

Input #3 - Global and Regional Programmes							
	1. To what extent did your global programme /regional subsidiary body implement the IOC Capacity Development Strategy 2015-2021?	2. What is your global programme /regional subsidiary body experience so far with the current IOC CD strategy?	3. Have you, as global programme /regional subsidiary body, experienced any difficulty in implementing the current IOC CD strategy?	4. What are the possible gaps that you, as global programme /regional subsidiary body, have identified in the current IOC CD Strategy, particularly taking into account the Decade objectives and expected outcomes?	5. Are there any elements that you, as global programme /regional subsidiary body, want to propose as additional components in the revision of the IOC CD strategy? Please justify.	6. How should the IOC CD strategy contribute to the Decade and its implementation plan?	7. What are the most important global ocean science developments in addition to the UN Decade of Ocean Science for Sustainable Development that the updated IOC CD strategy should recognize and respond to?
AMP	Some capacity-building activities were carried out on many topics, such as Tsunami, Harmful Algae, SPINCAM among others.	My experience is that there must be more commitments from countries and institutions as a state strategy/policy, which is not currently being carried out by 100%.	Yes, there should be more support as a state and institution policy to integrate everyone into this issue.	The gaps are support as a country, interest on the part of decision-making and institutions as such.	Hold meetings with decision makers and explain to them why countries should be more energetic and developers of CDI guidelines	The CDI develops good guidelines for the development of ocean policies, only depends on the countries that must seriously follow these guidelines as compliance.	In my view all the guidelines of ocean policies are important. It depends on each country which is the one it needs most or better within its internal ocean priorities or policies.
CG/CARIBE EWS	We have implemented Activity 1.2 Continuous professional development, through training courses and workshops of tsunami warning procedures and sea level (Action 1.2.1) Also, the connections established between professionals during those courses and workshops led sometimes to internship and visiting lecturers. (Action 1.2.2 and 1.2.3) In the Caribbean, INVEMAR (Cartagena, Colombia) acts as training center (Action 1.2.4). However, so far it hasn't hosted any training organized by ICG/CARIBE-EWS. Training materials have been widely shared inside and outside the region, through the Caribbean Tsunami Warning Program (CTWP) and the Puerto Rico Seismic Network (PRSN) and other actors in the region (Action 1.2.5) Regarding the Activity 1.3, even when a travel grant doesn't exist as such, often the Tsunami Program of IOC designates funding for travel to workshops and training courses. (Action 1.3.1) Also, there is a database on participants on Sea Level courses (Action 1.3.3) ICG/CARIBE-EWS has always promoted the participation of women in ocean research (Action 1.4.1) ICG/CARIBE-EWS works closely with IOCARIBE and ICG/PTWS (Action 3.2.1)	ICG/CARIBE-EWS has had a good experience with the IOC CD strategy, despite not being specific in its application.	Funding is always a difficulty regarding CD. Also in the Caribbean region there are only a bunch of ocean sciences professionals and in some cases there is a frequent staff rotation. However, many professionals that have participated in training courses and workshop have been able to improve their work and get job stability.	Possible gaps are the identification of funding opportunities and technology transfer For example, it could be more assessing to national tsunami warning centers to improve their functions.	Not for now.	It should give priority to SIDS (small island developing states) and LDCs (less developed countries). It should align with the priorities established in the programs in the framework of the Ocean Decade. For example on Tsunami Ready.	Global scientific developments like artificial intelligence and behavioral sciences (that can improve tsunami response)
IOC CARIBE ARUBA	On Aruba we are busy with reorganizing the secretariat of the UNESCO national committee, therefore not much progress can be reported.	See answer 1.	See answer 1.	At this time I don't see any GAPS that need urgent attention.	As part of the Human resources development, I would suggest to have online regional training/workshops for the IOCARIBE focal points, this in order to bring forward IOC programs and ideas better forward.	In my view is this addressed already in the 6 outputs in the framework.	I would recommend focusing more on Visibility and awareness, especially through ocean literacy.
ICG/PTWS	Increased regional communication by sharing and using information, enhanced knowledge in/use of ocean sciences (of relevance), and collaborating on developing sustainable ocean monitoring systems.	Mainly in the sharing science, expertise and knowledge, technology and infrastructure, effective communication, data/information sharing.	No, however please see response to question 4 below.	Risks to strategy implementation outside of our control i.e. Covid-19. Our success is in regional collaboration and Member State sharing. Some outputs of the strategy may not have been fully explored or hindered due to the global pandemic.	N/A	Promoting development & implementation of integrated monitoring & warning systems (weather, sea level, seismic, tsunami) - regionally and globally. Understanding the needs of the end user (public) and use this information to build an effective, efficient and reliable monitoring and warning system.	Next-generation monitoring and forecasting (e.g. cables, satellite, etc) for all ocean hazards and risks.
ICG/NEAMTWS	Human resource development including higher education and continuous professional development are mainly carried out at country level through respective Universities, organizations, Tsunami Service Providers, and National Tsunami Warning Centre, as well as at Civil Protection Agencies. However, there is no centrally recognized established centre to support ICG/NEAMTWS on human resource development in tsunamis, tsunami science and tsunami early warning and mitigation systems. The NEAMTIC needs to be resourced and appropriately staffed to develop and function as a Training and Capacity Building Centre similar to other ICGs. NEAMTIC or similar mechanisms would then support for example the Tsunami Ready Communities programme in NEAM region. One of the greatest achievements of ICG/NEAMTWS in regards to High Level Objective-III "Effective early warning systems and preparedness for tsunamis and other ocean related hazards" and physical infrastructure established / improved is the establishment and accreditation of five tsunami service providers in France, Greece, Italy, Turkey and Portugal. Along with these centres a number of NTWCs (National Tsunami Warning Centres) exist namely in Spain and Romania. Some progress is still needed in other countries of the NEAM region. In spite of the advances made in the operational components there is still a long way to go to establish and sustain a denser and faster ocean observation network, dissemination and communication system capacity to improve early warning and early action for near field tsunamis. Following the establishment of the five accredited TSPs and NTWC, the ICG/NEAMTWS is now starting to explore how to further strengthen global, regional and sub-regional mechanisms e.g. UNDRR program in the region, the European Plate Observing System (EPOS), and the Joint Research Centre of the European Commission, UNESCO Field Offices, etc. To this end, the focus of research in ICG/NEAMTWS has focused mainly on the science of tsunami and Tsunami Early Warning Systems with certain connections with ocean research policies to support sustainable development. The ICG/NEAMTWS has started to focus on the downstream-last Mile component of the system, thus there are more interest and opportunities to explore, especially with more involvement and participation of civil protection agencies etc. In the last five years, the visibility and of ICG/NEAMTWS increased due to the parallel effort of the Secretariat and closer collaboration and coordination between ICG/NEAMTWS, IOC Communication Team and UNDRR, as exemplified in the last World Tsunami Awareness Day which acts as catalyst to capacity development e.g. general public information, and tsunami literacy. Moreover, two events that occurred in the Mediterranean in July 2017 (Kos-Bodrum) and in October 2020 (Samos-Izmir) event, called for the need to strengthen the capabilities in this region. Overall, sustained resource mobilization needs to be reinforced. The Secretariat is now exploring new collaboration and funding opportunities with DG-ECHO.	The experience is that there is little familiarity and awareness of the IOC CD strategy/framework among ICG/NEAMTWS Member States. The framework is not necessarily a tool experts use to guide and implement CD.	Difficulty in implementing the strategy arises from the lack of Sustained (long-term) resource mobilization for activities related in the member states and resources to participate in the IOC activities; moreover, there is no continuous funding for tsunami research in EU. There is a clear need to improve interoperability among the Tsunami Service providers to reduce inconsistencies between tsunami warning messages. Progress should be made to understand the interaction of tsunami hazards with climate change and sea level change. Progress still needed to integrate non-seismic events, such as tsunami induced by volcanoes, landslides and meteo-tsunamis in the operational TWS What are the possible gaps that you, as global programme /regional subsidiary body, have identified in the current IOC CD Strategy, particularly taking into account the Decade objectives and expected outcomes? N/A (not discussed in the framework of the ICG-NEAMTWS)	N/A (not discussed in the framework of the ICG-NEAMTWS)	NO (to answer this question in a different way I think we need to consult the ICG-NEAM members)	In terms of TEWS but not only, IOC should continuously foster basin wide cooperation namely between NEAM and Caribbean and Indian and Pacific keeping in mind global cooperation. IOC should promote the interoperable crowd data to be used in different fields of ocean science IOC should promote citizen science (scientific work undertaken by members of the general public, often in collaboration with or under the direction of professional scientists and scientific institutions). IOC should promote citizen-science projects that will serve education and outreach goals namely in tsunami awareness	The use of smart telecom cables to establish real-time submarine observatories to be used in Tsunami Early Warning (to attach seismometers and bottom pressure recorders and other sensors to the submarine telecommunication repeaters/cables) The use of constellations of altimetry satellites for tsunami detection The use of Machine Learning and data mining tools for quality control of data and to do real time impact assessment studies The use of nanosatels and drones to monitor the ocean surface namely, oil spills, illegal fisheries, and environmental disasters The detection of gravitational waves to detect mega earthquakes that can trigger tsunamis