Title of ICP25 presentation: Facing old and new challenges in capacity development: Enhancing cross-sectoral collaboration for inclusive and equitable ocean management and governance

Abstract:

Capacity development is vital to effective ocean management and governance for various reasons. Capacity development: 1) enables the implementation of ocean governance frameworks; 2) addresses environmental challenges by providing the skills and knowledge needed to adapt to those challenges; 3) fosters inclusive and equitable ocean governance; and 4) supports multi-level and cross-sectoral collaboration. The Common Oceans Cross-sectoral Project provides an opportunity for strengthening capacity of officials from regional and national organizations for sectoral and cross-sectoral cooperation and coordination through a regional training program. Working with partners in the Southeast Pacific and Pacific Islands pilot regions, the project also aims to improve understanding of issues and governance in marine areas beyond national jurisdiction.

Abstract

Despite the formal recognition of capacity building and the transfer of marine technology (CBTMT) in a range of international instruments—such as the United Nations Convention on the Law of the Sea (UNCLOS), the Intergovernmental Oceanographic Commission's Criteria and Guidelines, and most recently, the BBNJ Agreement—implementation remains uneven and largely aspirational. This presentation explores the persistent under-delivery of these commitments, particularly in the context of the Global South, and how this contributes to widening gaps in both ocean science and diplomacy.

Drawing from empirical evidence and state practices, I will demonstrate how this imbalance translates into asymmetrical contributions to global ocean governance. The dominance of the Global North in producing, owning, and utilizing marine knowledge reinforces a system where international decision-making is skewed by geographic and economic privilege. This not only limits the diversity and relevance of scientific input into multilateral forums but also impairs equitable participation in diplomacy related to the ocean.

This presentation will also discuss the strategic role of ocean science diplomacy as both a lens and a lever: to reveal structural asymmetries and to build inclusive pathways for cooperation. By reframing CBTMT as foundational to fair and effective governance, rather than optional add-ons, we argue for an urgent re-prioritization of these elements in international agendas. Through the case of Brazil, we examine how new institutional arrangements like the National Institute for Ocean Research INPO can act as catalysts for reducing the North–South divide and fostering a more pluralistic ocean knowledge system.

United Nations Open- ended Informal Consultative Process on Oceans and the Law of the Sea

Twenty-fifth meeting

New York, 16–20 June 2025

Dr Legena Henry, PhD,

CEO-Founder, Rum and Sargassum Inc.

Discussion panel

Capacity-building and the transfer of marine technology: new developments, approaches and challenges

Abstract: In 2019, an IDB-funded summer research project at the University of the West Indies (UWI) Cave Hill campus in Barbados explored whether ocean-derived Sargassum seaweed and rum distillery wastewater could co-digest in a biogas system. This marked the genesis of Rum and Sargassum Inc., a UWI spin-off clean-tech startup dedicated to converting local waste into renewable fuel. Over the next four years, we progressed through laboratory trials, scaled up to pilot digesters, and procured a prototype fuelling station in Barbados. By 2024, we achieved a key milestone—Test Drive Zero—where an electric vehicle was powered by electricity generated from our biogas. With multiple technical validations, we reached TRL 5, yet remain pre-revenue due to the persistent funding gap for mid-stage clean tech.

Along this journey, we uncovered systemic barriers that disproportionately affect innovators from Small Island Developing States (SIDS). Global funding tends to favour consultants over builders, and perception bias limits investment in solutions originating from the Caribbean. Despite global media recognition and U.S.-level technical expertise (MIT, Harvard, Yale graduates in our technical team), structural and legal vulnerabilities persist. The learnings presented here illuminate the unique challenges faced by SIDS innovators and call for more inclusive investment frameworks, stronger IP protections, and recognition of the global relevance of locally grown technologies.

Interdisciplinary approach to leadership and human resource development for sustainable blue economies

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Abstract

Capacity-building is a key factor to promote ocean conservation and sustainable ocean management. Sustainable blue economies have been seen as a policy goal that simultaneous pursue ocean conservation, sustainable marine resources, income generation, livelihood improvement and sustainable development. As ocean is an integral part of live supporting system in our planet, it is important to take a holistic viewpoint by taking into account climate change, marine biodiversity, marine environment degradation and changes and the elimination of illegal-unreported-unregulated (IUU) fishing.

Many countries have been exhibiting adverse impacts of marine environment changes, increased competition of ocean and marine resource use and vulnerability of fisheries and aquaculture. At the workshops and expert group dialogues at national, international and regional levels, it has been seen useful to share good practice on the conservation of coastal and marine ecosystems and the promotion of eco-tourism, ocean based renewable energy in parallel with aquaculture. Innovative approaches are also seen useful to promote marine and coastal ecosystem and productivity through artificial reefs with natural materials, traditional fishing methods and practices.

Sustainable blue economies require interdisciplinary knowledge and skills. At the tertiary education, it is still a common approach that students focus on single or related disciplinary and miss opportunities to acquire knowledge and skills in a wide range of disciplinaries required for forging innovation, social collaboration and entrepreneurship development. Students and faculty members indicate the merit and interests in having intensive pragmatic and interdisciplinary leadership development program aimed at sustainable development. The designing of supporting start-up is seen as an important factor to empower youth and support the development of business models that will help resolving problems and challenges and sustain reasonable revenues to sustain business operation. It is hoped that more progress can be shared on the undertaking of leadership development for sustainable blue economies.

Abstract

Advancing the BBNJ Agenda: Capacity Building and Transfer of Marine Technology

This presentation addresses the practical and legal dimensions of implementing Part V of the Agreement on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction (BBNJ Agreement), focusing on capacity building and the transfer of marine technology (CB&TMT). As a foundational element of equity and effective participation, Part V aims to operationalize long-standing obligations under UNCLOS Articles 202–203 and 266–268.

Drawing on recent legal scholarly discusion and state practice, the presentation examines institutional, financial, and national-level mechanisms to translate these commitments into action. It emphasizes the design of a functional Clearing-House Mechanism, the need for a robust and transparent financial mechanism—including a dedicated CB&TMT fund—and the importance of integrating Part V into national legal frameworks and regional cooperation strategies. The presentation also highlights cross-cutting issues such as equitable access, intellectual property rights, and the role of science diplomacy.

Twenty-fifth meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea – June 2025

Session: The role of the capacity-building and the transfer of marine technology in underpinning sustainable development: new developments, approaches and challenges

Towards the digital twin of the navigable waters

–

Investing in data standards to support the sustainable use of the oceans

Panel contribution by Dr Mathias Jonas,
Secretary-General - International Hydrographic Organization (IHO)

Abstract

In order to improve the safety, efficiency and sustainability of the maritime industry, the full range of stakeholders must be engaged. Prevention of collisions and groundings in order to avoid oil spills or other sources of pollution, route optimisation through choice of the shortest and safest track in order to decrease fuel consumption and emissions, 'just in-time' arrival at ports which decrease idle-time in front of ports (source of pollution), can all be made possible by embracing a radical change in how we view data for marine navigation. This re-invention will only be possible by utilizing the versatility of all relevant data collected and displayed in a standard format to allow collaborative interaction in near real-time – mirroring what has become a reality in land-based logistics.

The IHO S-100 data standard framework could help with this paradigm shift. It addresses the huge variety of marine data whether for navigational charts, detailed seabed topography, tides and currents, ocean weather as well as route information. Despite its obvious benefits for the whole ocean community, there are currently barriers to its widespread implementation. Many countries do not have the funds or infrastructure to progress with this transition. There also needs to be increased financing and innovation in S-100 products.

This proposed presentation would look at practical examples all along the value chain from data gathering, interpretation, aggregation, distribution and use in end-user devices. It would include input from shipowners' associations, shipping companies and intergovernmental organizations who will illustrate the added value of the S-100 ecosystem for their operations. The results of a systematic evaluation of the economic feasibility of using S-100 based product services in a ship operating environment will also be presented. The fact is, minor investment in standardized data provisions could reap substantial benefits in terms of harbour logistics management.

The presentation will discuss the International Maritime Organization's e-navigation concept which embraces these elements and for which the approved technical foundation in terms of standardization of marine data streaming is the IHO's S-100 series. The proposed presentation will look at the benefits of enhanced coverage of S-100 based services and the resulting requirements to build the regional capacity through investment in people and technology. The economic leve is to attract industry to develop smart new functionalities based on it and create new business models. Ultimately there are no barriers to extend the use of the S-100 data streams to applications beyond navigation such as support for offshore marine renewable energy, fishing, cabling and marine disaster prevention having an all embracing tool at hand to make marine geoinformation as effective as possible.

United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea

Twenty-fifth meeting 16 – 20 June 2025

Panel
"Capacity-building and the transfer of marine technology: new developments, approaches and challenges"

Title: **Delivering equitable and accessible capacity development through coherence, coordination and cooperation in Capacity Development Building and Transfer of Marine Technology (CBTMT)**

By: **Johanna Diwa-Acallar**
Deputy Global Coordinator for Capacity Development
IOC/UNESCO

Sustainable development, including conservation of the ocean, its habitats, and resources, requires integrated global efforts. The Intergovernmental Oceanographic Commission (IOC) of UNESCO, established in 1960 and composed of 150 member states, is the only UN body mandated on marine science, services, and capacity development and is recognized under UNCLOS as a competent international organisation for Marine Scientific Research and Technology Transfer. Over the decades, IOC has cultivated extensive expertise in designing, delivering and implementing equitable and accessible capacity development that is crucial for understanding and managing our ocean. This presentation will provide an overview of IOC/UNESCO's approach to capacity development, highlighting how coherence, coordination and cooperation plays a pivotal role in facilitating and developing mechanisms to improve ocean science, management, and services related to transfer of marine technology.

The presentation highlights how the IOC Capacity Development Strategy, and the IOC Criteria and Guidelines on Transfer of Marine Technology, serve as coherent framework and guide targeting key elements vital of effective capacity development principles that complement and contribute to the implementing and operationalizing of existing and new initiatives such as the BBNJ Agreement. The talk will present how the IOC/UNESCO tailors its capacity development initiatives to meet various capacity development needs and priorities in the regions. These efforts are informed by comprehensive capacity development needs assessments, such as the IOC biennial needs assessment survey. The IOC/UNESCO promotes the transfer of marine technology through sharing and online data-sharing platforms; the coordination of global monitoring and observation networks; and the development of guides, manuals, codes of conduct and best practices in marine scientific research and data standards and management and monitoring of ocean science capacity. Lastly, cooperation, collaboration and partnerships are central elements in the IOC capacity development strategy. These approaches enable institutions and stakeholders to pool resources, exchange knowledge, coordinate actions, and build resilient and sustainable knowledge systems that empower Member States to achieve long-term ocean sustainability goals.

ABSTRACT

Charting the course to resilient prosperity for Caribbean SIDS: through capacity building and marine technology transfer

Dr. Tricia Lovell, Deputy Chief Fisheries Officer (Antigua and Barbuda)

In May, 2024 global leaders, negotiated and endorsed the Antigua and Barbuda Agenda for Small Island Developing States (SIDS). The ABAS, as it was coined, not only recalls and highlights the vulnerabilities of SIDS, it also recognizes their leadership and role in the achievement of sustainable development goals and targets. It outlines the priorities and ambitions of small island states including the need for securing resilient, safe and secure futures for their citizens and the imperative of achieving environmental protection and planetary sustainability through, climate action, sustainable use of ocean resources, biodiversity protection and disaster risk reduction. Small island states are striving for resilient prosperity, even with mounting pressures from environmental and economic stressors. For Caribbean SIDS, charting the course to resilient prosperity will require innovation, strategic partnerships, and needs-driven and purposeful support from international and regional partners.

Twenty-fifth meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea – June 2025

Capacity-building and the transfer of marine technology in underpinning sustainable development: New developments, approaches and challenges

Title of presentation: Enabling frameworks for Capacity-Building and the Transfer of Marine Technology: Challenges and Opportunities

Presenter: Alan Evans

Abstract: Capacity-building and the transfer of marine technology have long been recognised as a key component in ensuring all States have an ability to better understand the marine environment and to develop a global common good to manage our seas and ocean responsibly. With significant efforts being undertaken through multilateral agencies, international and regional frameworks and direct State contributions the provision of aid support is not insignificant. However, given the lack of visibility, coordination and mechanisms to ensure cohesion there are areas for improvement. This talk will highlight some of the issues and offer suggestions for how current and emerging practices may improve unity in the delivery of capacity building and the transfer of marine technology.

Capacity building and technology transfer are important and desired outcomes of the scientific enterprise, which is first and foremost about curiosity and discovery. Within the chaotic and often unpredictable pursuit of scientific truth, it can sometimes be challenging to a priori predict how, where, or when capacity building and technology transfer will be most effective. In this presentation, I will showcase the power of equitable partnerships to solve this problem. Specifically, through several examples, I will show that strong, equitable partnerships enable capacity building and technology transfer to naturally, effectively, and persistently thrive alongside scientific discovery as an inherent part of the process. At the same time, I will share some of the exciting new developments, approaches, and opportunities that result from these partnerships. Essentially, by working together, successful and equitable partnerships can enable wild discoveries in wild places.

Segment 1: The role of capacity-building and the transfer of marine technology in underpinning sustainable development: new developments, approaches and challenges

Abstract: The UN Decade of Ocean Science for Sustainable Development (2021–2030), hereafter referred to as *the Decade*, recognizes capacity development as a critical enabler for addressing the full range of Decade Challenges and achieving sustainable development. While capacity development is identified as a standalone Challenge, it also serves as a cross-cutting element across all thematic areas of the Decade. Central to this approach is the principle that equitable access to capacity development enables all regions and demographic groups to meaningfully contribute to and benefit from ocean science

To address persistent disparities and the under-resourcing of capacity development efforts, under the Decade, Capacity Development Facility has been established. A flagship initiative of this Facility is the creation of a digital matchmaking platform designed to connect Decade Actions—and the broader ocean science community—seeking support (needs-based) with partners offering relevant expertise, resources, and services (supply-based). By enabling these connections, the platform provides a shared space for collaboration and facilitates partnerships through a flexible, demand- and supply-responsive framework.

The presentation will highlight a range of innovative Decade Actions that promote marine technology transfer and integrate capacity development and will explore how the matchmaking platform—leveraging innovation and digitalization—is helping to scale and accelerate these efforts.

Bridging the Divide: International Efforts in Ocean Capacity-Building and Technology Transfer for Developing States

Frida M. Armas Pfirter

Since the adoption of the United Nations Convention on the Law of the Sea—the "Constitution of the Oceans"—the world has witnessed remarkable technological advances, many of which could not have been anticipated by its drafters. Yet one of the enduring challenges in the implementation of UNCLOS has been the effective realization of capacity-building and the transfer of marine technology for developing States.

This presentation will explore how these two interrelated concepts have evolved within UNCLOS, its two implementing agreements, and most recently, the BBNJ Agreement. The latter marks a significant step forward—not only by consolidating previous progress—but by establishing concrete mechanisms, such as a dedicated funding mechanism and a special committee, to overcome some of the persistent obstacles that have hindered implementation.

Importantly, the understanding of these concepts has evolved. What was once seen primarily as a means for developing States to gain access to resources is now more broadly recognized as a shared interest. Both developed and developing States benefit from the effective implementation of capacity-building and marine technology transfer. All States must be equipped to face urgent environmental challenges and to ensure the sustainable use of ocean resources. Ultimately, the goals of any global treaty can only be achieved if all parties—regardless of their level of development—have the means to implement its provisions and to participate meaningfully in its processes.

From the outset, the three institutions established under UNCLOS have placed strong emphasis on capacity-building, recognizing it as one of the most effective ways to realize the Convention's aims. These efforts have been further supported by related international bodies and academic institutions, which not only contribute to this process but often help shape its evolution, viewing capacity-building and marine technology transfer as essential tools in the broader effort to protect our oceans.

Maila Guilhon

Lessons on co-designed collaborations, gender and measurement of success as catalysers towards an effective implementation of CBTMT under the BBNJ Agreement

Capacity building as an evolving topic. Evolving issues include, among others, terminology, definitions, empowerment of beneficiaries through collaboration, and effective mechanisms that ensure we move away from the status quo. Part V of the BBNJ Agreement on CBTMT is a timely opportunity to implement changes in the current modus operandi of capacity building by truly co-designing efforts based on self-identified needs and priorities – from local to global scales, and pursuing equity by bringing into light the voices of groups who historically have not been mainstreamed in decisions spaces. This presentation will explore experiences and reflections towards advancing capacity lessons aiming on an effective implementation of Part V of the BBNJ Agreement through 1) co-designed collaborations and the role of diverse stakeholders in ensuring we move away from harmful practices such as parachute science, 2) the importance of tackling gender inequalities and barriers through gender-responsive plans, and 3) establishing mechanisms of measuring beyond the sole adoption of quantitative indicators but by acknowledging expectations, perceptions and impacts perceived by those enrolled in capacity initiatives and endeavours.

Abstract

Advancing Ocean Governance Through Capacity Building and Marine Technology Transfer

Drawing from my experience in fisheries monitoring and compliance, this presentation explores the evolving landscape of capacity building and the transfer of marine technology as fundamental pillars for achieving sustainable ocean governance. It outlines a range of innovative tools that are helping developing countries strengthen their capabilities in ocean observation, enforcement, research, and policy-making.

Building on examples from both my regional and international work, the presentation traces the progression from established systems such as Vessel Monitoring Systems (VMS) and Automatic Identification Systems (AIS), to emerging technologies like blockchain for seafood traceability, artificial intelligence (AI), electronic monitoring (EM), and mobile applications that support small-scale fishers. This diversity of tools illustrates how technology can be tailored to meet varying needs and contexts, from large-scale industrial operations to local coastal communities.

The presentation also highlights participatory technologies, open-data platforms, and oceanographic instruments that foster science-based decision-making and shared responsibility in ocean governance. These innovations not only enhance transparency but also enable broader stakeholder engagement and inclusivity.

Moreover, special emphasis is placed on ensuring equitable access to technology, infrastructure development, and sustained capacity-building efforts, particularly in regions facing structural or resource-based challenges.

In conclusion, by sharing practical insights and scalable approaches, the presentation advocates for adaptive, demand-driven strategies for technology transfer and capacity building. These strategies are closely aligned with the full implementation of UNCLOS and contribute meaningfully to the 2030 Agenda for Sustainable Development.

Abstract

This presentation by Dr. Fernanda Lana, representing PROSHARK Institute, addresses the critical role of capacity building and the transfer of marine technology in supporting sustainable ocean development. Drawing on practical experience from community-based marine telemetry and conservation projects along Brazil's coast, the talk highlights new developments and innovative approaches that promote inclusive access to cutting-edge marine technologies. Emphasis is placed on empowering local scientists, traditional communities, and institutions to independently monitor and manage marine biodiversity, thereby fostering long-term stewardship. The presentation also discusses key challenges, including infrastructure disparities, lack of sustained technical support, and risks of dependency. Finally, it proposes practical recommendations to enhance the effectiveness of capacity building programs, stressing co-creation of technology, regional cooperation, gender and youth inclusion, and embedding equity and cultural relevance in technology transfer initiatives. This approach aims to align marine technology with the Sustainable Development Goals through locally grounded, participatory, and just ocean governance.

The United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea, on the theme "Capacity building and the transfer of marine technology: New developments, approaches and challenges".

New York, 16 – 20 June 2025

Navigating Challenges and Harnessing Opportunities for Sustainable Ocean Development in the Pacific: SPREP's Capacity Building Pathways.

Abstract:
This presentation provides a summary of SPREP's contribution to the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea, on the theme "Capacity building and the transfer of marine technology: New developments, approaches and challenges" in the Pacific Region. SPREP is conducting capacity building activities and transfer of marine technology through its technical programmes, mainly Climate Change Resilience (CCR), Climate Science and Information (CSI), Biodiversity Conservation (BC), Waste Management and Pollution Control (WMPC) and Environmental Governance (EG).

Framed within the 2050 Strategy for the Blue Pacific Continent and SPREP's Strategic Plan 2017–2026, the presentation will aim at providing a comprehensive overview of SPREP's ocean-related capacity building activities and transfer of marine technology. These are delivered across four thematic areas: climate change resilience, biodiversity and ecosystem protection, waste management and pollution control, and environmental governance. The paper also details the legal and institutional frameworks underpinning SPREP's work, including the Noumea Convention and regional partnerships supporting marine protected areas, marine spatial planning, blue carbon initiatives, and pollution prevention.

Key challenges are explored including differences in donor-driven capacity building and locally identified needs, limited stakeholder inclusion (particularly at the community and village levels) and systemic constraints in technology transfer, financing and institutional coordination. The presentation emphasizes the need for participatory needs assessment, strengthened policy coherence and increased investment in Pacific-led innovation and governance structures. It concludes by affirming SPREP's commitment to continue championing environment futures through integrated, inclusive and culturally grounded capacity building and marine technology efforts.

SPREP
Secretariat of the Pacific Regional Environment Programme

INFORMATION PAPER

The United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea, on the theme "Capacity building and the transfer of marine technology: New developments, approaches and challenges".

Navigating Challenges and Harnessing Opportunities for Sustainable Ocean Development in the Pacific: SPREP's Capacity Building Pathways.

This information paper provides a summary of SPREP's contribution to the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea, on the theme "Capacity building and the transfer of marine technology: New developments, approaches and challenges" in the Pacific Region. SPREP is conducting capacity building activities and technology transfers through its technical programmes, mainly Climate Change Resilience (CCR), Climate Science and Information (CSI), Biodiversity Conservation (BC), Waste Management and Pollution Control (WMPC) and Environmental Governance (EG).

1. The 2050 Strategy for the Blue Pacific Continent (2050 Strategy')

At the 51st Pacific Islands Forum Leaders Meeting, the Leaders endorsed the 2050 Strategy for the Blue Pacific Continent (2050 Blue Pacific Strategy) that sets out our long-term approach to working together as a region, as countries and territories, communities and people of the Pacific. The 2050 Strategy emphasises our Leaders' commitment to safeguarding the integrity of our natural systems and biodiversity through conservation action, and minimising activities that degrade, pollute, overexploit, or undermine our ocean and natural environment. The Office of the Pacific Ocean Commissioner (OPOC) and SPREP are the leads for the Ocean and Environment thematic area of the 2050 Blue Pacific Strategy. Capacity Building and Transfer Marine Technology (CB-TMT) directly contributes to achieving the Strategy's goals.

The Implementation Plan for the Strategy prioritizes:

a) Sustainable ocean management and governance,
b) Marine scientific research and innovation, and
c) Protection of ocean health and biodiversity.

Aligning capacity building and marine technology transfer with the 2050 Strategy for the Blue Pacific Continent ensures that these efforts are not only scientifically robust but also regionally owned, culturally grounded, and future focused. Realizing the vision of a healthy, productive, and secure Blue Pacific Continent depends on sustained investment in Pacific-led knowledge systems, innovation, and collective action.

2. Ocean Governance and Strategic Plan 2017-2026

'Ocean Governance' in the context of SPREP refers to Pacific coordination for global negotiations and Conference of the Parties, the national and regional implementation of ocean-related multilateral environment agreements as well as regional strategies and frameworks and supporting national initiatives. SPREP's work in support of effective ocean governance sits under four core themes: (1) climate change resilience, (2) ecosystem and biodiversity protection; (3) waste management and pollution control, and (4) environmental governance. SPREP's Ocean Governance Framework outlines SPREP's provision

of regional leadership and coordination, technical and policy guidance, capacity-building and advocacy, for effective ocean governance.

The SPREP Strategic Plan 2017-2026 prioritises oceans as a cross-cutting theme, integrated across its goals. Our Members have prioritised sustainable management of the ocean environment, including through the holistic approach of the Noumea Convention, Framework for a Pacific Oceanscape, Cleaner Pacific 2025 and the development of regional partnerships to support national commitments to a sustainable Pacific Ocean. SPREP assists its Members in the Pacific Region to address the multiple pressures on coastal and marine resources that impact on their sustainable development and biodiversity. Areas of assistance include marine protected areas; protection of threatened and migratory species; marine pollution including plastic pollution; marine debris; marine spatial planning; environmental impact assessment; blue carbon (including wetlands, mangroves and seagrasses); nature-based solutions, ecosystem-based approaches, the protection of BBNJ; and integrated island and ocean management in areas in which SPREP has the acknowledged lead.

3. Oceans as a cross-cutting theme for SPREP

SPREP has a major responsibility to support its Members with ecosystem-based management of oceans. SPREP's broad portfolio of ocean responsibilities is spread across and integrated among all technical programmes of the Secretariat. SPREP assists its Members by working collaboratively to address the multiple and inter-connected impacts on coastal and marine resources from climate change, fishing, ocean acidification, population growth, modernization and development, waste, and pollution. At a regional level, SPREP continues to collaborate with regional partners and provide technical advice and support to the Office of the Pacific Ocean Commissioner.

SPREP has:

- a key regional role among CROP agencies in adaptation and building resilience to the impacts of climate change and ocean acidification on coastal and pelagic ecosystems, including ecosystem-based adaptation to climate change.
- the lead role in a number of ocean-related monitoring and observation mechanisms.
- a key role in supporting Pacific Island countries to achieve their commitments on oceans under SDG 14 of the Sustainable Development Agenda 2030

4. The Convention for the protection of natural resources and environment (Noumea Convention) and its Protocols

The Noumea Convention is a Regional Seas Convention adopted in 1986 and entered into force in 1990. The Convention has two Protocols, i.e. Dumping Protocol and Emergencies Protocol, that also entered into force in 1990. The Convention is considered to be the legal umbrella agreement for the protection, management and development of the marine and coastal environment of the Pacific region. In 2021, the Noumea Convention was substantively reviewed by the Parties to determine its relevance to contemporary global environmental issues such as plastic pollution, deep sea mining and climate change. The result of the review consisted of twenty recommendations endorsed by the 17th Conference of the Parties to the Noumea Convention. The implementation of the recommendations was considered at an extraordinary meeting of the Parties in September 2024. A draft workplan and budget to implement the key recommendations from the review is planned to be tabled for consideration and approval by the Parties at the 18th Ordinary Meeting of the Parties to the Noumea Convention in August 2025.

5. Contributions from Technical Programmes

SPREP's ocean governance work sits under four core themes: (1) climate change resilience, (2) ecosystem and biodiversity protection, (3) waste management and pollution control, and (4) environmental governance. These themes reflect SPREP's regional mandate, and the regional goals in SPREP's Strategic Plan 2017–2026.

Core themes	Areas of technical work
Climate change resilience	○ Ecosystem-based adaptation (nature-based solutions) to climate change impacts e.g. sea level rise, changing weather patterns ○ Ocean acidification ○ Meteorological and hydrological services ○ Oceans discussions under the UNFCCC ○ Traditional knowledge
Ecosystem and biodiversity protection	○ Threatened and migratory species (dugong, marine turtles, whales and dolphins, sharks and rays, seabirds, crocodiles) ○ Ecosystems and habitats (coral reefs, mangroves, seagrass beds) ○ Invasive species including marine invasive species ○ Fisheries by-catch on threatened and migratory species ○ Blue carbon (including wetlands, mangroves, seagrasses) ○ Marine protected areas and Locally Managed Marine Areas, including resource owner involvement to support the application of traditional knowledge and traditional management practices ○ Marine spatial planning ○ Sustainable marine-based tourism ○ IMO Regional Centre
Waste management and pollution control	○ Hazardous and radioactive wastes ○ Polluted wastewaters ○ Industrial, agricultural and residential waste ○ Ship sourced marine pollution including oil, sewage, hazardous and noxious substances, garbage from ships (including abandoned, lost or discarded fishing gear) and greenhouse gas emissions. ○ Plastics and microplastics (marine litter)
Environmental governance	○ Multilateral environmental agreements (including specific focus on supporting the Secretariat and raising the profile of the Noumea Convention) ○ National environmental strategies, policies and legislation, including national ocean policies ○ Environmental impact assessment and management ○ Strategic environmental assessment ○ Environmental and social safeguards ○ Environmental Auditing ○ GIS and spatial planning ○ State of environment reporting ○ Environmental data collection, monitoring, sharing, analysis and reporting on results

6. *SPREP Initiatives on ocean-related projects that support capacity building:*

- SPREP has several initiatives that support **ocean-related projects** with **capacity building** components. These projects are designed to enhance the abilities of Pacific Island countries and territories (PICTs) to sustainably manage and protect their marine and coastal environments. Below are key SPREP initiatives with notable capacity building elements:

Thematic Area	Programme/Projects/Strategic
Climate change resilience	Climate and Oceans Support Program in the Pacific (COSPPac) Ocean and Climate Change Monitoring: Sea-level, tide, and weather station installations with local training.
Ecosystem and biodiversity protection	Pacific Islands Regional Marine Species Programme 2022-2026 – a regional strategy for the cooperative conservation and management of dugongs; marine turtles; whales and dolphins; sharks and rays; and seabirds. https://library.sprep.org/content/pacific-islands-regional-marine-species-programme-pirmsp-2022-2026 Pacific Coral Reef Action Plan 2021 – 2030 https://www.sprep.org/sites/default/files/30-SPREP-Meeting/Officials/Eng/WP-8.2.3_Att.1.rev_.1-Pacific_Coral_Reef_Action_Plan_Members_Endorsement.pdf Framework for Nature Conservation and Protected Areas Protect our Marine Areas Programme
Waste management and pollution control	Pacific Ocean Litter Project (POLP) Pacific Islands Marine Spill Contingency Plan (PACPLAN): Training and supplying oil spill response equipment. Capacity Building for Sustainable Waste Actions in the Pacific (SWAP) PacWastePlus (PWP) Project
Environmental governance	Marine Spatial Planning Support: GIS and remote sensing support for national marine zoning plans. Coastal Tourism EIA Guidelines Coastal Engineering Guidelines Third Phase of the Capacity building related to Multilateral Environmental Agreements in African, Caribbean and Pacific Countries (ACP MEA Phase III)

7. *Practical Challenges in Implementing Part XIV (Development & Transfer of Marine Technology) UNCLOS.*

- Challenges in implementing capacity building activities

a) Needs identification	47. Capacity-building initiatives must address regional contexts and take into account the specific needs of States and relevant stakeholders. Capacity-building activities are most effective when they are inclusive and adapted to the specific needs of beneficiaries. However, such activities are often not sufficiently tailored to meet the evolving needs of beneficiaries, as they are often designed more in line with the visions of donors. In that regard, the lack of a participatory process to define priorities has long been noted, as has the need for the consensual establishment of priorities. SPREP Comments: • Capacity Needs Assessment – for effective capacity building the recipients needs to know what the capacity needs are.
b) Stakeholder identification	50. When capacity-building projects are developed without the careful identification of all relevant stakeholders and are delivered without the participation and buy-in of such stakeholders, they are unlikely to build sustained capacity. The limited participation of vulnerable communities (including GEDSI), as well as cultural and religious barriers to awareness and participation, have been identified as additional challenges; closer alignment with policy goals and societal needs is also needed. In addition, capacity-building activities that specifically target policymakers, legislators or other high-level government officials should be expanded, since those groups can generate significant change across and between levels and sectors. SPREP Comments: • Gender Equality, Disability and Social Inclusion have limited participation.
c) Levels and modes of delivery	53. Capacity-building should encompass the human, scientific, technological, organizational and institutional capacities of a country and should take place at multiple levels, including individual, community and village Level), institutional, national, regional and even global. It also encompasses science, law, policy and regulation, with the aim of addressing complex and multifaceted issues related to the conservation and sustainable use of the oceans. However, most capacity-building projects, including those focused on the public sector, fail to produce their intended benefits or meet stakeholder and beneficiary expectations. At the same time, it has been put forward that the provisions of the Convention related to capacity-building and the transfer of marine technology have not been implemented effectively.

	SPREP Comments: • Community and Village Levels should be included in the levels of participation. • Project objectives to match national needs/gaps.
d) Monitoring and evaluation	55. Monitoring and evaluation are important components of effective capacity building activities. However, they pose challenges, such as difficulties in quantifying their long-term impacts, including assessing the deployment or utilization by beneficiaries of newly acquired capacities. The lack of clear methodologies to measure impacts and identify areas for improvement complicates the process. 56. Limited access to accurate information and specialized expertise poses further challenges to the effective monitoring and evaluation of capacity-building activities, in particular in developing States, which is exacerbated by the absence of assessments at the monitoring and evaluation stage, making it difficult to track progress and ensure long-term impact.
e) Coordination, cooperation and funding	58. One of the overarching challenges to the effective implementation of capacity-building initiatives is the lack of coordination among donors, which can lead to missed opportunities to leverage synergies between initiatives and build on the outcomes of previous achievements. In ocean affairs and the law of the sea, increased coordination within the United Nations system, including though UN-Oceans, can uncover such opportunities and prevent the fragmentation or duplication of efforts. 60. Weak institutions and a lack of coordination at the national and regional levels, both within and among relevant authorities, hamper capacity-building efforts, in particular efforts to address transboundary and multidisciplinary issues, such as marine pollution. SPREP Comments – Policy Coherence and Integration to be added as a challenge.

- Challenges with respect to the transfer of marine technology

Transfer of Marine Technology	66. The need to transfer or share technology under mutually agreed and voluntary terms, with due regard for the needs and priorities of developing States, has been put forward; however, a sharper focus should be placed on ensuring that the transferred or shared technology is adapted to the local context, including by strengthening local institutions, skills and governance structures in order to ensure that long-term sustainability has been taken into account. Challenges in technology transfer include increasing knowledge uptake in advanced stages of development and unlocking market opportunities;

	navigating regulatory approvals; large-scale deployment, market readiness and ensuring industry adoption; and the inherent complexity of ocean-related technologies. Those challenges result in lengthy development timelines, slow progress and make it difficult for emerging technologies to reach their full potential.
	69. Finance and capacity-building have been identified as critical enablers for accelerating ocean-based climate action, especially for developing countries. In that context, the least developed countries and small island developing States lack access to finance and have significant capacity-building needs for the uptake of technologies required for ocean climate action. Scaling up financial flows would require government support to align public finance with capacity-building needs and the development of innovative financial instruments to lower market barriers and reduce costs, as well as the related risks. Access to adaptation technologies and technology transfer remains one of the key challenges and needs of developing countries. Financial constraints in research and technological innovation, which include limited access to affordable, low-maintenance technology, an insufficient number of research facilities, a lack of State-driven initiatives and limited knowledge of local circumstances, were also identified as major barriers. In addition, limited coordination and collaboration across ministries and sectors, outdated legal frameworks to attract the private sector and limited emergency response capacities further hinder marine technology transfer.

Title: No-cost data services to support MPA proposals under the BBNJ Agreement

Panel: "Enabling and enhancing capacity-building and the transfer of marine technology through international cooperation and coordination: challenges and opportunities"

Panelist: Dr. Kristen Johannes, Benioff Ocean Science Laboratory, University of California, Santa Barbara

Abstract:

Under the UN Convention on the Law of the Sea, the Agreement on the Conservation and Sustainable Use of Biological Diversity in Areas Beyond National Jurisdiction (BBNJ Agreement) provides States with an unprecedented opportunity to protect biological diversity in the High Seas. Area Based Management Tools, including Marine Protected Areas (MPAs), function as a key pillar of the BBNJ Agreement. Successful MPA designation and implementation will require expertise and collaboration across a wide range of areas, from multilateral stakeholder management to social and economic analysis and traditional ways of knowing. In designating High Seas MPAs, States will need to engage deeply with scientific and geospatially-resolved data in the process of robustly characterizing candidate areas for protection. With these elements of the proposal process in mind, the Benioff Ocean Science Laboratory presents an offer of in-kind support through no-cost data services to States engaged in MPA proposals under the BBNJ Agreement. Our services are bespoke and at the direction of State MPA leadership, encompassing any combination of geospatial analysis, scientific networking and advisory services, and thought partnership and external review. We present a non-exhaustive set of examples and invite interested delegates and representatives to contact the Benioff Ocean Science Laboratory BBNJ Data Services group to learn more.

EMPOWERING OCEAN INNOVATION

Capacity Building and Marine Technology Transfer through International Cooperation

This presentation outlines INESC TEC's strategic vision for advancing innovation within the Ocean domain through the integration of technological development, capacity building, transfer of technology, and international cooperation. These four interlinked pillars are implemented through flagship projects like INESC TEC.OCEAN, TRIDENT, NETTAG+, active participation in technological developments, such as EMSO-ERIC and strong collaboration with the AIR Centre. These strategies are closely aligned with the United Nations Decade of Ocean Science and the mandate of the International Seabed Authority (ISA) for responsible governance of the resources of the Area for the benefit of Humankind.

1. Ocean Innovation: Science, Engineering and Global Commitments

INESC TEC develops state-of-the-art marine technologies that directly support the goals of the UN Decade of Ocean Science for Sustainable Development (2021–2030). These include:

- Clean Ocean: through innovations like NETTAG+ that address marine litter;
- Safe Ocean: through resident robotics and monitoring systems for early warning and hazard detection;
- Accessible Ocean: via remotely controlled operations and open data platforms;
- Transparent Ocean: by contributing to long-term observational data streams, like those provided through EMSO-ERIC;
- Predicted Ocean: with AI-based tools for forecasting and operational planning.

INESC TEC's work also aligns with the ISA's strategic research priorities, particularly in the domains of:

- Technology standardisation for environmental impact assessment (EIA) in deep-sea exploration and future exploitation areas,
- Capacity development and transfer of technology to developing States, in line with Part XI of UNCLOS.

Capacity Building: Empowerment for Global Participation

INESCTEC.OCEAN capacity-building activities contribute to the Decade's "Ocean Literacy" and "Skills, Knowledge and Technology" objectives. Through this project, we are implementing initiatives to reinforce research mobility, fellowships, co-design workshops, and training programmes. The project is designed to support the development of scientific and technical capacity—especially in the Atlantic basin. These actions help to foster inclusive participation in marine science, promoting gender equity in marine research while reinforcing the resilience and autonomy of partner institutions and communities.

Marine Technology Transfer:

Standards for Deep-Sea Development**:** INESC TEC's leadership in the TRIDENT project marks a key contribution for the impact assessment capacity**.**

A flagship example is TRIDENT, a cutting-edge EU project coordinated by INESC TEC, which develops autonomous robotic systems and sensor platforms for deep-sea activities and assessment and monitoring of their effects in the marine environment. TRIDENT not only advances operational capabilities in extreme environments but also positions INESC TEC as a European leader in the standardisation of deep-sea technologies. This includes the definition of technical protocols for data acquisition, interoperability, and environmental baselines, essential for the integration of robotic tools into marine impact studies, monitoring

frameworks, and regulatory instruments. INESC TEC's contribution ensures that emerging technologies meet scientific and policy requirements for assessing the ecological impacts of human activities (e.g., mining, energy, or carbon storage) in the deep ocean.

Such contributions respond directly to ISA's call for responsible innovation, ensuring that technology used in the Area (seabed and subsoil thereof beyond national jurisdiction) is transparent, verifiable, and environmentally sound.

NETTAG+, by contrast, complements these efforts in shallower waters by embodying the UN Ocean Decade challenge of reducing ocean pollution. INESC TEC works alongside fishers and marine scientists to co-develop smart fishing gear that reduces marine litter and bycatch, enhancing selectivity and sustainability in coastal fisheries. This project exemplifies participatory innovation and showcases how user-driven solutions can drive both environmental and socio-economic benefits.

International Cooperation: The Atlantic as a Platform for Global Ocean Action

The Atlantic Ocean serves as a living lab for multilateral collaboration.

INESC TEC's engagement with the AIR Centre is fully aligned with UN goals for equitable scientific development. Such cooperation promotes:

- Shared infrastructures for ocean observation;
- Harmonisation of technological standards;
- Cross-border environmental protection frameworks;
- Science diplomacy in the governance of common ocean spaces.

INESC TEC contributes to EMSO-ERIC, a critical component of the Global Ocean Observing System (GOOS), which is directly embedded in the UN Ocean Decade. By enabling the collection and sharing of continuous oceanographic data, EMSO contributes to:

- Evidence-based policy,
- Climate modelling,
- Deep-sea ecosystem monitoring,

Conclusion: Co-Constructing a Just and Sustainable Ocean Future

INESC TEC demonstrates that ocean innovation must be collaborative, inclusive, and ethically grounded. By combining advanced technological capacity with strong institutional partnerships strategically aligned with international ocean governance priorities, particularly the UN Decade of Ocean Science and the ISA's regulatory and ethical framework. Research and technology organisations need to contribute, through excellent science-based technology development and inclusive cooperation, in order to build a future where knowledge, resources, and capabilities are combined to protect the ocean and climate, ensuring shared prosperity and fair access to marine resources and knowledge for all.

CAPACITY BUILDING FOR OCEAN GOVERNANCE

Panel presentation for Leticia Greyling (18 June 2025)

Panel Session: Enabling and Enhancing Capacity Building and the Transfer of Marine Technology through International Cooperation and Coordination: Challenges and Opportunities

Abstract:
This presentation explores the pivotal role of capacity-building in advancing ocean governance, particularly within the framework of international cooperation and coordination. Drawing from experiences at the International Ocean Institute of Southern Africa, it examines systemic challenges such as institutional disparities, resource constraints, and the need for inclusive participation. The discussion highlights successful and strategic approaches that have effectively enhanced capacity-building efforts. Emphasis is placed on the integration of interdisciplinary education, stakeholder engagement, and sustainable partnerships. The presentation aims to provide actionable recommendations to strengthen capacity-building initiatives, ensuring equitable and effective governance of marine resources.

BIOGRAPHY

Letitia Greyling (International Ocean Institute of Southern Africa)

Letitia Greyling is a sustainability specialist and permanent faculty member at Rhodes Business School (South Africa), where she leads capacity development efforts by embedding sustainability into management education for MBA and executive students. With an academic background that bridges natural sciences and business, she combines strategic thinking and systems knowledge to teach and supervise in areas such as strategic sustainability, responsible leadership, climate change, and integrated reporting. Her earlier career included nearly a decade at South Africa's Transnet National Ports Authority, where she played a pioneering role in developing environmental management systems and sustainability practices across South Africa's eight commercial ports.

Letitia has served on the Management Committee of the International Ocean Institute – Southern Africa (IOI-SA) for almost a decade, contributing to the design and delivery of the region's flagship Ocean Governance course. This programme supports emerging leaders from across Africa and the Western Indian Ocean in addressing maritime and coastal sustainability challenges. Her multi-sectoral experience — spanning academia, government, and industry — underpins her expertise in institutional and human capacity-building for sustainability and ocean governance.

United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea

Twenty-fifth meeting

16 – 20 June 2025

Panel
"Capacity-building and the transfer of marine technology: new developments, approaches and challenges"

Segment 2: Enabling and enhancing capacity-building and the transfer of marine technology through international cooperation and coordination: challenges and opportunities

Title: **Strengthening Capacities Across Large Marine Ecosystems (LMEs) through regional and global collaboration**

The International Waters Learning Exchange and Resource Network, IW:LEARN, serves as the Global Environment Facility's (GEF) platform for enhancing knowledge sharing, cooperation, and capacity development across its International Waters (IW) portfolio. A central focus of IW:LEARN is the support and coordination of the Large Marine Ecosystems (LME) portfolio—one of the most established and impactful components of GEF's transboundary water initiatives. Funded since 1995 by GEF, the LME approach provides a scientifically-grounded biogeographic framework comprising 66 areas, each delineated to promote sustainable, ecosystem-based management of the world's oceans and coasts.

This presentation will highlight the capacity development work carried out under IW:LEARN in support of the LME portfolio. As one of IW:LEARN's three main service lines, these efforts aim to strengthen institutional and technical capacities, promote South-to-South and North-to-South learning exchanges, generate and disseminate knowledge. Through targeted training, peer-to-peer learning, and technical support, IW:LEARN empowers LME projects, beneficiaries and stakeholders to implement effective ocean governance at regional and global scales.

THE TWENTY-FIFTH UN INFORMAL CONSULTATIVE PROCESS

HIROKO MURAKI GOTTLIEB

Abstract

With a hurculean diplomatic effort prior to and during the third UN Ocean Conference in Nice France, as of 12 June 2025, there are 136 signatories and 51 Parties to the BBNJ Agreement. It is likely that in the coming weeks, the BBNJ Agreement will reach 60 Parties. The Agreement will enter into force 120 days after the 60th Party deposits the document with the UN Secretary-General and the first Conference of the Parties will be held within one year after entry into force.

This presentation will explore capacity building and the transfer of marine technology in the context of the recent developments on the BBNJ Agreement ratifications, highlighting the following:

- Importance of capacity building and the transfer of marine technology
- Considerations for meeting the needs of developing States
- Work of the Preparatory Commission
- Necessity for timely advancing the technical and resource considerations of a fit-for-purpose BBNJ Clearing-House Mechanism
- Funding opportunities for capacity building and the transfer of marine technology
- Critical nature of strong political will and unwavering commitment of stakeholders

Practical Challenges in Implementing Part XIV (Development and Transfer of Marine Technology) of UNCLOS

Abstract

Part XIV of UNCLOS stipulates general obligations on the development and transfer of marine technology (TMT). The insurmountable barrier in practice is the intellectual property right of technology holders and/or suppliers. The IOC's Criteria and Guidelines on TMT affirm this by paying due regard to legitimate interests of the rights and duties of holders and suppliers of marine technology, with the IOC as a clearing house for TMT among interested parties.

There are essentially two approaches to TMT: needs-based approach and rights-based approach, which are complementary to one another.

Under the rights-based approach, potential recipients are entitled to TMT via multilateral channels such as the BBNJ Agreement (Part V – Capacity building and the TMT); or bilaterally, for example through joint venture agreements between the coastal States and entities allowed to fish in the latter's waters. The International Tribunal on the Law of the Sea's Advisory Opinion on Climate Change and International Law has clarified that scope of assistance under Article 202 of UNCLOS to enable developing States to set up their own programmes to counter marine pollution from anthropogenic GHG emissions.

The needs-based approach requires potential recipients of TMT to accurately assess their respective needs, determine what the state-of-the-art technologies are and how to ensure TMT are sustainable in the long run. Since, in general, international organizations are financially constrained, regional organizations should pool investment on marine technology, especially the hardware/infrastructure, for common use among their Member States and the Official development assistance (ODA) provided by developed States may be specifically earmarked for capacity building and TMT in developing States.

Discussion Panel (2nd segment): Enabling and enhancing capacity-building and the transfer of marine technology through international cooperation and coordination: challenges and opportunities

25th Meeting of the United Nations Informal Consultative Process on Oceans and Law of the Sea
(18 June 2025, UN Headquarters, New York)

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Domestic Considerations in the Implementation of the CBTMT Provisions of the BBNJ Agreement

Jacqueline Joyce F. Espenilla
Senior Fellow, University of the Philippines Institute for Maritime Affairs and Law of the Sea

ABSTRACT

This presentation focuses on potential legal challenges and obstacles to the effective absorption and utilization of benefits from capacity-building and transfer of marine technology (CBTMT) initiatives within the cooperative framework of the BBNJ Agreement. This is an often overlooked dimension of CBTMT, where the assumption often is that recipient States, particularly developing and least developed States, automatically benefit from the range of available initiatives should they be made available to them. Key areas for examination and analysis include the existence of enabling legal frameworks, the appropriateness of existing rules and standards for the conduct of relevant activities (e.g. marine scientific research, environmental impact assessments etc.), and the capacities of and synergies among domestic institutions. To illustrate the point, the presentation provides an assessment of the Philippine situation in relation to its legal and operational readiness for maximizing CBTMT opportunities under that instrument, which also has implications for its national sustainable development efforts as well as the strengthening of its regional and international linkages.

Synergistic Effects of Sequential Multi-Actor Engagement, Sustained Action Intensity, and Job Prospects on Capacity Building in Marine Technology Initiatives

Pablo Presa – University of Vigo (06-01-2025)

Abstract. Capacity building in the Marine Technology (CBTMT) domain is crucial for the transfer and development of marine technological expertise in regions identified as having a need for societal advancement and ocean sustainability. Successful CBTMT necessitates the development of transfer mechanisms (e.g., skills, knowledge, R&D infrastructure, governance) to facilitate the application of marine technologies in ABNJ, where the conservation and sustainable utilization of marine biodiversity are paramount. While conceptual frameworks, such as those based on the "5W&H" approach, provide a general structure, implementation often encounters challenges including insufficient local knowledge integration, inadequate adaptive contextualization, deficient strategic planning, and unequal access post-CBTMT. This study analyzes two field case studies focused on the prioritization of coastal aquaculture of local species: a successful initiative on the arid Pacific coast of South America (Case A) and a less successful one on the North African coast (Case B). Comparative analysis of these scenarios against a conceptual framework reveals key strengths and weaknesses of each strategic approach. The results suggest that the synergistic application of sequential multi-actor funding and evaluation in R&D, sustained and intensive on-site education and training activities, and proactive engagement of local partnerships with a focus on job prospect development significantly contribute to the social embedding and long-term success of CBTMT initiatives.

Abstract:
Wild fisheries: Safeguarding Sustainability in Turbulent Times
From the earliest civilizations to the rise of global empires, fishing has played a central role in human development. Today, however, industrialization, geopolitical upheaval, and environmental degradation increasingly threaten the sustainability of wild fisheries. Recent turbulence, including in the first turn the Russian–Ukrainian war, U.S. regulatory rollbacks, and global market disruptions has further exacerbated these risks. In Russia, sanctions and withdrawal from international institutions have weakened data exchange, undermined environmental oversight, and diminished market-based incentives such as Marine Stewardship Council (MSC) certification. In USA, policy shifts have reduced protections for critical habitats, curtailed research funding, and increased uncertainty in seafood markets. Although arising from different contexts, these developments produce similar outcomes: a weakening of science-based fisheries management, an increase in IUU fishing, and heightened climate vulnerability. In response, this presentation proposes a set of strategic actions rooted in international cooperation: documenting ecological and socio-economic changes, supporting existing monitoring programs, enhancing scientific information exchange, strengthening causal analysis, expanding public engagement through outreach and citizen science, and leveraging the arts to raise awareness. These initiatives rely on transboundary collaboration to standardize data protocols, develop shared analytical tools, and co-create educational and communication platforms. Rather than abandoning long-term goals in times of crisis, this “art of the possible” framework advocates for pragmatic, coordinated efforts to preserve sustainability. Maintaining healthy fish stocks and resilient coastal communities in a time of growing global uncertainty depends on efficiency to act collectively across borders, disciplines, and cultures.

Abstract

ICP25: Capacity-building and the transfer of marine technology: new developments, approaches and challenge

Humans have long dreamed of living on the ocean floor, and indeed many cultures around the world—particularly in the Global South—have long viewed humans as an integral part of the ocean ecosystem, living in deep relationship with marine environments. In contrast, dominant Western worldviews have often framed the ocean as separate from humanity—an expanse to be explored, extracted, or controlled. Proteus Ocean Group seeks to implement this vision by building and operating a network of underwater habitats where divers can live and work within the marine environment, not only enabling cutting edge research into the planet's most pressing problems but facilitating a new paradigm in how people view our ocean planet. Tapping the broad spectrum of human potential and imagination is at the core of this effort, and our team is actively engaged in collaborating with local communities to ensure that they are active partners at each of our locations.

Led by ocean explorer and conservationist Fabien Cousteau, the Proteus team has spent several years co-developing research strategies with local partners at future Proteus habitat sites such as Curaçao and Cabo Verde. Team members are also deeply involved in science diplomacy and communication efforts worldwide. Based on these experiences, Fabien will offer insights on lessons learned (including from mistakes made). He will also discuss the vision of 'missing ocean tools' that can serve a key role as an inclusive convening space where human ingenuity can be tapped to address -and solve- the most pressing problems facing our planet.

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2025 United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea

"Capacity building and the transfer of marine technology: New developments, approaches and challenges"

European Union

Discussion Panel on Enabling and enhancing capacity-building and the transfer of marine technology through international cooperation and coordination: challenges and opportunities.

18 June 2025

Abstract

The European Union has consistently emphasised the importance of and supported capacity building and the transfer of marine technology (CBTMT) as essential components for the conservation and sustainable use of marine biodiversity, particularly in areas beyond national jurisdiction but also in the context of marine safety and security, particularly in the areas of navigation, search and rescue (SAR), and emergency response.

The maritime sector faces increasing challenges from congested sea routes, adverse weather conditions, and the need for effective emergency response and security measures. The pressures on the marine environment and climate are equally challenging. Accurate and reliable navigation, timely notifications and warnings, and detailed information and guidance are critical to preventing accidents, protecting lives, preserving the marine environment, and safeguarding maritime assets. This presentation examines how the transfer of European satellite navigation technologies—Galileo and EGNOS—addresses these challenges by providing enhanced positioning accuracy, integrity, and availability beyond traditional systems. Satellite-based services are essential for real-time vessel monitoring, collision avoidance, geolocation, and efficient coordination of search and rescue operations. By integrating Galileo and EGNOS technology, marine safety and security operations and marine environmental protection can achieve higher precision and resilience, ultimately contributing to safer seas and healthier ecosystems. Examples, challenges, opportunities, and recommendations will be presented to demonstrate the transformative potential of these technologies in the marine domain.

Biography

Thomas Ramopoulos is a Counsellor and the Legal Adviser at the EU Delegation to the United Nations in New York since 2022. He is an official of the European Commission since 2013 and a member of its Legal Service. His areas of expertise are EU external relations law and public

international law. Thomas has taught in numerous universities as visiting lecturer and has been an Adjunct Professor at the Brussels School of Governance since 2021. He has been publishing extensively in the aforementioned areas of law. Among others he has co-authored a book on 'The Law of EU External Relations: Cases, Materials and Commentary on the EU as an International Legal Actor' (now in its 3rd edition). He has also contributed to a Commentary on the EU Treaties and has published chapters on the EU in the United Nations and other specialised international organisations