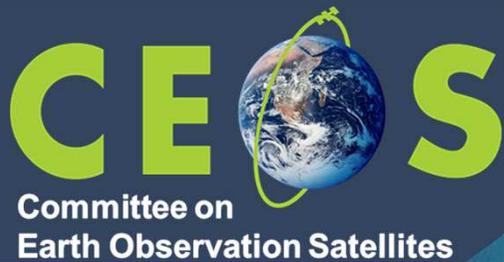




The Space4Ocean Alliance



**Dr. Selma Cherchali,
CNES**
SIT-40 Side Meeting
Fukuoka, Japan
8-10 April, 2025

OUR OCEANS AT HIGH RISK

71%

Ocean surface
on Earth

80%

Proportion of
Earth's unexplored,
unmapped oceans

« A fundamental gap in understanding how humanity is affecting the ocean is our **limited knowledge about the pace of change** (...) on ocean ecosystems » *Halpern et al. 2019*

600M

Livelihoods depending on
fisheries and aquaculture

>3 B

People depending on
marine and coastal
resources



14 LIFE
BELOW WATER

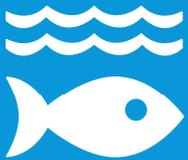


Conservation and sustainable
use of the ocean, seas and
marine resources

ACTIONS TOWARDS SDG 14

- To reduce marine pollution, ocean acidification
- To conserve marine & coastal areas
- To increase scientific knowledge, marine research and technology for ocean health
- To promote sustainable fisheries
- To reinforce international sea law

14 LIFE
BELOW WATER



THE SPACE4OCEAN ALLIANCE

OUTLINE



01



Road to UNOC



02

Rationale and objectives of the Space4Ocean Alliance



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ROAD TO UNOC-3

The United Nations Ocean Conference (UNOC) series is dedicated to support the implementation of SDG 14

2017
New York

2022
Lisbon



2021
2030 United Nations Decade
of Ocean Science
for Sustainable Development

2025
June 9-13, Nice



**UN OCEAN
CONFERENCE
NICE 2025
FRANCE**



June 3-6

One Ocean
Science Congress
(OOSC)

June 7

Blue Economy
and Finance Forum
(BEFF)

June 7-8

Summit on Ocean
Rise and Resilience
(ORR)

UNOC-3 SOME HIGHLIGHTS

Elaborate an action plan to address Ocean's critical condition
(e.g. pollution, ecosystems, acidification, overfishing, etc.)

Acknowledge Mercator Ocean International as an Intergovernmental Organisation

Define and produce scalable Ocean Health indicators
Neptune Ocean Exploration initiative
...

Launch the Space4Ocean Alliance

UNOC 3 events are **unique opportunities** to gather marine and maritime stakeholders to act in a collective manner towards an improved Ocean and Coasts knowledge and management

The **Space Sector** is one of those important stakeholders and contributes heavily and continuously to this global and common effort

2025
June 9-13, Nice



**UN OCEAN
CONFERENCE
NICE 2025
FRANCE**



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RATIONALE FOR THE SPACE4OCEAN ALLIANCE

WHY?

- Our Oceans are at high risk. It requires **decisive, rapid and unified efforts** to remedy to their critical condition
- Monitoring the ocean is challenging: **Oceanography and Earth Observation from space** are invaluable assets in addressing ocean and coastal challenges
- There is a **significant lack of coordination** and communication between the space sector, marine and maritime stakeholders
- **Several gaps remain** in addressing ocean challenges: data usage, applications to meet users needs, assesment indicators, space missions providing all necessary data...

The Space4Ocean Alliance objective is to coordinate and create more synergies, avoiding overlaps and leveraging operational solutions



ALLIANCE MILESTONES



Kick-off meeting

Paris - Dec 18, 2024



100+
Participants

Space agencies,
embassies,
international organizations

Space4Ocean Alliance Event

Monaco - March 25, 2025



15
Countries

100+
Participants

New signatories of the
Joint Declaration of Interest



OBJECTIVES

1

**Better connect
the space sector
and stakeholders**



2

**Develop
capacity building**



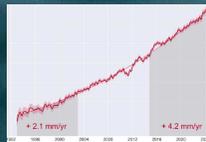
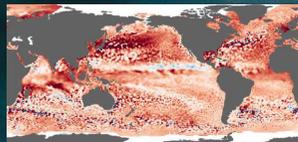
3

**Share
good practices**



4

**Develop
advanced
ocean indicators**



5

**Support the
development of
innovative
space missions**



6

**Design
new applications
and services**



OBJECTIVES



Better connect the space sector and stakeholders



- **Provide and improve a permanent dialogue** between the international space sector and the global ocean community
- **Provide a gateway** with the UN Member States to enable the use of operational solutions and reach policy targets
- **Gather user needs** to fill data and services gaps

OBJECTIVES



Develop capacity building



- Empower frontline countries such as SIDs and LDCs
- Expand access to observation data

OBJECTIVES



**Share
good practices**



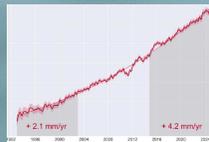
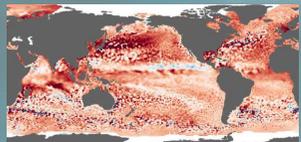
- Foster training initiatives
- Facilitate access to space data and operational services

OBJECTIVES

- **Advocate** for the development of evidence-based, local, regional and **global ocean indicators**
- **Define and produce scalable indicators** to maintain a sustainable balance between anthropogenic maritime activities

4

Develop advanced ocean indicators



OBJECTIVES

- Contribute to addressing **observational and operational gaps**
- **Advance the foundational ocean science**

5

Support the development of innovative space missions



OBJECTIVES

➤ Support and **promote the delivery** of operational services



**Design
new applications
and services**



FUNDAMENTALS OF THE SPACE4OCEAN ALLIANCE



Space data



Offer a global vision from space, allowing to monitor and anticipate changes to the oceans



In-situ data



Collected directly in the field, like sentinels and warrants of the best accuracy



Numerical models



Merging all data into practical tools and operational solutions, providing scenarios and forecasts allowing informed decision making

RATIONALE FOR THE SPACE4OCEAN ALLIANCE HOW?



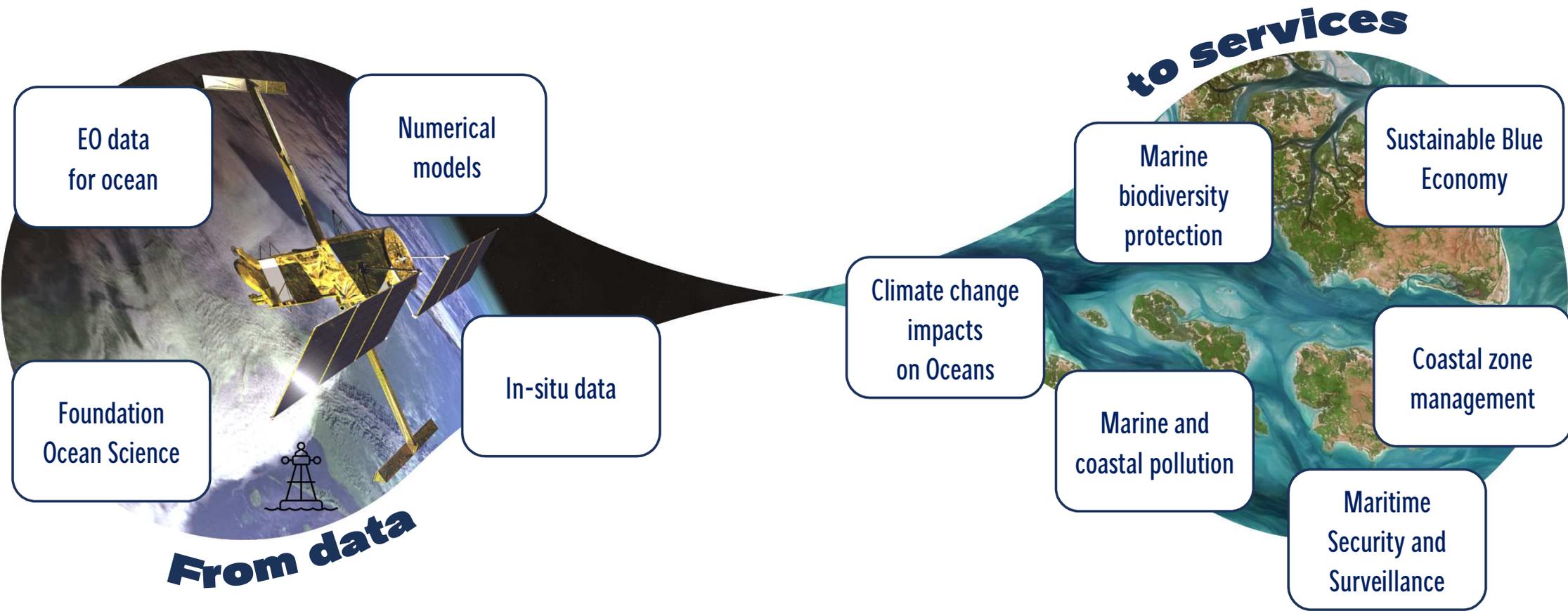
From data

The Space4Ocean Alliance will strengthen synergies and foster coherence with existing frameworks, without duplication



to services

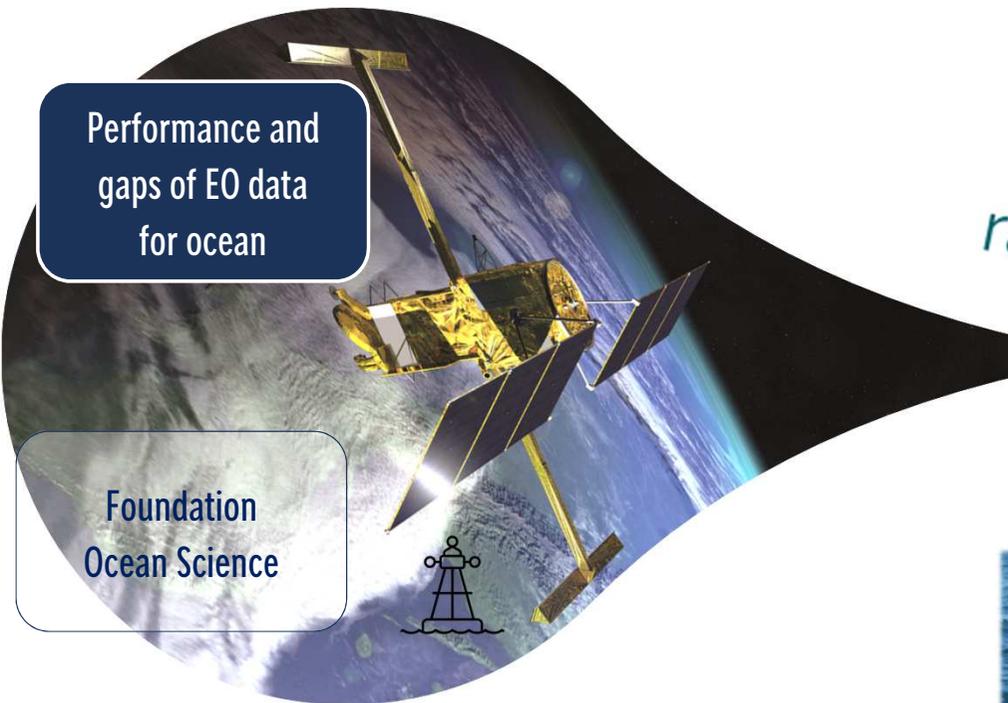
KEY ISSUES TO BE ADDRESSED BY THE SPACE4OCEAN ALLIANCE



FUNDAMENTALS OF THE SPACE4OCEAN ALLIANCE

Performance and gaps of EO data for ocean

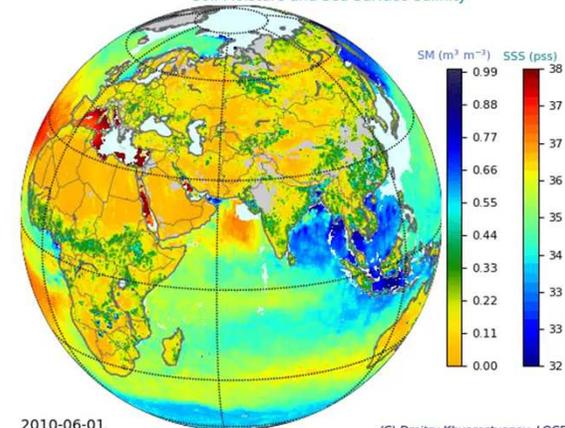
Foundation Ocean Science



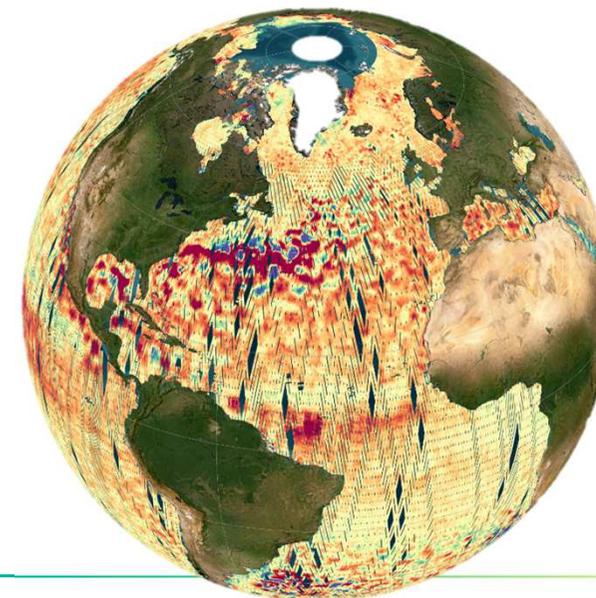
resolution
lidar diffusiometry
sampling
radar scales
space forecast
coverage buoys modets optical gauges
insitu altimetry
hyperspectral



Earth seen by SMOS
Soil Moisture and Sea Surface Salinity



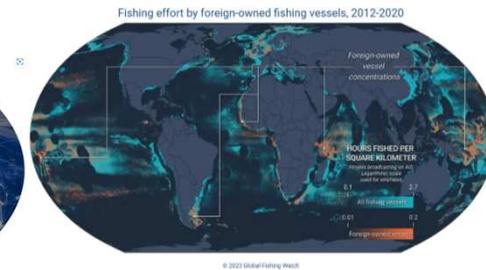
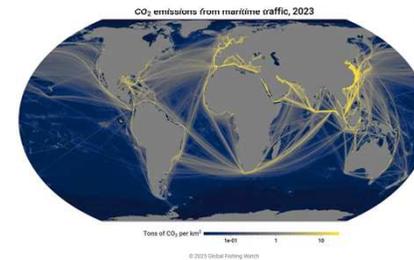
(C) Dmitry Khvorostyanov, LOCEAN, 2024



EXAMPLES OF SERVICES



➤ Sustainable fishing & aquaculture



➤ Decarbonization of the maritime world



EXAMPLES OF SERVICES



➤ Coastal flooding hazards

LITTOSCOPE | Space for Climate Observatory



➤ Resilience to extreme events

EXAMPLES OF SERVICES



➤ Ocean Plastic Pollution

EXPEDITION 7^e CONTINENT
 septiemecontinent.com | seventh-continent.com

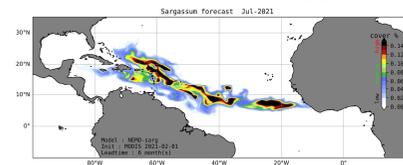


➤ Oil Pollution prevention

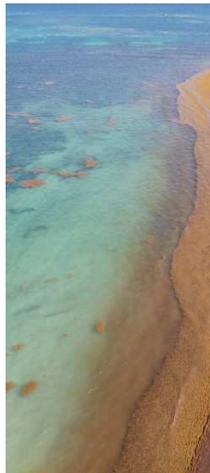


➤ Sargassum forecast and warnings

Interreg Caraïbes
 Fonds européen de développement régional
SARG'COOP
 Programme caraïben de coopération de lutte contre les algues sargasses



SeSaM | Space for Climate Observatory



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MEMBERS OF THE ALLIANCE

AS OF APRIL 7, 2025

Founding Members



Blue Justice



Steering Committee Members



Confirmed Interest
pending internal process approval



Blue Justice

PROPOSED GOVERNANCE

Founding Members



Blue Justice



Steering Committee Members up to date

Membership

- The Alliance is open to all Member States of the United Nations, national/regional/international institutions and organizations, public and private stakeholders
- A focal point is designated for each signatory member of the Alliance
- UNOC-3 is an opportunity for stakeholders to join the Alliance

Role of the Steering Committee

- Will designate a Member in charge of the Alliance Secretariat
- Will design, approve and follow a multi-annual Implementation Plan

Meetings

- Steering Committee meetings at least twice a year to oversee progress on the Implementation Plan
- Annual event to follow-up on Alliance achievements and way forward
- Future UNOCs dedicated events and technical workshops



JOIN THE SPACE4OCEAN ALLIANCE NOW !



Declaration of interest sent by CNES CEO on April 4th
RSVP requested by the end of April

Please send us:

- **Confirmation of Interest and intention to sign the Declaration**
- **Intention to participate in the June events (UNOC3), with a list of expected participants**

Expected level of representation:

- For June 9 : at least heads of agencies, organizations, institutes with authority to sign
- For June 10: higher level desired



Selma Cherchali

selma.cherchali@cnes.fr

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2-YEAR PERSPECTIVE (2025-2027)

Success criteria

- **Structure** and enlarge the Alliance  *Number of new members*
- **Identify** user needs  *Publish a Users Requirements Document*
- **Provide** the state of the art of existing services and applications
- **Define** ocean health indicators  *TBD*
- **Identify** observation gaps, if any, and establish a roadmap to fill those gaps  *TBD*
- **Identify** missing operational services, if any, and implement 5 new operational services
- **Promote** Earth Observation for ocean science and applications at international level  *TBD*
- **Provide** dedicated training on Ocean Science  *TBD*
- **Define** a « capacity building package » and move on with a first implementation
- **Organize** and coordinate the space contribution at UNOC-4  *TBD in the UNOC declaration*

5-YEAR PERSPECTIVE (2030+)

Success criteria

- **Further enlarge the Alliance**  *Number of new members*
- **Update Users Needs**  *Update the Users Requirements Document (URD)*
- **Implement the ocean health indicators and inform the community about the results**  *Publication of indicators*
- **Start implementing the roadmap of projects and services**  *TBD in the roadmap, e.g. 25 new projects/services provided to the community*
- **Assess the impact of the Alliance**  *Number of new members*
- **Organize and coordinate the space contribution at UNOC-5, UNOC-6**  *TBD in the UNOC declaration*