UNITED NATIONS OCEAN CONFERENCE LISBON

Side Event

Developing the capacity we need for the ocean we want

Moderator
Patricia Miloslavich
Executive Director - SCOR

International Science Council SCOR Scientific Committee on Oceanic Research

pogo Partnership for Observation of the Global Ocean

unesco Intergovernmental Oceanographic Commission

IODE International Oceanographic Data and Information Exchange

International Science Council

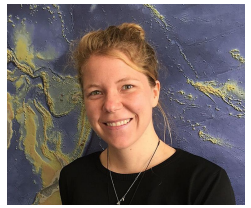
How to design and implement the capacity development we need to achieve the 2030 agenda?

1. Existing global and regional initiatives that build upon the foundation of capacity development for ocean sciences
2. Lessons learned from case studies and/or success stories from beneficiaries of training programs
3. Recommendations on an action plan for the ocean for scientists, policymakers, local communities and the private sector to accelerate global CD efforts and responses to achieve SDG14 in the current decade




•Developing capacity in ocean observations – opportunities (**L. Krug**)

•Delivering the training we need for the ocean we want through the Ocean Teacher Global Academy (**F. Cardoso Martins**)



•The special case of Small Island Developing States (**R. Zitoun**)

•An NF-POGO trainee perspective – How immersive training and alumni network create international partnership opportunities (**P. Carrasco**)

•Designing observation networks with data and capacity development in mind: challenges and opportunities (**R. Seabra**)

•An Action Plan for the Ocean – lessons from the Global Pandemic (**C. Robinson**)

UNITED NATIONS OCEAN CONFERENCE
LISBON, 2-6 JUNE 2020

Dr. Lillian Krug

Partnership for Observation of the Global Ocean (POGO) and Centre for Marine and Environmental Research – University of Algarve (CIMA-UAlg), Portugal

Krug is a specialist in satellite oceanography and is dedicated to research and capacity development in observational oceanography. As Scientific Coordinator for POGO, she helps provide opportunities for other early career ocean professionals (ECOPs), particularly from developing nations.

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Developing the capacity we need for the ocean we want

UNITED NATIONS OCEAN CONFERENCE LISBON

Side Event

Developing capacity in ocean observations - Opportunities

Lilian A Krug
Partnership for Observation of the Global Ocean (POGO) &
CIMA - University of Algarve

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Why observe the Ocean?

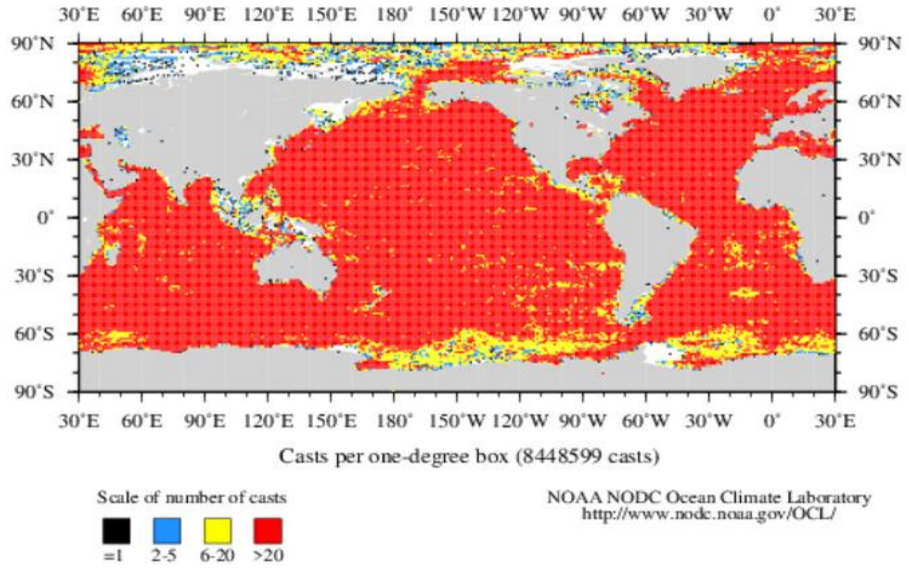
- Decipher its variability
- Differentiate natural and anomalous patterns
- Use its resources responsibly
- Understand its reactions to climate change
- Monitor, model and predict extreme events and future changes
- Provide evidence to society & decision makers

Source: GOOS

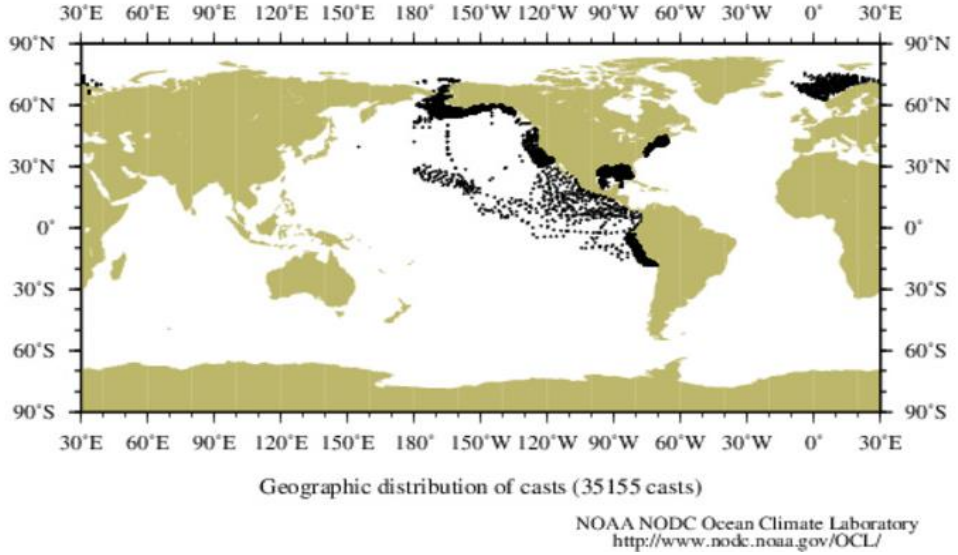
Current distribution of observing capacity

Reduced capacity of non-physical observations

World Ocean Database in situ temperature (2000-2021)

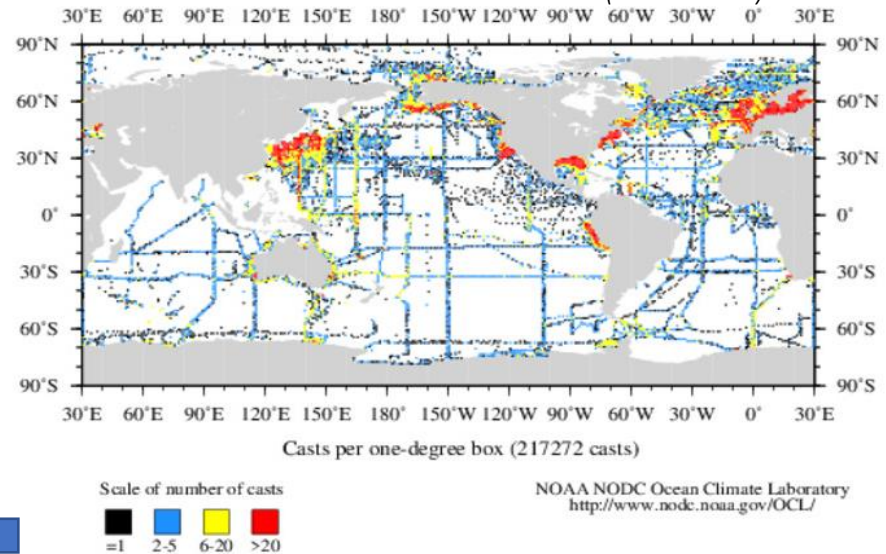


World Ocean Database in situ plankton (2000-2021)

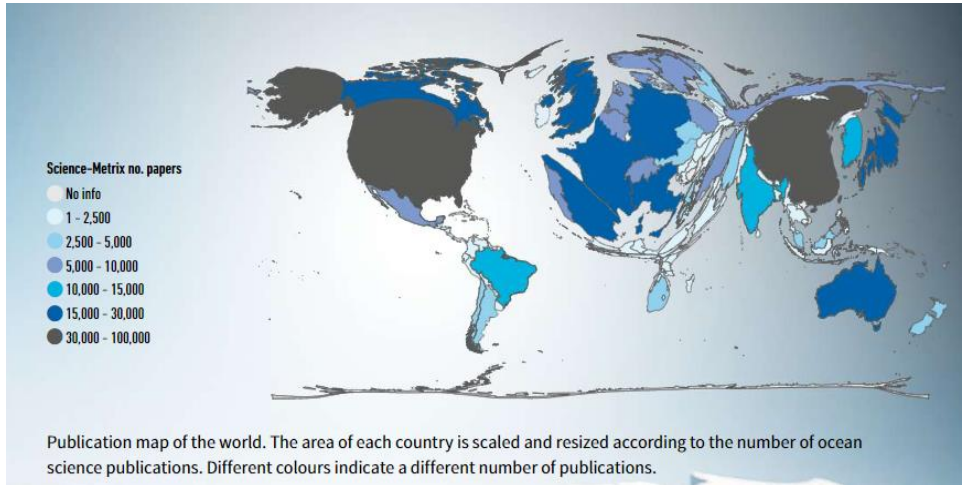


Imbalance between Northern and Southern hemisphere

World Ocean Database in situ data (2000-2021)

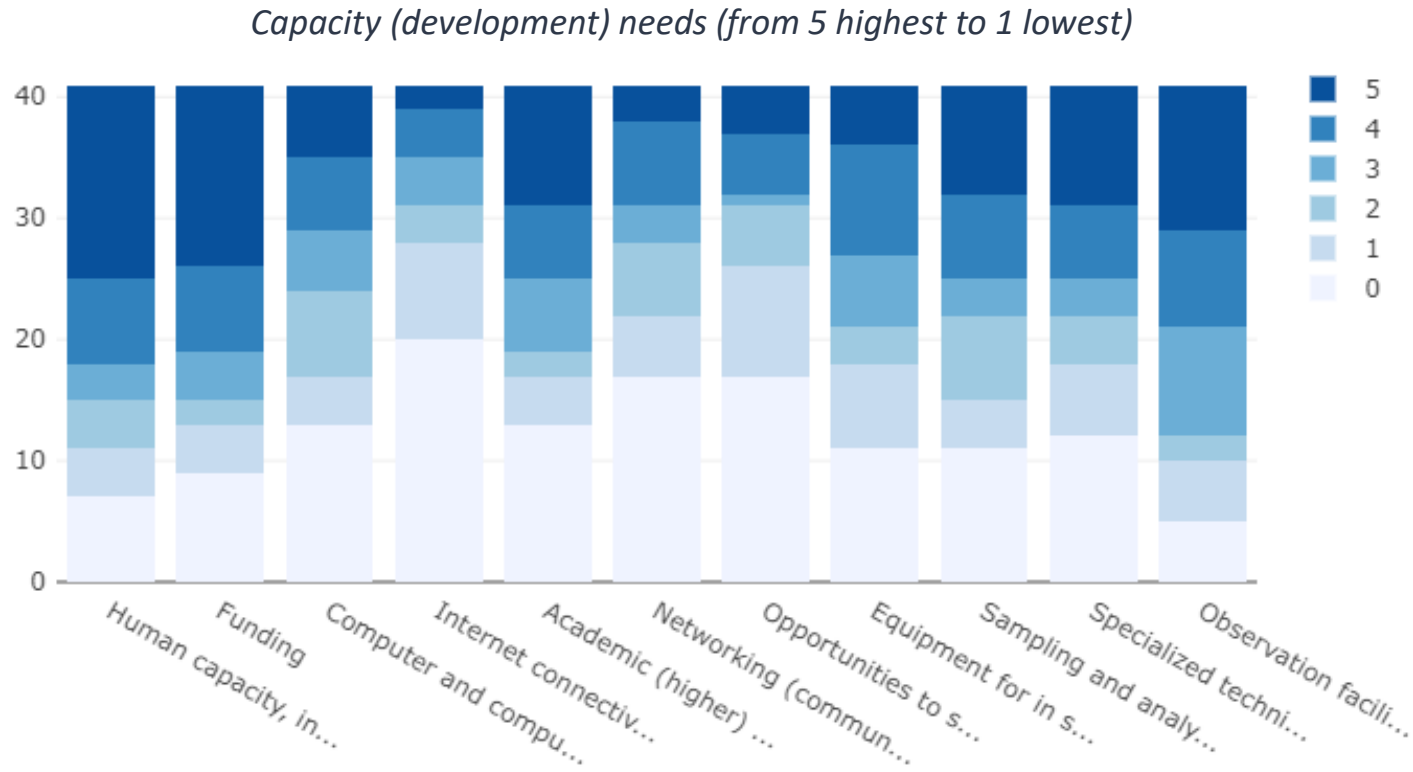


Publication concentration map



Observing Capacity needs

- Training, networking and technology transfer
- Developing nations build self-sustaining ocean observations
- Equip early career ocean professionals with scientific and technical skills



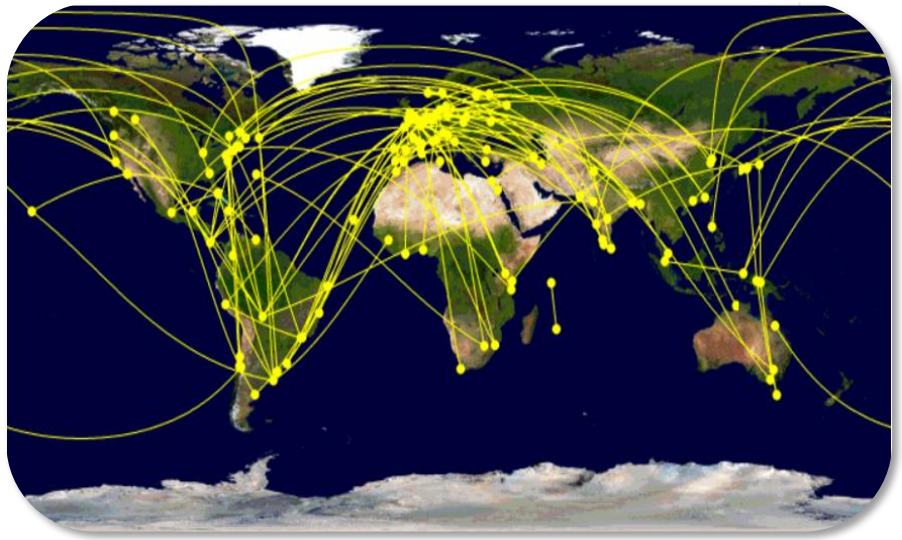
Global Ocean Science Report 2020

Training modalities

- Visiting advanced oceanographic institutes
- In-country/regional trainings
- Shipboard training
- Remote training

Visits to advanced oceanographic institutes

POGO-SCOR Fellows mobility



NF-POGO Centre of Excellence in Observational Oceanography

Ten ECOPs from ten countries, study for ten months in an intensive programme at the Alfred Wegener Institute in Germany.

POGO-SCOR Visiting Fellowship

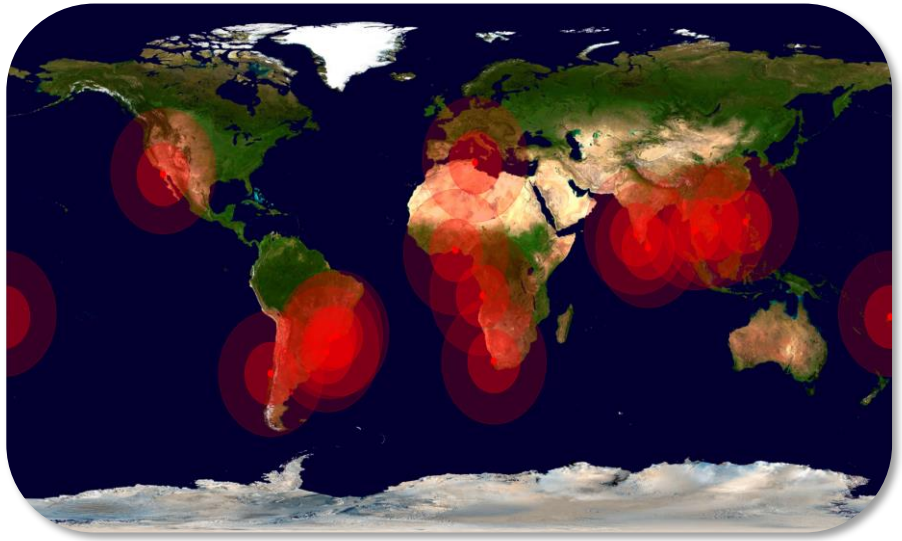
ECOPs from developing countries spend up to 3 months receiving one-to-one training and supervision in ocean observations at a major oceanographic institution.

Benefits

- Exposure to state-of-the-art equipment and techniques
- Work side-by-side with world experts
- Establishment of international network for the trainee
- Potential long-term partnership between host and parent institutions

In-country/regional trainings

POGO-organised/ -supported Regional training locations



Visiting Scholar/ Professorships

One senior scientist visited a developing country to conduct training, for 2 weeks to 3 months

Support to Regional Initiatives

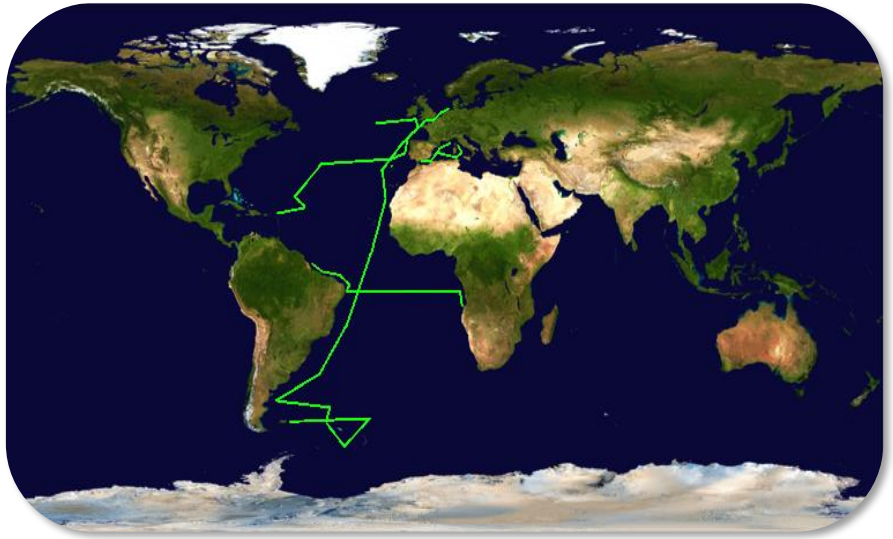
Financial support to regional training initiatives covering expenses of trainees from other countries within the region

Benefits

- Reach a higher number of trainee
- Better tailored to local working conditions and resources
- Visiting scientists continue in touch with host institution/trainees (research and mentoring)

Shipboard trainings

POGO shipboard trainings transects



OCEAN TRAINING PARTNERSHIP

Floating schools/ Dedicated cruises

Large group of ECOPs pass 1 or more weeks receiving hands-on training

Regular scientific expeditions

Fill spare berths that support the sea-going work and receive one-on-one training from host

Benefits

- Trainees acquire skills to organise & participate in oceanographic campaigns
- Hosts receive help with their sea-going work while pass on their knowledge to ECOPs

Remote/online trainings

OceanTeacher Global Academy (IOC-IODE)

OceanTeacher Global Academy

Regional Training Centres and E-learning platform with dozens of courses in multiple languages

Benefits include

- International reach with low cost
- Content can be updated and available for others
- Hybrid component can bring hands-on part

Developing the capacity we need for the ocean we want

Get involved: contact us and know more about our training opportunities

https://scor-int.org/
@SCOR_Int

https://pogo-ocean.org/
@POGO_Ocean

https://iode.org/
@IODEoceant

https://council.science/
@ISC

https://imber.info/
@imber_ipo

http://www.oceantrainingpartnership.org
@ocean_training

Thank you

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Dr. Filomena Cardoso Martins

Department of Environment and Planning (DAO) and Centre for Environmental and Marine Studies (CESAM), University of Aveiro, Portugal

Cardoso Martins overseas the Environmental Science and Engineering Doctoral Program and Master in Marine and Atmospheric Sciences at the University of Aveiro. She is responsible for coordination of the Ocean Teacher Global Academy, Regional Training Center – Portugal, and a member of the Portuguese Committee for the Intergovernmental Oceanographic Commission (IOC).

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UNITED NATIONS OCEAN CONFERENCE LISBON

Side Event

Developing the capacity we need for the ocean we want

Delivering the training we need for the ocean we want through the *Ocean Teacher Global Academy*

Filomena Cardoso Martins
OTGA _ RTC-Portugal
University of Aveiro | Dep. Environment and Planning

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Delivering as One

OceanTeacher Global Academy

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

OTGA is an UN Ocean Decade endorsed activity since October 2021

Scientific Knowledge and Research

Course topics include Research data management, OBIS, HAB

Sustainable Use of Marine Resources

Course topics include Marine Biodiversity Data Management

Marine Spatial Planning

Course topics include Marine spatial planning, GIS applications for ICZM.

Marine and Coastal Ecosystems

Course topics include Marine GIS applications, Coastal mapping & monitoring.

Disaster Risk Reduction

Course topics include Tsunami awareness, Storm surge forecasting.

Implementing International Marine Law

Course topics include Marine Scientific Research under the UNCLOS.

Ocean Acidification

Course topics include Impacts of ocean acidification.

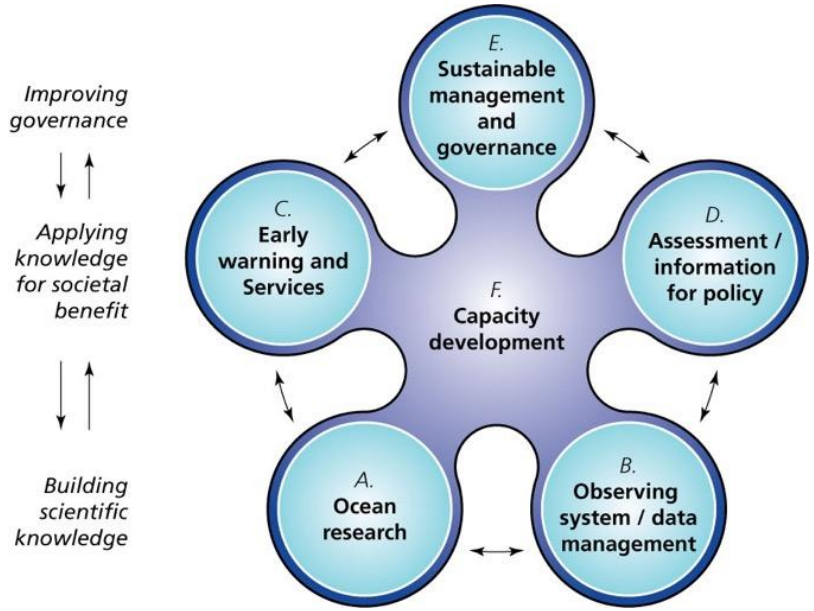
Marine Pollution

Course topics include Prevention and reduction of marine pollution.

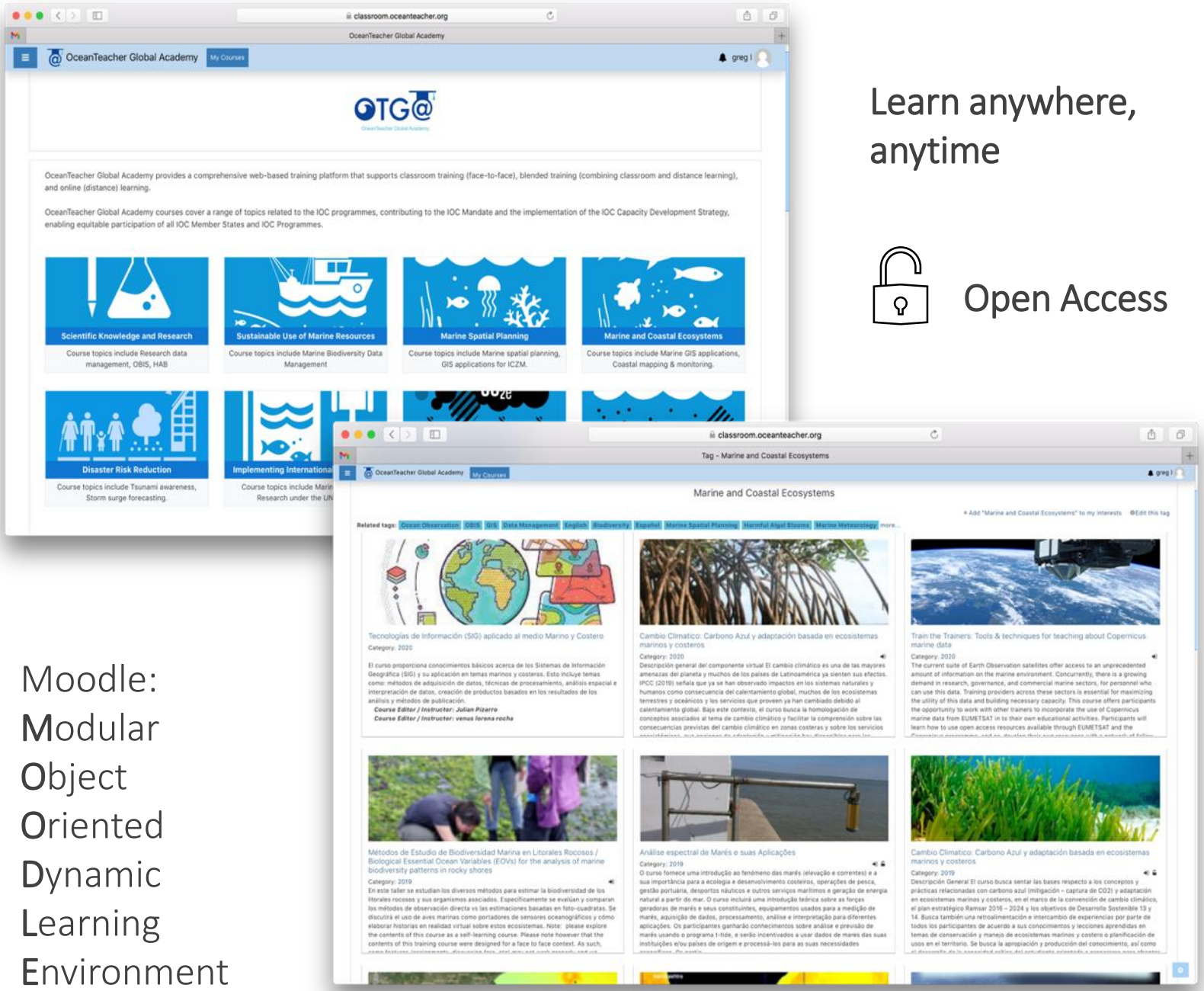
IOC Capacity Development Strategy

Output	Activity
1. Human Resources Developed	1.1 Academic (higher) education **1.2 Continuous professional development** **1.3 Sharing of knowledge and expertise / community building** **1.4 Gender balance**
2. Access to physical infrastructure established or improved	2.1 Facilitating access to infrastructure (facilities, instruments, vessels)
3. Global, regional and sub-regional mechanisms strengthened	3.1 Further strengthening and supporting secretariats of regional commissions 3.2 Enhance effective communication between regional sub commission secretariats and global programmes as well as other communities of practice (inc. other organisations)
4. Development of ocean research policies in support of sustainable development objectives promoted	4.1 Sharing of information on ocean research priorities 4.2 Developing national marine science management procedures and national policies
5. Visibility and awareness increased	5.1 Public information **5.2 Ocean Literacy**
6. Sustained (long-term) resource mobilization reinforced	6.1 In-kind opportunities 6.2 Financial support by MS to IOC activities

- Cross cutting Function
- OTGA Contribution to IOCs Capacity Development



OTGA
Global network of Regional and Specialized Training Centres (RTCs & STCs)

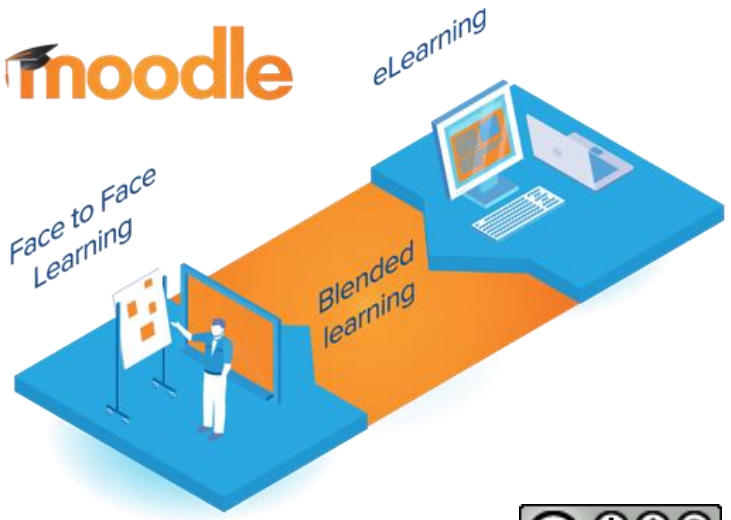


Learn anywhere, anytime

Open Access

OceanTeacher e-Learning Platform

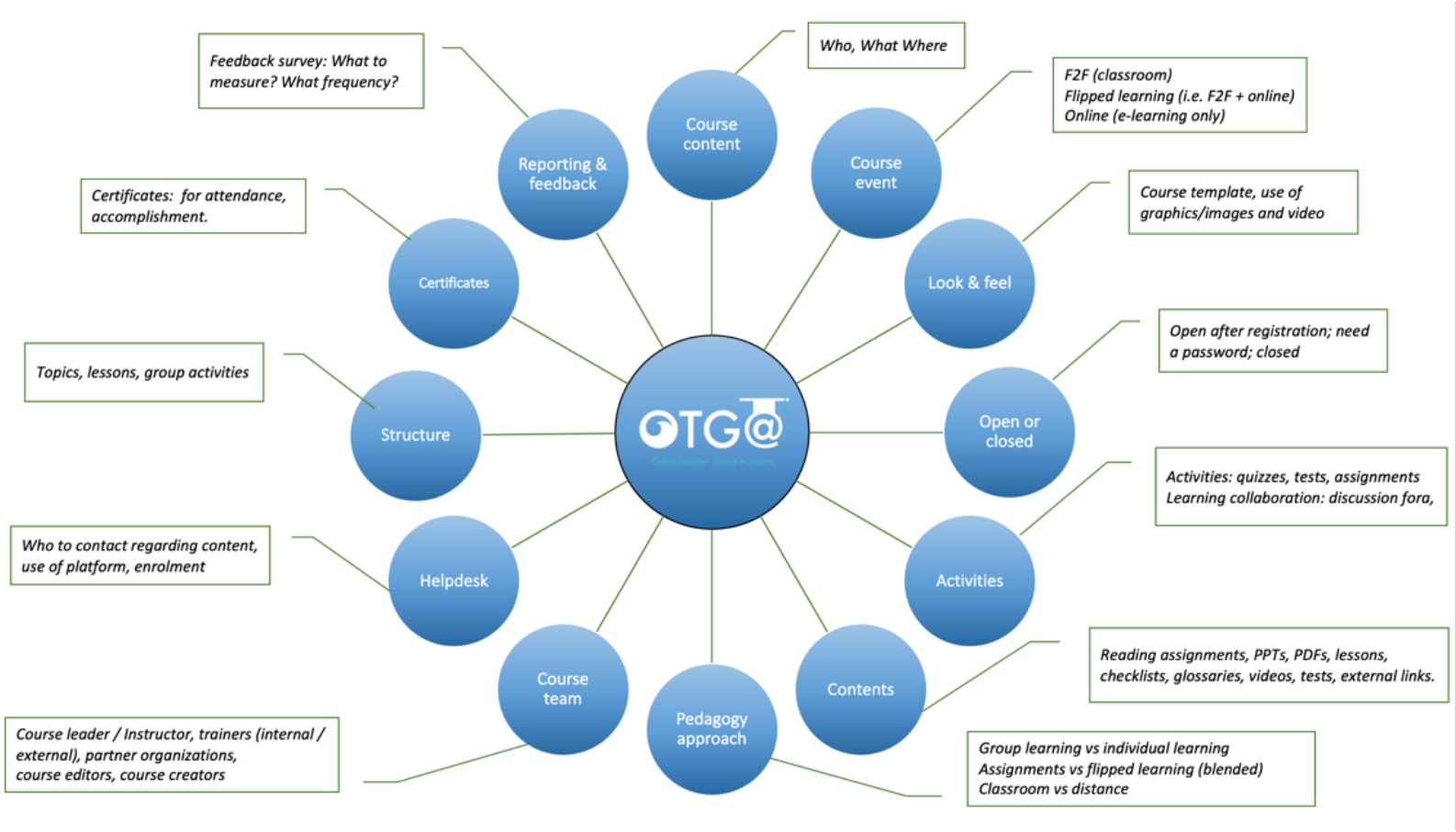
- **OT eLP** (in short)



Moodle:
Modular
Object
Oriented
Dynamic
Learning
Environment

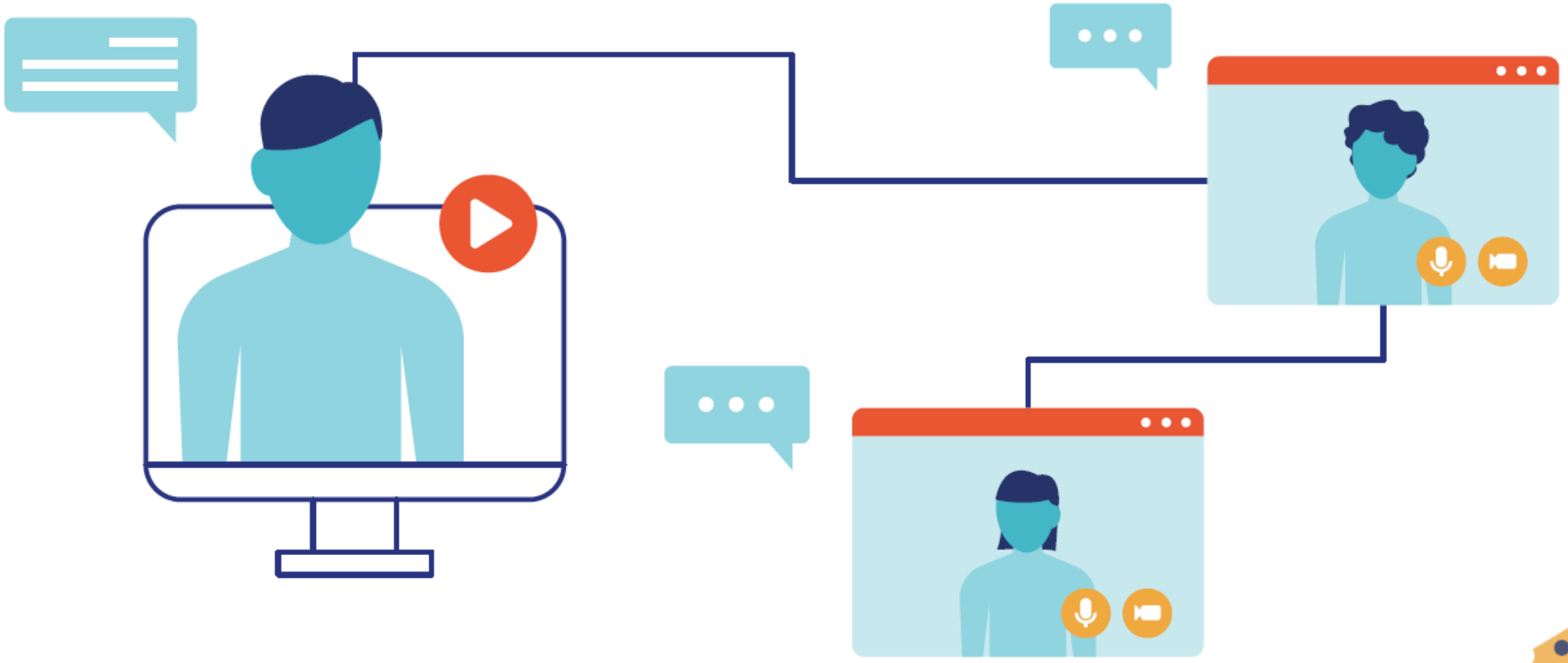
OTGA course organization and management guidelines

The UNESCO/IOC Project Office for IODE is certified as a Learning Services Provider



- Course Planning
- Course Design + Managing course content
- Course Facilitation
- Course Feedback and Evaluation
- Course Certificates
- Administration Procedures for onsite and online courses
- Quality Management

OTGA Project: lessons learned

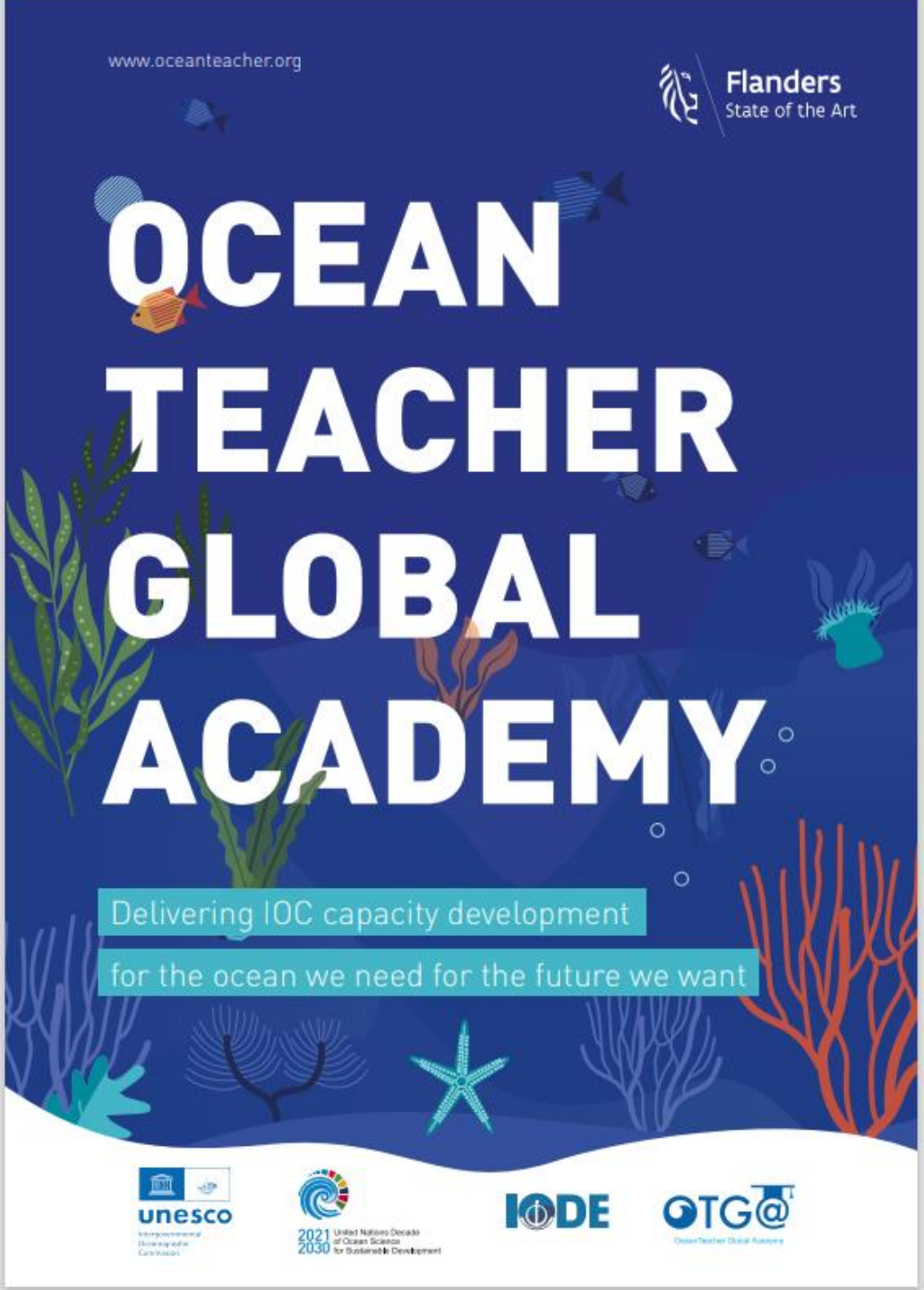


OTGA
OceanTeacher Global Academy

Beyond UNESCO/IOC

- Working in partnership

Note: not all partner organisations shown



www.ioc.unesco.org

www.ioc-cd.org

www.oceanteacher.org

Follow us on social media:

- OceanteacherA
- @IODE.Oceanteacher

Contact us:

OTGA secretariat - ioc.training@unesco.org

UNESCO / IOC Project Office for IODE, Ostend, Belgium

Acknowledgements:
Cláudia Delgado, Greg Reed, Peter Pissierssens
OTGA headquarters

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Dr. Rebecca Zitoun

Marine Mineral Resource Group, GEOMAR – Helmholtz Centre for Ocean Research Kiel, Germany

Zitoun works as a Postdoctoral Researcher in the field of Trace Metal Biogeochemistry, Toxicology, and Environmental Chemistry. She is a member of the SCOR Committee on Capacity Development and was a consultant for the International Atomic Energy Agency (IAEA) on scientific and institutional capacity building in Small Island Developing States.

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UNITED NATIONS OCEAN CONFERENCE LISBON

Side Event

Developing the capacity we need for the ocean we want

The special case of Small Island Developing States

Rebecca Zitoun

Marine Mineral Resource Group, GEOMAR – Helmholtz Centre for Ocean Research Kiel

Young Ambassador, European Marine Board

Ocean Literacy Task Team Lead, Early Career Ocean Professionals (ECOPs) Network

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CAPACITY BUILDING

Build Partnerships

Coordinate Existing Programs

Data Exchange

Generate Knowledge

Inform Policy

THE SCIENCE WE NEED FOR THE OCEAN WE WANT

"Building capacity dissolves differences. It irons out inequalities" – *Abdul Kalam*

CAPACITY DEVELOPMENT IN COUNTRIES WITH LIMITED CAPACITY AND CAPABILITY IS KEY

IMPORTANCE OF SIDS

Conserve and sustainably use the oceans, seas and marine resources for sustainable development

SIDS ACCELERATED MODALITIES OF ACTION (SAMOA) PATHWAY

ISLAND VOICES GLOBAL CHOICES

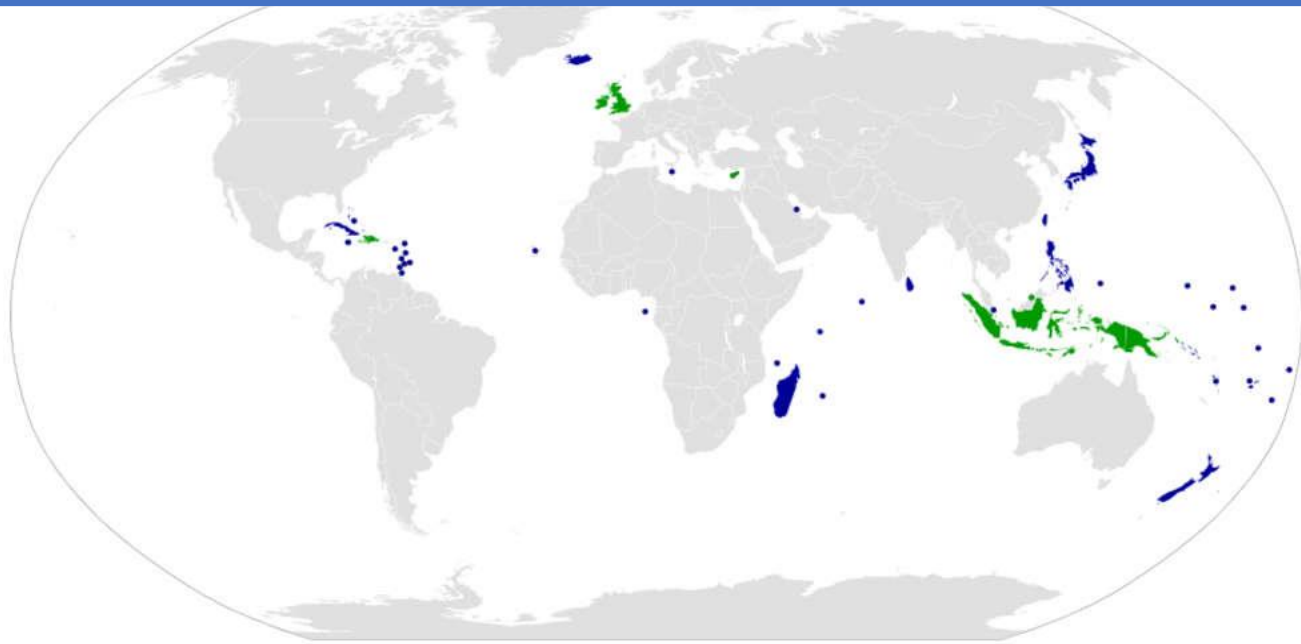
By 2030, increase the economic benefits to **SMALL ISLAND DEVELOPING STATES** and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.

14•1	14•2	14•3	14•4	14•5	14•6	14•7
Reduce and prevent pollution	Protect ecosystems	Minimize ocean acidification	End overfishing/ illegal fishing	Conserve habitats	Sustainable fishing practices	Sustainable use of resources

CHARACTERISTICS OF SIDS

SIDS - **similar sustainable development challenges**:

- Remoteness
- Growing coastal population
- Limited resources
- Susceptibility to natural disasters
- Vulnerability to external shocks
- Fragile environment
- Dependence on international trade



CARIBBEAN SIDS (29)

PACIFIC SIDS (20)

ATLANTIC, INDIAN OCEAN, AND SOUTH CHINA SEAS (AIS) SIDS (9)

"SDG14 IS ONE OF THE MOST CRITICAL GOALS FOR SIDS WHOSE SOCIETIES, CULTURES, LIVELIHOODS, AND ECONOMIES ARE INHERENTLY LINKED WITH HEALTHY, PRODUCTIVE, AND RESILIENT OCEANS"

CAPACITY BUILDING IN SIDS

Lack of:

- Financial Resources
- Human Resources
- Tertiary Education
- Technical Expertise
- Training
- Equipment
- Ocean Information/Literacy
- Monitoring
- Data Products
- Infrastructure
- Logistics

Developing the capacity we need for the ocean we want

UNESCO IOC

OTGA OceanTeacher Global Academy

GOOS The Global Ocean Observing System

Regional SEAS

Convention on Biological Diversity

pogo

LME LEARN

GOA-ON Global Ocean Acidification Observing Network

International Science Council SCOR Scientific Committee on Oceanic Research

SUSTAINABLE OCEAN INITIATIVE

Ocean best practices

IAEA

SPREP Secretariat of the Pacific Regional Environment Programme

WIOMSA Western Indian Ocean Marine Science Association Coasts Ocean and People

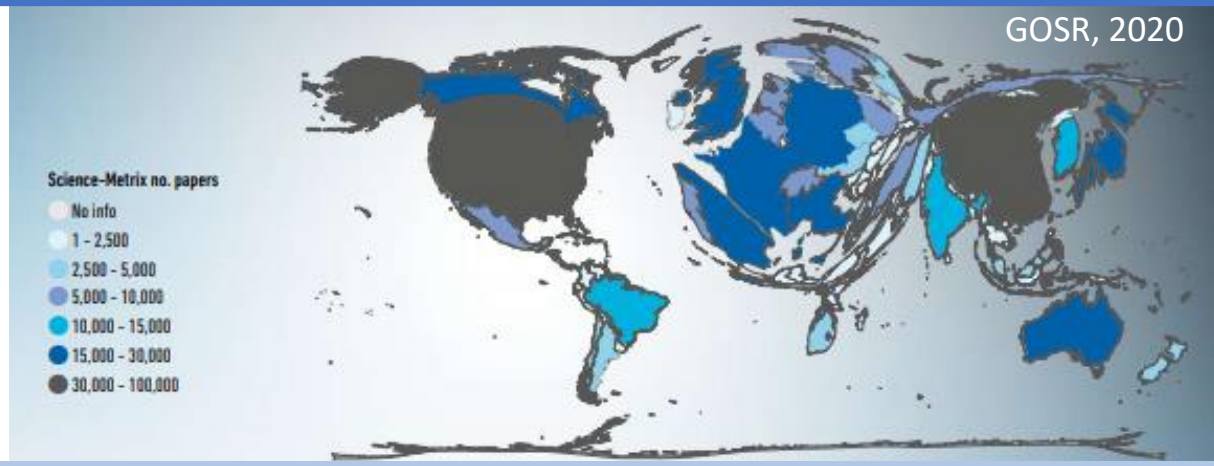
Caribbean Community Climate Change Centre Empowering People to Act on Climate Change

UN environment programme

CAPACITY BUILDING IN SIDS

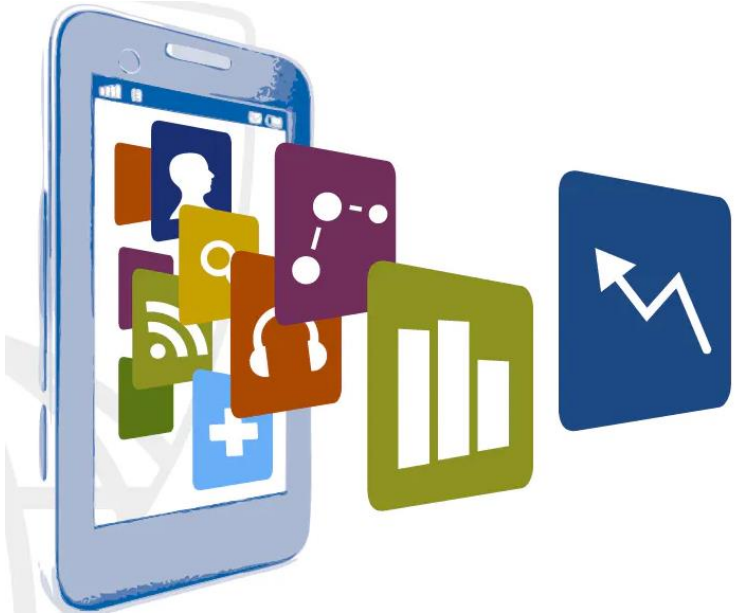
Short-term projects

Loss of expertise



Parachute Science & Lack of transparency

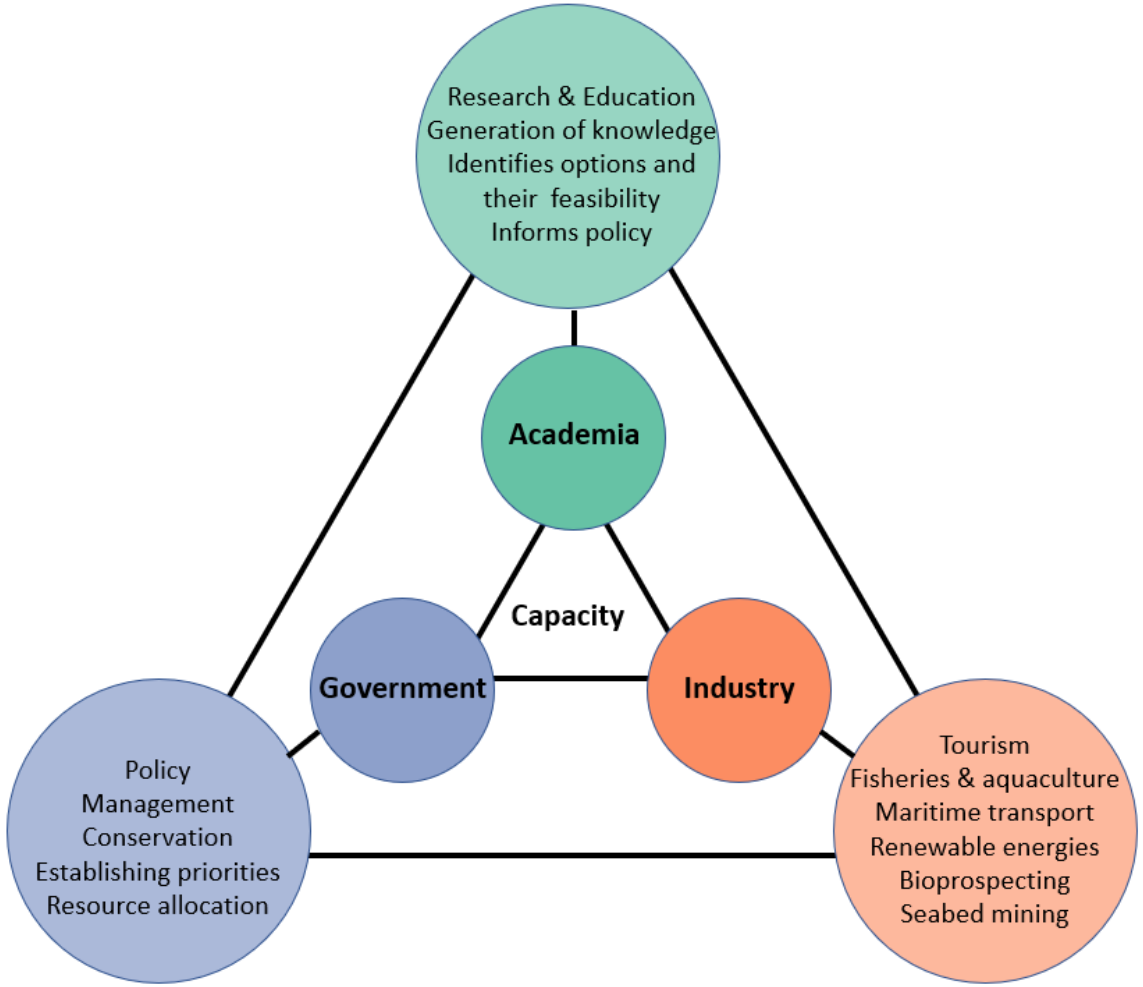
Expenditure < 0.4 % (% of GDP)



Lack of up-to-date databases

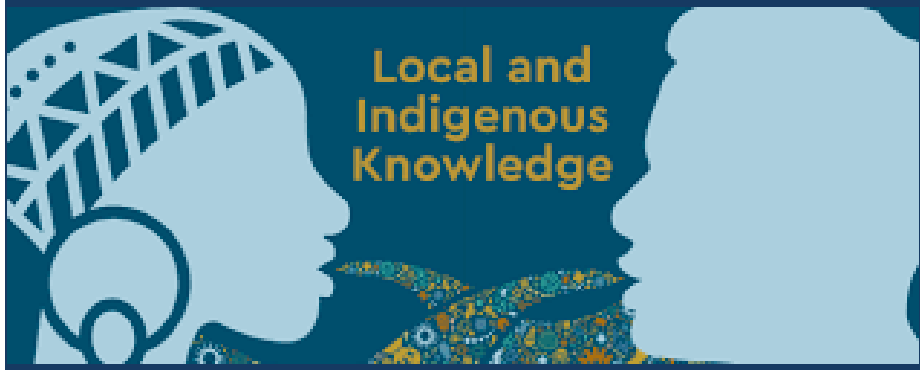
Remoteness

CAPACITY BUILDING IN SIDS



ECOPS

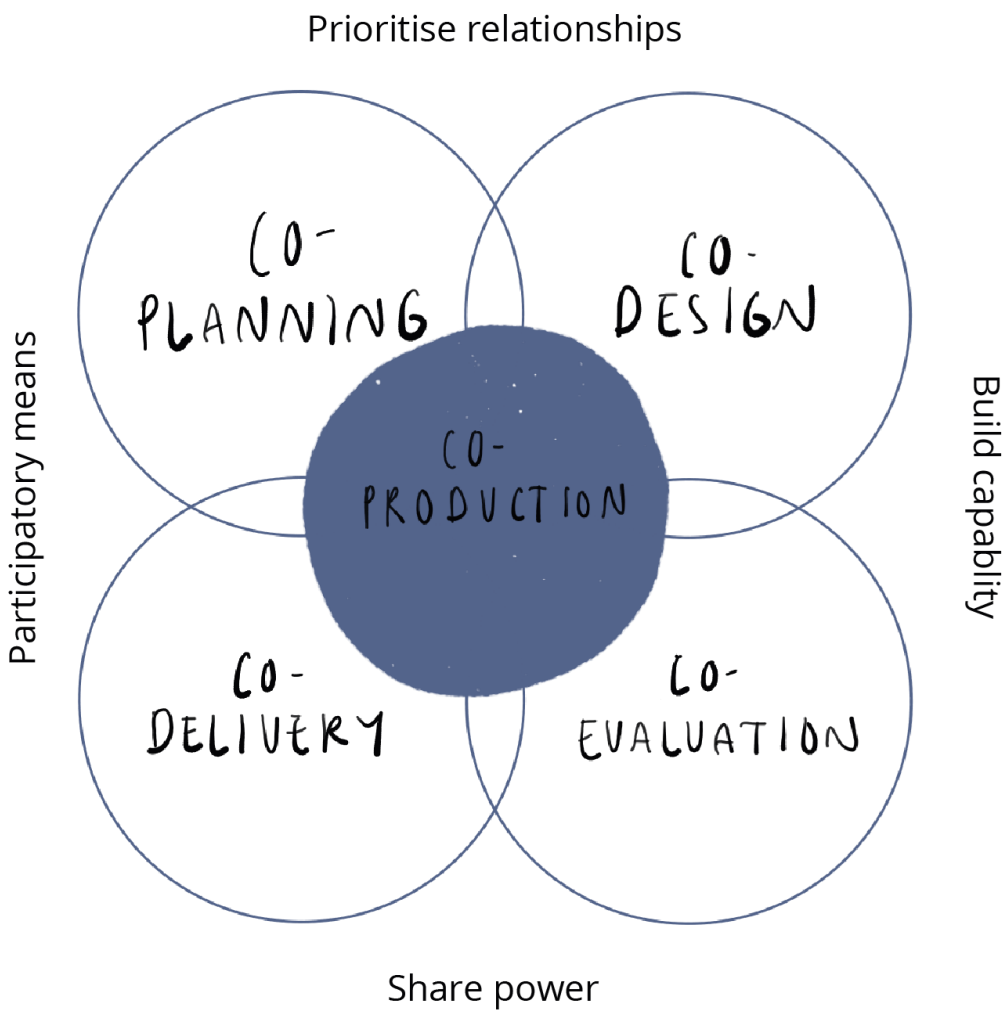
INDIGENOUS KNOWLEDGE



MULTI SECTOR APPROACH

"ONLY A CONCERTED CAPACITY BUILDING EFFORT WILL ALLOW THE FURTHEST BEHIND TO CATCH UP AND BECOME AN EQUAL PARTNER IN ADDRESSING GLOBAL OCEAN SUSTAINABLE DEVELOPMENT"

CAPACITY BUILDING IN SIDS

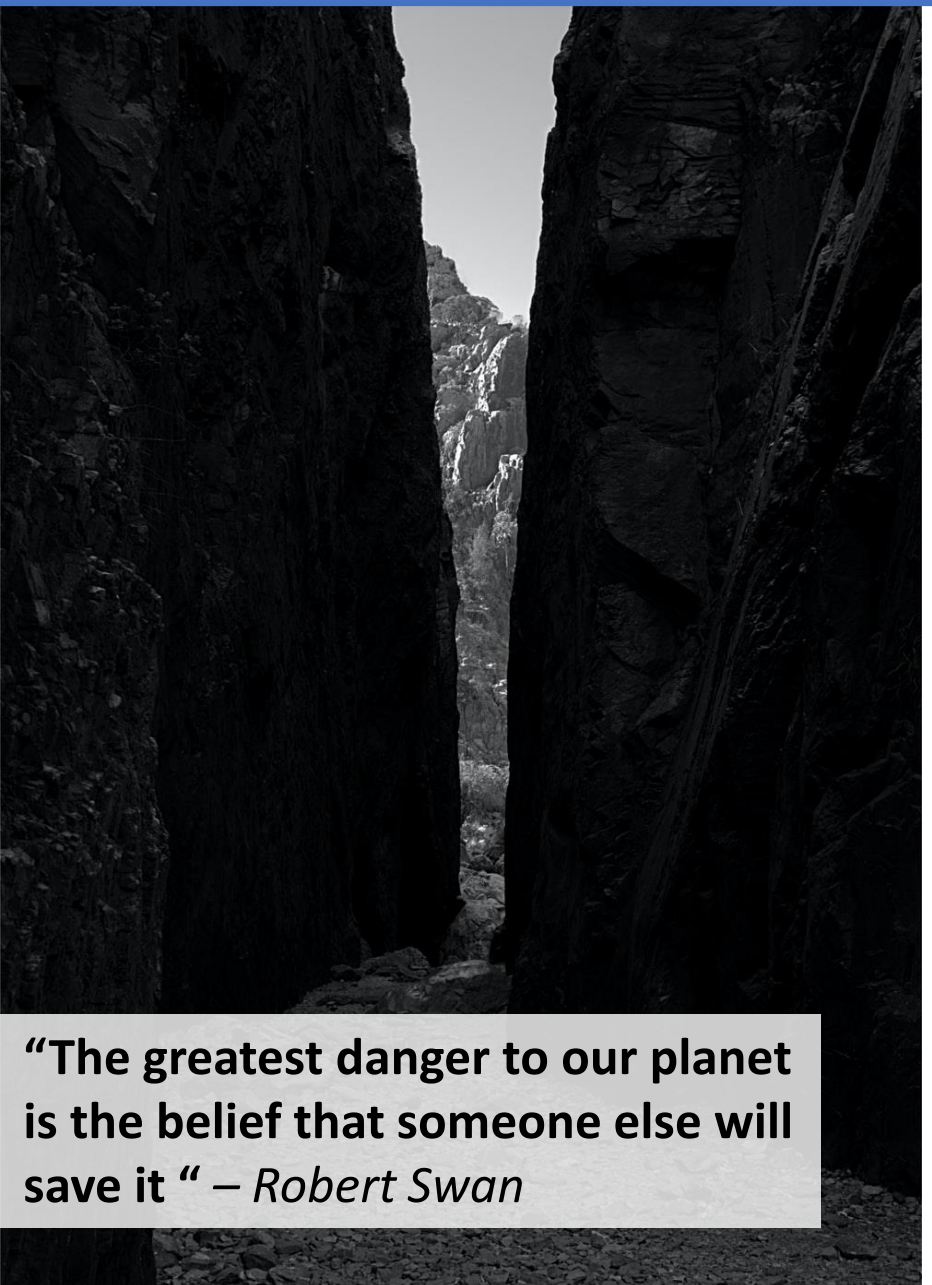


Sectors have to work together to achieve common goals

- Broad participation
- Work innovatively, coherently, and in coordination
- Eliminate parachute science
- Establish **transparency**
- Implement truly collaborative partnerships
- Increase sustained **funding**
- Increase **training**
- Develop new approaches and **technology**

ACTIVITIES MUST BE BASED ON THE PRINCIPLES OF EMPOWERING NATIONAL OWNERSHIP, LOCAL LEADERSHIP, AND SELF-DETERMINATION

TAKE HOME MESSAGE



"The greatest danger to our planet is the belief that someone else will save it " – *Robert Swan*

- Ocean science capacity has to be **regionally focused and equitably distributed**
- Effectiveness of capacity development programs must be **regularly assessed**
- Capacity development is everyone's responsibility and **requires collective actions**
- To achieve a successful blue economy **all sectors must contribute resources.**

THERE IS NO "SILVER BULLET" OR "ONE SIZE FITS ALL"

UNITED NATIONS OCEAN CONFERENCE
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Pedro Carrasco de la Cruz

Helmholtz Institute for Functional Marine Biodiversity, Germany

Carrasco is a Peruvian biologist specialized in marine environments and ecosystem models and a postgraduate in Observational Oceanography at the NF-POGO Centre of Excellence at the Alfred Wegener Institute for Polar and Marine Research (AWI). Currently, he is a PhD candidate at the Biodiversity Theory Group of the Helmholtz Institute for Functional Marine Biodiversity (HIFMB).

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Developing the capacity we need for the ocean we want

UNITED NATIONS OCEAN CONFERENCE LISBON

Side Event

How immersive training and alumni network create international partnership opportunities

Pedro Carrasco De La Cruz
PhD(c) at the Helmholtz Institute for Functional Marine Biodiversity
Alfred Wegener Institute for Polar and Marine Research

HIFMB OLDENBURG

ALFRED-WEGENER-INSTITUT HELMHOLTZ-ZENTRUM FÜR POLAR- UND MEERESFORSCHUNG

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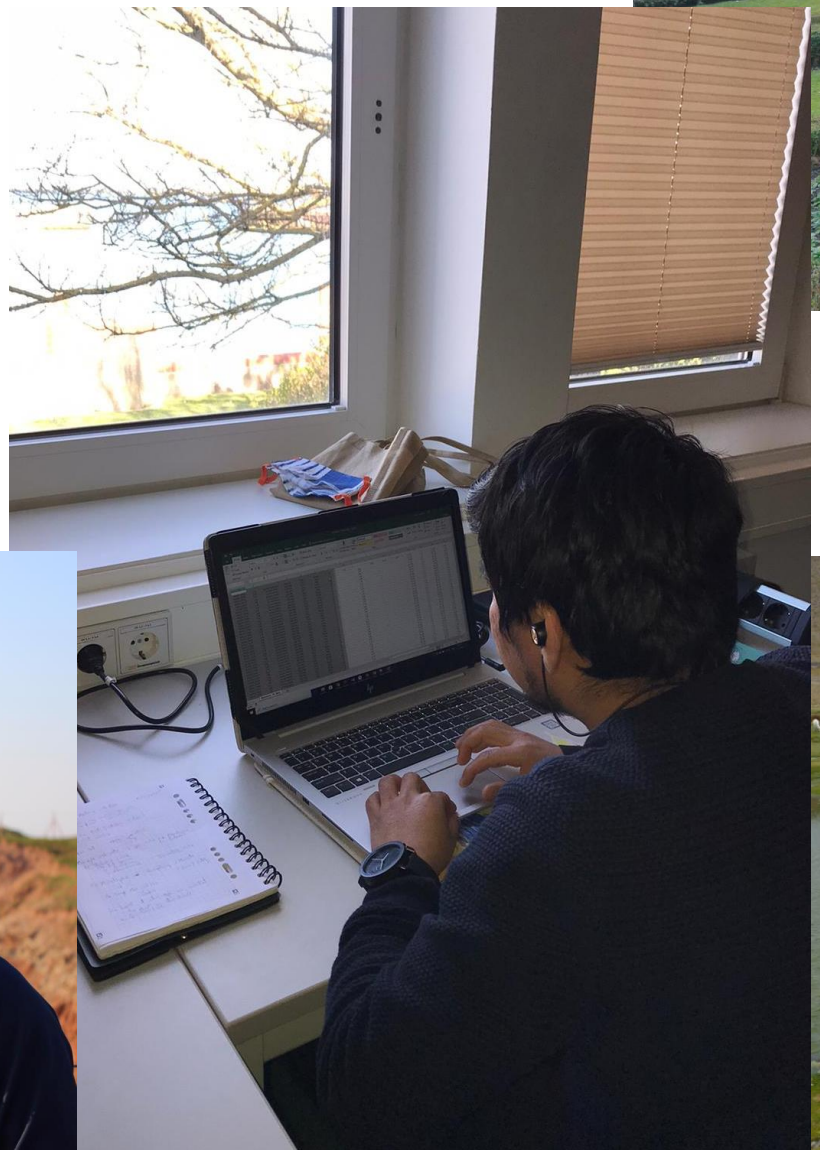
PEDRO CARRASCO

I am Peruvian

Biologist and Marine Ecologist

I live in Oldenburg, Germany

Currently I am a PhD Student!!



THE NF-POGO TRAINING EXPERIENCE

NF-POGO Centre of Excellence
2020

Manfred, Antonella, Sharloth, Gabriel, Dieu, Adreeja,
Hadeer, Andrea, Pedro & Jeffrey

THE PEOPLE

Cohort 2019-2020

Cohort 2021

Cohort 2022

10 Scholars, 10 months in Germany

Gender balance

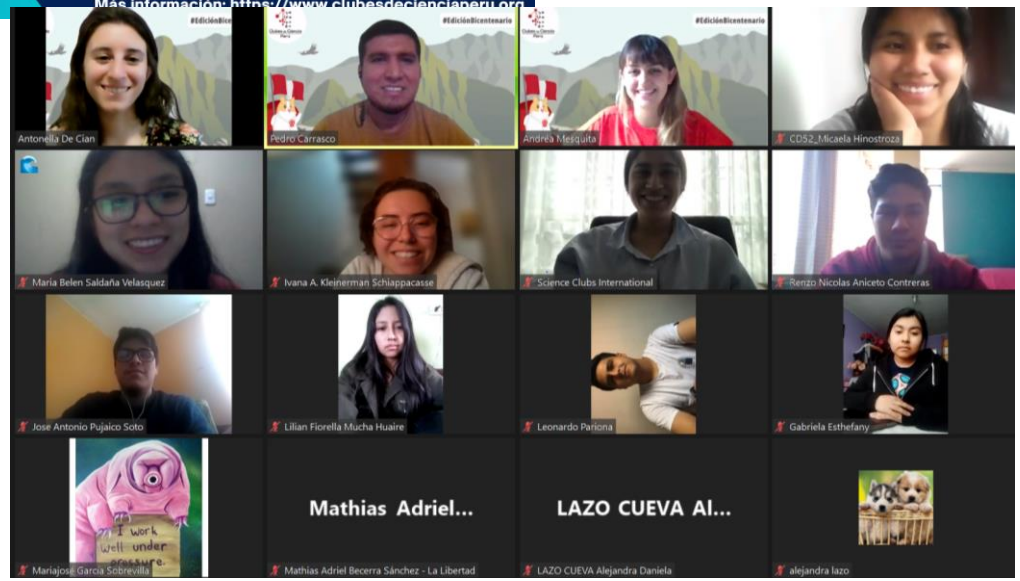
130 Alumni, 5 continents, **45 countries**

BEING A POGONIAN…

Science Outreach

Club 052: A Dive Into The Blue World (2021)

Antonella De Cian,
Andrea Mesquita &
Pedro Carrasco



Our **Cluberos (13)** won the Price to **Best Project**

BEING A POGONIAN…

Science Outreach

Club 052: A Dive Into The Blue World (2021)

Antonella De Cian,
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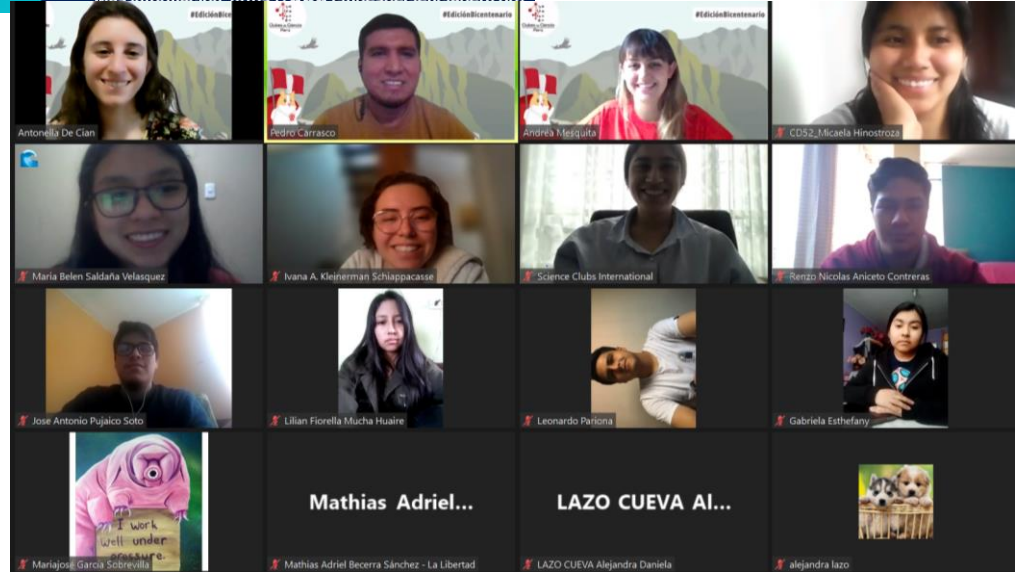
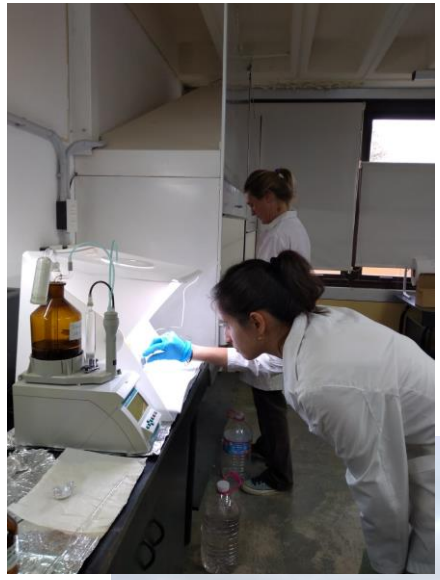
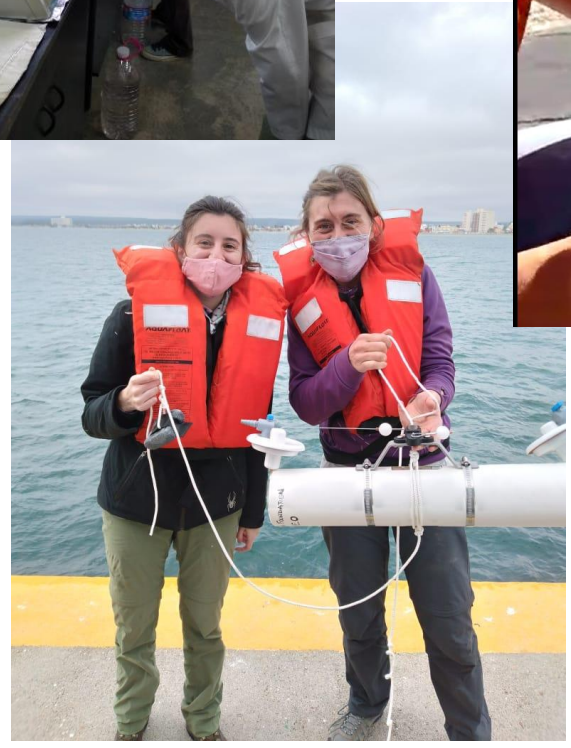


Our **Cluberos (13)** won the Price to **Best Project**

Global NANO-DOAP

A new permanent monitoring station in Puerto Madryn, Argentina





SCAN ME

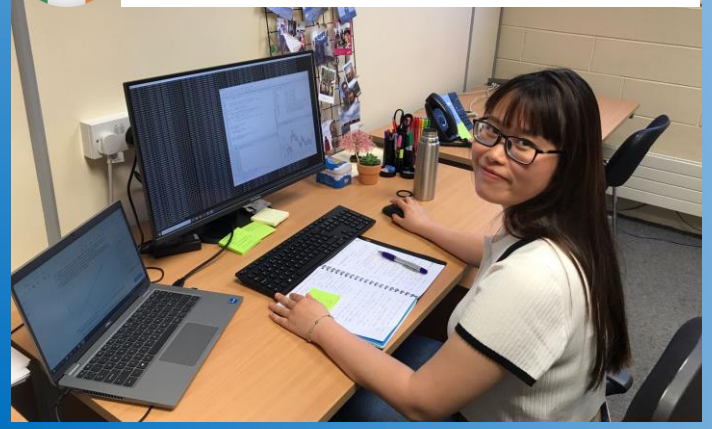
THE OUTCOME …

Andrea Mesquita
University of New Brunswick

Gabriel Juma
Alfred Wegener Institute

Dung Nguyễn
Wageningen University & Research

Dieu Anh Dinh
Dundalk Institute of Technology



Sharloth Fernandez
Instituto Oceanográfico y Antártico de la Armada (INOCAR)

Hadeer Ismail
Suez Canal University

Edwin Lainas Araujo
Peruvian Marine Aquaculture

NF– POGO TRAINING in the UN OCEAN DECADE

Outcome 6: … open and equitable **access to data**…

Outcome 7… society understands and **values the ocean** ...

Challenge 9: … **comprehensive capacity development** and equitable access to data, information, knowledge and technology ...

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unesco Intergovernmental Oceanographic Commission

pogo Partnership for Observation of the Global Ocean

IODE International Oceanographic Data and Information Exchange

International Science Council

Cảm ơn
Salamat
شكرا
Gracias
धन्यवाद
Merci
Asante
Obrigado
Danke
Thank you!

WOULD LIKE TO KNOW MORE?

SCAN ME

UNITED NATIONS OCEAN CONFERENCE
LISBON, 2-6 JUNE 2020

Dr. Rui Seabra

Centro de Investigação em Biodiversidade e Recursos Genéticos (CIBIO) and BIOPOLIS Program in Genomics, Biodiversity and Land Planning, Universidade do Porto, Portugal

Seabra is an intertidal ecologist interested in how temperature influences species' distributions across all scales. Seabra heads the implementation of a temperature and biodiversity collaborative observation network that will monitor more than 160 rocky shores across the Atlantic for over a decade. development.

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Side Event

Developing the capacity we need for the ocean we want

Designing observation networks with data and capacity development in mind: challenges and opportunities

Rui Seabra

CIBIO, Centro de Investigação em Biodiversidade e Recursos Genéticos, InBIO Laboratório Associado
BIOPOLIS Program in Genomics, Biodiversity and Land Planning

CCTBON
Coupled Coastal Temperature and Biodiversity Observation Network

FLAD + **FCT**
~550 K€

+160 rocky shores

140° LAT, 100° LON
+10 yrs

monitor Global Warming in rocky shores at the microhabitat level

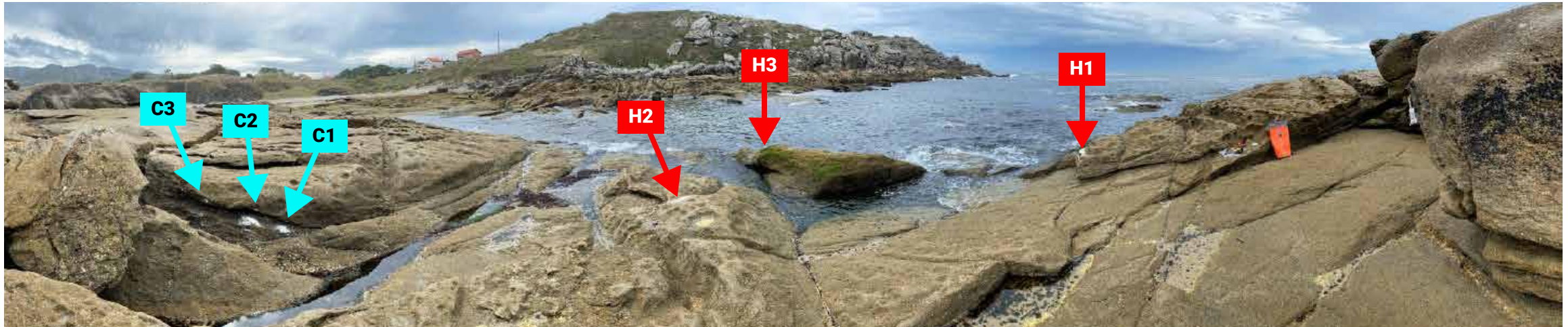
MAXIMIZING CD OPPORTUNITIES

- infrastructure
- local HR
- data ownership
- data access
- career development
- networking

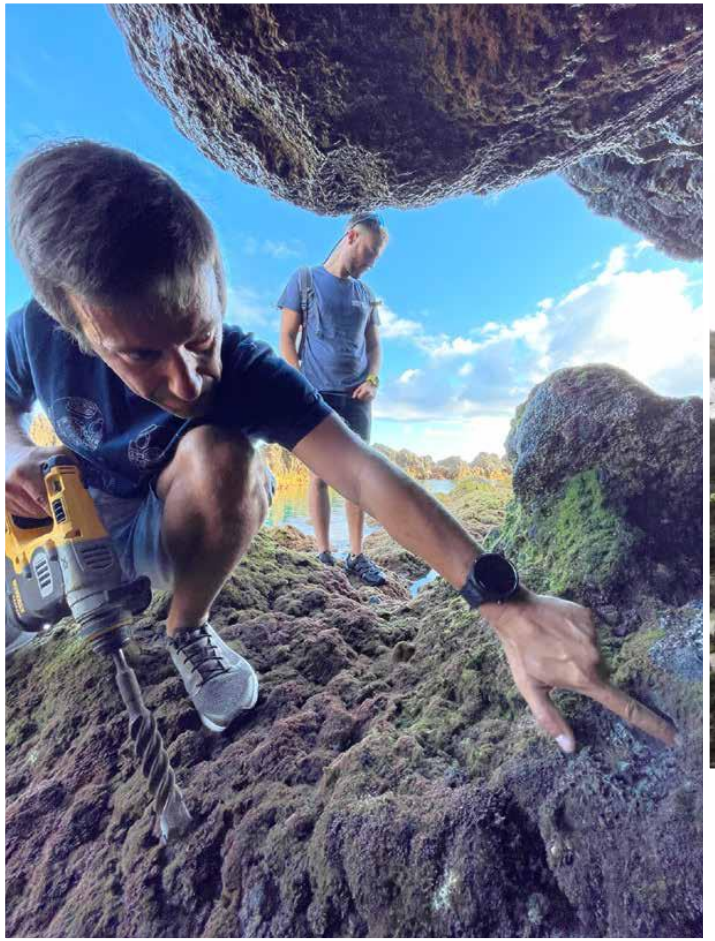
microhabitat temperature monitoring infrastructure

state-of-the-art, low-maintenance, long-lasting (>10yrs)

costs fully covered by CCTBON (loggers, smartphones, etc.)

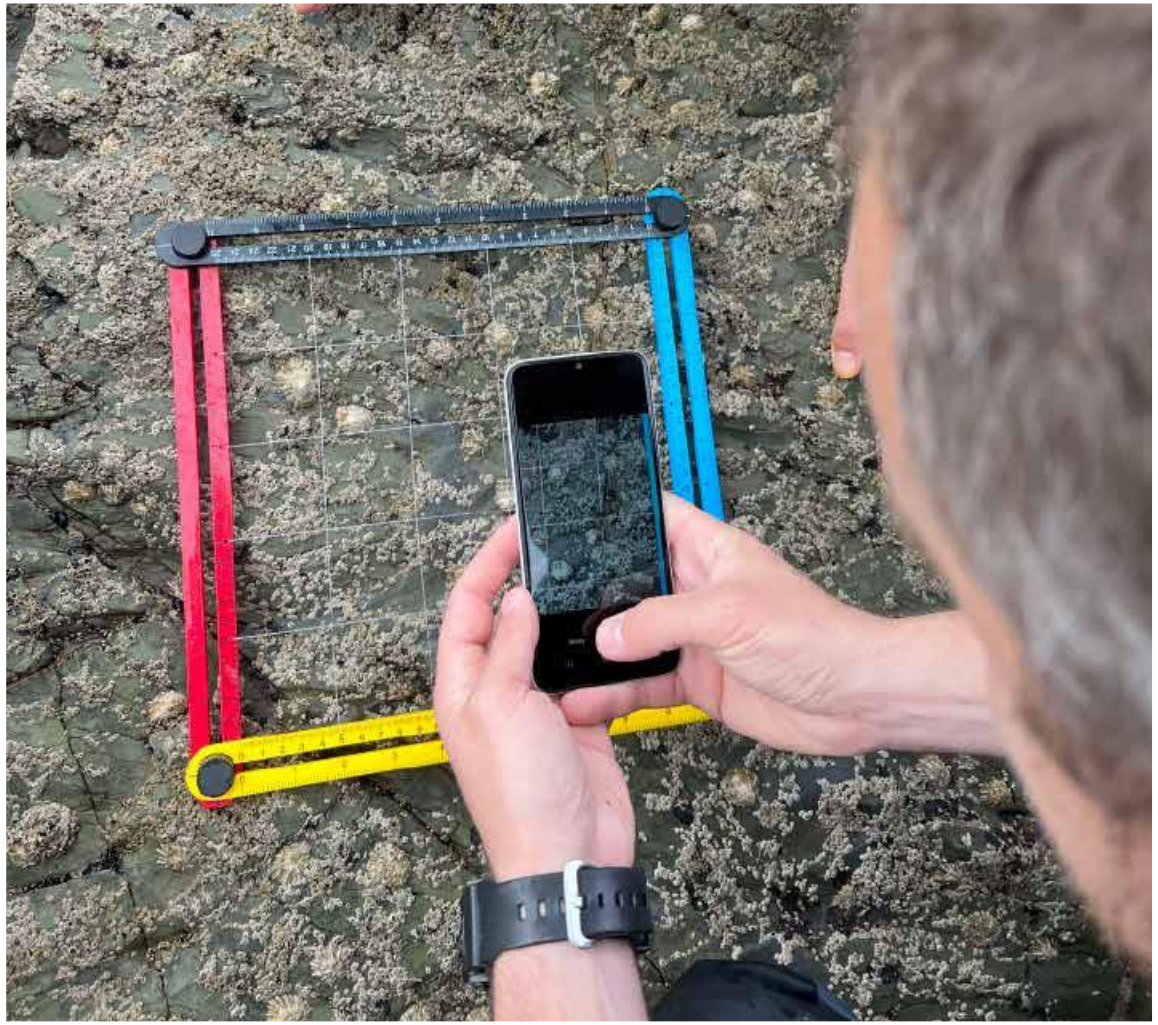


human resources - training, collaboration, trust



initial deployment done in collaboration
hands-on training
subsequent data collection done primarily by local researchers

traceable data ownership



temperature and biodiversity data collected using smartphones
ownership embeded in the metadata

open data

time	action	id	version	name	status	code	sampling interval (s)	sampling resolution (C)	samples	time diff (s)	start time	lat	long
2021-08-27 13:45:25 UTC+0100	TAP LOGGER	0448 1100 6D1D 06	2.4	ptmatmh04a	MISSION RUNNING	6969	1800	0.1	327	13	2021-08-20 18:30:10 UTC+0100	41.178050	-8.699068
2021-08-27 13:45:28 UTC+0100	DATA DOWNLOADED	0448 1100 6D1D 06	2.4	ptmatmh04a	MISSION RUNNING	6969	1800	0.1	327	15	2021-		
2021-08-27 13:45:31 UTC+0100	START MISSION	0448 1100 6D1D 06	2.4	ptmatmh04a	WAITING TO START	6969	1800	0.1	NA	-1	2021-		
2021-08-27 13:46:25 UTC+0100	TAP LOGGER	0448 1100 6D1D 06	2.4	ptmatmh04a	WAITING TO START	6969	1800	0.1	NA	-5	2021-		
2021-08-27 13:46:26 UTC+0100	DATA DOWNLOADED	0448 1100 6D1D 06	2.4	ptmatmh04a	WAITING TO START	6969	1800	0.1	NA	-1	2021-		
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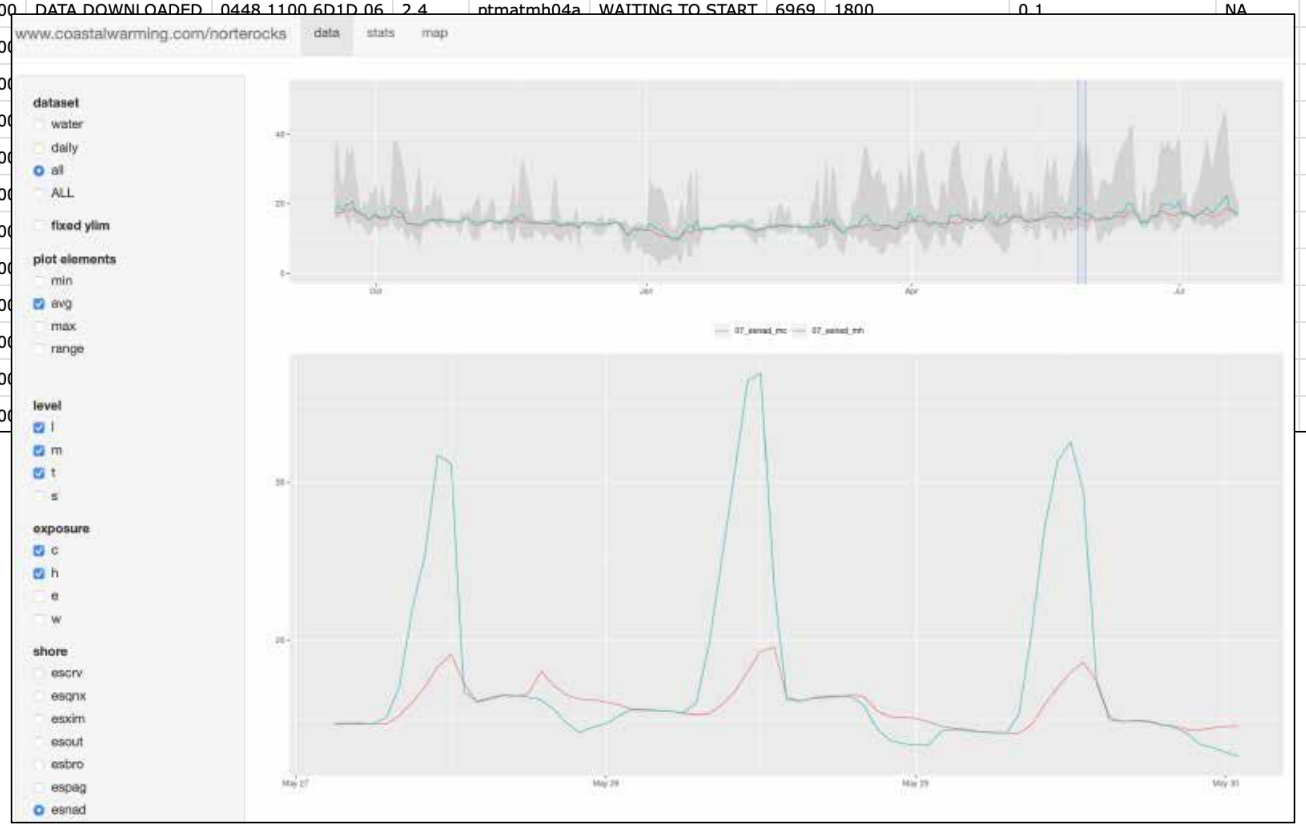
2021-08-27 13:46:44 UTC+0100										27	2021-		
2021-08-27 13:46:47 UTC+0100										28	2021-		
2021-08-27 13:46:50 UTC+0100										-2	2021-		
2021-08-27 13:47:08 UTC+0100										18	2021-		
2021-08-27 13:47:12 UTC+0100										18	2021-		
2021-08-27 13:47:16 UTC+0100										19	2021-		
2021-08-27 13:47:19 UTC+0100										18	2021-		
2021-08-27 13:47:22 UTC+0100										-1	2021-		
2021-08-27 13:47:36 UTC+0100										12	2021-		
2021-08-27 13:47:42 UTC+0100										12	2021-		



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www.electricblue.eu	Portugal
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EnvLogger version	2.4
EnvLogger Viewer version	4.3
downloading device type	android
device	SM-A125F
downloading mode	auto
---	---
serial number	04B2 7200 3B3C 0C
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samples	327
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accuracy (m)	3.3
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2021-08-20 19:00:05	17.0
2021-08-20 19:30:05	16.9
2021-08-20 20:00:05	16.8

full adoption of FAIR data principles throughout the data pipeline

full access to raw and processed data by ALL USERS and for ALL USES

career development at all levels

COMMENT

CONSERVATION How cold-adapted species respond to climate change p.302

ANATOMY Unpacking Renaissance artist Vesalius's drawings of the body p.304

RESEARCH PRIZE Controversy over all-male list of awardees p.307

OBITUARY Paul Delos Boyer, chemist who discovered tiny molecular motor p.308

ALEX MUSTARD/NPL

Fish and other marine life are affected by ocean weather: drastic variations in temperature, pH, oxygen and salinity that are in turn influenced by climate change.

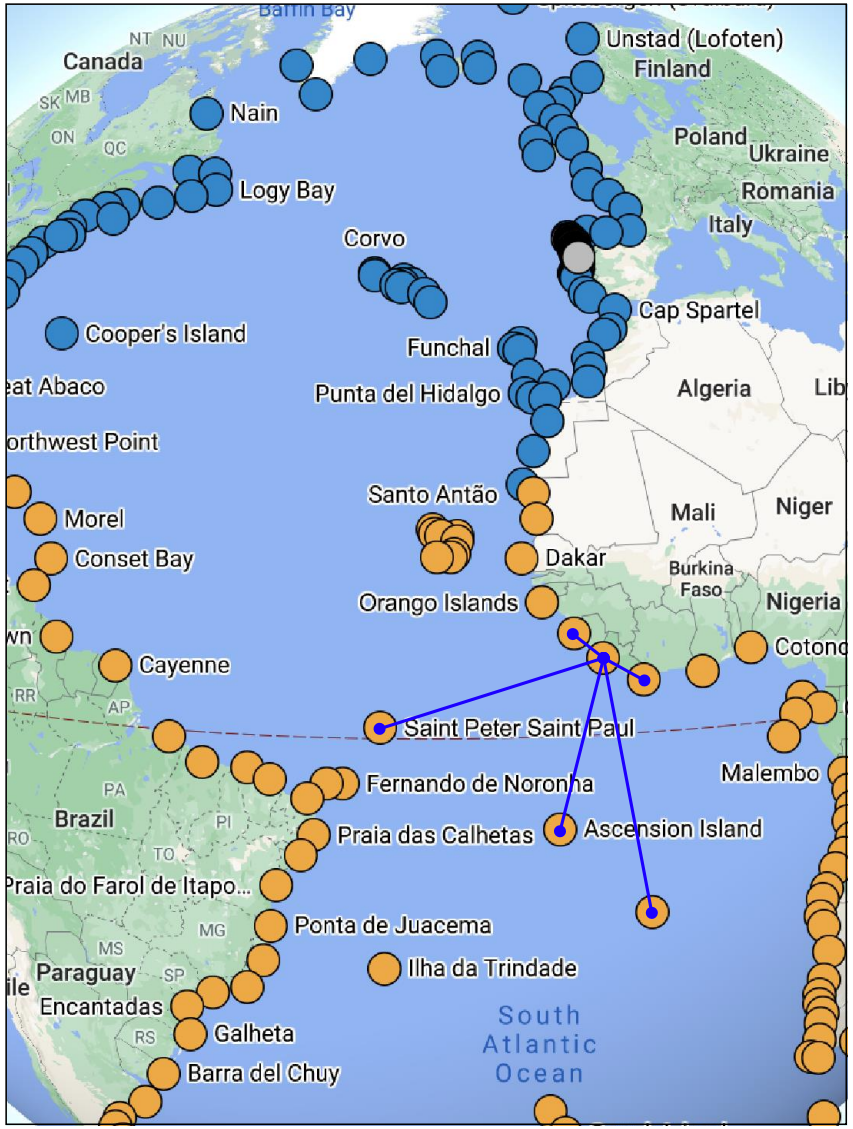
Biologists ignore ocean weather at their peril

Ecologists must understand how marine life responds to changing local conditions, rather than to overall global temperature rise, say **Amanda E. Bates** and 16 colleagues.

The ocean can turn on a dime. Temperature, pH, oxygen levels and salinity can vary drastically — across distances of centimetres and within time frames of minutes[1–3]. That's the latest view being revealed by measurements from thousands of instruments anchored to shores or attached to floats, ocean gliders and ships.

Yet many people think of oceans as a relatively constant environment. That idea might have been hatched when researchers on the HMS *Challenger* expedition of 1872–76 tracked water temperature and currents and lowered weights to gauge depth at thousands of sites across the world's seas[4]. The global picture that emerged after averaging these data was one of stability, in which any variability had been lost. Certainly, that picture was reinforced by twentieth-century images of Earth from space, showing the world's ocean as a uniform deep blue[5].

Most biologists and ecologists trying to understand how ocean biodiversity is affected by climate change focus on large-scale averages across space and time. They try to predict, for instance, how a mean global temperature rise of 2 °C could affect marine ▶



opportunity for broader, higher-impact studies

cost-free infrastructure/data for improved student training in LMICs

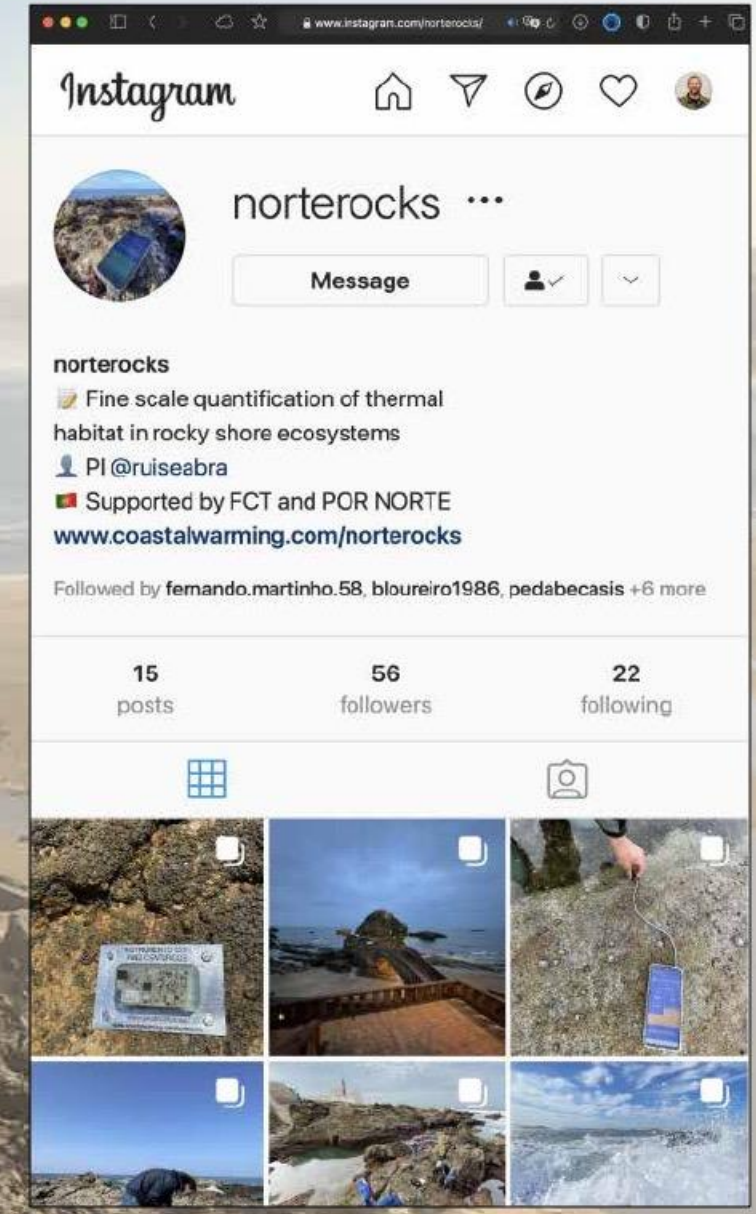
Atlantic-wide networking

unique opportunity to engage directly with fellow researchers
regional in-person meetings will be promoted
open doors to mobility of students/researchers from LMICs

www.coastalwarming.com/atlantic-cctbon

ruisea@gmail.com

instagram: @ruiseabra @norterocks



cibio

FLAD FUNDAÇÃO LUSO-AMERICANA PARA O DESENVOLVIMENTO

FCT Fundação para a Ciência e a Tecnologia

UNITED NATIONS OCEAN CONFERENCE
LISBON, 2-6 JUNE 2020

Prof. Carol Robinson

School of Environmental Sciences, University of East Anglia, UK

Robinson studies the role of marine bacteria, phytoplankton and zooplankton in the global cycling of carbon and oxygen, with a particular focus on determining the magnitude and variability of microbial respiration using a combination of ecological and biogeochemical techniques. She has led international multidisciplinary research programmes including the Atlantic Meridional Transect, the Integrated Marine Biosphere Research project (IMBeR).

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Side Event

Developing the capacity we need for the ocean we want

An Action Plan for the Ocean – lessons from the Global Pandemic

Prof. Carol Robinson
University of East Anglia, UK &
Integrated Marine Biosphere Research (IMBeR)

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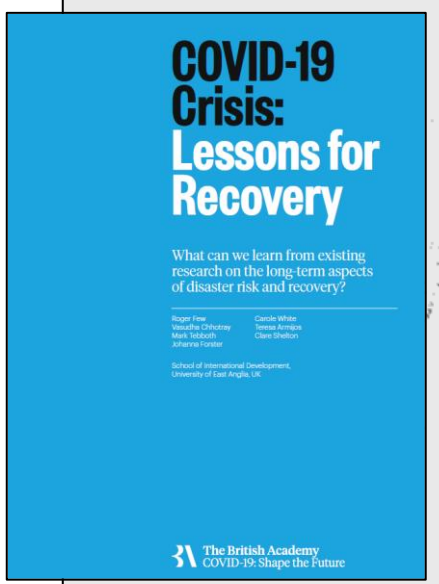
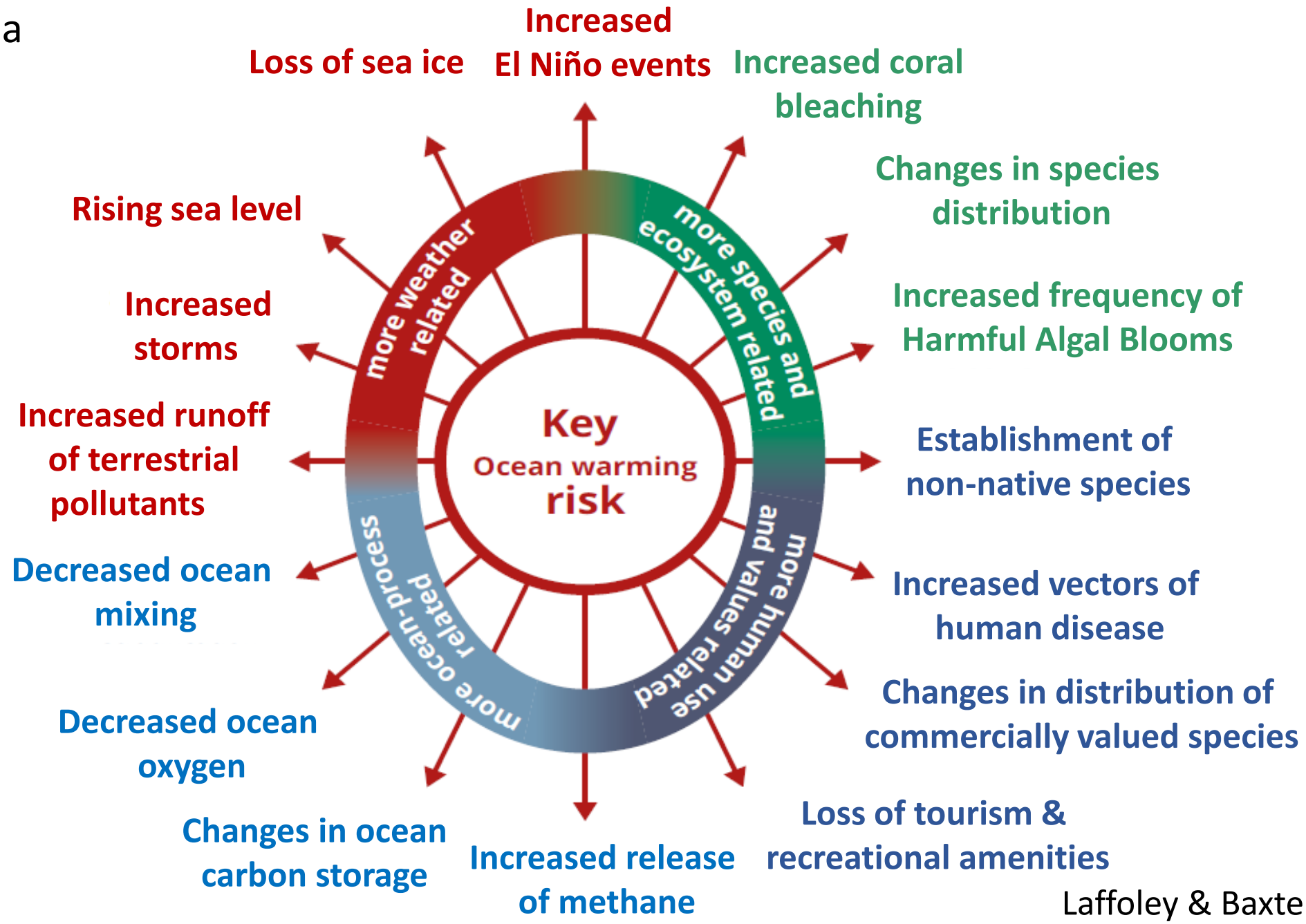
World Health Organization

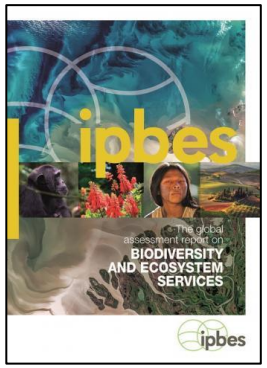


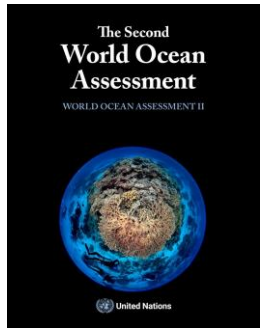
Globally, as of **5:24pm CEST, 17 June 2022**, there have been **535,863,950 confirmed cases** of COVID-19, including **6,314,972 deaths**, reported to WHO. As of **16 June 2022**, a total of **11,902,271,619 vaccine doses** have been administered.

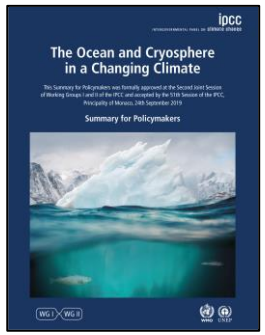
OCEAN RISK is a function of **hazard**, **exposure** and **vulnerability**

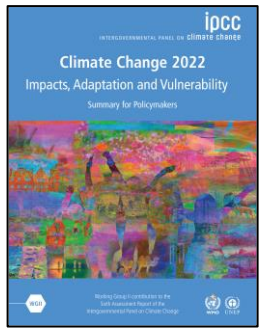


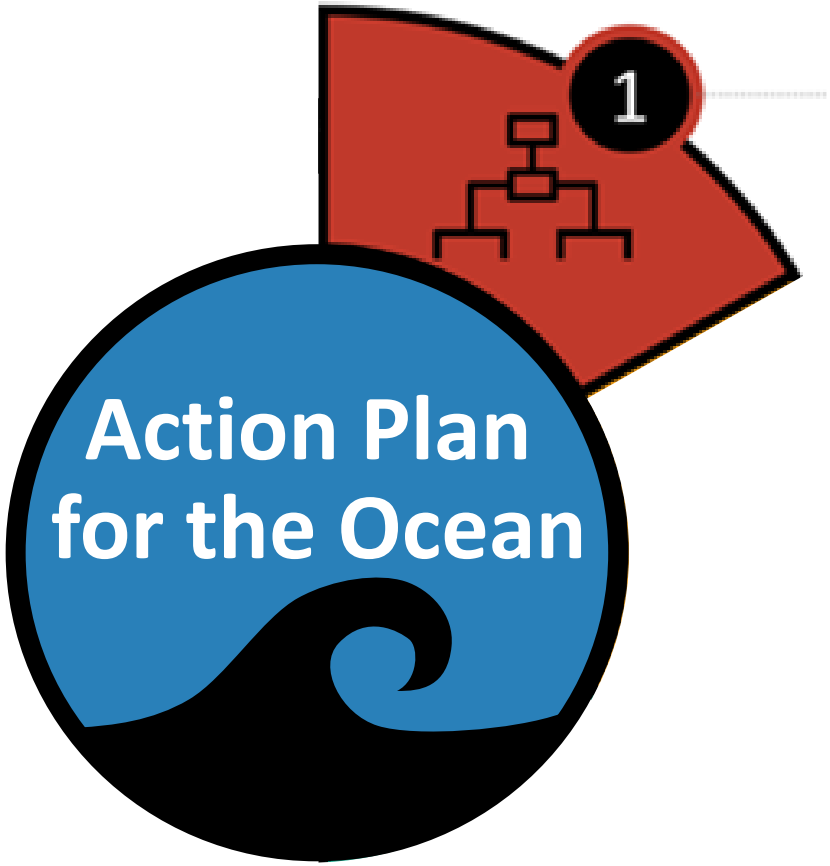
Laffoley & Baxter, 2018











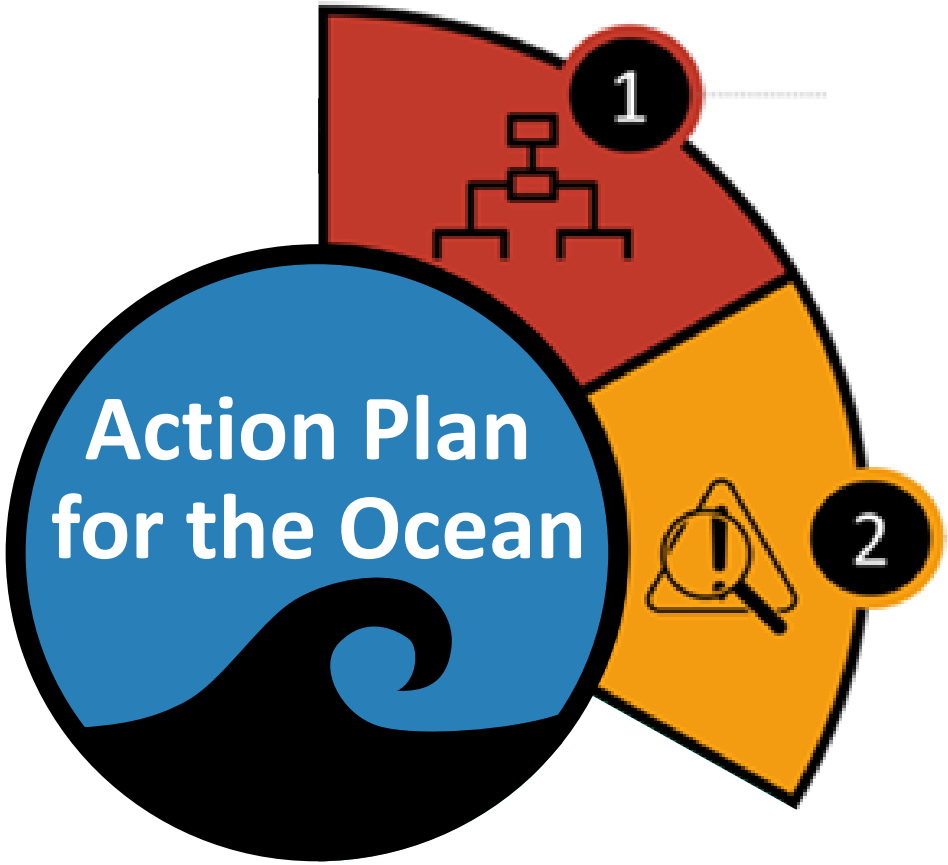
RANK RISKS

Develop a coherent framework to assess and rank risk related to a changing ocean.

Maltby et al., 2022

Murphy et al., 2021

IMBeR
Integrated Marine Biosphere Research

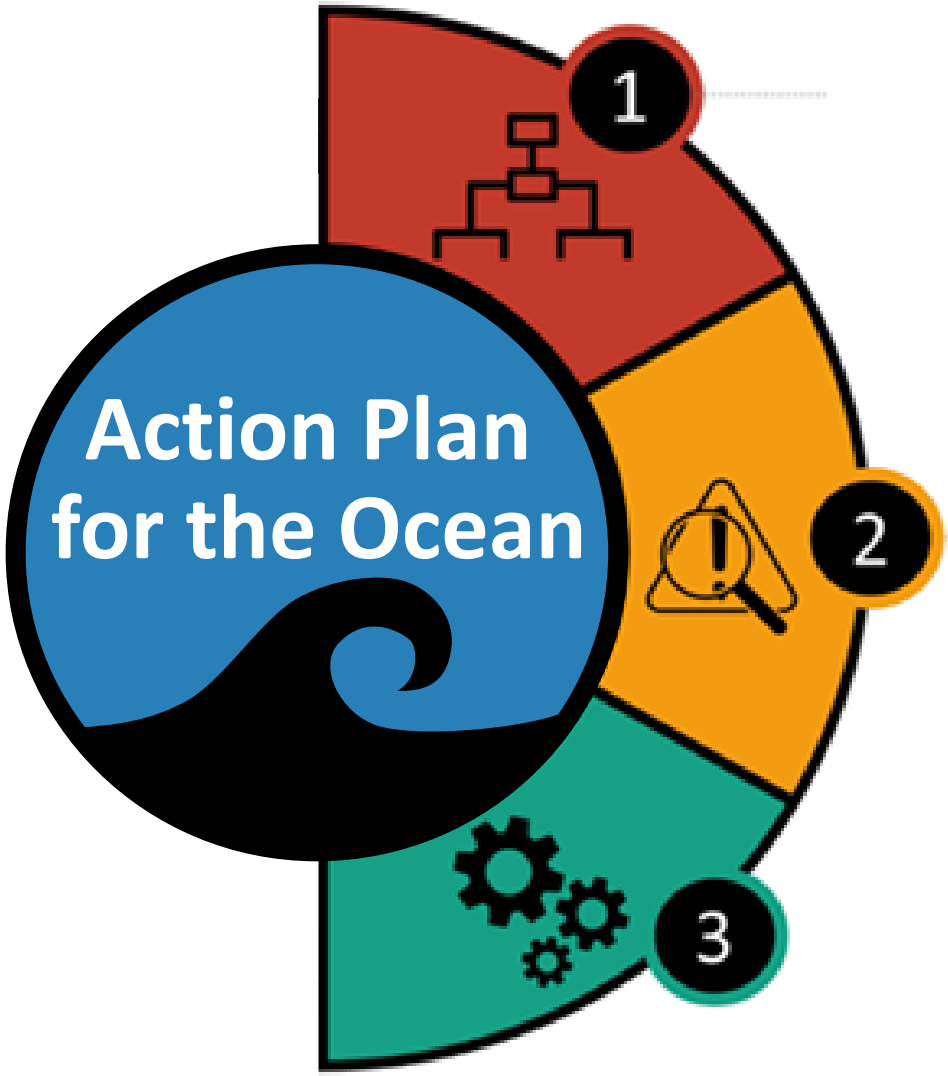


RANK RISKS
Develop a coherent framework to assess and rank risk related to a changing ocean.

IDENTIFY ACTIONS
Use science to identify possible actions in response to risks, taking account of uncertainties.

Murphy et al., 2021

IMBeR
Integrated Marine Biosphere Research



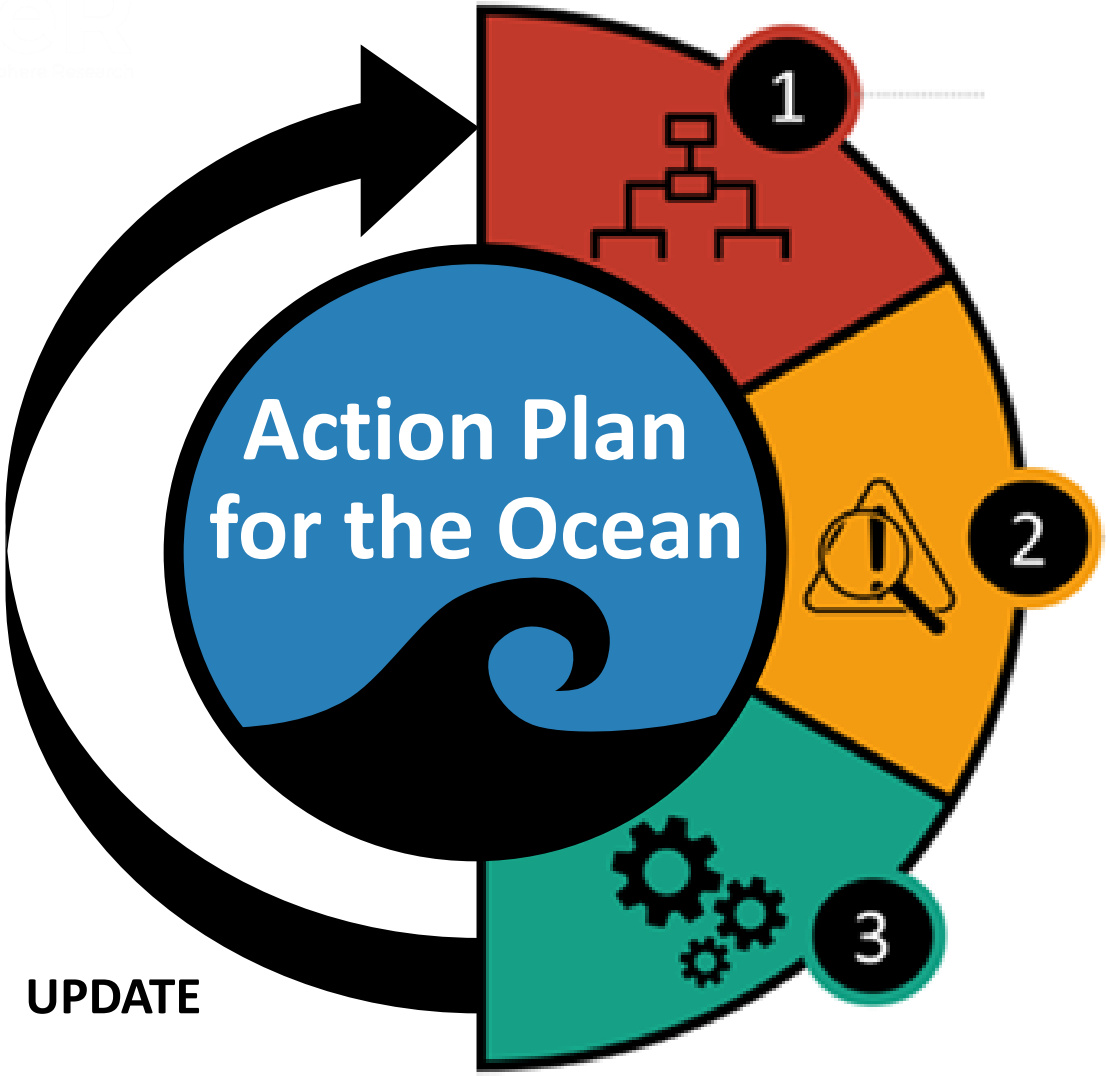
RANK RISKS
Develop a coherent framework to assess and rank risk related to a changing ocean.

IDENTIFY ACTIONS
Use science to identify possible actions in response to risks, taking account of uncertainties.

DEFINE PLAN
Define a set of actions & plans, of which some will need to be adaptive.

Murphy et al., 2021

IMBeR
Integrated Marine Biosphere Research



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Murphy et al., 2021

IMBeR
Integrated Marine Biosphere Research

Developing capacity

IMECaN
Interdisciplinary Marine Early Career Network

IMBeR
Integrated Marine Biosphere Research

An Action Plan for the Ocean – lessons from the Global Pandemic

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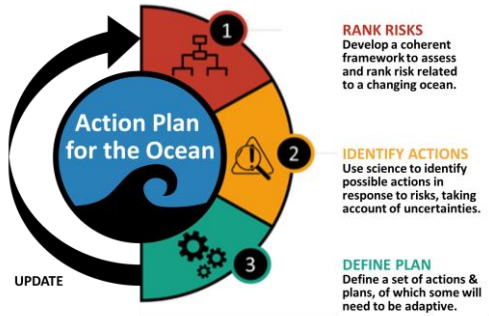
Next steps

- Develop an integrated ocean community
- Develop capacity
- Targeted workshop
- Propose a UN Decade programme
- Apply for research funds



Get involved

IMBeR Integrated Marine Biosphere Research

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DISCUSSION – Questions?






- Developing capacity in ocean observations (**L. Krug**)
- The Ocean Teacher Global Academy (**F. Cardoso Martins**)
- The case of Small Island Developing States (**R. Zitoun**)
- An NF-POGO trainee perspective (**P. Carrasco**)
- Observation networks (**R. Seabra**)
- An Action Plan for the Ocean (**C. Robinson**)

Get involved: contact us and know more about our training opportunities

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Thank you for joining!!!