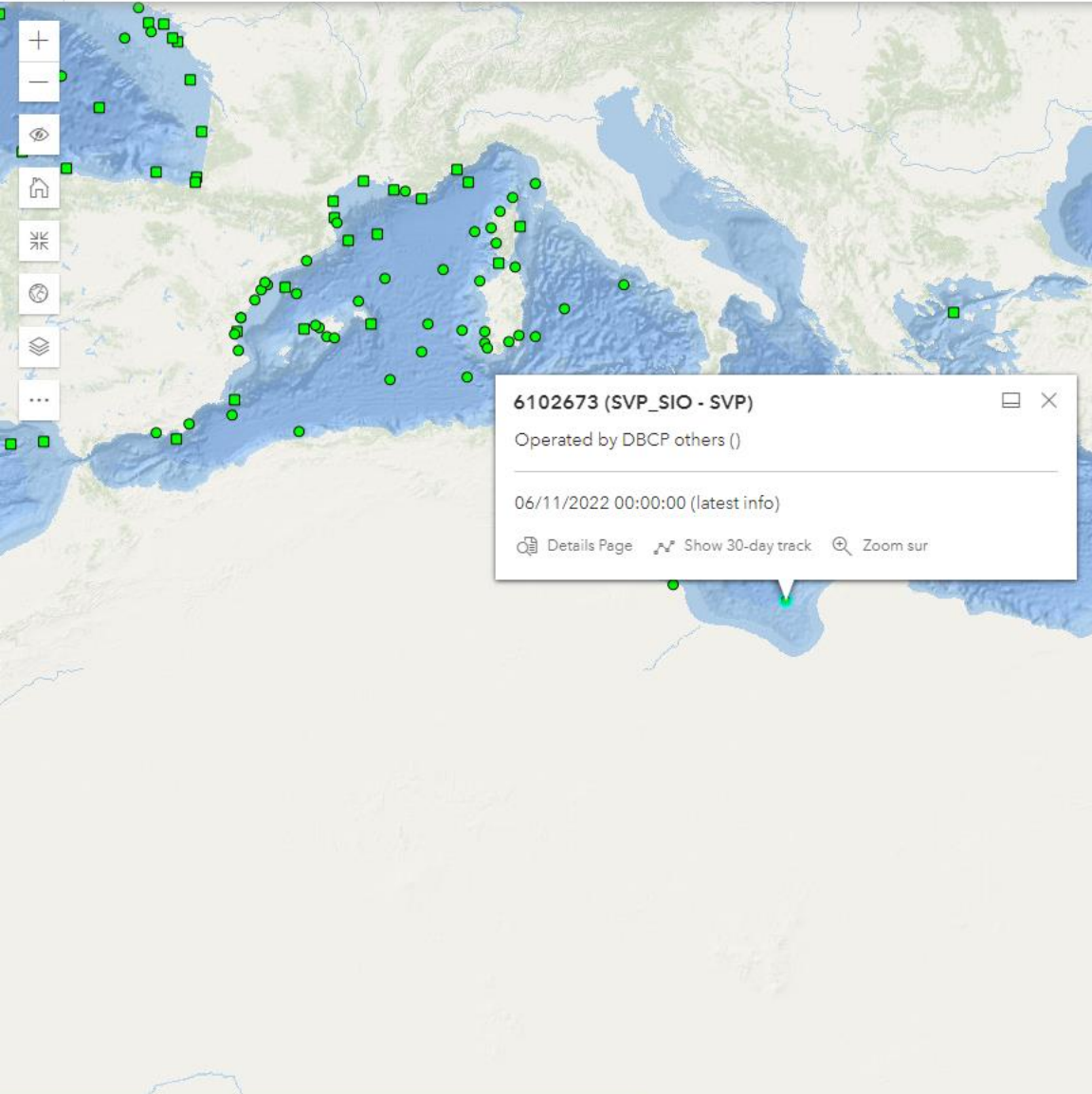
**Technical details**

Sensors: [Display detailed variables](#)

[GENERIC\\_BAROMETER](#)  
[BAROMETER\\_GENERIC](#)

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[🖨](#)
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### Inspect Platform 6102673

About | Event log | Data | QC | Operator

#### Main information

Reference: 6102673 | WMO ID: 6102673  
Status: OPERATIONAL | WIGOS ID: 0-22000-0-6102673  
Country: undefined (DBCP others) | [View in OSCAR](#)  
Model: [SVP\\_SIO \(SVP\)](#) | Telecom: IRIDIUM (# 68546300)  
Networks: Global Drifter Array  
Ship: POURQUOI PAS)

#### Tracking lifecycle

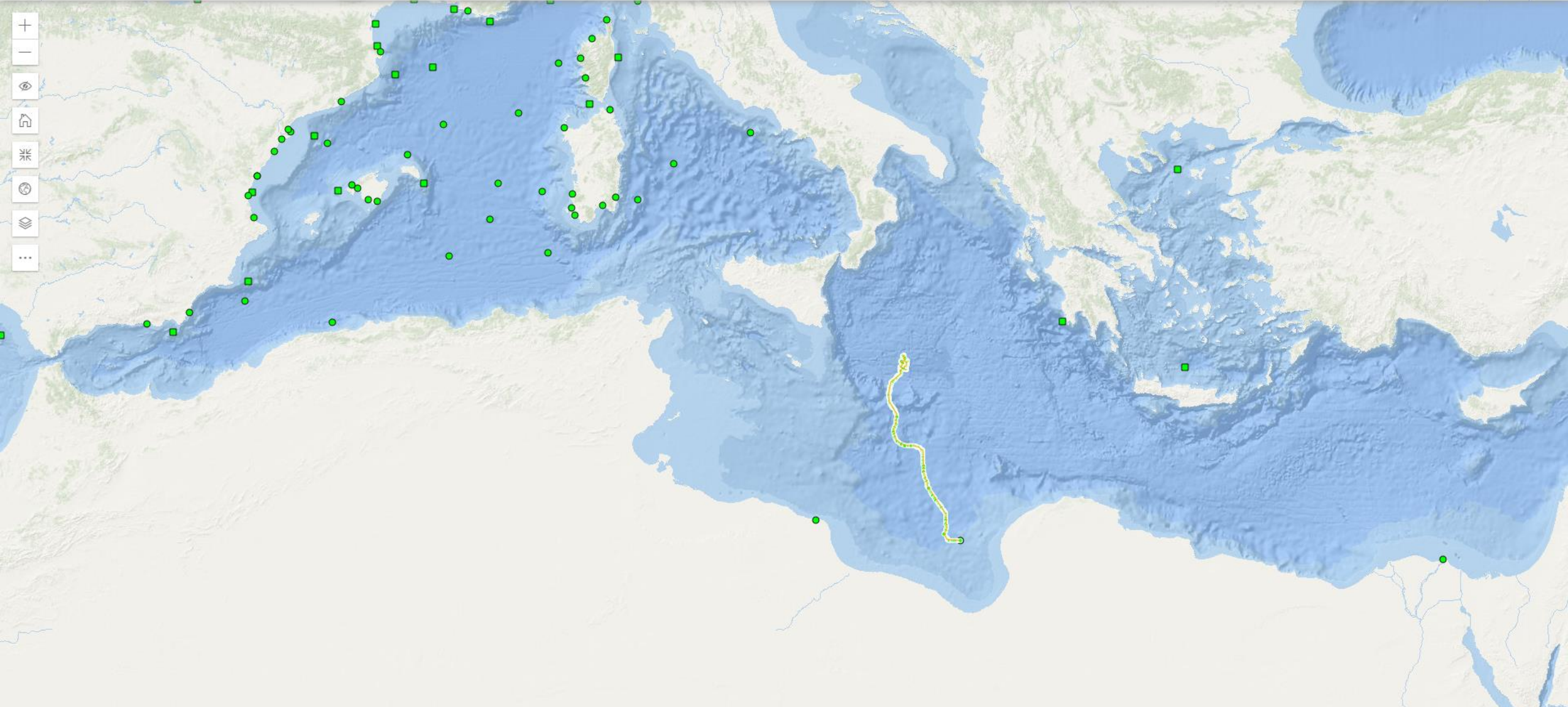
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Longitude	0.64	18.857
Date	2022-03-31T00:00:00	2022-11-05T23:00:00

#### Technical details

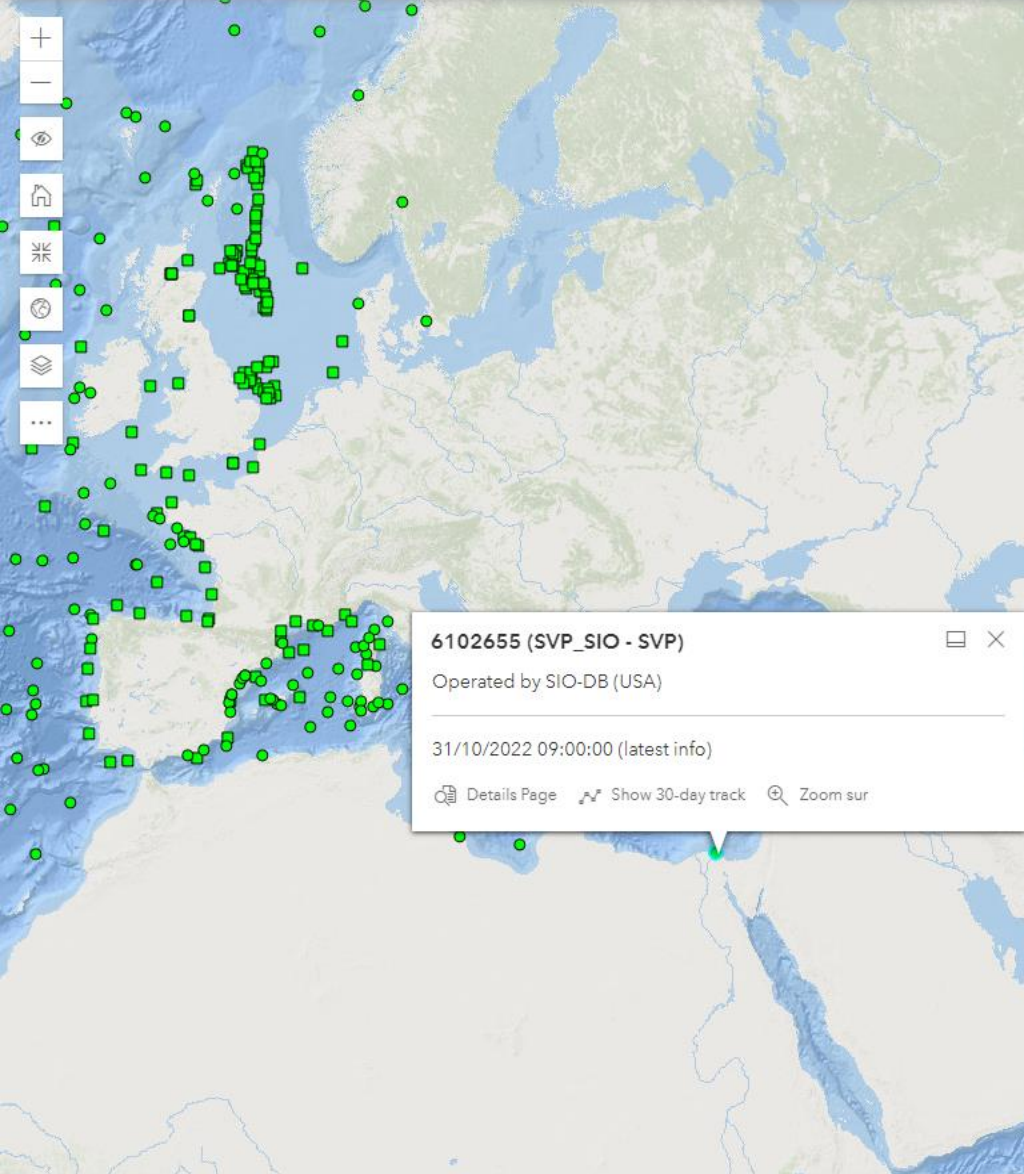
Sensors: [Display detailed variables](#)

GPS  
GPS\_LAT, GPS\_LON









**6102655 (SVP\_SIO - SVP)**

Operated by SIO-DB (USA)

31/10/2022 09:00:00 (latest info)

[Details Page](#) | [Show 30-day track](#) | [Zoom sur](#)

### Inspect Platform 6102655

[About](#) | [Event log](#) | [Data](#) | [QC](#) | [Operator](#)

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#### Main information

[Set as sample](#) | [Set & View on map](#)

Reference	6102655	WMO ID	6102655
Status	OPERATIONAL	WIGOS ID	0-22000-0-6102655
Country	UNITED STATES (SIO-DB)	Networks	Global Drifter Array
Model	SVP_SIO (SVP)		DBCP
		Ship	-

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#### Tracking lifecycle

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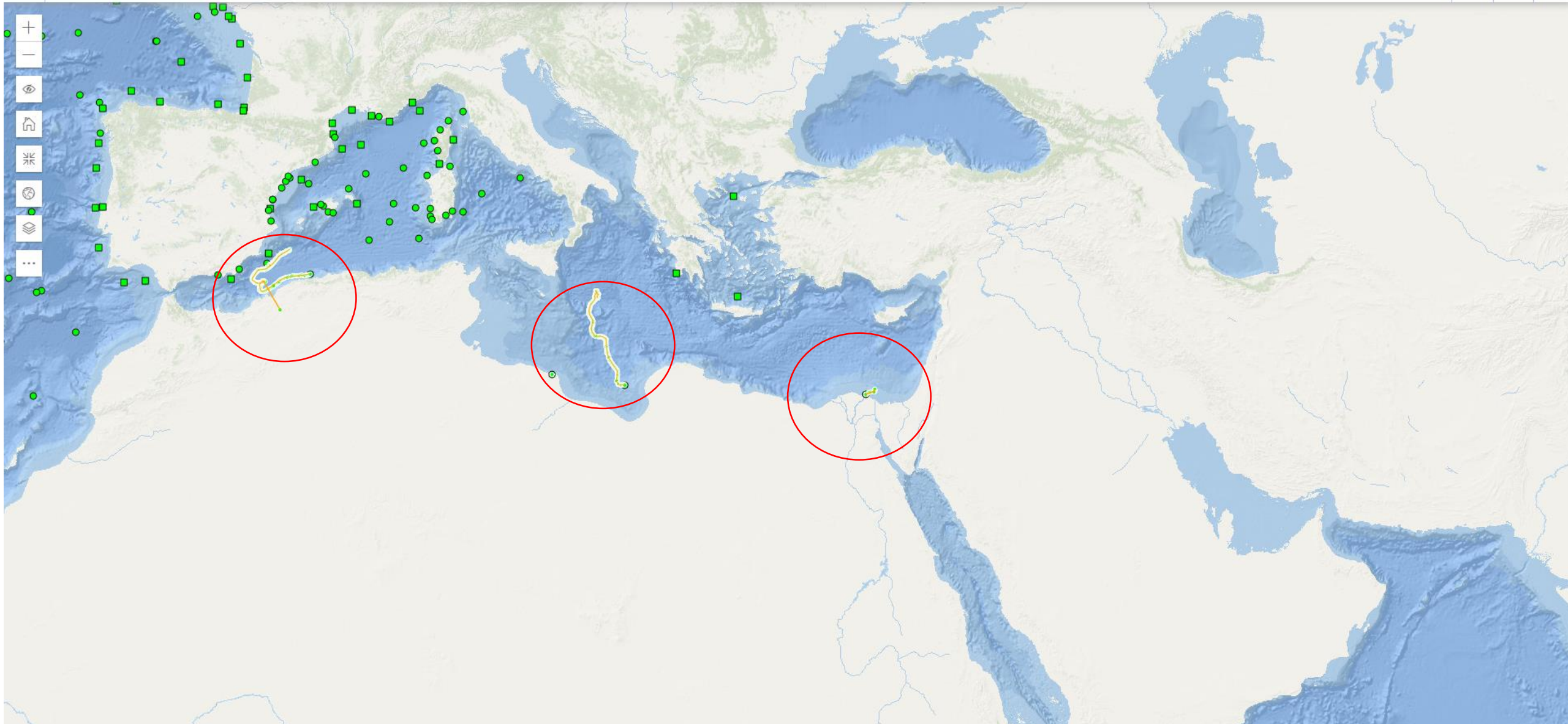
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#### Technical details

[Sensors](#) | [Display detailed variables](#)

[GENERIC\\_SST THERMOMETER](#)  
 SST\_GENERIC









## OUR VISION AND MISSION

### Vision

A flagship surface ocean observing panel of global standing recognized for its significant contributions from drifting and fixed moored buoys to ocean and climate science, weather, ocean and earth system prediction, sustainable development, safety, well-being and prosperity.

### Mission

To facilitate the collection of essential and trusted observations from data buoys at the air-sea interface and the upper ocean as part of an integrated, resilient and sustainable global observing system that serves the current and emerging needs of society - all day, every day.

### Pillar 1. Impact and value

*Strategic Objective:* Engage in activities for advancing ocean science and understanding that have measurable and profound benefits for our existing and growing global, regional and local partners and users.

### Pillar 2. Scientific and operational excellence

*Strategic Objective:* Develop outstanding people, science, systems and streamlined processes that together efficiently deliver fit for purpose ocean observations to our users.

### Pillar 3. Technology innovation

*Strategic Objective:* Provide leadership to enhance impact, reliability and value by fostering and building lasting partnerships with other ocean observing communities, scientists, engineers and industry that are working to create new measurement capabilities and practices in data buoy observations.

### Pillar 4. Environmental stewardship

*Strategic Objective:* Promote technologies and practices that reduce the environmental impact of our operations.

### Pillar 5. International cooperation and partnerships

*Strategic Objective:* Work collaboratively with our users and ocean observing partners to promote, coordinate and deliver valued, resilient, long-term sustainable ocean observations through education, capacity development and outreach programmes.

### Pillar 6. Diversity and inclusivity

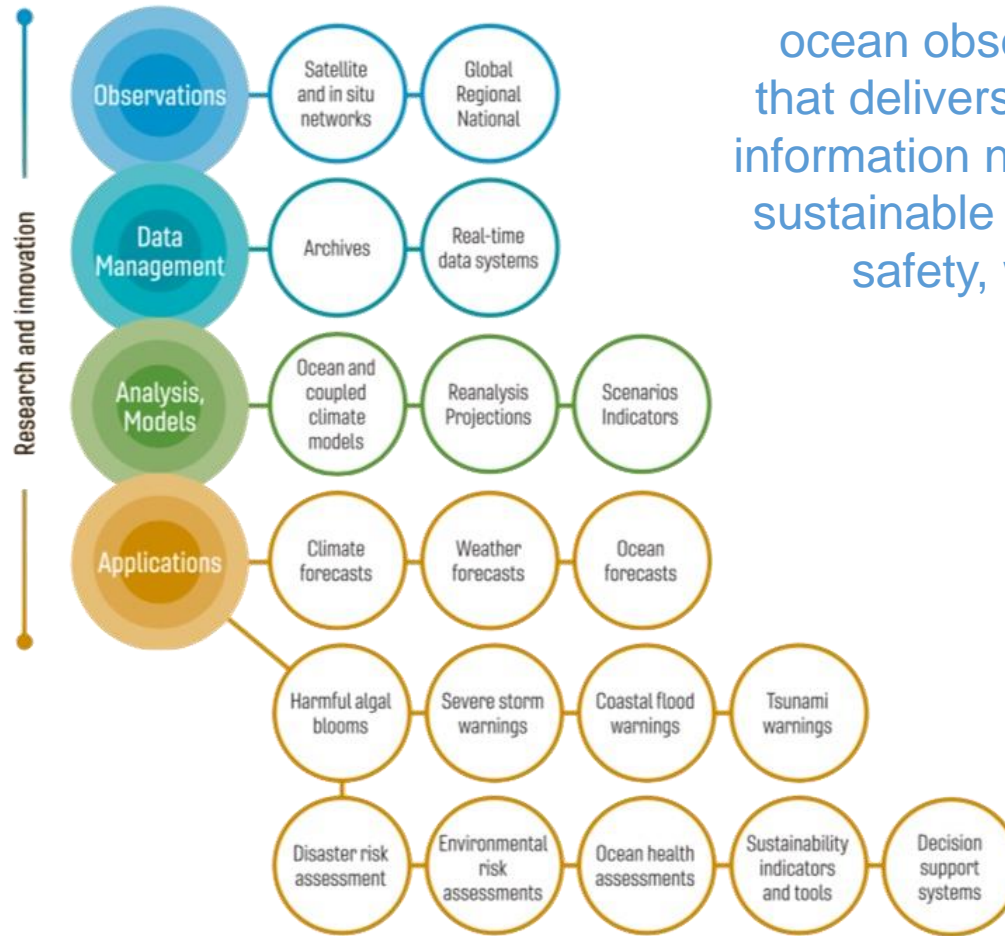
Foster an environment which respects and encourages diverse points of view, relishes creativity, and welcomes membership from all parts of the world.

# The Global Ocean Observing System

## 2030 Strategy

### Underpinning a wide range of applications

**Vision:** A truly global ocean observing system that delivers the essential information needed for our sustainable development, safety, wellbeing and prosperity





## PART 4

To help achieve the Global Ocean Observing System 2030 Strategy and the Ocean Decade outcomes, GOOS has launched **3 integrated programmes** that will be foundational building blocks for the Ocean Decade.

- CO-DESIGN
- COASTAL OCEAN
- CAPACITY DEVELOPMENT





# Hierarchy of Decade Actions



## Decade Programme

- Global or regional in scale
- Contribute to one or more of the Decade Challenges.
- Long-term (multi-year), interdisciplinary and typically multi-national.
- Includes component projects, and enabling activities.

## Decade Project

- Discrete and focused undertaking of a shorter duration.
- Will typically contribute to an identified Decade programme

## Decade Activity

- Typically a one-off standalone activity
- Can form part of a programme or project or can relate directly to a Decade Challenge or an outcome.

## Decade Contribution

- Supports the Decade through provision of a necessary in-kind or financial resource.
- Can be either for costs related to the implementation of a Decade Action or for coordination costs.

**The aim of this endorsed project is to raise the hydrographic and oceanographic knowledge on the Moroccan marine zone in the Atlantic Ocean and in the Mediterranean Sea through on-site measurements during sea surveys**

**Enhancement of hydrographic and oceanographic observations**  
National Commission for Education, Sciences and Culture - Kingdom of Morocco (MarocNatCom)  
*Morocco*

**Ocean Literacy Educational Program**  
Ministry of Maritime Economy  
*Cabo Verde*

**West African Science Service Centre on Climate Change and Adapted Land Use**  
Atlantic Technical University  
*Cabo Verde*

**African Youths Sustainable Ocean Campaign**  
Federal University of Technology Owerri  
*Nigeria*

**Fenoy-X**  
WIO Early Career Scientists Network  
*South Africa*

**Enhancing ocean observing system within The Republic of Mauritius**  
Mauritius Meteorological Services  
*Mauritius*

**Institutional capacity building towards the sustainability of ocean science in light of COVID-19 pandemic**  
Nipe Fagio  
*United Republic of Tanzania*

**Low cost real-time monitoring of pollutants and water quality along the coral reefs in Tanzania**  
Aqua Farms Organization  
*United Republic of Tanzania*

**Protecting the estuaries of WIO region**  
School of Aquatic Sciences and Fisheries Technology  
*United Republic of Tanzania*

**Sustainable Ocean Management Education Programme**  
Ministry of Fisheries and Blue Economy  
*Seychelles*



**To be linked with**

- DBCP Program
- MONGOOS/GOOS AFRICA
- Mercator International (Decade Collaborative Centre)
- Coast Predict initiative
- SciNMeet program
- Coast Wave Project
- Blue Belt Initiative, etc

Thank you for your attention