

GOOS Steering Committee (SC-10 part 2):  
Regional approaches GRA – GOOS

The Global Ocean Observing System  
[www.goosocean.org](http://www.goosocean.org)

# An Overview

REGIONAL ALLIANCES Global -Regional - nA tional

**R Venkatesan**

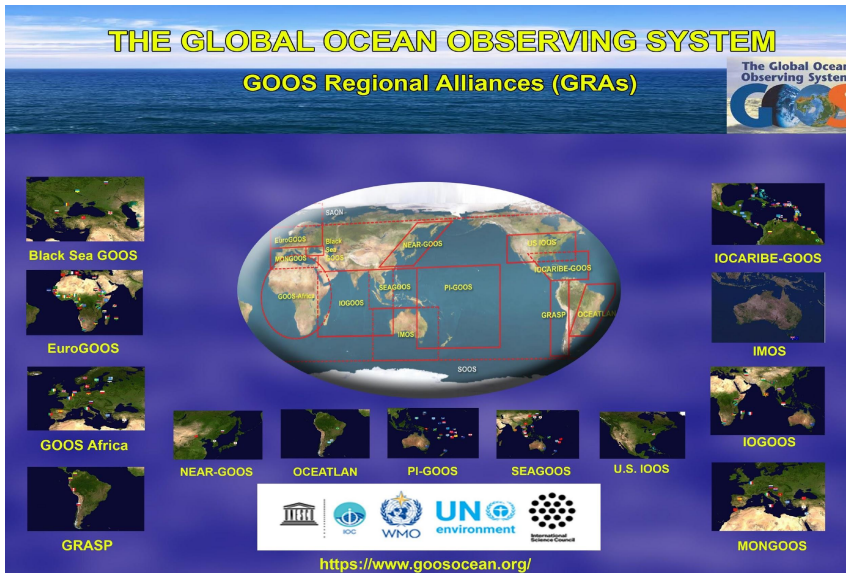
*Chair GRA & Programme Director OOS ,NIOT,  
Ministry of Earth Sciences Chennai India*

**Carl Gouldman**

*Vice Chair GRA (incoming Chair)  
Director, U.S. IOOS Office NOAA/National Ocean Service*

**Denis Chang Seng**

*Programme Specialist,  
Ocean Observation and Services Section / GOOS*



**29 November 2021**

# GRAs

Black Sea GOOS

EuroGOOS

GOOS Africa

GRASP

IOCARIBE-GOOS IMOS

IOGOOS

MONGOOS

NEAR-GOOS

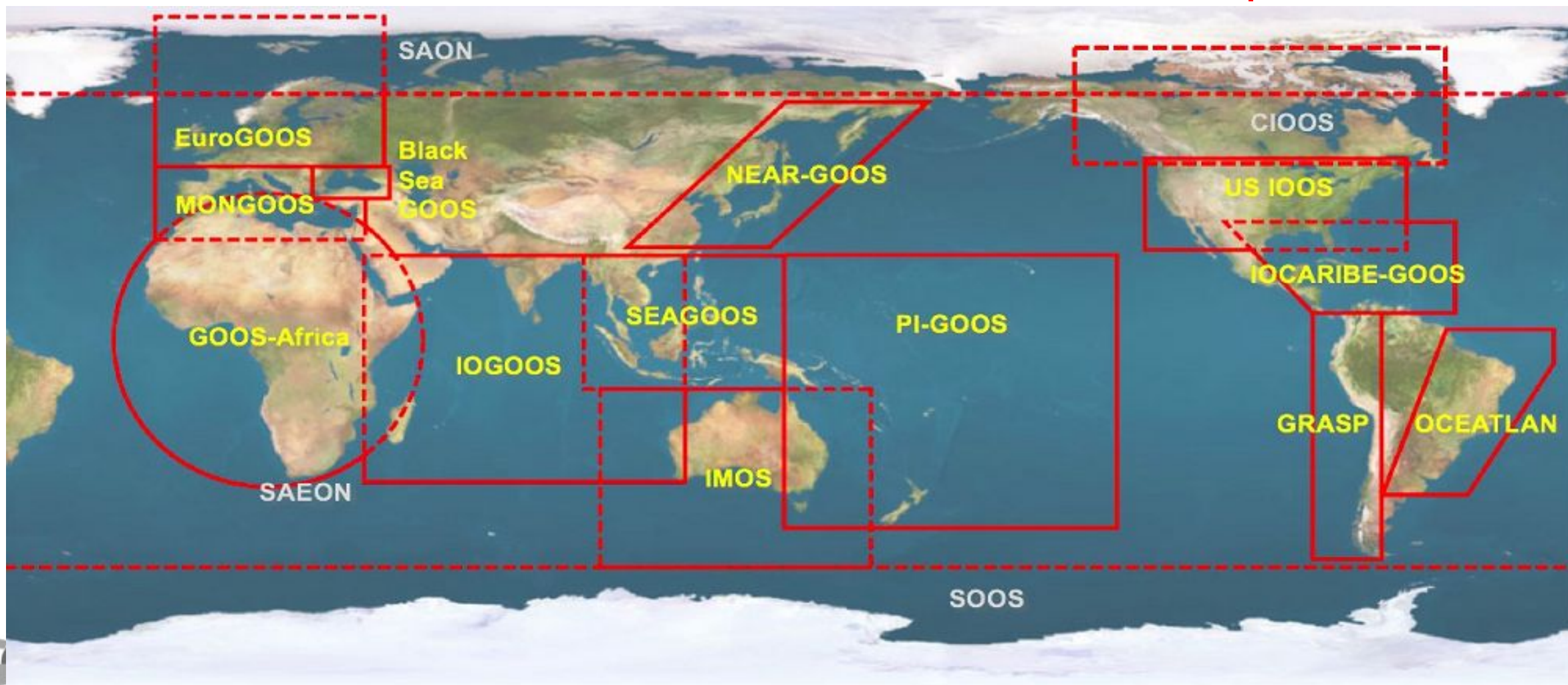
OCEATLAN

PI-GOOS

SEAGOOS

U.S.IOOS

SOOS|SAON



# GRA Governance

Structure	inter-governme ntal	government, non-governmental organizations, institutions	ioc sub-commi ssions	national marine agencies
<i>Political consortium</i>	<a href="#"><u>grasp</u></a>	<a href="#"><u>euogoos</u></a>	<a href="#"><u>goos africa,</u></a> <a href="#"><u>seagoos</u></a>	
<i>Basins and regions</i>	<a href="#"><u>black sea goos</u></a>	<a href="#"><u>iogoos,</u></a> <a href="#"><u>mongoos</u></a>		
<i>small island developing states (SIDS)</i>		<a href="#"><u>pi-goos</u></a>	<a href="#"><u>iocaribe-go</u></a> <a href="#"><u>os</u></a>	
<i>Thematic</i>	<a href="#"><u>near-goos,</u></a> <a href="#"><u>oceatlan</u></a>			
<i>National systems</i>				<a href="#"><u>u.s. ioos,</u></a> <a href="#"><u>imos</u></a>





## The Global Ocean Observing System

### Regional alliances

GOOS unifies national observing systems to meet national needs, strengthen connections through learning and sharing, and make a greater set of ocean observations available to a global community.

Our Regional Alliances (GRAs) integrate these national needs into regional systems and deliver the benefits of GOOS's strategy, structure, and programmes at a regional, national and finally global level.

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**“We are pleased to be able to play such a vital role in observing the ocean and to contribute substantially to one of GOOS’s key implementing frameworks.”**

- R Venkatesan PhD, Chair of GOOS Regional Alliances (GRA) Council, GOOS National Focal Point

GRAs are coalitions of nations and/or institutions that share GOOS principles and goals, but are mostly concerned with local priorities and organized around ocean basins or coastal environments.

Different regions of the globe are represented by 15 GRAs, emphasizing regional priorities, differing by need, resources and culture. These interact with each other to learn and share best practice in implementing observing systems.

Some GRAs emphasize data sharing or regional capacity development. Others are building out extensive observation systems with dedicated marine service goals such as oil spill response capabilities or typhoon forecasting.



# GOOS has six key components:



## Expert Panel:

Expert panels for physics and climate, biogeochemistry, biology and ecosystems that synthesize across requirements and provide guidance on observing systems design.

## Observations Coordination Group:

Observations Coordination Group, JCOMMOPS and **GOOS**

**Regional Alliances** that implement observing systems and ensure the flow of observations across the global network and regional observing structures.

## Operational Forecast Systems:

An expert team on operational forecast systems creating guidance to improve capacity, quality and interoperability of ocean forecast products.

## GOOS Projects for the observing System:

GOOS Projects that advance innovation and expand into new areas and capabilities for the observing system

## GOOS Structure & Engagement:

Core coordination through a central GOOS office in Paris and distributed nodes supporting GOOS structures and engagement. In 2020 a G7-GOOS coordination centre will begin operation as a complement.

## GOOS Steering Committee & Sponsors:

Governance through a GOOS Steering Committee and sponsors (the Intergovernmental Oceanographic Commission of UNESCO, the World Meteorological Organisation, United Nations Environment Programme, and the International Science Council).

## SO4 Empower end user applications

### Data Integration Products Across GRAs

Initial action is to develop case studies, IMOS has initiated such a project and this would constitute an initial case study, users to learn and expand across GRAs

## SO1 Partnerships for delivery

### GRA forecasts, services and assessment

GRAs - forecasts, services and assessment (FS&A) and showcase success stories. evolve a methodology to develop interconnection among GRAs and Initiate dialogue during the next GRA Forum

## SO9 Capacity Development Implementing ocean monitoring and forecasting system with the engagement of GRAs

Engage with Member States at regional level, in particular SIDS and African countries on implementing ocean observing and forecasting systems

### Ocean Observation Network Training Workshops

For interested African Member States aspiring to undertake National Ocean Observation Network.



- **UN DECADE OCEAN SCIENCE**
- **USE CASE LIBRARY** under development - **Benefits of Ocean Observing Catalog (BOOC)**
- **EMODnet Asset mapping**
- **ETOOFS Expert Team on Operational Ocean Forecasting System (ETOOFS)**
- **SCOR WG FLOTSAM -Marine Plastics OBS Open ocean sampling reporting**
- **Integrated Marine Debris Observing System (IMDOS)**
- **GRA connectivity :**  
**OceanGliders, HF Radars, and Animal-borne instrumentation, GOA-ON, OCG and Ocean Best Practices groups.**
- **Discussion - The OOPC Boundary System Task Team:**
- **COVID 19 Crisis Many meetings are postponed –Field activities are affected - Work from Home – Challenges in Funding**



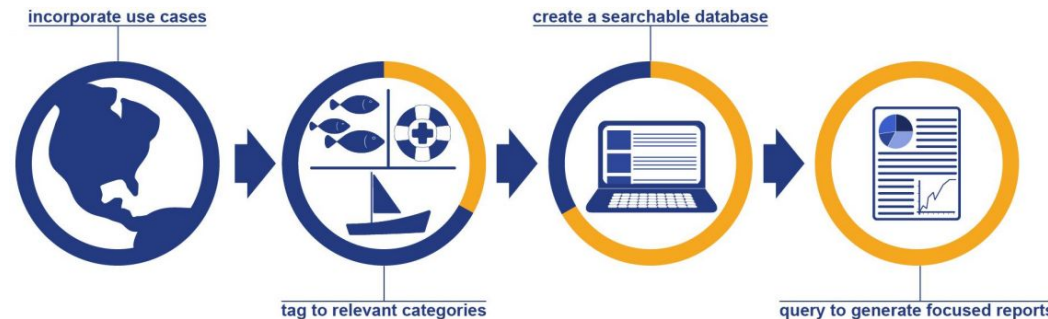
# U.S. Integrated Ocean Observing System (U.S IOOS)

## Benefits of Ocean Observations Catalog (BOOC)

To create an online, geographically referenced, searchable data base of use cases focused on end user's specific choices that they make from information, products and services from the ocean observing systems

To incorporate use cases, tag them to the relevant application areas, and have a searchable database.

### The Benefits of Ocean Observations Catalog



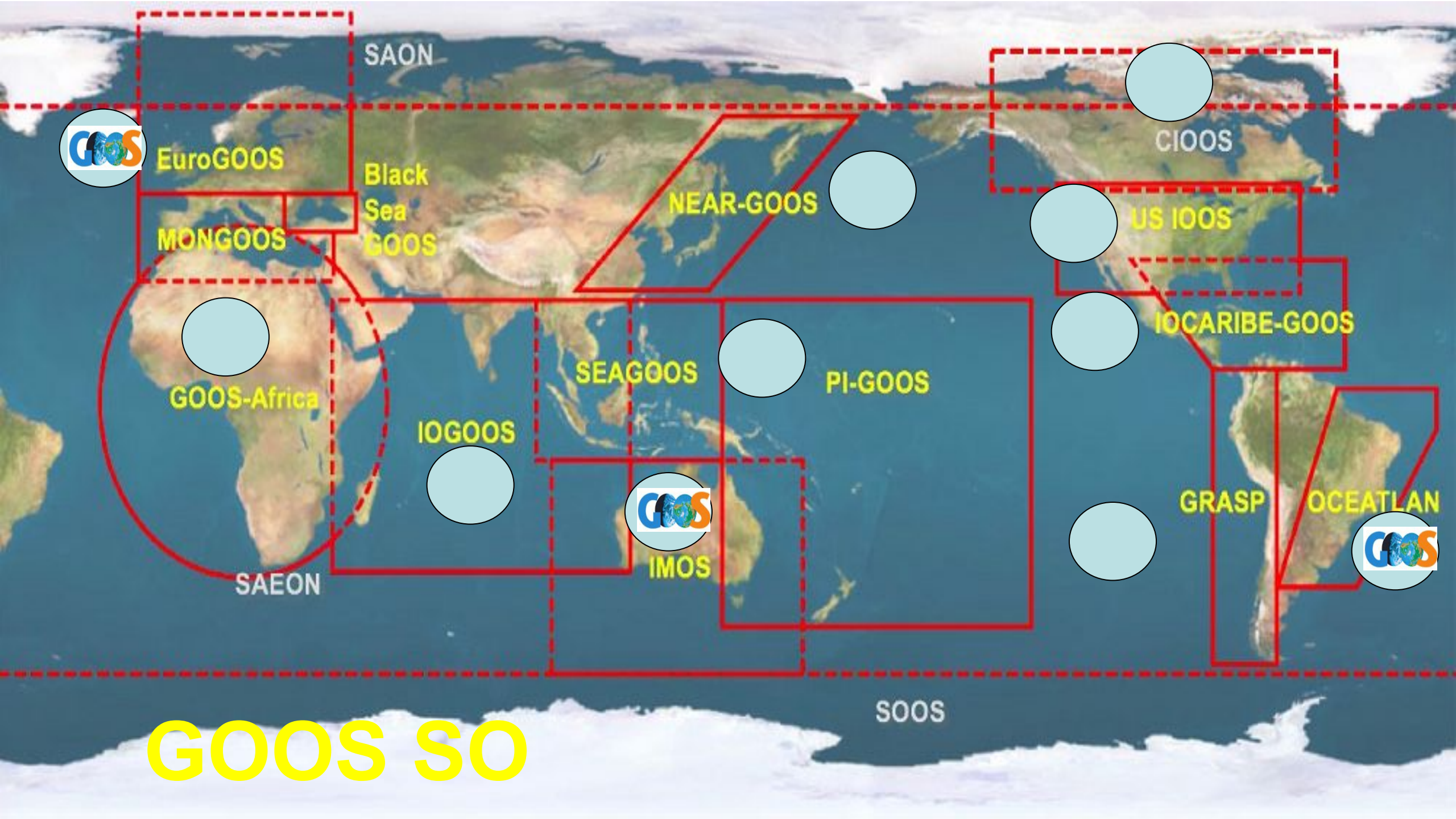


## GRA Success Story: Ocean Science & Small Island Developing States

*Small Island Developing States as designated by UNESCO and UN-OHRLLS.*

Small Island Developing States (SIDS) have vulnerable "blue economies," where most livelihoods rely directly on ocean resources.

An [article published on SciDevNet](#) – with contributions from several GRAs – explores how cooperative ocean monitoring can help SIDS to manage their marine environments based on the best science available.



SAON



EuroGOOS

Black  
Sea  
GOOS

NEAR-GOOS

CIOOS

MONGOOS

US IOOS

IOCARIBE-GOOS

GOOS-Africa

SEAGOOS

PI-GOOS

IOGOOS

GRASP

OCEATLAN

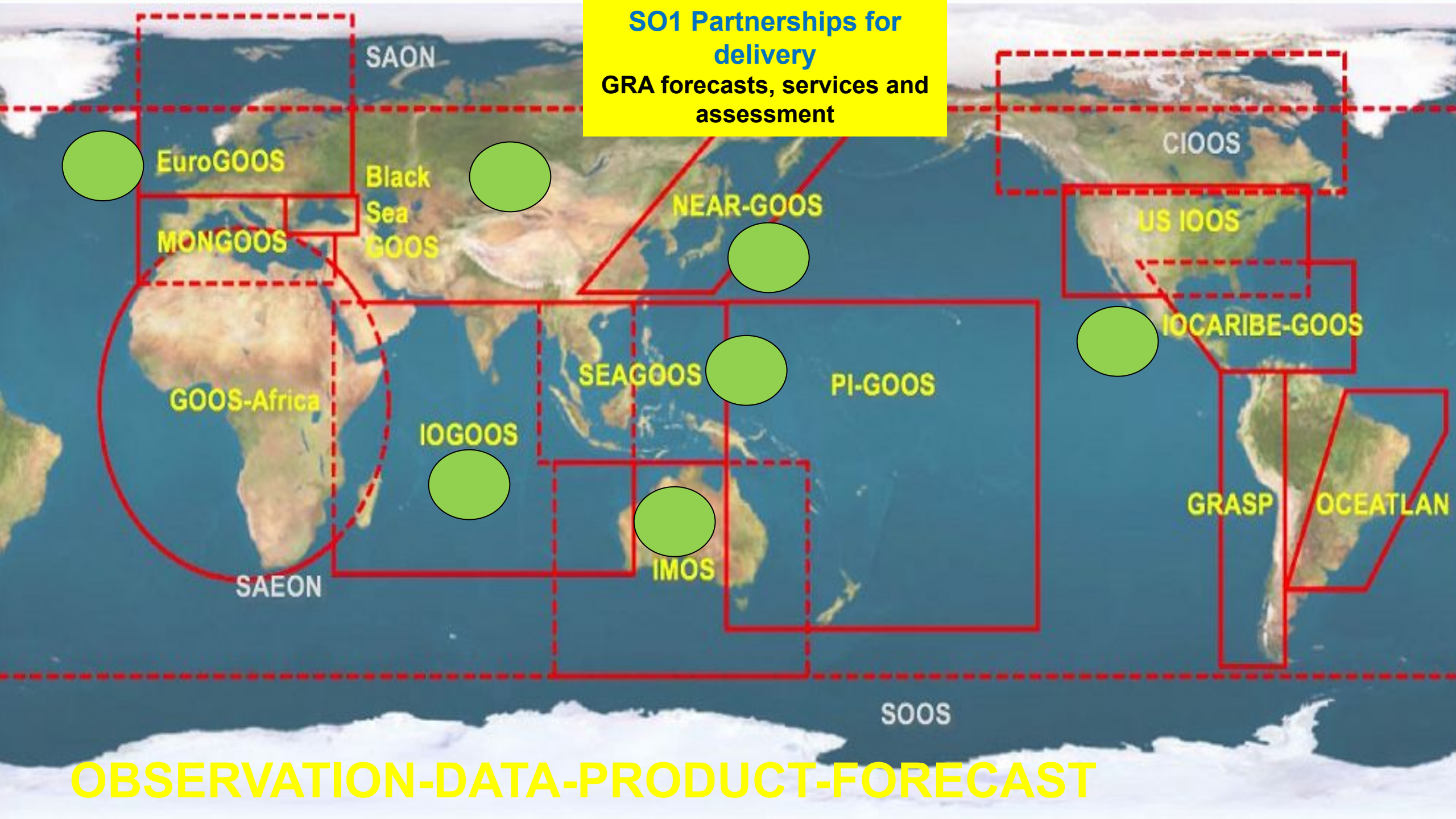
SAEON

IMOS



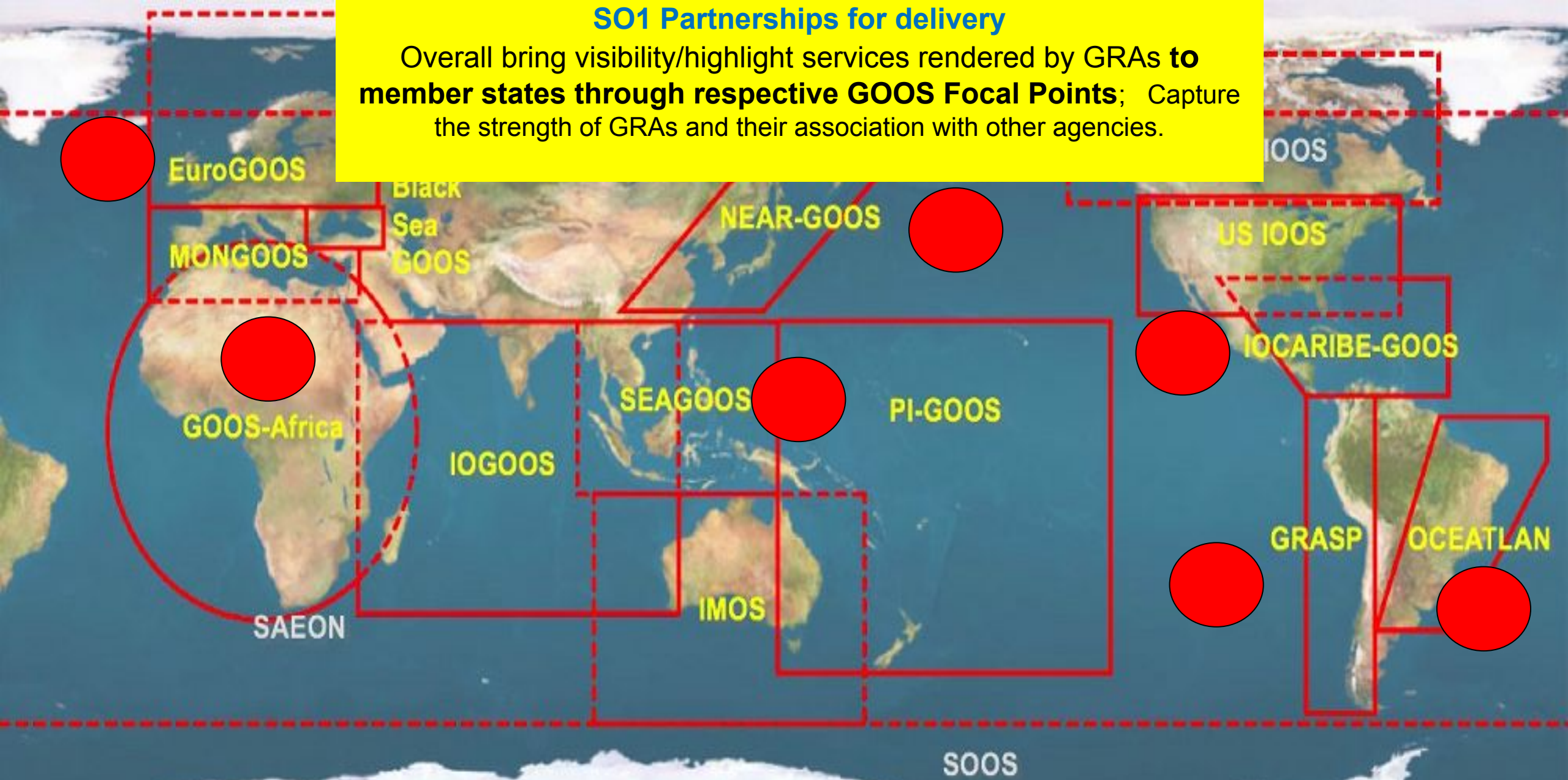
SOOS

GOOS SO



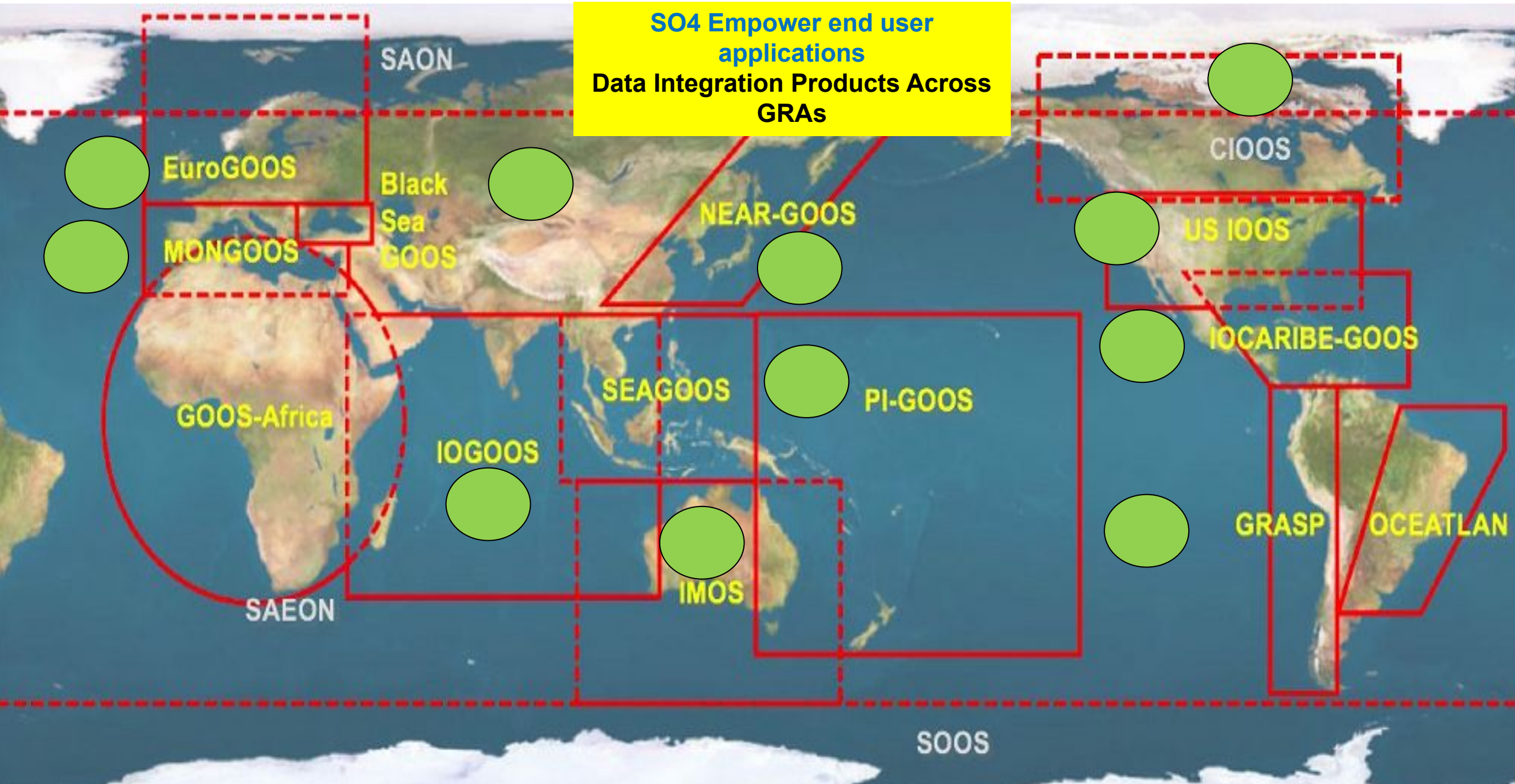
## SO1 Partnerships for delivery

Overall bring visibility/highlight services rendered by GRAs to member states through respective **GOOS Focal Points**; Capture the strength of GRAs and their association with other agencies.

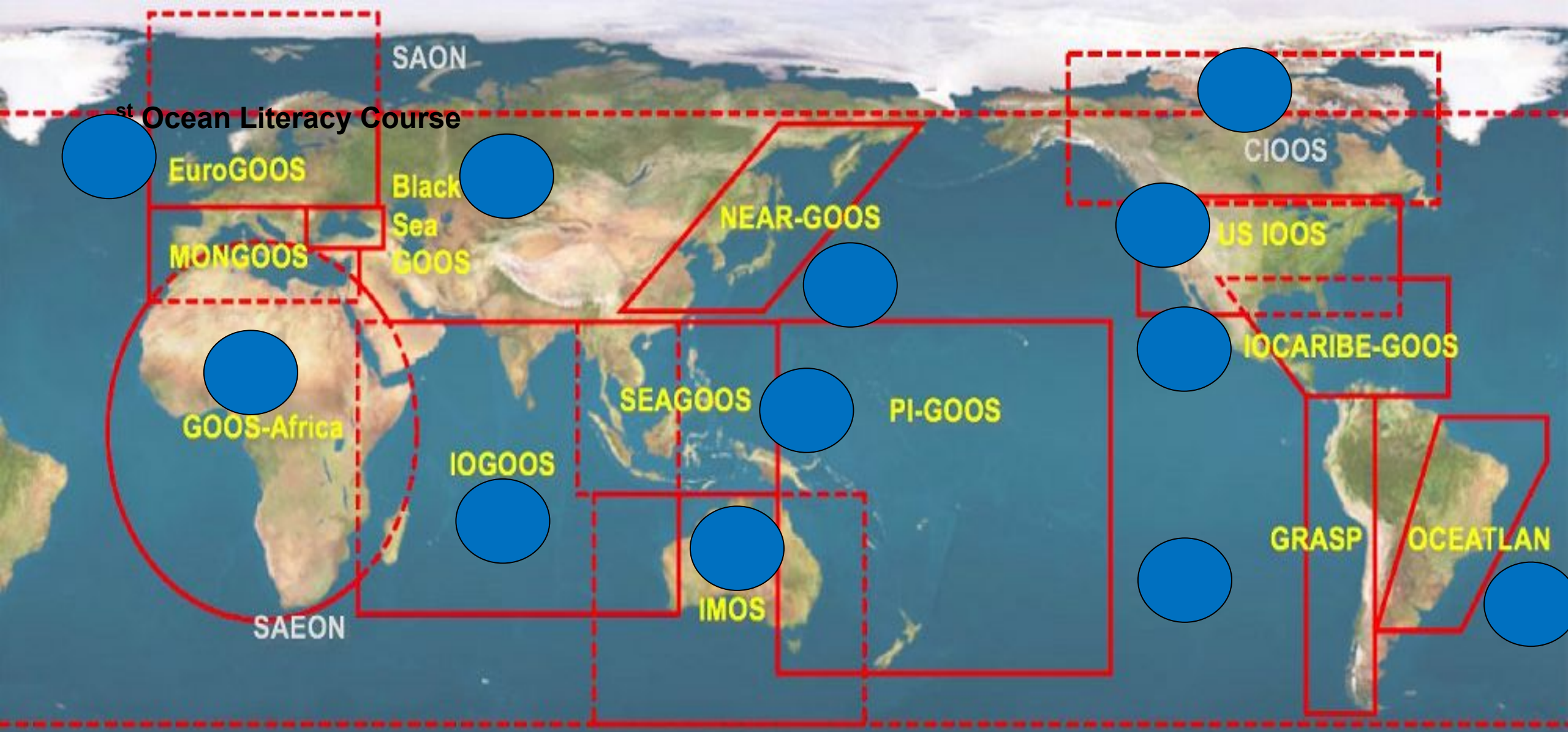


**CONNECTION GOOS TO FOCAL POINTS**

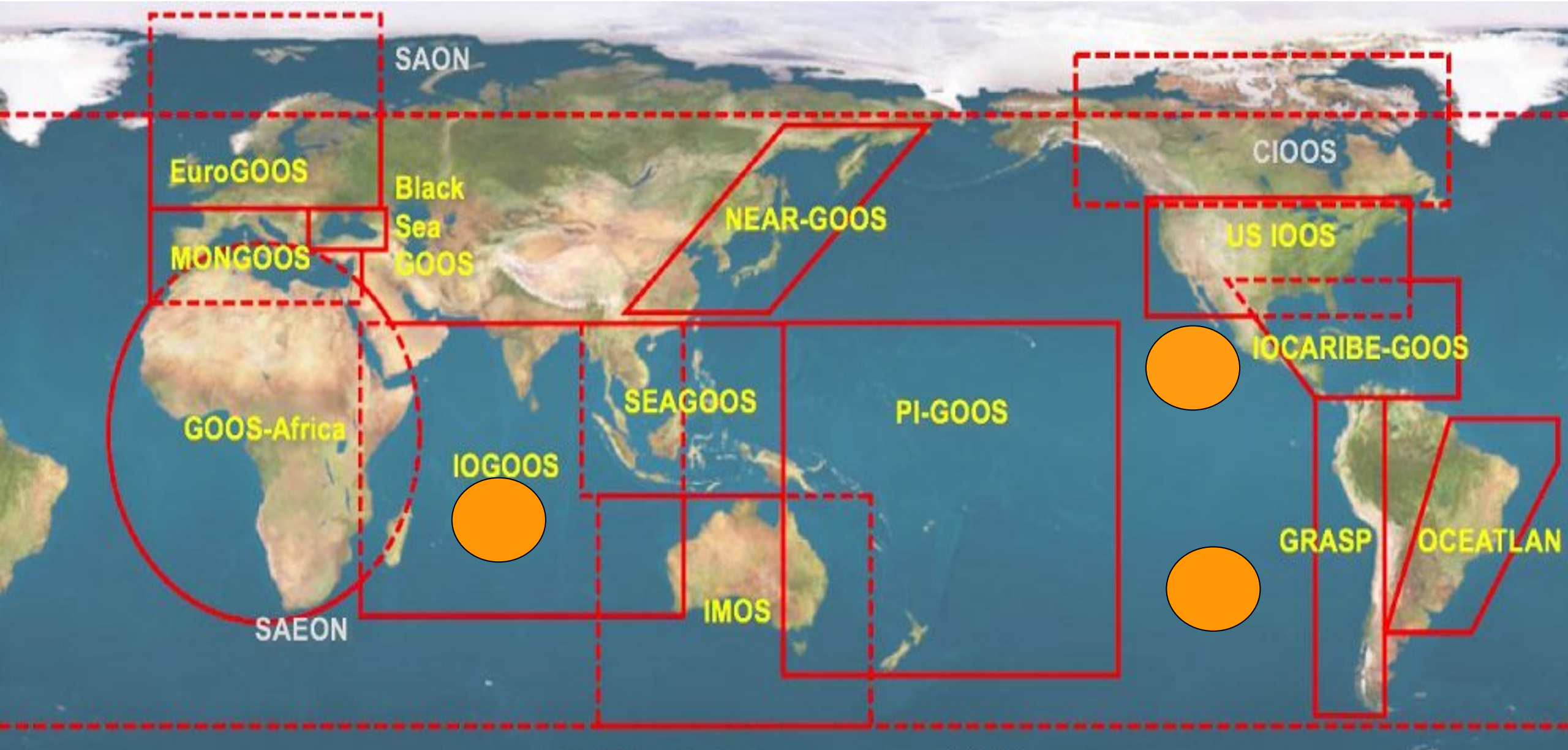
**SO4 Empower end user applications**  
**Data Integration Products Across GRAs**



**OBSERVATION-DATA-PRODUCT-FORECAST**



**UN DECADE**



# CONNECTION TO WMO

**Physics, bio waves daily forecasts re-analysis.**

Physics & Climate (OOPC) BGCIO (CCP) BioEco ETOOFS

**MBON BioChem**

Physics & Climate (OOPC) BGC (IOCCP) BioEco

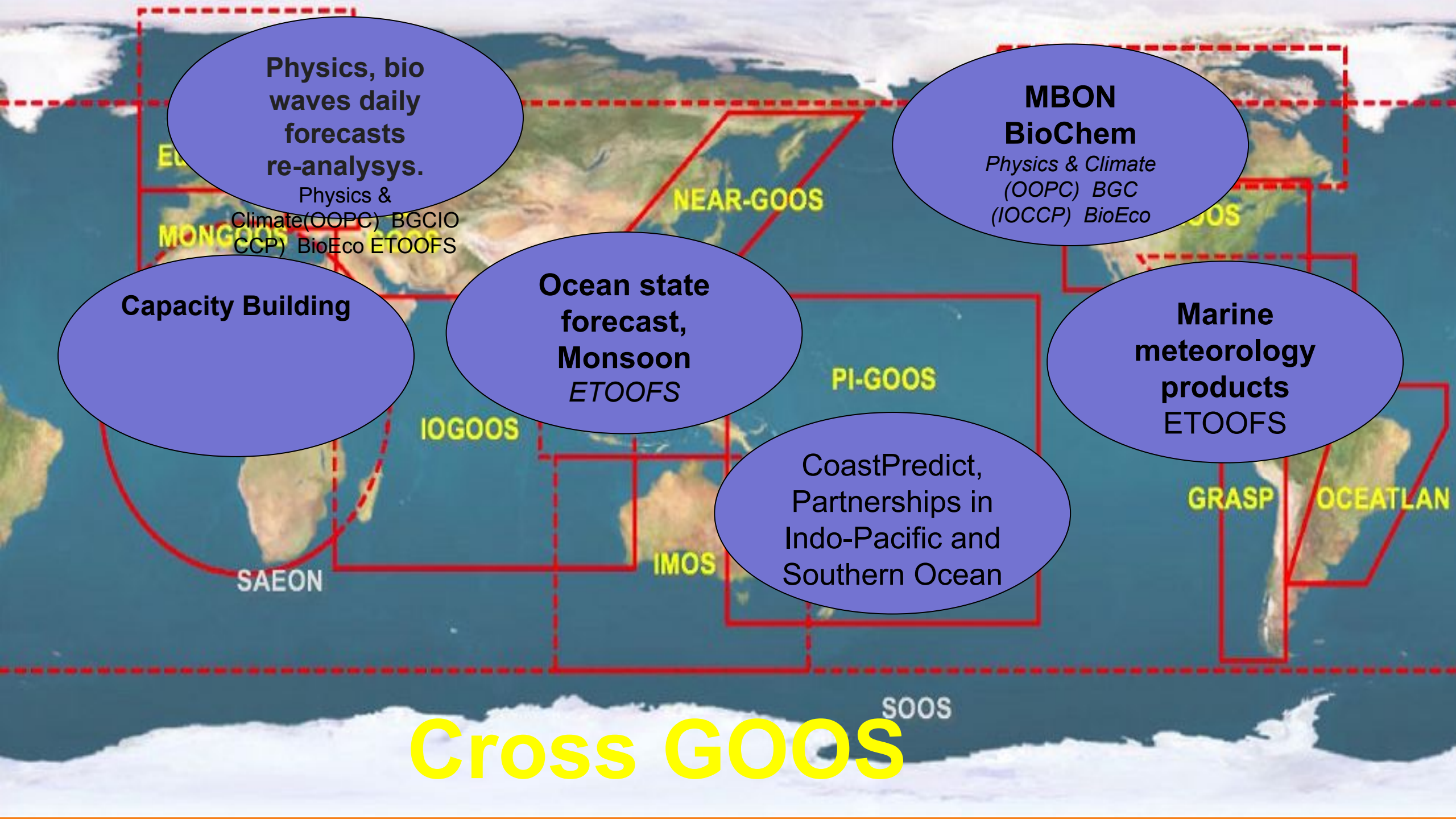
**Capacity Building**

**Ocean state forecast, Monsoon**  
ETOOFS

**Marine meteorology products**  
ETOOFS

CoastPredict, Partnerships in Indo-Pacific and Southern Ocean

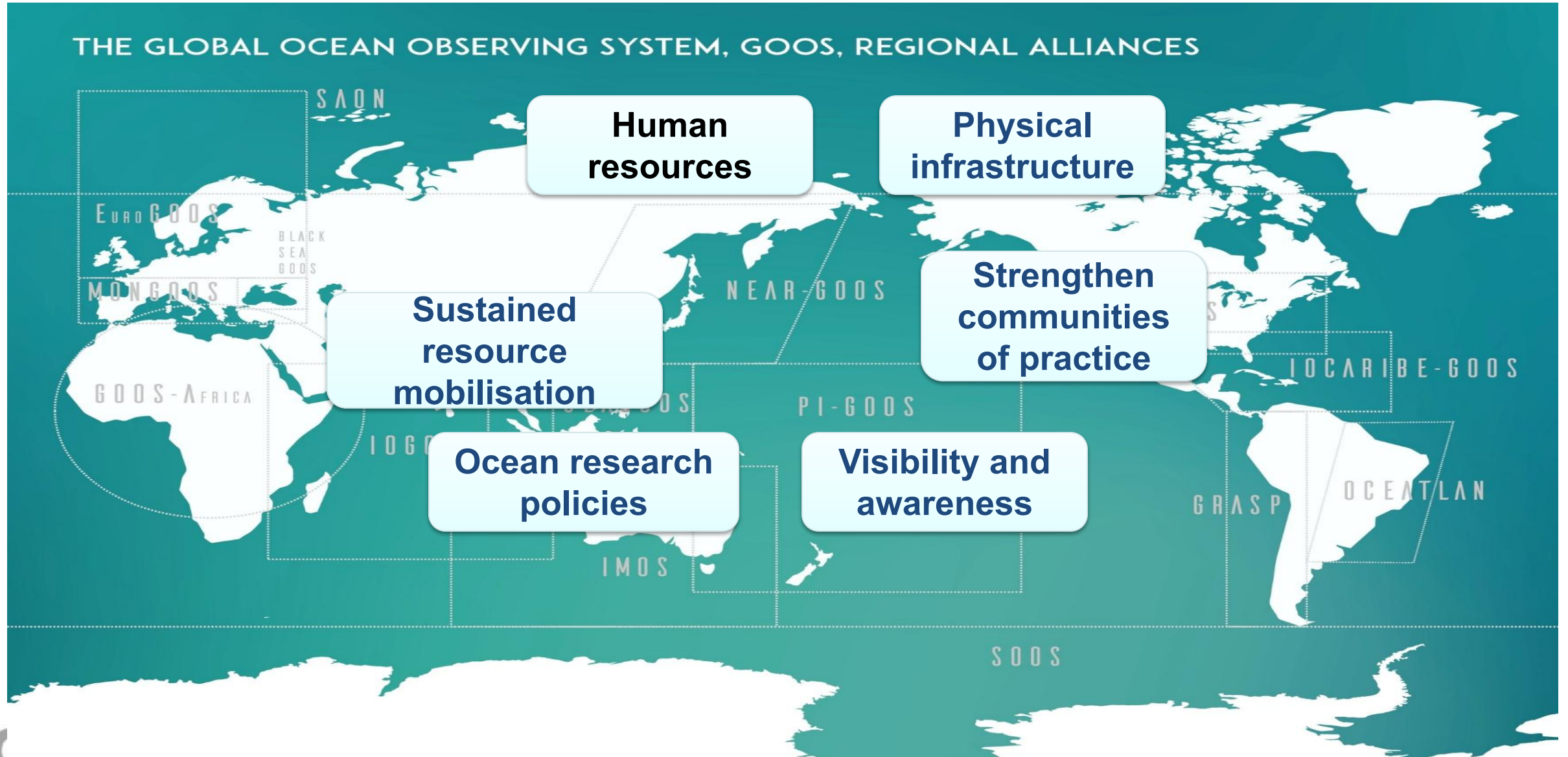
**Cross GOOS**





# Capacity Development GOOS FOCAL POINT

THE GLOBAL OCEAN OBSERVING SYSTEM, GOOS, REGIONAL ALLIANCES



**Human  
resources**

**Physical  
infrastructure**

**Sustained  
resource  
mobilisation**

**Strengthen  
communities  
of practice**

**Ocean research  
policies**

**Visibility and  
awareness**



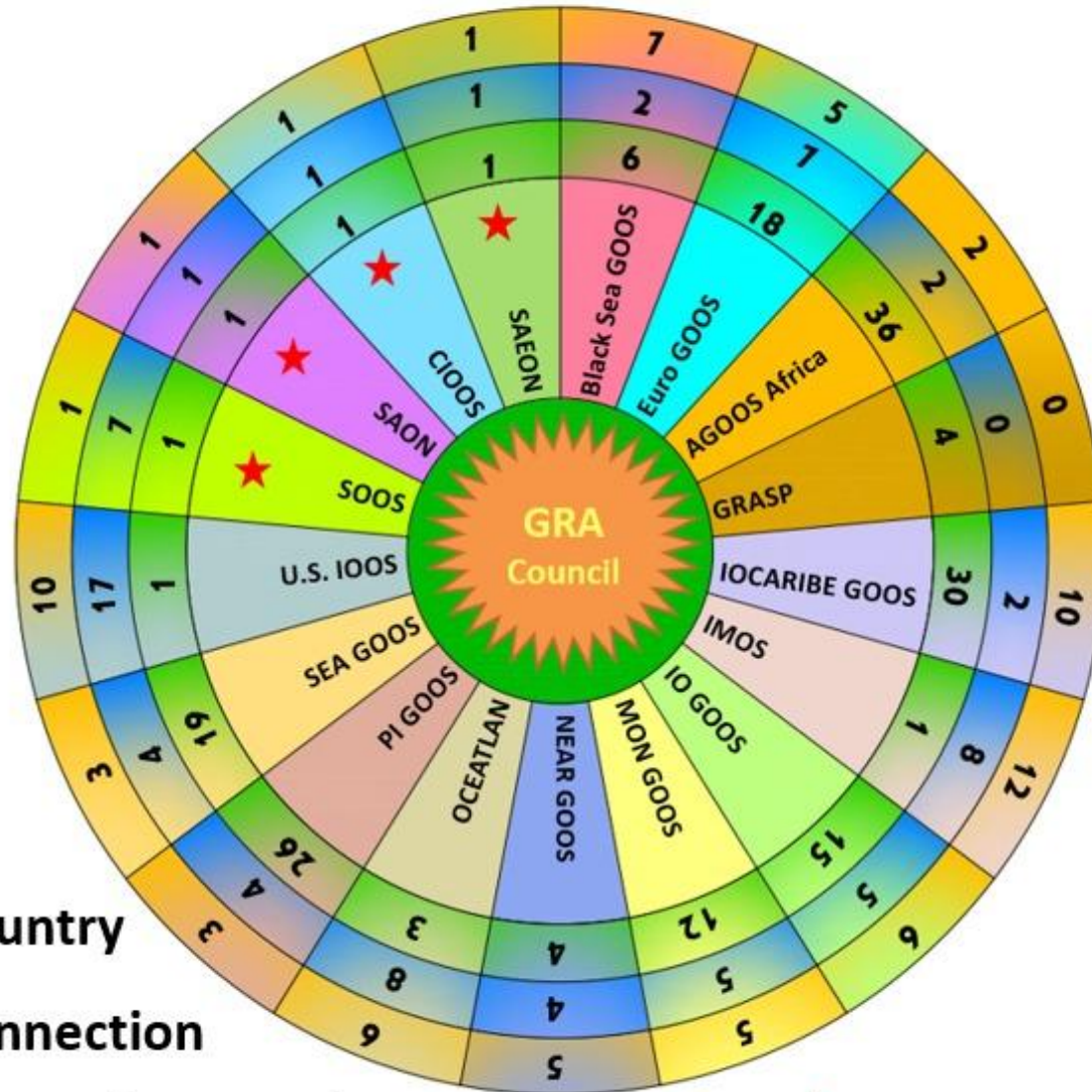
# The Global Ocean Observing System GOOS Regional Alliance Council

6 IOC sub-commissions or related intergovernmental structures.

4 memorandum of understanding.

1 international nonprofit association,

2 funded national government programs



1. IOCARIBE GOOS
2. NEARGOOS
3. SEA-GOOS
4. GRASP
5. PI GOOS
6. GOOSAfrica
7. MANGOOS
8. Black Sea GOOS
9. IOGOOS
10. OCEATLAN
11. EuroGOOS
12. IMOS
13. USIOOS

130 + Country

70 + Connection

70 + Project/Product/Societal

★ Emerging council

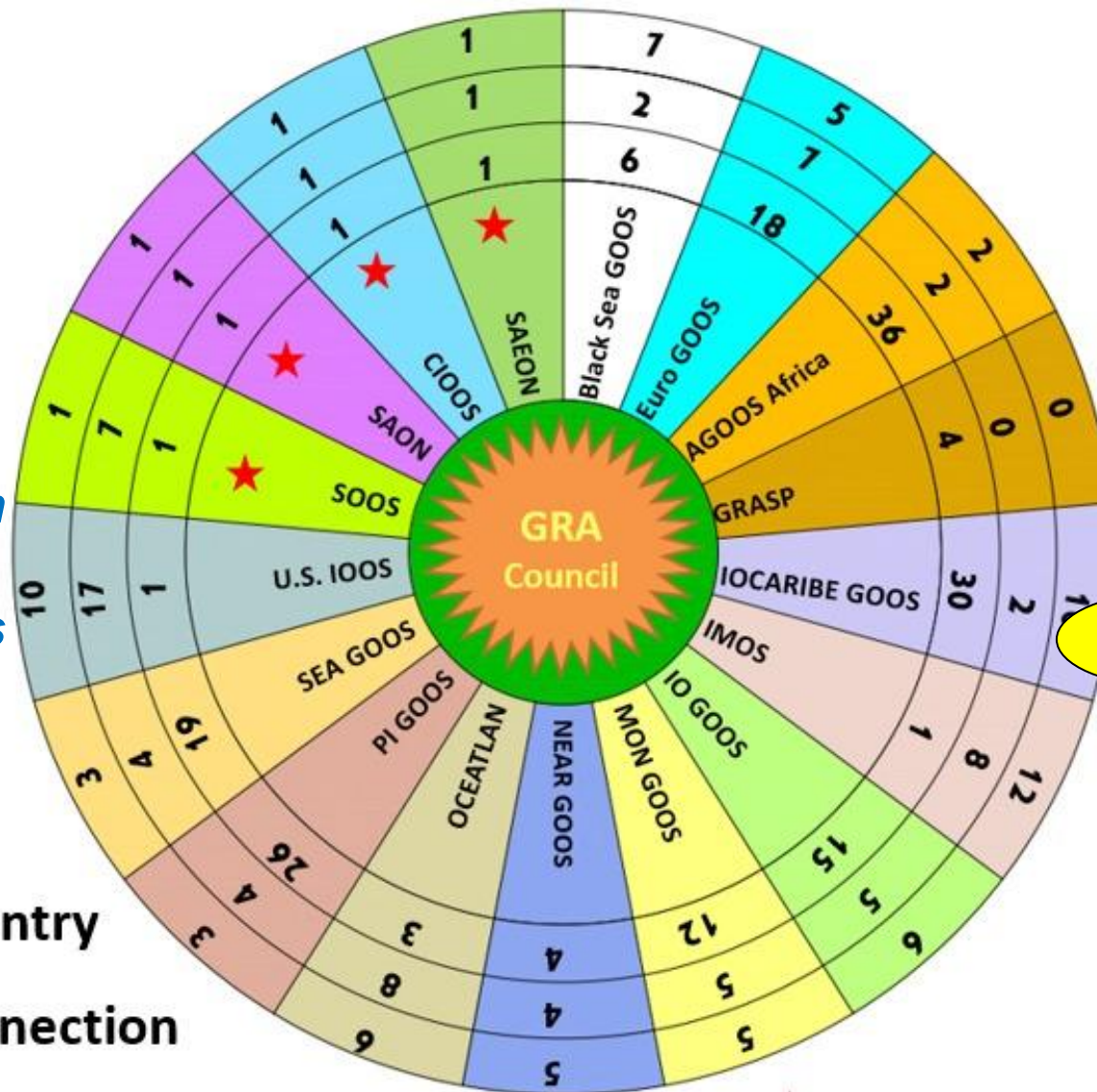


# The Global Ocean Observing System GOOS Regional Alliance Council

## GOOS in the Decade Proposal

## Three transformative Decade Programmes United under the theme of INTEGRATION

- *Integrated system design*
- *Connecting to local stakeholder communities*
- *Integrating observations into the coast*

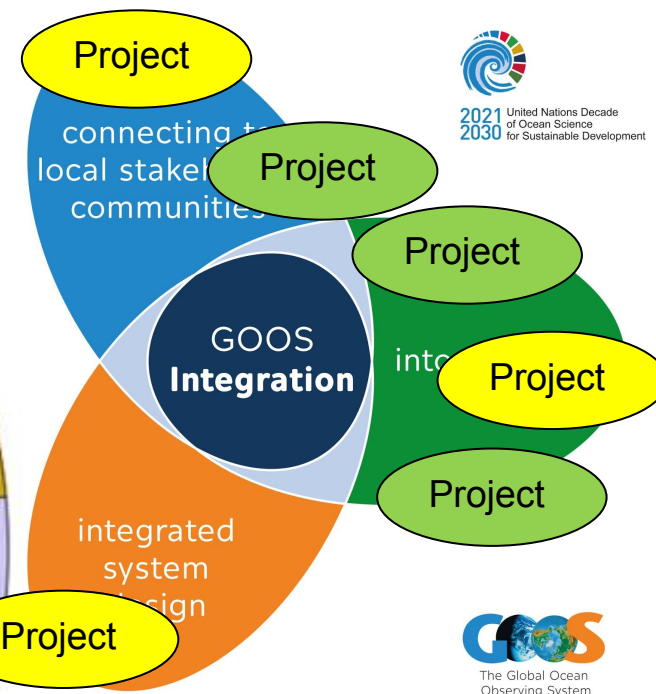


130 + Country

70 + Connection

70 + Project/Product/Societal

★ Emerging council



## GOOS SC to consider

- Initiate action from emerging GRAs to full fledged GRA
- Connecting to National Focal Points
- GRAs role **G**lobal **R**egional **nA**tional
- **SEEK ADVISE OF GOOS SC** 1994 - 3 Decades
- Discuss the recommendation for creating a Task team to make recommendations next year.

- Connect – Guide - Resolve - Strengthen GRAs activities