2021 2030 United Nations Decade of Ocean Science for Sustainable Development

Call for Decade Actions No. 01/2020: Collaboration Opportunities

14 January 2021

During the preparation of submissions we strongly encourage interested parties to consult and, where possible, collaborate with other institutions and partners working on common issues. The partners below are looking for other interested parties to discuss collaboration opportunities on proposed Decade Actions. Please contact them directly if you are interested!

Name & Organisation	Email contact	Short description of proposed Decade Action provided via registration form	Relevant Ocean Decade Challenges
Tanya Maslak, Battelle	maslak@battelle.org	Marine Health Hubs – Building interdisciplinary regional hubs of excellence to research and address the societal impacts of marine debris across the globe. The Marine Health Hubs (MHH) program will draw upon the UN's three pillars of sustainable development – economic, social, and environmental – to comprehensively address the challenge of marine debris. We will facilitate the establishment of self-sustaining regional hubs of excellence to promote interdisciplinary collaboration to tackle the burden of plastic marine waste, not only from an environmental and economic lens, but also through a social lens to better understand the critical knowledge gap in potential impacts on human health and other social equity concerns. The applied learning approach for capacity development will engage subject matter experts not just from the U.S., but from across the globe, particularly from regions that already demonstrate leadership on this issue (e.g., Southeast Asia).	1 2 4 9 10
Karin Sigloch, Geoazur, CNRS, and Université Côte d'Azur, Sophia-Antipolis, France	sigloch@gmail.com	EarthScope-Oceans: Closing the Oceanic Coverage Gap for Seismology, Acoustics, and Environmental Sensing	6 7 8 9
ADDOUR KHALED, The National Center for Research and	khaledadddour33@gmail.com	Paying attention to setting rules that contribute to strengthening ocean governance for sustainable development and preservation of living and non-living resources	2 3 4

Development in Maritime Fishing and Aquaculture - Algeria			
Brenier Vincent, Deep Blue Globe	vincent.brenier@deepblueglobe.eu	Deep Blue Globe UG is a start-up based in Darmstadt, Germany constituing of engineers and scientists specialists in Satelite Data Processing and Ocean Dynamics developing Artificial Intelligence solutions for the maritime industry based on Earth Observation data and satellite services. Our proposed Decade Action is called OneWave, a service providing "Tsunami Verification from Space". OneWave, is a complement to the Tsunami Early Warning Systems (TEWS), a system able to detect and monitor the front wave of a Tsunami created from a major geological event, earthquake, landslide or explosive volcano by using accurate satellite radar measurements and precise position of the spacecraft of Copernicus Program. To Wrap up, here our Video: https://www.youtube.com/watch?v=oa_XLwIETAw	5 6 7 8 10
National Sea Scouts Secretariat, The Scouts Association of Malaysia	seascout@scouts.my	Youth engagement using informal education on marine and ocean themed activities to educate and create awareness at young age on issues involving ocean polutions, climate change, innovations for sustainable developement for ocean economy and to identify current threats to human life as well as marine ecosystem.	1 2 3 4 5 6 7 8 9 10
chris wilmott, chris wilmott art / Climanosco.org	chris_wilmott_art@aol.com	The Fish Project This interconnected, global art/science project involves stakeholders from marine science, climate science, art, NGO, institutions and the public. Making changing climate - and its effect on Oceans - relevant to the personal lives of citizens through the medium of art. The project directs attention at heritage and ocean coasts; interconnecting using an internet based infrastructure, citizens of fishing communities and fishing corporations; developing social narrative, integrating geography, technology and institutions, from which I create a new “place” or creative “space”. This project invites science to tumble with art, challenging comfort zones, contributing to the Decade of the Oceans by transmitting messages to citizens. The project to be assembled from discussions with Climanosco.org, technology corporations and UNESCO. I am a non scientist board member of Climanosco.	2 3 4 5 10
Thilanka Seneviratne, GIZ	thilanka.seneviratne@giz.de	The PANORAMA online platform hosts several thematic communities which cover a range of conservation topics. I work for the Blue Solutions Initiative and we are the coordinator of the marine and coastal thematic community. In our community, we have this far	1 2 5 7 9

		collected and shared 248 marine & coastal solutions from practitioners worldwide who share their success stories with measured and testified impact results, including topics such as sustainable ocean economy, nature-based solutions and marine spatial planning. Solutions are documented in a practical and easily manageable format, naming the key building blocks that contributed to the success of the approach.	
Javier Almunia, Loro Parque Fundación	dir@loroparque-fundacion.org	Loro Parque Fundación is implementing a Project called CanBIO focused on the monitoring of ocean Climate Change, Ocean Acidification, and underwater noise pollution in the Canary Islands, and its effects on the critically endangered species. The project has installed so far two oceanographic buoys and has set up a monitoring program based on two VOS (Volunteer observing ship) and complemented with ocean glider campaigns. The project started in 2019 and the first data is being produced. The idea for the Decade Action would be to scale this action to the Macaronesia, establishing more observational buoys, increasing the VOS and the glider campaigns.	1 3 5 10
Laura FRERE, Expédition MED	laura.frere@expeditionmed.eu	Our project is a scientific, participatory, and multicultural expedition across the Mediterranean basin to monitor plastic pollution and help protecting marine ecosystems through the promotion of common and country-specific solutions while strengthening cooperation. Between 2020 and 2023, plastic pollution will be monitored at sea aboard a research vessel, each year from June to September (sea surface floating and airborne microplastics) in the framework of a Citizen Science laboratory and in collaboration with Mediterranean and European research institutes and Civil Society Organizations. Workshops, exhibitions, and educational and outreach activities will be developed in cooperation with local partners on the rest of the year.	1
Kenneth Mei Yee Leung, State Key Laboratory of Marine Pollution, City University of Hong Kong	kmyleung@cityu.edu.hk	The Global Estuaries Monitoring Programme is co-designed by partners and stakeholders with a view to developing a global monitoring network to monitor environmental contaminants (e.g. pharmaceutical residues, emerging pollutants of concern, microplastics, pathogens etc.) in major urbanised estuaries worldwide. We will develop standard sampling and analysis methods with provision of training opportunities. This will facilitate capacity building for global estuaries monitoring. Results of the Programme will reveal the pollution situation around the globe, identify the	1 6 7 9

		estuaries that require attention and improvement, recommend priority contaminants for control, and promote best practices to combat the pollution problems and thereby achieve cleaner estuaries.	
Aneil Tripathy, University of Bologna	aneil.tripathy@unibo.it	As a researcher focused on the blue economy and blue bonds, I propose organizing a forum on how climate change and ocean ecosystems are understood by policymakers and financiers.	4 10
Pia Galvez, .	info@environmental-architecture.net	An in-situ environmental artwork for the North Atlantic basin and its river basin. The artwork is an important part of a practice-based research or research-creation Phd in environmental arts written in English and French.	2 10
Dení Ramírez Macías, Conexiones Terramar AC	tiburonballena@gmail.com	Whale Shark and Giant manta ray citizen science and network in the Americas	4
Ballantyne Puin Castaño, Corporation Center of Excellence in Marina Science	pacifico@cemarin.org	hhh	2 3 5 6 9
Nelida Barajas Acosta, Intercultural Center for the Study of Desert and Oceans CEDO Intercultural	nelida@cedo.org	To foster vibrant communities and resilient ecosystems in the Northern Gulf of California and other ecoregions by integrating people, knowledge and solutions	2 3 4 5 10
Mikhail Mikhailov, National Research University "Moscow Power Engineering Institute"	mikhailovms@mpei.ru	Identification of dangerous ice fields on the Arctic shelf	2 6 7
Johnny Johannessen, Nansen Environmental and Remote Sensing Center (NERSC)	Johnny.Johannessen@nersc.no	As part of the “One Ocean” expedition, the sailing ship “Statsraad Lemhkuhl” will sail around the world from August 2021 to April 2023 in order to raise awareness for ocean sustainability, enable ocean research, and to educate. NERSC’s role in this trip is to lead an onboard summer school on the Statsraad Lehmkuhl for Masters and PhD students while the ship sails from Maputo, Mozambique to Cape Town, South Africa. The intention is to educate a new generation of students in operational oceanography, encompassing systematic and long-term monitoring and forecasting of the seas, oceans and atmosphere, and the rapid interpretation and	2

		dissemination of these measurements, so that they are valuable for a wide range of users.	
Emre Keskin, Ankara University	keskin@ankara.edu.tr	eDNA Metabarcoding as a bio-monitoring tool for the Mediterranean Sea under changing envirnmental conditions	2
Christophe Maes, IRD/LOPS	christophe.maes@ird.fr	Global and regional model for the monitoring and cleaning of marine debris and plastics along the coasts and within the open oceans	1 2
Amer Bazl Khan, Maritime Archaeology and Heritage Institute	contactamer@yahoo.com	Collaborate with regional partners to identify and record the maritime heritage of the Western Indian Ocean region. Develop an inventory of maritime cultural landscapes and sites, archaeological and underwater cultural heritage, traditional knowledge and maritime practices, intangible cultural heritage, and oral traditions of coastal communities to enable evidence-based decision making for the protection, conservation, and management of these unique cultural resources of the region. Facilitate effective management of these resources to promote sustainable tourism, blue water economies, and empowerment of coastal communities currently under threat from climate change, unsustainable tourism practices and unregulated development.	6 8 9 10
Dr. Michel Pardos, Ranong Recycle Social Enterprise Jan and Oscar Foundation	michel.pardos@fondationjan-oscar.ch	Moving around in the Andaman Sea on a traditional Kabang (living boat) as Moken (sea gypsies) ambassadors for this project we hope to inspire the connection of tradition with modern life while tackling present day problems. The Moken have traditionally always had high respect for their environment and would never exploit their natural resources, that to them were never just a product but their kin. The ocean is the mother and the forest provides for livelihood. We think it is important to create a strong Moken network (among the Moken themselves and with a larger outside support group) that on the one hand helps one another with ongoing struggles over land rights, citizenship and consequently Moken identity in Thailand; and on the other hand inspires one another to join forces to connect to old roots of harmonious coexistence with nature through education and the right actions towards living well. Waste management and plastic recycling is a great start for that. Plans: We plan to be around different islands. We plan to document our encounters and life on the Kabang. We plan to assist with language and communication between the different parties. We plan to join plastic “fishing” and further help identify the currents and times where ocean trash seems to circulate most at specific times of the year. We plan to learn more about recycling ourselves to help spread the word. We plan to find	10

		out what is left of the Moken culture in the Ranong province and how to inspire it. We plan to take Moken Youth onto the Kabang to take them spearfishing in order to connect to the roots that have already been lost in their generation.	
Mary Ann Bimbao, Quantitative Aquatics	m.bimbao@q-quatics.org	Global biodiversity information systems FishBase, SeaLifeBase and AquaMaps providing mappable biodiversity data in support of the Ocean Decade challenges	3 5 9
Maria Lourdes Palomares, Sea Around Us research unit, Institute for the Oceans and Fisheries, University of British Columbia (Vancouver, Canada)	m.palomares@oceans.ubc.ca	Global information systems FishBase, SeaLifeBase and the Sea Around Us providing scientific knowledge in support of the Ocean Decade for sustainable resources	3 4 5 9
Randi Rotjan, Phoenix Islands Protected Area	rrotjan@bu.edu	The Phoenix Islands Protected Area (PIPA) is the context for multiple large-scale, multidisciplinary scientific endeavors that engage collaborators from multiple countries. Corresponding with the UN Ocean Decade, PIPA is also launching its next 10-years of research (building on our first decade 2010-2020). We propose to align our decades and help to a) launch interdisciplinary ocean science in this large, no-take marine protected area (also the largest and deepest UNESCO World Heritage Site) b) build scientific capacity in-country c) communicate PIPA science to the Republic of Kiribati via an emerging program called "Bring PIPA Home", d) develop and deploy innovative new technology and sensors to better enable PIPA as a global scientific resource to study climate change in the Central Pacific. and e) Examine multiple models of "blue economy" science and innovation that could contribute to sustainable financing of the marine protected area. Because PIPA is an important no-take MPA hosting tuna, shallow corals, deep-sea corals and sponges, marine mammals, seabirds, and a variety of other important and protected taxa, the lessons learned from integrative ecology in PIPA are relevant well beyond it's borders.	2 3 4 5 6 7 9 10
Laura Khatib, Guardians of the Blue	laura.khatib@hotmail.com	Raising awareness about and tackling the issue of invasive alien species in the Mediterranean sea by transforming them into delicious dishes. They will generate a new sustainable way of feeding the Eastern Mediterranean population and will allow to raise awareness about climate change and the protection of the Mediterranean sea.	3

Paulo Nunes, Portuguese Hydrographic Institute	centrodados@hidrografico.pt	Develop a collaborative marine data analytics services and knowledge sharing network infrastructure to decrease the marine knowledge gap. Potentiate the value of marine data for environment restoration initiatives and blue and sustainable economy through new approaches based on analytics and Marine Spatial Data Infrastructures (MSDI) principles.	4 7 8 9
TRESSET Marie-Claude, Spindrift for Schools	education@spindrift-racing.com	Production of an educational resource kit to raise young people's awareness of 30x30 (protection of 30% of the planet in 2030). In connection with the 17 SDOs. Creation of an interactive and participative padlet during the sailing around the world Jules Verne Trophy.	3 4 5 8 9 10
Morgan Smits, University of Padova (Italy)	morgan.smits@unipd.it	I am currently a post-doctoral researcher working on clam genomics and sustainable aquaculture, and I am seeking a new contract as of may 2021. In that light, I am writing up another post-doctoral proposal to investigate the impact of climate change, namely changes in coastal salinity and sea-water temperature, on genomics and physiology (health/immunity) of Manila clam populations in France and in Italy (the two largest EU producers of this bivalve). This impact would be studied mainly through large-scale long-term controlled challenge experiments, for which an experimental facility has already been found in Brest, France. Furthermore, the project will hopefully fall under within the framework of a CNRS international laboratory between two laboratories in Brest and Padova (Italy), which aims to consolidate collaboration between researchers in both labs on the subject of clams and climate change. That said, financial support has not yet been secured for the international lab or for the post-doctoral contract I am proposing, but should the project be accepted I would be very interested, if possible, in requesting an Ocean Decade endorsement. I am also completely open to questions/suggestions from your team regarding the suitability of my proposal for the endorsement, and I'd be particularly interested in participating in future calls.	2 5
Dr. VIRENDRA GOSWAMI, Environment and Peace Foundation	vk_goswami1@rediffmail.com	High Resolution Satellite Study of Multiple Stressors In Arctic Marine Systems To Correlate Ocean-atmosphere-Cryosphere interactions with Climate Variability & Control of Environmental Pollution Through The Development of Arctic-Ocean Climate Predicting Models (AOCPM)”	2
Dr. VIRENDRA GOSWAMI,	vk_goswami1@rediffmail.com	’Application of Catalytic Oxidants to characterize the insitu chemical speciation of the inorganic contaminants and Development of	1

Environment and Peace Foundation		Predictive Model of Chemical Reaction Kinetics (MCRK) for Remediation of Water Pollution.'	
HASRET TURKMEN, .	hasret.turkmen98@gmail.com	'developing the ability to mitigate the effects of climate change across generations and use the oceans efficiently''Organize trainings on climate change and ocean biodiversity for young people aged 10-18 and instill responsibility in them.Addressing this topic in the educational curricula of young people living around the ocean in particular leads to an increase in sustainable ocean biodiversity.ocean agriculture (more efficient algae created by the crispr cas method ..) and ocean biodiversity should be given in these trainings.We would be teaching how to protect and use ocean biodiversity affected by climate change in a sustained and productive way, thereby creating common sense in society and educating people who are experiencing these problems at a young age.because they experience these issues at a young age, we enable them to create more permanent solutions	5 6 10
Hans Jean Paul RAMDOO, I am a health professional working in private Healthcare in the UK and looking into creating an NGO.	hjpramdoo@outlook.com	I completed an MSc in Health Informatics at the University of Leeds (UK) and was born and bred in Mauritius. I would love to help Mauritians grow vegetables from sea water with the aim of eradicating the use of pesticides. The first step would be the monitoring the quality of the sea water to see the level of pollution as data is non existent.	1 2 3 4 5 6 7 8 9 10
Burçin Erlevent, Individual (Ph.D. student)	berlevent@gmail.com	Marine Traffic Services for coastal zones,MPA and NTZ: - Monitoring - Traffic organization - Management of coastal zone/MPA/NTZ.	1 2 3 4
George Cummings, World Federation Coral Reef Conservation Mission Blue and more	george.cummings1@gmail.com	"Saving the MesoAm Ecosystem for the Children" Progam SDG14 would need a MesoAmerican SDG Center of Excellence. We defined our region as, the North Atlantic equatorial greater current that flows from E from Florida to Western Europe South along the W coast of Africa then E to the Amazon and finally N back past Belize Mexico to Florida. My life for the past four years has been seeking TrueBlueHearts™ collectively building this “MesoAm SDG17 Coalition” asking 1,000s to pledge their future support when we were funded and ready with our project facility. The center will be fully powered by renewable wind, wave, and solar energy, e-vehicles, e-boats, demonstrate our waste processing system that produces drinking water from human waste the fits in a shipping container, a full marine life hospital, all aspect of coral farming and restoration	1 2 3 4 5 7 8 9 10

		research experiments, marine labs, Training center for three levels of Decade of Ocean Science Divers, Student Marine Park Internship training programs, Marine science scholarship program, multiple wet and dry classrooms, dorm rooms and living facilities for our exchange programs of marine science students-professors, 360 Dome theater, traditional theater for student and public engagements, 100s of virtual reality XR/AR experiences, Zoom Meeting Center, NGO shared resource campus, and a tourist destination for seven million annual tourists, a complete SDG awareness tour experience, eco vacation center where volunteer learn and participate in SDG projects, Blue Economy jobs and circular economic engine for Cozumel.	
Dimitrios Kokkinis, Proteus Social Innovation & Development	info@proteusinnovation.com	Activation of a Tall Ship (Brig rig) in Greece and running it as a sailtraining platform and a training platform for capacity building for youth, future seafarers and other professionals, promoting the UN SDGs, such as sustainable shipping, promotion of a vegan diet as a means for sustainable food sourcing and energy conservation on board merchant ships, platform for R&D for new shipboard technologies and waste management, dive support for ocean cleanups, and platform for environmental and ocean research. Preparing the culture in the shipping industry for decarbonization and electrification, through sail cargo and Wind Assisted Shipping Projects. Presently there is no available scalable technology to replace hydrocarbons as a source of propulsion energy, but a transition is on the way and people will have to do that, so they need to be familiarized to drive the change. We are in the beginning of the implementation phase, but we will not be able to submit by the 15th of January 2021	3 4 8 9 10
Claudia Gabriela Mayorga Adame, National Oceanography Centre	gmaya@noc.ac.uk	- Outreach programs, including community science and citizen scientists programs as ways to increase awareness of ocean challenges on coastal communities. - Capacity development in ocean circulation, connectivity and ecosystem modeling. - Socio-Ecological modeling of marine ecosystems to investigate sustainable options for marine resources exploitation.	2 4 5 8 9 10
Serena Stean, Indo Ocean Project	serena@indooceanproject.org	Indo Ocean Project is a small marine research and conservation program in the heart of the coral triangle, training the next generation of dive professionals through our conservation divemaster internship program. We conduct many conservation activities and have been collecting data for the past 2 years around the reefs of Nusa Penida,	2 4 10

		Bali. We are involved in; roving surveys, BRUVs, mangrove restoration and coral restoration. We work with our paying divemaster candidates, Indonesian scholarship candidates and locals with our CorAlliance initiative during the COVID pandemic. We hope to reopen in early 2021 and continue our work and would love to contribute to the decade of the ocean.	
Leila Neves, Comunicar,lda	Leilabneves@gmail.com	A social media community with the ocean related professional categories, as mentioned in the Decade implementation plan, that gives each subscriber the possibility to share their advances in their studies or professional area. Creating an active community that shares information about their ocean related business, ocean sport activities, academic advances, local knowledge, legislation, public policies. A platform were the financial transaction can happen and the end users can submit their evaluations, helping map their preferences. A chain of knowledge sharing from science to public policies feeding the new generation with information about ocean related professions and the part they can play to make a positive impact towards the sustainable development goals we all can help achieve.	10
Connie Wallis Luna Gómez, Universidad Nacional Mayor de San Marcos	connielunag@gmail.com	Improve fisheries and promote incipient fisheries from a biological and fisheries management point of view. Support the development of sustainable fishing in this way to generate a boost to goal 14 of the ODS.	2 3 4 5 7 8 9
Cem Serimozu, Middle East Technical University Institute of Marine Sciences	cem.serimozu@metu.edu.tr	The Mediterranean Sea is essential as a laboratory basin for investigating farreaching processes because of its mid-latitude location, dimensions, and complex multi-scale dynamics. Both the western and eastern basins profoundly impact the Atlantic ocean circulation and, consequently, the global thermohaline conveyor belt. Despite the scientific consensus on how important the Eastern Mediterranean is to the overall basin-wide circulation and the global thermohaline circulation, the western and eastern basins have been investigated independently from each other, and the east of the Sicily Strait where the two basins meet remains sparsely studied. For the reasons may be related to its geographical location, such as not being mostly under the EU guidelines and its geo-strategical position, be it due to governance issues stemming from conflicting interests and lack/priority of national funds/international institutions' scientific policies. No large scale mission has been conducted in the region since the POEM (Physical Oceanography of the Eastern	7 8 9 10

		Mediterranean) and POEM-BC (Biology and Chemistry) programme at the end of the 20th century under the auspices of IOC/UNESCO. POEM mission was a first and last in-depth look at the physical properties, and beyond answering specific questions, but it gave rise to even more. Therefore a new supranational initiative of interdisciplinary collaboration is imperative for the Mediterranean community of physical, chemical, biological oceanographers and climate scientists. Remote sensing technology has helped close some of the gaps, but it is quite limited in its application and must be used in tandem with in-situ methodologies. The creation of long-term sampling strategies through cooperative scientific cruises, denser ARGO coverage, or glider introduction, among other options, is crucial for the UN Ocean Decade and beyond.	
Hannah Kuhnert, Fundación Biósfera Mía	comunicaciones@biosferamia.cl	Itinerant and educational exhibition that guides the learning of the origin, characteristics, importance and current dangers of the ocean. It is designed for children up to 13 years old, educators and the general public. It is intended to have the support of the National Museum of National History, La Moneda Cultural Center, Los Andes University, Inclusive Education Research Center and the Millennium Institute of Oceanography (all Chilean institutions). It is intended to finance through the Public Science 2021 Competitive Fund, of the Ministry of Sciences and aims to reach 1,000,000 citizens responsible for our ocean.	2 4
Jesús Daniel David Colón, Universidad de Sucre	jesusdanieldavid@gmail.com	Colonization of artificial structures by marine biota and its sustainable use in the Colombian Caribbean	2 3 4
Professor Gretta Pecl, Professor Janet Nye and Dr Sebastian Uhlmann, University of Tasmania, Stonybrook University, and Flanders Research Institute for Agriculture, Fisheries and Food (ILVO)	Gretta.Pecl@utas.edu.au, janet.nye@stonybrook.edu, sebastian.uhlmann@ilvo.vlaanderen.be	We would like to propose a Global citizen science platform to monitor for climate-driven species redistributions. This would be an unscaled and enhanced version of the highly successful Redmap Australia (Range Extension Database and Mapping project - please see https://www.redmap.org.au/). The Redmap initiative has been formally evaluated and demonstrated to 1/ effectively provide an early indication of species redistribution and 2/ actively and constructively engage the community in climate change (see https://www.frontiersin.org/articles/10.3389/fmars.2019.00349/full). We have several international collaborators/countries interested already and would like to hear from other ecology, climate and social scientists interested in working with us on a global platform.	2 5 6 7 8 9

Matthew Carter, The Major Projects Foundation	matt.carter@majorprojects.org.au	Collaborate with international stakeholders to produce a standardised toolkit to evaluate the threat of pollution from legacy shipwrecks and to develop and share innovative tools and best practices for pollutant removal from these shipwrecks.	2 3 4
Jesús Daniel David Colón, Universidad de Sucre	jesusdanieldavid@gmail.com	Colonization of artificial structures by marine biota and its sustainable use in the Colombian Caribbean	1 2 3 4 6 7 8 9 10
Professor Gretta Pecl, Professor Janet Nye and Dr Sebastian Uhlmann, University of Tasmania, Stonybrook University, and Flanders Research Institute for Agriculture, Fisheries and Food (ILVO)	Gretta.Pecl@utas.edu.au, janet.nye@stonybrook.edu, sebastian.uhlmann@ilvo.vlaanderen.be	We would like to propose a Global citizen science platform to monitor for climate-driven species redistributions. This would be an unscaled and enhanced version of the highly successful Redmap Australia (Range Extension Database and Mapping project - please see https://www.redmap.org.au/). The Redmap initiative has been formally evaluated and demonstrated to 1/ effectively provide an early indication of species redistribution and 2/ actively and constructively engage the community in climate change (see https://www.frontiersin.org/articles/10.3389/fmars.2019.00349/full). We have several international collaborators/countries interested already and would like to hear from other ecology, climate and social scientists interested in working with us on a global platform.	2 8 9
Javier ESCARTIN, Ecole Normale Supérieure de Paris (ENS) and CNRS	escartin@geolgoie.ens.fr	SeFOD: Seafloor Feature collaborative and open-access database. This is a collaborative effort to redefine and establish a comprehensive and validated databse on plate boundaries and submarine active processes. This database will be based on global multibeam bathymetric datasets, linking with efforts for a global mapping of the seafloor (e.g., Seabed2030 initiative). This effort will focus on a first set of main tectonic features, including mid-ocean ridges, subduction zones, and fracture zone and transform offsets. We seek to establish databases that allow collaborative contributions so that the different features are updated as new data is available. These data and databases will be validated to insure data quality and usability for scientific purposes, and updated through collaborative efforts with adequate oversight and quality control. Effort lead by ENS, France (J. Escartin) and U, of Oslo (C. Gaina)	1 2 4 6 8 9 10
MOHAMED ZAHID, Asian Youth Council	zahidsocial@gmail.com	The idea is to motivate and encourage the youth take care of our oceans. Specially the reefs that gives breathing space for healthy ocean. The idea will embrace on activities, to create awareness in benefits and sunbaible incopportunities with a healthy ocean. Creation of income opportunities for the youth and youth organisations.	1 2 3 4 6 9 10

Allison Cusick, Scripps Institution of Oceanography, UC San Diego	all178@ucsd.edu	Local / regional effort on the western Antarctic Peninsula for addressing polar questions with omics approaches.	2 5 7 10
Bharat kumar Agarwal, Vinay Naveen and Co	Caagarwalbharat@gmail.com	Prohibiting use of plastic by crew on a ship journey. Regular filter of TOR by respective country on regular basis. Use of Modern machines to collect the ocean swamps of plastic & dumping it on landfill areas or convertible biopest.	1 2
Sonia Sousa Ell, Quando + 1 é = - 1	Soniapsousa@gmail.com	Being a diver for the past 11 years, having watched through the years the decline of matins ecosystems, I have been touring around schools with my ocean literacy training sessions (this is voluntary / pro Bono work) since 2018. I've just completed a certification in Circular Economy in UC Berkeley to enhance, improve and get more solid knowledge to continuously do on land a better job to protect the oceans! Because if we want to protect the oceans you have to do it land based and through educational programs!	1 3 4
Chew Li Lee, UCSI University, Malaysia	chewll@ucsiuniversity.edu.my	Changing environment and biodiversity	2 3 4 5
Judy Lemus, 4Site Pacific Transect Collaborative	jlemus@hawaii.edu	4Site brings together partners from well-known, respected research institutions across national borders in the Pacific to enhance adaptive capacity and accelerate action-oriented sciences that will support Pacific Islands societies in achieving Sustainable Development Goals and the resilient wellbeing of coastal social-ecological systems. The project applies a large-scale, collaborative, transect approach that leverages the islands of Tetiaroa, Moorea, Palmyra, and Oahu as model systems for contributing to the intelligence infrastructure needed for island communities to navigate towards sustainable futures.	2 4 5 10
Elif Eker Develi, Mersin University	elif.eker@mersin.edu.tr	I have isolated 27 phytoplankton species (18 diatoms, 2 dinoflagellates, 2 prasinophytes, 2 haptophytes, 1 pelagophyte, 1 dictyochophyte and 1 cyanophyte) during 2015-2020 belonging to different classes from the northeastern Mediterranean Sea coast. I would like to investigate carbon/Chlorophyll a ratios of these species using HPLC and CHN Analyser. Because we have found this ratio quite low based on HPLC and microscopy in a time series study in the field. I would like to confirm these results with a laboratory study. These measurements may enlighten satellite observations (e.g. Chl a, carbon biomass) of coastal areas in the eastern Mediterranean Sea. I have a colleague who has both instruments to perform these	5

		analyses but we need some financial support for these analyses. Does this idea suitable for Decade action?	
Ma. Llorina Rañada-Mestizo, Philippine Nuclear Research Institute-Department of Scienc and Technology (DOST-PNRI)	mlrmestizo@pnri.dost.gov.ph	Applications of radioligand receptor binding assay on ensuring food safety towards effective seafood monitoring programme	3
Ilana Berman-Frank, Director, Charney School of Marine Sciences, University of Haifa, Israel	iberman2@univ.haifa.ac.il	The Leon Charney School of Marine Sciences (CSMS) was established in 2008 as Israel's first comprehensive graduate school of marine sciences. Today CSMS comprises ~80 faculty and staff, over 200 graduate students and post-doctoral fellows from around the world, and three international programs for MA and MSc degrees within four departments: Maritime Civilizations, The Dr. Moses Strauss Department of Marine Geosciences, Marine Biology, and the Hatter Department of Marine Technologies (http://marsci.haifa.ac.il/index.php/en/). Through MERCI (http://www.ocean.org.il/), CSMS manages, a wide array of advanced research infrastructure for deep-sea studies available for the entire scientific community in Israel. The THEMO project (Texas A&M - University of Haifa Eastern Mediterranean Observatory) that provides real-time data (http://themo.haifa.ac.il/) from two moorings in the Levantine basin. In 2021 an exciting partnership of CSMS with the GEOMAR Helmholtz Centre for Ocean Research Kiel (Germany) will establish an International Helmoholtz Laboratory: The Eastern Mediterranean Sea Centre- An Early-Warning Model-System for our Future Oceans (EMS-FORE). If granted endorsement as a Decade Collaborative Center, CSMS can host international conferences and workshops focused on DECADE themes and foster student exchanges and training along the DECADE challenges.	1 2 3 4 5 6 7 8 9 10
Rick Cole, RDSEA International, Inc.	rickcole@rdsea.com	To develop a "Florida Coastal Ocean Observing System" (FLCOOS), Georgia border (east) to Alabama border (west).	1 2 4 5 6 7 8 9
Yolanda Waters, Divers for Climate	diversforclimate@gmail.com	Our mission at Divers for Climate is to normalize climate conversations and climate action throughout the global dive community. We know how passionate divers are about the ocean and we know that if given the right knowledge, tools and support, the dive community could push the climate movement forward dramatically. Our proposed decade action is to distribute "Climate	5

		Action" programs to divers and dive centers around the world. These will be solutions focused resources (from e-guides, workshops, online sessions etc) that aim to motivate climate action throughout the dive community and beyond. They will be aimed at the individual and dive center level, and will stimulate discussions on how to integrate climate action into daily life in tangible and meaningful ways. Climate action is often left out of ocean conservation discussions and we believe that Divers for Climate can not only change that, but also foster positive attitudes towards taking action to reduce emissions for the sake of the ocean.	
Emenyonu Martin Uchenna, Federal University of Technology Owerri	cuemart@yahoo.com	I seek to enhance ocean literacy and the effects of climate change on the ocean economy in Nigeria and the entire Gulf of Guniea region. I also seek to advocate for the development of a sustainable blue economy in the Gulf of Guniea region	2 10
Hunyinbo Idowu, Fisheries and Environment Services	hunyinbo Idowu @gmail.com /fishparty@fishpartyng.com	Idea for a Proposed decade Action 1)Empower the fisheries community Fisher folk children Education. 2)Train and Support fish processors in the area of good quality fish processing and processing tools.	4 9 10
Hunyinbo Idowu, Fisheries and Environment Services	hunyinboidowu@gmail.com	Fisheries and Environment Services ! Fisheries and Environment Services is an (NGO) with the vision "Knowledge & Opportunity " to promote fish Consumption for healthier and wealthier living. Our goal is to transfer Knowledge (through public discussion at community level and supporting proper education) advocate Sustainability (by promoting environmentally friendly practises among all in fisheries and consumption industries) and connect to opportunities (finance and research). Fisheries and Environment Services (NGO) advances 5 basic SDG goals through advocacy, seminars, campaigns, outreach, donations and empowering the people. Fish Party is a subsidiary of Fisheries and Environment Services (NGO) with the overall objectives of building, initiating developing and engaging the populace on: The importance and health benefits of consuming fish The need to always celebrate fish which has a vital role in sustaining huge area of diverse population. This indirectly promotes food security ,healthier and wealthier living ,boost the nation's economy and more importantly, promote environmentally friendly practices all linked with fisheries and consumption industries. Conservation &Sustainability is our key priorities . Our Philosophy Explore realistic innovative approaches in solving the problems of environmental pollution which will in turn have domino effect on all	4 9 10

		living organisms in the ocean. Train and educate the populace on the health benefits of consuming fish. Engage community native fishermen on sustainable modern practises . empower and support the children of native fishermen in obtaining quality education. Empowerment of women in fish processing. To address youthful youth unemployment challenges.	
Muhammad Kaleem UL Fateh, Management Services International	msi.globalservices@gmail.com	Mission 2030	1 4 9
Ken Fujiwara, UMITRON	kenf@umitron.com	Satellite remote sensing for aquaculture site selection and aquaculture operations.	3 7
Lorelei Almirez, Kampo Kalye Arts	campcircus.asia@gmail.com	Creative Movement in Aquatic Physical Education: Culture-based Arts Integration in K-12 STEM Curriculum	3 4 10
Sirak, Ethopian Institute of Water Resources, Addis Ababa University	sirak.robele@aau.edu.et	Testing a newly developed integrated framework for assessing human-coastal interactions	1 2
Ana Carolina Moreira de Oliveira, Our Blue Hands	ourbluehands@gmail.com	there are three actions that Our Blue Hands project are doing: 1- Sampling of microplastic in three points shoreline in Santa Catarina island. Monitoring the quantify, weather conditions and marine litter. Doing reports after each 3 months about the conditions. 2- Create a base of datas marine litter in Santa Catarina Island. 3- Workshops of ecosystem marine interpretation in schools and institutes.	1
Dann Diez, Seed4com	diezdt@yahoo.com	Invest in our local fishers in coastal and islands so that they can also do clean up and prevention	1 2 3 4 5 6 7 8 9 10
Anuar Abdullah, Ocean Quest Global	anuar@oceanquest.global	Global scale reef restoration	1 2 3 10
Thomas Maes, GRID-Arendal	thomas.maes@grida.no	Knowledge exchange and capacity building in relation to waste and wastewater management	1 2 3 4 6 7 8 9 10
Carlos Marques, Instituto Hidrográfico	videira.marques@hidrografico.pt	Map Whole Portuguese Seafloor	2 3 4 6 7 9 10
Maria Assunta Menniti, Centro Studi e Ricerca Ambiente Marino CESRAM	cesram@libero.it	Remove marine litter and restore habitats	1 2
María Angélica Larraín, Universidad	mlarrain@uchile.cl	To increase the fundamental knowledge about populations of organisms used as food and develops new analytical traceability	2 3

de Chile Food Quality Research Center		tools, to encourage sustainable food production, considering social, environmental and economic aspects and improve and support the confidence of consumers, food industry, business operators and regulators. Challenges are faced from an interdisciplinary perspective, gathering specialized scientists in Ecology and Conservation Genetics, Animal and Aquaculture Production and Food Quality, from different faculties from University of Chile (Agronomical Sciences, Sciences and Chemical and Pharmaceutical Sciences). We use novel techniques to study genetic diversity, population structure and to develop analytical tools to control and validate the administrative traceability systems, verifying the veracity of the labelling information, standards compliance and law enforcement.	
Natalia Lam, Universidad de Chile. Food Quality Research Center.	nlam@uchile.cl	To increase the fundamental knowledge about populations of organisms used as food and develops new analytical traceability tools, to encourage sustainable food production, considering social, environmental and economic aspects and improve and support the confidence of consumers, food industry, business operators and regulators. Challenges are faced from an interdisciplinary perspective, gathering specialized scientists in Ecology and Conservation Genetics, Animal and Aquaculture Production and Food Quality, from different faculties from University of Chile (Agronomical Sciences, Sciences and Chemical and Pharmaceutical Sciences). We use novel techniques to study genetic diversity, population structure and to develop analytical tools to control and validate the administrative traceability systems, verifying the veracity of the labelling information, standards compliance and law enforcement.	2 3
Cristian Araneda, Universidad de Chile	craraned@uchile.cl	To increase the fundamental knowledge about populations of organisms used as food and develops new analytical traceability tools, to encourage sustainable food production, considering social, environmental and economic aspects and improve and support the confidence of consumers, food industry, business operators and regulators. Challenges are faced from an interdisciplinary perspective, gathering specialized scientists in Ecology and Conservation Genetics, Animal and Aquaculture Production and Food Quality, from different faculties from University of Chile (Agronomical Sciences, Sciences and Chemical and Pharmaceutical Sciences). We use novel techniques to study genetic diversity,	2 3

		population structure and to develop analytical tools to control and validate the administrative traceability systems, verifying the veracity of the labelling information, standards compliance and law enforcement	
Athira B Prasad, Pondicherry University	athira97akku@gmail.com	Clean oceans	1 2 3
Rita Solari Inko-Tariah, Solari Skills And Entrepreneurship Development Centre (SSEDC)	solariskills2006@gmail.com	Ocean Literacy Actions Carnival for Ocean Science Sustainability for Large-Scale multi- country, Ocean Decade Book Club, SDGs Youth Football Club Activities, Ocean Literacy Youth Facilitators, Children and youth Ocean Science Camp, Sustainable Empowerment and Livelihoods for Coastal Women and Girls Initiative, and Mobile App Development and Literacy Outcomes Magazine for publication of Ocean Decade activities and news.	1 2 3 4 5 6 7 8 9 10
Dean Wenham, Ocean Diagnostics Inc	d.wenham@oceandiagnostics.com	Microplastic is the most toxic component of environmental plastic pollution since it is persistent and can penetrate all zones of our environment from the depths of our oceans to the tops of our mountains and can be consumed by marine and terrestrial organisms including humans. However, very little is understood regarding the distribution of microplastics and its effects on marine life and human health. Further, the availability of tools to study microplastic pollution and the number of scientists in the field limits the ability to obtain a global understanding of the problem. Therefore, we propose a large-scale, global citizen science program that will: • Engage and educate citizens at a global level on the problem of microplastic pollution of our oceans, waterways, drinking water and food • Provide citizens with simple, affordable technology that can measure microplastic pollution in the oceans, beaches, fresh-water systems, drinking water and waste-water systems all over the world. • Provide a data platform whereby the global microplastic data collected by citizen scientists will be available to everybody allowing citizens to visualize this global problem, scientists to model and analyse the data to better understand it, and policy makers to use the data to drive new regulations and key decision making	1 2 9 10
Jamie McMichael-Phillips, The Nippon Foundation-GEBCO Seabed 2030 Project	director@seabed2030.org	Bring together all available bathymetric data to produce the definitive map of the world ocean floor by 2030 and make it available to all via the freely available GEBCO Grid	8 9

Imran Ahmed Khan, University of Karachi	imranak32@uok.edu.pk	Sea Surface Temperature time series and prediction by remote sensing data	1 2 3 4 5 6 7 8 9 10
MOEJ	kazuki@moe.go.jp	MArine DB	Challenges 1, 8 & 9
Y S Swarna Latha Education	swarnalathayssl@gmail.com	Sustainable Ocean Observing Systems	Challenge 7
Deixonne Patrick Expedition 7° Continent	pdeixonne@septiemecontinent.com	Mission scientifique Action de sensibilisation	Challenge 10
Shannon Hampton International Ocean Institute - Southern Africa	hampton.shannon@gmail.com	Capacity development - ocean governance	Challenges 9 & 10
Paul Adjin-Tettey, Fisheries Commission, Accra Ghana	pauladjintettey@yahoo.com	Our marine ecosystem is polluted with high volumes of plastic waste, discarded monofilament nets, micro plastics and other marine debris. According to a study, Ghana generate about 302,192kg/day of plastic waste in 2015 and 81% of the waste was inadequately managed and ends up in our oceans, wreaking havoc on marine life, fisheries and tourism. This causes millions of dollars in damage to our marine ecosystem. I have started working on this and researching on the best possible solution to this situation in my fishing community.	Challenge 1
Fraser Davidson OceanPredict	fraser.davidson@dfo-mpo.gc.ca	Making Ocean Prediction Science Impactful and Relevant Focus on improving ocean prediction science with an effort to embed ocean prediction science in larger coordinated full value chain of marine environmental prediction.	Challenges 4, 5, 6, 7, 8 & 9

Adrian Martin National Oceanography Centre, UK	adrian.martin@noc.ac.uk	The Joint Exploration of the Twilight Zone Ocean Network (JETZON –jetzon.org) focuses on the region extending from roughly 200m to 1000m depth and containing the largest and least exploited fish stocks of the world's oceans. The Twilight Zone plays a major role in in global chemical cycles, removing carbon dioxide from the atmosphere and storing it for centuries or longer (Challenge 5), and recycling the majority of organic material sinking out of the ocean surface. Yet, the Twilight Zone is poorly understood by any criterion. This ignorance is dangerous because the Twilight Zone is under multiple stresses (Challenge 2). First, the world's growing population has an increasing need for food (Challenge 3, SDG12). Second, sea-floor mining for minerals and metals could release waste into the Twilight Zone (Challenge 1, SDG12). Third, climate change is altering temperature, acidification and oxygen levels in ways that are likely to affect Twilight Zone organisms (Challenge 5, SDG13). The next decade is critical for the Twilight Zone, with a pressing need for a radically improved scientific understanding to underpin any decisions on sustainable use of its largely unexploited resources (SDG14), 'the science we need for the ocean we want'. To achieve this requires global coordination as the majority of the Twilight Zone is outside national jurisdictions and its size and inaccessibility makes its study an impossible task for a single project or country. The same factors mean that an inter-disciplinary approach is also critical, merging autonomous and ship based fieldwork, with global biogeochemical and socio-economical modelling (Challenges 3 and 4). This is what JETZON seeks to achieve, doing so via a transparent forum encouraging open access to data, sharing best practice and encouraging multinational and multi-sector collaboration (Challenge 7).	Challenges 1, 2, 3, 4, 5 & 7
Bruce M. Howe ITU/WMO/UNESCO-IOC Joint Task Force SMART Subsea Cables; University of	bhowe@hawaii.edu	The Joint Task Force for Science Monitoring And Reliable Telecommunications (SMART) Subsea Cables will facilitate integration of sensors into commercial submarine telecommunications cables for climate monitoring and disaster warning. Our vision is a planetary scale array monitoring ocean heat and circulation and sea level rise and revolutionizing real-time	Challenges 5, 6 & 7

Hawaii at Manoa, USA		warning systems for earthquake and tsunami disaster mitigation. This is enabled by the trans-ocean cable infrastructure linking society together: 1.4 million km of cable, 20,000 repeaters every 70 km hosting the sensors, constantly being refreshed over 10-25 years, without interfering with telecom. Initial sensors are ocean bottom temperature, pressure and seismic acceleration. System suppliers are on board, the first major SMART project is funded and underway in Portugal (2020), and seven others are in various stages of planning and funding – a perfect example of the Blue Economy in action for the UN Decade. JTF will provide coordination between ocean science, operational oceanography, hazard early warning centers, industry, and relevant government agencies. SMART cables will create profound opportunities for innovation – requiring people with appropriate depth and breadth of expertise. JTF will facilitate SMART Cable projects that will catalyze and include education, training and outreach programs to build necessary capacity and interest.	
Mark Capron OceanForesters, in need of Global and Regional Lead Institutions	markcapron@oceanforesters.org	The global SEAFood with Healthy Oceans Programme strives to individualize the science and development each coastal community needs for the oceans each coastal community wants. The aggregated 2030 goals of all the projects within the SEAFood Programme include: protecting 36 million square kilometers of ocean (10%); producing 100 million tonnes of seafood/yr with truly sustainable aquaculture; and to-be-determined metrics for the necessary science. Each community identifies the results it wants from an array of possible actions. See recent documents mentioning SEAFood at https://oceandecade.org/resources#resources	Challenges 1 – 10
Frantz imagine 2025, The World Pacific Tour	jean-emmanuel.frantz@hotmail.fr	The ships are bigger and bigger but the islands have remained as small as ever. SIDS do not have the money to build their own fleet and often end-of-life and highly polluting vessels are the link between the mother islands and the global market. Again, islands find themselves isolated because fuel may be lacking. Could the decade of oceanographic sciences be an opportunity for a massive eco-shipyard ? Participation of private sector is a key element of managing the ocean sustainably. The World Expo in Japan - Osaka	Challenges 4 & 10

		2025 could be an opportunity for SDIS to use the japanese cooperation funds to build an innovative flotilla as a concrete solution to substitute some old and polluting ships for new sustainable maritime relationship between the SDIS. Osaka 2025 could be the arrival of this flotilla. The SDIS will participate and at the end of World Expo, the new pavillon ships will cruise and develop the Blue pacific exchange. During the World Expo, a Ocean Decade Pavillon under Unesco could be build to host the flotilla and others. A way to promote concrete solutions by a huge social impact. In Pacific, Voyaging is an Art and Ocean is the link between SDIS.	
Shouye Yang Tongji University	syyang@tongji.edu.cn	Changjing land-sea interactions in Asia in the Anthropocene	Challenges 1, 3 & 7
Steven A. Kuehl Virginia Institute of Marine Science, USA Xiamen University, China	kuehl@vims.edu	Asian Rivers Project, see link: https://doi.org/10.1029/2020EO143936	Challenges 1, 2 & 3
Marcus Lehmann CalWave Power Technologies INc.	marcus@calwave.org	Using CalWave's wave energy converter for remote continuous monitoring to prevent e.g. overfishing, ocean crimes, artic drilling et.	Challenge 7
Leandra Gonçalves Women's League for The Ocean	ligadasmulheresdomar@gmail.com	A TEDX webinar about ocean and gender, especially in the global south.	Challenge 10
Igor Shkvorets RBR Ltd.	shkvorets@yahoo.com	Creating the Sailing oceanographic observation system (SOOS) by providing sailors with portable CTD-systems, winches for profiling oceans to 750m depth. Also provide them with the manuals for collecting data, quality control and submission of oceanographic data to the World Ocean Data centres.	Challenges 1, 2, 5, 7 & 9

Amel hamza -chaffai Sfax university	Amel.chaffai@gmail.com	Museum for the ocean decade including a museum for marine biodivesity and main issues and challenges (pollution, blue biotech etc...). A real museum and an online one	Challenges 1, 2, 4 & 10
Ermelinda Miur	ermelindadelbuono7@gmail.com	Sistemi di tracciabilità innovativi per una pesca sostenibile	Challenge 10
Francisca Paquez Jimenez Deep Blue Globe UG (haftungsbeschränkt)	Francisca.paquez.jimenez@deepblueglobe.eu	Glaucus and OneWave	Challenges 2, 3, 4, 6 & 10
Prof. Andrey G. Kostianoy P.P. Shirshov Institute of Oceanology, Russian Academy of Sciences	kostianoy@gmail.com	The goal of the Programme is the creation of “The Caspian Sea Data Center”, which would include a constantly updated archive of satellite data (IR, optics, radar, altimetry), oceanographic data (physical, chemical, biological parameters), hydrometeorological data, hydrodynamic model data, atmospheric reanalyses data, results of regional climate change forecasts, electronic atlases, electronic library of publications (open access) on the Caspian Sea and other materials. The flow of data and information will come from all the Caspian Sea countries as well as from other interested partners. The collected data will make it possible to assess anthropogenic loads on the environment of the Caspian Sea, assess the ongoing climate changes, assess extreme weather and climate events, assess the impact of climate change on natural and socio-economic systems, develop a strategy and mechanisms for adaptation to climate change and the state of the Caspian Sea. The created infrastructure will support the Caspian countries with modern information resources in creating improved conditions for the sustainable development of the Caspian Sea region. In the future, The Caspian Sea Data Center may be transformed into “The Caspian Sea Analytical Data Center” with additional consulting	Challenges 1, 4, 5, 7, 8 & 9

		functions. In connection with the above, we propose the following name of the Programme - "The Caspian Sea Digital Twin".	
Vardis TSONTOS NASA Jet Propulsion Laboratory, California Institute of Technology	vtsontos@jpl.nasa.gov	COVERAGE: Next generation data service infrastructure for a digitally integrated ocean observing system in support of marine science and ecosystem-based management	Challenges 2, 7 & 8
Alain DINIS VIRTUALDIVE	adinis@virtualdive.com	Set up a network of underwater LIVE streams and videoconferences organized by scientists and professional scuba divers that will operate our connected and mobile subaquatic cameras. Our systems will allow to raise public awareness and ocean literacy through LIVE and interactive connected underwater events. Furthermore, our subaquatic streaming cameras can connect to a dedicated collaborative web platform allowing scientists to observe, monitor and map underwater environments and ecosystems in real-time.	Challenges 1 - 10
Evgeniia Kostianaia Early Career Ocean Professionals Ocean Decade Informal Working Group	ecop.oceandecade@gmail.com	The mission of the ECOP Programme is to contribute new ways of thinking to global challenges related to ocean sustainability and stewardship by providing ECOPs with meaningful opportunities to engage with each other and with local to global institutions through the framework of the UN Decade of Ocean Science for Sustainable Development. The vision of the ECOP Programme is to elevate the voices and perspectives of new generations of ocean professionals, ensure that knowledge is transferred between experienced and Early Career Ocean Professionals, and to ensure continued ocean sustainability and towards achieving “The Ocean We Want”. The Programme shall aim to: - contribute to advancing the objectives of the Decade by shaping the ocean research, policy and literacy agendas. - serve as a resource for intergenerational knowledge exchange to develop skills and knowledge to advance ocean sustainability and the objectives of the Decade. - provide opportunities for ECOPs all around the world to elevate their collective voices and participation in relevant ocean sustainability	Challenges 4, 9 & 10

		conversations (e.g. conferences, panels, committees, working groups), particularly in events under the auspices of the Decade. - identify, create, and share professional development opportunities to advance ECOP careers while paving a way for the next generation, particularly for underrepresented groups of society. - connect ECOPs all around the world to foster collaborations across geographies, disciplines and sectors to address global ocean sustainability challenges.	
Akifumi Iwabuchi Tokyo University of Marine Science and Technology	iwabuchi@kaiyodai.ac.jp	Local People, Indigenous Knowledge, and Climate Change: The Iconic Underwater Cultural Heritage of Stone Tidal Weirs	Challenge 10
Dr. VIRENDRA GOSWAMI 'Environment and Peace Foundation' & Indian Institute of Technology(IIT)	vk_goswami1@rediffmail.com	"CORRELATIONAL STUDIES OF OCEAN-ATMOPHERE – CRYOSPHERE INTERACTIONS WITH MULTIPLE STRESSORS IN CRYSPHERE MARINE SYSTEMS & CLIMATE VARIBILITY TO DEVELOP OCEAN-CLIMATE -PREDICTION - MODELS (OCPM)"	Challenges 1, 2, 5 & 6
Etienne Gernez The Oslo school of architecture and design	etienne.gernez@aho.no	The study of the intersection of urban and ocean spaces with a multidisciplinary approach mixing ocean engineering, industrial design, urban planning, architecture, ecology (land- and marine-based), and business development. The research will focus on developing a methodology to address Challenges 2,3,4,10 with this multidisciplinary lens. The research will be based on case studies in Norway initially, looking at aquaculture (salmon farming, seaweed production and transformation), floating cities/neighborhoods, floating energy production, floating waste treatment, ocean recreation parks, and other relevant topics. The cases may also be purely speculative.	Challenges 2,3,4, & 10
Neeshad Shafi	neeshad@aycmqatar.org	To support youth based initiatives and idea for protecting and leading especially from the Middle East Arab countries.	Challenges 5, 8 & 10

Arab Youth Climate Movement Qatar LLC(G)			
TANGENI HAIMBALA AFRY	haimbalatangeni@gmail.com	Circular economy in plastic pollution in Namibia.	Challenges 1 & 2
Trouslard Emmanuelle Watertrek Images et Initiatives	e.trouslard@watertrek.org	A citizen science program online which collect datas about plastic and chemical pollution on rivers and using a stand-up paddle.	Challenges 1 & 3
Hester Whyte Catching A Wave https://www.catchingawave.org/	catchawave18@gmail.com	Connecting Art, Science and Technology for sustainable and equitable coastal community & oceans https://www.catchingawave.org/	Challenges 4, 5, 9 & 10
Kerry Howell & Ana Hilario DOSI - Deep Ocean Stewardship Initiative	kerry.howell@plymouth.ac.uk ahilario@ua.pt	We will propose a 10 year global deep-sea biology research programme - Challenger 150.	Challenges 1, 2, 3, 4 & 5
Ghezali Yousra ENSSMAL	g.yousra92@gmail.com	Regarding on tackling plastic pollution and recycling	Challenge 1
Crisanto SIlva Aguilera Laboratorio de Modelos Expermentales, LAMODEX, Departamento de Ciencias de la Tierra,	silvaguilera@usb.ve	Coast, estuaries and deltas, under Climate Change	Challenges 1, 2, 3 & 4

Universidad Simon Bolivar			
Gaspard Durieux Impact Hub & CNR Italy	gaspard.durieux@gmail.com	I am envisioning to integrate knowledge from design, robotics, water treatment, biology and oceanography to develop a massive aquatic permaculture system which will capture the nutrients of human sewage in order to grow food for wales, dolphins and to strengthen marin biodiversity and ecosystem services	Challenges 2, 3 & 4
Maria Fais SSL _ Servizi Sicurezza Lavoro	maria.fais@servizisicurezzalavoro.it	Monitoring coastal meiofauna innorth-eastern Sardinian wetlands	Challenge 2
Ohad Peleg University of Auckland	opel345@aucklanduni.ac.nz	Restoring kelp forests, by removing sea urchins from areas where targeted fishing on their predators has led to their proliferation, overgrazing and deforestation of kelp forests. Sea urchins that maintain these barrens are of low nutritional quality. I propose to rear them in coastal aquaculture facilities and market them for consumption. This will restore kelp forests and their services, increase sustainable use of resource and create jobs.	Challenges 2, 3 & 4
Olivier PRINGAULT IRD	olivier.pringault@ird.fr	Center of excellence to study interactions between marine ecosystems and pollutants	Challenge 1
Harry Rappaport Urchinomics	hr@urchinomics.com	Urchinomics helps restore kelp forests by removing and ranching overgrazing sea urchins, converting them into premium urchin roe (“uni”) to sell to top tier distributors, restaurants, and consumers globally. We have active early stage operations in Japan, Norway, Canada and the U.S. with plans for commercial expansion already underway. With the increased occurrence of urchin barrens in these areas as well as Australia, New Zealand, Chile, Taiwan, and elsewhere, we would like to: 1) prepare our supply chain in current regions of operation for commercial scale (urchin harvesting, urchin ranching, sales and marketing) 2) increase partnerships for restoration and monitoring 3) work with public and private funders	Challenges 2, 3, 4 & 5

		to scale our operations via low-interest debt or non-dilutive capital 4) launch new markets as conditions allow	
Nathalie Vigier Laboratory of Oceanography of Villefranche sur Mer (South France)	nathalie.vigier@obs-vlfr.fr	monitoring trace metal pollution in world-wide coastal areas and their impact on marine organisms combining isotope geochemistry and ecotoxicology approaches	Challenge 1
Ruth Higgins EurOcean	ruth.higgins@eurocean.org	We are currently developing ideas for Decade Actions relating with information on marine and ocean technology and information services.	Challenges 7, 8, 9 & 10
Arthur Tuda Western Indian Ocean Marine Science Association	tuda@wiomsa.org	Improving scientific knowledge through supporting high-quality research, capacity development for research, and strengthening knowledge delivery, access and use.	Challenges 3, 4, 5 & 9
Jose Dopeso Comisión Centroamericana de Transporte Marítimo COCATRAM	jdopeso@cocatram.org.ni	Design, Creation and Implementation of an Oceanographic Remote Sensing Service (Operative Oceanography) and a Central American Oceanographic and Hydrographic Data Information Network in order to be a determining factor for the Development of a Blue Economy for the member countries of the System of Integration of Central America (SICA)	Challenges 2, 6, 7, 8 & 9
Kakani Katija Monterey Bay Aquarium Research Institute	kakani@mbari.org	FathomNet: A publicly available underwater image database for training machine learning algorithms to understand the ocean and its inhabitants	Challenges 4, 5, 7, 8, 9 & 10
Susan Bengtson Nash Griffith University, Queensland, Australia	s.bengtsonnash@griffith.edu.au	The Antarctic Monitoring and Assessment Program (AnMAP). AnMAP is the reach goal of the Scientific Committee for Antarctic Research (SCAR) Action Group, Input Pathways for persistent organic pollutants to AntarCTica (ImPACT). It is modelled on the Arctic counterpart, AMAP, who are key partners on the proposal together with the Australian Department of the Environment, several	Challenge 1

		Antarctic bodies and individual researchers. A project brief is available on request.	
Susan Bengtson Nash Griffith University, Queensland, Australia	s.bengtsonnash@griffith.edu.au	The Humpback Whale Sentinel Program (HWSP). This is an existing long term (2008 - ongoing) biomonitoring program for circum-polar surveillance of the Antarctic sea-ice ecosystem (Project brief forwarded to Julian and Alison). The program encompasses 'population representatives' in 5 global regions, with view to include 2 more in South Africa and Madagascar respectively. The program supports open source data for the research and policy communities.	Challenges 2 & 7
Monica Chin OCEAN VIRGO SCUBA DIVE	monicaborneo2020@hotmail.com	Ocean marine ecosystem conservation, awareness project, protection and workshop & training.	Challenges 2, 7, 8 & 10
Narissa Bax Institute for Marine and Antarctic Studies	narissa.bax@utas.edu.au	Please see our paper published last week: https://onlinelibrary.wiley.com/doi/10.1111/gcb.15392 to protect Antarctic blue carbon as an ecosystem service of considerable societal and economic value.	Challenges 2, 3, 4, 5, 8, 9 & 10
Aaron Eger Kelp Forest Alliance	aaron.eger@unsw.edu.au	The KFA brings together persons and organizations working on kelp forest ecosystems and aims to enhance the protection and restoration of these valuable ecosystems. KFA works to produce and facilitate global knowledge exchange on kelp forest management across languages and professional sectors. We also work to raise the profile of kelp forests and advocate for stronger conservation of these ecosystems.	Challenge 9
Imran Ahmed Khan University of Karachi	imranak32@uok.edu.pk	Sea Surface temperature assessment with Remote sensing data, compare with in situ data. Sea Surface Temperature (SST) is essential to understand the global climate, appropriate assessment of SST is essential for climate monitoring, research, and prediction. Data is available from MODIS satellite on ocean color Nasa System. Sea surface temperature (SST) data will be obtained through MODIS satellite remote sensing. The study planned to analyze the spatial and temporal patterns of SST using monthly MODIS data of August 2002 to April 2020 from regional to global coverage. Spatial pattern, Monthly, Seasonally, annually and inter-annually trends of SST will be observed. Furthermore, Time series statistical model could be developed fitted to the observed data that describes the annual SST pattern with near future prediction abilities. GIS software will be help ful for this i.e. ARCGIS 10.3. SST and associated information is very useful for the conservation and management of	Challenges 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10

		marine resources of the area since as this has a significant role in the assessment of ecology and climate. Thus, this study can construct two decadal SST dynamics to improve our understanding of climate and its variability and possible impacts on ocean ecosystems through time series and trend analysis. we ucan se R and SPSS for time series statistical analysis.	
MOEJ	kazuki@moe.go.jp	Marine database	Challenges 8 & 9
William Jeffery University of Guam	jefferyw@uog.edu	Traditional Indigenous science and wisdom	Challenges 2,9 & 10
Marcelo N. Weissel Museo Arqueológico de La Boca - Fundación Azara - Universidad Nacional de Lanús	weisselmarcelo@hotmail.com	Archaeological projects relating heritage, ports and pollution in Argentina.	Challenges 1, 5 & 10
Frank Muller-Karger The Marine Biodiversity Observation Network (MBON), Global Ocean Observing System (GOOS Bio-Eco), Ocean Biodiversity Information System (OBIS), UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC), Ocean Best Practices System (OBPS) and contributing collaborators	carib@usf.edu	We will propose an Ocean Decade Programme to "observe life in the sea" as a framework to coordinate people across national and international networks to increase the scope of marine biodiversity research and applications, capacity to carry out and use observations, add innovation and new perspectives, and provide opportunities for students and early-career professionals. One approach will be to work with established ocean observing systems and networks to incorporate biology and biodiversity observations. A goal is to share standards, best practices and approaches for interoperability and knowledge management to work toward 4D observations of life in the sea. This includes advancing ethics, diversity, and inclusion among stakeholders, and working on approaches jointly between social and natural scientists to address societal problems and coastal and marine ecosystem services. The Programme to observe life in the sea will accommodate a series of specific Ocean Decade Actions aligned with Ocean Decade Challenges. (The specific name of the Programme will be developed jointly with participating groups)	Challenges 2, 3, 4, 5, 6, 7, 8, 9 & 10

Ant Türkmen Ecological Research Society	antturkmen@gmail.com	Data literacy for Blue Growth	Challenge 9
Seaweed - Making Waves	fiona@theseaweedalliance.org.uk	Large scale cultivation of red seaweeds for protein in North Atlantic combining expertise from Norway, Ireland and UK	Challenges 3 & 4
MSc student at Anglia Ruskin University	natalievfox@icloud.com	A phd inter-disciplinary study through a UK University investigating surf breaks, their users and the resource system (waves, coastlines and ocean). There will be extensive social research on surfers plus ecological data collection of water quality, microplastic contamination and climate change indicators from surfing sites across the globe, as well as research on the suitability of employing surfers as citizen scientists through a International programme in association with non profit org Surfers for Climate. Data would be collated to determine the health of surf breaks (previously unreported), the health of surfers and the suitability of the citizen science surf programme.	Challenges 1, 2, 4, 5, 8, 9, & 10
National Oceanographic and Maritime Institute (NOAMI) 10/8, Eastern Plaza, 9th Floor Sonargaon Road, Hatirpool, Dhaka 1205	mohan.smrc@gmail.com	Bay of Bengal Heatwave study	Challenge 6
Institut Schiller	yves.paumier@institutschiller.org	marginally widen the Gibraltar Threshold to increase the exchange of oceanic water masses	Challenge 2
Ocean Motion Technologies, Inc.	jpan@oceanmotion.tech	Leveraging multi-national capabilities to develop cost-effective and reliable small-scale ocean wave energy devices for the goals of the Ocean Decade	Challenges 1, 2, 3, 5, 6 & 7
NA	suchithrasundaram@gmail.com	Arctic climate variability and teleconnections	Challenge 5
Ministère de l'Environnement et Développement Durable/ Direction des ressources en eau	iyaka.ankao@gmail.com	Marine Spatial Planning	Challenges 1, 2, 3, 4, 5, 6, 7, 8, 9 & 10
Sea and Aquaculture Studies Center, University of San Carlos of Guatemala	carlosmaza07@gmail.com	Marine litter should be reduced and regulated through government and non-government organizations. It also should be with the collaboration of plastic industry for doing consenses and reduce the conflicts.	Challenges 1,2 & 3

INSTALL srl	gennaro.illiano.19@gmail.com	open platform for oceans sustainability	Challenges 1 & 9
MTCN	mauricio@mtcn.com.br	100% all dredged material in ports and terminals and waterways around world must be used beneficaly in coastal protection, mangrove restoration, recicled as material for new infrastructure, etc...	Challenges 1 & 2
Ethiopian Institute of Water Resources, Addis Ababa University	sirakr@gmail.com ; sirak.robele@aau.edu.et	Tools for coastal management	Challenges 1,2 & 3
Mohammed VI Foundation for Environmental Protection	a.elkhaloufi@fm6e.org	Workshops and webinars	Challenges 3, 4, 5, 9 & 10
CSIR - National Institute of Oceanography	jay@nio.org	A. Development of consortium of capacity developers with a portal of knowledge resources B. Targeted curriculum development to educate the young minds on the well being of oceans	Challenges 9 & 10