

Written Statement for the 2022 United Nations Ocean Conference

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The European Marine Biological Resource Centre (EMBRC) is the European research infrastructure for marine biology and scientific exploration of marine biodiversity. It has been on the European Strategic Forum for Research Infrastructure (ESFRI) roadmap since in 2008 and operates across 70 sites in 10 EU and associated countries and was granted ERIC (European Research Infrastructure Consortium) status in 2018 by the European Commission.

EMBRC provides access to marine resources and ecosystems, as well as cutting-edge services, experimental facilities, and technological platforms for researchers from both academia and industry to deepen our fundamental knowledge of marine organisms and their role in the environment, pushing the frontiers of science, and exploring marine biodiversity for potential new products, inspiration, and innovation. As an open access, multi-domain research infrastructure, EMBRC plays a critical role in shaping marine research, increasing scientific knowledge and developing research capacity.

Spatiotemporal patterns of marine biodiversity are still poorly understood, and require a mixed approach of novel, standardised observation methods and experimentation to elucidate the key drivers of marine ecosystems. EMBRC believes the combination and integration of traditional methods and emerging techniques in near-real-time environmental context will give an impactful synoptic view of the marine ecosystem, from the microbiome to apex predators, and add predictive power concerning its evolution and responses. Transformative change is only achievable by integrating this knowledge and data in decision making by local communities as well as high level policy-makers and is essential to meet the United Nation Decade of Ocean Science for Sustainable Development (UN Ocean Decade).

In 2021, EMBRC launched the first coordinated, long-term European Marine Omics Biodiversity Observation Network (EMO BON). EMO BON aims to demonstrate good practices in a structured international biological observatory, freely sharing its standardised protocols, implementing a high level of metadata standards, and generating open access data with a transparent data management plan. The observatory strives to generate long-term baseline marine genomics data, supporting biodiversity research and the monitoring of EOVs (Essential Ocean Variables) and EBVs (Essential Biodiversity Variables), and ensuring comparability and reproducibility amongst observatories. Through its projects and partnerships, EMBRC works to strengthen, structure, and sustain European coastal marine biodiversity research and observation capabilities, linking them to global efforts around ocean health ensuring biological and ecological research respond to policy, planning and industry needs.

EMBRC aligns with global Communities of Practice, such as the Marine Biodiversity Observation Network (MBON), the Global Ocean Observing System (GOOS) and the Ocean Biodiversity Information System (OBIS) and interacts with UN Ocean Decade Programme such as Marine Life 2030, Ocean Biomolecular Observing Network (OBON), Ocean Data and Information System supporting the UN Decade of Ocean Science for Sustainable Development (ODIS), Ocean Practices for the Decade, ensuring European contribution and leadership in global services for marine biodiversity knowledge.

Rooted in a vision developed by the European pioneers in marine biology, and based on the network of historical marine stations built in Europe in the 19th century, EMBRC has become a European sentinel for coastal biodiversity by adding a genomic observation component to its service, instrumental to explore the complexity of marine bioresources and understand changes in our global ocean.

