



4th ESERA SIG4 Science|Environment|Health
2024 Mini Conference in Valencia, Spain
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Collection of Abstracts

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Strengthening pre- and in-service teachers' skills in Ocean Literacy

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Education for Sustainability is a response to the challenges of a planet whose future is, increasingly, in question. The “BlueMinds4Teachers” is a project that aims at strengthening the skills of Primary and Secondary Education pre- and in-service teachers in Ocean Literacy (OL) issues through the collaboration of marine and freshwater scientists as well as experts from

educational and social sciences, teachers experienced in the implementation of blue projects and young ocean ambassadors. The consortium of this project consolidates a working group formed thanks to several projects (e.g., BlueS_Med, BlueNIGHTS), initiatives (e.g., EMSEA), publications highlighting the importance of OL (e.g., Mogias et al., 2019; 2022; Cheimonopoulou et al., 2022; Mokos et al., 2020; 2022; Alvisi et al., 2022; Koulouri et al., 2022), in synergies with other future projects (e.g., UN Action Programmes, BlueLightS, EU Researcher's Night). As OL connects Ocean Science and Education for Sustainability this project highly falls into the general context of Sustainable Development Goals (e.g., SDG 4 and 14). The objectives of the project are: a) to bring an interdisciplinary approach of marine science issues to Primary and Secondary Education teachers by improving their competence to address OL issues and integrate them into the school curriculum towards Education for Sustainability; b) to create a permanent working group in which scientists, teachers and young ocean ambassadors can interact fruitfully and continuously to build stronger and long-lasting educational communities as well as quality, modern and innovative educational materials and tools; c) to contribute to bridging skills and knowledge gaps by integrating pedagogical and scientific approaches, to improve social learning and critical thinking as well as scientific inquiry; d) to design an interactive online training course that can be reproducible, exportable, and adaptable to local/national needs in European countries in order to improve teachers' skills in promoting OL at school (e.g., scientific approach, critical thinking, familiarization with issues such as Agenda 2030, Ocean Science Decade 2021-2030, EU Green Deal).

Alvisi, F. et al., 2022. The Blue Challenge Framework: A guide for the development and implementation of Blue Challenges at schools. Marine and Inland Waters Research Symposium 2022, 16-20 September 2022, Porto Heli, Argolida, Greece.

Cheimonopoulou et al., 2022. Implementation of a new research tool for evaluating Mediterranean Sea Literacy (MSL) of high school students: A pilot study. Mediterranean Marine Science, 23(2), 302-309.

- Koulouri et al., 2022. Ocean Literacy across the Mediterranean Sea basin: Evaluating Middle School Students' Knowledge, Attitudes, and Behaviour towards Ocean Sciences Issues. *Mediterranean Marine Science*, 23(2), 289-301.
- Mogias et al., 2019. Evaluating Ocean Literacy of Elementary School Students: Preliminary Results of a Cross-Cultural Study in the Mediterranean Region. *Frontiers in Marine Science*, 6, 396, doi: 10.3389/fmars.2019.00396.
- Mogias et al., 2022. Tracing the occurrence of ocean sciences issues in Greek secondary education textbooks. *Mediterranean Marine Science*, 23(2), 310-320.
- Mokos e al., 2020. Mediterranean Sea Literacy: When Ocean Literacy becomes region- specific. *Mediterranean Marine Science*, 21, 592-598.
- Mokos et al., 2022. Navigating Ocean Literacy in Europe: 10 years of history and future perspectives. *Mediterranean Marine Science*, 23(2), 277-288.