BLUE MINDS 4 TEACHERS

Fostering Ocean Literacy in Education for Sustainable Development

Project Partners:

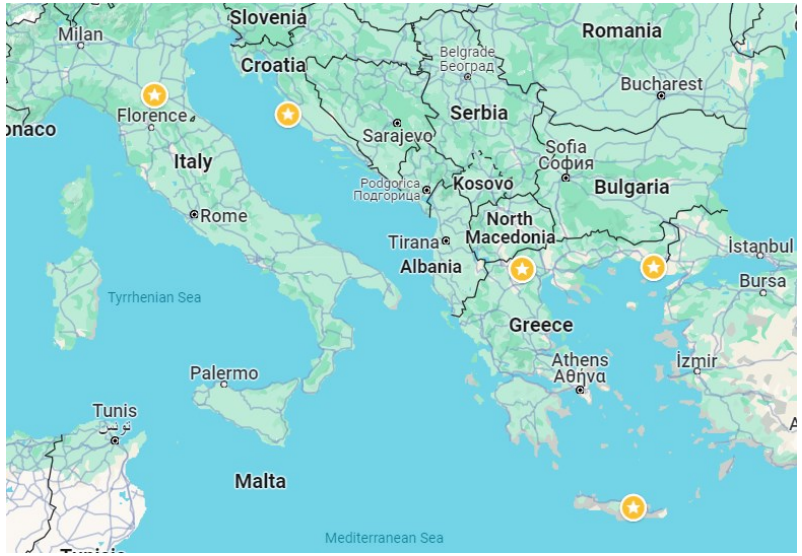
1. Institute of Marine Biology, Biotechnology & Aquaculture,

   Hellenic Centre for Marine Research (IMBBC-HCMR)

   Democritus University of Thrace (DUTH)

   Hydrobiological Station of Pella (HSP)
2. Institute of Marine Sciences,

   National Research Council (ISMAR-CNR)
3. University of Zadar (UNIZD)



BlueMinds4Teachers is implemented with the support of EU4Ocean Coalition funded by the European Commission.

European Ocean Coalition (EU4Ocean)

A **bottom-up initiative that contributes to Ocean Literacy (OL) and the sustainable management of the ocean**, supported by the European Commission, and made up of three components:

https://maritime-forum.ec.europa.eu/theme/ocean-literacy-and-blue-skills/ocean-literacy/eu4ocean-coalition_en

- the **EU4Ocean Platform:** organisations and initiatives that collaborate and mobilise their OL efforts on three priority issues a) Climate and Ocean, b) Food from the Ocean, and c) Healthy and Clean Ocean;
- the **Youth4Ocean Forum:** a free platform for young people who want to make a significant change to protect the ocean and manage its resources sustainably;
- the **Network of European Blue Schools:** schools and teachers bringing the ocean into classrooms by creating and implementing educational projects addressing ocean issues.

Structure of the online course

Session 1-Content Knowledge on Ocean Sciences

Introduction: Ocean Literacy framework, EU and International state-of-play

Ocean Literacy Essential Principles #1-#7 and Fundamental Concepts

Session 2-Social Sciences approach

Key concepts of blue economy - Case study on offshore renewables

Blue generation and Next blue generation projects

Examples of blue careers -Live discussion with “blue” professionals

Session 3-Pedagogical Strategies

Pedagogical strategies that can be implemented for Ocean Literacy

Why should we become ocean literate?

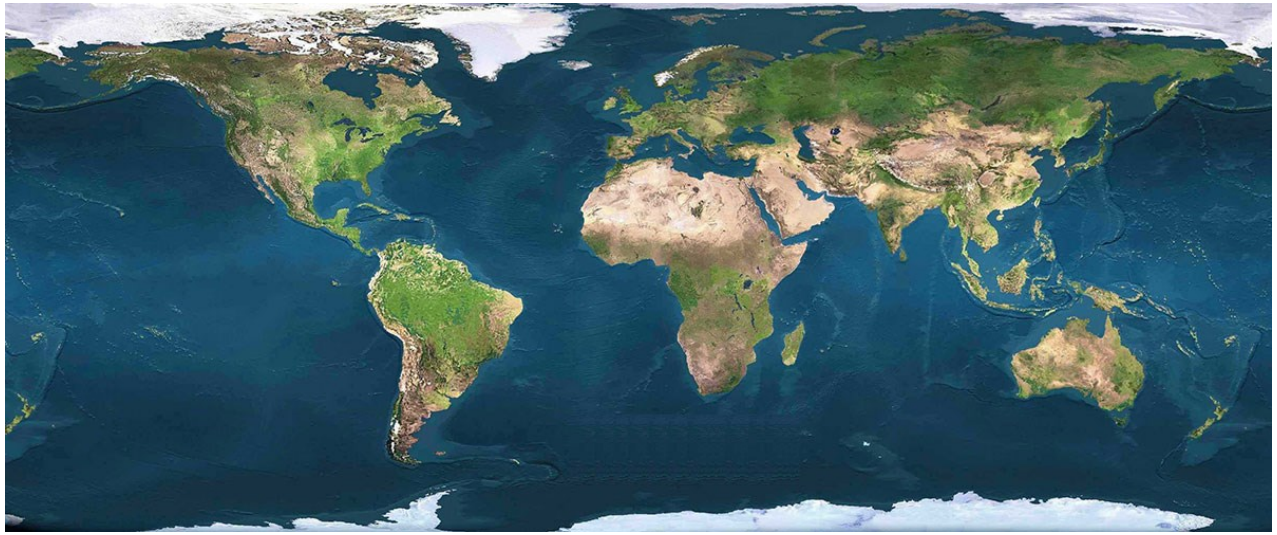
"How inappropriate to call this planet Earth when it is clearly Ocean."
Arthur C. Clarke, an English science fiction writer (1917-2008)

"The Blue Marble" is the name of this picture taken in 1972 by the crew of the Apollo 17 mission and republished on the NASA website on April 22, 2020 to celebrate Earth Day.

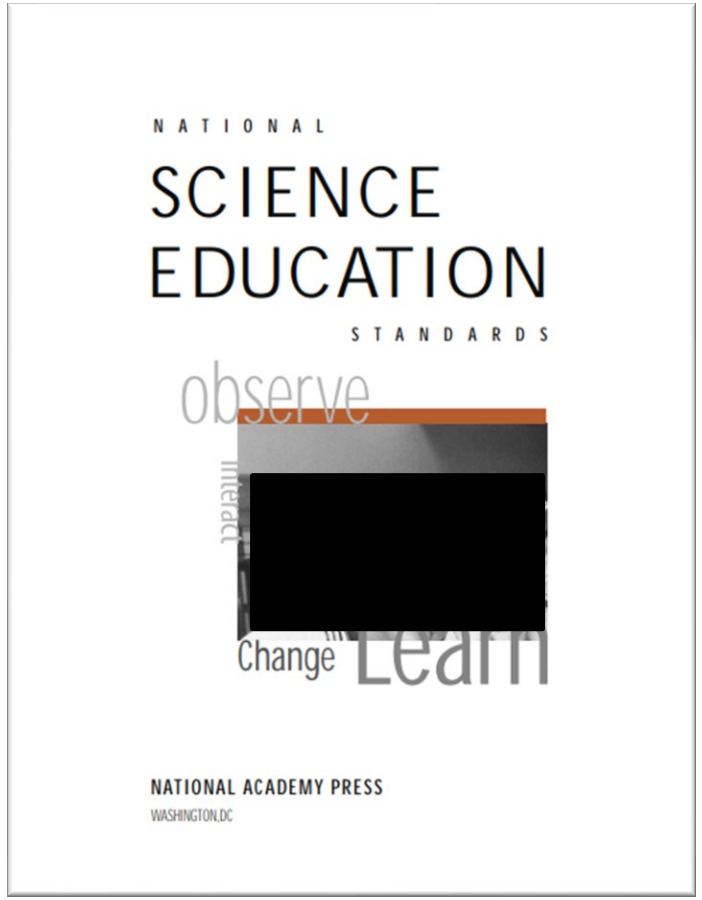
https://www.batepapocomnetuno.com/post/ocean-literacy-why-do-we-have-to-talk-about-it-in-schools

- ✓ The global ocean covers more than 70% of Earth's surface.
- ✓ The ocean contains 97% of the planet's water.
- ✓ The ocean acts as climate regulator.
- ✓ The ocean is home to many species.
- ✓ The ocean gives us food, oxygen and energy.

https://sanctuaries.noaa.gov/library/imast_gis.html



Marine & Aquatic Education



- The concept of education for the water world is not new, as there have been relevant topics in the curricula of several countries since the early 60s.
- In the 70s -establishment of Environmental Education- marine/aquatic education is developed and evolved.
- However, National Science Education Standards were examined in 1996 (USA) revealing an unjustified absence of ocean-related issues.

Definition of Ocean Literacy

Ocean literacy is an understanding of the ocean's influence on you and your influence on the ocean (Cava et al., 2005).

An ocean-literate person:

- ✓ understands the Essential Principles and Fundamental Concepts about the ocean;
- ✓ can communicate about the ocean in a meaningful way;
- ✓ is able to make informed and responsible decisions regarding the ocean and its resources.

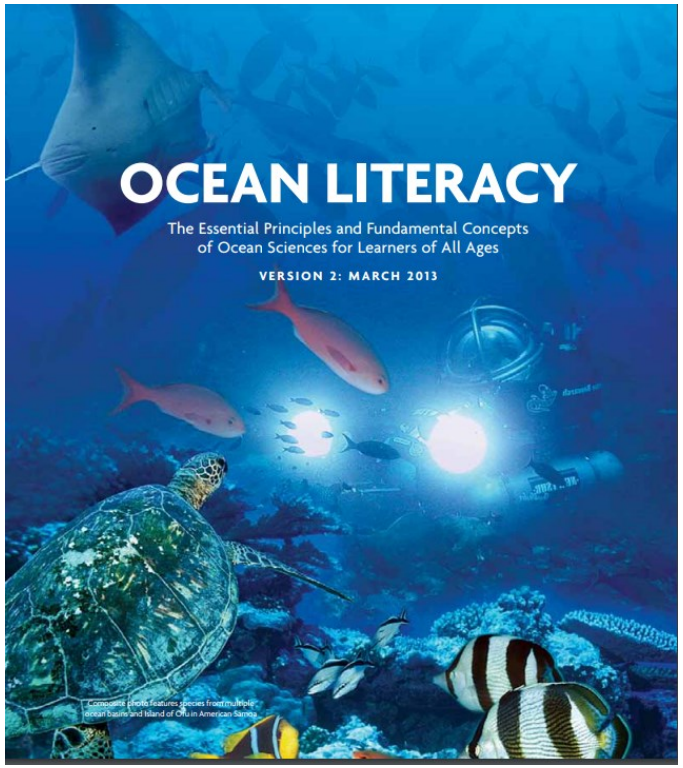
100s of individuals and many organizations

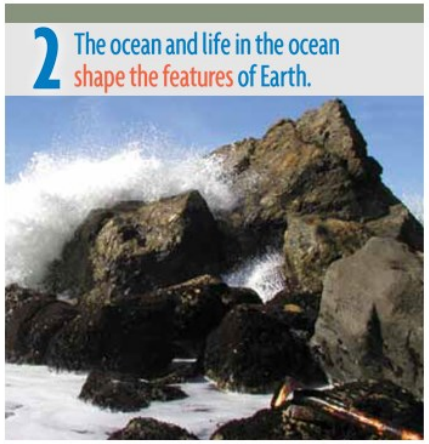
See online Honor Roll

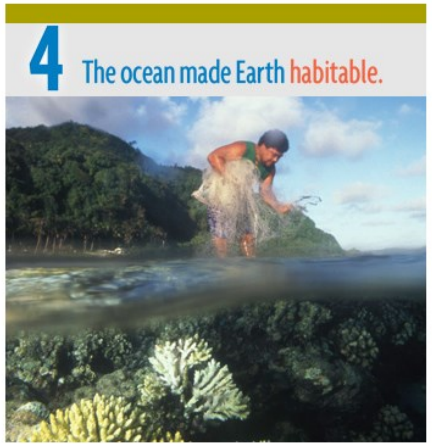
https://www.marine-ed.org/ocean-literacy/honor-roll

Ocean Literacy Framework

1) The Essential Principles (7) and Fundamental Concepts (45) of Ocean Sciences for Learners of All Ages (The Ocean Literacy Guide)







https://www.marine-ed.org/ocean-literacy/overview

Ocean Literacy Framework

1) The Essential Principles (7) and Fundamental Concepts (45) of Ocean Sciences for Learners of All Ages (**The Ocean Literacy Guide**)

https://www.marine-ed.org/ocean-literacy/overview

a. The ocean is the defining physical feature on our planet Earth—covering approximately 70% of the planet's surface. There is one ocean with many ocean basins, such as the North Pacific, South Pacific, North Atlantic, South Atlantic, Indian, Southern and Arctic.

b. Ocean basins are composed of the seafloor and all of its geological features (such as islands, trenches, mid-ocean ridges and rift valleys) and vary in size , shape and features due to the movement of Earth's crust (lithosphere). Earth's highest peaks, deepest valleys and flattest vast plains are all in the ocean.

c. Throughout the ocean there is one interconnected circulation system powered by wind, tides, the force of the Earth's rotation (Coriolis effect), the Sun, and water density differences. The shape of ocean basins and adjacent land masses influence the path of circulation. This 'global ocean conveyor belt' moves water throughout all of the ocean's basins, transporting energy (heat), matter, and organisms around the ocean. Changes in ocean circulation have a large impact on the climate and cause changes in ecosystems.

d. Sea level is the average height of the ocean relative to the land, taking into account the differences caused by tides. Sea level changes as plate tectonics cause the volume of ocean basins and the height of the land to change. It changes as ice caps on land melt or grow. It also changes as sea water expands and contracts when ocean water warms and cools.

e. Most of Earth's water (97%) is in the ocean. Seawater has unique properties: it is saline, its freezing point is slightly lower than fresh water, its density is slightly higher, its electrical conductivity is much higher, and it is slightly basic. The salt in seawater comes from eroding land, volcanic emissions, reactions at the seafloor, and atmospheric deposition.

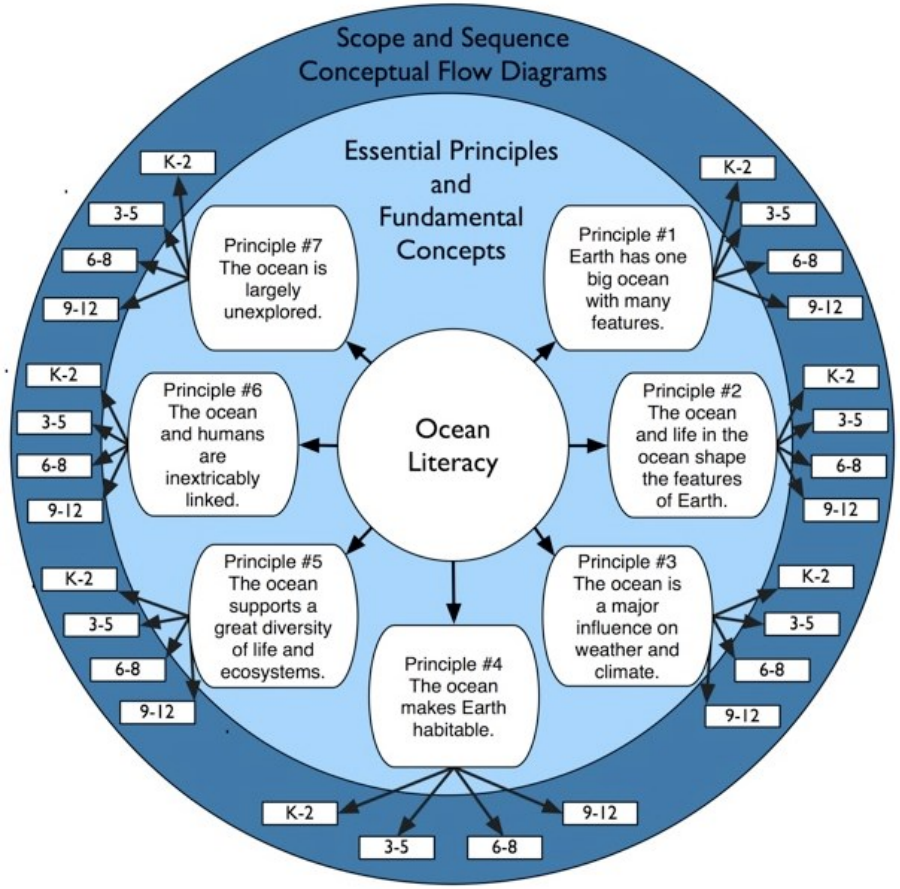
f. The ocean is an integral part of the water cycle and is connected to all of the earth's water reservoirs via evaporation and precipitation processes.

g. The ocean is connected to major lakes, watersheds and waterways because all major watersheds on Earth drain to the ocean. Rivers and streams transport nutrients, salts, sediments and pollutants from watersheds to estuaries and to the ocean.

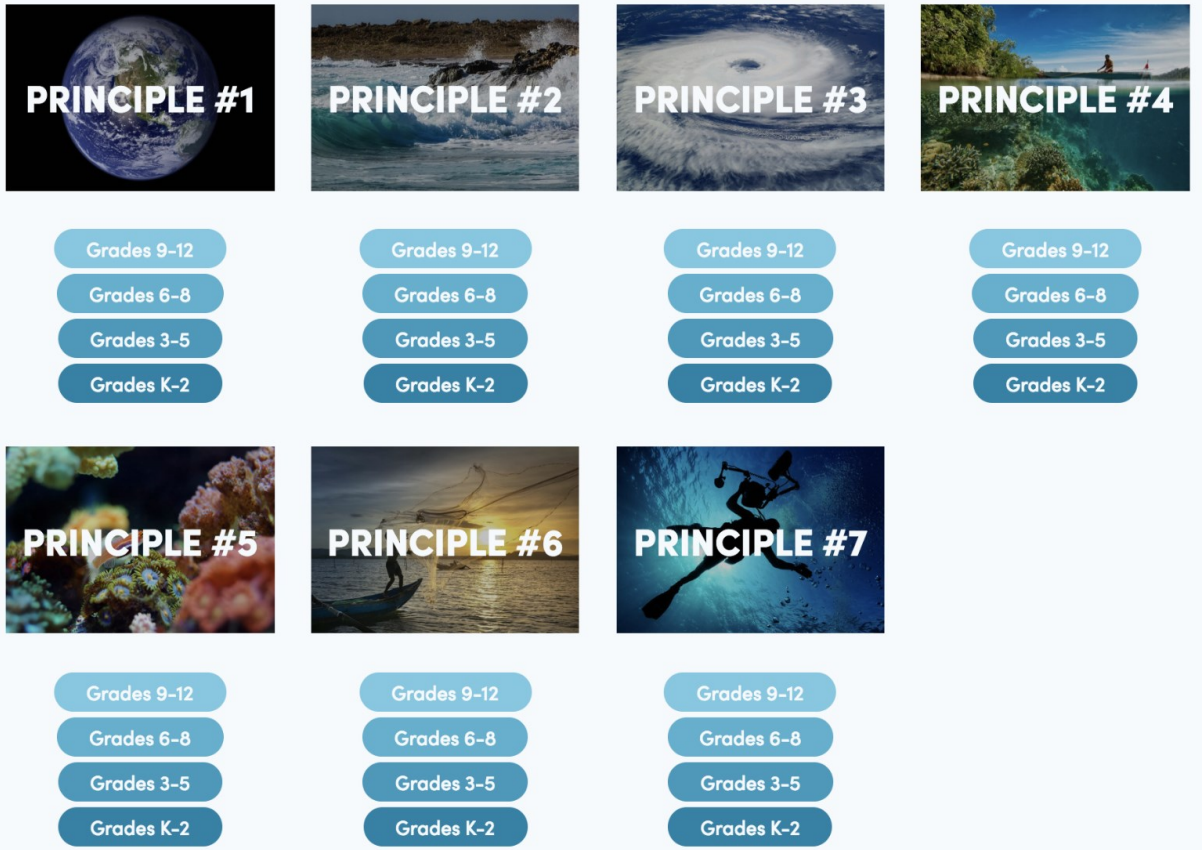
h. Although the ocean is large, it is finite and resources are limited.

Ocean Literacy Framework

2) The Ocean Literacy Scope and Sequence for Grades K–12 (The Scope and Sequence), 28 conceptual flow diagrams



https://oceanliteracy.wp2.coexploration.org/ocean-literacy-framework/principles-and-concepts/

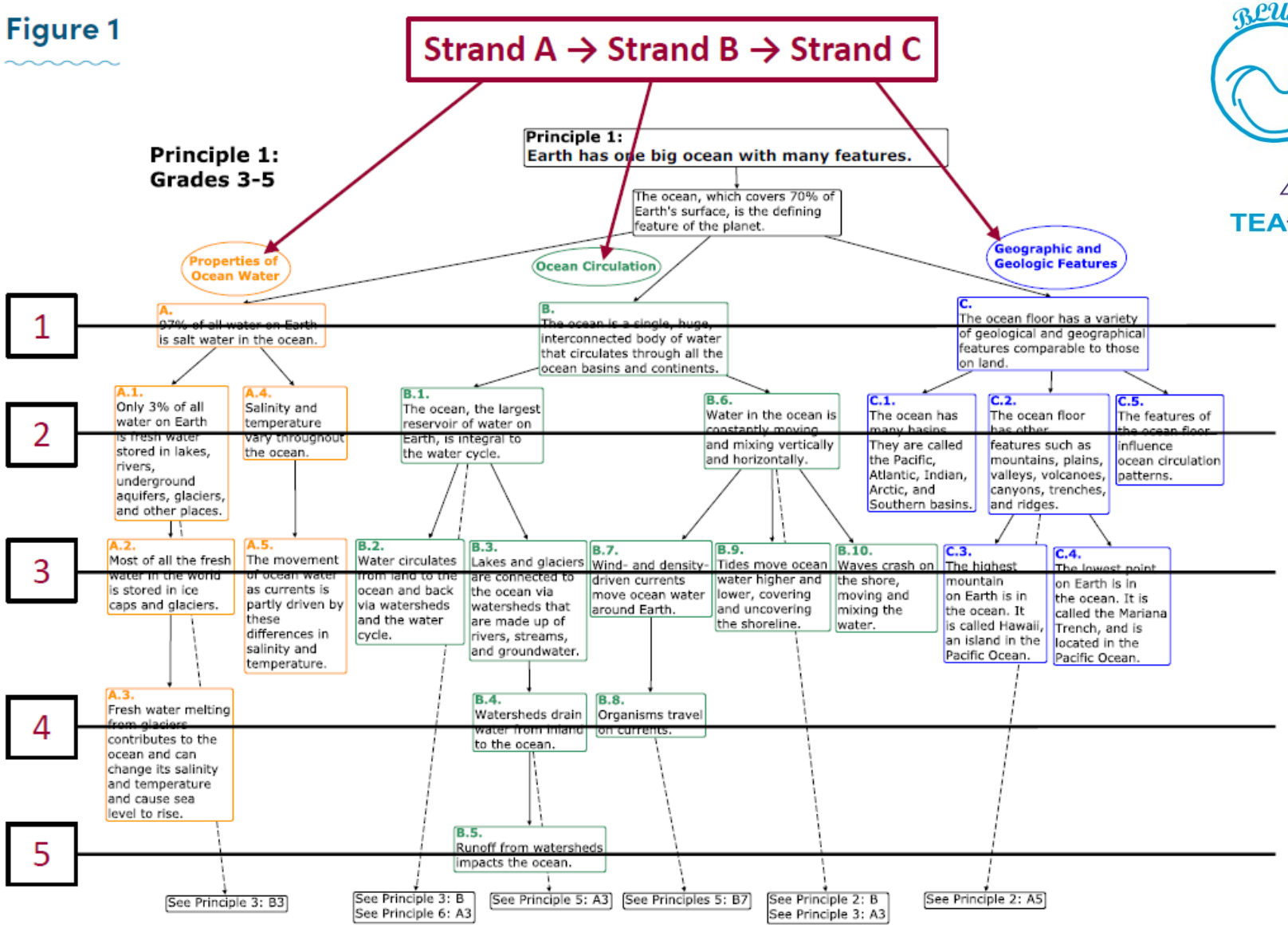


https://www.marine-ed.org/ocean-literacy/scope-and-sequence

Ocean Literacy Framework

2) The Ocean Literacy Scope and Sequence for Grades K–12 (The Scope and Sequence), 28 conceptual flow diagrams

Figure 1



Dashed lines lead to cross-referenced concept statements in other essential principles.

Ocean Literacy Presentation Kit
https://www.marine-ed.org/ocean-literacy/presentation

Ocean Literacy Framework

3) The Alignment of Ocean Literacy to the Next Generation Science Standards (NGSS)

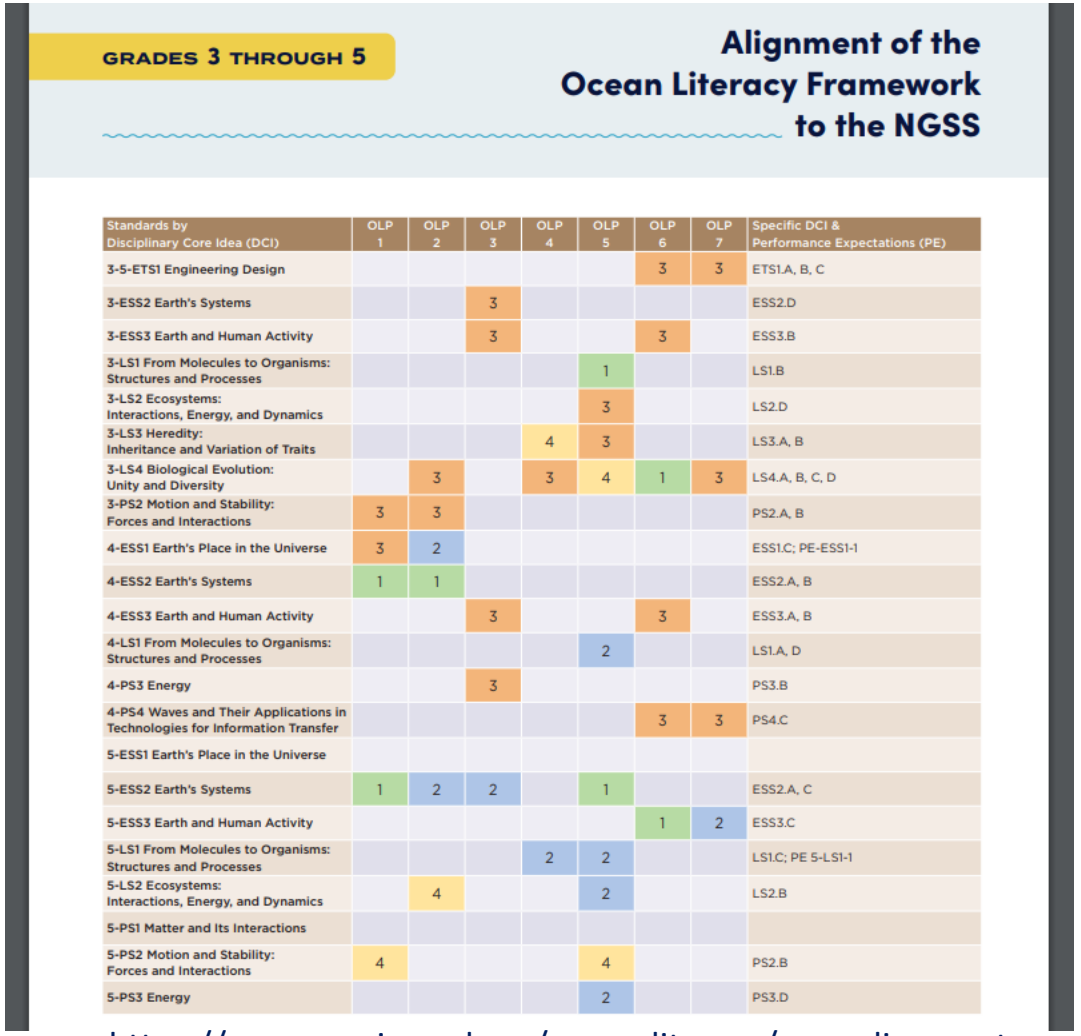
Alignment of Scope & Sequence to Fundamental Concepts

This chart indicates how the Scope and Sequence aligns with Ocean Literacy Principle 1. The grade band runs across the top; the fundamental concepts for Principle 1 run down the left column. There are three levels of alignment:

[blank]= no alignment; x = mentions concepts; XX = addresses concepts in depth

Fundamental Concepts	Principle 1: The Earth has one big ocean with many features.			
	K-2	3-5	6-8	9-12
1a	x	x	XX	XX
1b	x	XX	XX	XX
1c	XX	XX	XX	XX
1d			x	XX
1e	x	x	XX	XX
1f	x	XX	x	
1g	x	XX	XX	
1h				x

https://oceanliteracy.wp2.coexploration.org/ocean-literacy-framework/essential-principle-1-the-earth-has-one-big-ocean-with-many-features/#p1_alignss



GRADES 3 THROUGH 5

Alignment of the Ocean Literacy Framework to the NGSS

Standards by Disciplinary Core Idea (DCI)	OLP 1	OLP 2	OLP 3	OLP 4	OLP 5	OLP 6	OLP 7	Specific DCI & Performance Expectations (PE)
3-5-ETS1 Engineering Design						3	3	ETS1.A, B, C
3-ESS2 Earth's Systems			3					ESS2.D
3-ESS3 Earth and Human Activity			3			3		ESS3.B
3-LS1 From Molecules to Organisms: Structures and Processes					1			LS1.B
3-LS2 Ecosystems: Interactions, Energy, and Dynamics					3			LS2.D
3-LS3 Heredity: Inheritance and Variation of Traits				4	3			LS3.A, B
3-LS4 Biological Evolution: Unity and Diversity		3		3	4	1	3	LS4.A, B, C, D
3-PS2 Motion and Stability: Forces and Interactions	3	3						PS2.A, B
4-ESS1 Earth's Place in the Universe	3	2						ESS1.C; PE-ESS1-1
4-ESS2 Earth's Systems	1	1						ESS2.A, B
4-ESS3 Earth and Human Activity			3			3		ESS3.A, B
4-LS1 From Molecules to Organisms: Structures and Processes					2			LS1.A, D
4-PS3 Energy			3					PS3.B
4-PS4 Waves and Their Applications in Technologies for Information Transfer						3	3	PS4.C
5-ESS1 Earth's Place in the Universe								
5-ESS2 Earth's Systems	1	2	2		1			ESS2.A, C
5-ESS3 Earth and Human Activity						1	2	ESS3.C
5-LS1 From Molecules to Organisms: Structures and Processes				2	2			LS1.C; PE 5-LS1-1
5-LS2 Ecosystems: Interactions, Energy, and Dynamics		4			2			LS2.B
5-PS1 Matter and Its Interactions								
5-PS2 Motion and Stability: Forces and Interactions	4				4			PS2.B
5-PS3 Energy					2			PS3.D

https://www.marine-ed.org/ocean-literacy/ngss-alignment

European schools and curricula

Table 3: Observed primary education subjects in the countries within the scope of this analysis

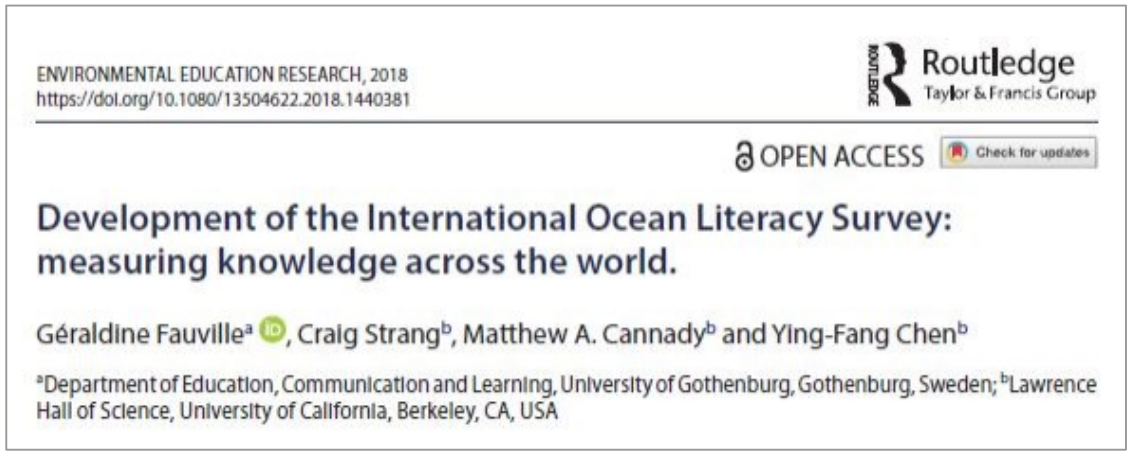
Countries	Integrated science classes	Name of integrated science subject	Other classes
Flanders (Belgium)	Yes	World orientation	-
Croatia	Yes	Science and society, Natural Sciences and Mathematics and Environmental education	-
Finland	Yes	Environmental education	Biology, Geography
France	Yes	Questioning the world of living things, matter and objects, Science and Technology, Life and Earth Sciences, History and Geography	Mathematics and Art History
Greece	No	-	Biology, Geography
Germany	Yes	Space, environment and mobility, Nature and life and Technology and the world of work	-
Romania	No	-	Biology, Geography
Portugal	Yes	Environment Study and Natural Sciences	Geography, Physics and Chemistry and Citizenship and Development
England (UK)	Yes	Science	Geography

https://maritime-forum.ec.europa.eu/theme/ocean-literacy-and-blue-skills/ocean-literacy/network-blue-schools/how-develop-project_en

Table 4: Observed secondary education subjects in the countries within the scope of this analysis

Countries	Biology	Geology	Geography	Chemistry	Physics	Mathematics	Science	Environmental studies
Flanders (Belgium)	x		x	x	x	-	x[6]	-
Croatia	x		x	-	-	-	-	-
Finland								
France	-		x[7]	-	-	-	x	-
Greece	x		x	-	-	-	-	-
Germany	x		-	-	-	-	-	-
Romania								
Portugal	x	x	-	x	x	-	-	-
England (UK)	-		x	x	x	-	x	-

International Ocean Literacy Survey



ENVIRONMENTAL EDUCATION RESEARCH, 2018
https://doi.org/10.1080/13504622.2018.1440381

Routledge
Taylor & Francis Group

OPEN ACCESS Check for updates

Development of the International Ocean Literacy Survey: measuring knowledge across the world.

Géraldine Fauville[a], Craig Strang[b], Matthew A. Cannady[b] and Ying-Fang Chen[b]

[a]Department of Education, Communication and Learning, University of Gothenburg, Gothenburg, Sweden; [b]Lawrence Hall of Science, University of California, Berkeley, CA, USA

An open-source questionnaire to measure Ocean Literacy

- Questions are aligned to 45 OL fundamental concepts
- Tests knowledge of 15-17 years old
- 3 iterations were tested in US & internationally and reviewed by teachers, educators, communicators, psychometricians, & ocean scientists
- Version 4 released January 2019 in 14 languages; data collection through March 2019
- Results of data collection will be shared with broader ocean education community.
- https://tinyurl.com/IOLS-info

Ocean Literacy Associations

National Marine Educators Association
making known the world of water

emsea
EUROPEAN MARINE SCIENCE EDUCATORS ASSOCIATION

CaNOE
Canadian Network for Ocean Education

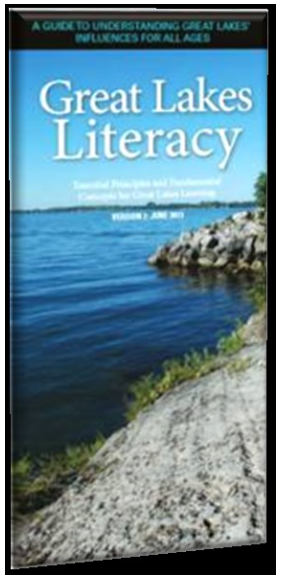
IPMEN
International Pacific Marine Educator Network

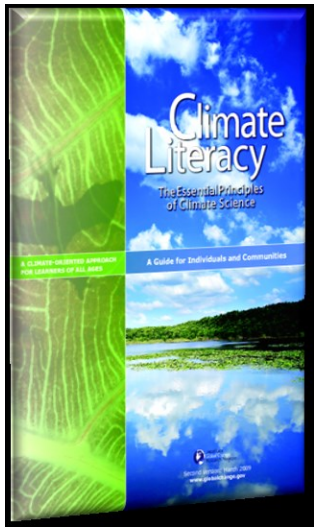
INTERNATIONAL PACIFIC MARINE EDUCATORS NETWORK

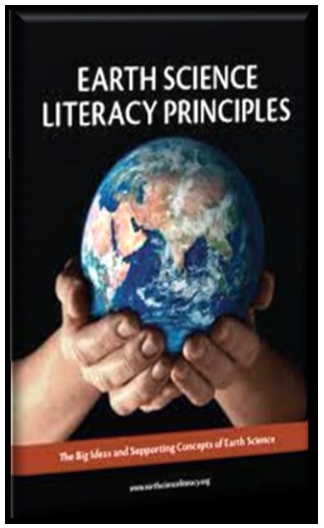
AMEA
Asia Marine Educators Association

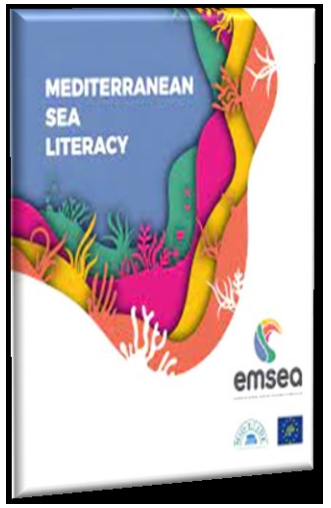
RELATO

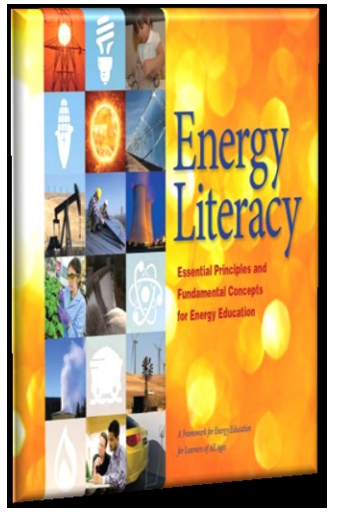
Environmental Literacies

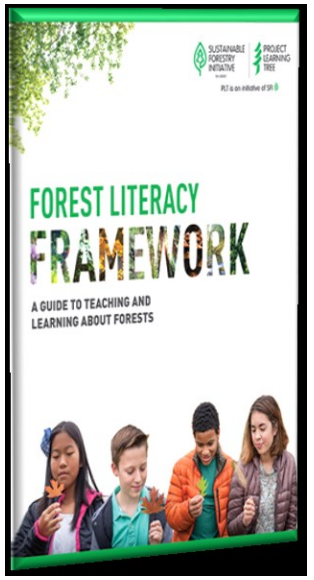












Ocean Literacy: a multi-perspective concept

ELSEVIER

Marine Pollution Bulletin
Volume 186, January 2023, 114467

The evolution of ocean literacy: A new framework for the United Nations Ocean Decade and beyond

E. McKinley [a], D. Burdon [b], R.J. Shellock [c]

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https://doi.org/10.1016/j.marpolbul.2022.114467

Get rights and content

The scope of Ocean Literacy is now much broader, and covers programmes and activities in both formal and non-formal education and communication, ensuring that emotional connection to the Ocean and behaviour change are goals, rather than simply knowledge exchange.

- ✓ The 2030 Agenda for Sustainable Development, an aspirational framework for solving global challenges by 2030.
- ✓ The 17 interlinked global goals were unanimously adopted in 2015 by all 193 UN member states.

https://sdgs.un.org/goals

Our Ocean, Our Future: Call for Action

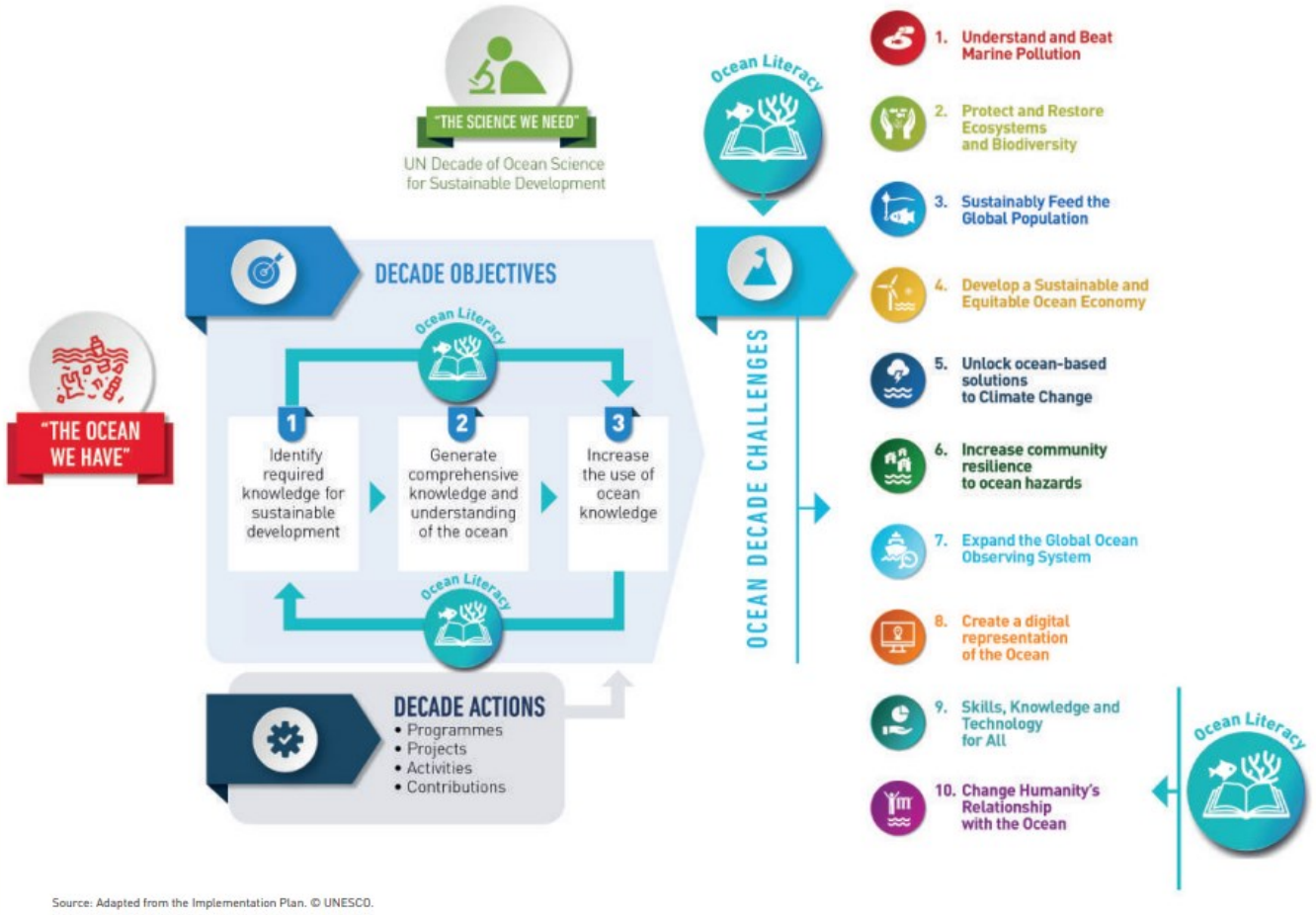
*"13(e): Support plans to foster **ocean-related education,** for example as part of education curricula, to promote **ocean literacy** and a culture of conservation, restoration and sustainable use of our ocean."* (UN, 2017)

https://sustainabledevelopment.un.org/frameworks/ouroceanourfuture

The OCEAN flows through all 17 UN Sustainable Development Goals (SDGs).

https://impact.economist.com/ocean/ocean-sustainable-development-goals

2021 2030 United Nations Decade of Ocean Science for Sustainable Development



Source: Adapted from the Implementation Plan. © UNESCO.

One of the seven **societal outcomes** of the **UN Ocean Decade**: a *"transparent and accessible ocean"* including considerable advancement and **increase of OL in society**, from **education and school curricula to decision-makers and the public at large.**

https://unesdoc.unesco.org/ark:/48223/pf0000377708

Challenge 10

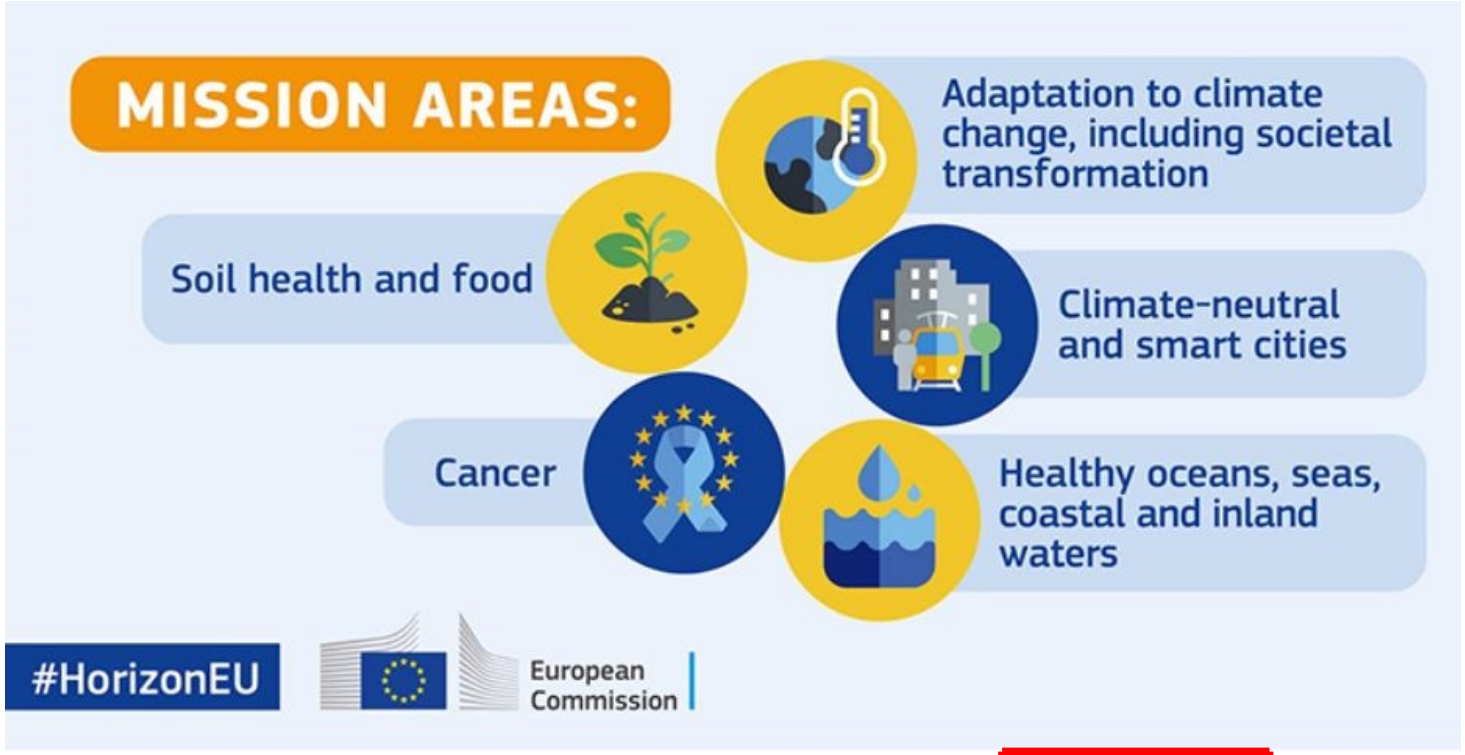
Change humanity's relationship with the ocean

Ensure that the multiple values and services of the ocean for human wellbeing, culture, and sustainable development are widely understood, and identify and overcome barriers to behaviour change required for a step change in humanity's relationship with the ocean.

https://www.youtube.com/watch?v=EzaPG-cqj3Q

Watch the video

EU MISSIONS



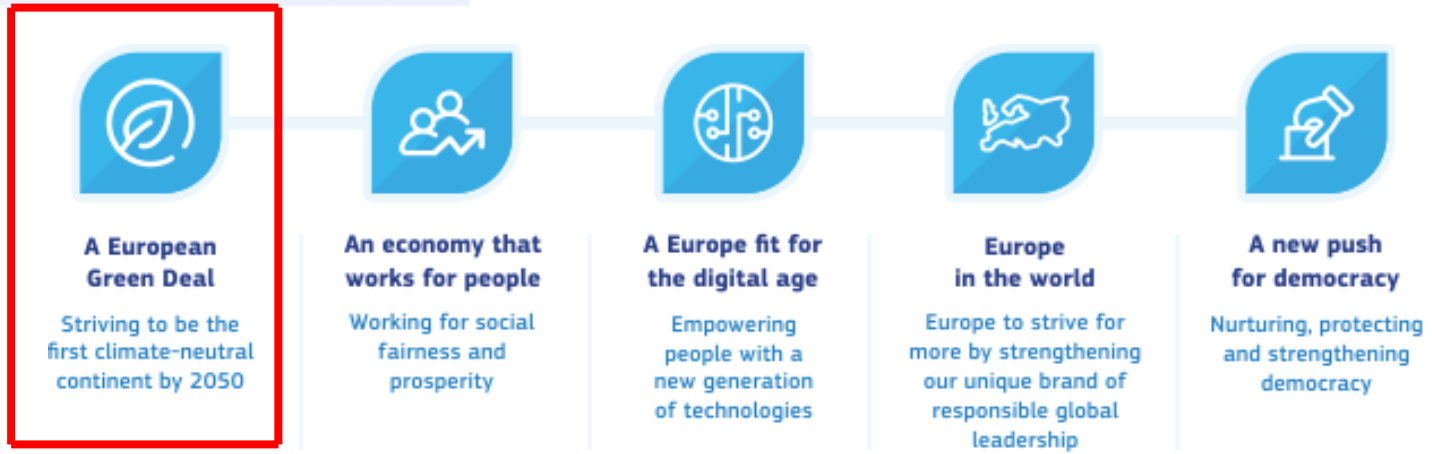
https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe_en

EU priorities for 2019-2024

https://commission.europa.eu/strategy-and-policy/priorities-2019-2024_en

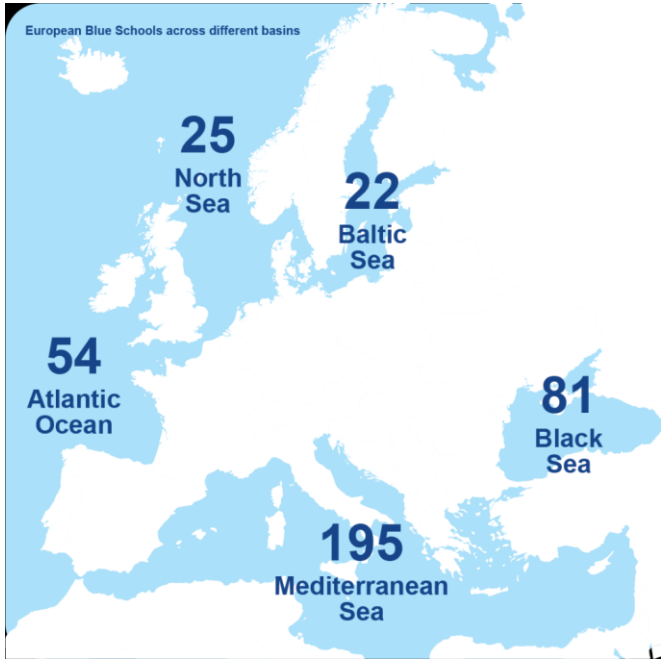
To overcome climate change and environmental degradation, the European Green Deal will transform the EU into a modern, resource-efficient and competitive economy, ensuring:

- no net emissions of greenhouse gases by 2050
- economic growth decoupled from resource use
- no person and no place left behind



Network of EU Blue Schools

https://maritime-forum.ec.europa.eu/theme/ocean-literacy-and-blue-skills/ocean-literacy/network-blue-schools_en



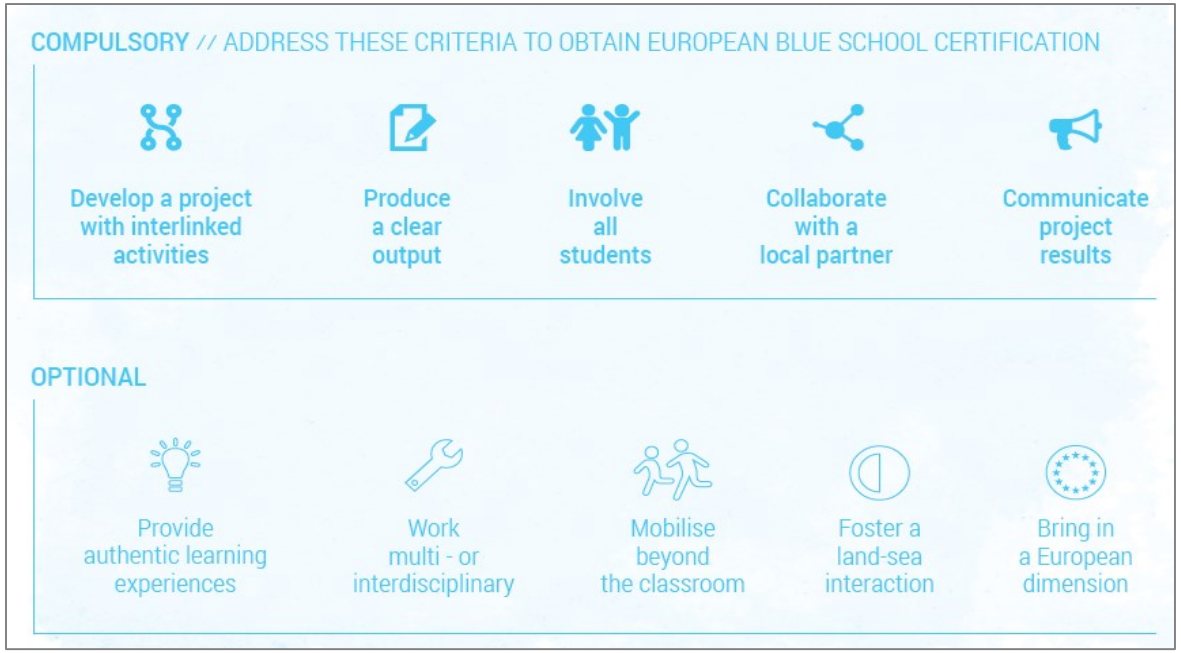
The main goals of the European Blue School program are to:

Create a more ocean-literate society where schools become agents for change and sustainability

Build bridges between ocean professionals and schools

Set up a network where teachers

- ✓ can share experiences and collaborate with other schools, nationally and internationally;
- ✓ have access to resources, activities, and professional development opportunities organized by EU4Ocean members and other European institutions and projects;
- ✓ have their efforts recognized through the award of a certification.



Further reading, references and relevant material for BlueMinds4Teachers (1/4)

EU4Ocean Coalition
https://maritime-forum.ec.europa.eu/theme/ocean-literacy-and-blue-skills/ocean-literacy/eu4ocean-coalition_en
EU4Ocean Platform
https://maritime-forum.ec.europa.eu/theme/ocean-literacy-and-blue-skills/ocean-literacy/eu4ocean-platform_en
Youth4Ocean Forum
https://maritime-forum.ec.europa.eu/theme/ocean-literacy-and-blue-skills/ocean-literacy/youth4ocean-forum_en
Network of Blue Schools
https://maritime-forum.ec.europa.eu/theme/ocean-literacy-and-blue-skills/ocean-literacy/network-blue-schools_en
Watch the videos of Ocean Literacy Principles by UNESCO. https://oceanliteracy.unesco.org/principles/
Zielinski, T.; Kotynska-Zielinska, I.; Garcia-Soto, C. A Blueprint for Ocean Literacy: EU4Ocean. Sustainability 2022, 14, 926. https://doi.org/10.3390/ su14020926
https://digital.csic.es/bitstream/10261/321137/4/Zielinski%2C%20Kotynska-Zielinska%20%26%20Garcia-Soto%20%282022%29.pdf
Creating sea change: Why is ocean literacy key to protecting our marine ecosystems?
https://www.euronews.com/green/2022/02/22/creating-sea-change-why-ocean-literacy-is-key-to-protecting-our-marine-ecosystems
PAYNE, D. L., MARRERO, M. E., SCHOEDINGER, S. E., & HALVERSEN, C. (2022). The Rise and Fall of the Tide: Ocean Literacy in the United States. Mediterranean Marine Science, 23(2), 270–276. https://doi.org/10.12681/mms.27410
https://ejournals.epublishing.ekt.gr/index.php/hcmr-med-mar-sc/article/view/27410/23202
MOKOS, M., DE-BASTOS, E., REALDON, G., WOJCIESZEK, D., PAPATHANASIOU, M., & TUDDENHAM, P. (2022). Navigating Ocean Literacy in Europe: 10 years of history and future perspectives. Mediterranean Marine Science, 23(2), 277–288. https://doi.org/10.12681/mms.26989
https://ejournals.epublishing.ekt.gr/index.php/hcmr-med-mar-sc/article/view/26989/23203
National Marine Educators Association-Ocean Literacy overview
https://www.marine-ed.org/ocean-literacy/overview
The Ocean Literacy Guide
https://static1.squarespace.com/static/5b4cecfde2ccd188cfed8026/t/65d011634cca5218f88d6b75/1708134757318/OceanLit2023_Digital_ENG_02-09-24_int.pdf
Developing the Ideas of Ocean Literacy Using Conceptual Flow Diagrams By Craig Strang, Kathy DiRanna, Jo Topps
https://static1.squarespace.com/static/5b4cecfde2ccd188cfed8026/t/61fd614b2aef36020985c13c/1643995467369/2.+Using_Conceptual_Flow_Diagrams_2021_accessible.pdf
Ocean Literacy Conceptual flow diagrams
https://www.marine-ed.org/ocean-literacy/scope-and-sequence

Further reading, references and relevant material for BlueMinds4Teachers (2/4)

Ocean Literacy accessible tables
https://www.marine-ed.org/ocean-literacy/scope-and-sequence-accessible
A Handbook for Increasing Ocean Literacy. Tools for Educators and Ocean Literacy Advocates
https://aambpublicoceanservice.blob.core.windows.net/oceanserviceprod/education/literacy/NMEA_Practitioners_Guide_to_Ocean_Literacy_2021-accessible.pdf
Ocean Literacy Presentation Kit
https://www.marine-ed.org/ocean-literacy/presentation
Alignment of the Ocean Literacy Framework to the NGSS
https://static1.squarespace.com/static/5b4cecfde2ccd188cfed8026/t/61ff41d80f39ed3c81d3addc/1644118488958/Alignment+Intro+2021-handbook.pdf
Alignment of Scope & Sequence to Fundamental Concepts
https://oceanliteracy.wp2.coexploration.org/ocean-literacy-framework/essential-principle-1-the-earth-has-one-big-ocean-with-many-features/#p1_alignss
https://oceanliteracy.wp2.coexploration.org/ocean-literacy-framework/principle-2-v2/#p1_alignss
https://oceanliteracy.wp2.coexploration.org/ocean-literacy-framework/principle-3-v2/#p1_alignss
https://oceanliteracy.wp2.coexploration.org/ocean-literacy-framework/principle-4-v2/#p4_alignss
https://oceanliteracy.wp2.coexploration.org/ocean-literacy-framework/principle-5-v2/#p5_alignss
https://oceanliteracy.wp2.coexploration.org/ocean-literacy-framework/principle-6-v2/#p6_alignss
https://oceanliteracy.wp2.coexploration.org/ocean-literacy-framework/principle-7-v2/#p7_alignss
International Ocean Literacy Survey
https://www.geraldinefauville.com/international-ocean-literacy-survey
International Ocean Literacy Survey – Final Version
https://static1.squarespace.com/static/5970e07ad2b857f9aa5f153f/t/5dbe23e48fc82a626b87dcde/1572742118021/IOLS+-+Final+Version.pdf
Géraldine Fauville, Craig Strang, Matthew A. Cannady & Ying-Fang Chen (2019) Development of the International Ocean Literacy Survey: measuring knowledge across the world., Environmental Education Research, 25:2, 238-263, DOI: 10.1080/13504622.2018.1440381
https://www.tandfonline.com/doi/epdf/10.1080/13504622.2018.1440381?needAccess=true
Géraldine Fauville, Anaïs Voşki, Marijn Mado, Jeremy N. Bailenson & Annika Lantz-Andersson (14 Mar 2024): Underwater virtual reality for marine education and ocean literacy: technological and psychological potentials, Environmental Education Research, DOI: 10.1080/13504622.2024.2326446
https://www.tandfonline.com/doi/epdf/10.1080/13504622.2024.2326446?needAccess=true

Further reading, references and relevant material for BlueMinds4Teachers (3/4)

MOKOS, M., CHEIMONOPOULOU, M. T., KOULOURI, P., PREVIATI, M., REALDON, G., SANTORO, F., MOGIAS, A., BOUBONARI, T., GAZO, M., SATTA, A., IOAKEIMIDIS, C., TOJEIRO, A., CHICOTE, C. A., PAPATHANASSIOU, M., & KEVREKIDIS, T. (2020). Mediterranean Sea Literacy: When Ocean Literacy becomes region-specific. Mediterranean Marine Science, 21(3), 592–598. https://doi.org/10.12681/mms.23400
https://ejournals.epublishing.ekt.gr/index.php/hcmr-med-mar-sc/article/view/23400/20671
Special Issue: “Ocean Literacy across the Mediterranean Sea region”
https://ejournals.epublishing.ekt.gr/index.php/hcmr-med-mar-sc/issue/view/1746
McKinley, E., D. Burdon, and R. J. Shellock. "The evolution of ocean literacy: A new framework for the United Nations Ocean Decade and beyond." Marine Pollution Bulletin 186 (2023): 114467.
https://orca.cardiff.ac.uk/id/eprint/155380/1/1-s2.0-S0025326X22011493-main.pdf
The global evolution of Ocean Literacy
https://thegeep.org/sites/default/files/files/E-Book%20Ocean%20Literacy%20Chapter.pdf
F. Santoro et al. (eds). 2017.Ocean Literacy for All - A toolkit. IOC Unesco & Unesco Venice Office, Paris (IOC Manuals and Guides, 80 revised in 2018).
https://unesdoc.unesco.org/ark:/48223/pf0000260721
Ocean Literacy: Why do we have to talk about it in schools
https://www.batepapocomnetuno.com/post/ocean-literacy-why-do-we-have-to-talk-about-it-in-schools
Ocean Literacy Resources
https://www.marine-ed.org/ocean-literacy/resources
Make the SDGs a reality. United Nations, Department of Economic and Social Affairs Sustainable Development
https://sdgs.un.org/goals
Our Ocean, Our Future: Call for Action
https://sustainabledevelopment.un.org/frameworks/ouroceanourfuture
Intergovernmental Oceanographic Commission of UNESCO 2017. OCEAN LITERACY AND THE IOC. Fostering ocean-related education and the culture of conservation, restoration and sustainable use of our Blue Planet. IOC BROCHURE 2017-5.
https://unesdoc.unesco.org/ark:/48223/pf0000255484
The ocean flows through all 17 of the UN Sustainable Development Goals. Economist Impact-World Ocean Initiative
https://impact.economist.com/ocean/ocean-sustainable-development-goals?utm_medium=cpc.adword.pd&utm_source=google&ppccampaignID=18151738051&ppcadID=&utm_campaign=a.22brand_pmax&utm_content=conversion.direct-response.anonymous&gad_source=1&gclid=Cj0KCQjw2PSvBhDjARIsAKc2cgNsVwlRrrRcH65cR2nkwLfmmFsU6T1h48UN-DCr8kGBrGtUHQPMDPEaApxXEALw_wcB&gclsrc=aw.ds
UNESCO-IOC (2021). The United Nations Decade of Ocean Science for Sustainable Development (2021-2030) Implementation Plan. UNESCO, Paris (IOC Ocean Decade Series, 20
https://unesdoc.unesco.org/ark:/48223/pf0000377082

Further reading, references and relevant material for BlueMinds4Teachers (4/4)

UNESCO-IOC. 2021. Ocean Literacy Framework for the UN Decade of Ocean Science for Sustainable development 2021–2030. Paris, UNESCO. (IOC Ocean Decade Series, 22.)
https://unesdoc.unesco.org/in/documentViewer.xhtml?v=2.1.196&id=p::usmarcdef_0000377708&file=/in/rest/annotationSVC/DownloadWatermarkedAttachment/attach_import_3aaa9a15-243c-4f66-962a-6740ca426f08%3F_%3D377708eng.pdf&locale=en&multi=true&ark=/ark:/48223/pf0000377708/PDF/377708eng.pdf#%5B%7B%22num%22%3A40%2C%22gen%22%3A0%7D%2C%7B%22name%22%3A%22XYZ%22%7D%2C-316%2C895%2C0%5D
EU Missions in Horizon Europe
https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe_en
EU Mission: Restore our Ocean and Waters
https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/restore-our-ocean-and-waters_en
6 Commission priorities for 2019-24
https://commission.europa.eu/strategy-and-policy/priorities-2019-2024_en
A Union that strives for more. My Agenda for Europe, by Ursula von der Leyen. Political guidelines for the next European Commission 2019-2024
https://commission.europa.eu/document/download/063d44e9-04ed-4033-acf9-639ecb187e87_en?filename=political-guidelines-next-commission_en.pdf
What are EU priorities?
https://trackmyeu.org/priorities.php
Fauville, G.; Copejans, E.; Crouch, F. (2013). European marine educators, unite! Europe's quest for a more ocean-oriented society and economy. The Marine Biologist 1: 30-31
https://www.lifewatch.be/fr/node/467?module=ref&refid=230181&printversion=1&dropIMIStitle=1
NAVIGATING THE FUTURE IV
https://www.marineboard.eu/sites/marineboard.eu/files/public/publication/Navigating%20the%20Future%20IV-168.pdf
A wave of European blue schools-Handbook for teachers 2021 (inspiring projects)
https://maritime-forum.ec.europa.eu/system/files/2021-02/handbook_eueopean_blue_schools_220221.pdf
A wave of European blue schools-Handbook for teachers 2022
https://maritime-forum.ec.europa.eu/document/download/337d405a-53d6-41fc-b2ba-b3d18135624d_en?filename=Handbook_European_Blue_Schools_2022_.pdf
Curriculum Analysis - Ocean Literacy for All - European Schoolnet
https://maritime-forum.ec.europa.eu/document/download/66f77e4b-de54-4885-a492-b9c9e97ad931_en?filename=Curriculum%20Analysis%20-%20Ocean%20Literacy%20for%20All%20-%20European%20Schoolnet.pdf
The MED EDUC Pedagogical Guide https://mededuc.eu/en/resource-center/pedagogical-guide.html
Blue Schools Med Interactive platform https://platform.blueschoolsmed.eu/cms/
EuroGOOS OL resource library https://eurogoos.eu/ocean-literacy-resources/