Selected perspectives and forward look into the evolving ocean landscape

Some insights from the OECD work on the ocean economy

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- The OECD and the ocean
- Selected trends in the ocean economy
- Taking into account the importance of observations

1 OECD and the Ocean

THE OCEAN

- OECD Committee on Fisheries
- OECD Committee on Shipbuilding
- Environment Directorate (plastics and other chemical pollutions, biodiversity)
- Development Directorate
- Centre for Entrepreneurship, SMEs, Regions and Cities's Blue cities programme
- International Transport Forum

And the Ocean Economy Group --OECD Ocean Economy Monitor--

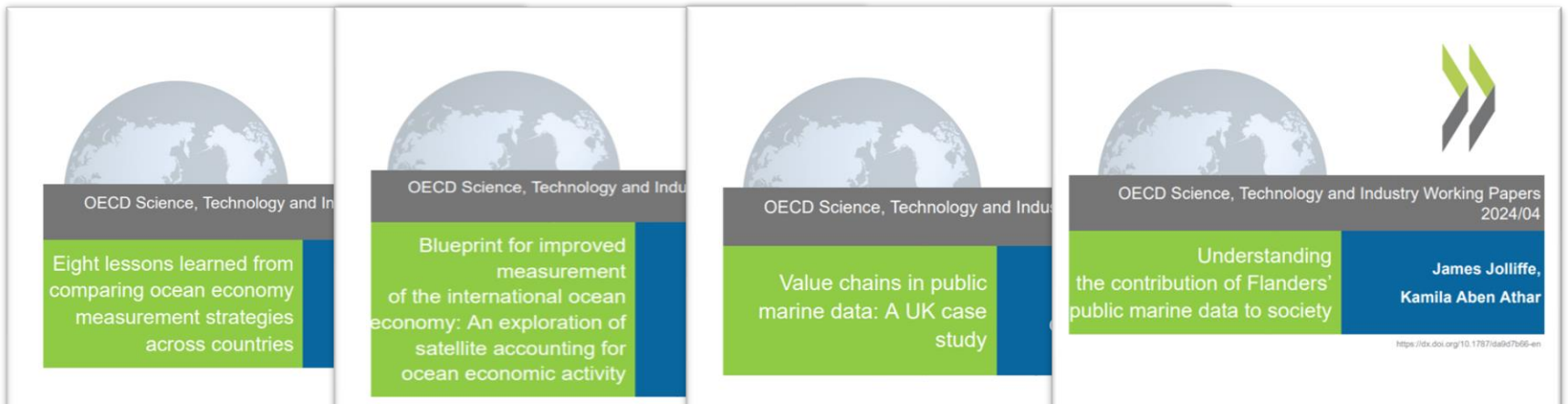
Visit: Ocean | OECD

STI Ocean Economy Group's work programme

1. **Ocean economy measurement with original cross-country statistics – OECD Ocean Economy Monitor**

2. **Ocean data and science for more sustainable ocean economies**
   - Improve the knowledge base on the economics of ocean observations (partnering with the Intergovernmental Oceanographic Commission & other actors)
   - Investigate ocean and seabed exploration economics (partnering with the International Hydrographic Organisation & Seabed 2030 Initiative)
   - Map ocean science and innovation policy initiatives (partnering with research institutes and ocean clusters)

3. **International OECD ocean foresight project "The Ocean Economy in 2050"**



Foresight Project on The Ocean Economy to 2050

Global economic, technological, environmental and political contexts are changing how the ocean economy might evolve

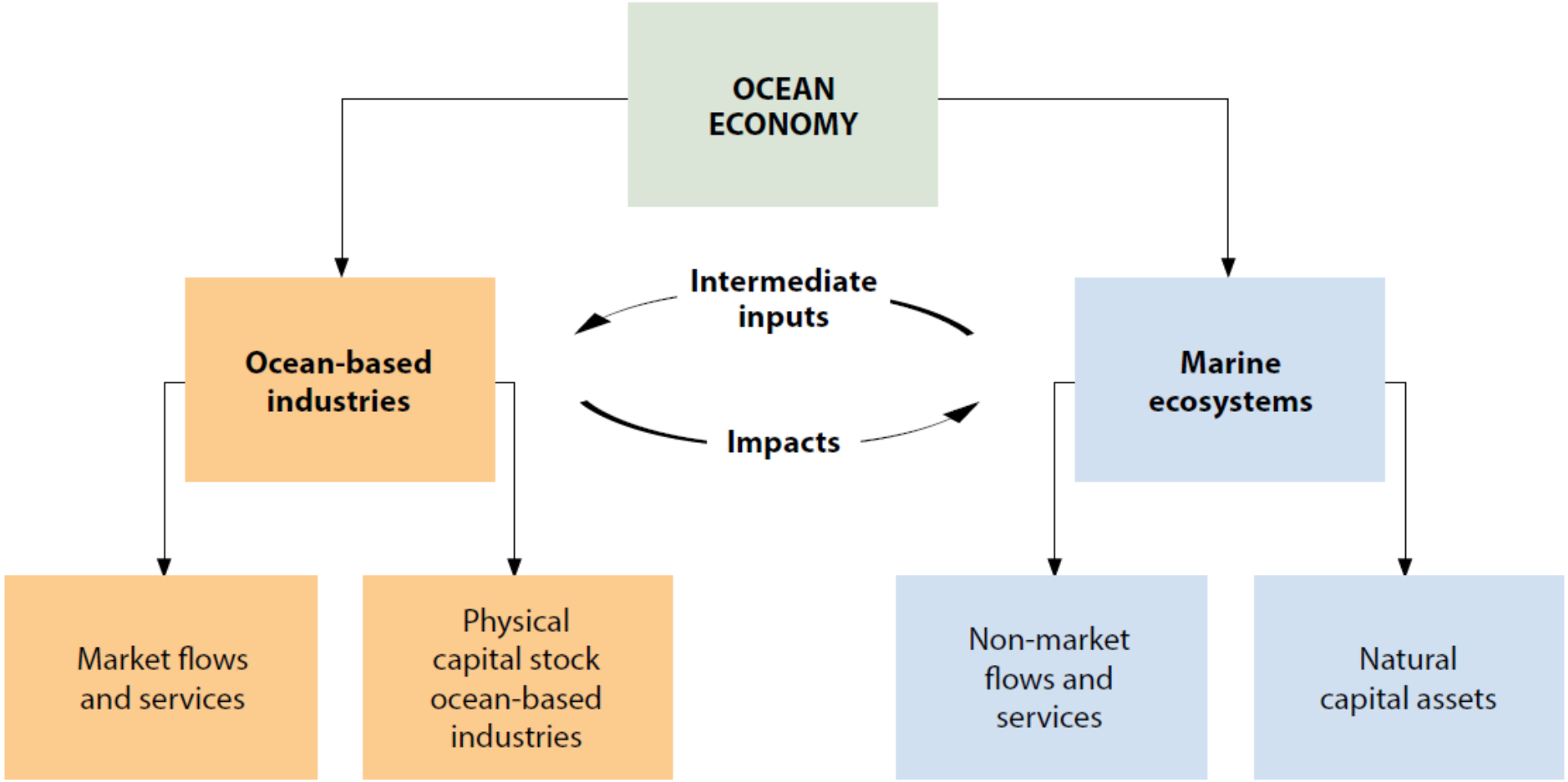
Objectives of OECD foresight work:

- Consider forces shaping how ocean economy might evolve to 2050
- Estimate internationally comparable statistics and project them forward using different scenarios
- Provide new evidence-based options for action on how sustainable management of the ocean economy might be strengthened
- Contribute to 2025 United Nations Ocean Conference to be held in Nice, France

Launch on 31 March 2025

2 Selected trends in the Ocean Economy

OECD definition of the ocean economy: An interlinked system of economic activity and marine natural resources



Source: OECD (2016), *The Ocean Economy to 2030*, OECD Publishing, Paris, https://doi.org/10.1787/9789264251724-en.

BOTH PILLARS SHOULD BE MEASURED TO SUPPORT BETTER DECISIONS

- System of National Accounts (SNA)
- System of Environmental-Economic Accounting (SEEA)

Refining definitions to improve ocean economy measurement at national/international levels (OECD Blueprint, 2021)

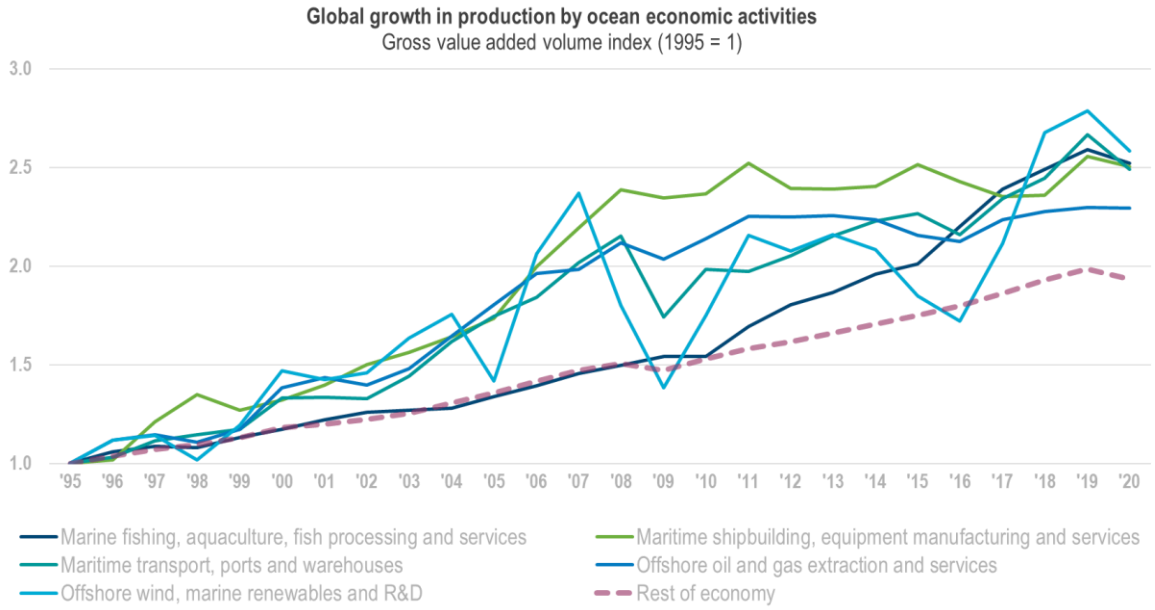
The ocean economy includes all **economic activities** that:

- take place on or in the ocean;
- produce goods and services primarily for use on or in the ocean;
- extract non-living resources from the marine environment;
- harvest living resources from the marine environment;
- use living resources harvested from the marine environment as intermediate inputs;
- would likely not take place were they not located in proximity to the ocean; or,
- gain a particular advantage by being located in proximity to the ocean.

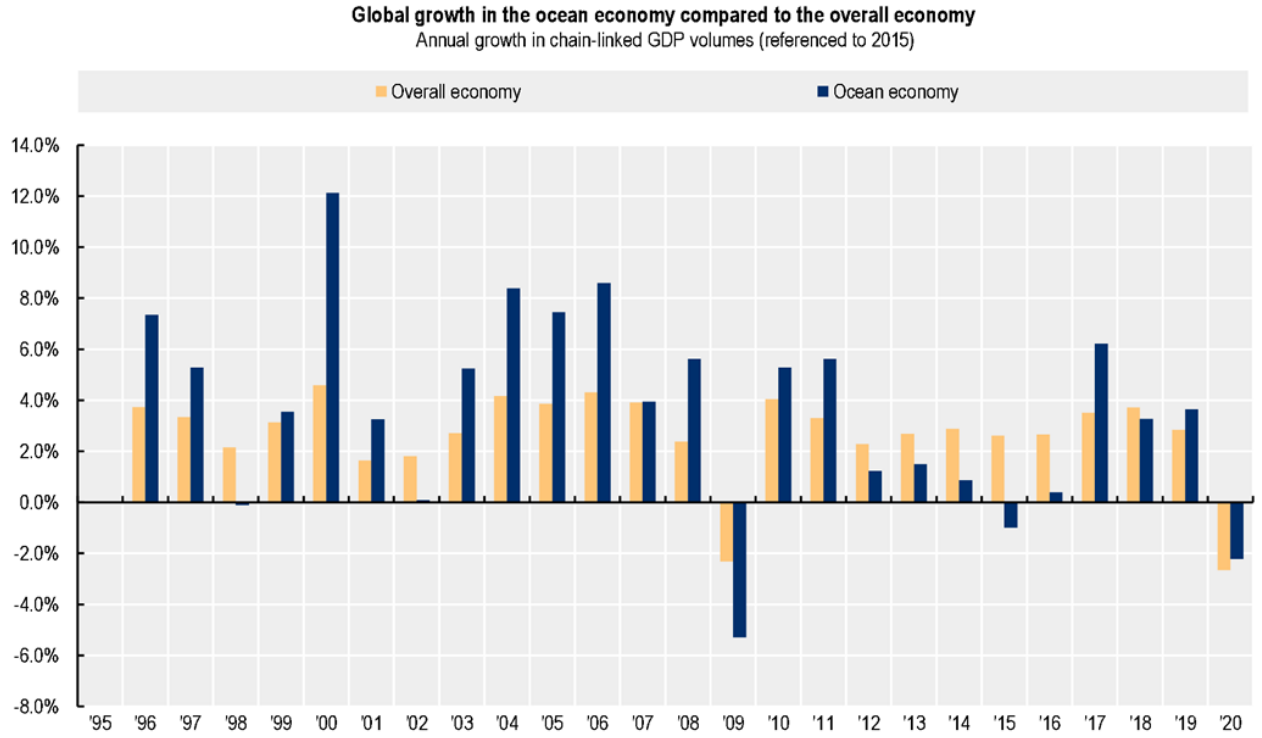
OECD (2021), Blueprint for improved measurement of the international ocean economy: An exploration of satellite accounting for ocean economic activity", OECD Publishing, Paris.

The ocean economy is larger and with more impacts than many think..

Production in most ocean economic activities has kept increasing since the mid-1990s…



… while ocean economy growth in GDP volume has outperformed overall economic growth for almost 25 years

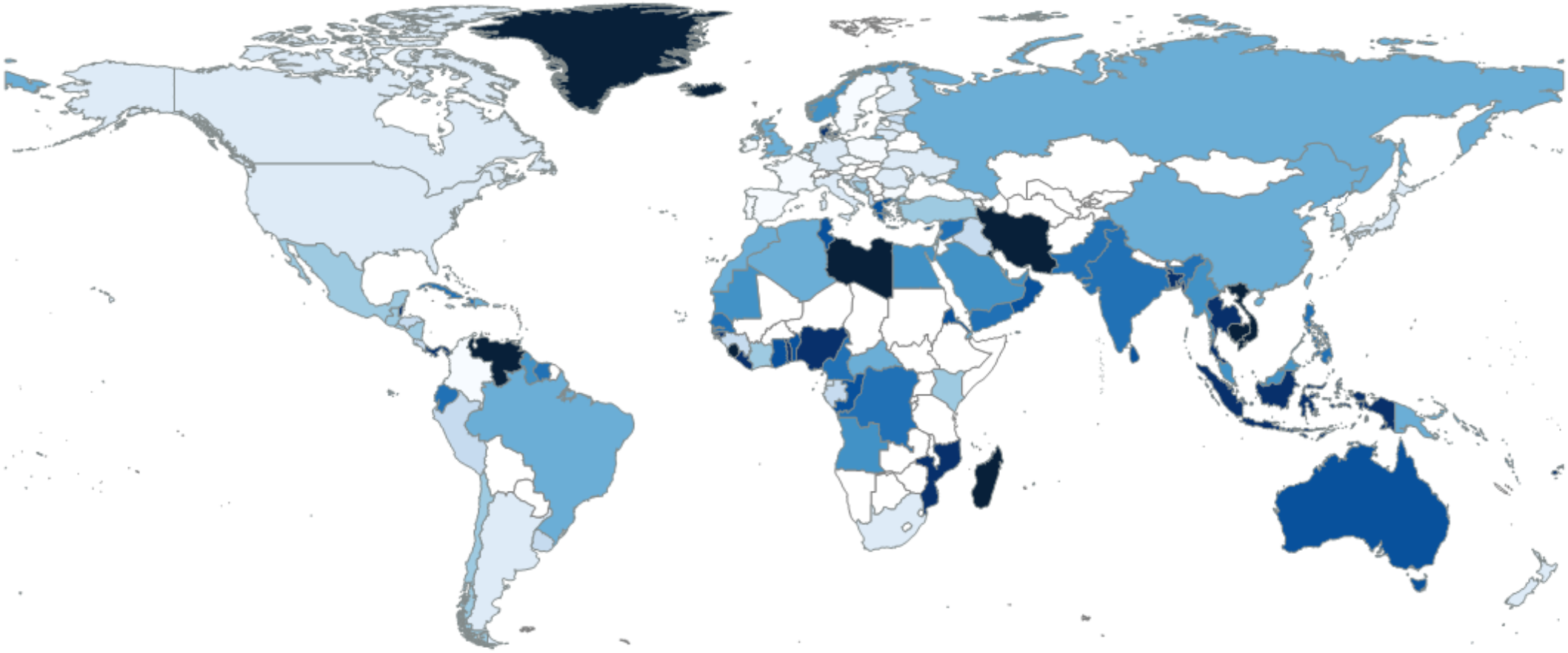


Source: OECD Ocean Economy Monitor *Experimental Indicators* (April 2024). To learn more: Ocean Economy Monitor | OECD

Global hotspots of ocean economic activity

Share of ocean economy in overall economies by country

Total gross value added from ocean economic activities as percentage of overall economies (USD pyp)



Darker blues indicate **higher proportion** of overall economy GDP is generated in ocean economic activities

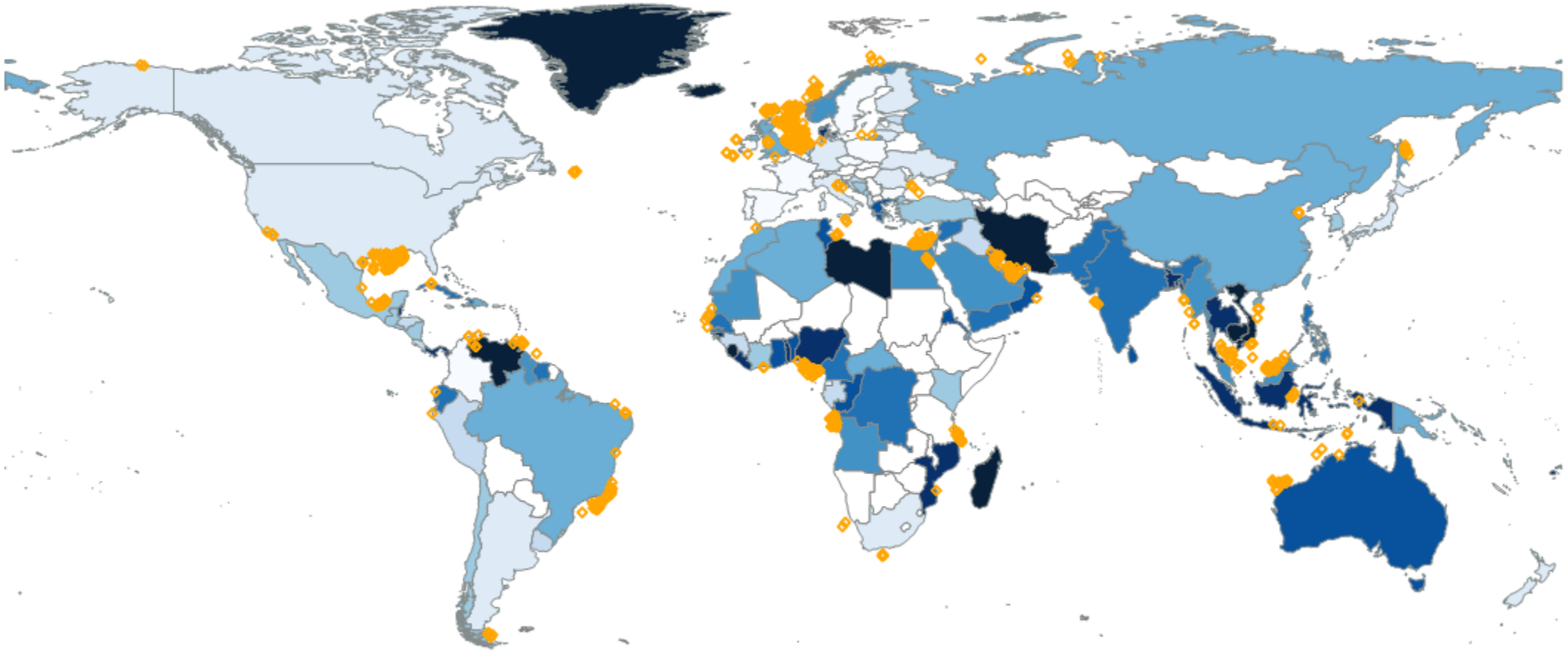
Source: OECD Ocean Economy Monitor *Experimental Indicators* (April 2024)

To learn more: Ocean Economy Monitor | OECD Note: These are initial estimates, and forthcoming data may be slightly different.

Many countries with large ocean economies rely on extractive industries

Share of ocean economy in overall economies and offshore oil/gas extraction sites by country

Total gross value added from ocean economic activities as percentage of overall economies (USD pyp)



Darker blues indicate **higher proportion** of overall economy GDP is generated in ocean economic activities, **orange points** represent offshore oil and gas **extraction sites**

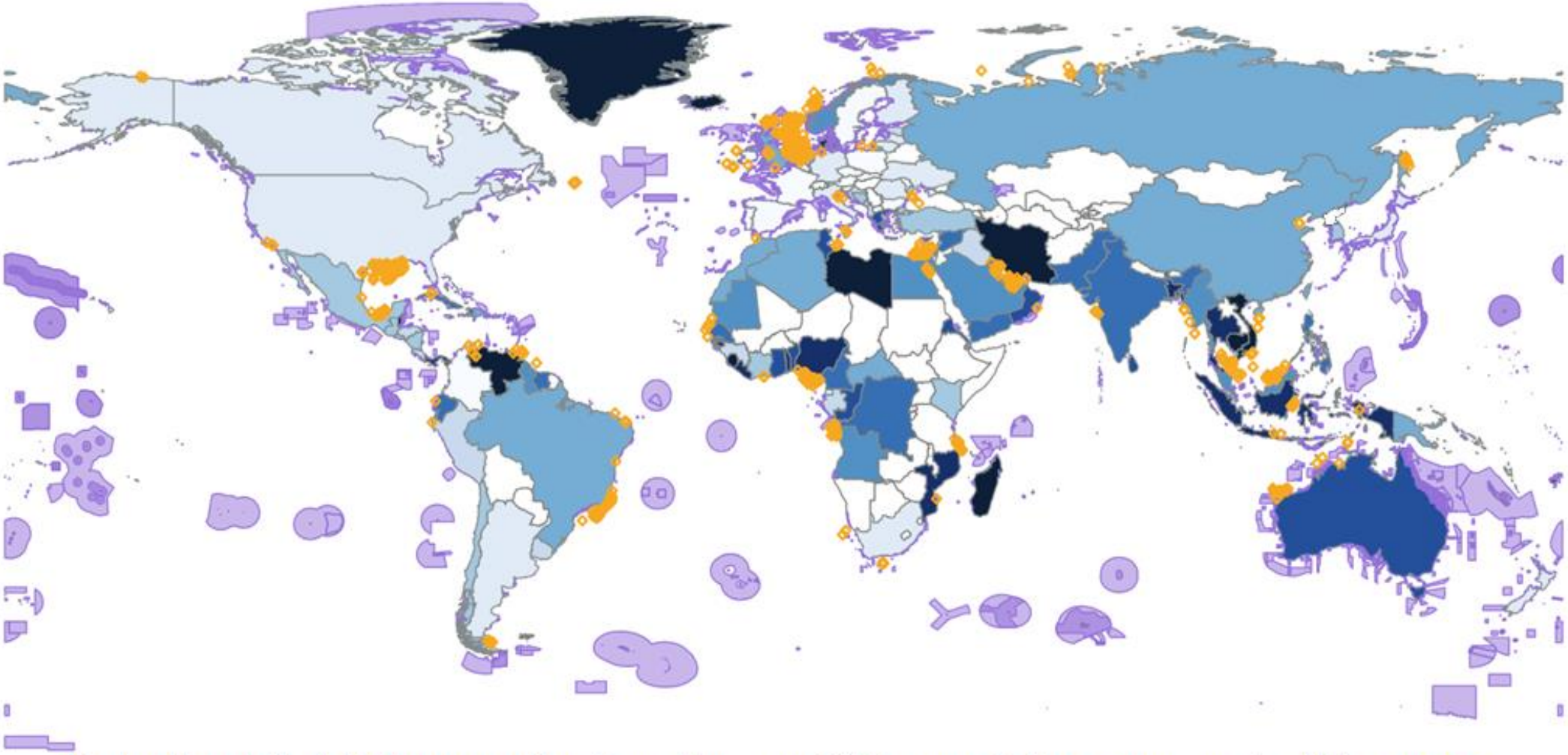
Sources: OECD Ocean Economy Monitor *Experimental Indicators* (April 2024); Global Oil and Gas Extraction Tracker, Global Energy Monitor, March 2024 Release.

To learn more: Ocean Economy Monitor | OECD Note: These are initial estimates and forthcoming data may be slightly different.

More marine space is protected globally, although levels of protection and enforcement widely differ… with strong monitoring needs in most places

Share of ocean economy in overall economies, offshore oil/gas extraction sites by country and global marine protected areas

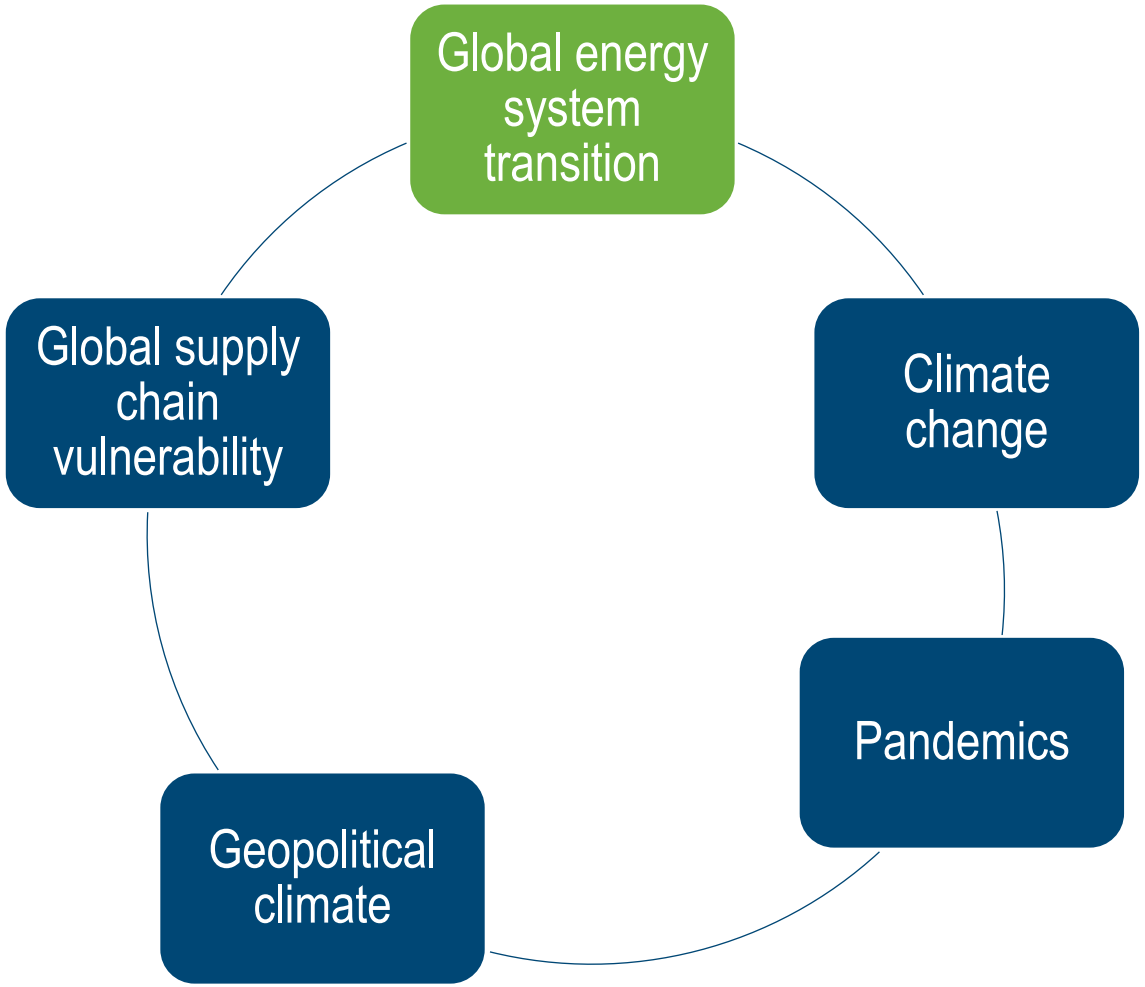
Total gross value added from ocean economic activities as percentage of overall economies (USD pyp)

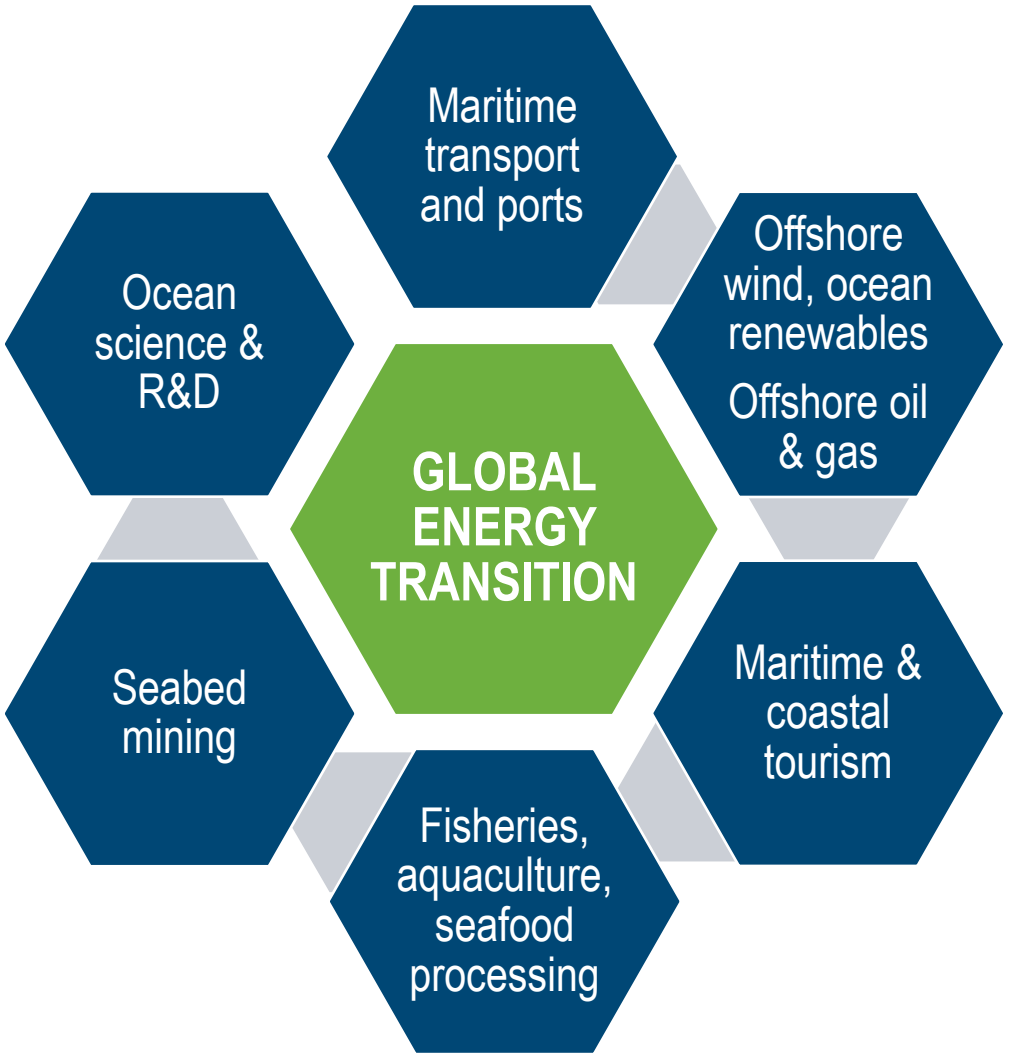


Darker blues indicate **higher proportion** of overall economy GDP is generated in ocean economic activities, orange points represent offshore oil and gas extraction sites and purple zones represent marine protected areas

Sources: OECD Ocean Economy Monitor *Experimental Indicators* (April 2024); Global Oil and Gas Extraction Tracker, Global Energy Monitor, March 2024 Release; UNEP-WCMC World Database on Protected Areas (WDPA) (April 2024).

Global forces with significant potential to affect the future of the ocean economy… with the impacts of net zero transition being key for all ocean economic activities

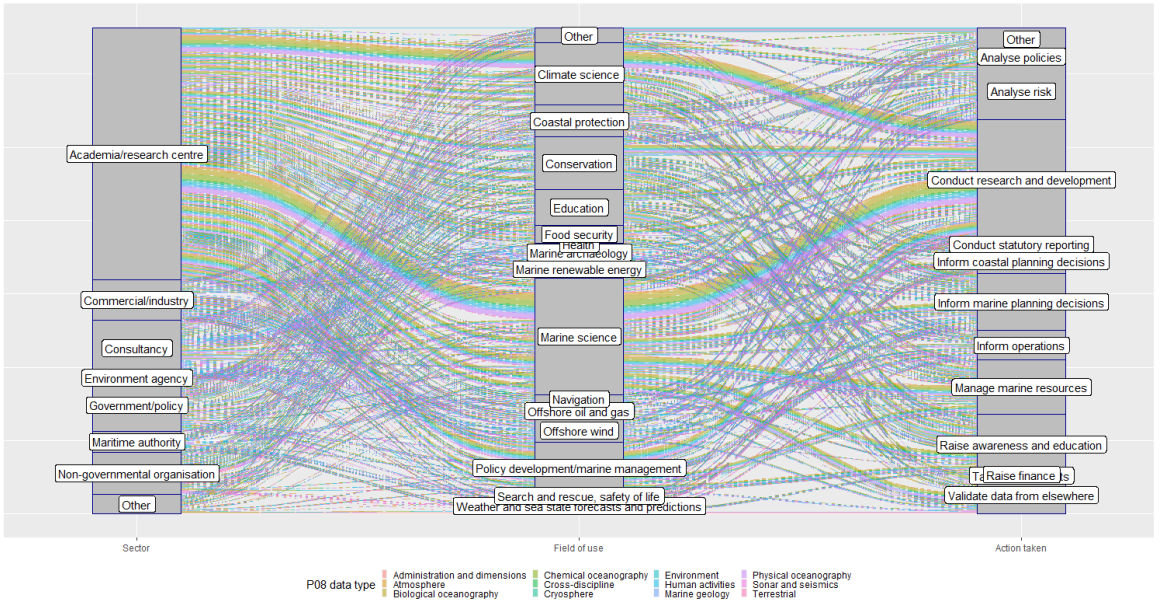


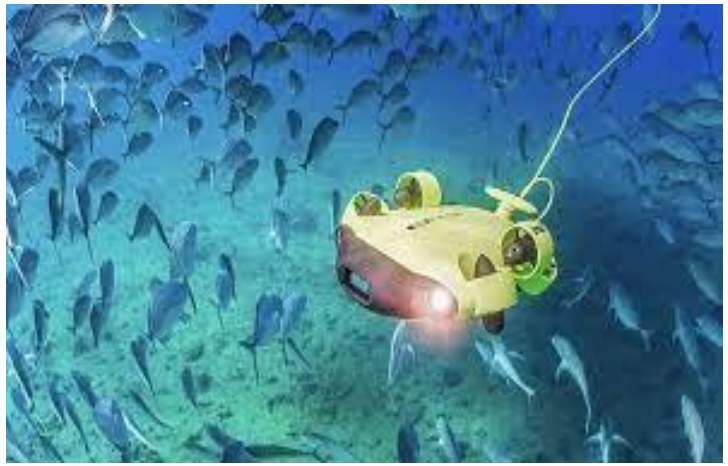


To learn more: Ocean Economy Monitor | OECD

3 Taking into account the importance of observations

The physical, biogeochemical, and biological data collected in the ocean guide the actions of multiple actors





Jolly, C., Jolliffe, J, Postlethwaite, C., Heslop E. (2021), *Value Chains in Public Marine Data: A UK case study*, OECD Science, Technology and Industry Working Paper, OECD Publishing, Paris.

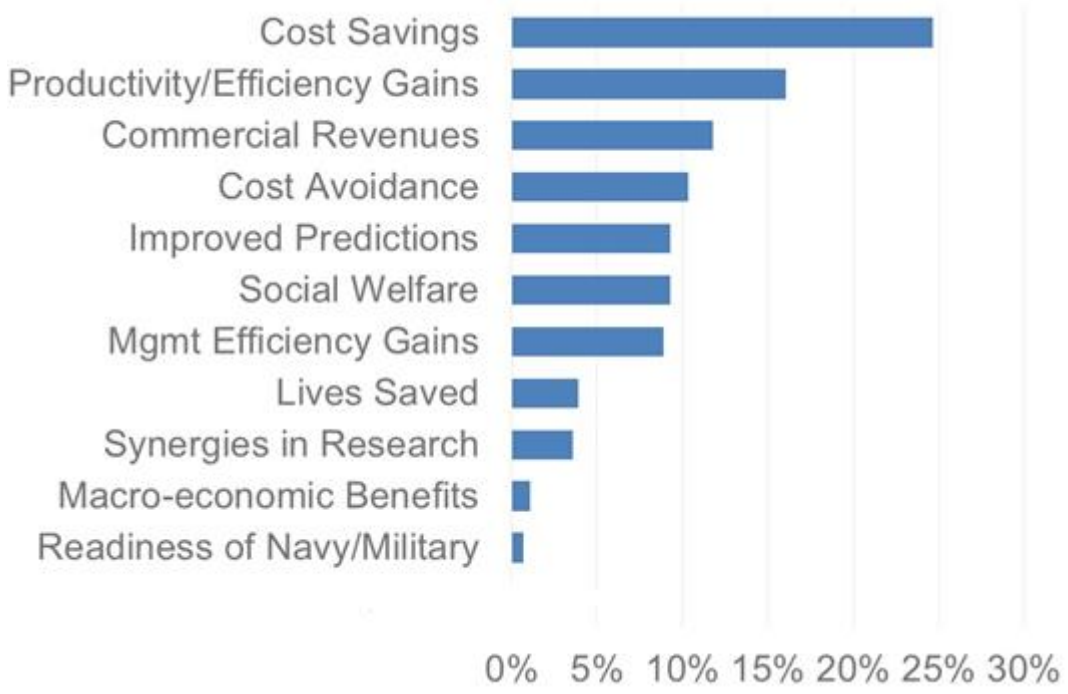
Can we demonstrate how ocean observations can improve efficiency and productivity in different socio-economic areas?

Direct economic benefits

Indirect economic benefits

Societal benefits

Types of benefits in the ocean observations' valuation literature



OECD (2019), *Rethinking Innovation for a Sustainable Ocean Economy*, OECD Publishing, Paris

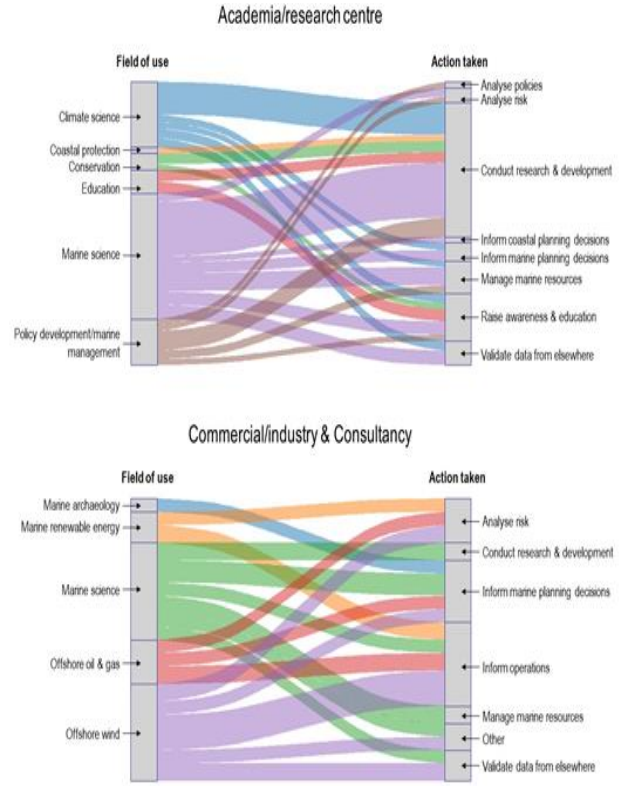
Going One Step Further… Exploring the Value Chains of Public Marine Data

Understanding the societal value of public marine data reuses is challenging because:

- Most traditional users are known, but little on "new" users from wide range of sectors
- Most marine data repositories adhere to open data principles so they…
- remove all barriers to data access – including any steps to collect information on their users

OECD aims to close this knowledge gap by directly surveying the users of public marine data repositories using a value chain approach:

- Identification of marine data (SeaDataNet categories)
- Characterisation of different user communities
- Exploration of pathways through which marine data are used and transformed into actionable information
- Laying the foundations for *measuring the societal value monetarily*

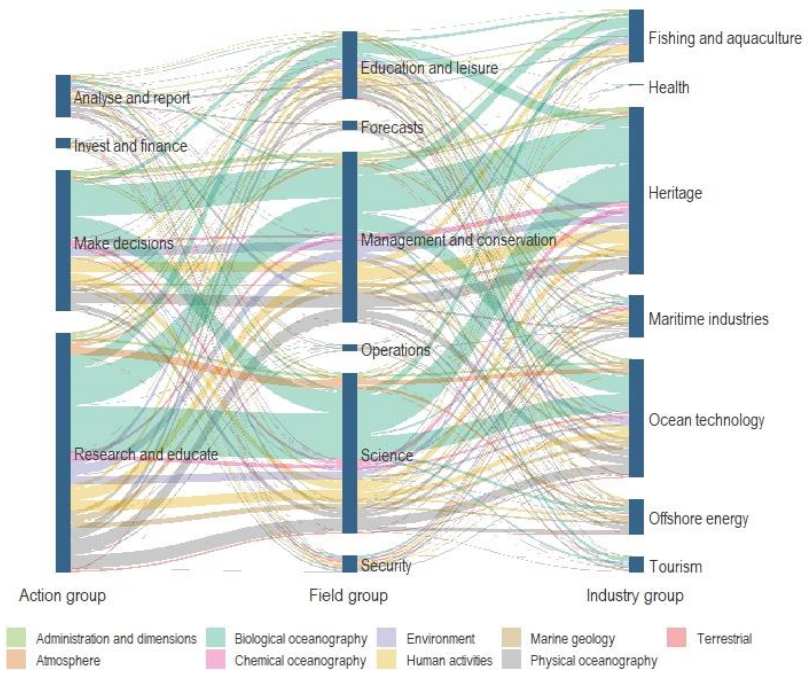


Case studies with UK and Flanders, Portugal (finalisation), and now Korea (2024-2025) + ongoing work with GOOS and academia on economic valuation

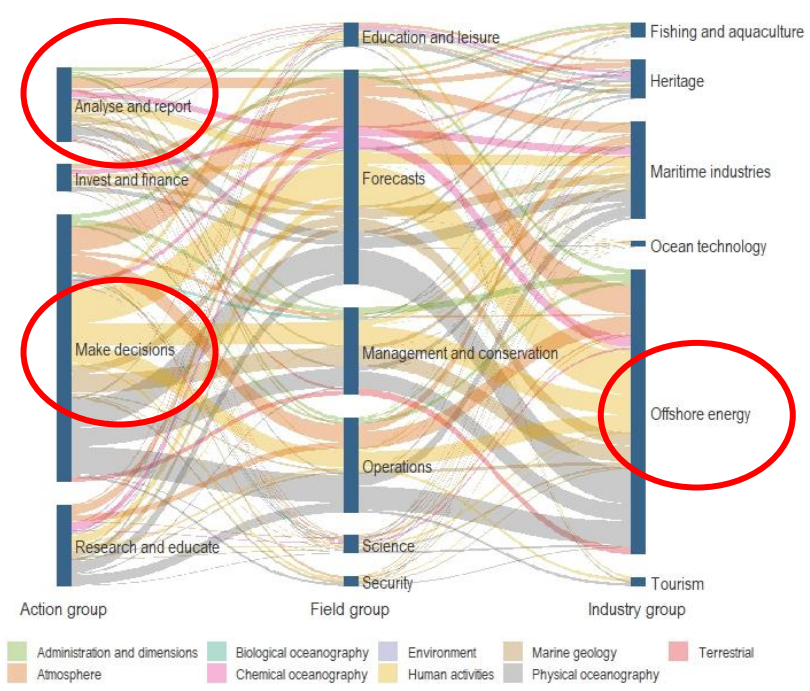
Jolly, C., Jolliffe, J, Postlethwaite, C., Heslop E. (2021), *Value Chains in Public Marine Data: A UK case study*, OECD Science, Technology and Industry Working Paper, OECD Publishing, Paris.

Respondents from different sectors generate different types of value chain, as they use different mixes of marine data (+ atmospheric data)

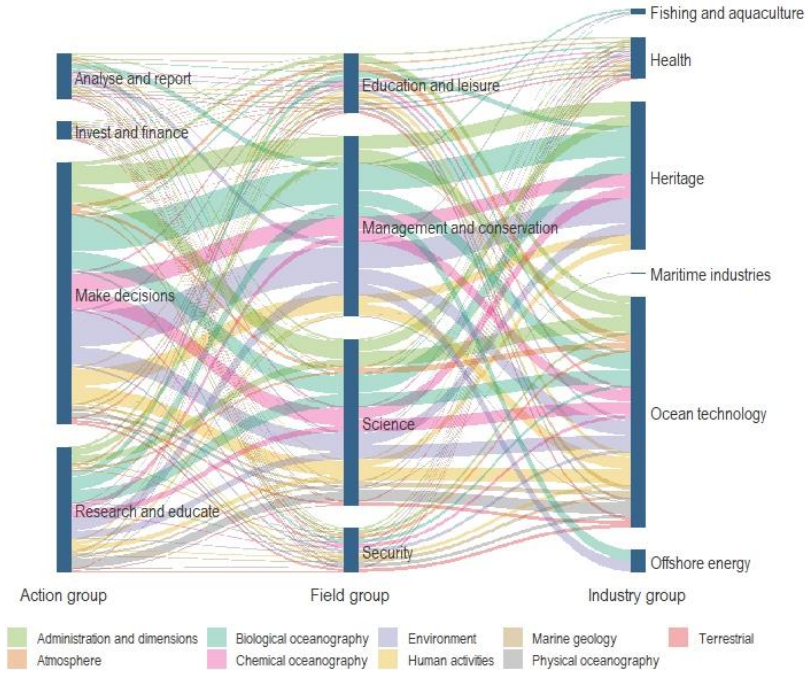
Academia



Industry



NGO



Shared challenges, transformative actions

OECD Science and Technology Policy Ministerial

23-24 April 2024, OECD, Paris

Panel 3.1: The ocean we want by 2030: the role of ocean observation data for research, growth, and wellbeing

Session co-organised by the OECD and the Intergovernmental Oceanographic Commission at UNESCO, bringing together key actors in the ocean observing community to share best practices with Ministers and high-level participants.

Key outcomes:

- **Sustained ocean observations** are key to support science, commercial ocean activities and improved ocean governance from coastal zones to the high seas. The climate crisis currently drives record-breaking ocean heat with impacts on marine biodiversity, and indirectly the livelihoods of more than one billion people, we cannot afford to be blind...
- **Progress is being made** with new satellites and in-situ systems coming online and improved coordination of public, private and philanthropic ocean missions with the UN Ocean Science Decade -- but worldwide and sustained coverage with complementary sensors, ocean data sharing issues and sustained funding represent still key challenges to overcome.
- **OECD is called to reinforce its ground-breaking work** on ocean economy measurement and on the economics of ocean observations to develop evidence and analysis that will contribute to transformative policies in the next five years.
- **Brand new OECD indicators and policy advice** will already support the preparations and outcomes of the UN Ocean Conference (UNOC) in June 2025, with major rendez vous along the way.

How do we fast-forward?

- **Mobilising new public funding is hard for (wide diversity of) ocean research and related infrastructures – but new initiatives will help**, such as investment funds dedicated to innovative ocean projects attracting private capital while benefiting from public support

- **Making step changes in ocean monitoring capability in different parts of the world is possible over the next five years**
  - Making the case (still too much noise) – scientific, strategic to economic imperatives
  - Checking that open data platforms are actually accessible and interoperable
  - Not missing the digitalisation wave (cheaper in-situ systems coming, stronger good-will of companies to share data, inclusion of civil society with new generations involved in citizen science)

- **Strengthening incentives to involve commercial actors**: Introducing different types of incentives to encourage companies to invest in sustainable and innovative ocean-related technologies and contribute further in ocean science programmes – with reality checks along the way for all (subsidies / promotion game)

Some thoughts on the WMO – IOC/GOOS Cooperation

- The entire earth system needs to be better monitored (from “atmospheric rivers” to ocean currents).
- Public missions and economic activities rely on sustained observations, models and forecasts where widely different variables (atmospheric, ocean…) are needed
- Weather activities have been historically paving the way for economic valuation (many more benefit-cost analysis available…)

Recommendations to exchange more between communities on lessons learned…