

2nd Ocean Observers Workshop

Sharing international marine science educational resources

29-30 Nov & 1 Dec 2021

#OceanObserversWorkshop







Ocean Literacy and UN Ocean Decade (1 December, 18:00-19:40 CET)

- Welcome by Dina Eparkhina & Carolyn Scheurle
- Scientists for Ocean Literacy Dina Eparkhina, EuroGOOS
- Ocean Literacy With All in the Ocean Decade Francesca Santoro, IOC-UNESCO
- Open-Source Oceanography: accelerate research by involving citizens Cédric Courson, Astrolabe Expedition
- Roundtable discussion
 - Ocean Observing in the classroom Caroline Bodet, Primary School Teacher
 - Blue Careers & Ocean Literacy Zacharias Siokouros, Cyprus Marine and Maritime Institute
 - Sailing Science Education: My Ocean Challenge Birte Lorenzen, My Ocean Challenge / Malizia
 - Ocean Literacy Research Emma McKinley, Cardiff University / Marine Social Science Network

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Join conversation on Twitter:

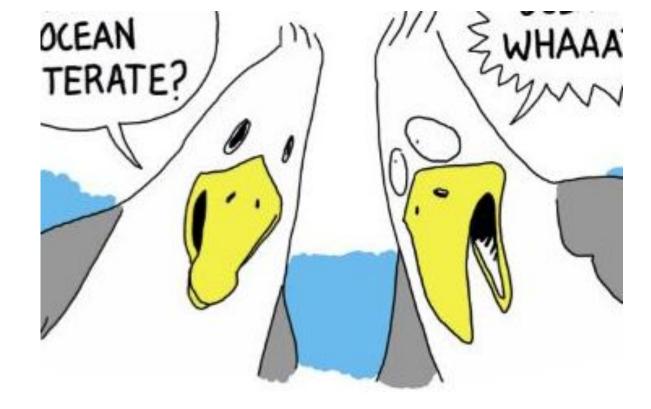
@dina_ep, @EuroGOOS
#OceanObserversWorkshop

Scientists for Ocean Literacy

EuroGOOS recommendations in the Decade of Ocean Science for Sustainable Development

Dina Eparkhina





The incredible journey of ocean literacy





In the last 20 years, Ocean Literacy has evolved from an educational tool to an imperative for science-based policymaking & sustainable economy

 means to raise the engagement of society in science, reduce the uptake of fake news, and help determine common language across stakeholders in the UN Decade of Ocean Science 2021-2030



ACTIONS

Meet all the endorsed Ocean Decade Actions

Scientists for Ocean Literacy (Oceanographers and Meteorologists for Ocean Literacy)

European Global Ocean Observing System, EuroGOOS



Arctic Ocean, Mediterranean Sea, North Atlantic Ocean, Other, Project, Understand and beat marine pollution, Unlock ocean-based solutions to climate change

The ocean can inspire, fascinate, frighten, and intrigue. For us, the ocean is daily work.

Our 'Scientists for Ocean Literacy' initiative will help European oceanographers', hydrographers, and met agencies engage more impactfully with the public on the topics of sustainability. 'Scientists for Ocean Literacy' will inspire joint events and resources for public and educators, embrace multi and trans-disciplinarity and inclusiveness in ocean knowledge and innovation, help exchange best practice, and promote blue careers. 'Scientists for Ocean Literacy' will empower scientists as ocean advocates to their communities, countries, and regions, and help transform ocean knowledge into actions for sustainability.

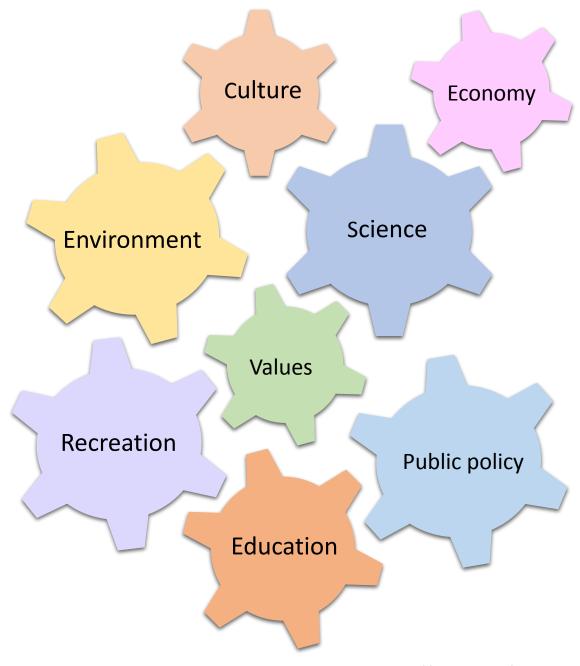
Start Date: 01/06/2021

End Date: 31/05/2030

This project is hosted by the Decade Programme Ocean Literacy With All (OLWA): the change we need for the ocean we want.

Contact

Dina Eparkhina: dina.eparkhina@eurogoos.eu





Scientists for Ocean Literacy: Activities

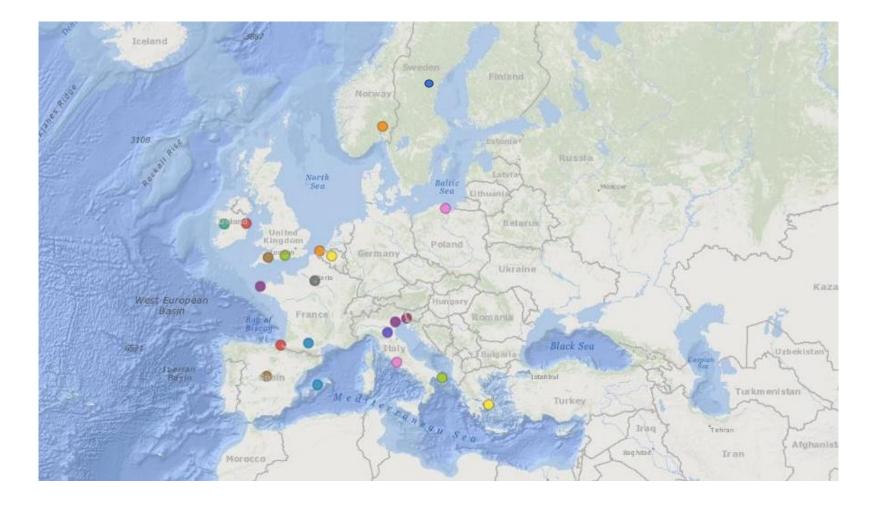


- 1. Online resources and community forum
- Innovative data visualization
- Internationalization of successful national events
- 4. Facilitation of cross-national events
- 5. Promotion of diversity
- Promotion of blue careers and STEAM
- 7. Translations of successful materials and use in other countries
- 8. Trainings for scientists to engage in Ocean Literacy
- 9. Best practice in accessibility and social equity how to make Ocean Literacy accessible to all
- 10. Enhancing Ocean Literacy work across the Global Ocean Observing System



EuroGOOS ocean literacy network & working group

22 organizations9 countries4 organizationspan-European or global



Key activities June 2019-Aug 2021 (1)

https://eurogoos.eu/ocean-literacy/



- Resources library
- OceanObs'19
- Home-schooling campaign during COVID-19 lockdown
- OceanTeacher Global Academy training on Ocean Literacy
- CommOCEAN 2020 workshop on Ocean Literacy Accessibility to All

Our #OceanLiteracy experts have united to make your #homeschooling more fun!



Follow #EuroGOOS_OL to dive into our multi-lingual resources!









PRADA AND UNESCO TOGETHER FOR THE FIRST VIRTUAL OCEAN LITERACY SUMMIT

Key activities June 2019-Aug 2021 (2)

Over 1,600 online participants



- First UN Ocean Literacy Summit
 co-organized by EuroGOOS official
 event of the Ocean Decade preparatory
 stage.
- From global to local: EuroGOOS
 promoted the inclusion of national OL
 activities in the event's website

GRAILE REANNS SUSTAINARILITY PERSPECTIVES MEDIA INVESTARS TALENTS

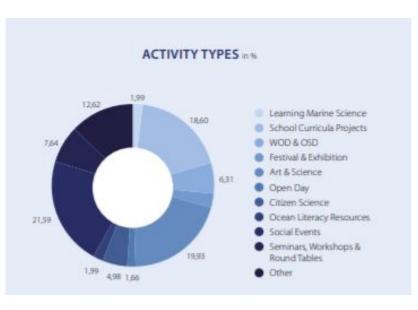


Over 80 EuroGOOS OL materials on the Summit resource pages



The map, prepared by EuroGOOS team, shows the geographical coverage of the attendees of

Key activities June 2019-Aug 2021 (3)



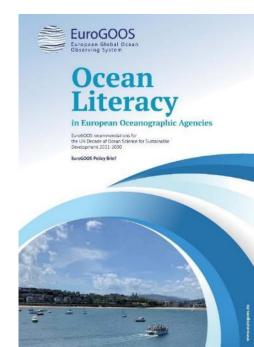
- **Survey** on OL activities in European oceanography
- Policy brief with recommendations for the Decade
- **UN Ocean Decade Action** Scientists for OL endorsed (part of OLWA programme of UNESCO)
- UN Ocean Decade Lab event on An Inspiring and Engaging Ocean
- **EU4Ocean** founding member
- Engagement with European regions

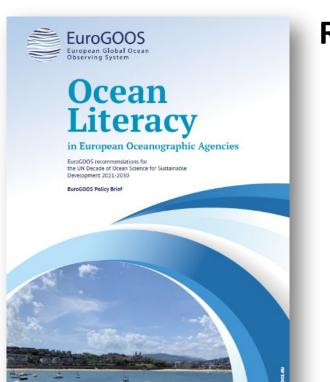


#EuroGOOS OL









Recommendations to funders & managers in the Ocean Decade

- 1. Ocean Literacy activities help **connect** marine research **with education, policy, economy, and society**.
- 2. Ocean Literacy activities require **impact monitoring** of to fully assess their benefits.
- 3. Ocean Literacy should be **recognized** as a significant **action** and a **research field** in oceanography, with an adequate funding support.

- 4. Ocean Literacy activities will give better results if developed in **milti-disciplinary** partnerships.
- 5. Ocean Literacy **practionners** need to **collaborate** among themselves to strengthen their voices and work.
- 6. Ocean Literacy activities should strive to be **inclusive and accessible to all**.



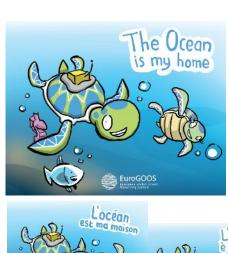


Left: Winners of 'The Sea of Science' contest and their relatives on board R/V SOCIB visiting the SOCIB buoy installed in Palma bay, 2019. Credit: 'LA MAR DE CIENCIA' (SOCIB/CSIC). Middle: Exhibition 'We and the Plastic' held at the Museum of Natural History of the University of Pisa (UNIPI), Italy, and realized in collaboration with INGV and CNR-ISMAR. Right: Activities on 11 February 2019, International Day of Women and Girls in Science, at the Oceanographic Center of Malaga, Spain. Credit: IEO.

Take Home













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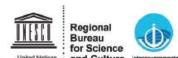
Priority Areas

Formal Education

Corporate Action

Advancing Policy

Community Engagement





Mainstreaming Ocean Literacy in Education Policy

- Although adoption of overall policies regarding
 Environmental Education and Education for
 Sustainable Development is increasing worldwide,
 there is still a <u>critical need to further strengthen</u>
 <u>specific ocean issues</u> within these agendas.
- We need to <u>inform policy-makers and develop</u>
 <u>policies and mechanisms</u> to strengthen ocean literacy
 through formal and non-formal education systems.
- This requires <u>relevant</u>, <u>context-specific</u>, <u>and coherent</u> policies designed by ministries and local governments, supported by cross-sector and multi-stakeholder engagement.









Mainstreaming Ocean Literacy in Education Policy

Desired Result

Mainstreaming
Ocean Literacy
in Education Policy

Sample Recommended Activities

- Establish a <u>National Ocean Literacy Strategy</u> and Ocean Literacy coordination mechanism, as well as designate a National Focal Point for Ocean Literacy
- Including Ocean Literacy in National Curriculum
 Standards in order to include ocean education[9]
 in primary and secondary schools
- <u>Training programmes</u> for government officials on ocean sustainability and/or Blue Economy opportunities
- <u>Investments in Ocean Literacy</u> schools and/or Ocean Literacy programmes including ocean literacy discipline in undergraduate courses for future teachers

Enhancing Formal Education

- Formal Education institutions <u>at every level</u> are key to help shape knowledge, attitudes, behaviours, and actions towards ocean sustainability.
- Ocean Literacy, through a <u>multi-disciplinary and cross-cutting approach</u>, can be incorporated into the curriculum of most classroom courses and subjects, thus supporting ocean stewardship and regular subject delivery.
- Ocean Literacy can provide opportunities to enhance <u>critical-thinking, problem-solving and leadership skills,</u> among others.









Enhancing Formal Education

Desired Result

Enhancing Formal Education

Sample Recommended Activities

- <u>Training programmes for pre-service educators</u> and active educators from multiple disciplines, including workshops, field trips, and in person and online courses
- Knowledge exchanges between formal educators and experts
- <u>Development of curriculum materials</u> for primary and secondary schools
- Nature-based opportunities and <u>educational</u> <u>actions for students</u> (e.g. field trips, interactive workshops)

Mobilising Corporate Action

- Businesses, large and small, <u>shape and influence</u> environmental and socio-economic policies, investments, actions, and attitudes.
- Mobilising corporate action also <u>reaches a broad</u> <u>range of stakeholders across the value chain</u>, including, but not limited to, employees, investors, suppliers, vendors, and customers.









Mobilising Corporate Action

Desired Result

Mobilising Corporate Action

Sample Recommended Activities

- Integrating ocean literacy into <u>corporate social</u> responsibility policies, priorities and initiatives.
- <u>Training program for employees and/or customers</u> and suppliers on ocean sustainability and Blue Economy
- <u>Investments</u> in incubators focused on ocean innovation, technology, sustainability and social enterprise
- <u>Development of programmes</u> that empower marginalized and/or underrepresented groups in ocean science and conservation programmes

Increasing Community Engagement

- Citizens and communities around the world, <u>urban or rural, coastal or non-coastal</u>, have a key role to play in enhancing Ocean Literacy.
- Non-formal Education, refers to <u>all education efforts</u>
 <u>occurring outside the formal school system</u> including
 aquariums, art galleries, and museums, home-based
 learning, to name only a few.
- Creates opportunities to engage a <u>wide diversity of</u>
 <u>stakeholders</u>, such as fishermen, women, youth,
 disadvantaged and marginalised groups, media, etc.
 and the general public.











Increasing Community Engagement

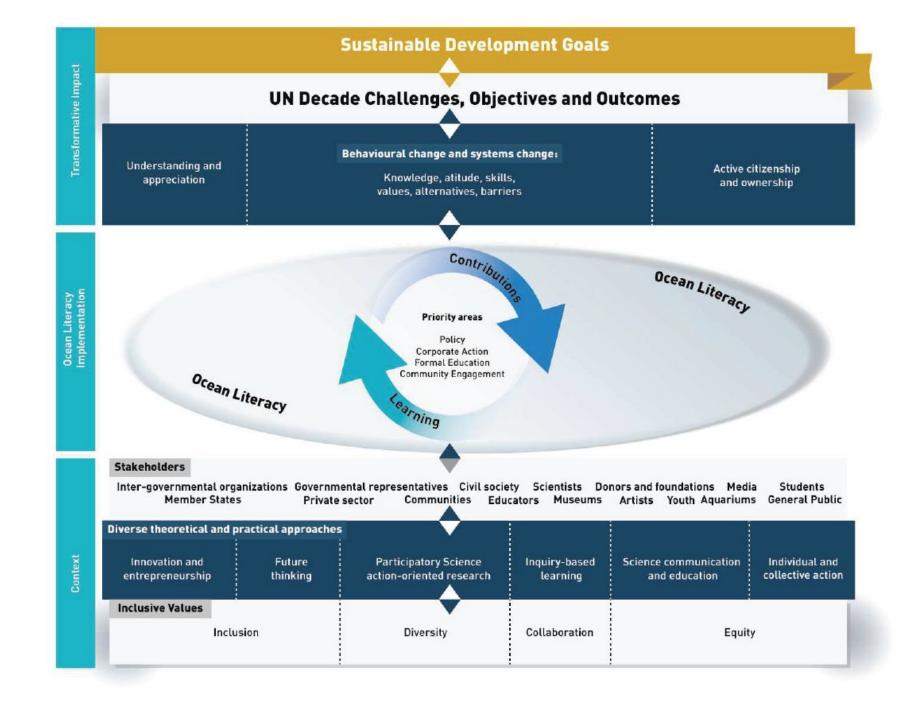
Desired Result

Increasing Community Engagement

Sample Recommended Activities

- <u>Interactive interventions</u> of Ocean Literacy such as art exhibitions or movie screenings
- <u>Public Awareness campaigns</u> on key ocean topics
- <u>Citizen Science programmes</u> that empower the general public to engage in the Decade
- Knowledge exchanges and transfer between scientists and members of society, including Indigenous communities, educational organisations, governments, among others
- Training program for media

Framework





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Open Source Oceanography

A way to accelerate the oceanographic research by involving communities

Cédric Courson

Astrolabe Expeditions



PhD Student









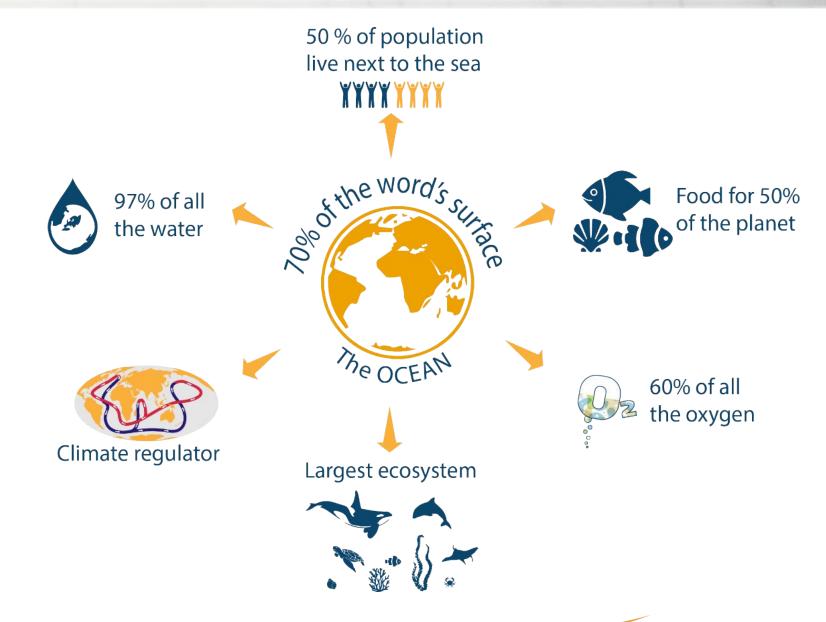








Why the Ocean?



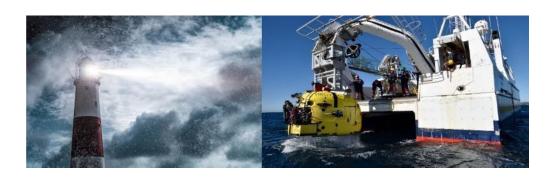


What opportunities to involve society today?





The issue of Instrumented science



Instruments are needed to explore the ocean



Figures : Ifremer

New technologies = more accessible instruments for all

Easy instrumentation opportunity

The issue of citizen sciences



Citizen sciences to explore the ocean on a large scale



14 000 sailing boats in the high sea

Multiple plateforme opportunity



The issue of open source practice

Open source instruments as tools to involve and mobilize communities



Open science to innovate and change scale



Mass innovation opportunity



Innovation territories

More than 1000 citizen fabric laboratories in the world



Tools



Know-how

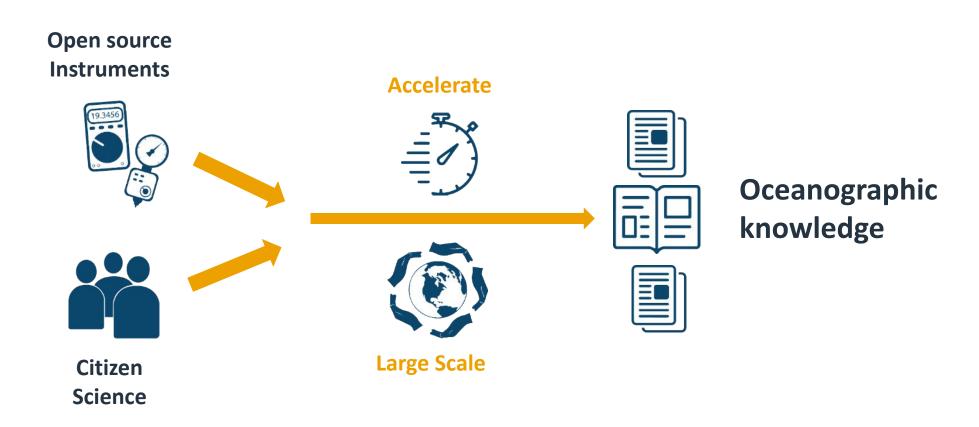


Large scale opportunity



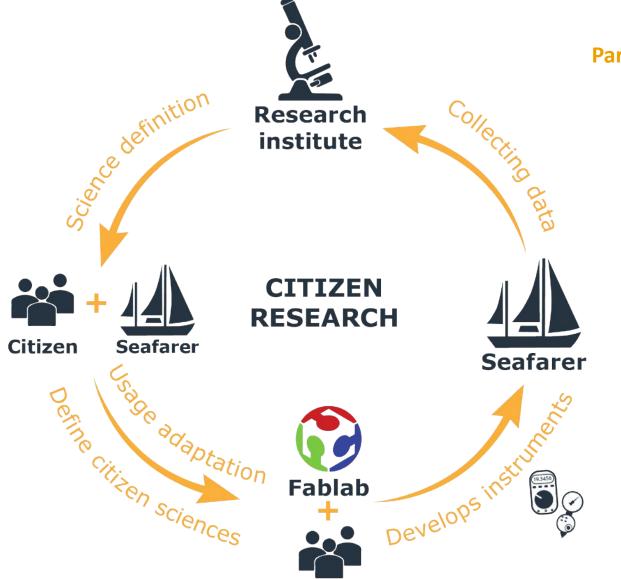
Research question

How the combination of open source oceanographic tools and citizen science can accelerate the acquisition of scientific knowledge of the ocean?





Research methodology



Citizen

Participatory action research

Interdisciplinary research

- Physical oceanography and climatology
- Engineering
- Human and social science
- Epistemology

Many communities

- Sailors
- Seafarer
- Makers
- Citizens on land
- Scientists
- Environment protectors



SensOcean

Citizen sciences in high sea - SensOcean



The big Ocean Surface salinity **50** expeditions























Coastal sea
Salinity gradient



















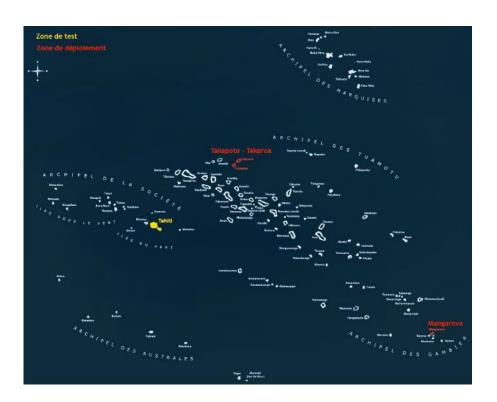
Open Lagon

Citizen sciences in lagoon – Open Lagon



Polynesian lagoon **Chlorophyll monitoring 20** hub









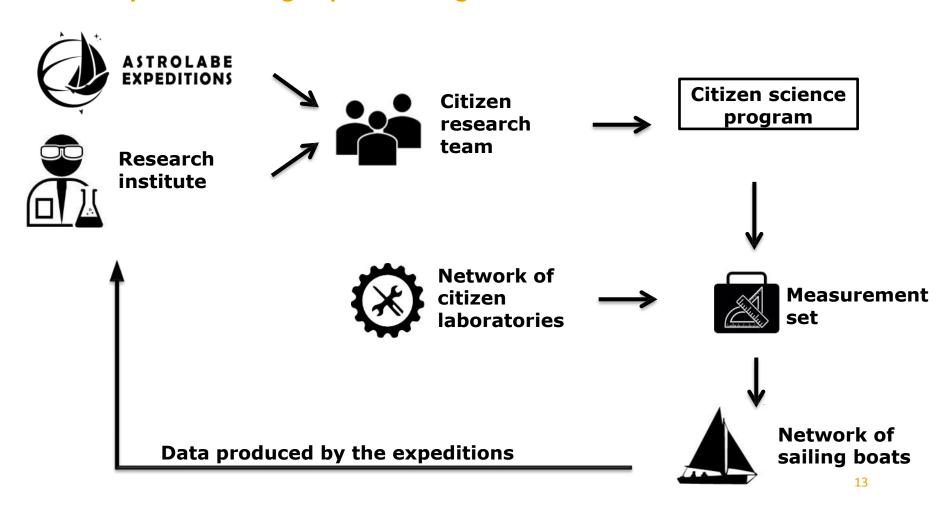






Astrolabe Expeditions

An ecosystem allowing to produce large scale data





Thank you



Cédric Courson

cedric.courson@astrolabe-expeditions.org

www.astrolabe-expeditions.org

https://www.zotero.org/groups/2456552/phd-cc-opensourceoceanography/library



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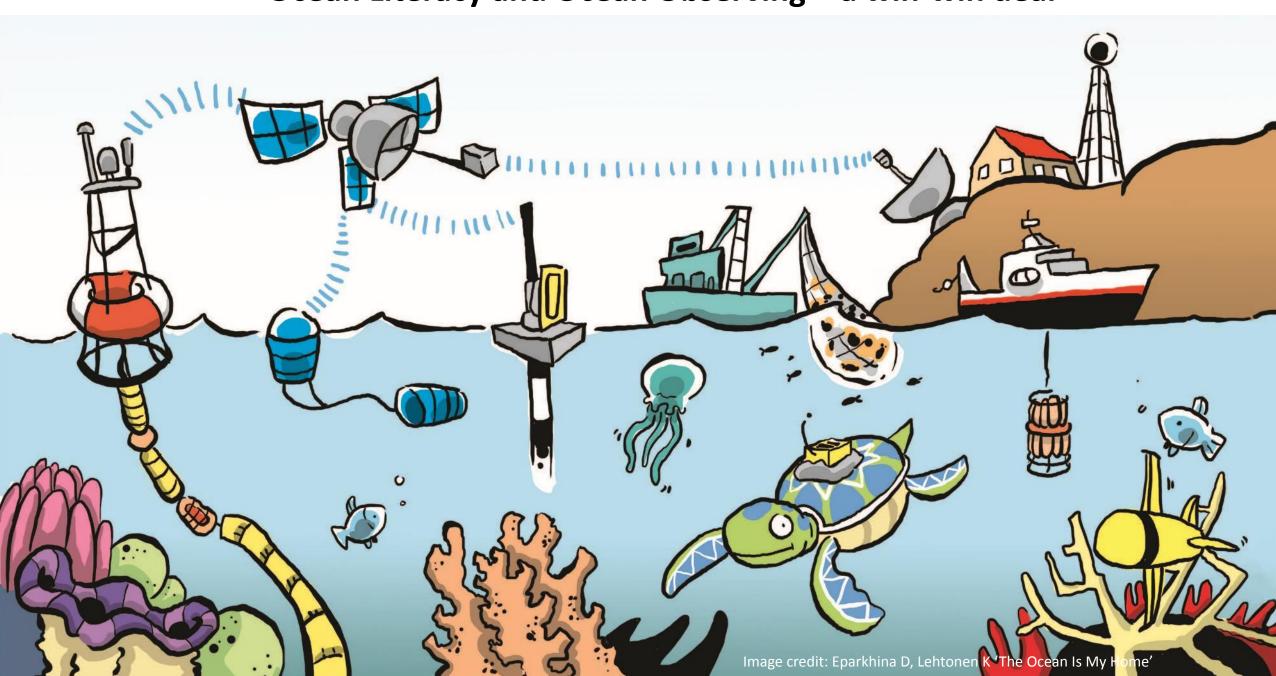


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Ocean Literacy and Ocean Observing – a win-win deal





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Session 6: Ocean Literacy and UN Ocean Decade

Caroline BODET, primary school teacher in Brest

caroline.bodet@ac-rennes.fr

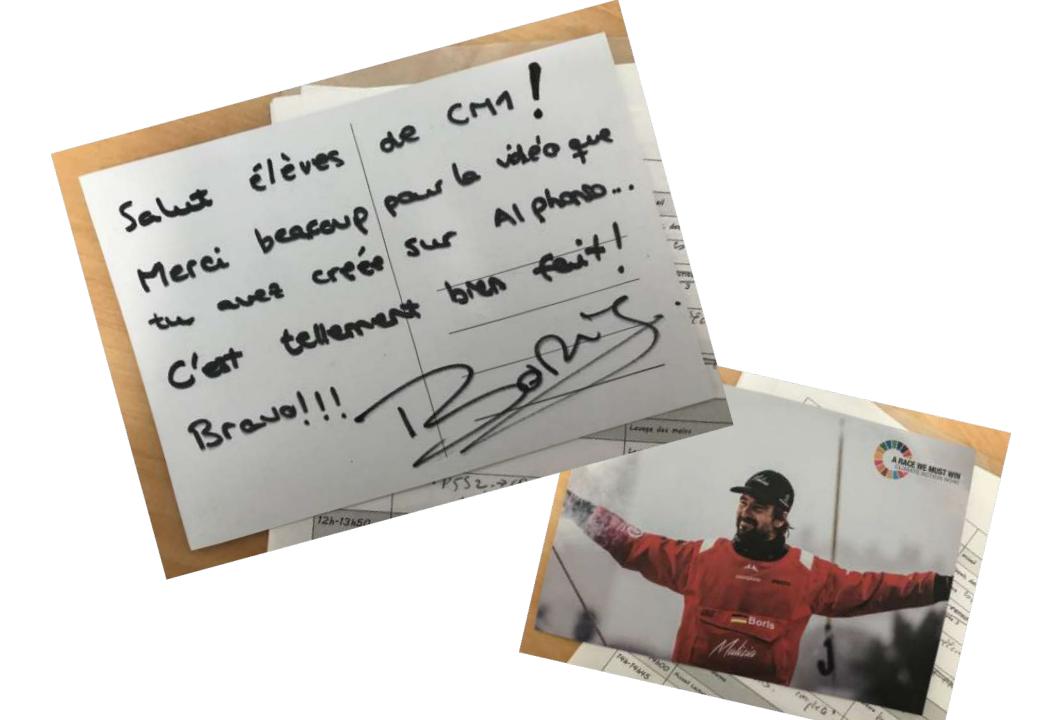








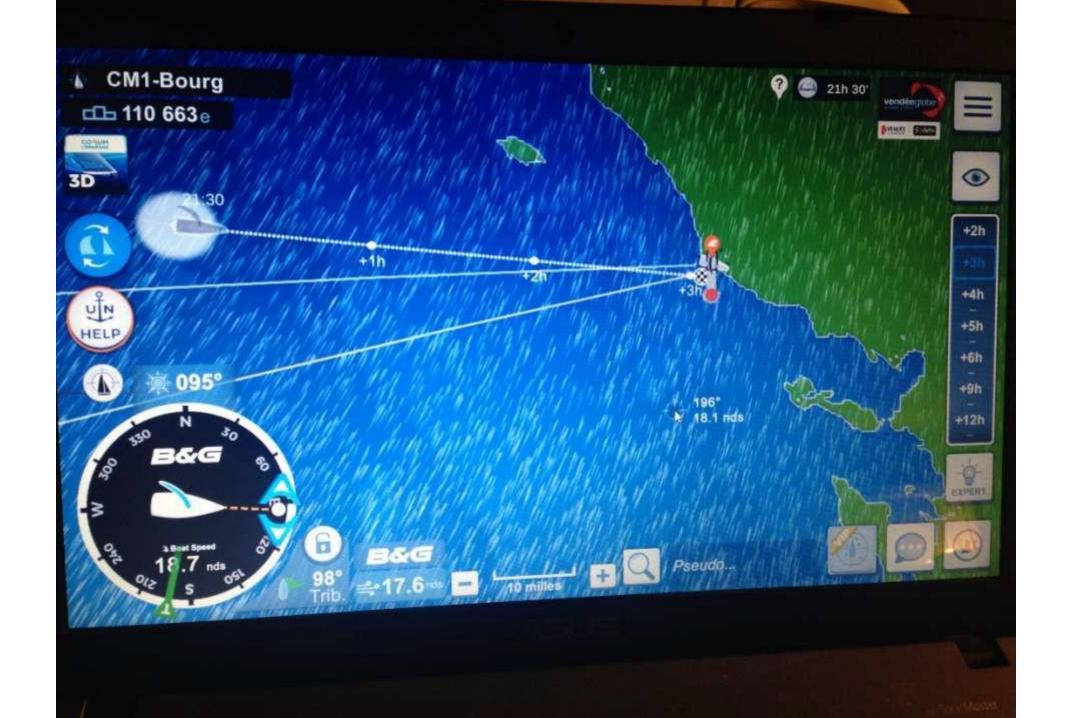






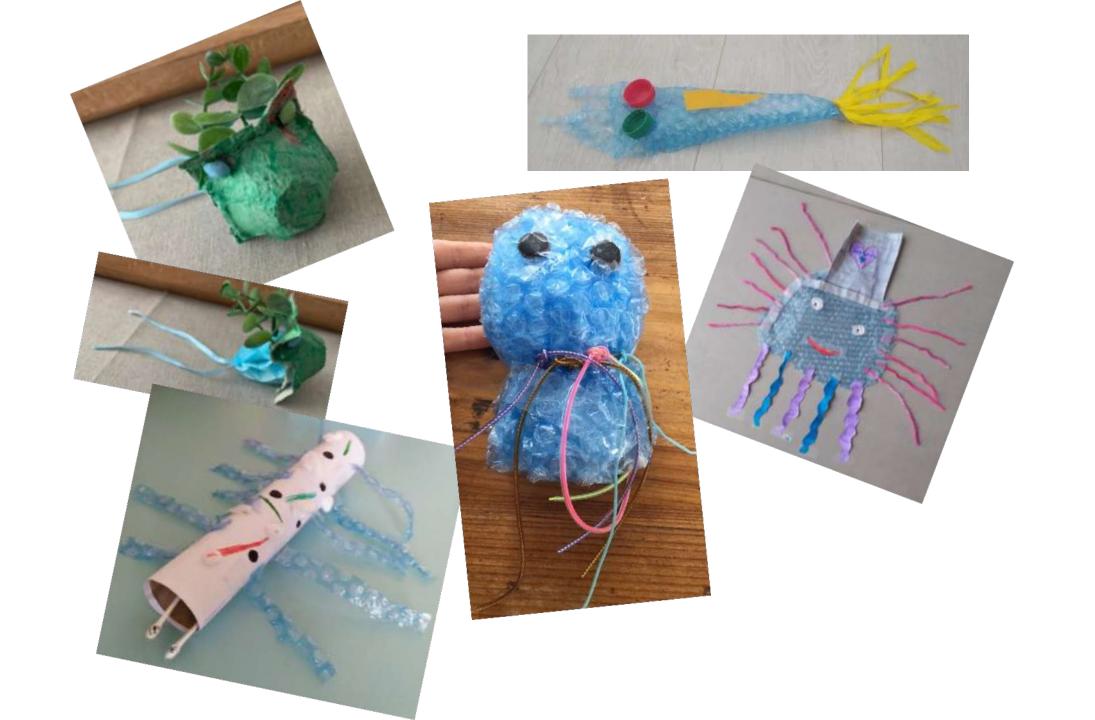














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Blue careers

Zacharias SiokourosCEO, CMMI - Cyprus Marine & Maritime Institute

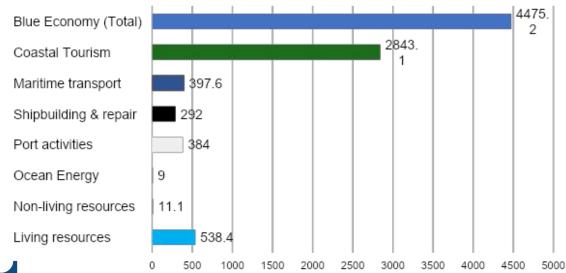
2nd Ocean observers workshop

1st December 2021

Contribution of the Blue Economy to the overall EU economy



Persons Employed in the established Blue Economy sectors (in thousand)



Assessment of the impact of the COVID-19 economic crisis on the Blue Economy

Sector	Size	Impact 2020	Recovery path
Established sectors			
Marine living resources	Medium	Strong	Prompt
Marine non-living resources	Small	Strong	Prompt
Marine renewable energy	Nascent	Medium	Prompt
Port activities	Medium	Strong	Prompt
Shipbuilding and repair	Small	Strong	Lagged
Maritime transport	Medium	Strong	Prompt
Coastal tourism	Very large	Strong	Very lagged
Emerging sectors			
Blue bioeconomy	Small	Strong	Prompt
Ocean energy	Nascent	Small	Prompt
Desalination	Nascent	Small	Prompt
Maritime defence	Small	Small	Prompt
Cables	Nascent	Small	Prompt
Research and Education	Nascent	Small	Prompt
Marine observation	Nascent	Small	Prompt

The EU Blue Economy

Source: European Commission, "The EU blue economy report 2021"



The current policy context



"The best investment in our future is the investment in our people. Skills and education drive Europe's competitiveness and innovation. But Europe is not yet fully ready. I will ensure that we use all the tools and funds at our disposal to redress this balance."

The President of European Commission Von der

COVID-19

Leyen

The COVID-19 pandemic has accelerated the digital transition and has impacted career opportunities in the EU.



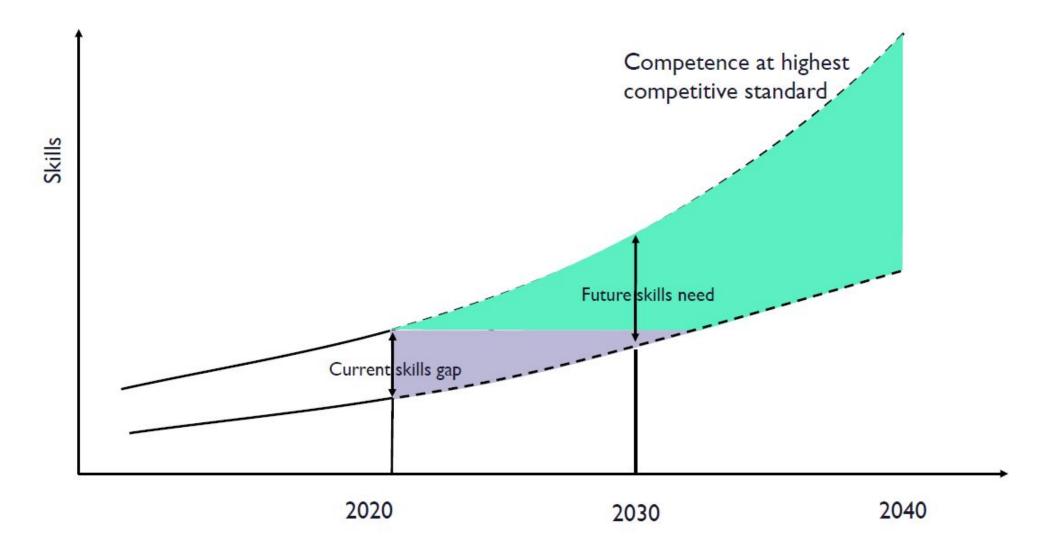
Transformational Ocean Space Technologies



Source: LR, "Global Marine Technology Trends 2030



Closing the skills GAP





sectors



























Ocean Literacy & Blue Careers



"If you want to build a ship, don't drum up people to collect wood and don't assign them tasks and work, but rather teach them to long for the endless immensity of the sea."

Antoine de Saint-Exupery



info@cmmi.blue



www.cmmi.blue



@cmmicyprus



cmmicyprus



cmmicyprus



Thank you for your attention





CMMI was established as a "Centre of Excellence in Marine and Maritime Research, Innovation and Technology Development" and has received funding from the European Union's Horizon 2020 research and innovation Programme under Grant Agreement No. 857586 and matching funding from the Government of the Republic of Cyprus.



Thank you for your attention



zacharias.siokouros@ cmmi.blue





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A











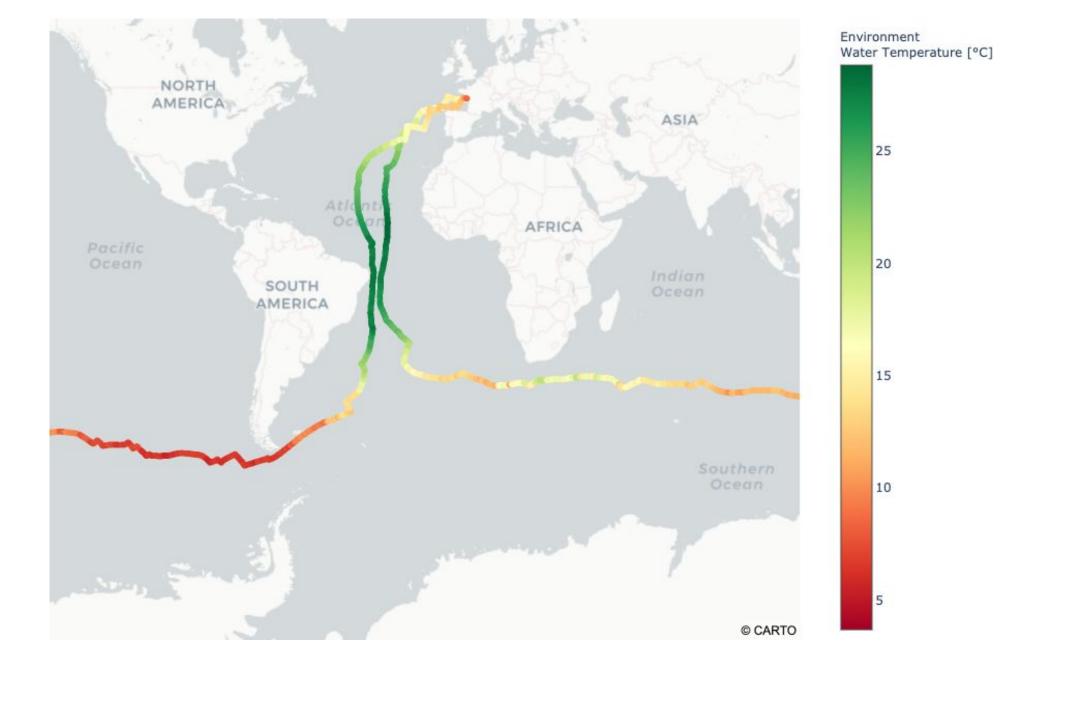


























- www.myoceanchallenge.org
- •www.borisherrmannracing.com

•myoceanchallenge@borisherrmannracing.com



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Introducing the Ocean Literacy Research Community Ocean Observers Workshop December 2021

Y

Dr Emma McKinley - Cardiff University/ Marine Social Science Network - mckinleye1@cardiff.ac.uk

@EmmaJMcKinley @MarSocSci

#MarSocSci #TeamMarSocSci









OLRC Objectives

- Establish a coordinated, collaborative, and inclusive OL research community for the Decade
- 2) Co-organize a **workshop series** (3 total) from July 2021 to June 2022 with the aim to:
 - → Map and better understand the current global OL research 'seascape'
 - Co-identify what are the research gaps and priorities
 - → Organize research projects to address these gaps and priorities, co-produce a series of outputs, strengthen knowledge exchange
 - → Increase support for and impact of OL research

Workshop #1: July 7

- Building and mapping community
- → Taking stock of current OLR

Co-Developing an Ocean Literacy Research Program for the UN Ocean Decade

Satellite Workshop July 7th 2021





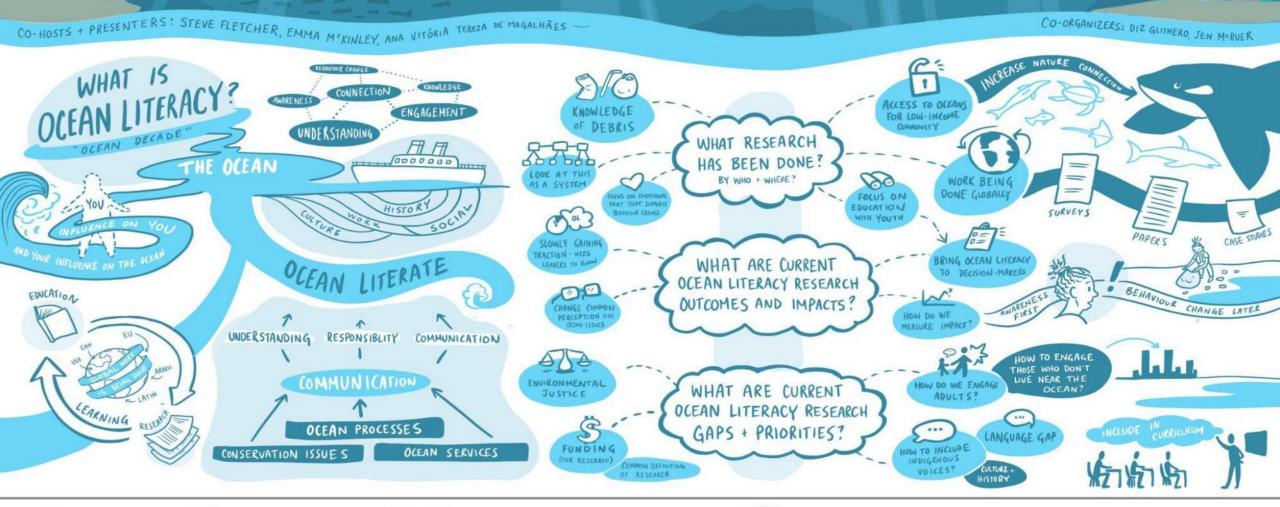








Co-developing a Collaborative Ocean Literacy Research Program For the Ocean Decade





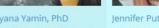














Jennifer Putland, udent, National Taiwa... Education Coordinator,...



Judy Mann-Lang, Conservation Strategist,...



Marianna Gardener, esearcher in Education,... PlastiCity Project...



Carla Gomes, Founder of Oceans-On Movement,...



iane Bastos, PhD

avis Windleharth, arine Science Educatio... candidate, World...



Andrei Polejack, PhD



Heather Hopkins, Project Coordinator, NRT Strong...







argaret Awuor Owuor, Mary S. Wisz, Professor, Sónia Seixas, Professor, ecturer, South Eastern... World Maritime University Universidade Aberta an...



eus Figueras, Marine ientist & Writer (I'm...



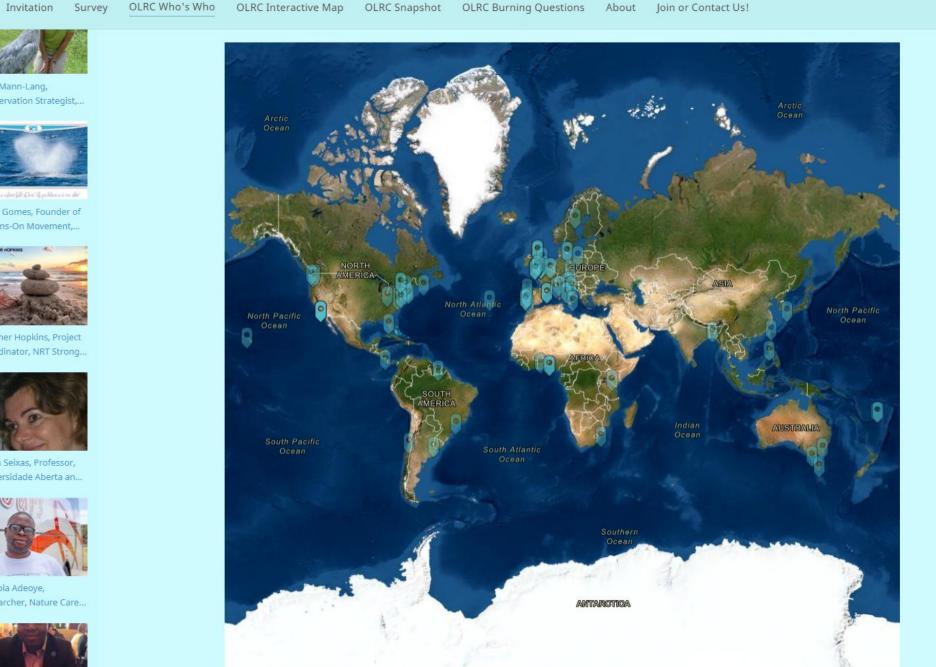
Gabriela Ojeda-Romano,



Olusola Adeoye, Engagement with Societ... Researcher, Nature Care...









Add your voice

WHY? The ocean needs US

WHAT? An ongoing, global OLRC "snapshot"

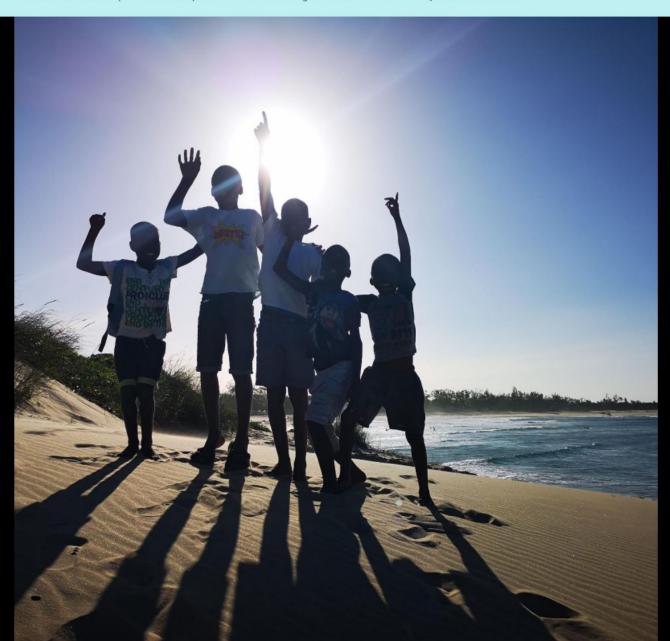
HOW? Click the survey button (~5-7 min to complete). Your voice will be automatically added to the interactive maps below!

SURVEY#1: Who's Who in OLRC

SURVEY#2: OLR Gaps & Priorities

UPCOMING SURVEYS:

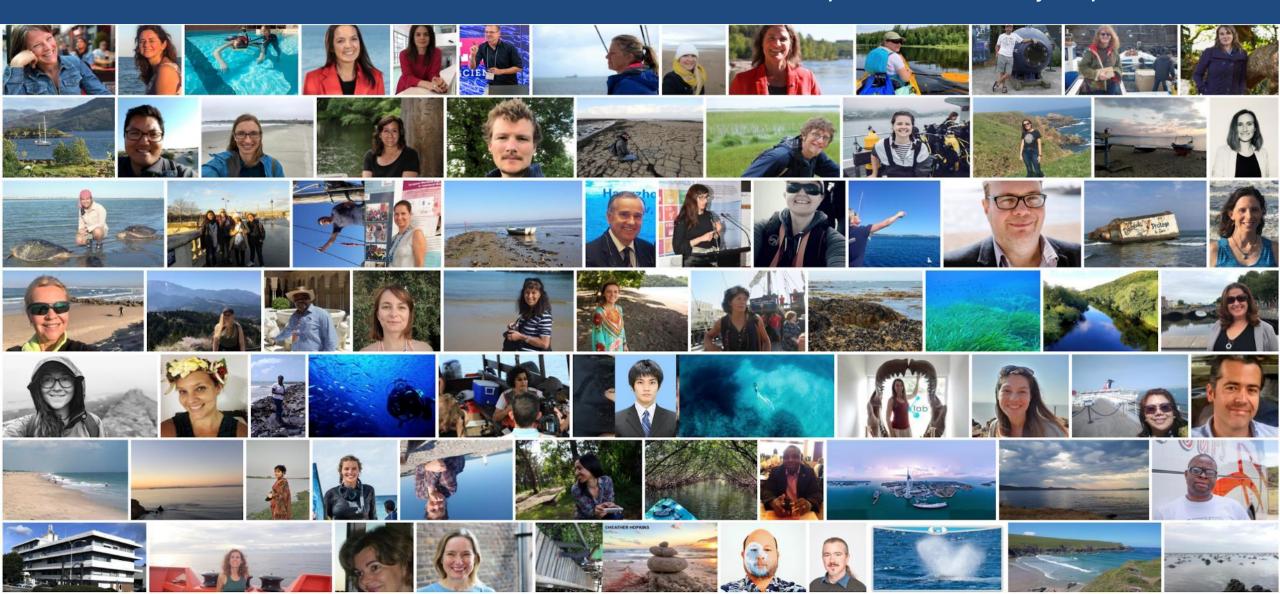
• Survey #3: Where are we headed? OLRC Action & Impact



OLRC Survey: Who's Who

There are currently 114 OLRC members from roughly 32 different countries

→ Output #1: Our StoryMap

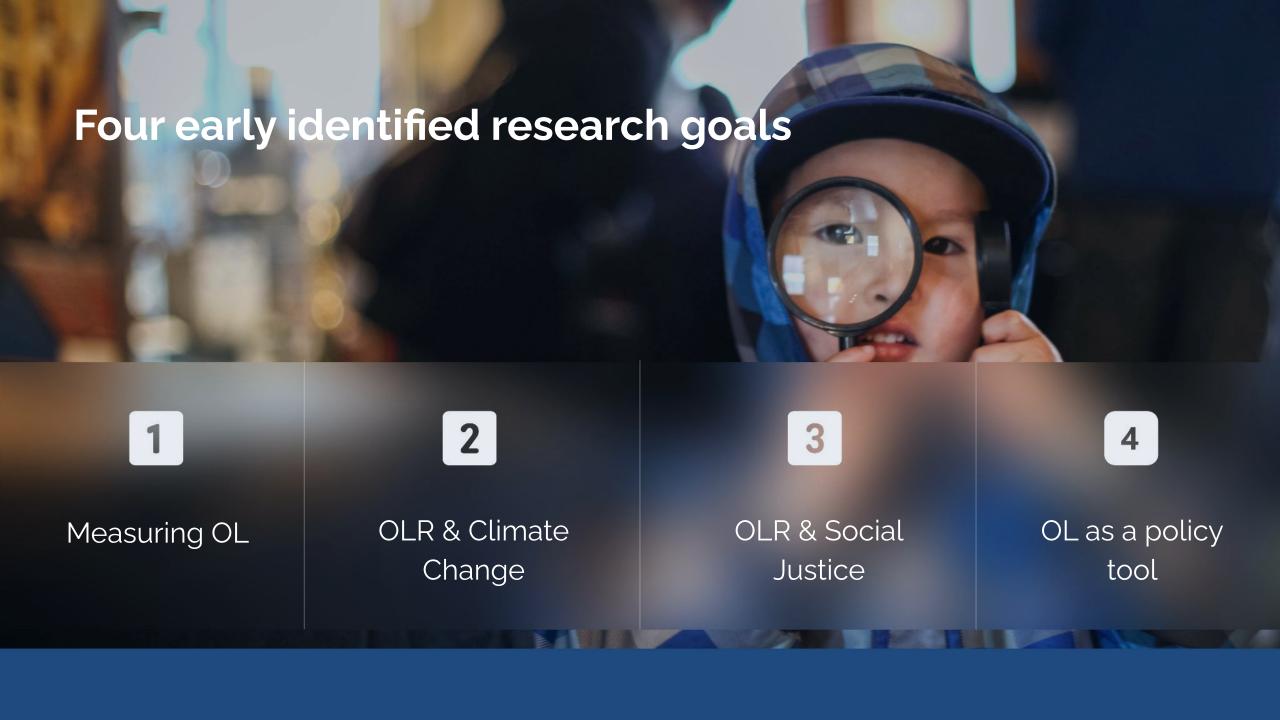


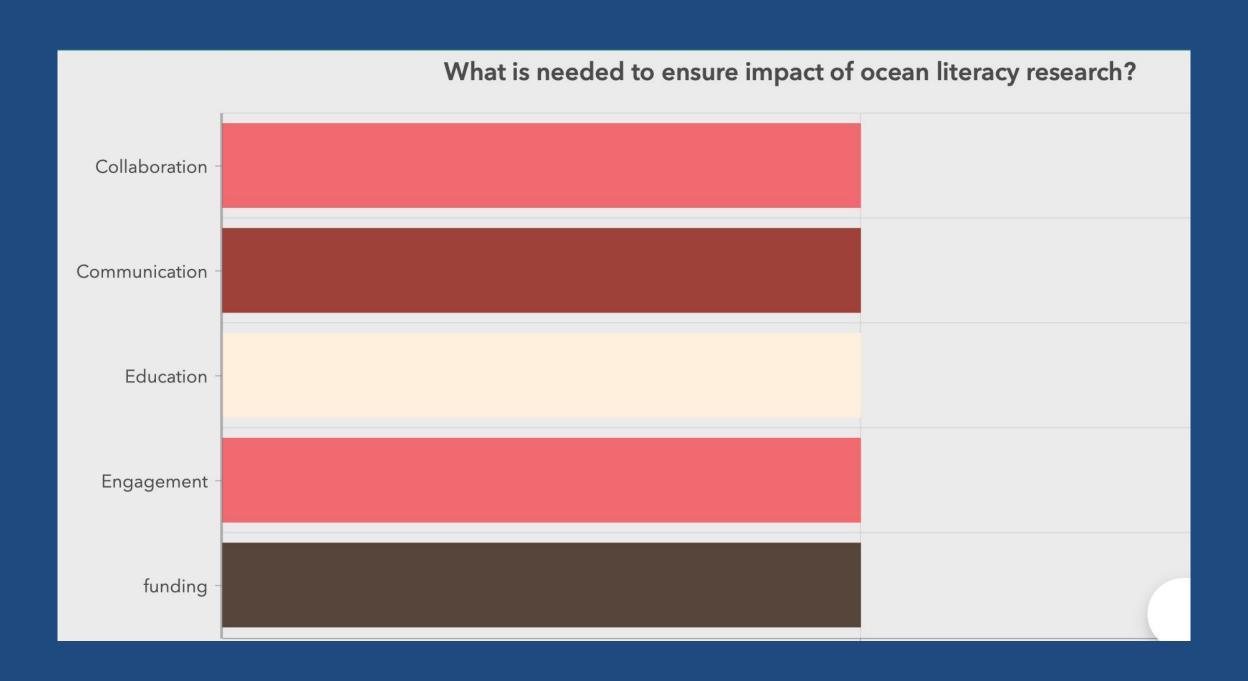


OLR Definition

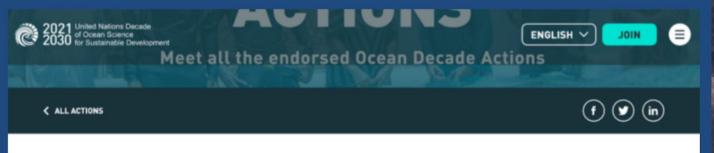
Working Definition:

OLR is an interdisciplinary, cross-sector field of research which explores the diverse dimensions, drivers, influences and impacts of ocean literacy initiatives. OLR seeks to understand how these aspects may vary in different social, economic, cultural, political, and geographic contexts and is inclusive of diverse voices, actors and ways of engaging with the ocean.





Situating OLRC work into the Decade endorsed OLWA programme



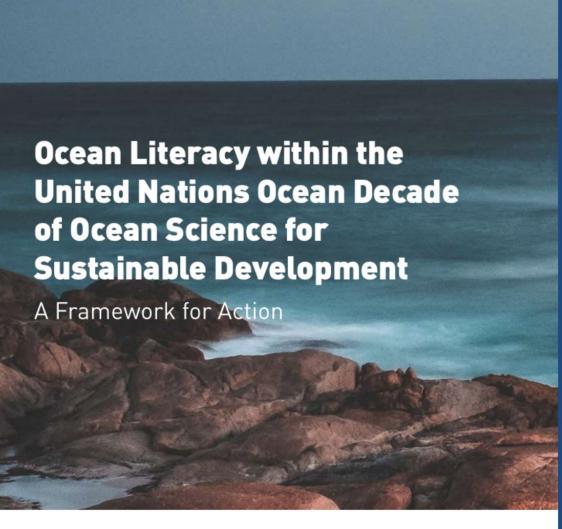
Ocean Literacy With All (OLWA): the change we need for the ocean we want

Intergovernmental Oceanographic Commission of UNESCO

Change humanity's relationship with the ocean, Programme

OLWA advances Ocean Literacy (OL) through international partnerships and networks by designing and implementing transformative locally and globally relevant research-based activities and projects by and for diverse stakeholders

This programme builds capacity and behaviour change to achieve an ocean literate society to help ensure sustainable development of the global ocean.



The United Nations
Decade of Ocean Science
for Sustainable Development

(2021-2030)



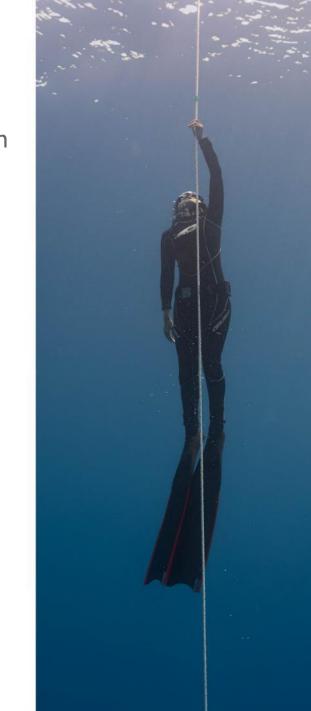
Next Steps

 Ongoing work to identify priorities and support co-development of an OLR agenda.

Invitation to help organize the March/April workshop

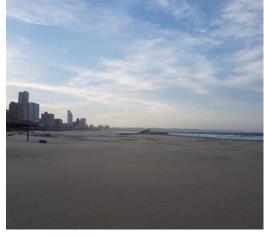
 March/April workshop to accommodate time zones

 OLRC sessions planned for June and September 2022.

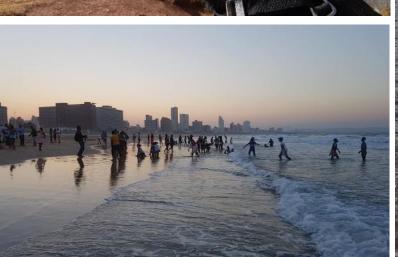














Thank you!

For more information:

Email:
 Emma McKinley <u>mckinleye1@Cardiff.ac.uk</u>

Diz Glithero - <u>diz@colcoalition.ca</u>

Story Map design: Jen McRuer, COLC Graphic design: Meghan Callon, COLC



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