The Global Ocean Observing System
www.goosocean.org

GOOS
Measuring success?

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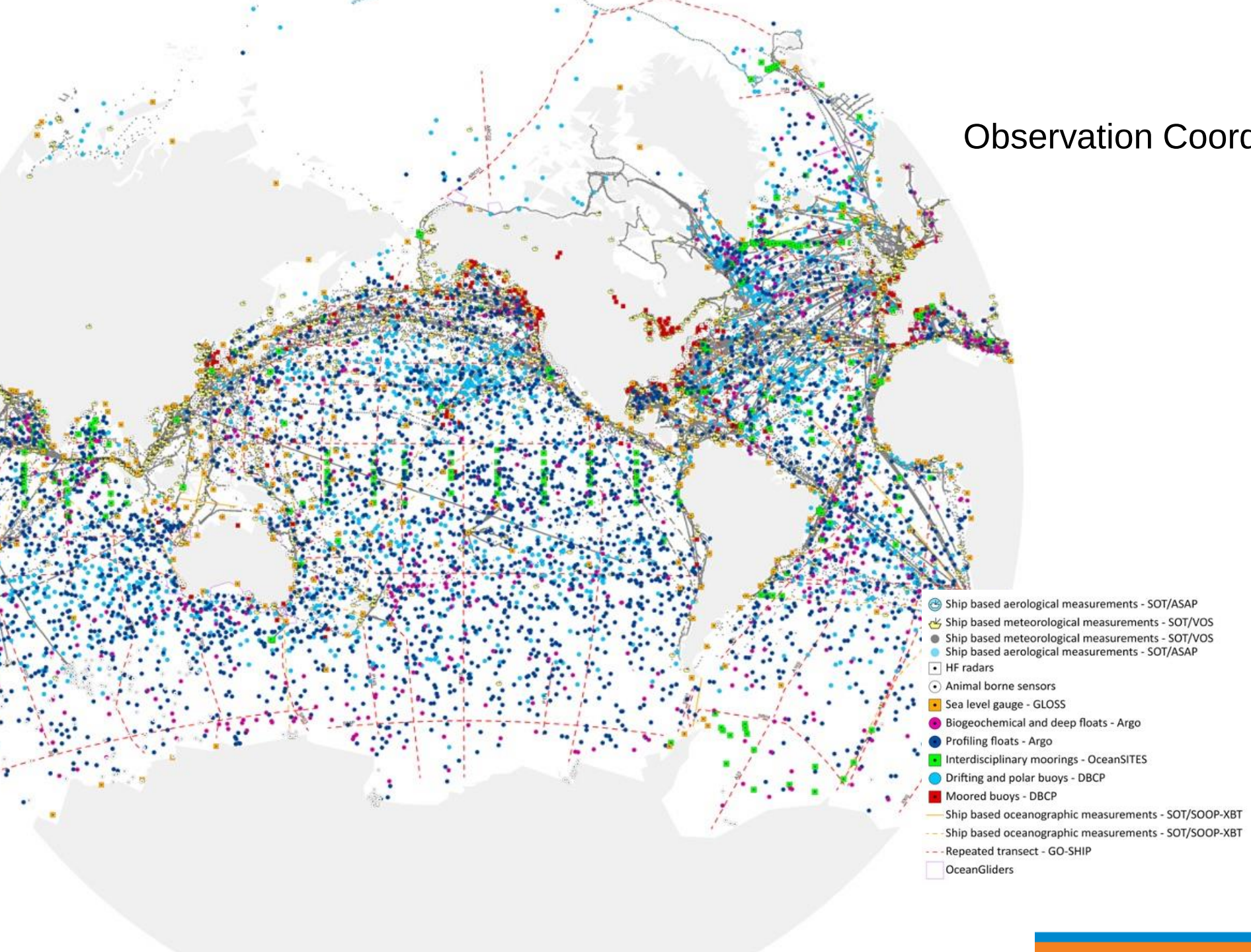
UNESCO | IOC | WMO | UN environment | International Science Council

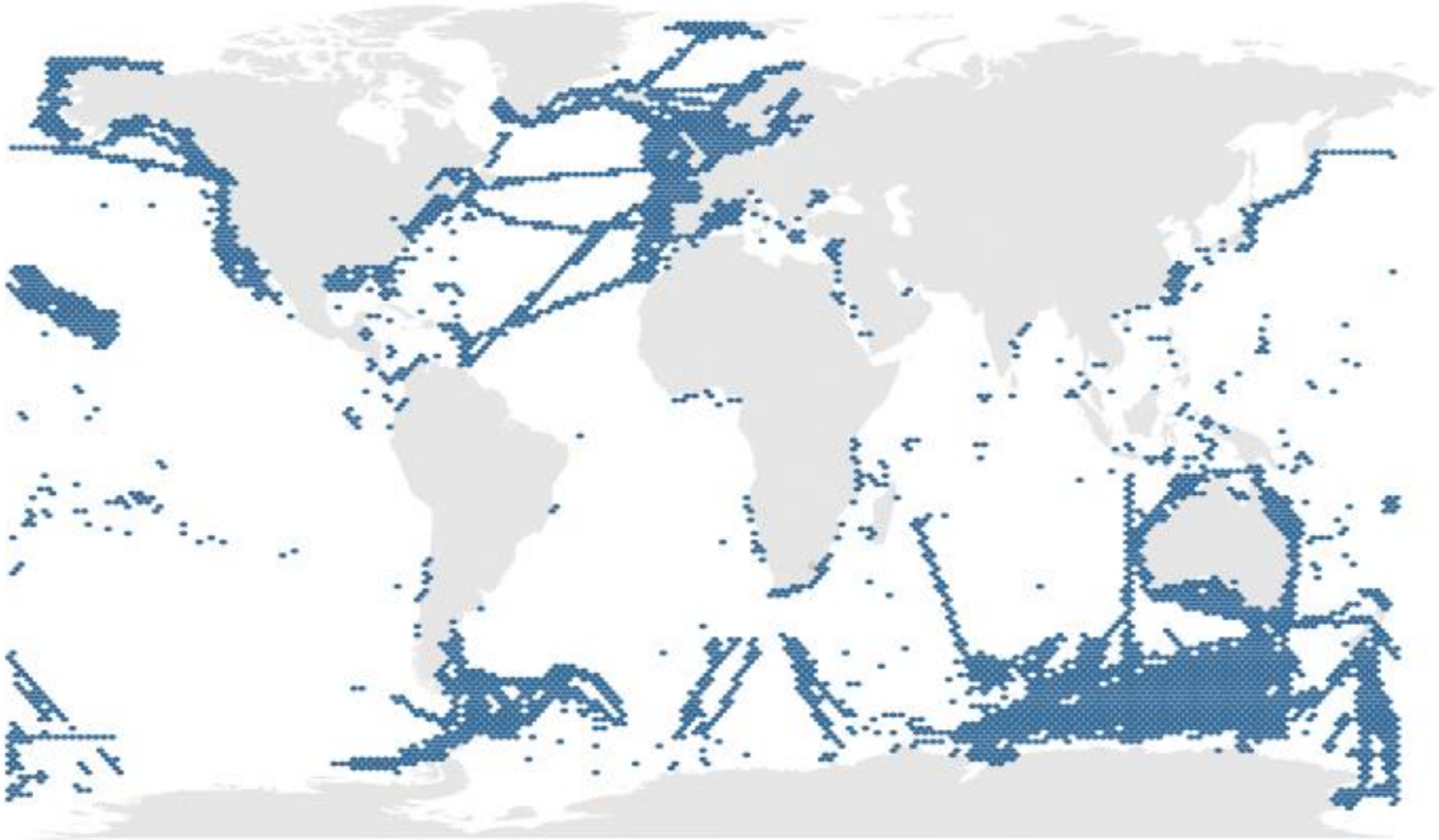
GOOS today

Observation Coordination Group networks



- Established arrays (Argo, DBCP), new networks (gliders, HF Radar)
- **86** countries, **8,933** in situ observing platforms, **170** satellites
- Early focus was on climate and operational services - increasing ocean health and human impacts
- *in situ* ocean observations – 12 global ocean observing networks

www.ocean-ops.org/reportcard2020



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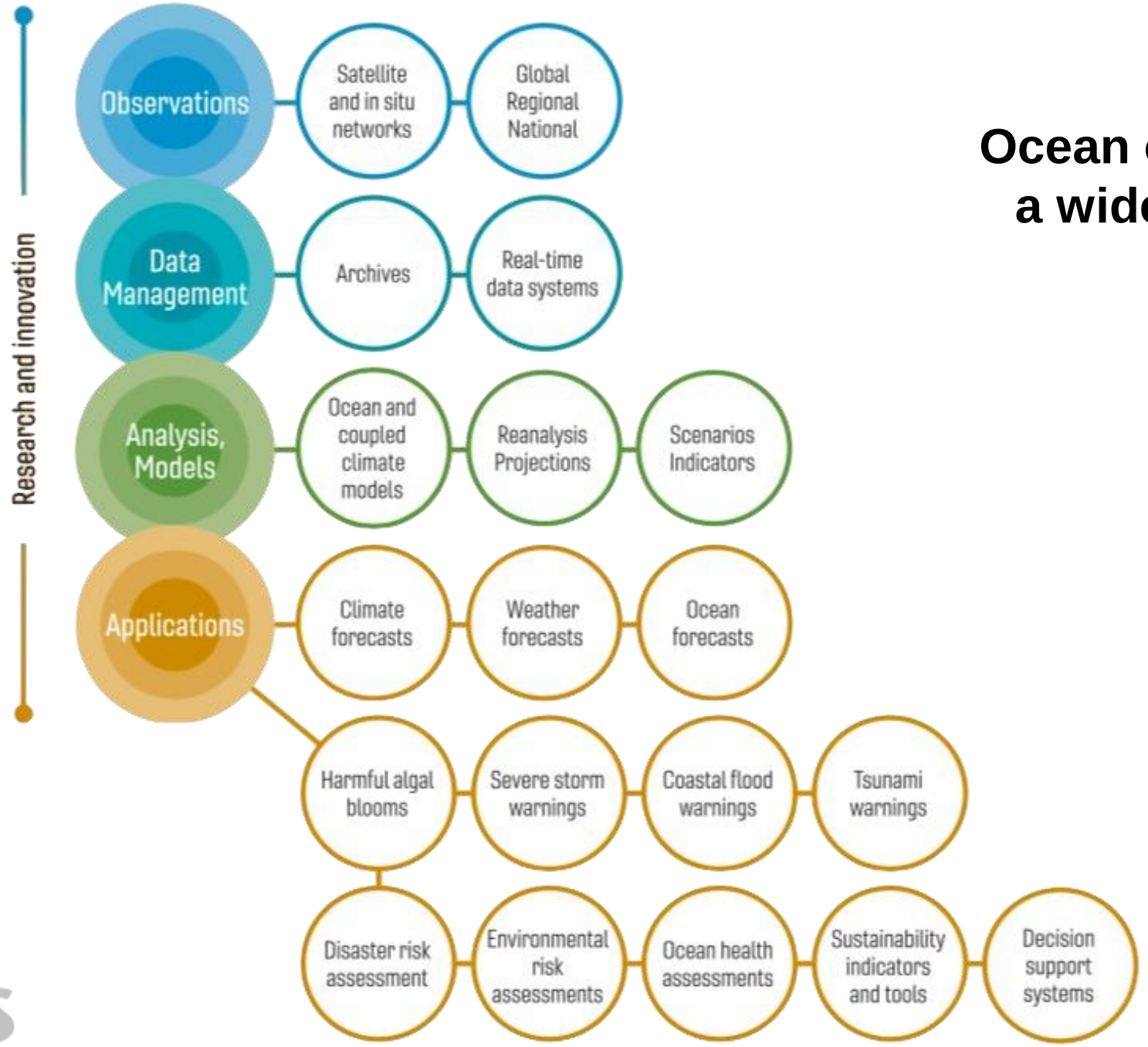
BioEco observations

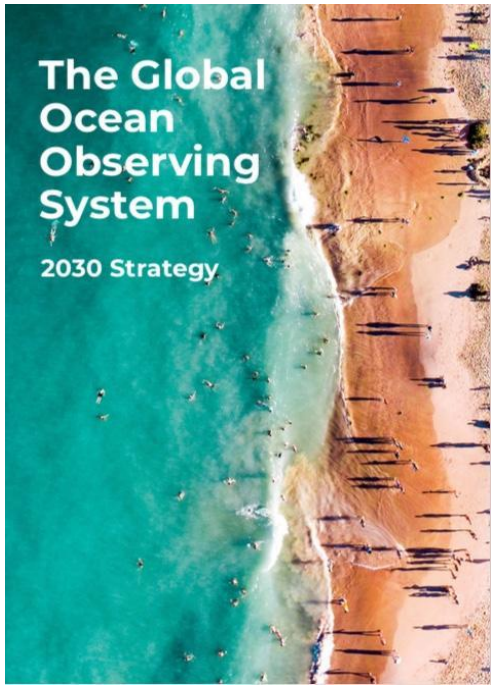
- 203 active long-term biological observing programs*
- 10 BioEco Essential Ocean Variable (EOV) based observing networks
- Working towards the – **GOOS Vision**
- Coverage 6 -7% of the global ocean, 93% without known sustained observations

* Survey 643 observing entities identified, 371 responded, 203 programs were active, long-term (5 years or more) and sampled at least EOVs systematically but spatial data were only available for 192 observing programs (Satterthwaite et al. 2020 in prep)

Biology and Ecosystems Panel



Ocean observations underpin a wide range of applications



What should we measure success?

Great question!

- What to measure should be as far as possible around impact – particular to the project or the question
- We can measure things working backwards up the value chain from impact
- Don’t measure too many things - keep your focus and enable you to investigate apparent low performance
- moving to EOV based

>> measure across succinct range of different but condensed points – including having a mechanism check impact

How are two areas of GOOS approaching this?

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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	★★★	★☆☆	★☆☆	★★☆	✓	✓	✓

Observation Coordination Group – EOV based metrics

- Moving to include EOV based analysis
- Using external EOV based targets – GCOS, WMO OSCAR (Rolling Review of Requirements), e.g. surface pressure
- Cross network views created through OceanOPS so assessment of coverage vs target

- Three notes to remember:
  - Looking at one ‘delivery’ area – e.g. GCOS climate, RRR mainly operational services
  - May be more difficult to program coverage for some areas
  - Coverage is only one metric – best practices used, latency, and impact are also important

Ocean Observing Co-Design

by The Global Ocean Observing System

Ocean Observing Co-Design will support the Ocean Decade by transforming our ocean observing system assessment and design process.

- develop a more user-focused co-design process to create a fit for purpose, integrated, and responsive observing system.
- include the large range of ocean observing efforts in place, as well as actively involving new technologies, and the modelling, forecast, and services communities.
- together build the process, infrastructure and tools, to inform investment and benefit society

Core concept - use area ‘exemplars’ – e.g. extreme event forecasting, carbon budgets, reinsurance

Thank you

Please get in touch to start the conversation about how you can help us and what your contribution will enable us to achieve together

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