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Decade Programmes

Decade Programme 9.

Global Ocean Corps and Conveyor

Lead Institution: University of Michigan

Summary

Motivated by the example of the US Peace Corps, we propose "Global Ocean Corps and Conveyor" as a unifying concept for sustaining long-term education and research collaborations between scientists from underresourced nations and higher-resourced nations. Based upon our experience in Peace Corps and with the Coastal Ocean Environment Summer School in Ghana (https://coessing.org), we are confident that an Ocean Corps would inspire large numbers of scientists, especially early-career scientists, into its ranks, thus "internationalizing" their outlook, molding many of them into champions for international capacity development for the remainder of their careers, and fostering true ocean science collaborations worldwide.

Start Date: 01/01/2021 **End Date:** 31/12/2030

Ocean Basins

Indian

North Pacific South Pacific North Atlantic South Atlantic Arctic

Challenges Addressed

Challenge 1

Challenge 2

Challenge 3

Challenge 4

Challenge 5

Challenge 6

Challenge 7

Challenge 8

Challenge 9

Challenge 10

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Decade Programme 46.

The Science We Need for the Mediterranean Sea We Want

Lead Institution: Italian Oceanographic Commission (COI)

Summary

The Science We Need for the Mediterranean Sea We Want (SciNMeet) Programme will address major Mediterranean challenges and gaps in scientific knowledge with the aim to better understand and manage impacts of climate change, pollution, overexploitation of resources, and marine hazards on the marine environment to contribute to maintenance of ecosystems' functioning and the sustainability of relevant economic operations. Increasing education, awareness and international collaboration, by mobilizing the scientific community, policy makers, private sector and society at large, the Programme will address the Ocean Decade's seven outcomes and contribute to the implementation of Agenda 2030.

Start Date: 01/10/2021 **End Date:** 30/09/2030

Ocean Basins
North Atlantic

Challenges Addressed

Challenge 1

Challenge 2

Challenge 3

Challenge 4

Challenge 5

Challenge 6

Challenge 7

Challenge 8

Challenge 9

Challenge 10

Contact

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Decade Programme 118.

SUstainability, Predictability and REsilience of Marine Ecosystems (SUPREME)

Lead Institution: US National Oceanic and Atmospheric Administration

Summary

Changing oceans are significantly impacting valuable marine species and the many people, communities, and economies that depend upon them. Warming oceans, rising seas, decreasing ocean ice, increasing ocean acidification, and extreme events (e.g., marine heat waves) are affecting the distribution and abundance of marine species in many regions. These changes are expected to increase with continued climate change and there is much at risk. The SUPREME programme seeks to globally implement an infrastructure to support robust climate- and ocean-related forecasts, predictions, and projections to guide marine ecosystem management and adaptation strategies that reduce risks and increase resilience of marine/coastal resources and the people who depend on them.

Start Date: 01/01/2021 **End Date:** 31/12/2030

Ocean Basins

Indian

North Pacific South Pacific North Atlantic South Atlantic Arctic Southern

Challenges Addressed

Challenge 2

Challenge 3

Challenge 4

Challenge 5

Challenge 9

Challenge 10

Contact

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Decade Programme UN9.

Building Forward Better by Safeguarding Natural Capital and Ecosystem Services

Lead Institution: Office of Director & UNESCO Representative to the Pacific States and Ministry of Natural Resources and Environment, Samoa

Summary

This initiative will support policy and planning, collection of data and valuation of marine, coastal and terrestrial ecosystem services to support development of scenarios for future, reporting against SDGs 14-15. It will build a case for investment in ecosystem services given their centrality to human wellbeing with emphasis on the SDGs 1 to 3.

Start Date: 01/01/2022 **End Date:** 31/12/2023

Ocean Basins South Pacific

Challenges Addressed

Challenge 2 Challenge 3 Challenge 4 Challenge 9 Challenge 10

Contact

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Decade Projects

Decade Project UN8.

E-DNA expeditions in marine World Heritage sites

Lead Institution: IOC IODE Programme and Marine World Heritage Centre of UNESCO

Summary

"eDNA Expeditions in marine World Heritage sites is a citizen-science project to reveal the richness of biodiversity in UNESCO's flagship sites and its vulnerability to climate change. Based on environmental DNA extracted from a liter of water, fish and red-list species will be detected and scientific results made publicly available."

Start Date: 01/01/2022 **End Date:** 31/12/2023

Ocean Basins

Indian

North Pacific

South Pacific

North Atlantic

South Atlantic

Arctic

Challenges Addressed

Challenge 2

Challenge 3

Challenge 5

Challenge 7

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Decade Project UN10.

OceanTeacher Global Academy: Building Capacity and Accelerated Technology Transfer for the Ocean Decade

Lead Institution: UNESCO/IOC Project Office for IODE

Summary

The OceanTeacher Global Academy provides a comprehensive internet-based training platform that supports classroom training, blended training, and online (distance) learning. OTGA courses cover a range of topics addressing the priority areas of the UN Decade of Ocean Science for Sustainable Development and 2030 Agenda and its SDGs as well as supporting the implementation of the IOC Capacity Development Strategy. OTGA works with Decade partners to further develop, host and deliver Decade related capacity development (training) products and activities to meet capacity development priorities. OTGA aims at assisting all countries to acquire the necessary capacity to equitably participate in, and benefit from, the Decade actions and related products and services.

Start Date: 01/01/2021 **End Date:** 31/12/2023

Ocean Basins

Indian

North Pacific South Pacific North Atlantic South Atlantic Arctic Southern

Challenges Addressed

Challenge 1

Challenge 2

Challenge 3

Challenge 4

Challenge 5

Challenge 6

Challenge 7

Challenge 8

Challenge 9

Challenge 10

Contact

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Decade Project UN11.

Pacific Islands Marine Bioinvasions Alert Network (PacMAN)

Lead Institution: IOC-UNESCO

Summary

The PacMAN project will increase the technical and scientific capacity in marine invasive species early warning and early detection using the latest technologies in genomics and metabarcoding (eDNA) and will directly support the implementation of national and international policies with the aim to reduce and prevent the introduction of new invasive species into the marine environment.

Start Date: 01/09/2020 **End Date:** 31/08/2023

Ocean BasinsSouth Pacific

Challenges Addressed

Challenge 6 Challenge 7

Contact

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Decade Project 2.

Exploring the 7th Continent (E7C)

Lead Institution: Expédition 7e Continent

Summary

E7C programme is designed around:

SCIENTIFIC RESEARCH: onboard expeditions designed and implemented by scientists from the French National Research Center (CNRS), with heavy research equipment to collect and analyse samples of micro and nano plastics in the deep sea and above the surface (Atlantic oceanic gyres, Mediterranean Sea, etc.).

EDUCATION-INFORMATION: ensuring that all generations understand plastic pollution, how critical its level is in the ocean and how it can be reduced. Each year, in more than a dozen ports, our educational tours will allow public audiences to discover our flagship schooner, participate in scientific experiments and attend educational conferences.

Start Date: 17/01/2021 **End Date:** 17/01/2029

Ocean Basins

Indian

North Atlantic South Atlantic

Challenges Addressed

Challenge 1

Challenge 2

Challenge 3

Challenge 8

Challenge 10

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Decade Project 3.

GO-SHIP Evolve

Lead Institution: GO-SHIP Program Office

Summary

"GO-SHIP Evolve" will focus on emerging opportunities for the fourth decadal GO-SHIP survey in:

- 1. New science areas:
 - Addition of biological and ecosystem measurements which will enable GO-SHIP to determine trends and variability in key indicators of ocean health.
- 2. Accelerating use of knowledge:
 - Expanding provision of real-time data.
 - Fit-for purpose provision of calibration data with evolving partner networks.
 - Creating new stakeholder-driven data products.
- 3. Multi-national capacity enabling contributions from more countries:
 - Developing access and training opportunities.
 - Supporting and facilitating multinational voyages and shared facilities.
 - Exploring new funding models for program-wide support and capacity.

Start Date: 01/01/2021 **End Date:** 31/12/2030

Ocean Basins

Indian

North Pacific

South Pacific

North Atlantic

South Atlantic

Arctic

Antarctic

Challenges Addressed

Challenge 5

Challenge 7

Challenge 8

Contact

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Decade Project 4.

Ocean Decade Instrument Support Initiative (ODISI)

Lead Institution: OceanOPS

Summary

The Ocean Decade Instrument Support Initiative (ODISI) aims at enhancing the Global Ocean Observing System (GOOS) by cooperating with new ocean-going vessel types, e.g., from ocean races, NGOs, citizens and private sector initiatives. Autonomous instruments like floats and drifters will be deployed from participating vessels, as well as in-situ sensors for a range of atmospheric and surface ocean variables such as carbon dioxide.

ODISI will provide overall coordination and a single point of contact to support the implementation of observations and data delivery. With a pool of suitable instruments, deployment to critical under sampled areas will be driven. The initiative will benefit from outreach and communication channels to advocate for ocean issues and ocean science.

Start Date: 01/07/2021 **End Date:** 31/12/2030

Ocean Basins

Indian
North Pacific
South Pacific
North Atlantic
South Atlantic
Arctic
Antarctic

Challenges Addressed

Challenge 7 Challenge 9 Challenge 10

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Decade Project 5.

Institutional Capacity Building towards the sustainability of Ocean Science in light of COVID-19 pandemic (ICB-Ocean Science for COVID-19)

Lead Institution: Nipe Fagio ("give me the broom" in Swahili)

Summary

ICB-Ocean Science for COVID-19 aims at enhancing the capacity of government bodies, communities and non-governmental organisations to monitor coastal areas effectively around the COVID-19 pandemic. Most marine litter that goes into the ocean is fed by inland water sources. Marine litter is a global challenge that needs to be addressed at the regional level especially during this time where the world has been hit by COVID-19 pandemic. To mitigate this challenge, ICB-Ocean Science for COVID-19 aims to improve litter management by developing a baseline that provides measurements of the amount of litter being produced within Tanzania.

Start Date: 01/04/2021 **End Date:** 31/03/2023

Ocean Basins

Indian

Challenges Addressed

Challenge 7 Challenge 9 Challenge 10

Contact

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Decade Project 6.

Study of Recent Behaviour of Cyclones and Marine Heatwaves

Lead Institution: National Oceanographic and Maritime Institute (NOAMI)

Summary

Considering the importance of the ongoing societal and sustainable development of Bangladesh and to reduce vulnerability associated with Cyclones and their impact, this study will examine heatwaves over the Bay of Bengal by using ERA5 datasets. In this aspect, dry and wet bulb temperature datasets of both observation and analyses will be collected for the study. It will also examine whether there is any relationship that prevails with the El Niño index. The results will enrich the knowledge and understanding of tropical cyclones in the Bay of Bengal, their associated features and their emerging impact on coastal areas of Bangladesh.

Start Date: 16/01/2021 **End Date:** 12/02/2027

Ocean Basins

Indian

South Atlantic

Challenges Addressed

Challenge 1

Challenge 2

Challenge 3

Challenge 4

Challenge 5

Challenge 6

Challenge 7

Challenge 8

Challenge 9

Challenge 10

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Decade Project 8.

Understanding and Addressing Ocean Acidification and Changing Ocean Conditions through the development of OA Action Plans

Lead Institution: International Alliance to Combat Ocean Acidification

Summary

The International Alliance to Combat Ocean Acidification (OA Alliance) is a voluntary initiative of governments and non-government members representing nearly 300 million people and 366,414 kilometres of coastline. Members of the OA Alliance include a wide diversity of national, state, municipal, and sovereign Tribal, indigenous, and First Nation governments along with many dedicated affiliate partners like NGOs, seafood industry leaders, and local academia. Through the Alliance, they are exploring and promoting efforts that increase biodiversity, adaptive capacity, and resilience by translating knowledge into policy actions by national, regional and subnational governments.

Start Date: 01/01/2021 **End Date:** 31/01/2023

Ocean Basins

Indian
North Pacific
South Pacific
North Atlantic
South Atlantic
Arctic

Challenges Addressed

Challenge 2 Challenge 5

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Decade Project 9A.

Ghana School

Lead Institution: University of Michigan

Summary

Based upon our experience in Peace Corps, the Coastal Ocean Environment Summer School in Ghana (https://coessing.org), would inspire large numbers of scientists, especially early-career scientists, into its ranks, thus "internationalizing" their outlook, molding many of them into champions for international capacity development for the remainder of their careers, and fostering true ocean science collaborations worldwide.

Start Date: N/A End Date: N/A

Ocean BasinsSouth Atlantic

Challenges Addressed

N/A

Contact

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Decade Project 10.

Integrated Coastal Management as an Adaptation to Climate Change Measure

Lead Institution: Instituto de Ciencias del Mar y Limnologa UNAM

Summary

The Integrated Coastal Management Initiative has been created as a Measure of Adaptation to Climate Change. This initiative involves research institutions, organized civil society and private initiatives. Its objective is to recover the environmental services of marine-coastal ecosystems affected by massive sargassum arrivals. The process begins with a systematic and highly efficient satellite detection of sargassum with inputs and complements of aerial images taken with drones or planes. With this information, the dynamics of sargassum will be modeled at very high resolution, using extensive tools and computing capabilities to generate early warnings of the arrival of sargassum. With this information, a second operational hydrodynamic model will be implemented which will allow coordination of daily operations, both maritime and land, of collection, transfer, collection and disposal of sargassum, efficiently and with greater safety.

Start Date: 01/01/2019 **End Date:** 31/12/2030

Ocean Basins North Atlantic

Challenges Addressed

Challenge 2 Challenge 4 Challenge 5 Challenge 6 Challenge 7

Contact

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Decade Project 11.

Integrated Ocean Observing Across the Northwest Atlantic

Lead Institution: North-eastern Regional Association of Coastal Ocean Observing Systems (NERACOOS)

Summary

An interconnected system to track environmental change in the Northwest Atlantic, from the Arctic to the Gulf of Maine will be established. The oceanographic influence of climate-driven changes in the Arctic extends well into mid-latitudes in this region, with distributions of many species shifting northward against current flow. By convening agencies, institutions, indigenous communities, and private sector stakeholders from all nations in the region, we can track and communicate key environmental attributes, including marine carbon stores, with greater speed and at scale. This can serve as a model for multinational partnerships for other ocean areas grappling with environmental change.

Start Date: 01/06/2021 **End Date:** 31/12/2030

Ocean Basins
North Atlantic

Challenges Addressed

Challenge 4 Challenge 6 Challenge 7 Challenge 9

Contact

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Decade Project 13.

Sailing4Science - Expanding the Capacity for Ocean Observations and Ocean Citizen Science Awareness and Stewardship

Lead Institution: Norwegian University of Science and Technology (NTNU)

Summary

Sailing4Science will create better ocean stewardship, enable and empower sailing professionals and citizen scientists across the world with a toolbox of both frugal innovation, and cost-effective, low power observation tools that exploit recent transformative technologies for sensors and image acquisition and processing. Focus is on the remote, understudied coastal ocean often coinciding with SIDS or low-income coastal communities, where capacity building needs to be carefully co-designed in relation to traditional knowledge and cultural norms of each region. The co-created, crowd-sourced data is valuable alone, but the collection process will also be important for ocean literacy and awareness activities.

Start Date: 01/06/2021 **End Date:** 31/05/2030

Ocean Basins

Indian

South Pacific North Atlantic South Atlantic

Arctic

Challenges Addressed

Challenge 1

Challenge 2

Challenge 3

Challenge 4

Challenge 5

Challenge 6

Challenge 7

Challenge 8

Challenge 9

Challenge 10

Contact

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Decade Project 18.

13 Océan, Circular economy for food: Urban perma-aquacultural farm project (13 Océan)

Lead Institution: Paul Ricard Oceanographic Institute

Summary

13 Ocean is a perma-aquacultural urban farm project taking up the double challenge of the climate and food of the future. Its ambition is to become a replicable operational model of a new united and sustainable urban production participating in the adaptation of cities to global changes. 13 Ocean is about producing fruit, vegetables, fish products and insects in a trophic loop, following the principles of permaculture and a circular economy.

Project video: https://www.youtube.com/watch?v=EwQbTCbqIw0&t=37s

Research on insect-based aquaculture feed:

https://www.youtube.com/watch?v=78vfD4xzQFo&feature=youtu.be

Start Date: 01/01/2022 **End Date:** 01/12/2025

Ocean Basins

North Atlantic Ocean

Challenges Addressed

Challenge 3 Challenge 4

Contact

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Decade Project 19.

Promoting Ocean Science and its Sustainable Development through the One Health Approach

Lead Institution: Rio Grande do Norte State University

Summary

With the One Health Approach, this multicentric, multiregional and transdisciplinary project aims to address health issues among humans, animals and their shared environment, land and water, at a national level (South, Midwest, Southeast and the Northeast) and their linking aspects. The aim is to develop Edu-communication. Thereby, these actions aim to provide an understanding and mapping of the impacts for prevention, control and mitigation of health issues connected to communities, animals, land and the ocean. In addition, the project aims to promote an opportunity of engagement for communities in the production of ocean science content.

Start Date: 15/08/2021 **End Date:** 15/08/2023

Ocean Basins
South Atlantic

Challenges Addressed

Challenge 1 Challenge 2

Challenge 3

Challenge 5

Challenge 6

Challenge 9

Challenge 10

Contact

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Decade Project 23.

Coastal Observatory for Climate, CO₂ and Acidification for the global South society (COCAS)

Lead Institution: Sorbonne Université, LOCEAN-IPSL

Summary

The COCAS community builds on and uses a science-based decision support system, for sustainable development of the marine Exclusive Economic Zones of the Global South countries. Its mission is three-fold: first, to implement and sustain coastal ocean long-term observatories assessing ongoing marine environmental changes and their impact on a rich marine biodiversity and multicultural populations; second, to create a common language and common practices for stakeholders based on data, intelligent information, and technology; third, to give birth to a new generation of scientists, end-users and decision-makers, working together for the integrated coastal management of tomorrow in the Global South.

Start Date: 01/04/2021 **End Date:** 31/12/2030

Ocean Basins

Indian North Pacific South Pacific

North Atlantic South Atlantic

Challenges Addressed

Challenge 2

Challenge 3

Challenge 4

Challenge 5

endirenge s

Challenge 7

Challenge 8

Challenge 9

Challenge 10

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Decade Project 32.

Marine Plan Partnership for the North Pacific Coast (MaPP)

Lead Institution: Marine Plan Partnership for the North Pacific Coast

Summary

The MaPP initiative is a partnership between the Province of British Columbia and 17 member First Nations (collectively the MaPP Partners) that developed and are implementing four marine use plans and a regional action framework for B.C.'s North Pacific Coast. The MaPP plans provide recommendations for key areas of marine management, including uses, activities and protection using the best available science and local and Indigenous knowledge. The plans inform decisions regarding the sustainable economic development and stewardship of British Columbia's coastal marine environment. Marine stakeholders representing multiple sectors provided input and advice to the planning process; consultation is ongoing during implementation.

Start Date: 01/04/2015 **End Date:** 31/03/2035

Ocean Basins
North Pacific

Challenges Addressed

Challenge 2 Challenge 10

Contact

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Decade Project 37.

Ocean Monitoring and Prediction Network for the Sustainable Development of the Gulf of Mexico and the Caribbean (OMPNetGC)

Lead Institution: Consorcio de Investigación del Golfo de México (CIGOM)

Summary

We propose to develop a network of ocean observation systems and regional forecasting models of ocean circulation, to provide baseline information on the oceanographic, biogeochemical and ecological state, changes and trends of the large ecosystem of the Gulf of Mexico and the Caribbean. To assess the vulnerability of key species and marine habitats to extreme natural events and economic developmental pressures, such as large oil spills, and the emerging long-term trends of deoxygenation, ocean acidification, harmful algal blooms, warming of the surface ocean, and to provide information, knowledge and tools for mitigation and adaptation strategies. To enhance capacity building and inspire the next generation of scientists, policy makers and stakeholders in the greater Caribbean region for the sustainable development of the ocean.

Start Date: 01/06/2021 **End Date:** 31/12/2030

Ocean Basins
North Atlantic

Challenges Addressed

Challenge 1

Challenge 2

Challenge 5

Challenge 6

Challenge 7

Challenge 8

Challenge 9

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Decade Project 38.

Training-through-Research (TTR) - Floating University

Lead Institution: Capacity Building Working Group for the UN Ocean Decade, National Oceanographic Commission of Russian Federation

Summary

Training-through-Research (Floating University) is an international multi-disciplinary initiative aimed at combining formal academic education with deep involvement of students and early career scientists into real-life scientific investigations in the Ocean, including through research cruises and post-expedition processing of the collected field data within international academic communities. Future generations of marine scientists are learning under the supervision of world-class experts and building knowledge in interdisciplinary studies of complex systems, discovering relationships between the hydrosphere, atmosphere, geosphere, and biosphere.

Start Date: 15/01/2021 **End Date:** 31/12/2031

Ocean Basins North Pacific North Atlantic Arctic

Challenges Addressed

Challenge 4 Challenge 9 Challenge 10

Contact

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Decade Project 39.

A Multi-Dimensional and Inclusive Approach for Transformative Capacity Development (CAP-DEV 4 the Ocean)

Lead Institution: The New England Aquarium (through its global Marine Conservation Action Fund (MCAF Program)

Summary

This initiative brings together a diverse multi-national partnership to address the critical need for capacity development in ocean science, literacy and conservation in low- and middle-income countries. We seek to strengthen systems (funding, mentorship, recognition, learning, communication and evaluation) that address the challenges of the Ocean Decade and support the capacity to deliver ocean science and leadership, which is central to healthy oceans and sustainable development. This will proactively advance the integration of capacity development in the design and implementation of priorities for the Ocean Decade.

Start Date: 08/06/2021 **End Date:** 08/06/2024

Ocean Basins

Indian South Pacific North Atlantic

Challenges Addressed

Challenge 1 Challenge 2 Challenge 3 Challenge 4 Challenge 10

Contact

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Decade Project 41.

Mesopelagic Ecosystem and Biopump Dynamics and Connectivity in the Pacific (MEBIDyC-P)

Lead Institution: Korea Institute of Ocean Science and Technology (KIOST)

Summary

The mesopelagic ecosystem residing 200m to 1000m depth serves as the mainstay of the marine food web in the open sea and the global carbon cycle. Yet, understanding of its structure and function and related biophysico-chemical processes are limited. This initiative aims to understand the mesopelagic ecosystem in the Pacific in terms of species diversity, distribution and biomass, food web connectivity among epi-, meso- and bathy-pelagic regions, biological pump and carbon flux, and water column mixing and nutrient recycling. Activities will include joint exploration and data sharing, capacity building, engagement of public and policy makers for conservation of the mesopelagic.

Start Date: 01/01/2021 **End Date:** 31/12/2030

Ocean Basins North Pacific South Pacific

Challenges Addressed

Challenge 2 Challenge 3 Challenge 4 Challenge 5 Challenge 9 Challenge 10

Contact

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Decade Project 43.

Estuarine Ecological Knowledge Network (EEKN)

Lead Institution: Center for Human-Environmental Research (CHER)

Summary

The Estuarine Ecological Knowledge Network (EEKN) is designed to utilize the everyday experiences and traditional ecological knowledge of coastal community members to inform scientific research and policy decisions regarding estuarine environments which are crucial for maintaining the health and productivity of the Earth's oceans.

The EEKN will create a dispersed network of community observers and citizen scientists who will document the ecological conditions they encounter, providing data for ocean scientists and feedback to policy makers. The EEKN will also document and preserve the knowledge of indigenous peoples and encourage the participation of under-represented groups in marine science and management.

Start Date: 01/06/2021 **End Date:** 31/05/2025

Ocean Basins

Indian North Pacific North Atlantic

South Atlantic

Challenges Addressed

Challenge 2 Challenge 3 Challenge 4 Challenge 5

Challenge 7
Challenge 10

Contact

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Decade Project 44.

Low-Cost Real-Time Monitoring of Pollutants and Water Quality Along the Coral Reefs in Tanzania: Supporting Effective Ocean Management

Lead Institution: Aqua Farms Organization

Summary

The Reef Protect Project is a project that seek to deploy water quality monitoring devices in eight coral reef sites along the coast of Tanzania. The devices will help to measure ocean temperature, dissolved oxygen and pH. The devices will be able to log the collected information in real time and made available publicly through the to be designed portal. This information will be collected for 10 years and used in informing the policy makers on possible actions that can be used to safeguard Tanzania coral reefs and the impact of climate change.

Details of the device development are available here:

https://sustainenvironres.biomedcentral.com/articles/10.1186/s42834-019-0009-4

Start Date: 07/06/2021 **End Date:** 07/06/2030

Ocean Basins

Indian

Challenges Addressed

Challenge 1

Challenge 2

Challenge 3

Challenge 4

Challenge 5

Challenge 6

Challenge 7

Challenge 8

Challenge 9

Contact

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Decade Project 45.

Protecting the Estuaries of the WIO region

Lead Institution: School of Aquatic Sciences and Fisheries Technology, University of Dar es Salaam, Tanzania

Summary

Estuaries are important habitats that support existence of ocean life. They are sometimes referred to as "a cradle of the sea" due to their role as nurseries to various ocean animals. They are amongst the most fragile of marine habitats due to their dependence on salt-freshwater balance because any imbalances significantly affect the biodiversity and their ecosystems services. During the Ocean Decade, the School of Aquatic Sciences and Fisheries Technology and partners aim to study the extent to which estuaries of the WIO region have been affected by anthropogenic activities and climate change with a view to coming up with feasible recommendation to protecting them.

Start Date: 01/01/2021 **End Date:** 31/12/2030

Ocean Basins

Indian

Challenges Addressed

Challenge 1 Challenge 2 Challenge 5

Contact

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Decade Project 47.

Ocean Effects on Climate Variability of the Northwest Pacific

Lead Institution: Korea Institute of Ocean Science and Technology (KIOST)

Summary

This initiative is an integrative large-scale multi-nation scientific effort to enhance understanding of how the climate variability in the Northwest Pacific together with remote changes in the Indian Ocean modulates regional changes in Northwest Pacific ecosystems including its marginal seas. The aim is to improve forecasts for the Northwest Pacific variability of climate and ecosystem, and to help generate solutions to mitigate the climate crisis in the Northwest Pacific.

Start Date: 01/01/2022 **End Date:** 31/12/2031

Ocean Basins

Indian

North Pacific

Challenges Addressed

Challenge 2

Challenge 3

Challenge 5

Challenge 7

Challenge 9

Contact

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Decade Project 48.

A framework for effective trans-national consolidation within marine research, education and management in the Northwestern Pacific and Asian Marginal Seas (FREM-PAMS)

Lead Institution: V.I. Il'ichev Pacific Oceanological Institute, Far Eastern Branch of the Russian Academy of Sciences

Summary

FREM-PAMS is the Asian Pacific regional environmental initiative aiming to improve knowledge and consolidate national efforts to restore and maintain the resilience of marine environment and enable sustainable exploitation of natural resources. The overall objective of the FREM-PAMS is to support the Blue Growth and achievement of the UN SDGs in the region considering global challenges facing the planet by developing the science-based joint strategy to provide environmental decision-making and to meet ocean issues on a peacekeeping basis. The main goal of this effort is effective trans-national consolidation within marine research, education and management.

Start Date: 01/06/2021 **End Date:** 31/12/2029

Ocean Basins

Indian

North Pacific

Arctic

Challenges Addressed

Challenge 1

Challenge 2

Challenge 3

Challenge 4

Challenge 5

Challenge 6

Challenge 7

Challenge 8

Challenge 9

Challenge 10

Contact

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Decade Project 49.

Ocean Literacy Educational Program (Ocean Health and Protection)

Lead Institution: Private and public partnership working group under the lead of the Ministry of Maritime Economy, Cabo Verde

Summary

Creation of an educational system for ocean literacy through a public-private partnership, involving academia, civil society, religious institutions. Training will be offered to all layers of society. Dedicated legislation that makes education for health and protection of the ocean mandatory.

Start Date: 31/01/2021 **End Date:** 31/01/2030

Ocean Basins North Atlantic

Challenges Addressed

Challenge 4 Challenge 10

Contact

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Decade Project 54.

The Current III "The Mediterranean: Waves Come in Pairs"

Lead Institution: TBA21-Academy

Summary

The third cycle of The Current will examine the Mediterranean, Pacific and Caribbean in a transdisciplinary and transregional exercise in sensing, thinking, and learning with the Ocean - by supporting projects, collective pedagogies and voices along the Mediterranean shores across art, culture, science, conservation and activism. This initiative is building on other relevant activities in the region, addressing major regional challenges and seeking to include and activate artistic and scientific communities in joint research and action to contribute to implementation of Agenda 2030 of the United Nations Decade of Ocean Science for Sustainable Development.

Start Date: 01/01/2021 **End Date:** 31/12/2025

Ocean Basins North Pacific

South Pacific
North Atlantic

Challenges Addressed

Challenge 9 Challenge 10

Contact

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Decade Project 56.

UNDER THE POLE • DEEPLIFE • 2021-2030

Lead Institution: Under the Pole (UTP)

Summary

The mesophotic zone (30-200 m deep) is one of Earth's last unknown habitats. This cooperative 10-year initiative UNDER THE POLE • DEEPLIFE • 2021-2030 will explore mesophotic ecosystems across all ocean basins, from the polar regions to the tropics and temperate regions, to discover their biodiversity and species connectivity, identify their vulnerability to global changes and ultimately to propose appropriate management and conservation measures for this particular and largely unexplored marine area. Generated knowledge and recommendations will be disseminated through educational, awareness-raising and protective activities, with the aim of making the greatest possible contribution to the preservation of the oceans.

Start Date: 01/01/2021 **End Date:** 31/12/2030

Ocean Basins

Indian North Pacific South Pacific North Atlantic South Atlantic Arctic Antarctic

Challenges Addressed

Challenge 1 Challenge 2 Challenge 10

Website

www.underthepole.com

Contact

Myrina Boulais: myrina@underthepole.com



Decade Project 66.

Development of a warning system for predicting the risk of formation of intense atmospheric vortices of various spatial and temporal scales (water tornadoes, polar mesocyclones) over the seas of the Arctic and middle latitudes

Lead Institution: Research and Production Association "Typhoon" (RPA "Typhoon")

Summary

This effort plan to develop an automated system to forecast the risk of formation of intense atmospheric vortices - waterspout over the seas of middle latitudes and polar cyclones over the seas of Arctic latitudes and delivering this information to consumers. The system will be based on ground radar and satellite monitoring data, as well as on the results of calculations based on numerical weather forecast models. Appropriate methods will be developed for predicting the risk of formation of intense atmospheric vortices, taking into account regional features of their genesis within the considered water areas. The methods will be based on adaptive algorithms for data aggregation and subsequent calculation of risk zones for the formation of vortices.

Start Date: 01/01/2022 **End Date:** 31/12/2029

Ocean BasinsNorth Atlantic
Arctic

Challenges Addressed

Challenge 6

Contact

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Decade Project 67.

OCEAN & Me: School Under Sail

Lead Institution: Museum of the World Ocean

Summary

The goal of OCEAN & Me: School Under Sail is to develop children's up-to-date competence by implementing high-demand supplementary educational programmes and networking with scientific, industrial and business partners of the region / country / world. The initiative gives participants an opportunity to attain knowledge, skills and abilities for their future occupation. It offers career guidance among young people and forestalls the issues of incompatibility between professionalism and demands of a labour market as well as broadening of outlook of audience members and development of potential in the field of sustainable development.

Start Date: 03/10/2021 **End Date:** 31/07/2030

Ocean BasinsNorth Atlantic
Arctic

Challenges Addressed

Challenge 9 Challenge 10

Contact

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Vasilina Medvedeva, Head of the Museum Department for Nature: v.stepancova@yandex.ru

Decade Project 68.

Global Litter Observatory (GLO)

Lead Institution: The University of Cadiz (UCA)

Summary

The Global Litter Observatory (GLO) aims to harmonize and compile information generated by numerous initiatives which characterize macro-litter around the world. GLO relies (i) on citizenship as a major global force for litter monitoring, and (ii) on the adoption of the mass-based metric to allow comparability among datasets, an important weakness in the current system. The possibility of implementing such a mass-based measuring tool in mobile phones will give wide room for a more effective citizen participation in global monitoring as well as ease the flow and analysis of information through digital data sharing.

Start Date: 01/05/2021 **End Date:** 30/04/2026

Ocean Basins

Indian

North Pacific South Pacific North Atlantic

South Atlantic

Arctic Antarctic

Challenges Addressed

Challenge 1

Challenge 7

Challenge 8

Challenge 9

Contact

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Decade Project 71.

Comprehensive Multidisciplinary Research and Monitoring of Ecosystems of the Arctic Ocean and its Seas

Lead Institution: Arctic and Antarctic Research Institute (AARI)

Summary

This initiative focuses on obtaining comprehensive information on the state of the natural system of the Eurasian Arctic seas and the deeper parts of the Arctic Ocean. The main goal is to better understand the interaction of its main components and the impact on the formation of climatic changes in the northern Polar Regions. It includes a series of international comprehensive expedition projects in which it is planned to carry out meteorological, oceanological, hydrochemical, hydrobiological, paleooceanological observations, observations of environmental pollution in the Arctic Ocean. The aim is to involve students and young scientist in marine expeditions.

Start Date: 01/07/2021 **End Date:** 31/12/2030

Ocean Basins

Arctic

Challenges Addressed

Challenge 5 Challenge 7

Contact

Dr. Aleksandr Makarov, AARI Director: makarov@aari.ru



Decade Project 73.

Complex Multidisciplinary Research and Monitoring of Ecosystems in strategic areas of the South Atlantic (with interested countries)

Lead Institution: Arctic and Antarctic Research Institute (AARI)

Summary

Complex scientific research will be carried out around the Russian station «Bellinghausen» on the island of King George, Strait of Bransfield, annually between January and April, 2021-2030. Scientific expeditionary vessels of reinforced ice class the Akademik Tryoshnikov and the Akademik Fedorov by Roshydromet will be deployed. Work will be carried out during the voyage in the coastal zones and on the islands.

Start Date: 01/03/2021 **End Date:** 31/12/2030

Ocean Basins
South Atlantic

Challenges Addressed

Challenge 5 Challenge 7

Contact

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Decade Project 75.

Enhancing Ocean Observing System within the Republic of Mauritius

Lead Institution: Mauritius Meteorological Services (MMS)

Summary

The Mauritius Meteorological Services (MMS) is a government institution under the Mauritius Meteorological services act of 2019 that is responsible for the provision of weather, climate services and warnings for hydrometeorological hazards and tsunamis. The observation network for ocean is a key activity of the MMS and currently there are four tidal gauges and two wave riders in operation. Moreover, the MMS contributes towards deployment of drifters and ARGO floats under the Data Buoy Cooperation Panel.

In the context of the UN Ocean Decade, the MMS is proposing to enhance its existing ocean networks by increasing the number of tidal gauges and wave riders. Moreover, the MMS is looking forward to improving staff capabilities by seeking opportunities for capacity building in the field of the ocean observation and research. The development of ocean services for fishermen especially for effective communication in the event of natural hazards will be worked out. In collaboration with local partners, new tools and software for ocean observational and research will be developed.

Start Date: 01/07/2021 **End Date:** 31/12/2025

Ocean Basins

Indian

Challenges Addressed

Challenge 4 Challenge 6

Challenge 7

Challenge 8

Challenge 9

Contact

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Decade Project 80.

ARTPORT_WE ARE OCEAN

Lead Institution: ARTPORT making waves

Summary

ARTPORT_WE ARE OCEAN is a transdisciplinary artistic project involving multiple stakeholders (artists, students, scientists, policy makers, teachers, curators, activists) worldwide to raise awareness and engage in dialogue about the environmental condition of the ocean and the role humans play in its current and future state. This effort started in 2019 and will engage with numerous countries until 2030 to work particularly with young and underprivileged around the question of how we interact with the ocean and how interdependent humans and the ocean are. The overall goal is to raise scientific and political awareness through the arts, particularly among young people.

Start Date: 17/01/2021 **End Date:** 31/12/2030

Ocean Basins

Indian

North Pacific South Pacific North Atlantic South Atlantic Arctic

Challenges Addressed

Challenge 10

Contact

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Decade Project 82.

Surfstainable Community - Slide Water Sports for Science in Action (Surfstainable)

Lead Institution: Posidonia Green Project

Summary

Surfstainable will promote the participation of people involved in slide waters sports to become ambassadors for the protection of the sea by means of scientific activities in collaboration with experts addressing data collection in marine ecosystems and its threats. This water sport in action initiative would like to involve sporting organizations in terms of clubs and federations, leagues in charge of competitions, together with universities, NGOs and tech enterprise to promote the understanding of the ocean system, supporting the data collection, rethinking the relations between sea and people and promoting eco-friendly technologies in the branch of the leisure business.

Start Date: 08/06/2021 **End Date:** 05/06/2026

Ocean Basins

Indian North Pacific South Pacific North Atlantic South Atlantic

Challenges Addressed

Challenge 1 Challenge 2 Challenge 7 Challenge 10

Contact

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Decade Project 83.

SMART Ocean-SMART Industries (SO-SI): Science/Industry Partnerships for Data Collection and Sharing

Lead Institution: World Ocean Council (WOC)

Summary

The WOC SMART Ocean-SMART Industries (SO-SI) initiative is a global, multi-industry initiative creating partnerships between science and the ocean private sector on data collecting and sharing. The SO-SI initiative for the UN Ocean Decade will improve and scale this by developing the: 1) Community of Practice - Engaging tens of thousands of ocean companies around data collecting and sharing; 2) Clearinghouse and Knowledge Base - Assembling information from science on data collection programs, priorities, technologies and from industry on opportunities for using vessels and platforms; 3) Matchmaking/Brokering Capacity - Expanding the efforts to connect science priorities with industry potential.

Start Date: 29/01/2021 **End Date:** 31/12/2030

Ocean Basins

Indian

North Pacific South Pacific North Atlantic South Atlantic Arctic

Arctic Antarctic

Challenges Addressed

Challenge 2

Challenge 4

Challenge 5

Challenge 6

Challenge 7

Contact

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Decade Project 88.

Development of a Support System for Decision-Making on the Declaration of a Tsunami Alarm, taking into Account the Geographical Position Features of Different Sites of the Protected Territory (TWS-geography)

Lead Institution: Research and Production Association "Typhoon" (RPA "Typhoon")

Summary

The basis of tsunami hazard assessment remains magnitude-geographical criteria. In this case, the tsunami alarm is announced by tsunami centers throughout the entire area of responsibility. Calculations of tsunami wave height shows that the distribution of tsunami wave heights over the protected points is non-uniform and depends on the relative position of the earthquake source and the protected point. Taking into account the heterogeneity of the distribution of tsunami wave height and making a decision to declare a tsunami alarm individually for each protected point will reduce the number of false alarms. This project plans to use the example of the protected area of the Black Sea coast of Russia to develop a decision support system to declare a tsunami alarm, taking into account the peculiarities of the geographic location of the protected area.

Start Date: 01/01/2022 **End Date:** 01/01/2025

Ocean Basins
North Atlantic

Challenges Addressed

Challenge 6

Contact

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Decade Project 91.

Fenoy-X: Data Domain System of Ocean Knowledge for the Future Prosperity of Ocean Resources in the Western Indian Ocean (Fenoy: Malagasy name for filing the gaps / X: the Decade)

Lead Institution: Western Indian Ocean Early Career Scientists Network

Summary

Fenoy-X will identify knowledge gaps through datasets from past and current publications. An online interactive map will explore ocean related themes, data and tools. Our map seeks to promote understandings of sciences from the Western Indian Ocean region. The online map is open, fair and provides accessible ocean data and information. Fenoy-X seeks to demonstrate and promote sustainable development and partnerships to advance knowledge. Training and development in protection and conservation of the Indian Ocean ecosystem services forms part of the Fenoy-X library to promote new studies for the future.

Start Date: 04/04/2021 **End Date:** 04/04/2030

Ocean Basins

Indian

Challenges Addressed

Challenge 4 Challenge 9 Challenge 10

Contact

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Decade Project 92.

The Caspian Sea Digital Twin (CasSeaDi)

Lead Institution: P.P. Shirshov Institute of Oceanology, Russian Academy of Sciences

Summary

The goal of the "The Caspian Sea Digital Twin" initiative is the creation of "The Caspian Sea Data Center", which would include an updated archive of satellite, oceanographic, hydrometeorological, hydrodynamic model, atmospheric reanalyses data, results of regional climate change forecasts, electronic atlases, electronic library of publications on the Caspian Sea. The database will allow assessment of anthropogenic loads on the Caspian Sea environment, ongoing climate change, extreme weather and climate events, the impact of climate change on natural and socio-economic systems, development of a strategy and mechanisms for adaptation to climate change and the state of the Caspian Sea.

Start Date: 01/02/2021 **End Date:** 31/12/2027

Ocean Basins
North Atlantic

Challenges Addressed

Challenge 1

Challenge 4

Challenge 5

Challenge 6

Challenge 7

Challenge 8

Challenge 9

Contact

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Decade Project 94.

Science Monitoring and Reliable Telecommunications (SMART) Subsea Cables: Observing the Global Ocean for Climate Monitoring and Disaster Risk Reduction (SMART Cables for Observing the Global Ocean)

Lead Institution: Joint Task Force SMART Subsea Cables

Summary

The Joint Task Force for Science Monitoring and Reliable Telecommunications (JTF SMART) subsea cables is facilitating the integration of environmental sensors into trans-ocean commercial submarine telecommunications cables toward a planetary scale array that monitors ocean climate and sea level rise. The network will revolutionise real-time warning systems for earthquake and tsunami disaster mitigation. The first major SMART project is underway in Portugal, with others in various stages of planning and funding - "Big Tech Blue Economy. The JTF will provide coordination between all stakeholders while catalyzing education, training and outreach programs to build capacity and offer societal benefit.

Start Date: 01/01/2021 **End Date:** 31/12/2030

Ocean Basins

Indian
North Pacific
South Pacific
North Atlantic
South Atlantic
Arctic
Antarctic

Challenges Addressed

Challenge 5 Challenge 6 Challenge

Contact

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Decade Project 96.

MegaMove - Overhauling Conservation of Highly Migratory Marine Megafauna at Global Scale

Lead Institution: The University of Western Australia (UWA)

Summary

MegaMove is a global scientific initiative involving a concerted network of hundreds of researchers around the globe to advance the long-term conservation of marine megafauna through strategic mitigation of global threats guided by a multi-disciplinary science plan encompassing movement ecology, ecological modelling, statistical physics, oceanography, marine law and computer data science. MegaMove will implement an already designed framework to create an open resource for interoperable and standardised biologging data sharing, querying and analysing across all stakeholders (researchers, manufacturers, data users) and to create a tool for dynamic prediction of marine megafauna occurrence, ecologically significant areas and risk mapping at global scale.

Start Date: 01/03/2020 **End Date:** 30/12/2030

Ocean Basins

Indian

North Pacific South Pacific North Atlantic South Atlantic

Arctic Antarctic

Challenges Addressed

Challenge 2

Challenge 5

Challenge 6

Challenge 7

Challenge 8

Challenge 9

Challenge 10

Contact

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Decade Project 100.

Blue Symbiosis

Lead Institution: Working group / expert group / taskforce

Summary

It's proposed that oil and gas infrastructure be converted into multi-species restorative seaweed aquaculture sites to establish foundational and reproductive habitat, sequester CO2, mitigate eutrophication, and provide seaweed for fertilizer and nutrition. If successful, Blue Symbiosis will provide an alternative to removing infrastructure in the North Sea and the Bass Strait, then globally. If this option is chosen by industry and governments, it will be required that a proportion of the savings be allocated to restoration, improving monitoring capabilities, and R&D. This has the potential to allocate 100s of millions (USD) to support marine restoration through a scalable self-financing process.

Start Date: 15/06/2021 **End Date:** 15/06/2029

Ocean Basins South Pacific North Atlantic

Challenges Addressed

Challenge 1

Challenge 2

Challenge 3

Challenge 4

Challenge 5

Challenge 7

Challenge 8

Challenge 9

Challenge 10

Contact

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Decade Project 101.

Animal-Borne Ocean Sensors (AniBOS): A decadal vision through new eyes

Lead Institution: Sydney Institute of Marine Science

Summary

AniBOS, an emerging network of the Global Ocean Observing System (GOOS), will provide freely available oceanographic measurements across the hard-to-reach world's polar and tropical oceans collected through biologging, the deployment of sensors on marine animals. These data compliments conventional approaches by providing both physical and ecological data in ocean regions directly at the scale and resolution at which animals move. AniBOS will fill this gap by integrating animal collected data within Global Ocean Observing System to improve our ability to observe and predict global climate processes and animal behaviour for societal benefit.

Start Date: 01/01/2021 **End Date:** 15/12/2030

Ocean Basins

Indian

North Pacific

South Pacific

North Atlantic

South Atlantic

Arctic

Antarctic

Challenges Addressed

Challenge 2

Challenge 3

Challenge 5

Challenge 6

Challenge 7

Challenge 8

Contact

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Decade Project 102.

COVID-19 Bio-Logging Initiative

Lead Institution: International Bio-Logging Society

Summary

The COVID-19 Bio-Logging Initiative investigates responses of marine animals to altered levels of human activity during the pandemic. Specifically, this community-driven programme analyses tracking ("bio-logging") data on the movements and behaviour of marine mammals, birds, reptiles and fish (including sharks) along with human activity data (e.g., fishing, shipping, noise inputs, coastal activities) collected before, during and after COVID-19 lockdowns across the globe. By understanding how marine organisms respond to changes in human activity, the programme will significantly advance our understanding of human-wildlife interactions in the world's oceans and help inform global efforts to foster sustainable coexistence.

Start Date: 01/01/2021 **End Date:** 31/12/2030

Ocean Basins

Challenges Addressed

Challenge 2 Challenge 4 Challenge 8

Contact

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Decade Project 104.

Coastal Zones Under Intensifying Human Activities and Changing Climate: A Regional Programme Integrating Science, Management and Society to Support Ocean Sustainability (Coastal-SOS)

Lead Institution: Xiamen University

Summary

With ~2 billion people relying on its resources, the East Asian seas have nourished rapid economic growth during past decades, which has unfortunately occurred at the expense of ocean health. This initiative articulates a novel approach of cross-sectoral partnership in designing, conducting and delivering "the science we need for the ocean we want". Through interdisciplinary research, we propose to examine the trajectories of six model East Asian coastal ecosystems over the past 50 years and predict their future (30-year) direction. The initiative enables effective integration of science, governance, and society to fundamentally change the business-as-usual development model of the coastal zone.

Start Date: 01/01/2022 **End Date:** 31/12/2030

Ocean Basins North Pacific

Challenges Addressed

Challenge 1

Challenge 2

Challenge 3

Challenge 4

Challenge 5

Challenge 6

Challenge 8

Challenge 9

Challenge 10

Contact

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Decade Project 112.

Coral Reef Restoration Engaging Local Stakeholders Using Novel Biomimicking IntelliReefs

Lead Institution: IntelliReefs

Summary

In November 2018, IntelliReefs deployed three nanotechnology artificial reefs underwater near Philipsburg, Sint Maarten to restore coral reefs after Hurricane Irma (2017). IntelliReefs mimic natural, healthy reefs and provide bioengineered habitat for faster growing and more resilient reefs. IntelliReefs are designed down to the nanoscale for site, species and function, allowing for immediate marine integration. IntelliReefs provide food and shelter for fish populations, attract wild corals, rapidly grow healthy coral reef communities, and enhance local biodiversity. Over the next decade, we will deploy additional IntelliReefs and further analyze the benefits and applications of IntelliReefs for fish, corals and local economies.

Start Date: 01/11/2018 **End Date:** 31/12/2031

Ocean Basins
North Atlantic

Challenges Addressed

Challenge 2 Challenge 3 Challenge 4

Website

https://www.intellireefs.com/about-us-pdf

Contact

Melody Brenna, CEO & Co-Founder: melody@reeflifefoundation.org

Decade Project 114.

OneArgo: An Integrated Global, Full Depth and Multidisciplinary Ocean Observing Array for Beyond 2020

Lead Institution: The Argo Steering Team

Summary

OneArgo will transform the revolutionary 'core' Argo array (which tracks the upper ocean physical state) to one that has truly global reach, including the polar oceans and marginal seas, extending to the full ocean depth and including ocean biogeochemical measurements. Through Argo's novel data management system, all data will be freely shared in real-time with a high-quality version delivered within 12 months. Implementing OneArgo will greatly increase Argo's already remarkable impact on ocean and climate services, predictions and research, and enable ground-breaking developments in understanding ocean ecosystems, forecasting ocean productivity and constraining the global carbon and energy budgets.

Start Date: 01/01/2021 **End Date:** 31/12/2030

Ocean Basins

Indian

North Pacific South Pacific North Atlantic South Atlantic Arctic

Antarctic

Challenges Addressed

Challenge 2

Challenge 3

Challenge 5

Challenge 6

Challenge 7

Challenge 8

Challenge 9

Website

https://argo.ucsd.edu/organization/ast-and-ast-executive-members/

Contact

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Decade Project 117.

FAIR Data in the UN Ocean Decade in support of integrated ecosystem assessment (FAIROD)

Lead Institution: Institute of Marine Research, Norway

Summary

The UN decade's most pressing need is to find scientifically based management solutions to the existing and future challenges that the ocean, and thus humankind, faces. To move from the present assessments of much of the global ocean based on qualitative interpretations of selective data, to quantitative assessments based on trustworthy and shared data, there needs to be a strengthening of global ocean data collection, - curation, - products and -integration. In FAIROD we focus on capacity building and development of tools for undertaking efficient place-based integrated ecosystem assessments in support of management to ensure sustainable human activities in the ocean.

Start Date: 01/09/2021 **End Date:** 31/12/2030

Ocean Basins

Indian

North Pacific South Pacific North Atlantic South Atlantic

Arctic Antarctic

Challenges Addressed

Challenge 2

Challenge 3

Challenge 4

Challenge 7

Challenge 8

Challenge 9

Contact

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Decade Project 119.

Resilience of the Ecosystems, Fisheries and Marine-Based Economy Under a Persistent Anomalous Warm and Low-Productivity Regime in the Gulf of California

Lead Institution: Instituto de Ciencias del Mar y Limnologí-a, Universidad Nacional Autónoma de México

Summary

The Gulf of California (GOC) is a region of high biodiversity that supports the majority of Mexico's commercial and sport fisheries. During 2014-2020, this region experienced a period of intense oceanic warming and decreased productivity (chlorophyll-a concentration) compared to satellite (1980-2020) or historical (1900-2020) data. This Decade initiative is a multidisciplinary collaboration of institutions and independent stakeholders from Mexico and USA to evaluate the impacts of present and future climatic conditions on the biodiversity and fisheries of the GOC and to identify mitigation strategies during the decade 2020-2030.

Start Date: 01/03/2021 **End Date:** 31/12/2030

Ocean Basins North Pacific

Challenges Addressed

Challenge 2 Challenge 5 Challenge 6 Challenge 7 Challenge 9

Contact

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Decade Project 123.

Integrated Ocean Carbon Observing System (IOCOS)

Lead Institution: Integrated Carbon Observing System Ocean Thematic Centre (ICOS-OTC)

Summary

The Ocean has taken up ca 25% of the carbon we have released to the atmosphere, in the process slowing climate change and reducing the costs of preventing it occurring. However, this sink is not stable; it has doubled in the recent past and its response to forthcoming net zero emissions is highly uncertain. The future behaviour of this sink will regulate the future costs of climate change mitigation which will be minimised by up-to-date high quality information regarding its size. IOCOS will build a global programme to deliver this information for the benefit of all.

Start Date: 01/01/2021 **End Date:** 31/12/2023

Ocean Basins

Indian

North Pacific

South Pacific

North Atlantic

South Atlantic

Arctic Antarctic

Challenges Addressed

Challenge 5

Challenge 6

Challenge 7

Challenge 8

Challenge 9

Contact

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Decade Project 127.

Fish for Africa Innovation Hub (FAIH)

Lead Institution: World Fish Center*

Summary

The Fish for Africa Innovation Hub mobilizes regional and global businesses, research institutions and government into an innovative public-private partnership that supports research and development for sustainable aquaculture and fisheries in Africa and ensures the hub's sustainability in the long run. The hub aims to foster cutting edge science, technology, policy and market innovations which transform aquaculture and fisheries in Africa in order to meet growing consumer demand for affordable, safe and nutritious fish produced sustainably and improve the livelihoods of Africa's citizens.

Start Date: 01/01/2021 **End Date:** 31/12/2029

Ocean Basins

Indian
South Pacific
South Atlantic

Challenges Addressed

Challenge 3 Challenge 4 Challenge 5 Challenge 9

Contact

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*Registered Name: International Center for Living Aquatic Resources Management

Decade Project 128.

Advancing the European Seas' Marine Research and Innovation to Support their Biodiversity and Resilience Under Multi-stressors (ReSealience)

Lead Institution: Middle East Technical University Institute of Marine Sciences

Summary

ReSealience proposes a holistic initiative that aims to advance the European Seas (North Atlantic, Mediterranean, Black Sea, Baltic Sea, North Sea) marine research and innovation to support biodiversity and resilience under multiple stressors while promoting the sustainable utilization of ecosystem services. This effort builds on three pillars: generate knowledge, support innovation, develop solutions in support of the Ocean Decade objectives. ReSealience brings together key institutions that will bring together the main actors of the different regions on these 3 pillars.

Start Date: 01/01/2022 **End Date:** 31/12/2030

Ocean Basins North Atlantic

Challenges Addressed

Challenge 1

Challenge 2

Challenge 3

Challenge 4

Challenge 5

Challenge 7

Challenge 8

Challenge 9

Challenge 10

Contact

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Decade Project 131.

The West Asia Blue Waters

Lead Institution: UNESCO Category II Regional Education and Research Centre on Oceanography for West Asia (RCOWA)

Summary

"The West Asia Blue Waters" is a ten-year initiative which proposes to link science and life to elevate ocean literacy amongst people in West Asia. It was approved by the 4th Governing Board meeting of UNESCO Category 2 Regional Education and Research Centre on Oceanography for West Asia (RCOWA). This effort covers a wide range of different oceanographic disciplines organized around 5 projects with the aim of environmental preservation, education, data and information sharing and associating coastal dwellers in ocean and coastal observations.

Start Date: 31/01/2021 **End Date:** 30/12/2030

Ocean Basins

Indian

Challenges Addressed

Challenge 1

Challenge 3

Challenge 4

Challenge 7

Challenge 8

Challenge 9

Challenge 10

Contact

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Decade Project 134.

West African Science Service Centre on Climate Change and Adapted Land Use: Cabo Verde Graduate School on Climate Change and Marine Sciences (WASCAL-CV)

Lead Institution: Institute of Engineering and Marine Sciences at the Atlantic Technical University

Summary

The Cabo Verde Graduate School on Climate Change and Marine Sciences is dedicated to training up to 20 west African students, per batch, at the level of master's degree in Marine Sciences and Ocean Management. Students will be exposed to interdisciplinary and trans-disciplinary courses on oceanographic areas, marine ecology, fisheries, coastal management and planning. With theoretical understanding and applied skills, students will be able to develop solution-orientated projects in marine sciences and management in a climate change context. The WASCAL-CV is being implemented under the WASCAL (West African Science Service Centre on Climate Change and Adapted Land Use) framework.

Start Date: 01/09/2019 **End Date:** 31/12/2023

Ocean Basins North Atlantic

Challenges Addressed

Challenge 4 Challenge 9

Contact

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Decade Project 136.

Save the Waves Mobile App

Lead Institution: Save The Waves Coalition

Summary

The overall goal of Save the Waves Mobile App is to empower the global surfing community to crowdsource key data on the most pressing issues facing our coastal communities, including harmful coastal development, plastic pollution, sea-level rise and impaired water quality. The Save The Waves mobile App uses a smart phone's camera technology to document inappropriate development, water quality impairments, plastic pollution, sea-level rise and other coastal issues and report them in order to find solutions.

Users snap a photo of the impacted site, select a threat category menu and include a brief comment. The photo is geotagged by the phone's GPS and then synched with a mapping function to display on the app. Users are incentivized through a combination of social media cross-posting, gameification and sponsor incentives. Data is then shared with on the ground practitioners, coastal agencies and governments, which can be a game-changer for protected area managers. We have launched a preliminary version of this technology with over 4000 users but need to scale up to over 100,000 make it truly effective.

Start Date: 01/05/2019 **End Date:** 06/06/2023

Ocean Basins

Indian North Pacific South Pacific North Atlantic South Atlantic

Challenges Addressed

Challenge 1 Challenge 2

Contact

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Decade Project 148.

Pacific Ocean Pathways in support of sustainable development: an integrated approach (PACPATH)

Lead Institution: Institut de Recherche pour le Développement

Summary

PACPATH aims at establishing efficient and sustainable trans-disciplinary processes, methods and networks allowing stakeholders as scientists, public officers and citizens of the Pacific Islands to share common objectives and actions in order to achieve environmental sustainability considering SDG14, and its interlinkage to all other 16 SDGs. PACPATH aims at creating the conditions to produce sound science, targeted expertise, and reliable data-based information for risked-informed decision making, which however needs to be better targeted and co-constructed with local communities and knowledge-holders. On two pilot sites, Fiji and New Caledonia, we will address the impacts of climate change and other stressors on the ocean environment and ecosystem services, and their consequences for society, economy, and attainment of the SDGs.

Start Date: 01/10/2021 **End Date:** 30/09/2023

Ocean Basins
South Pacific

Challenges Addressed

Challenge 2

Challenge 3

Challenge 5

Challenge 7

Challenge 8

Challenge 9

Challenge 10

Contact

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Decade Project 149.

Above and Beyond - completing the World Register of Marine Species (ABC WoRMS)

Lead Institution: Flanders Marine Institute (VLIZ)

Summary

The World Register of Marine Species (WoRMS) will continue its endeavours to provide a full taxonomic overview of all marine life, thereby not only supporting scientists, but everyone who makes use of species names, including policy, industry and the public at large. Although already fairly/very complete, taxonomic gaps still need to be addressed, both in space and time. In addition, new challenges in the field of taxonomy need to be explored, thereby looking for the best suitable solution for all WoRMS users. Where relevant, traits information will be further documented.

Start Date: 01/01/2021 **End Date:** 31/12/2030

Ocean Basins

Indian

North Pacific

South Pacific

North Atlantic

South Atlantic

Arctic

Antarctic

Challenges Addressed

Challenge 2

Challenge 7

Challenge 8

Challenge 9

Contact

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Decade Project 150.

Sustainable Ocean Management Education Programme Strengthening the Blue Economy (SOME Programme)

Lead Institution: Department of Blue Economy, Ministry of Fisheries and Blue Economy, Seychelles

Summary

Seychelles aims to champion the development of this initiative which aims to engage learners to become ocean literate and develop the Blue Economy. The adverse effects of climate change and exploitation within the Indian Ocean and African continent in general are issues that cannot be overlooked and needs engagement of the upcoming generations to elicit the mindset change required to mitigate harmful actions to the oceans.

Start Date: 01/01/2021 **End Date:** 31/12/2031

Ocean Basins

Indian

Challenges Addressed

Challenge 3 Challenge 4 Challenge 5

Challenge 9

Challenge 10

Contact

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Decade Project 154.

Enhancement of hydrographic and oceanographic observations in support of marine scientific research (Coastal and natural resources, deep and ultradeep seabed geoscientific mapping, etc.)

Lead Institution: National Commission for Education, Sciences and Culture, Kingdom of Morocco (MarocNatCom)

Summary

The aim of this initiative is to raise the hydrographic and oceanographic knowledge on the Moroccan marine zone in the Atlantic Ocean and in the Mediterranean Sea through on-site measurements during sea surveys. This effort aims to raise the importance of the ocean in the context of climate change among the Moroccan public. The importance of the ocean to global climate cannot be underestimated. It absorbs a significant part of carbon and an overwhelming portion of the excess heat. Warmer atmosphere and increasing concentration of greenhouse gases nevertheless exert an enormous pressure on the ocean's ability to regulate the climate.

Laying the groundwork for efficient climate adaptation and mitigation strategies at national level, this effort will contribute to better understanding of our marine ecosystem, particularly on the most damaging impacts of climate change: ocean acidification, temperature increase, sea-level rise, deoxygenation, changes in marine biodiversity and the overall contribution of the ocean to contribute to Sustainable Development Goals on conserving the ocean and combatting climate change. This initiative contributes also to the regional programme of oceanographic, hydrographic and marine cartography of African Region and International Oceanographic Programmes.

Start Date: 01/01/2021 **End Date:** 31/12/2030

Ocean Basins
North Atlantic

Challenges Addressed

Challenge 4 Challenge 5 Challenge 7

Challenge 9

Contact

Jamal Eddine EL ALOUA, General-Secretary of National Commission for Education, Sciences and Culture: marocnatcom@gmail.com

Decade Project 157.

Ocean Knowledge Base

Lead Institution: German Ocean Foundation

Summary

In a joint effort "Springer Nature", the "German Ocean Foundation, the "German Society for Marine Research and the "VBIO - Verband Biologie, Biowissenschaften & Biomedizin in Deutschland would like to establish the Ocean Knowledge Base project where we try to reach out to non-scientists like political decision makers, journalists, and the public and help them find, easily access and recombine the information they need from Springer Nature as a publisher.

Start Date: 01/01/2022 **End Date:** 31/12/2030

Ocean Basins

Indian

North Pacific

South Pacific

North Atlantic

South Atlantic

Arctic Antarctic

Challenges Addressed

Challenge 9

Contact

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Decade Project 158.

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

Lead Institution: European Global Ocean Observing System, EuroGOOS

Summary

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

Ocean Basins
North Atlantic
Arctic
Mediterranean
Black Sea
Baltic

Challenges Addressed

Challenge 9 Challenge 10

Contact

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Decade Project 159.

SEA'TIES - Sharing solutions with coastal cities to tackle sea-level rise

Lead Institution: Ocean & Climate Platform

Summary

SEA'TIES is an international programme that mobilizes coastal cities with a diversity of climatic, geographical, social, economic and political contexts. It aims to facilitate the design of public policies and implement sustainable adaptation solutions for coastal cities exposed to sea level rise. The Ocean & Climate Platform's initiative targets policymakers, city managers and all stakeholders involved in this process. The programme promotes best practices on climate change adaption and suggests enhancing further discussion on experiences and lessons learned across the world based on scientific expertise.

Start Date: 01/01/2020 **End Date:** 31/12/2023

Ocean Basins

North Pacific South Pacific North Atlantic South Atlantic

Challenges Addressed

Challenge 2 Challenge 4 Challenge 5 Challenge 8

Contact

Théophile Bongarts Lebbe: tbongarts@ocean-climate.org

Decade Project 164.

Geosystems and Mineral Resources in The Transition Continent-Ocean Zones and Open Ocean (GEOMIR)

Lead Institution: V. I. Il'ichev Pacific Oceanological Institute, Far Eastern Branch of Russian Academy of Sciences

Summary

GEOMIR is the Arctic-Asian-Indo-Pacific interregional geoscientific initiative aiming to improve the ocean floor and its relations to the continental margins knowledge and to consolidate international efforts for research ocean mineral resources within the Geosystems (coastal-ocean bed-sea water) and enable their sustainable exploitation. The overall objective of the GEOMIR is transformative by considering geo-mapping and mineral resources data sharing by the science-based strategy based on marine expeditions, experiments and theoretical work to provide open asses of the mineral resources (ferromanganese crusts, sulphides, phosphorites, REE, noble metals, non-conventional and others) data bases. Bioresources and minerals collection «Marine GeoBioBank» for the worldwide sharing considered.

Start Date: 01/11/2021 **End Date:** 31/12/2030

Ocean Basins

Indian

North Pacific South Pacific

Arctic Antarctic

Challenges Addressed

Challenge 1

Challenge 2

Challenge 4

Challenge 5

Challenge 6

Challenge 7

Challenge 9

Contact

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Decade Project 165.

Global Marine plastic litter Monitoring Network Project (GMMN Project)

Lead Institution: Ministry of the Environment, Japan (MOEJ)

Summary

The Global Marine plastic litter Monitoring Network Project (GMMN Project) aims to create a global network hub to share and compile the monitoring activities and data on marine plastic litter distribution collaborating with existing and future initiatives. It will produce additional value through harmonization and visualization of monitoring efforts. This will contribute to achieving SDG 14 and realizing Target 14.1. Also, this initiative will provide basic data useful for indicator 14.1.1 and contribute to Decade outcomes: 1 – A clean ocean, 6 – An accessible ocean and 7 - An inspiring and engaging ocean.

Start Date: 07/09/2020

End Date: NA

Ocean Basins

Indian

North Pacific

South Pacific

North Atlantic

South Atlantic

Arctic

Antarctic

Challenges Addressed

Challenge 1

Challenge 2

Challenge 7

Challenge 8

Challenge 9

Contact

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Decade Project 167.

Impact of Black Carbon in South-east Asia (SOOT-SEA)

Lead Institution: French National Research Institute for Sustainable Development (IRD)

Summary

Black Carbon (BC), or soot, which is the product of incomplete combustion of fossil fuels, biofuels, biomass and waste, largely contributes to fine particle air pollution (leading environmental cause of poor health and premature death) and is estimated to be the second contributor to climate change after CO₂. An underrated impact of BC is related to its introduction in the ocean, which is its main repository. This initiative aims to improve BC emission inventories in South-east Asia (SEA), determine atmospheric and fluvial fluxes to the ocean and understand how BC impacts marine systems.

Start Date: 01/01/2022 **End Date:** 01/01/2032

Ocean Basins North Pacific

Challenges Addressed

Challenge 1 Challenge 5 Challenge 9 Challenge 10

Contact

Xavier Mari: xavier.mari@ird.fr

Decade Project 169.

Basin Events to Coastal Impacts (BECI): An Ocean Intelligence System for Fish and People

Lead Institution: North Pacific Anadromous Fish Commission

Summary

Climate change is affecting ocean processes and fisheries, impacting natural ecosystems and human communities. This ten-year initiative aims to develop an international ocean intelligence system capable of assessing changes and predicting impacts on local ecosystems and communities, using salmon as an exemplar species. Salmon are culturally, economically, and ecologically important in North Pacific and Atlantic basins. They integrate cumulative effects of change in freshwater and oceans and highlight these effects to human communities. Currently, our knowledge of the inter-connections between climate, oceans, and salmon are insufficient to predict change and develop resilience. This effort will provide this knowledge.

Start Date: 01/01/2021 **End Date:** 31/12/2030

Ocean Basins North Pacific North Atlantic

Arctic

Challenges Addressed

Challenge 2 Challenge 3 Challenge 4

Challenge 5 Challenge 7

Challenge 9

Contact

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Decade Project 171.

EarthScope-Oceans: 300 MERMAIDS

Lead Institution: Geoazur, Sophia Antipolis, France

Summary

EarthScope-Oceans is a multidisciplinary group of geoscientists coordinating efforts to create a global network of seismic sensors that monitor the Earth from within the oceanic environment. EarthScope-Oceans shepherds national projects into the international arena where globally relevant, applicable, and mutually agreed-upon decisions can be made on instrument development, science objectives, data management, and outreach.

With MERMAID technology developing, EarthScope Oceans is becoming more multidisciplinary by including seismologists, acousticians, biologists, geochemists, meteorologists, oceanographers and environmental scientists. Collaboration with existing ocean-observing programs will enable complementary observation of ocean temperature, bathymetry, salinity, and biogeochemical tracers, and cost-effective instrument deployment and recovery by ships.

Start Date: 15/01/2021 **End Date:** 15/01/2031

Ocean Basins

Indian

North Pacific

South Pacific

North Atlantic

South Atlantic

Arctic

Antarctic

Challenges Addressed

Challenge 5

Challenge 6

Challenge 7

Challenge 8

Challenge 9

Contact

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Decade Project 174.

Global Fishing Watch Marine Manager

Lead Institution: Global Fishing Watch

Summary

Global Fishing Watch, in partnership with Dona Bertarelli Philanthropy, is developing Global Fishing Watch Marine Manager, a new scalable technology portal which will support the effective design, management and monitoring of marine protected areas (MPAs). This cutting-edge technology will provide dynamic and interactive data on human-use activity, ocean conditions and biology in near real-time to support MPA management, marine spatial planning and scientific research. The marine reserves portal is designed to empower managers and stakeholders to rapidly collate, assess and analyze scientific data integral to the governance of marine reserves, along with other management frameworks and area-based conservation measures including MPAs.

Start Date: 01/01/2021 **End Date:** 01/01/2026

Ocean Basins

Indian
North Pacific
South Pacific
North Atlantic
South Atlantic
Arctic
Antarctic

Challenges Addressed

Challenge 2 Challenge 8 Challenge 9

Contact

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Decade Project 175.

Environmental predictors of the Baltic Sea Eutrophication in Connection with Planning Human Activity (BaltEP)

Lead Institution: Shirshov Institute of Oceanology, Russian Academy of Sciences

Summary

The BaltEP initiative is aimed at understanding past, present, and predict future changes of the Baltic Sea environment in the context of the intensity of oxygen supply to the deepwater layer (so-called deep-water "oxygen pump") that reflects the activity in water exchange with the Atlantic Ocean. Oxygen supplies to the Baltic Sea Basin influences and even controls large-scale eutrophication which is a well-known problem for most parts of the sea. Climate change aggravates the problem: decrease in frequency of the saline and oxygen-rich water inflows from the North Atlantic via the North Sea (Major Baltic Inflows), changes in length of the ice seasons, warming of the air temperature, increase in frequency of cyanobacteria blooms, changes in primary productivity and biodiversity, oxygen depletion in the deep layer, etc.

Start Date: 15/01/2021 **End Date:** 31/12/2030

Ocean Basins
North Atlantic

Challenges Addressed

Challenge 2 Challenge 3 Challenge 5 Challenge 9 Challenge 10

Contact

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Decade Project 180.

Indigenous People, Traditional Ecological Knowledge, and Climate Change: The Iconic Underwater Cultural Heritage of Stone Tidal Weirs

Lead Institution: Tokyo University of Marine Science and Technology [UNESCO UNITWIN Network for Underwater Archaeology]

Summary

The underwater cultural heritage of stone tidal weirs is a sustainable, eco-friendly fishing practice, consisting of numerous rocks, located along the shoreline on a colossal scale. They are built in various shapes and styles to catch certain fish at certain times of the year. Many extant examples remain and provide a tangible link to the sustainable fishing practice that have incorporated traditional ecological knowledge, and the spirit world, providing balance and harmony for indigenous people for thousands of years. Today these weirs are not just relic examples of the past, but a guide for future sustainable marine ecological conservation.

Start Date: 01/04/2021 **End Date:** 31/12/2030

Ocean Basins

Indian North Pacific South Pacific North Atlantic

Challenges Addressed

Challenge 10

Contact

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Decade Project 182.

Southeast Asian Ocean Professionals Program (SEAOPP)

Lead Institution: East-West Center

Summary

The East-West Center's Southeast Asian Ocean Professionals Program (SEAOPP), is a ten-year regional initiative notably co-founded and run in collaboration with Southeast Asian based partners. SEAOPP's inaugural Decade Project, the Ocean Research Corps (#EWCoceancorps), will respond to UNESCO's call to "change how we finance and conduct ocean research" by training 100 young researchers in 100 different communities across Southeast Asia for the Ocean Decade. Corps researchers will be Early Career Ocean Professionals (with less than 10 years' experience) on one-year, non-residential EWC research intern posts and embedded in their local communities and affiliated with a local University, NGO, or business.

Start Date: 08/06/2021 **End Date:** 31/12/2030

Ocean Basins

Indian

South Pacific

Challenges Addressed

Challenge 1

Challenge 2

Challenge 3

Challenge 4

Challenge 9

Challenge 10

Contact

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Decade Project 183.

The Antarctic Monitoring and Assessment Programme (AnMAP)

Lead Institution: Griffith University

Summary

AnMAP aims to deliver a circum-Antarctic research and surveillance Programme focused on the major threats of organic contaminant pollution and climate-driven ecosystem change. Antarctica is no longer pristine, and our ability to capture change, forecast and mitigate impacts hinges on our ability to implement and coordinate effective circum-Polar surveillance measures. This initiative seeks to provide scientific information on threats to the Antarctic environment, and government advice as to preventative and remedial action. It represents an investment into an existing area of research capacity and excellence, and will deliver an established, international, research, logistics and policy network ready to ascend with the initiative for immediate impact

Start Date: 14/04/2021 **End Date:** 14/04/2030

Ocean Basins

Indian South Pacific South Atlantic Antarctic

Challenges Addressed

Challenge 1 Challenge 2 Challenge 7 Challenge 9

Contact

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Decade Project 184.

Ocean Literacy Programme for coastal communities in Ecuador (OL Programme in Ecuador)

Lead Institution: Fundación Amiguitos del Océano

Summary

Amiguitos del Oceano works directly in coastal community schools by implementing an educational program addressing one of the worst environmental issues we are facing worldwide: plastic pollution. We are tackling this challenge thru education, but in a different way. We seek to reduce and prevent ocean pollution through ocean literacy, encouraging people to change practices and habits helping the conservation of ecosystems, biodiversity and human health. This effort uses innovative methodologies so children can understand why it is so important to take care the ocean, and local communities can also be part of the management and conservation of our environment through education with an affective, playful, practical, intercultural, holistic approach that promotes responsible consumption in the population and empathy with our environment. We have educated more than 10,000 kids in 34 coastal communities and collected almost 4 tonnes of garbage in 38 beach clean-ups. Our data shows exactly what we teach: single use plastics are choking our ocean, many species and us.

Start Date: 14/06/2021 **End Date:** 31/05/2023

Ocean Basins
South Pacific

Challenges Addressed

Challenge 1
Challenge 2
Challenge 3
Challenge 5
Challenge 9
Challenge 10

Contact

Daniela Hill: daniela.hill.piedra@gmail.com

Decade Project 185.

Study, Development and Nature Management of the Azov Sea

Lead Institution: Southern Scientific Centre, Russian Academy of Sciences

Summary

This initiative focuse on operational determination and short-term forecasting of hydrophysical and ecological parameters at selected coastal marine areas of the Black Sea coastal zone with high special-temporal resolution. The initiative includes natural science components: hydrophysical, hydrobiological, hydrochemical and geological research, as well as sociological research: archaeological and ethnolinguistic research. A course of lectures will contribute to the graduation of a generation of broad-based specialists who are aware of the inseparability of natural and anthropogenic processes in the region, and continuous coverage of research in the media. The most important factor in popularizing activities will be the desire to instil an understanding of interdependence of nature and society, and therefore the need for the social interests of a healthy natural environment to prevail over the personal interests

Start Date: 01/01/2022 **End Date:** 31/01/2029

Ocean Basins North Atlantic

Challenges Addressed

Challenge 5 Challenge 6

Contact

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Decade Project 187.

Coastal Monitoring of Wetland Biodiversity and its Habitats

Lead Institution: BhuDevi Consultancy Services LLP

Summary

The intertidal salt marsh with vibrant seagrass ecosystem act as a storehouse of global carbon and a highly dynamic nurturing ground. We undertake this investigation to monitor the health of the intertidal seagrass patch in a tidal marsh and other coastal habitats to assess its potential for any microbiota that can function as disease outbreak potential in the surrounding ecosystem. Associated factors such as environmental education and awareness among different communities would be initiated and implemented to support UN Agenda 2030 achievements.

Start Date: 07/02/2022 **End Date:** 06/02/2026

Ocean Basins

Indian

Challenges Addressed

Challenge 1 Challenge 2 Challenge 3 Challenge 4 Challenge 5

Contact

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Decade Project 192.

Tsunami Potential Coastal Area of Indonesia, Mountain Anak Krakatau, Banten, Sunda Strait, Indonesia

Lead Institution: Agency of Meteorology, Climatology, and Geophysics

Summary

Historically, the Sunda Strait has experienced tsunamis due to volcanic eruptions, earthquake tectonics and underwater landslides which have the potential for future recurrences. The most recent event was the Sunda Strait Tsunami on 22 December 2018. Although there have been several writings on Mount Anak Krakatau (GAK), the results are not satisfactory. Therefore, this study proposes that tsunami modeling be carried out based on bathymetric survey data so that the source and impact of the tsunami due to the 2018 GAK can be reconstructed and inform mitigation efforts in the Banten and Lampung areas in the future.

Start Date: 01/03/2021 **End Date:** 30/11/2021

Ocean Basins Indian

Challenges Addressed

Challenge 6

Contact

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Decade Project 196.

Urchinomics: Global Kelp Forest Restoration Sea Urchin Ranching Alliance

Lead Institution: Urchinomics

Summary

Climate change and overfishing of predatory species from the world's oceans have allowed sea urchins to explode in population and overgraze kelp forests, turning once highly productive ecosystems into desert-like barrens. Without intervention, urchins will occupy the space where kelp forests stood and keep them barren for decades or even centuries. Urchinomics is a for-profit, self-sustaining solution to ignite an ecosystem restoration effort. In partnership with divers and scientists, Urchinomics helps restore kelp forests by removing overgrazing urchins from urchin barrens, ranching them in proprietary aquaculture systems, and converting them into premium seafood to sell to consumers globally.

Start Date: 01/01/2021

End Date: NA

Ocean Basins

North Pacific South Pacific North Atlantic South Atlantic

Challenges Addressed

Challenge 2 Challenge 3 Challenge 5 Challenge 10

Contact

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Decade Project 197.

Implementing the Small-scale Fisheries Guidelines in Costa Rica and Honduras

Lead Institution: CoopeSoliDar R.L

Summary

Strengthening collective and individual capacity of small-scale fisheries organizations in both Pacific and Caribbean coasts of Costa Rica for the implementation of the SSF guidelines including the necessary areas related to tenure rights, access to responsible fishing, generation of knowledge, gender approach and adaptation to climate change within others to share the experience for the International year of Small Scale Fisheries 2023.

Start Date: 01/02/2021 **End Date:** 01/02/2024

Ocean Basins North Pacific

Challenges Addressed

Challenge 3

Challenge 4

Challenge 5

Challenge 7

Challenge 8

Challenge 9

Challenge 10

Contact

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Decade Project 203.

Atlas Aquatica

Lead Institution: Scripps Institution of Oceanography, University of California San Diego

Summary

Atlas Aquatica, backed by a coalition of dive industry professionals, local communities, researchers, decisionmakers, and communicators, is committed to building organizational capacity within the diving sector and supporting their voices in international dialogues for sustainability. By mapping and surveying the worldwide distribution of diving sites and diving operators (i.e., diving centers), Atlas Aquatica aims to calculate the annual global economic value of the diving industry to marine tourism.

Atlas Aquatica will 1) establish a multidisciplinary collaboration network to co-design strategies for the global diving community to contribute to achieving the Sustainable Development Goals, and 2) describe the diving industry's impact to the surrounding ecosystem and society.

Start Date: 01/01/2021 **End Date:** 30/12/2023

Ocean Basins

Indian
North Pacific
South Pacific
North Atlantic
South Atlantic
Arctic
Antarctic

Challenges Addressed

Challenge 2 Challenge 4 Challenge 9 Challenge 10

Contact

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Decade Project 208.

Tara International Polar Station (TIPS)

Lead Institution: Tara Ocean Foundation (FTO)

Summary

With the ongoing melting of the Arctic ice pack, there is an urgent need for action. The Tara Ocean Foundation - first foundation in France dedicated to the Ocean to be recognized of public utility - will return to the North Pole with a new concept of a floating polar station to pursue long-term scientific research and monitoring in the Central Arctic Ocean. Similar to the International Space Station (ISS), the Tara International Polar Station (TIPS) will become an inhabited station with the aim of conducting drift expeditions starting from 2023 to study and highlight the effects and consequences of climate change on this specific Arctic region and on the global ocean.

Start Date: 30/11/2017 **End Date:** 30/06/2025

Ocean Basins

Arctic

Challenges Addressed

Challenge 2

Challenge 3

Challenge 4

Challenge 5

Challenge 6

Challenge 7

Challenge 8

Challenge 9

Challenge 10

Contact

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Decade Project 209.

Mission Ocean Microbiomes (Tara Microbiomes)

Lead Institution: Tara Ocean Foundation (FTO)

Summary

The Mission Ocean Microbiomes is a five-year research and outreach initiative led by the Tara Ocean Foundation (FTO) on the microbiome, its services, and the impacts of climate change and the plastisphere based on the legacy of the Tara Oceans expedition (2009-2013). It will be carried out through: The Mission Microbiomes expedition (2020-2022) in the South Atlantic with the H2020 European project AtlantECO and its 35 scientific partners, and in Chili, with the Mission CO2 Chile project co-led by the FTO and the Chilean government. (Stage 1) The scientific research conducted after the Mission (2022-2025) with the partner laboratories (Stage 2) Transversal advocacy and capacity building activities.

Start Date: 12/12/2020 **End Date:** 12/12/2025

Ocean Basins South Pacific South Atlantic Antarctic

Challenges Addressed

Challenge 1

Challenge 2

Challenge 3

Challenge 4

Challenge 5

Challenge 7

Challenge 9

Challenge 10

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Decade Project 215.

African Youths Sustainable Ocean Campaign (AYSOC)

Lead Institution: Federal University of Technology Owerri

Summary

The African Youths Sustainable Ocean Campaign (AYSOC) is a multi-country initiative with the core mandate to mentor and raise the consciousness of African youths especially those in the Gulf of Guinea region on ocean literacy and the need for sustainable ocean economy development in relation to the Sustainable Development Goals through a participatory and inclusive process. This initiative will also highlight the impact of climate change on the ocean and livelihood of those living in the coastal regions such as the oil-rich Niger Delta and Cabinda in Angola. It will also establish ocean literacy and marine litter clean up clubs in secondary schools across the region.

Start Date: 08/06/2021 **End Date:** 01/01/2030

Ocean Basins

Indian

North Atlantic South Atlantic

Challenges Addressed

Challenge 2

Challenge 3

Challenge 4

Challenge 5

Challenge 10

Contact

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Decade Project 217.

Circulatory Aquaculture and Water Improvement Education for Blue Economy

Lead Institution: Aquatic Marine Environmental Education Program, Tokyo University of Marine Science and Technology

Summary

As the world population grows, the importance of the aquaculture industry is increasing, but the expansion of the aquaculture industry causes marine pollution due to organic pollution, and there are concerns from the perspective of sustainability. Therefore, this effort focuses on an organic pollution reduction technology that converts food residues and cultured excrement into feed by BUIK bacteria (a bacterial flora consisting of 50 species) and Fe2+ Supply system. This project promotes: 1) development and worldwide dissemination of BUIK circulation aquaculture system and iron ion purification system and 2) sustainability evaluation method. 3) On top of this, we will develop and implement an interactive Ocean Literacy Education Program that utilizes ICT, where industry and consumers learn from each other and foster relationship value. 4) Finally, we will establish and widely spread all over the world the evaluation methodology in terms of sustainability production, consumption relationship and in closed shallow waters.

Start Date: 01/04/2021 **End Date:** 31/03/2031

Ocean Basins

Indian

North Pacific

South Pacific

North Atlantic

South Atlantic

Challenges Addressed

Challenge 1

Challenge 2

Challenge 3

Challenge 4

Challenge 5

Challenge 6

Challenge 7

Challenge 8

Challenge 9

Challenge 10

Contact

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Decade Project 221.

Unifying Approaches to Marine Connectivity for improved Resource Management for the Seas (SEA-UNICORN)

Lead Institution: CNRS, UMR 9190 "Center for MARine Biodiversity, Exploitation & Conservation" (MARBEC)

Summary

Planning sustainable strategies for development requires to understand the distribution of marine biodiversity and how its variations impact ecosystem functioning and the evolution of species. Functional Connectivity characterizes the migratory flows of organisms in the landscape. As such, it determines the ecological and evolutionary interdependency of populations, and ultimately the fate of species and ecosystems. Gathering effective knowledge on Marine Functional Connectivity (MFC) can therefore improve predictions of environmental change impacts and help refine management and conservation strategies for the Seas. To this aim, we formed a worldwide consortium, already gathering >150 scientists and stakeholders from 33 countries. In the coming years, its members will share their complementary skills and expertise, in order to advance concepts and methods in the emerging field of MFC research and promote awareness about the central role of MFC knowledge for preserving marine biodiversity and ecosystem services.

Start Date: 22/09/2020 **End Date:** 21/09/2024

Ocean Basins

Indian

North Pacific

South Pacific

North Atlantic

South Atlantic

Arctic

Antarctic

Challenges Addressed

Challenge 2

Challenge 3

Challenge 4

Challenge 5

Challenge 9

Challenge 10

Contact

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Decade Contributions

Decade Contribution 500.

Ocean Literacy Toolkit for Governments

Lead Institution: AXA XL

Summary

The Toolkit will be launched in late 2021 alongside engagement with countries that will commit to using the Toolkit. This engagement will continue into 2022 and beyond with the aim of continuing to support countries, policymakers, and educators on how to develop ocean literacy in the classroom and implement it as part of formal education curricula. It will also be paired with AXA XL and Encounter Edu's development of additional free, publicly available teaching resources for AXA Ocean Education, including toolkits for localizing education resources to practically implement ocean literacy in the classroom.

Start Date: 11/16/2020 **End Date:** 12/31/2022

Contact

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Decade Contribution 503.

Post-doctoral call for projects Coastal livelihoods: preserving oceans to strengthen coastal resilience

Lead Institution: AXA Research Fund

Summary

The AXA Research Fund, the philanthropic scientific initiative of the AXA Group will provide 1M€ in total to 8 excellent scientific projects in the area of coastal livelihoods in a sponsored call for Decade Actions with IOC-UNESCO. This Call would be launched in early October 2021 as part of the Ocean Decade's Call for Decade Actions No. 02/2021. The Call will contribute to several Ocean Decade Challenges including notably Challenge 4: Sustainably Feed the Global Population; Challenge 5: Develop a Sustainable and Equitable Ocean Economy; Challenge 6: Unlock Ocean-Based Solutions to Climate Change; and Challenge 7: Increase Community Resilience to Ocean Hazards.

Start Date: 10/01/2021 **End Date:** 12/31/2022

Contact

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Decade Contribution 505.

Call for Proposals of the MeerWissen Initiative for African-German marine research partnerships

Lead Institution: German Federal Ministry for Economic Cooperation and Development (BMZ)

Summary

This contribution is an open call to support partnership projects through the MeerWissen Initiative that contribute to strengthening the knowledge base for marine and coastal Nature-based Solutions (NbS) in Africa. This call explicitly supports a two-phased approach by funding a co-design phase prior to implementation of the joint two-year research project. All projects within the MeerWissen Initiative are contributing to a transformation in science by strengthening capacities in marine research, stimulating dialogue and knowledge transfer from science to policy uptake, and by fostering digital solutions and innovation.

This call for proposals will select projects that demonstrate a shared belief in the power of close collaboration of marine research with decision makers at policy and management level to provide tailored, up-to-date, and accurate science-based information to effectively protect and manage marine resources – i.e., the science we need, for the ocean we want.

Start Date: 10/08/2021 **End Date:** 02/28/2025

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