



Report On Ocean Observers Workshop

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Contributors	Alan Berry, Lara Diaz, Estérine Evrard
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Document History

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V1.0	17/12/2021	M. Belbéoch, E. Rusciano, C. Gourcuff & M. Bollard	Initial version.
V1.1	21/12/2021	M. Belbéoch, E. Rusciano, C. Gourcuff & M. Bollard	Final version with partners inputs



EXECUTIVE SUMMARY

This document reports on the main results and outcomes of discussions held during the 2nd Ocean Observers workshop, organized on the 29th – 30th November and 1st December 2021, as a virtual event by the international Ocean Observers Working Group, co-led by JCOMMOPS, (recently renamed OceanOPS) and the Euro-Argo ERIC (E-A ERIC). The workshop has been endorsed by the UN Decade of Ocean Science for Sustainable Development.

The Ocean Observers is an international educational network made up of different actors involved in marine science outreach activities who are willing to share experience on educational activities related to *in situ* ocean observations. It was launched with the organization of the 1st Ocean Observers workshop in 2017 in Brest.

The 2nd Ocean Observers was attended by about 100 participants with up to 70 people attending each session, from 22 different countries. It was very well welcomed by attendees and gave rise to interesting discussions and exchange of experience between participants. Contacts were made between different teams for possible future international collaborations.

A reminder on the Ocean Observers initiative and the motivations for organizing this workshop are presented in the first section, followed by the workshop objectives (section 2) and a description of the workshop (section 3). The outcomes are presented in the last section, including the future perspectives.



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1. Ocean Observers initiative – background & motivations

The Ocean Observers is an international educational network bringing together many different people, such as marine scientists, teachers, educational officers, communicators, and citizen scientists in general, who are interested in sharing experience on educational activities related to in situ ocean observations.

The initiative was born in 2017. After discussion with the Argo community, the Euro-Argo ERIC (E-A ERIC) and JCOMMOPS (recently renamed OceanOPS) found that many educational activities focused on ocean observations exist today, but they are frequently isolated and lack national and international visibility. Therefore, it was important to start federating a community around a coordinated ocean observation education project. With this aim, Euro-Argo and JCOMMOPS organized the 1st workshop in Brest (France). Additionally, after the workshop, an international and multidisciplinary Working Group of 14 people in charge of coordinating and evolving the initiative was established. HCMR, MI, SU and SOCIB are part of this international Working Group, co-lead by E-A ERIC and JCOMMOPS, whose Terms of Reference were defined in 2019

In the general context of Ocean Literacy and in link with other initiatives such as activities of the EuroGOOS Ocean Literacy Working Group, the main goals of the Ocean Observers initiative are to: 1) establish new international collaborations around ocean observations and educational activities; 2) share information, expertise and materials related to ocean observations; 3) assemble multi languages educational materials separated on different age ranges, in a unique, free-access repository to build a global ocean observation learning platform, through the www.oceanobservers.org website.

After the 1st workshop, the ocean observing community expressed interest in keeping this community alive and to organize a 2nd workshop.

The workshop was originally planned to be held on the Balearic Islands in November 2020 but due to the Covid-19 restrictions it was postponed, and the Working Group agreed to organize it as a virtual event, before the end of 2021. The initial format of the event prepared in 2019-2020 by the Working Group had to be fully revisited. The workshop preparation also included revisiting and filling the www.oceanobservers.org website and the creation of a logo and background image for communication purposes.



2. Workshop Objectives

The Ocean Observers workshop wished to promote discussions and collaboration between all actors involved in marine science outreach activities and help them to properly disseminate scientific knowledge about the ocean.

The main objectives of the workshop were to:

- Review existing initiatives
- Support discussions and bring up collaboration between all participants
- Engage new people in ocean observing educational activities
- Give educators marine science information they could apply to their environment
- Give scientists tools to share their results with the public at large.

3. Workshop report

The workshop was a 3-day on-line, interactive event, organized around oral presentations – including keynote talks – roundtables and informal discussions, and hands-on experiments. About the organization of the talks, a call for abstract was launched during summer 2021 and the 25 abstracts received were reviewed by Euro-Argo ERIC and JCOMMOPS with the help of the Working Group in September 2021. The final agenda of the workshop (see Annex 2) was published on the Ocean Observers website together with all information about the workshop’s sessions, objectives and registration details.

In addition to their involvement in the Working Group, SOCIB, MI and SU provided videos for the hands-on experiment sessions, contributed to the chairing and made presentations (see agenda in Annex 2).

During the workshop, each day included 2 sessions of 2-hour duration each, at two different times of the day, trying to suit different time zones. A one-question survey was set up at the beginning of every day to get people to know more about each other, and to keep a recording of the attendees’ expectations from the Ocean Observers initiative.

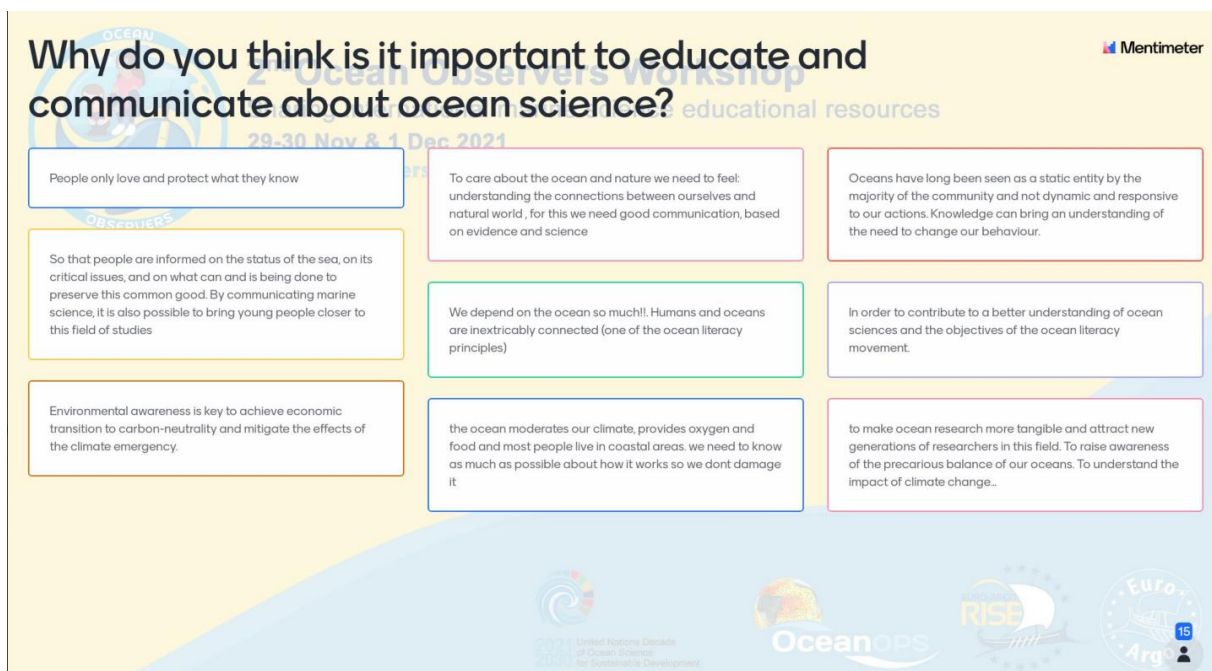


Figure 1. Some answers to the day-2 questionnaire

A public whiteboard was available for the attendees on the workshop dashboard, with the aim of sharing announcements with other attendees about learning courses, workshops, conferences, news, calls for collaborations. The whiteboard was very appreciated by the attendees and populated with numerous information.

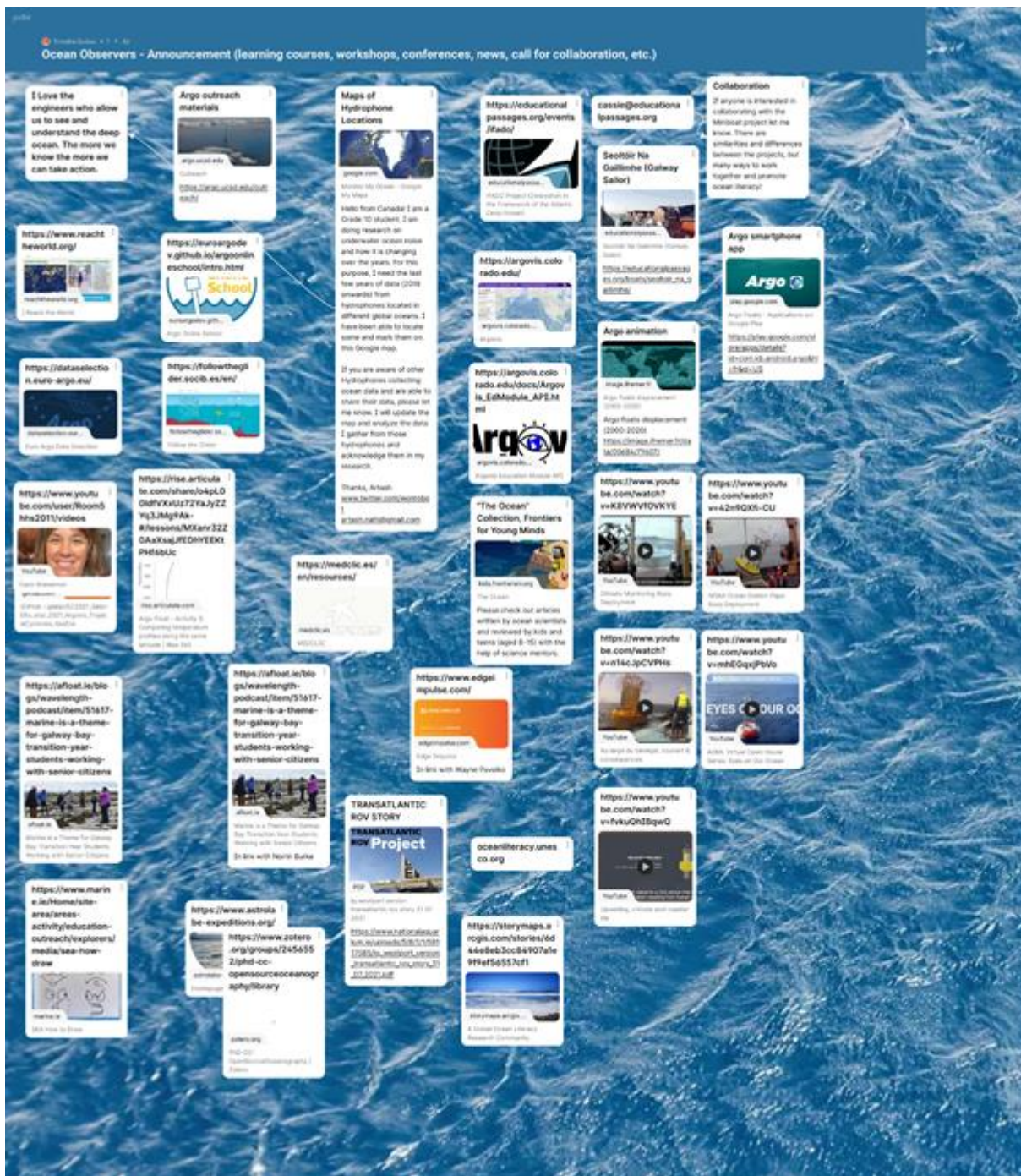


Figure 2. Whiteboard with all shared information and ideas for collaborations

The workshop was endorsed by the United Nation Decade of the Ocean. It was promoted at international, national, and regional level to educational communities. The workshop languages were English, French and Spanish, with simultaneous translations provided in these 3 languages.

The workshop was attended by several dozens of participants. In total, 160 people registered to the workshop and up to 70 participants from 22 countries attended the first session.

attendees was mainly from France, Spain, Ireland, US but also there were some representatives of South Africa, Netherlands, South Korea, Kuwait, New Zealand, etc., with a wide distribution of people from diverse sectors.



Figure 3. Origin of workshop attendees

Most of the participants were communicators, scientific outreach officers and scientists, and almost all attendees were already well involved in educational activities.

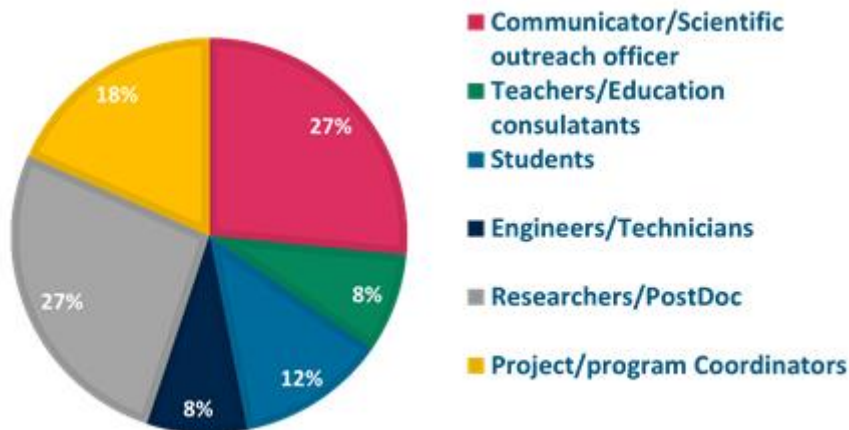


Figure 4. Background of workshop attendees

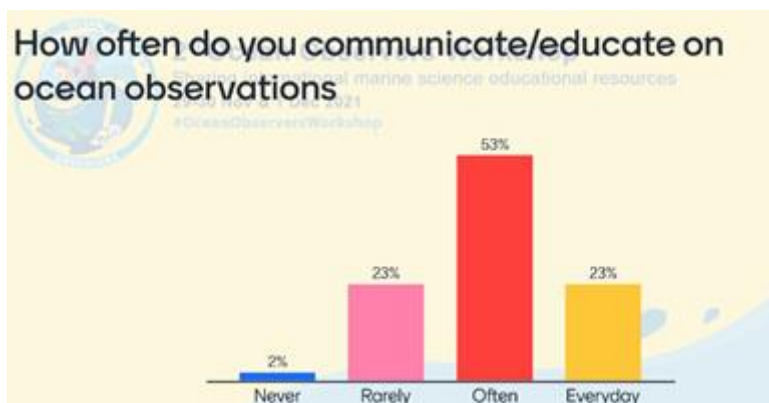


Figure 5. Results from the 1st day survey questionnaire set up during the workshop

4. Workshop outcomes

The workshop was animated by very interesting discussions and people were highly interested in developing new international collaborations. Despite a large variety of activities presented during the 3-days, many connections were made between people engaged in educational activities developed in different countries.

4.1 Workshop highlights

During the workshop discussions, some concepts were highlighted by the participants. In particular, it was underlined that:

1. Ocean science can be addressed in different disciplines such as science, art, geography, language classes, etc.
2. Covid-19 despite its disadvantages, allowed developing new way to communicate and educate, and the virtual teaching & learning enabled people to attend diverse classes from everywhere at any time
3. Educational activities are often complemented by restitution days and diplomas to promote students' work
4. It is important to ask for participants feedback after each educational activity proposed
5. There is a growing need and demand to develop interactions between scientists/engineers and teachers, especially to adapt the existing scientific data visualization tools to educational purposes for young minds
6. Lastly, it was raised that it is important to “humanize” ocean science for outreach activities when we face the public at large and young minds.

4.2 Workshop feedback

A questionnaire was issued at the end of the workshop to discover participants' thoughts about the workshop and to improve the organization of the next one. The link to the survey was sent by email to all participants. Overall, the feedback received from 24 people was very positive and encouraging to keep the community alive and move forward with the educational activities focused on ocean observations.

Globally, participants much appreciated:

- Sharing experiences, new ideas, projects and materials developed for outreach and ocean literacy in different countries
- Making connection and sharing contact information
- Getting feedback from users about ocean tools, engagement of scientists and teachers
- Quality of talks and hands-on activities
- Meeting people from an international audience

Participants less appreciated:

- Failure to reach a wide audience of teachers
- Timing not comfortable for all
- Virtually format does not allow easy connections between people

The outputs from the questionnaire are shown in Annex 1.

4.3 Future perspectives

Based on what was discussed and raised during the workshop, JCOMMOPS and Euro-Argo proposed at the end of the workshop the following actions to move forward:

1. Assemble educational materials and populate the website through:
 - Collating materials presented during the workshop
 - Gathering new multi-language resources
2. Keep the community and the initiative alive through:
 - Promoting new collaborations
 - Publishing news about the initiative
 - Brainstorming about the 3rd workshop
3. Make known the Ocean Observers initiative worldwide:
 - Presenting the initiative during conferences & workshops
 - Continuing to use the hashtag **#OceanObservers** on Twitter and other social media
4. Engage with new schools and educators with the help of the ocean observing and the educational community already involved in the initiative
5. Look for new human and financial resources to continue developing the community



5. Acknowledgements

We would like to thank everyone who made the 2nd Ocean Observers workshop happen. The great success of this workshop was mainly due to the commitment of the 14 people who are part of the Working Group, as well as to the enthusiasm and involvement of all attendees, the sessions' chairs, and moderators. We also wish to thank all people who inspired us during the finalization of the workshop's content.

Working Group members:

Claire Gourcuff, Science officer, France, Euro-Argo ERIC

Emanuela Rusciano, Science & Communication coordinator, France, JCOMMOPS

Marine Bollard, Communication officer, France, Euro-Argo ERIC

Dimitris Kassis, Researcher, Greece, HCMR

Lara Diaz, Marine Scientist, Spain, SOCIB

Emily Smith, Program manager, USA, NOAA

Estérine Evrard, Project officer, France, Euro-Argo ERIC

Keith Hartle, Teacher, New Zealand

Carolyn Scheurle, Scientific mediator, France, IMEV (SU)

Carol Brieseman, Teacher, New Zealand

Thomas Mtontsi, Education officer, South Africa

Dina Eparkhina, Senior Policy and Communications Officer, Belgium, EuroGOOS

Carol Young, Teacher, New Zealand

Deirdre Fitzhenry, Scientific & technical officer, Ireland, Marine Institute (MI)

ANNEX 1 - Survey summary

1. Were you already involved in the 1st Ocean Observers workshop?

[Plus de détails](#)

● Yes	9
● No	15

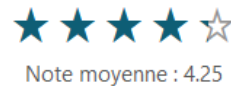


2. Was the content of this workshop relevant to your job?

[Plus de détails](#)

Insights

24
Réponses

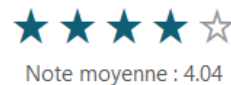


3. Given that the workshop had to be organized virtually, was the format (3 days, 2x2 hours session per day) convenient for you?

[Plus de détails](#)

Insights

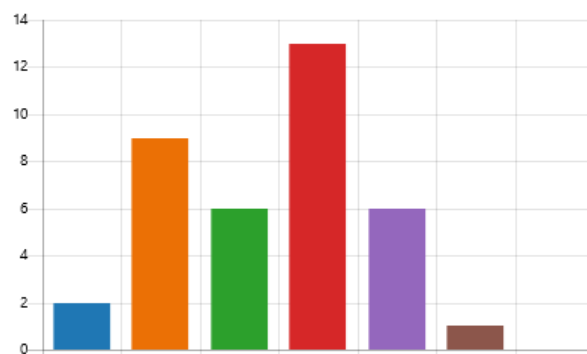
24
Réponses



4. How would you improve this workshop? (Check all that apply)

[Plus de détails](#)

● Reduce the content covered in...	2
● Increase the content covered i...	9
● Slow down the pace of the wo...	6
● Allot more time for the talk se...	13
● Allot more time for the hands-...	6
● Shorten the time for the talk s...	1
● Shorten the time for the hands...	0



5. What is most valuable about this workshop?

24 Réponses

ID ↑	Nom	Réponses
1	anonymous	Learning about other efforts around the world and making connections with other education efforts.
2	anonymous	finding out the wide range of activities people are doing and the new means of observing - new technologies
3	anonymous	The global connection and the different perspectives
4	anonymous	contact and networking
5	anonymous	The generation of new resources (educational material) to the teachers
6	anonymous	Sharing all the initiatives and contact information
7	anonymous	It was great to share experience and suggest collaboration all around the world.
8	anonymous	rencontrer de probables futures partenaires. ouvrir à d'autres perspectives
9	anonymous	Informativeness, diversity, format, structure, examples of best practice
10	anonymous	In the case of developers, getting feedback from users and checking that we cover their requirements for a productive learning.
11	anonymous	Personally I found the speakers to be very open to sharing ideas and collaborations. I love that! I think we have already made a link with another partner so very valuable for us.
12	anonymous	The hands on activities

13	anonymous	If the questions pertains to the 2nd workshop then I really appreciate the fact that participants give themselves to their work over and above the different time zones we live in. Secondly, the quality of talks and the implementation of this work where the science is shared with young minds is very valuable. Well done to everyone. 1st workshop it was great to touch base and build something out of that workshop that led to this one. Today, there is a workshop and links to great resources. Well done this is getting better and better.
14	anonymous	Excellent initiative to discuss and showcase ocean observing activities which can engage general public, and share experiences among the practitioners.
15	anonymous	sharing of the experiences. I found teacher feedback very invaluable in carrying out similar initiatives because they help to remodel the targets we are used to proposing in a more accessible and effective way. Also, be able to know how other countries address this kind of educational target
16	anonymous	It brings together very good practitioners in teaching from school to post graduate level. The most exciting part was the engagement of active research staff (eg ARGO and small boat) with school age children. This was done at an appropriate level for the school children.
17	anonymous	Learn what others are doing
18	anonymous	Projects that concern ocean education of youngsters and projects aiming to protect ocean biodiversity.
19	anonymous	sharing experiences
20	anonymous	summary of activities undertaken, getting in touch with various actors, strong implication of researchers, taking place on an international level
21	anonymous	The kindness and availability of the staff
22	anonymous	I learned about some new projects and ideas for ocean literacy and outreach
23	anonymous	Meeting people from an international audience (I am based in the US). I really appreciated the fact that it was free to attend.
24	anonymous	What I really liked was the notice board of projects and ideas (which I still have open on one of tabs). So even if I missed a talk or a session, the very interesting things I could still see - web links, etc. I really enjoyed this!

6. What is less valuable about this workshop?

24 Réponses

ID ↑	Nom	Réponses
1	anonymous	not a lot of involvement from audience
2	anonymous	the timing on the opposite side of the earth
3	anonymous	I would have liked a more in-depth description of some of the presentations
4	anonymous	some content, but it's a positive point due to the diversity..
5	anonymous	Failure to reach a wider audience of teachers
6	anonymous	Nothing
7	anonymous	I wish I can see presenters's ppt on my pace because I sometimes cannot follow the speed of presenter.
8	anonymous	trop scientifique, et pas assez pratique
9	anonymous	Not sure
10	anonymous	I would not highlight nothing special.
11	anonymous	I could not attend the evening workshops, due to other committments. Thats on me though I should have planned better.
12	anonymous	Extended presentations about infrastructures and past activities
13	anonymous	The virtual space may be taking away the human effect the opportunity to discuss beyond presentation time. And the opportunity to connect. While this can be pursued from contacts, it isn't the same. All is not lost though!

14	anonymous	I didn't manage to attend the whole event so cannot answer this. I like that this workshop is hands-on and clearly addressing the topic of education using ocean observations.
15	anonymous	I found the evening session inconvenient to follow
16	anonymous	The ocean literacy wasn't defined very carefully. A short section on a definition of it would have been helpful
17	anonymous	nothing really, but networking would be easier if in person (not an option at the moment, I know)
18	anonymous	Projects on systems and equipment for scientific oceanic data collection
19	anonymous	weekdays
20	anonymous	-
21	anonymous	The virtually format
22	anonymous	Sadly, the limitations of virtual meetings. The side conversations and discussions that happen at in-person meetings were absent. This was obviously unavoidable this year - but I hope that future workshops will be 'real' - the interaction is so much better!
23	anonymous	The hands-on parts didn't apply to me, but I imagine were valuable to educators. The session I was part of was very focused on the scientists, which was great, and I would be curious to know how many educators were in the room. Having an orientation to the Ocean Observers materials already online would be helpful.
24	anonymous	Nothing.

7. Do you think the Ocean Observers workshop should be renewed regularly?

[Plus de détails](#)

● Yes	23
● No	1



8. Would you like to join the Ocean Observers Working Group?

[Plus de détails](#)

● Yes	14
● No	10



9. What kind of educational resources would you like to find on the www.oceanobservers.org website?

24 Réponses

ID ↑	Nom	Réponses
1	anonymous	presentations, curriculum, information graphics
2	anonymous	activities for students
3	anonymous	I would like to find the presentations shown during the workshop and the links to the different activities presented
4	anonymous	A view (exhaustif ;-)) of international programm for ocean in education and research..
5	anonymous	Classroom activities
6	anonymous	Interactive material and maybe video clips of ocean science and scientists in action with personal commentary.
7	anonymous	perfect for now
8	anonymous	idées d'expériences scientifiques à mettre en plac en classe. Contacts avec despartenaires
9	anonymous	Open access video of the workshop and other materials as a very good educational resources
10	anonymous	Apps developing for dealing with data that comes from the different Ocean Observing Systems.

6 répondants (25%) répondu **ocean** pour cette question.



11	anonymous	I really liked the home and outdoor experiements lots of fun!! I think the addition of portals might be a good idea. Introduction to observation.....than a slow progression to advanced. I really liked the free tools like build remote sensors etc via online programmes. I think it was math mapping programmes?
12	anonymous	Educational leaflets for dissemination, video tutorials, classroom and online educational games
13	anonymous	The efforts shown by the presenters remain valuable and if they agree, the website should also be a platform to share with everyone else.
14	anonymous	Easy to use hands-on experiments or resources based on ocean observations.
15	anonymous	more educational material, shared educational projects, experimental tools, multilanguage general contributes
16	anonymous	Though I am retired now, when I was doing outreach and visiting schools I would have liked to receive some guidance on appropriate materials for the particular age group.
17	anonymous	Presentations, videos, ideas.
18	anonymous	Educational resources on - ocean biodiversity situation and ways to improve it - ocean pollution and how to increase public awareness and involvement
19	anonymous	links
20	anonymous	links to relevant resources, translations of material if possible
21	anonymous	Maybe the diffrent offers in terms of educational projects around ocean observation
22	anonymous	The ones shared during the workshop were excellent - a wide range of resources for different types of audience.
23	anonymous	N/A
24	anonymous	Links to materials, especially those that can be shared. Media materials, interesting school projects and learning lesson materials, etc.

10. Other comments and suggestions, if any

24 Réponses

ID ↑	Nom	Réponses
1	anonymous	Wonderful job, thanks!
2	anonymous	great work
3	anonymous	I do not have any other comments
4	anonymous	very good job for adapting the programm in distancial workshop... great job ! thanks
5	anonymous	
6	anonymous	This type of workshop and on a regular basis helps keep education and communication within the wider community going! Its a bit like a global group hug! Knowing what everyone is doing and the sharing keeps us enthused and reignites the passion.
7	anonymous	I wish there's a channel or board to share event or story in community
8	anonymous	merci pour cette belle expérience.
9	anonymous	No comments
10	anonymous	I would not highlight nothing special.
11	anonymous	Great event, lots of ideas great job!!

12	anonymous	Investigate the possibility of creating some contests with prizes for students that will boost participation. Also the possibility of creating an on-line or an actual board game with a concept on ocean observations.
13	anonymous	Well done to a very refreshing well coordinated workshop that transcends the language barrier. The technical support was amazing! Thanks again!! Being already a member of the working group, I decided to do this evaluation just experience my reflections from someone who may not necessarily have been.
14	anonymous	Have this event regularly. More discussions can be included in addition to showcases. It'll be great to have that on-site but complemented with on-line contents.
15	anonymous	often one of the limits in the production of didactic material concerns the graphic aspect, a very important component in communication (especially towards children and teenagers). It would be very useful to be able to share graphic resources or develop them together by exploiting and sharing skills.
16	anonymous	I found it very refreshing to hear the enthusiasm from experienced teachers and researchers for spending often extra time on their activities. Another point is the challenge to put this material into an already crowded school syllabus.
17	anonymous	congratulations to all organisers.
18	anonymous	We will recommend more information on projects that can mobilise education, participation and action of the public in general and less information on projects that concern mainly the scientific community and students in this community. There is already enough information on ocean but the problem is the lack of corrective action.
19	anonymous	none
20	anonymous	1/ Would be good to reach out to more representatives of the educational environment. 2/ Although the many efforts, I had the impression that interactions were a bit timid (maybe linked to the virtual format or ...?) 3/ Great organisation and technical background - thanks!

ANNEX 2 – Agenda

Day 1: November 29th, 2021

Theme of the day: How does the ocean regulate our climate?

11:00-13:00 CET (Paris Time)

11:00 OPENING (15')

- **Mathieu Belbéoch** (*Manager, JCOMMOPS*) & **Sylvie Pouliquen** (*Manager, Euro-Argo*)
- **Emanuela Rusciano** (*Science & Communication Coordinator, OceanOPS*): **Ocean Observers initiative**
- **Claire Gourcuff** (*Science Officer, Euro-Argo*): **Workshop objectives**
- **Marine Bollard** (*Communication Officer, Euro-Argo*): **Practical information & Daily questionnaire**

11:15 SESSION #1 (*Moderators: Megan Scanderbeg, Argo Research Associate, Scripps Institution of Oceanography & Carol Young, Educational Consultant, SEREAD*) (75')

Keynote speaker: **Megan Scanderbeg** (*Argo Research Associate, Scripps Institution of Oceanography*): **Ocean observations, the climate and Argo in the classroom**

Keynote speaker: **Carol Brieseman** (*Primary School Teacher, New Zealand*): **Integrating Ocean observations in the school curriculum**

- **Cushla Dromgool-Regan** (*Strategic Education & Communications Manager, The Camden Education Trust*): **The adventures of Seoltóir Na Gaillimhe**
- **Ramasamy Venkatesan** (*Scientist & Head Ocean Observation, National Institute of Ocean Technology*): **Interactive Mentor based Science Workshop on Moored Buoy Data Analysis**
- **Thomas Chen** (*Researcher, Academy for Mathematics, Science, and Engineering*): **Data-driven In Situ Ocean Observation: Fostering Interest at the Nexus of Computer Science and Marine Ecology**

12:30 Hands-on experiment videos (30')

- Experiencing density with hot and cold water
- Is the sea getting saltier?
- Ocean Currents

Hands-on discussion

**18:00-20:00 CET (Paris Time)**

18:00 SESSION #2 (Moderators: **Megan Scanderbeg**, Argo Research Associate, Scripps Institution of Oceanography & **Keith Hartle**, Teacher, SEREAD) (60')

Keynote speaker: **Carol Young** (Educational Consultant, SEREAD): **When our life depends on the ocean: Climate change education in small Pacific Island countries**

- **Tamaryn Morris** (Senior Scientist, South African Weather Service): **Endurance22 and using ocean observing platforms to inspire learners**
- **Alberto González** (Data Scientist, Instituto Español de Oceanografía): **The Argo Online School (AOS), an educational tool for understanding the basics of Argo**
- **Manon Audax** (Science Outreach Officer, Culture Océan, Institut de la Mer de Villefranche): **Adopt a float: an international educational program**

19:00 Data visualization tools demo (60')

- **Donata Giglio** (Assistant Professor, University of Colorado Boulder): **Argovis web tool**
- **Romain Cancouët** (Operational Engineer, Euro-Argo): **Euro-Argo Data Selection Tool**
- **Albert Miralles** (Glider Facility, SOCIB): **Follow the Glider**

Visualization tools discussion



Day 2: November 30th, 2021

Theme of the Day: Climate change and its impact on marine ecosystem and human life

11:00-13:00 CET (Paris Time)

11:00 OPENING (5')

Claire Gourcuff (*Science Officer, EuroArgo*): **Logistic information & daily questionnaire**

11:05 **SESSION #3:** (*Moderators: Alan Berry, Manager Marine Research Infrastructure, Marine Institute & Thomas Mtontsi, Education officer, South Africa*) (90')

Keynote speaker: **Thomas Mtontsi** (*Education officer, South Africa*): **Adopt a Float for Science Skills advancement – A classroom initiative**

- **Martina Ferraris** (*Scientific Mediation Officer, Ifremer*): **Ifremer's scientific mediation activities**
- **Estelle Raynal** (*Climate and environment educative projects manager, French Space Agency, CNES*): **Argonautica, ocean and satellites from kindergarten to engineering school**
- **Alejandra Trejo** (*Researcher, Francisco Gavidia University*): **Let's talk about reefs**
- **Noirin Burke** (*Director of Education, Galway Atlantaquaria*): **Beach School, providing professional development based on ocean literacy for early years educators**
- **Carol Maione** (*PhD student, Politecnico Milano/ Metabolism of Cities Living Lab, San Diego State University*): **Ocean Metabolism: A Toolkit Guide to Tackling and Monitoring Waste in Coastal and Island Tourism Regions**

12:35 Hands-on experiment videos (25')

- Drawing a beach profile
- Warming Oceans

Hands-on discussion



18:00-20:00 CET (Paris Time)

18:00 SESSION #4 (Moderators: **Alan Berry**, Manager Marine Research Infrastructure, Marine Institute & **Thomas Mtontsi**, Education officer, South Africa) 90'

Keynote speaker: **Hervé Claustre** (Senior Scientist, IMEV): **The REFINE project: profiling floats to study the biological carbon pump**

- **Nicolas Kolodziejczyk** (Researcher, IUEM/UBO): **Mer Education**
- **Savannah Judge** (Aquatic Sales, Yokogawa Fluid Imaging Technologies, Inc.): **Use of high-throughput fluid imaging technology in the field-based undergraduate ocean classroom with FlowCam**
- **Raquel Somavilla Cabrillo** (Senior Scientist, Instituto Español de Oceanografía): **OceanSITES: Taking the pulse to the Global Ocean**
- **Giovanni Seijo-Ellis** (PhD Student, University of Colorado - Boulder): **Argovis Application Programming Interface exposed to co-locate oceanic and atmospheric datasets**
- **Maja Karlovic** (Scientist, Hydrographic Institute of the Republic of Croatia): **Oceanographers on the island – new educational program**

19:15 Hands-on experiment videos (30')

- Investigating sea level rise
- Ocean Acidification

Hands-on discussion



Day 3: December 1st, 2021

Themes of the day: [Instruments and technology \(SESSION #5\)](#) & [Ocean Literacy and UN Ocean Decade Roundtable \(SESSION #6\)](#)

11:00-13:00 CET (Paris Time)

11:00 OPENING (5')

Emanuela Rusciano (*Coordinator science & Communication, OceanOPS*): **Logistic information & daily questionnaire**

11:05 SESSION #5: (*Moderators: Joaquin Tintoré, Director, SOCIB & Carol Brieseman, Primary School Teacher, New Zealand*) 90'

Keynote speaker: **Joaquin Tintoré** (*Director, SOCIB*): **SOCIB new ocean observing and forecasting in educational activities**

- **Cassie Stymiest** (*Executive Director, Educational Passages*): **An ocean of opportunity: Integrating sensors on drifting miniboats to advance education and enhance ocean science**
- **Garry Kendellen** (*Content Creator Marketing Public Engagement, Galway Atlantaquaria*): **The TransAtlantic ROV project, from Galway to Washington State"**
- **Noirin Burke** (*Director of Education, Galway Atlantaquaria*): **Exploring creative approaches to virtually communicate remote sensing and its use for monitoring our ocean**
- **Sara Sirviente** (*PhD student, University of Cadiz*): **San Pedro River Coastal Environmental Observation Platform (POCARISA)**
- **Luisa Barros** (*Marine Scientist, Atlantic CoLAB*): **Bringing Ocean Science Closer to Future Generations**

12:20 Hands-on experiment videos (25')

- How does an Argo float function?
- Building a glider
- Drawing Data Buoy, Satellite & an Argo float

Hands-on discussion

Report on Ocean Observers workshop – D7.8_v1.1



18:00-20:00 CET (Paris Time)

18:00 SESSION #6: Ocean Literacy and UN Ocean Decade Roundtable (Moderators: **Dina Eparkhina**, Senior Policy and Communications Officer, EuroGOOS & **Carolyn Scheurle**, Scientific mediator, IMEV) (30')

OPENING: Dina Eparkhina (Senior Policy and Communications Officer, EuroGOOS): **Scientists for Ocean Literacy - EuroGOOS recommendations in the Decade of Ocean Science for Sustainable Development**

Keynote speaker: **Francesca Santoro** (Programme Specialist, IOC/UNESCO): **International Ocean Literacy Framework and Ocean Decade OLWA Programme**

Keynote speaker: **Cédric Courson** (President, Astrolabe Expedition): **Open-Source Oceanography: a way to accelerate oceanographic research by involving citizens communities**

Discussion (15')

18:45 Roundtable – flash talks (35')

- **Birte Lorenzen** (Manager Ocean Education, My Ocean Challenge/Malizia): **Sailing-Science-Education: My Ocean Challenge**
- **Caroline Bodet** (Primary School Teacher, Brest): **Ocean Observing in the classroom**
- **Emma McKinley** (Research Fellow, School of Earth & Environmental Sciences, Cardiff University): **Ocean Literacy Research for the UN Ocean Decade**
- **Zacharias Siokouros** (Chief Executive Officer, Cyprus Marine & Maritime Institute - CMMI): **Blue Careers**

19:20 Panel discussion 20'

19:40 WRAPPING UP & WORKSHOP CONCLUSIONS (Claire Gourcuff, Emanuela Rusciano, Marine Bollard)