GLOBAL OCEAN ECONOMY TRENDS: AN INCREASING NEED FOR OCEAN CIRCULATION PRODUCTS & APPLICATIONS

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OECD
BETTER POLICIES FOR BETTER LIVES

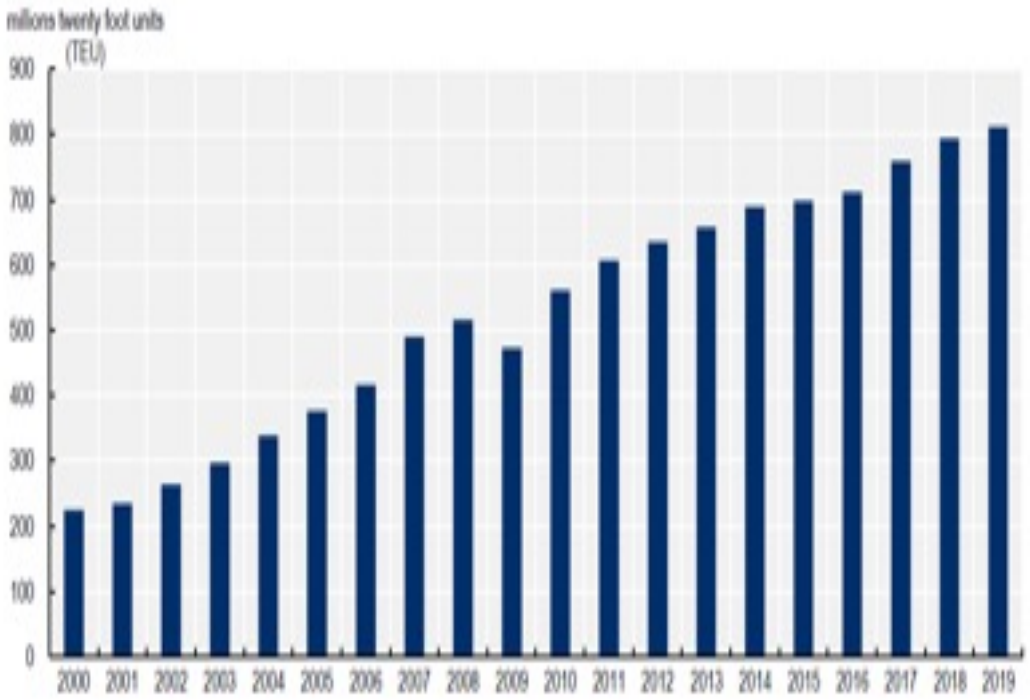
Contents of this talk

- Selected global trends for the ocean economy
- Major milestones for the future of ocean governance
- You manage better what you can measure
- Way forward

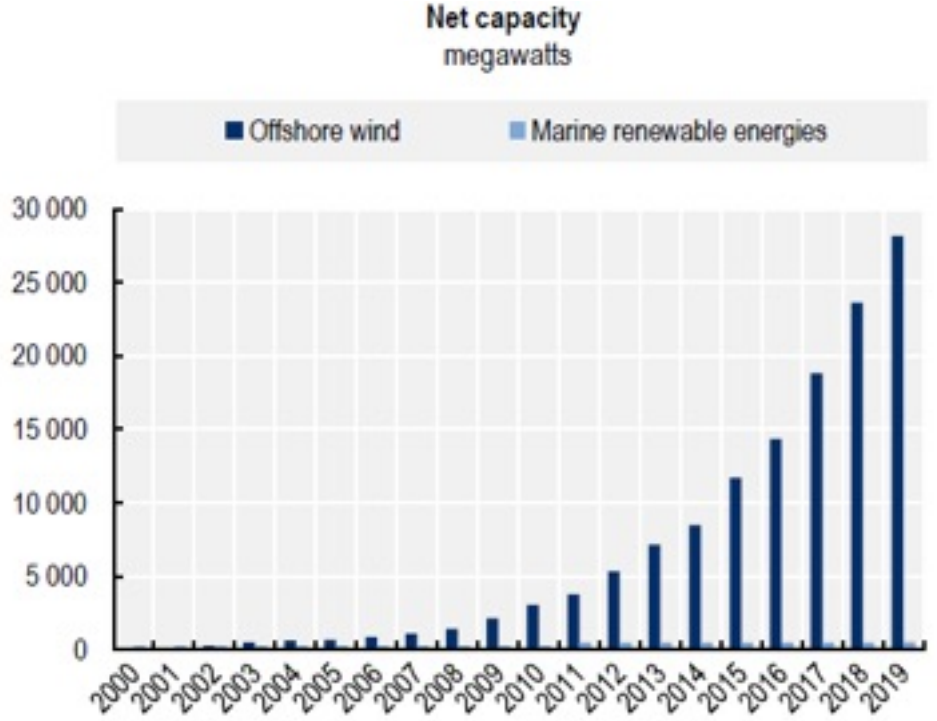
OCEAN ECONOMIC ACTIVITY IS (STILL) INCREASING GLOBALLY

Ocean economic activities are increasing globally

Maritime ports handled 811 million containers globally in 2019, around four times more than they handled in 2000



Ocean renewable electricity generation is dominated by offshore wind, the capacity of which has increased nine fold since 2010



Source: OECD (2021), Blueprint for improved measurement of the international ocean economy: An exploration of satellite accounting for ocean economic activity, https://dx.doi.org/10.1787/aff5375b-en

Projections of selected sectoral growth rates 2010-2030 (before COVID-19 crisis)

Sector	Compound annual growth rate in GVA
Maritime and coastal tourism	+3.5%
Ports	+4.6%
Marine aquaculture	+5.7%
Fish processing	+6.3%
Offshore wind	+24.5%
Average ocean economy	***+3.45 %***

Source: OECD (2016), The Ocean Economy in 2030, OECD Publishing.

Projections of selected sectoral growth rates 2010-2030 (before COVID-19 crisis)… still growing fast

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The ocean economy is undergoing structural changes

FINANCIAL TIMES

Oil services providers eye low-carbon transformation

European groups including Saipem and TechnipFMC accelerating shift towards renewables

The winds of change are blowing through the industry © Getty

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HOME | RENEWABLE ENERGY

Energy transition provides opportunities for oilfield service suppliers

Oilfield service suppliers could diversify some oil and gas capabilities and replace up to 40% of 2019's revenue by servicing the renewable markets, according to Rystad Energy.

Jul 22nd, 2020

Looking at the near-future…
Major disruptive and interconnected trends

- War in Ukraine
- COVID-19 pandemic not over (confinement in China)
- Shocks to supply chains (superconductors…)
- Competition for resources stronger than ever (rare earths)
- Acceleration of climate change - impacts growing and coastal adaptations very much lacking (IPCC report)
- Inflation rising (oil, gas, commodities)

➢ **Ocean "under pressure" on all fronts**

2022
AN IMPORTANT YEAR FOR THE FUTURE OF OCEAN GOVERNANCE

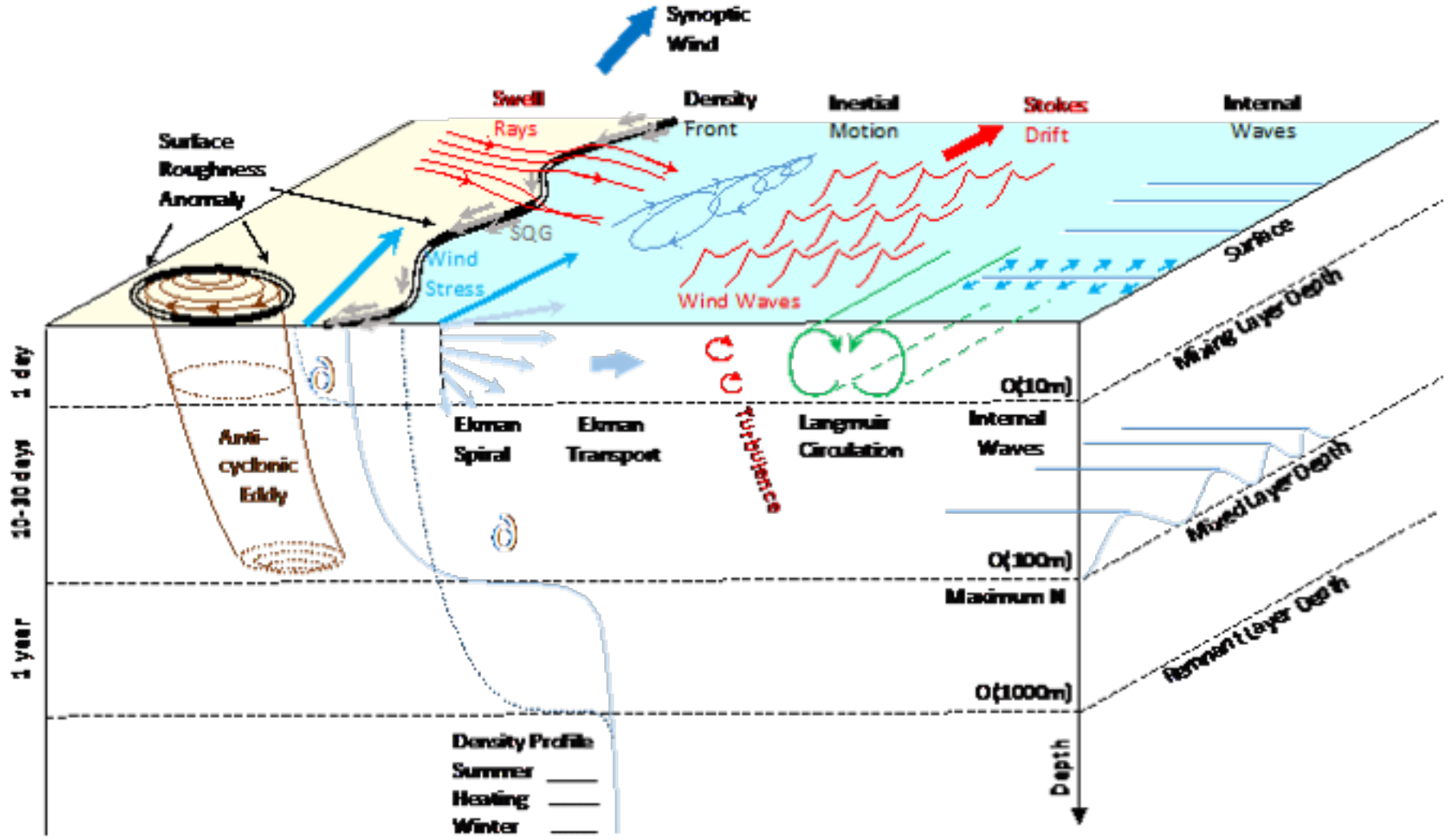
Six international milestones to improve ocean sustainability in 2022

- ✓ UN environmental conference, Feb.-March, international negotiations for future treaty on **plastics**
- ✓ Intergovernmental Conference on Marine Biodiversity of Areas Beyond National Jurisdiction, March - **biodiversity governance of the high seas**
- ✓ World Trade Organization (WTO) Ministerial Conference (MC12), June – After 2 decades of negotiations, efforts to ban selected **fisheries' subsidies**
- ✓ UN Ocean Conference to in Lisbon, end-June – public and private commitments including **financing issues**
- ✓ 27th Conference of the Parties on Climate (COP 27) in Charm El-Cheikh (Egypt), November – **ocean and climate nexus**
- ✓ Convention on Biological Diversity (CBD), Montreal, Dec. – 1st agreement to cover **all aspects of biological diversity** and protect 30% of the planet

YOU MANAGE BETTER

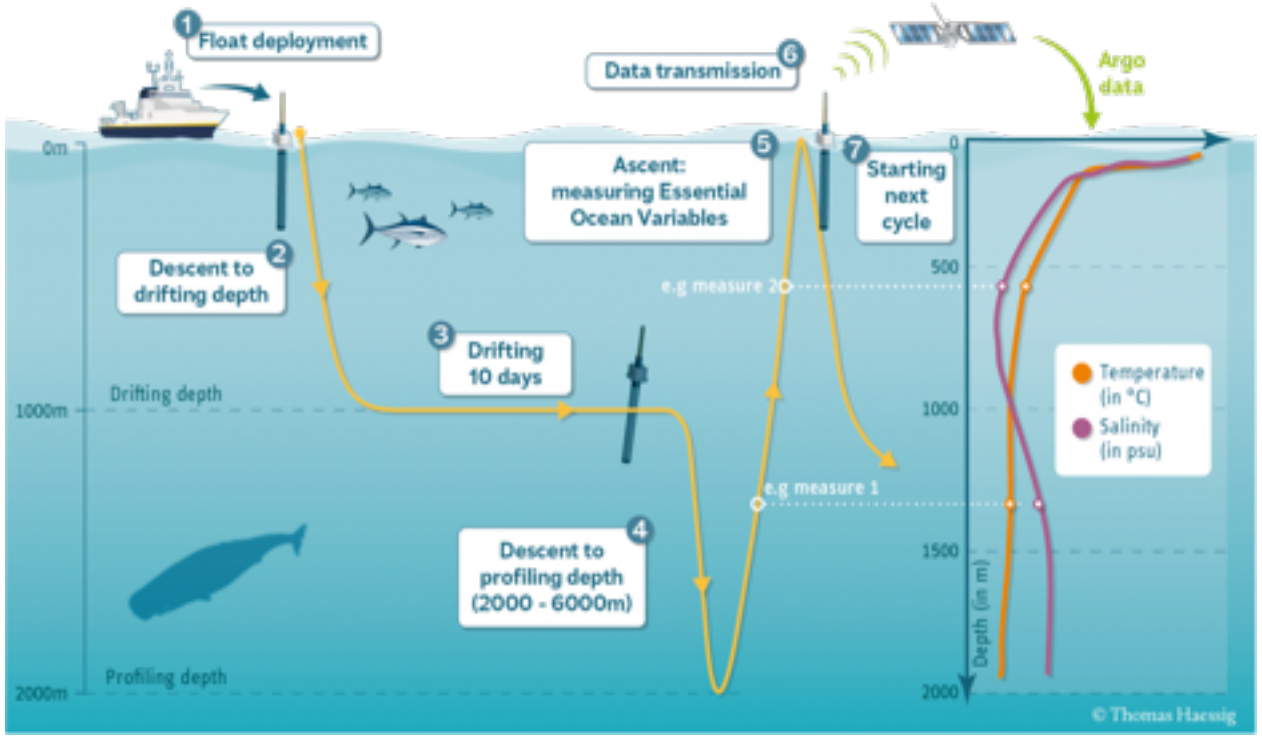
WHAT YOU CAN MEASURE

The need to understand better upper-layer ocean circulation and beyond



ESA, https://www.worldoceancirculation.org/

The need to understand better upper-layer ocean circulation and beyond: in-situ data are key



Argo array – ~4000 autonomous ocean floats that each profile vertically from 2000m once every 10 days.

But also need for **OceanSITE,** which provide multidisciplinary data worldwide from the full-depth water column as well as the overlying atmosphere.

- E.g. New assessments needed of how thermal ranges from the surface to the deep ocean
- The ocean & seas are home to +240,000 known species, each with specific conditions in which they need to thrive.
- Marine environment is altered through changes in temperature, oxygen content and acidity levels, threatening the habitats of these species.
- Global patterns of biodiversity are changing, according to the thermal tolerance limits of each species
- Previous studies have focused on the temperature at the sea surface because of data availability.

Santana-Falcón, Y. and Séférian, R. (2022) Climate change impacts the vertical structure of marine ecosystems, Nature Climate Change, doi:10.1038/s41558-022-01476-5

OECD working on marine data with research communities

Rationale: Ocean observing systems and marine data management systems are complex and diverse, usually supported by public funds. They provide crucial data used to understand the ocean, its dynamics and role in Earth's systems especially in the context of accelerating climate change and biodiversity loss;

Objective: Develop in close cooperation with different marine data expert communities original evidence base for decision-makers, as to contribute to guide and prioritise long-term investments required

This is done by exploring **socio-economic value** of marine data and ocean observations

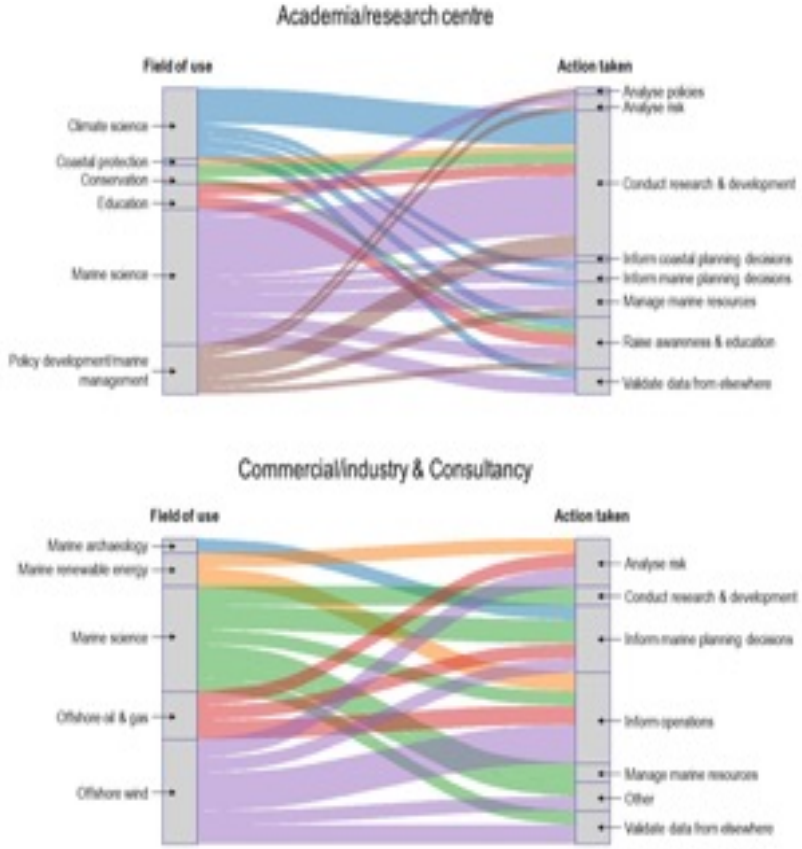
- Characterization of different **user communities**
- **Identification of best practices and gaps** in methods and valuation studies
- Contribution to a better **understanding of value chains** of marine data and their impacts

Value Chains of Public Marine Data: A UK Case Study

Close cooperation between the OECD, the UK's Marine Environmental Data and Information Network (MEDIN) ands its partnering Data Archive Centres (DACs), and the Global Ocean Observing System (GOOS) with key achievements:

- **Original survey** adding to current understanding of users accessing marine data through *archive/management centres*
- **Exploration of pathways** through which marine data are used and transformed into *actionable information – with a novel value chain approach*
- **Laying the foundations** for *measuring their value*

➢ ***Follow-ups already with surveys to be replicated in other countries / regions to build up evidence and document possible further benefits (Portugal, Belgium/Flanders…)***



Conclusions and way forward

- The ocean is becoming more fragile (pollution, climate change, loss of biodiversity), with competition for resources
- Trends to watch for:
  - Major international dialogues affecting the future of ocean governance
  - Strong disruptions today, with more impacts expected in the near-term
  - More ocean innovations coming online
- **Need much more ocean information – including ocean circulation**
- Relevance of OECD work on
  - Ocean economy measurement
  - Value chains of marine data and ocean observing systems
  - New foresight work starting with *The Ocean Economy in 2045*