

**Input from the United States to the 25th Meeting of 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”**

The United States welcomes the 2025 theme for the Open-ended Informal Consultative Process (ICP) on Oceans and the Law of the Sea, “Capacity building and the transfer of marine technology: New developments, approaches, and challenges.” Recognizing the importance of this topic to all UN Member States, the United States believes the Secretary-General’s report should highlight initiatives of successful, transferable, and scalable capacity building; underscore the importance of supporting innovation by protecting and enforcing intellectual property rights, including through the voluntary transfer of marine technology on mutually agreed terms; and elevate the value of marine technology development for ocean observations and data. The report could also emphasize how co-development of initiatives leveraging a range of knowledge systems and considering specific needs, as well as early development of transition plans, contributes to successful and sustainable capacity-building and marine technology transfer projects and programs with both localized and broader benefits. A potential case study and examples of the types of networks and partnerships that could be highlighted are included below.

Potential Case Study

Ocean mapping, exploration, and characterization could serve as a case study for new developments, approaches, and challenges in capacity building and marine technology transfer. Advances in autonomous systems, artificial intelligence, and data integration are revolutionizing the ability to survey and characterize the ocean’s vast and dynamic environments. Nevertheless, deep sea submergence scientific research assets such as Remotely Operated Vehicles (ROVs), Autonomous Underwater Vehicles (AUVs), water column and benthic sampling systems, and other oceanographic sensors key to supporting national and international scientific research needs are expensive to develop, operate, and maintain, particularly those capable of reaching depths greater than 4,000 m in environments such as abyssal plains and trenches. Support for broader international development of assets and capacities, including innovative and lower-cost technologies, would enable beneficial and synergistic collaboration across disciplines, institutions, and nations to fill critical data gaps. Other strategic collaborations, such as public-private partnerships, also play a pivotal role in developing and facilitating the transfer of marine technology. Approaches such as regional mapping campaigns, regional coordination bodies, virtual training platforms, and data systems that are discoverable, accessible, equitable, and usable, can reshape traditional models of capacity building and enable rapid dissemination of protocols and best practices to ensure all regions benefit from global advancements. Such approaches also promote readiness to address both traditional and emerging security challenges in the ocean and enhance the ability to monitor vast ocean areas for international security.

Examples of Initiatives

- **Precision Marine Navigation:** The Member States of the International Hydrographic Organization (IHO), including the United States, are taking steps to implement the S-100 Universal Hydrographic Data model, which will make a suite of interoperable data and services accessible to maritime transportation and other users. The S-100 Standard is a framework document that is intended for the development of digital products and services for hydrographic, maritime and GIS communities. It comprises multiple parts that are based on the geospatial standards developed by the International Organization for Standardization, Technical Committee 211 (ISO/TC211). For further information on the S-100 hydrographic model, please note the [IHO project site](#).

- **Atlantic-basin Wide Collaboration:** The All-Atlantic Ocean Research and Innovation Alliance (AAORIA) and the Partnership for Atlantic Cooperation bring together Atlantic partners, recognizing the importance of ocean observation as the basis for future research and science-driven policymaking to sustainably use ocean resources and protect ocean health. AAORIA and the Atlantic Partnership are collaborating to prioritize action to support ocean policy, governance, and management on domestic, regional, and international scales.
- **Marine Technology Society:** The Marine Technology Society hosts regular ocean conferences, which serve as useful forums for enhancing the dissemination of marine technology information and promote engagement between different sectors.
- **SMART Cables Initiative:** The SMART (Science Monitoring And Reliable Telecommunications) Cables Initiative is led by the ITU/WMO/UNESCO-IOC Joint Task Force to integrate sensors into subsea telecommunications cables that can monitor and observe ocean conditions, including ocean heat content, ocean circulation, and sea level rise. It will also provide early warnings for earthquakes and tsunamis and monitor seismic activity for earth structure and related hazards in support of disaster risk reduction and the informed sustainable development of coastal and offshore infrastructure, including the cables themselves and their mission of global connectivity.
- **Ocean Acidification Research and Monitoring:** The U.S. National Oceanic and Atmospheric Administration (NOAA), in partnership with the Ocean Foundation and the Global Ocean Acidification Observing Network (GOA-ON), is collaborating with Pacific Islands to improve resilience to ocean acidification. These efforts include supporting the Pacific Islands Ocean Acidification Center (PIOAC) – a regional training center for ocean acidification research and monitoring. Additionally, GOA-ON, in collaboration with several international partners, has developed and distributed “GOA-ON in a Box” kits to researchers in the Pacific, Africa, and Latin America. These low-cost, comprehensive kits can be used for collecting local, weather-quality ocean acidification measurements. Kit recipients are also provided trainings and resources to effectively use the kits to monitor and assess ocean acidification.
- **Climate Monitoring and Forecasting:** The U.S. National Oceanic and Atmospheric Administration’s National Weather Service provides training in climate monitoring and forecasting through its National Centers for Environmental Prediction. The Centers provide a residency training program that helps strengthen the capacity of National Meteorological and Hydrological Services to improve climate monitoring and forecasting capabilities, with a focus on specific regions such as Africa, South America, and the Tropics.
- **Blue Carbon Inventorizing:** NOAA’s Climate Program Office and Marine Protected Areas Center collaborate with Ghana and Senegal through the Blue Carbon Inventory (BCI) Project, an initiative supported by the U.S. Department of State to advance the development of tools, approaches, and capacity for integrating coastal blue carbon in National Greenhouse Gas Inventories and managing these ecosystems to achieve co-benefits for adaptation and mitigation. In 2023, the BCI Project convened two workshops in Ghana on collecting carbon data in mangrove ecosystems and coastal and marine management.
- **Local2030 Islands Network:** The Local2030 Islands Network is a coalition of island partners committed to net zero emissions and strengthening island resilience. Launched by island leaders during the 74th session of the United Nations General Assembly in 2019, the Network focuses on Communities of Practice, peer-to-peer learning, island leadership, stakeholder engagement, and the integration of climate information in sustainable development planning, including net-zero pathways. Members represent a diverse range of geographical regions and political jurisdictions; currently, the Local2030 Islands Network has 25+ government members.