The Global Ocean Observing System
www.goosocean.org

Governance of sustained ocean observing systems: a global perspective

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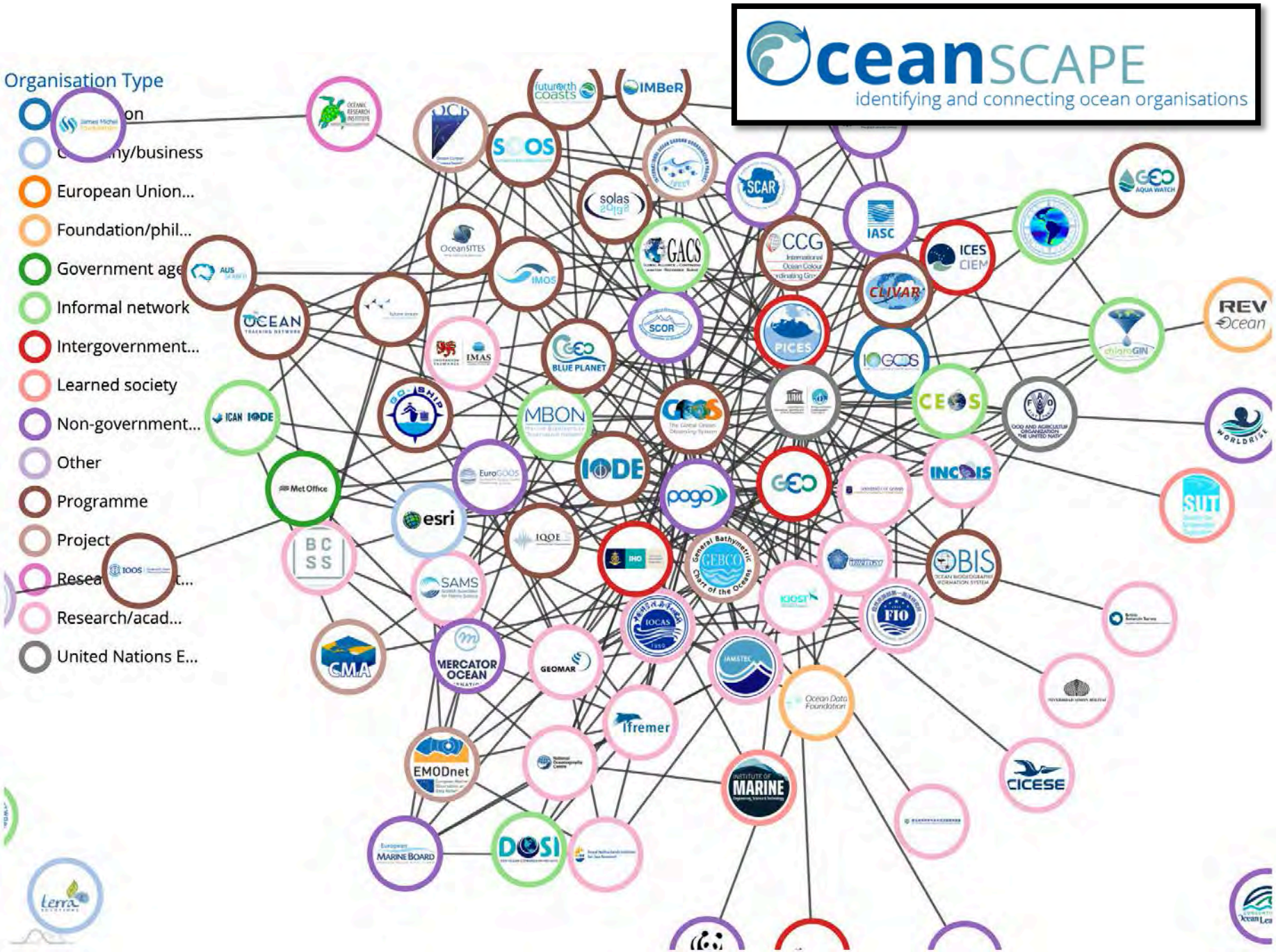
UNESCO IOC WMO UN environment International Science Council

“Alphabet soup”



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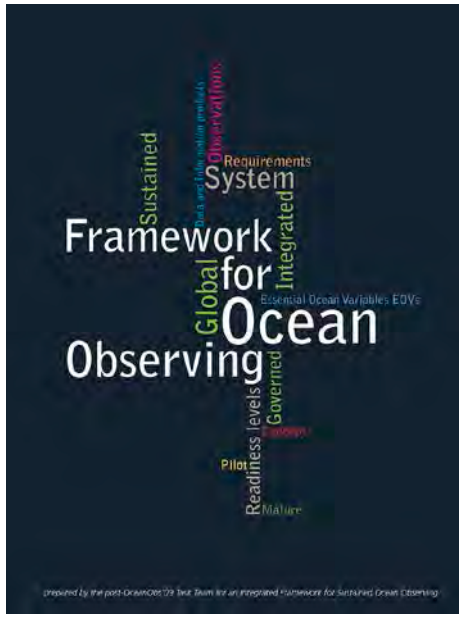
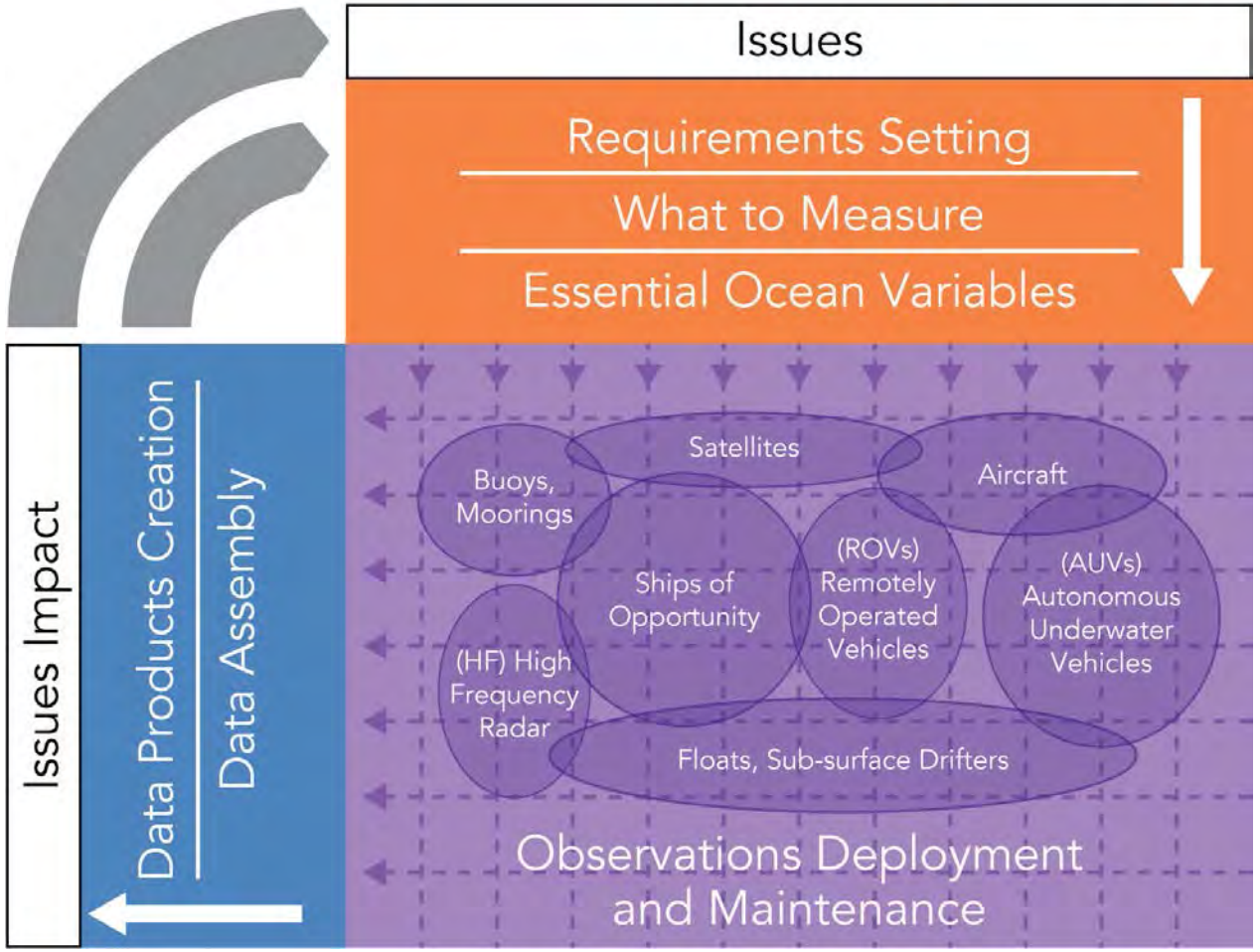
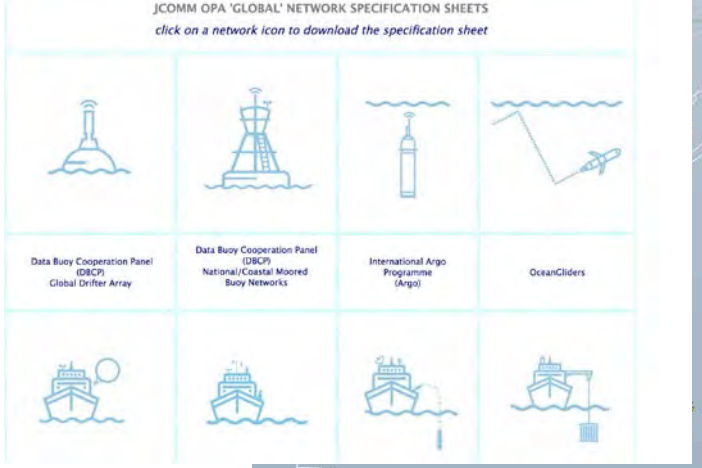
GEO BLUE PLANET

OceanObs'09



Framework for Ocean Observing Process Diagram





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Ocean Observing Report Card 2020

GOOS *in situ* networks[1]	Implementation	Data & metadata			Best practices[6]	GOOS delivery areas[7]		
	Status[2]	Real time[3]	Archived high quality[4]	Meta-data[5]		Opera-tional services	Climate	Ocean health
Ship based meteorological measurements - SOT/VOS	★★☆	★★☆	★★★	★★☆	★★☆	✓	✓	
Ship based aerological measurements - SOT/ASAP	★★☆	★★☆	☆☆☆	★★☆	★☆☆	✓	✓	
Ship based oceanographic measurements - SOT/SOOP	★★☆	★★★	★★★	★★☆	★★☆	✓	✓	✓
Sea level gauges - GLOSS	★★★	★★☆	★★★	★☆☆	★★☆	✓	✓	
Drifting and polar buoys - DBCP	★★★	★★☆	★★☆	★★☆	★★☆	✓	✓	
Moored buoys - DBCP	★★☆	★★★	★☆☆	★★☆	★★☆	✓	✓	
Interdisciplinary moorings - OceanSITES	★★☆	★☆☆	★☆☆	★★☆	★☆☆		✓	✓
Profiling floats - Argo	★★★	★★★	★★★	★★★	★★☆	✓	✓	
Repeated transects - GO-SHIP	★★★	★☆☆	★★★	★★☆	★★★		✓	✓
OceanGliders	★☆☆ Emerging	★★☆	★☆☆	★★☆	★☆☆	✓	✓	✓
HF radars	Emerging	★★★	★★★	★☆☆	★★★	✓	✓	✓
Biogeochemistry & Deep floats - Argo	★☆☆ Emerging	★★★	★☆☆	★★★	★★☆	✓	✓	✓
Animal borne ocean sensors - AniBOS	Emerging	★★★	★☆☆	★☆☆	★★☆	✓	✓	✓

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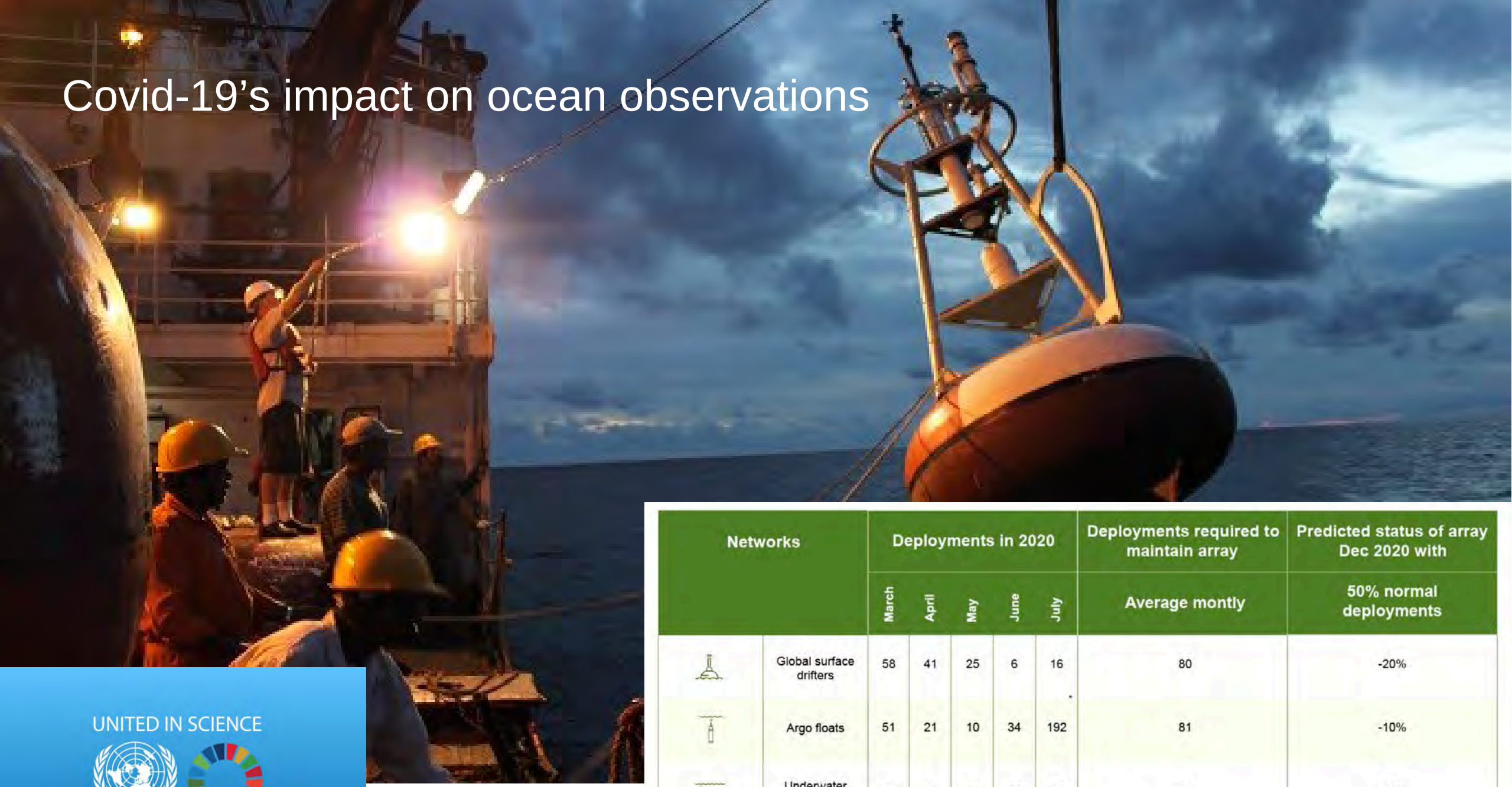
Covid-19's impact on ocean observations



Networks		Deployments in 2020					Deployments required to maintain array	Predicted status of array Dec 2020 with
		March	April	May	June	July	Average montly	50% normal deployments
	Global surface drifters	58	41	25	6	16	80	-20%
	Argo floats	51	21	10	34	192	81	-10%
	Underwater gliders	10	1	5	20	23	20	-50%

UNITED IN SCIENCE

goosocean.org/covid-19

OceanObs'19 – what we heard

- **Planning for impact**: codesign of the observing system, end-to-end, with stakeholders and users
- Core system **integration**: Democratization of data, best practice, integration of biological and ecological observations, and a growing emphasis on the coast
- Embracing **innovation** in technology and governance, and looking to the #OceanDecade as a vehicle for transformation

Governance should enable all of the above, together with partners and stakeholders

An **ambitious strategy** for the Global Ocean Observing System

The Strategy demands a step change in the level of effectiveness of partnerships across the scientific, government, and private sectors, to meet the needs of growing end-user communities

goosocean.org/2030strategy

Geared for delivery to end-users

Increasing demand for an improved evidence and information base for:

- Policy
- Sustainable development
- Environmental management
- Safety, industry, defence

from governmental, intergovernmental, private and societal sectors

Vision

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

The need for expansion of a global ocean observing system, designed to meet the requirements of a broad suite of users is urgent

GOOS Mission

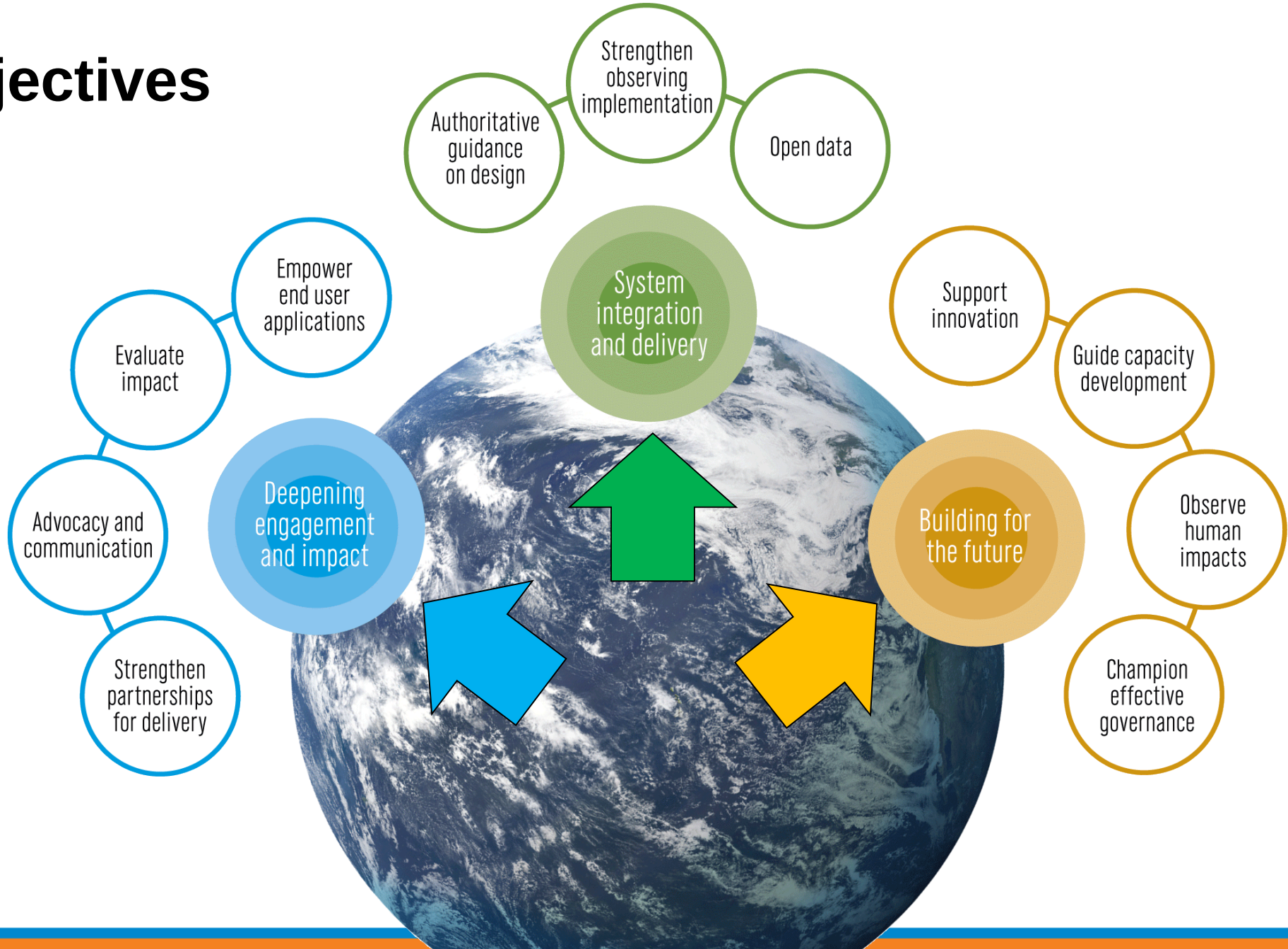
To lead the ocean observing community and create the partnerships to grow an integrated, responsive and sustained observing system.

11 Strategic Objectives

System integration and delivery

Deepening engagement and impact

Building for the future

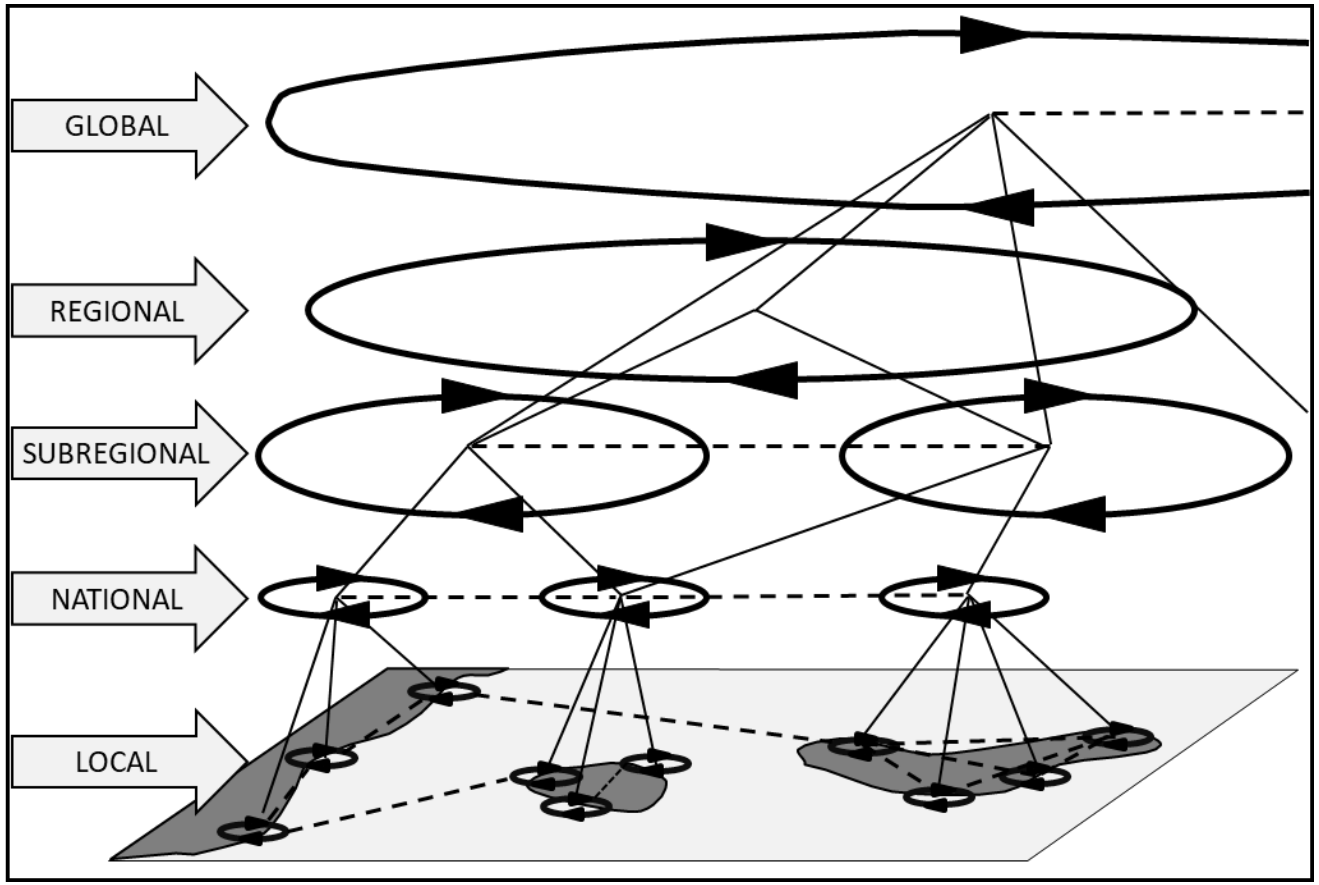


Champion effective governance of the observing system

- Needs to evolve as the strategy is implemented
- GOOS is ready to contribute to / lead a dialogue on governance with the many actors

.. Including observing systems at global, regional, national and local levels, partners, industry, funders, service providers, and users…

Multi-level polycentric ‘bricolage’



Polycentricity as a way of governance

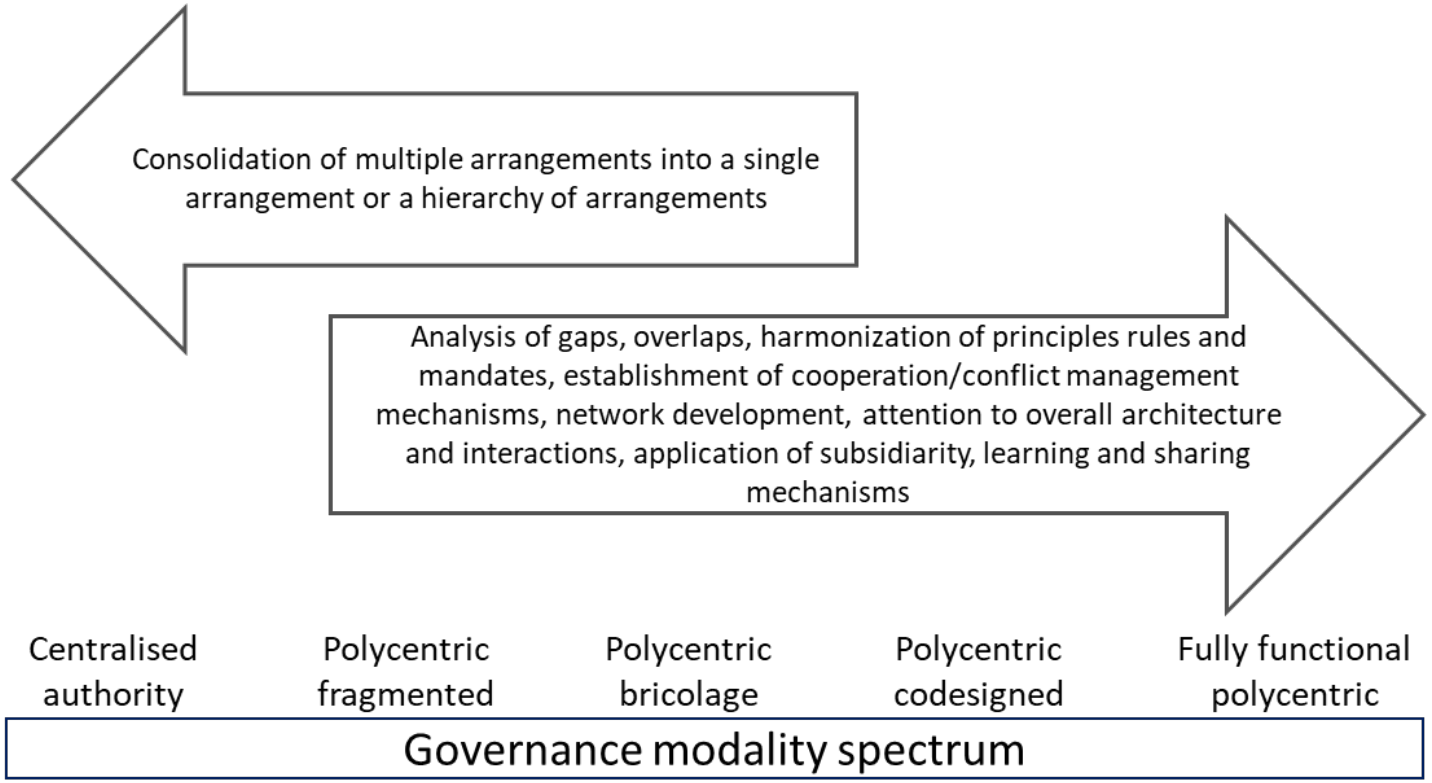
Cons

- Inefficiency (duplication of effort)
- Gaps in coverage
- Unpredictable

Pros

- Multiple mechanisms for mutual monitoring, learning, and adaptation
- Subsidiarity, in which problems can be addressed at the most relevant and capable scale;
- Decentralised decision-making facilitates the input from relevant stakeholders
- Resilience due to redundancy

Polycentric conceptual model: **improving functionality**



- Attending to overall architecture and interactions
- Harmonizing principles rules and mandates
- Analysing gaps, overlaps
- Establishing cooperation/ conflict management mechanisms
- Network development
- Applying subsidiarity
- Strengthening learning and sharing mechanisms

Robin Mahon

Collective impact conceptual model

The Five Conditions of Collective Impact	
Common Agenda	All participants have a shared vision for change including a common understanding of the problem and a joint approach to solving it through agreed upon actions.
Shared Measurement	Collecting data and measuring results consistently across all participants ensures efforts remain aligned and participants hold each other accountable.
Mutually Reinforcing Activities	Participant activities must be differentiated while still being coordinated through a mutually reinforcing plan of action.
Continuous Communication	Consistent and open communication is needed across the many players to build trust, assure mutual objectives, and create common motivation.
Backbone Support	Creating and managing collective impact requires a separate organization(s) with staff and a specific set of skills to serve as the backbone for the entire initiative and coordinate participating organizations and agencies.

Hanleybrown et al., 2012, Weller et al., 2019


Revolution or evolution?

Governance: next steps

- **Mapping the players**
  - Both the ‘collective impact’ and ‘polycentric’ governance frameworks suggest a mapping exercise as a first step
- Building to common vision, mission, and strategy
- Identifying differentiated roles, common measures of success

UN Ocean Decade Vision & Mission

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

Vision

The science we need for the ocean we want

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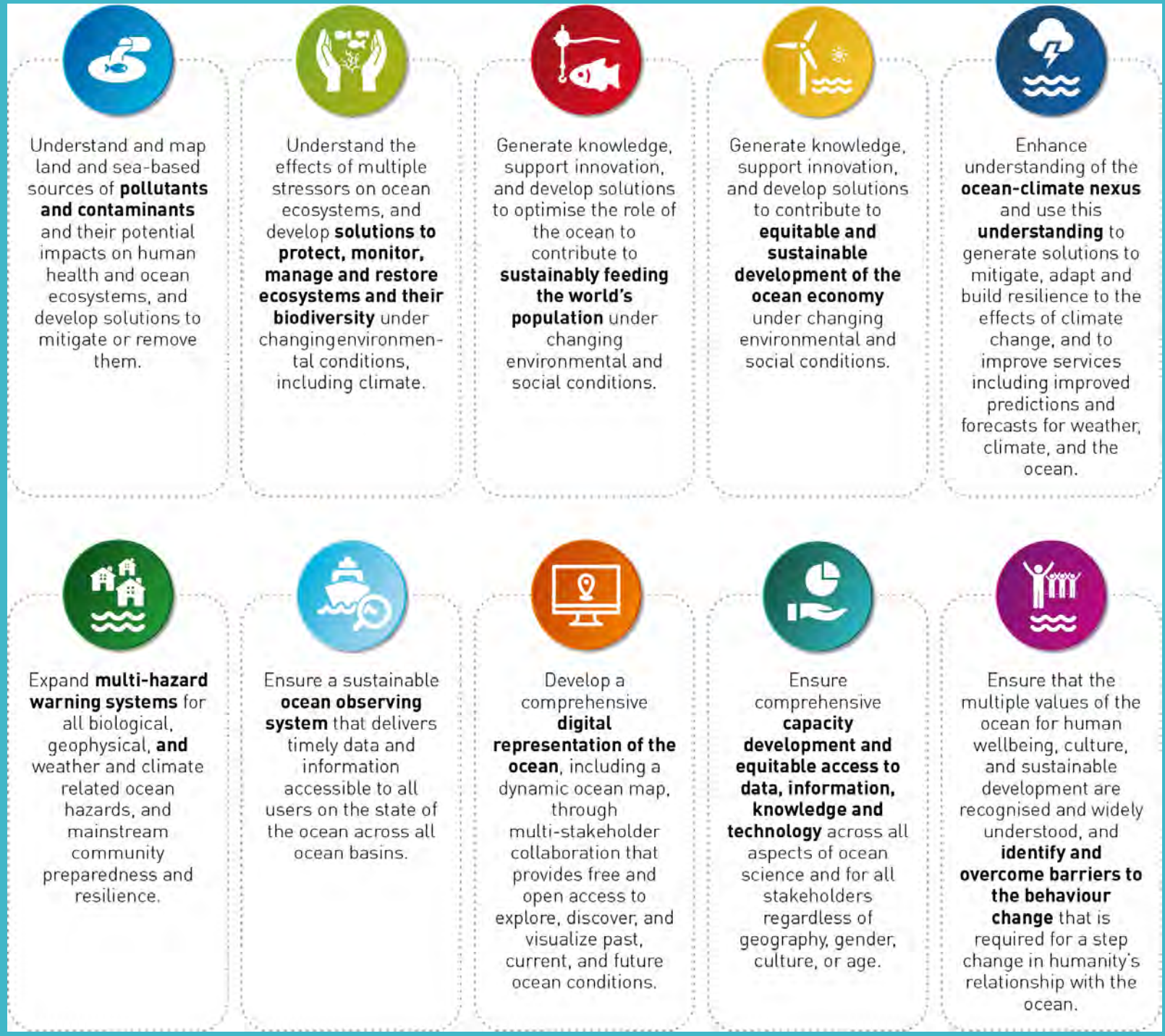
Mission

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

Ocean Decade Challenges

Describe the most immediate and pressing priorities for the Decade.



Thank you