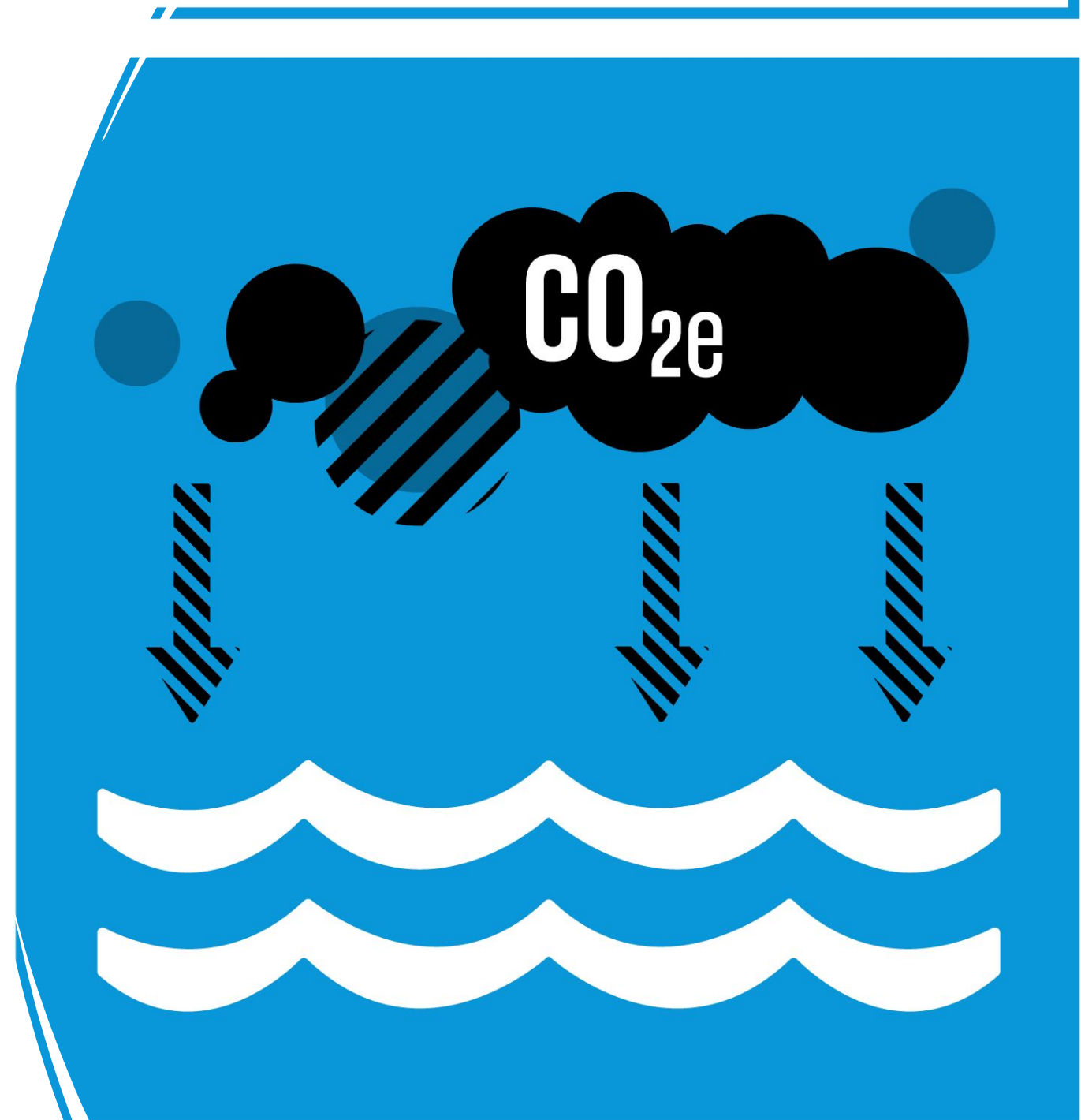
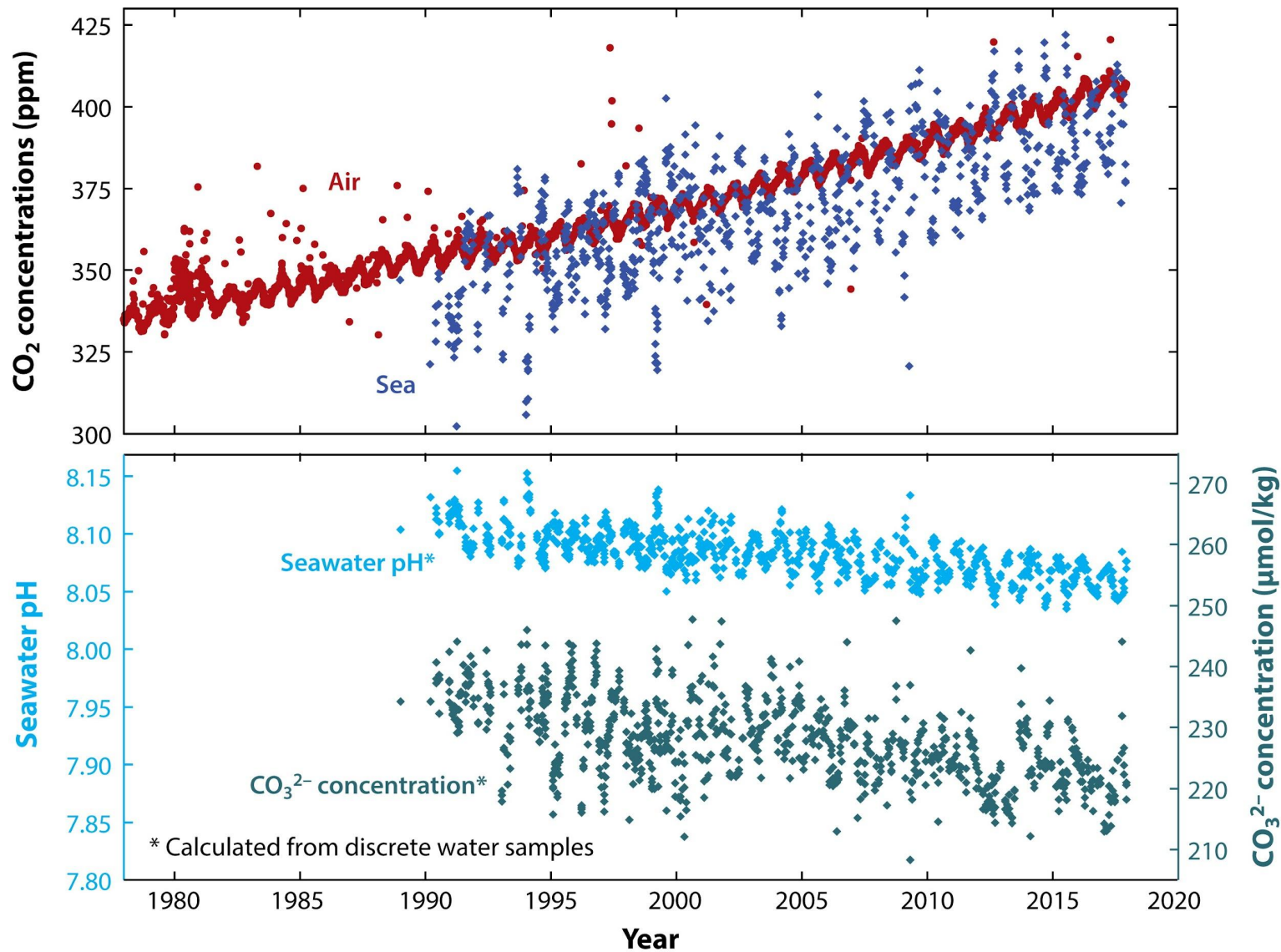


Community of Ocean Action on Ocean Acidification

**SESSION III: Implementing
SDG14 and Ocean
Commitments with the
Communities of Ocean Action:
Experiences and Lessons**

15 November 2023



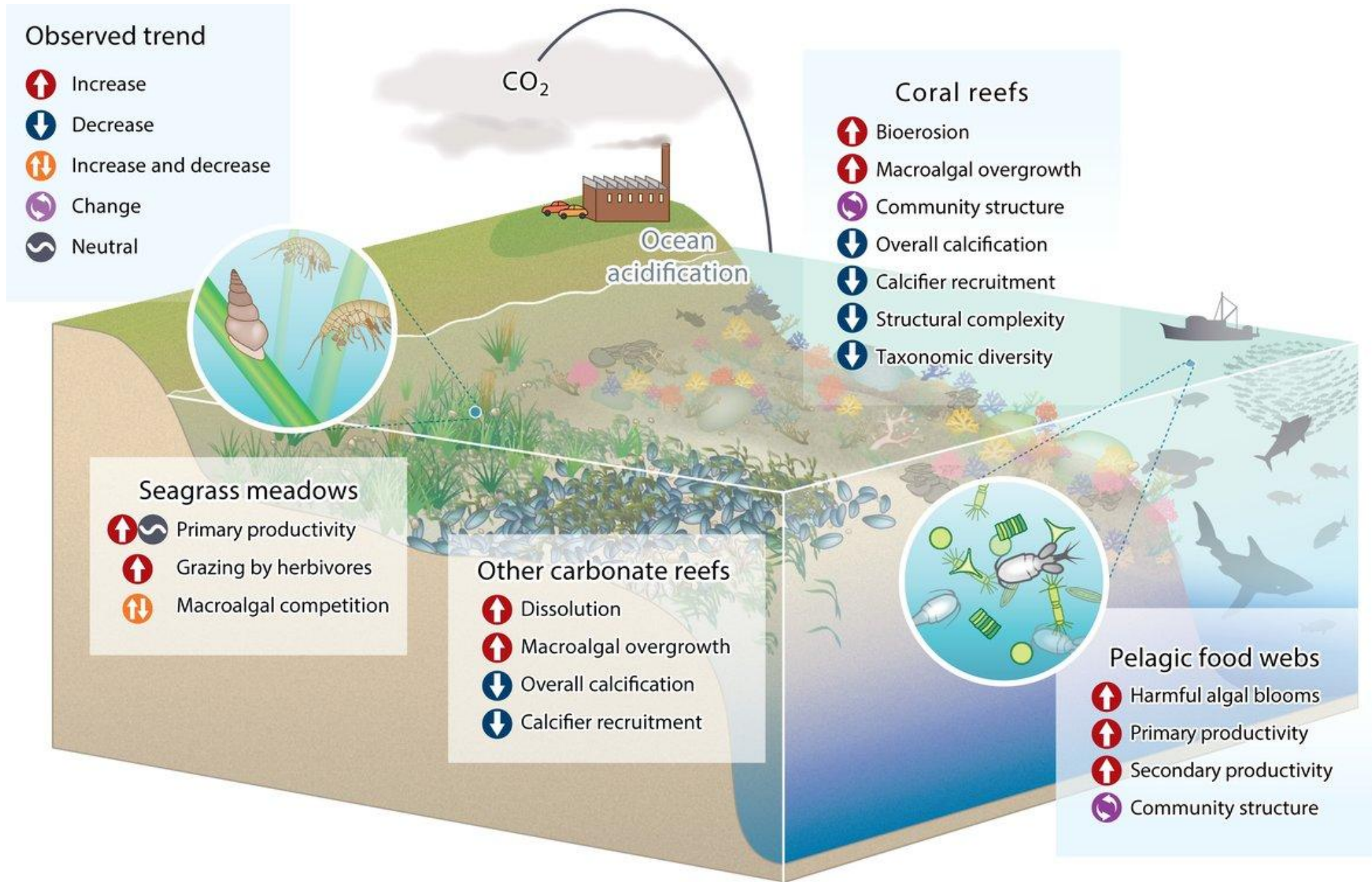


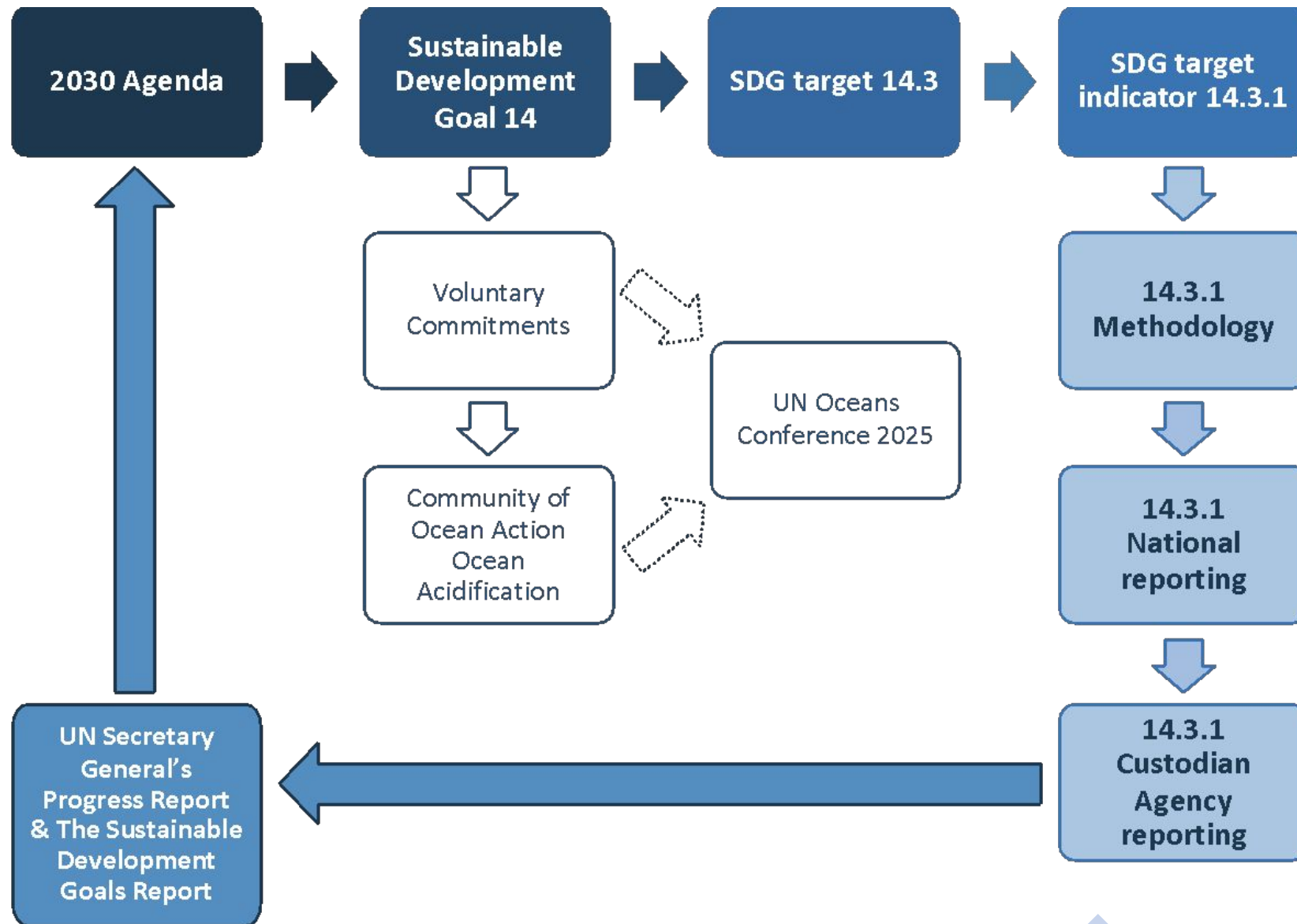
TARGET
14.3

CO_{2e}

REDUCE OCEAN ACIDIFICATION

SDG 14.3.1 Indicator:
Average marine acidity (pH)
measured at agreed suite of
representative sampling stations.





Voluntary Commitments COA – Ocean Acidification



341 Voluntary Commitments



Many from 2017



Little activity since 2021



Difficulties to assess progress and gaps with the current web interface



HOWEVER....

Regional Ocean Acidification Action

Regional Partnership for Implementing SDG14 in the Western Indian Ocean
#OceanAction40844

The OSPAR Commission for the Protection of the Marine Environment of the North-East Atlantic
#OceanAction46914

Creating long-term resilience to ocean acidification through training, equipment, and network-building
#OceanAction47887

NEW REPORT Ocean Acidification. In: OSPAR, 2023: The 2023 Quality Status Report for the North-East Atlantic. OSPAR

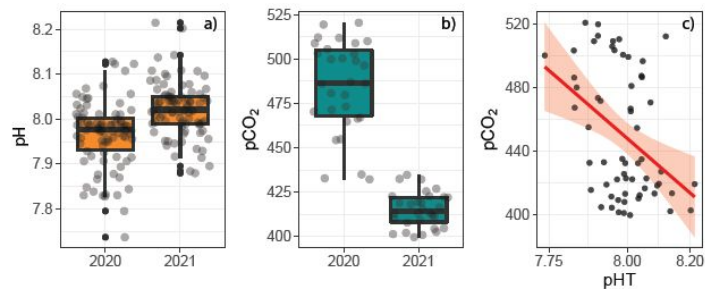
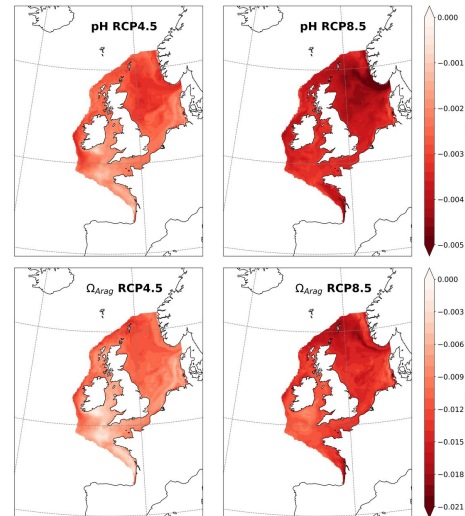


Figure 2.3: Concentration of a) pHT, b) pCO₂, and c) correlation of pHT and pCO₂ in coral reefs along the coastal waters of Kilifi, Mombasa and Kwale Counties for 2020 and 2021



The trend of bottom water pH (top; yr-1) and Ω_{Arag} (bottom; yr-1) between 2015 and 2049 as projected by the AMM7-NEMO-ERS EM model under the RCP4.5 scenario (left) and RCP8.5 scenario (right) on the North Western shelf. Only data within the OSPAR Regions has been shown



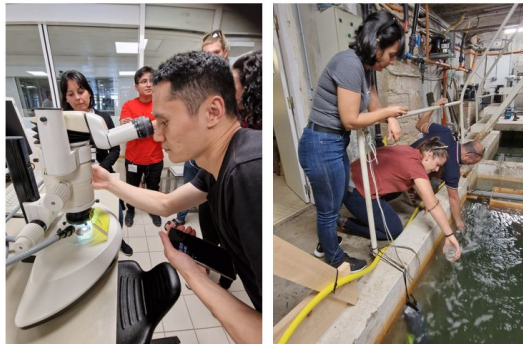
The Pacific Islands Ocean Acidification Centre (PIOAC) is a regional hub for ocean acidification research and monitoring in the Pacific Islands region. The Centre was established in 2021 through a partnership between members of the Pacific Community (SPC), the University of the South Pacific (USP), the National Institute of Water and Atmospheric research (NIWA) and the University of Otago.

Regional/Global Ocean Acidification Action

Facilitating global coordination and collaboration on ocean acidification (IAEA Ocean Acidification International Coordination Centre (OA-ICC))

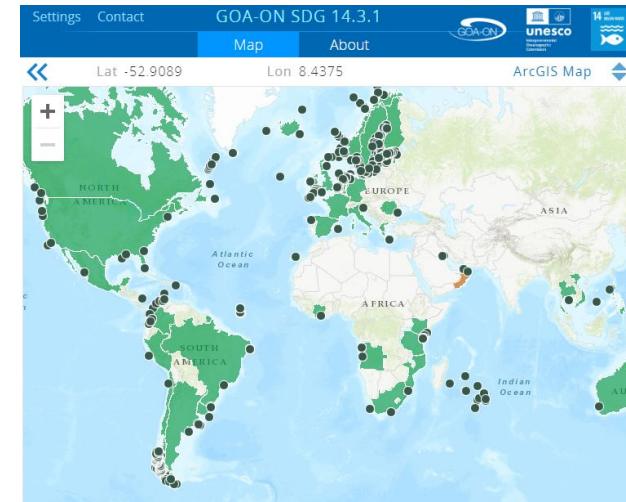
#OceanAction46916

OA and Multiple Stressors Training, Monaco, 2022



Ocean Acidification
International
Coordination Centre
OA-ICC

Measure and Report Ocean Acidification - Sustainable Development Goal 14.3.1 Indicator Methodology (Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO)) #OceanAction43098



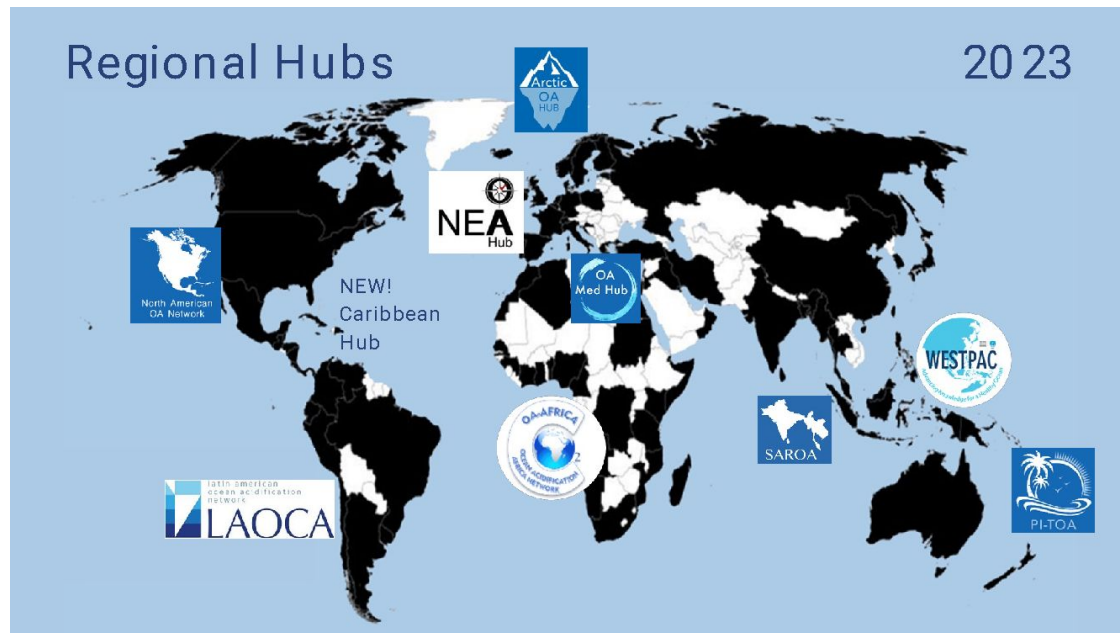
SDG 14.3.1 Data Portal



unesco
Intergovernmental
Oceanographic
Commission

Global Ocean Acidification Action

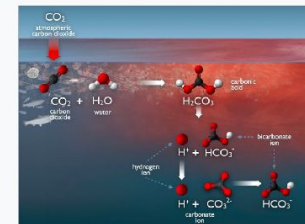
Global Ocean Acidification Observing Network and the Ocean Decade Programme 'Ocean Acidification Research for Sustainability' #OceanAction40975



10 regional hubs enforcing OA action at local and regional levels

GOA-ON's Goals

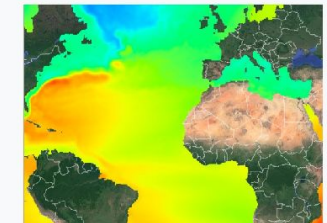
Goal 1: Improve our understanding of global OA conditions.



Goal 2: Improve our understanding of ecosystem response to OA.



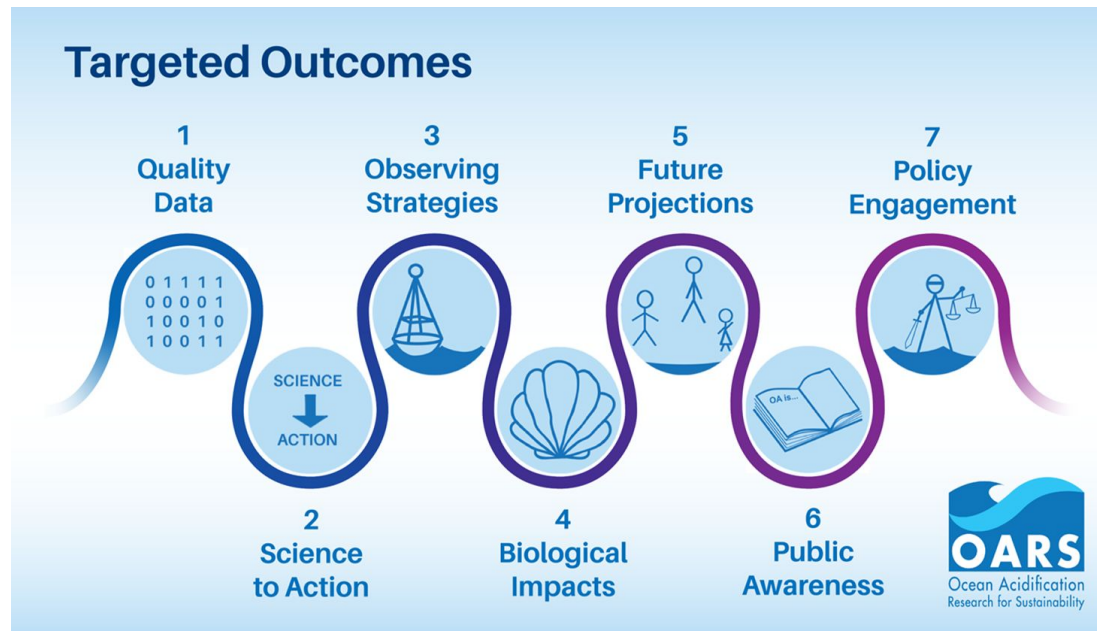
Goal 3: Acquire and exchange data and knowledge necessary to optimize modeling for OA and its impacts.



Global Ocean Acidification Action

Global Ocean Acidification Observing Network and the Ocean Decade Programme 'Ocean Acidification Research for Sustainability' #OceanAction40975

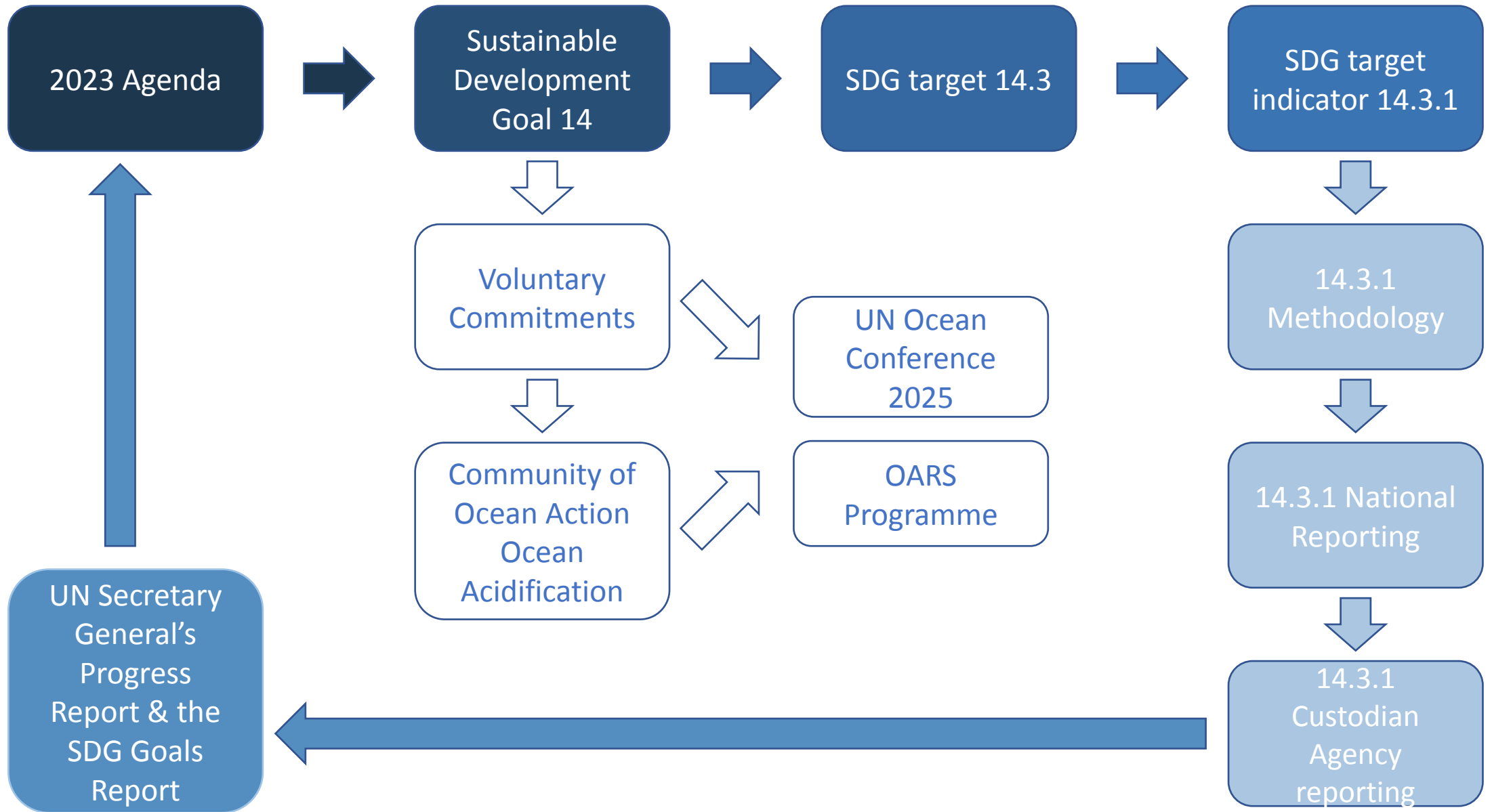
Fostering the co-development of ocean acidification science, including the impacts on marine life and sustainability of marine ecosystems in estuarine-coastal-open ocean environments.



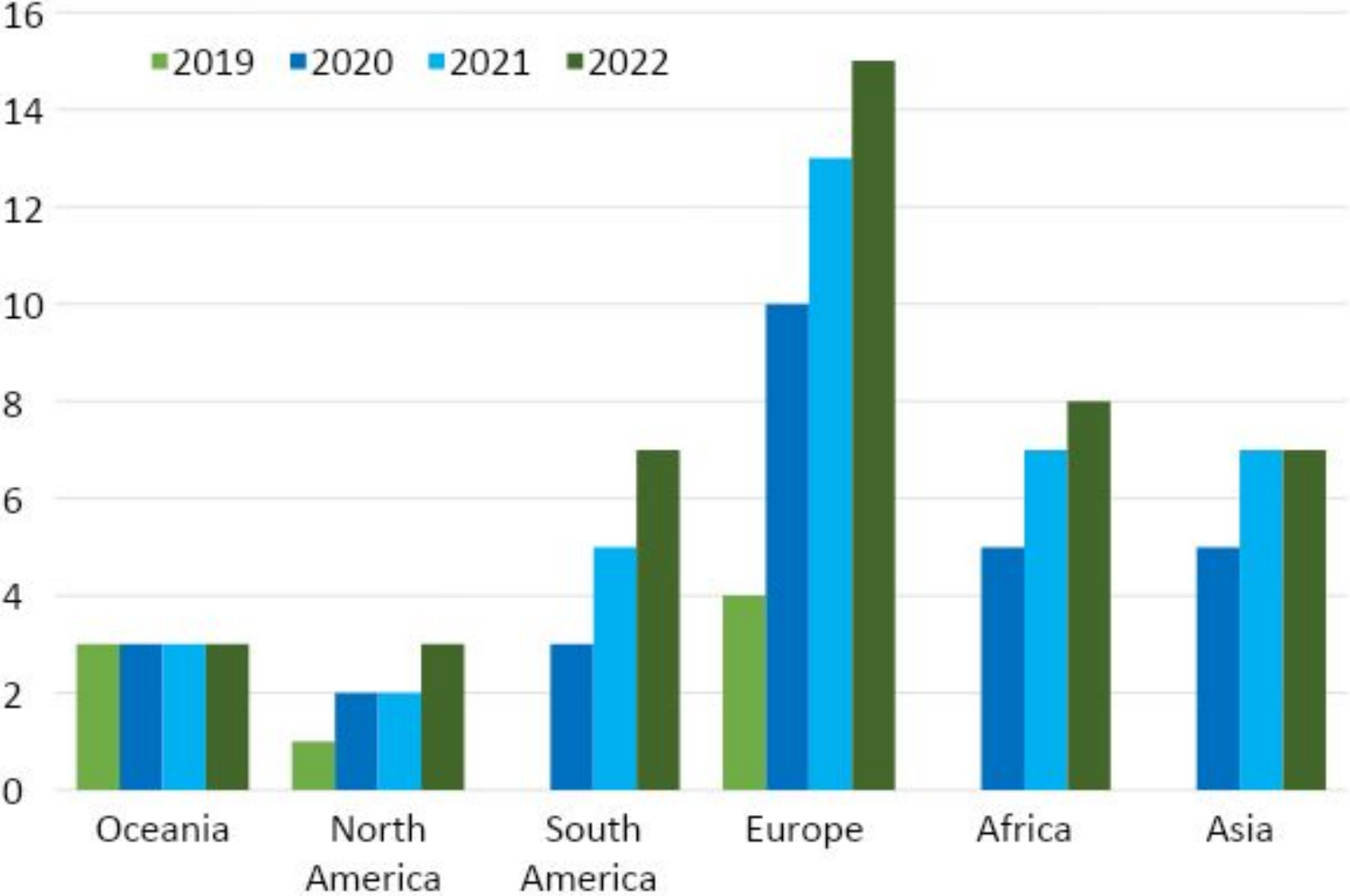
Way forward for the COA OA

- Connection to other international frameworks, conventions and efforts, e.g. CBD GBF, UNFCCC
- Increase the notion of science and ocean acidification action in general in the upcoming preparatory conference in Costa Rica 2024
- Facilitate access to COA relevant commitments (web interface)
- Engage in OARS activities and commitments and potentially align the VC processes





SDG 14.3.1 Reporting – GOOD news

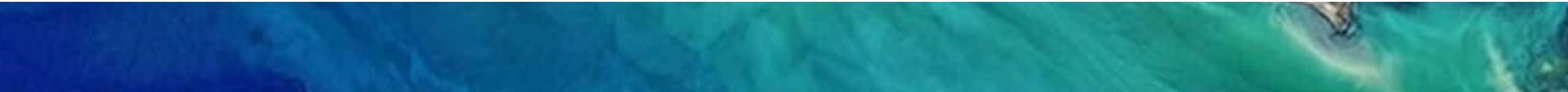
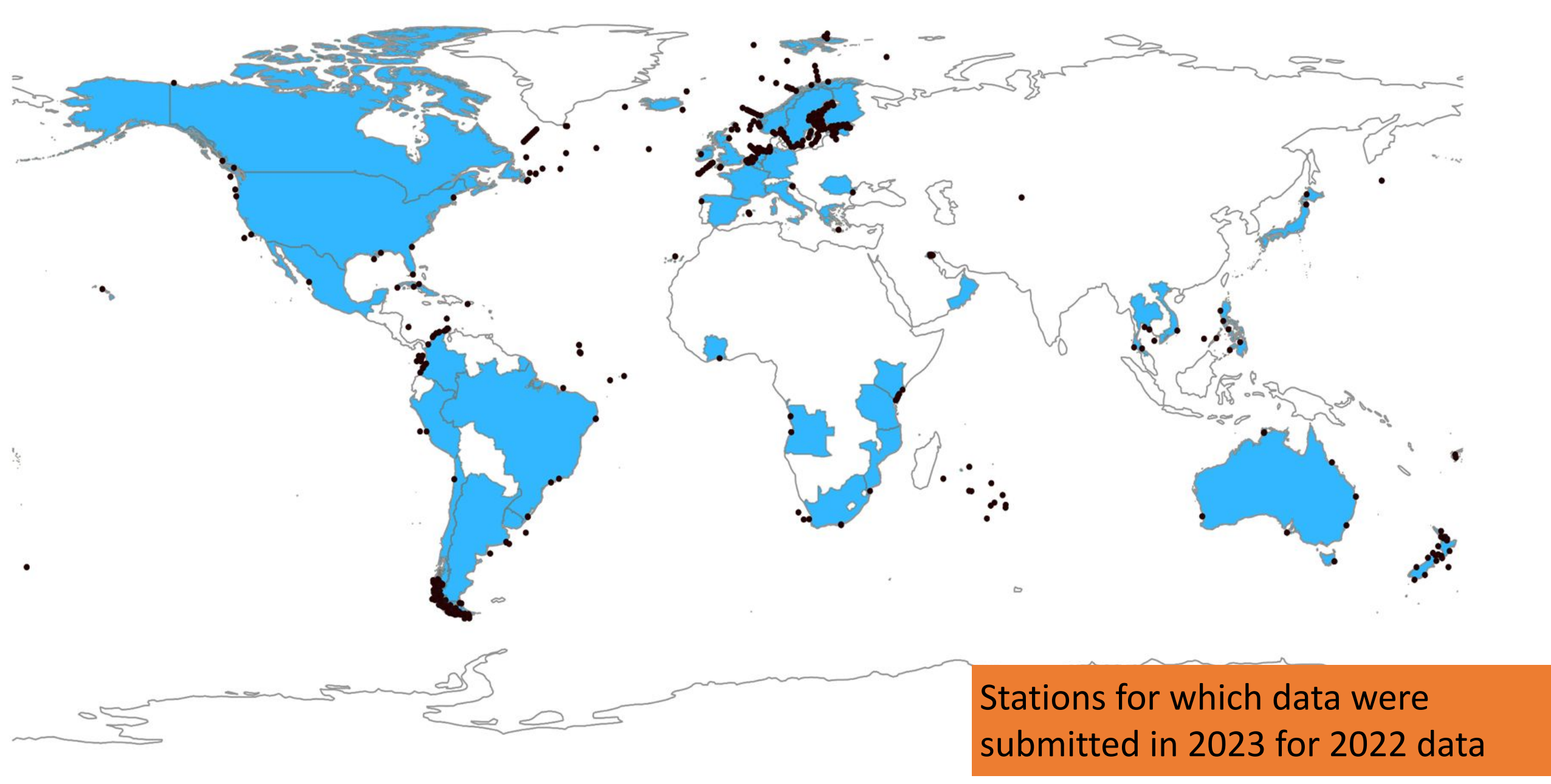


2019 – 8 countries submitted data and information

2020 – 28 countries submitted data and information (178 stations)

2021 – 37 countries submitted data and information (308 stations)

2022 – 41 countries submitted data and information (539 stations)





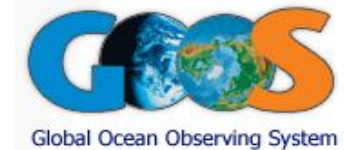
Global Ocean Acidification
Observing Network

The Global Ocean Acidification Observing Network

GOA-ON



Ocean Acidification
International
Coordination Centre
OA-ICC



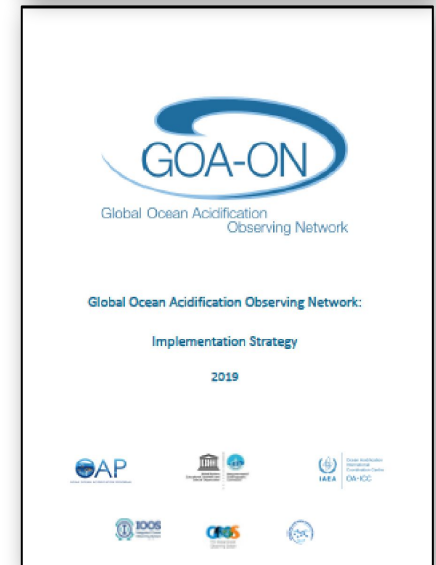
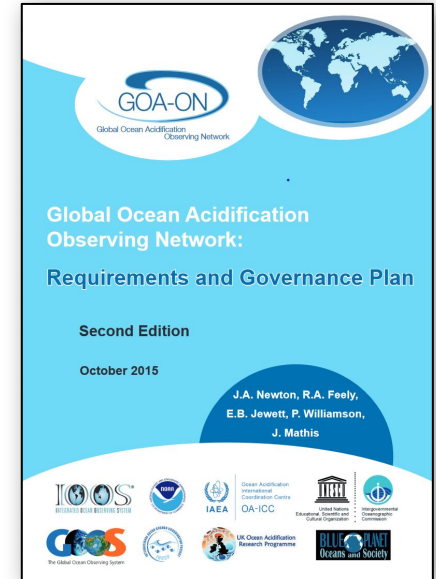
What is GOA-ON ?

GOA-ON is a collaborative international network designed to address 3 goals:

- Improve our understanding of global OA conditions
- Improve our understanding of ecosystem response to OA
- Acquire and exchange data and knowledge necessary to optimize modelling for OA and its impacts

OA is a global condition with local effects

www.goa-on.org



GOA-ON in 2013



Network of 150
scientists from
31 countries

Data from validated 1st & 2nd GOA-ON workshop participant lists (Seattle, Washington 2012 & St. Andrews, UK 2013)

GOA-ON in 2022



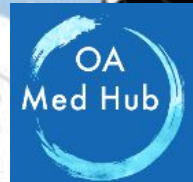
Network of >900
members from
105 countries

Data from www.goa-on.org current members list

Excluding representatives of UN bodies

GOA-ON in 2022

9 regional hubs



Network of >900 members from 105 countries

Southern Ocean Hub, in formation

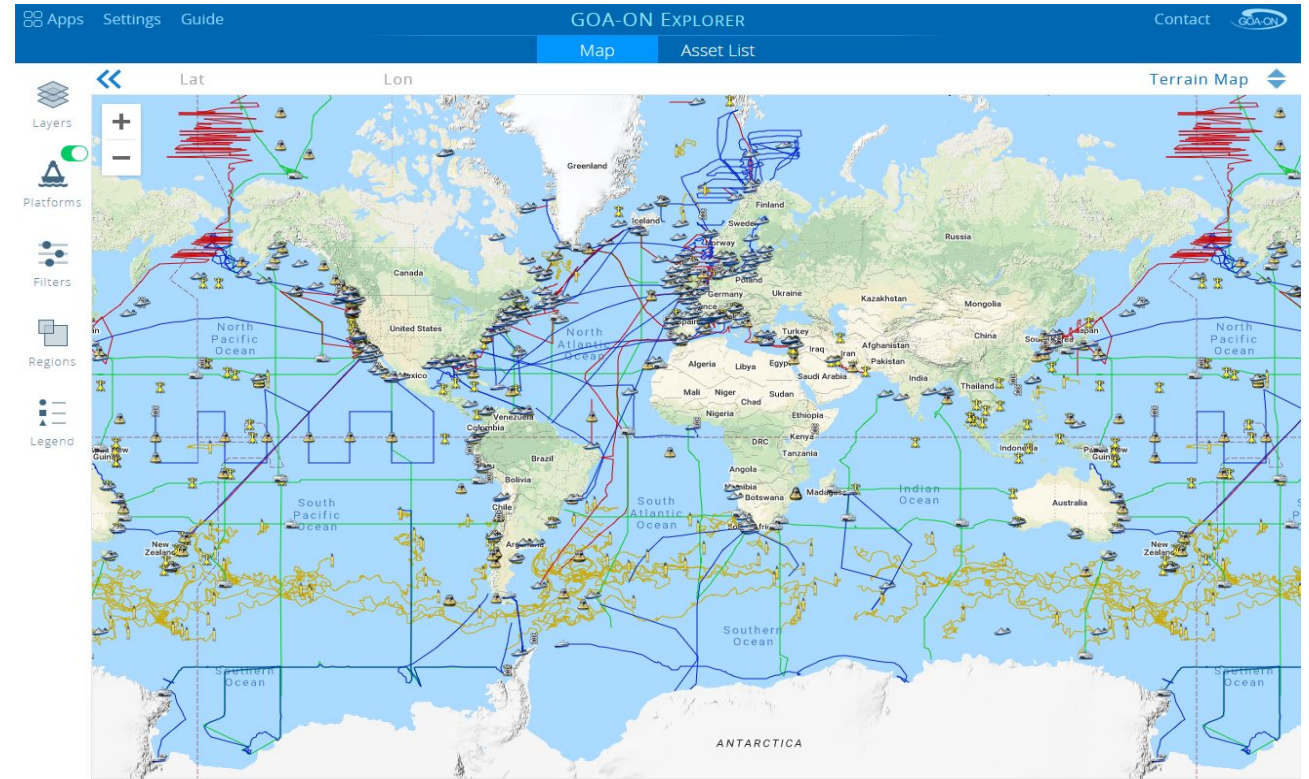
GOA-ON Structure

- 922 scientists from 114 countries, 10 regional hubs and one network
 - Caribbean hub est. 2023, others in discussion
 - ICONEC Network – International Carbon Ocean Network for Early Career
- Executive Council:
 - Chairs: Jan Newton and Steve Widdicombe
 - 18 science members (including hub reps)
 - 5 programme representatives
 - 3 secretariat (IOC-UNESCO, NOAA, IAEA OA-ICC)



GOA-ON Activities

- Communication
 - Webinar Series, YouTube channel, Facebook, Twitter, Newsletters
- OA Week, 30 Oct – 3 Nov 2023
 - 22 Sessions
 - over 750 participants
- Data Explorer
 - 776 assets measuring carbonate chemistry
 - Meta-data for discovery
 - Some near-real-time
- SDG14.3 App on Data Explorer



GOA-ON Capacity Building

Peer2Peer:

- Scientific mentorship program with 65 partnerships
- Knowledge exchange
- Collaborations
- Scholarships funded by NOAA*



Direct assistance:

- Training workshops
- Sensor kit provision (GOA-ON in a box)*



 THE OCEAN
FOUNDATION

**with The Ocean Foundation*





For more information on GOA-ON visit:

www.goa-on.org

www.oars-un.org





IAEA

Ocean Acidification
International
Coordination Centre

OA-ICC

**#OceanAction46916:
Facilitating global
coordination and
collaboration on
ocean acidification**

*Communities of Ocean
Action Workshop*

*Incheon, Korea
13-15 November 2023*

The Ocean Acidification International Coordination Centre (OA-ICC)

- ❖ *A hub for overarching, global activities on ocean acidification*
- ❖ *Announced in June 2012 at Rio+20 UN Conference*
- ❖ *Supported by the IAEA Peaceful Uses Initiative*



SCIENCE

- ❖ Unique resources for the research community
 - Bibliographic database
 - Data portal – biological response to OA
- ❖ Global and regional monitoring and observation (GOA-ON and its 9 regional hubs)
- ❖ Best practices in research and data management



CAPACITY BUILDING

- ❖ More than 800 scientists / over 100 IAEA MSs
- ❖ Comprehensive approach:
 - Conducting experiments
 - Managing data and
 - Communicating results
- ❖ Resources / opportunities / mentorship



COMMUNICATION

- ❖ OA-ICC News Stream
- ❖ Dedicated OA-ICC website
- ❖ A diversity of OA-related publications
- ❖ Multimedia outreach products
- ❖ Presence at major international events
- ❖ Relevant collaborations / partnerships

Recent Activities

- The **OA-ICC bibliographic database** continues to be updated monthly on Zotero
 - Literature searches are performed daily and new references are posted on the News Stream
 - 10,472 references are now included
- Open-access (Pangaea) **Biological Response Data Portal** is updated regularly
 - Currently contains >1,400 datasets
- Use of databases in training courses
- Publications (in prep) from training course experiments)

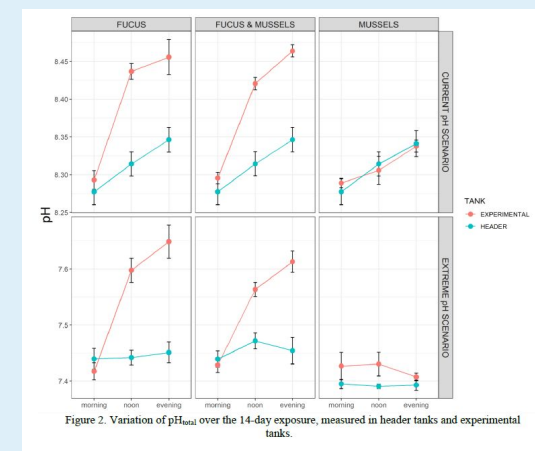


Figure 2. Variation of pH_{total} over the 14-day exposure, measured in header tanks and experimental tanks.

Capacity building

in collaboration with many partners
including:



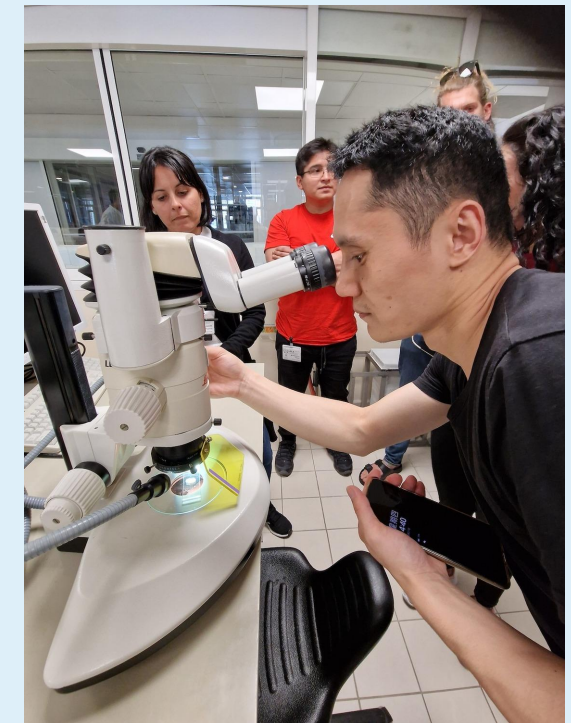
+ *in kind* contributions

Recent Activities

- Intermediate Training – OA & Multiple stressors (September 2022, Peru and October 2022, Monaco with OACIS)
- Intermediate/Advanced Training – Meta-analysis (February 2023, Virtual)
- Collaborative research (follow-up from OA basic training 2022)

Upcoming Plans

- Intermediate/Advanced Training – Communication on OA (November 2023, Costa Rica)
- Collaborative research – Final meeting: Impacts of OA on Seafood (December 2023, Monaco)
- Basic Training – OA training (2024, Liberia)
- Intermediate Training – OA & Multiple Stressors intermediate training (2024, Monaco with OACIS)
- Level 4 Training – Advanced collaborative research training



Communication

Recent Activities

- COP27: “Ocean Acidification Adaptation and Resilience in Africa” side event with OA Africa hub
- “OA-ICC Highlights” resumed in May 2023
- OA-ICC News Stream consistently updated



Upcoming Plans

- Publish GOA-ON regional hubs policy briefs
- Side Event at COP28 (December 2024, Dubai)
- Event at Monaco Ocean Week 2024 in collaboration with OACIS
- Submitted Satellite Event at UN Ocean Decade Conference in Barcelona (April 2024)

