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IOC UNESCO Sub-Commission for the Caribbean and Adjacent Regions

First Meeting of the IOCARIBE GOOS Working Group
Hybrid (Cartagena/Online)
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1. INTRODUCTION

1 The first IOCARIBE GOOS Working Group meeting was opened on Friday, 8 November, 2024 at 09:00 am (COT) by Mr John Cortinas, Coordinator of the IOCARIBE GOOS Working Group, who welcomed the participants.

2 Mr John Cortinas outlined that the meeting would take place with the support of interpretations available in English, French and Spanish. He then added that the working group emphasizes the importance of regional collaboration by encouraging the sharing of ideas, suggestions, and resources. He proceeded to introduce the meeting agenda without amendments and opened the floor for a round of introductions from the meeting participants.

IOC UNESCO Sub-Commission for the Caribbean and Adjacent Regions Introduction

3 Ms Lorna Inniss, Head of IOCARIBE, provided a brief introduction about the IOC UNESCO Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE) office. IOCARIBE is composed of 29 Member States and fosters collaboration in ocean science and knowledge across the Caribbean and Gulf of Mexico. The Statutory Intergovernmental meetings of IOCARIBE take place on a biennial basis, the next one expected to take place from 31 March to 4 April of 2025.

4 IOCARIBE Programmes include the Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS), a successful collaborative effort for tsunami readiness, and various observing networks for Early Warning Systems (EWS).

5 The Harmful Algal Blooms Programme and the Sargassum Working Group, with six Task Teams, also aim to develop EWS and forecasting systems, reflecting the interconnected nature of oceanic issues, benefiting sectors like tourism.

6 Marine Spatial Planning (MSP) will see the opening of the PROCARIBE+ Project (2025-2027), funded by the Global Environment Facility (GEF), which aims at protecting, restoring and harnessing the natural coastal and marine capital of the Caribbean and North Brazil Shelf Large Marine Ecosystems (CLME).

7 IOCARIBE is involved in numerous actions of the United Nations Decade of Ocean Science for Sustainable Development (2021-2030), including the Tropical Americas and Caribbean Ocean Observing and Forecasting System (TACOOFS) Project, supporting the GOOS regional programme.

8 IOCARIBE recently established a Capacity Development Working Group and Ocean Literacy Task Team, with first meetings taking place on 18 October and 15 November 2024, respectively.

2. GLOBAL OCEAN OBSERVING SYSTEM

9 Ms Li Jing, IOC UNESCO Programme Specialist, provided a report about Global Ocean Observing System (GOOS) efforts at a global scale. The presentation introduces the GOOS as a critical infrastructure for ocean innovations. GOOS coordinates and integrates various ocean observation networks worldwide, delivering essential ocean information to researchers, decision-makers, users, and investors. The core of GOOS is the Essential Ocean Variables (EOVs), which include physical, chemical, biological, and ecosystem variables, as well as cross-disciplinary ones. These variables help

understand the ocean's state and health, supporting decision-making beneficial to humanity.

10 GOOS supports the implementation of global frameworks and conventions such as the Sendai Framework for Disaster Risk Reduction (2015-2030), the United Nations Framework Convention on Climate Change (UNFCCC), and the United Nations Convention on Biological Diversity. Currently, 84 countries contribute to GOOS, with over 8,000 platforms transmitting more than 120,000 observation data points daily.

11 GOOS has 13 global networks and three emerging ones, including the Fishing Vessel Observing Network (FVON), the Surface Ocean CO_2 Reference Observing Network (SOCONET), and the Science Monitoring And Reliable Telecommunications (SMART) Cables.

12 The structure of GOOS involves multiple components, including four sponsors, i.e. IOC UNESCO, the World Meteorological Organization (WMO), the United Nations Environment Programme (UNEP), and the International Science Council (ISC). The GOOS Steering Committee provides strategic direction, while the GOOS Management Team handles coordination, communication, integration, and advocacy. Three expert panels on Physics and Climate (OOPC), Biogeochemistry (BGC), and Biology and Ecosystems (BioEco) develop the EOVs. GOOS works closely with WMO and other initiatives to collect requirements for ocean observations. The GOOS Observation Coordination Group (OCG) coordinates the observing networks, while OceanOPS provides technical support.

13 GOOS also has National Focal Points (NFPs) and Regional Alliances (GRAs), such as IOCRIBE GOOS, to support national observation system coordination and development. GOOS has 14 GRAs, financial support from IOC helps these alliances. GOOS aims to link GRAs with NFPs to enhance coordination.

14 The GOOS 2030 Strategy, approved by the 30th Session of the IOC Assembly in 2019, outlines the vision, mission, and strategic objectives, focusing on the ocean observing value chain from observations to data management, analysis, and application.

15 GOOS is also involved in data management, working with the International Oceanographic Data and Information Exchange (IODE) and other sections on an integrated data ecosystem. The GOOS OCG has a cross-network data policy to centralize data and metadata, delivering information to users. GOOS leads several initiatives under the UN Decade of Ocean Science for Sustainable Development (2021-2030), including the Ocean Observing Co-Design, CoastPredict, and Observing Together.

16 GOOS is evolving its governance structure, with two stages: reviewing the mission, scope, and structure of each component, and defining future directions, including data infrastructure and communication tools. This evolution aims to enhance GOOS's effectiveness and ensure it meets future needs.

DISCUSSION

17 Mr John Cortinas, emphasizes that the existing infrastructure is a result of collaboration between GOOS and various IOC Programmes. This highlights that their efforts are part of a larger initiative, not an isolated project. He appreciates the support from IOC in interacting with regional groups such as GRAs, making it clear that IOCARIBE GOOS is not working alone.

3. DEVELOPMENT OF IOCARIBE GOOS

18 Mr. John Cortinas, Coordinator of the IOCARIBE GOOS Working Group, provided a report on the development of IOCARIBE GOOS. It was established in 1999 and recognized as a Regional Group by the IOC GOOS in 2003. The current focus is on building and supporting a regional observing system. This includes field training, access to technology, and creating data networks. IOCARIBE GOOS emphasizes training decision-makers in using ocean observations, coordinating data collection in Exclusive Economic Zones (EEZs), and engaging stakeholders and policymakers in decision making.

19 The Seventeenth Intergovernmental Session of the IOC Sub-Commission for the Caribbean and Adjacent Regions (SC-IOCARIBE-XVII), 9-11 May, 2023 recommended to develop a governance structure by establishing an IOCARIBE GOOS Working Group, and in the process to adopt new Terms of Reference (ToRs) that align with the objectives of the GOOS 2030 Strategy and ambitions of the UN Ocean Decade Vision 2030, particularly Challenge 7 to “Expand the Global Ocean Observing System”. These actions are already underway, demonstrating the value of regional cooperation in collecting and sharing ocean observations.

20 The IOCARIBE GOOS Working Group, comprising Member State representatives, aims to be inclusive of Early Career Ocean Professionals (ECOPS), Small Island Developing States (SIDS), and underrepresented communities. This inclusivity recognizes the region's diversity and ensures broad support.

21 IOCARIBE GOOS has also launched the UN Ocean Decade Coast Predict project on “Integrating Coastal Hazard Warning Systems for TAC” which aims to co-design, co-product and co-deliver integrated Multiple Coastal Hazards Early Warning Systems and Services for the TAC region, including hurricane observing and forecasting capacity.

22 Over the past year, efforts have been made to ensure that ocean observations are shared with meteorological and oceanographic processing centers to improve public forecasts. This collaborative approach benefits many Member States by enhancing ocean observations.

23 Future tasks include identifying stakeholder needs and setting specific priorities based on these needs. Initial stakeholder engagement has already occurred during the development of IOC Ocean Decade Projects, and this information will be synthesized and shared with the IOCARIBE GOOS WG. Funding strategies for ongoing efforts and the development of operational services to disseminate observations across the region will be explored. Increased collaboration is essential to avoid duplication of efforts and ensure effective regional coordination.

24 Existing partnerships and networks across the region will continue to be enhanced to maximize the benefits of collective efforts. Future discussions will focus on implementing observations, managing data, integrating them into forecasting systems, and delivering this information effectively. Capacity Development for Member States and outreach efforts to improve Ocean Literacy are also crucial components.

25 The presentation concludes by outlining the next steps, which include moving into various regional initiatives, e.g. CARIBE-EWS, Tropical Cyclone Exemplar, the Caribbean Coastal Observing System (CariCOOS), the CoastPredict UN Ocean Decade Project, etc., to further these goals.

4. EXISTING REGIONAL INITIATIVES

a) Caribbean Coastal Observing System

26 Ms Patricia Chardon, Deputy Director of the Caribbean Coastal Observing System (CariCOOS), provided a report about CariCOOS. CariCOOS operates a comprehensive network of ocean observing instruments, including data buoys, water gliders, radar systems, and meteorological stations. This network provides free and accessible data through a portal and mobile app, catering to various users such as beachgoers and small vessel operators.

27 The data collected includes significant wave height, wave direction, wave period, wind speed, wind direction, currents, and sea surface temperature. These observations are strategically located to enhance data collection and validate forecast models. CariCOOS offers both global and high-resolution models for wind, wave, and coastal simulations, with resolutions ranging from one kilometer to ten meters near shorelines.

28 During hurricane season, CariCOOS collaborates with the U.S. Navy to deploy underwater gliders, which collect data on temperature and salinity to improve tropical cyclone forecasts. These gliders operate for six to seven months, and there are plans to deploy them year-round to study other dynamics like heat waves.

29 CariCOOS also supports the coastal marine ecosystem by developing tools like the *Sargassum* tracker and coral reef trends and tracks, which use both in-situ and satellite data. They provide near real-time water quality data through virtual buoys, derived from satellite observations.

30 For coastal hazard mitigation, they have developed user-friendly products like a water quality program that uses color-coded flags to indicate safe conditions for beachgoers. Red flags indicate dangerous conditions, while green flags signify safe conditions.

31 CariCOOS is also addressing the impacts of climate change, such as stronger hurricanes and sea level rise, which threaten coastal communities and ecosystems. They are expanding their network to include low-cost water level sensors and wave buoys in shallow waters to help communities understand and respond to rising water levels and storm impacts.

32 These efforts aim to provide valuable data to agencies and communities, helping them prepare for and mitigate the effects of climate change and extreme weather events. CariCOOS is also exploring the use of artificial intelligence to analyze real-time data and improve forecasts, ultimately enhancing the resilience of coastal regions.

33 CariCOOS is deploying thermistor strings on data buoys to provide near real-time temperature information along the water column. This data helps in decision-making for coral reef restoration and other marine initiatives by ensuring awareness of water conditions.

34 Future plans include adding passive acoustic sensors and in-situ instrumentation to the underwater network, enhancing regional data collection capabilities. The goal is to develop tools that transform this data into actionable insights for communities and agencies.

35 There is ongoing investment in decision support tools tailored to different communities and operations, aiming to improve preparedness and response to environmental warnings. One initiative, the Center of Coastal and Aquatic Hazards (CERCA), focuses on educating students to disseminate information within their communities. This effort is a collaboration between the Puerto Rican Sea Grant, the Climate Change Council and the National Weather Service.

DISCUSSION

36 Ms Elizabeth Vanacore, Caribe-EWS expert, inquired and recommended to install a CERCA in the new Natural History Museum in Aguadilla, Puerto Rico, as a way to enhance education and awareness in coastal hazards and early warning systems to the public.

37 Ms Patricia Chardon, noted that CariCOOS aims to share more information for training, education, and capacity building through CERCA in different communities of Puerto Rico.

38 Mr Alejandro Rojas, IOCARIBE Secretariat, welcomed the use and testing of low cost technology by CariCOOS, such as sea level sensors and wave buoys. He inquired about their long term sustainability and robustness.

39 Patricia Chardon, informed that the low cost buoys and coastal webcams have proven to be robust and can withstand rough conditions. Additionally, low-cost water level sensors were tested along the southeast coast of the U.S. and demonstrated their ability to measure accurately during hurricane events. CariCOOS is ready to share more information about these technologies to the Member States interested.

40 Mr Giovanni Coppini, Director of OPA Division at the Euro-Mediterranean Center on Climate Change (CMCC), added that CMCC is also developing low cost sea level sensors and is ready to exchange information with CariCOOS and any other organizations interested.

b) Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (ICG/CARIBE-EWS)

41 Ms Elizabeth Vacanore, ICG/CARIBE-EWS, provided a report about the ICG/CARIBE-EWS. The ICG/CARIBE-EWS encompasses 48 member states including both island and mainland states. It focuses on ocean observing systems, particularly for tsunami monitoring, which involves multiple data streams such as sea level and seismic stations as well as Global Navigation Satellite System (GNSS) data.

42 The Pacific Tsunami Warning Center (PTWC) is the primary service provider, with plans to expand services to Central America. The Working Group on Tsunami Detection and Forecasting (WG-TDF) prioritizes reviewing and recommending new technologies to improve detection speed and warning dissemination. Current tasks include monitoring regional instrumentation, which is often inadequate in certain areas, and considering new technologies like the Science Monitoring And Reliable Telecommunications (SMART) cables for direct ocean observations.

43 SMART cables offer a promising future for ocean data collection. These cables can detect tsunamis and other oceanic events earlier, providing crucial data for timely warnings. Workshops on sea level stations and other technologies are conducted to enhance regional capabilities, with plans for more hands-on training sessions.

44 The current status of sea level stations and buoys shows significant gaps, particularly in the Western Caribbean, due to maintenance challenges. Efforts are underway to identify and integrate additional stations into the ICG/Caribe-EWS network to improve coverage.

45 The organization also explores seismic monitoring, using a new code to assess station completeness and travel times for detecting large earthquakes. This helps in understanding the seismic activity and potential tsunami sources, such as the Puerto Rico trench.

c) Caribbean Institute for Meteorology and Hydrology (CIMH)

46 Mr David Farrel, Principal of the Caribbean Institute for Meteorology and Hydrology (CIMH), provided a report about CIMH. The institute has a long history in meteorology, hydrology, and climate sciences, and has recently expanded into the ocean observations. CIMH provides support through various centers, including training, research, climate data, instrumentation, simulation, geoscience, and marine centers. Integrating skills across these centers aims to support marine forecast services and maintain observational platforms.

47 The institute collaborates with the meteorological community to maintain observation stations, extending support to the marine observations despite higher costs compared to land-based meteorological stations. The mandate includes collaborating with other agencies in science and technology and sharing data. The motivation for this work is driven by the impact of hurricanes.

48 CIMH is working on a Multi-Hazard Early Warning System (MHEWS) adaptation system, integrating data from various hazards, including climate, hydro-meteorological, marine, and geological hazards. This integration is crucial for building a comprehensive early warning system and improving decision-making and governance in the region. New skills, thinking, and partnerships are essential for achieving these objectives, with data access being a critical component.

49 Recent activities in the region have had mixed success. However, the Coral Reef Early Warning System component of the Mainstreaming Adaptation to Climate Change (MACC) initiative has been successful and continues to operate well.

50 A new initiative involves using Autonauts for data collection, though its long-term viability is uncertain. Guyana is also installing two buoys off its coast, with data to be made available. The organization has a history of collecting real-time data and plans to integrate this into its current efforts. The regional weather radar coverage and cruise stations in places like St. Kitts are part of these monitoring activities.

51 Looking ahead, CIMH plans to install over 40 buoys across the region as part of a new project. Funding has been secured, and procurement is set to begin in 2025, with deployments starting the same year. This initiative aims to enhance data collection in the marine space, supporting the broader goal of improving early warning systems and adaptation strategies for the region.

DISCUSSION

52 Ms Elva Escobar, Chair of the IOCARIBE Capacity Development Working Group, inquired if is there a capacity development and ocean literacy initiative related to the CIMH ocean observing program?

53 Mr David Farrel, informed that CIMH may enhance capacity development in the region through an initiative that will be funded by the Caribbean Development Bank.

54 Mr Terry McConnell, invited Member States to partner with the Ocean Risk and Reliance Action Alliance (ORRAA), which aims to drive investment into building coastal and ocean resilience through finance and insurance products that reduce risk and create more financially and socially resilient communities. For more information, he invited Member States to look at the pilot program ongoing in the Dominican Republic.

d) Tropical Cyclone Exemplar

55 Mr Scott Glenn, Rutgers University (RU, USA), provided a report on the Tropical Cyclone Exemplar as one of the six focus areas of the GOOS UN Ocean Decade endorsed Programme on Ocean Observing Co-Design. The Ocean Observing Co-Design process involves stakeholders defining a value chain, identifying who uses the ocean observing data, and determining priorities. Research scientists use the data to improve models, which then provide guidance to forecast centers like a national hurricane center. These forecasts inform emergency managers and the public, helping with decisions like evacuation, or sheltering in place.

56 In the TAC region, the key priority is to enhance ocean observations, particularly subsurface profile data from gliders and Argo floats. The TAC region is heavily impacted by tropical cyclones, and understanding essential ocean features like ocean heat content and surface salinity is crucial.

57 The current state of observations shows a lack of Argo floats and gliders in the Caribbean Sea compared to the Gulf of Mexico. This is due to the Caribbean being a marginal sea and the need for specific deployment permissions. The goal is to distribute gliders and Argo floats more evenly across the Caribbean to improve data collection.

58 The 46th Session of the WMO Regional Association IV Hurricane Committee took place from 18-22 March 2024, recommended to expand beyond Marine Scientific Research permissions for unscrewed systems; and establish demonstration projects to increase capacity locally.

59 The ongoing discussions at WMO meetings have led to the recognition of co-design best practices based on Caribbean experiences. The Decade Collaborative Center in Asia is promoting collaborations between Asia and the Caribbean to enhance forecasts in both regions.

60 In 2024, significant progress was made, including the deployment of a glider on a climate mission between Puerto Rico, the Dominican Republic, and Curacao. This mission improved model accuracy by correcting biases in temperature and salinity data, which are crucial for hurricane forecasts. During Hurricane Beryl in July 2024, the glider provided real-time data that significantly improved forecast models.

61 Plans for 2025 include expanding glider operations, with funding from the National Science Foundation and National Academies, and deploying gliders in new areas like the Nicaraguan Bank, Mexico and Barbados to enhance data collection and improve forecasts.

DISCUSSION

62 Ms Lorna Inniss, Head of IOCARIBE, noted about the engagement of IOCARIBE in the 46th Session of the WMO Regional Association IV Hurricane Committee, and added that IOCARIBE GOOS WG intends to increase engagement with Meteorological Service representatives to share best practices and integrate them into the work of regional initiatives such as the Tropical Cyclone Exemplar, TACOOFS, etc.

e) Global Coast Experiment: Decade Collaborative Center for Coastal Resilience

63 Ms Nadia Pinardi, Decade Collaborative Center for Coastal Resilience, provided a report on the Global Coast Experiment as a component to the GOOS UN Ocean Decade endorsed Programme on Coast Predict. Over the past three years, the Coast Predict Programme has been developed to focus on coastal ocean observing and predicting. The program aims to integrate data from various sources, including Argo gliders, to create management solutions. The emphasis is on not letting the decade pass without prioritizing coastal areas.

64 The Coast Predict Programme aims to shift from operational oceanography to management solutions. This involves concentrating on integrating coastal ocean observing and predicting, and developing solutions and services tailored to coastal regions.

65 A key aspect of the programme is its multidisciplinary approach. The programme emphasizes the need to merge with hydrology as soon as possible to create comprehensive solutions. This integration is crucial for developing effective coastal management strategies.

66 In 2023, the programme adopted a co-design approach, involving stakeholders from coastal areas to offer their sites for experimentation. This approach led to the establishment of the Global Coast Network, presently composed of 130 pilot sites globally, with a significant focus on the Caribbean. These sites are experimenting with innovative observing and modeling systems to develop integrated solutions.

67 Coast Predict also aims to overcome technical barriers by developing a Global Coast Cloud and Digital Infrastructure data management system. This system is designed to gather new data and support under-resourced countries. The cloud offers capabilities that are not currently available to these countries, making it a crucial component of the programme.

68 Over the past six months, discussions have been held with Global Coast pilot sites from nine countries in the Caribbean region to implement innovative ideas. These discussions have focused on funding, implementation, and the current state of coastal areas.

69 The Global Coast experiment has mapped the existing capacity of pilot sites in the Eastern and Western Caribbean. This includes remote sensing, in situ observations, forecasting systems, and data management plans. By identifying the weakest parts and budget needs, the network can design effective implementation strategies.

70 The pilot sites aim to focus on impact areas, particularly real-time forecasting of extreme events and the impact of climate change on coastal areas. This involves developing an integrated approach across different timescales with dedicated tools. Some tools will be able to operate across scales, while others will be more specialized.

71 The report concludes with a call to action, inviting stakeholders to join the Global Coast experiment and contribute to its implementation.

DISCUSSION

72 Nadia Pinardi, highlighted that the Coast Predict Programme would like to work closely with CariCOOS on the development of the Global Coast experiment given the close relationship between their initiatives.

f) Ocean Observing and Forecasting System for the Tropical Americas and Caribbean Region

73 Mr Doug Wilson, University of the Virgin Islands (UVI, USA), provided a report on the Ocean Observing and Forecasting System for the Tropical Americas and Caribbean Region (TACOOFS) Project. TACOOFS was endorsed as a UN Ocean Decade project in 2022, aiming to provide a roadmap for a regional system that meets the operational ocean observing goals of IOCARIBE GOOS. This system is aligned with the GOOS 2030 Strategy and focuses on establishing a foundational ocean observing system.

74 TACGOOS aims to build a Technical Observing Council (TOC), comprising national and organizational decision-makers, experts in observations, modeling, forecasting products, and data management. The TOC will prioritize data and product sharing and reciprocal data collection agreements.

75 The project involves designing and implementing a representative demonstration system using existing assets and filling gaps as necessary. This system will target EOVs, link to other regional projects, and provide a framework for expansion. The goal is to support the co-design of national observing and forecasting systems along GOOS principles, integrate related Decade actions, and promote data and product sharing.

76 The TOC will take on basic tasks to create the initial system, leveraging existing capabilities and potential observing networks, modeling and forecasting groups, and data management entities. Recommended participants in the initial system include CariCOOS, Coast Predict, and CIMH, and other representatives from numerous organizations.

77 TACOOFS emphasizes the importance of data and product sharing to facilitate marine science research in the Caribbean, a region with many Exclusive Economic Zones (EEZs). TACOOFS encourages suggestions for improving region-wide systems and considers funding strategies for implementing an initial observing system.

5. DRAF OF TERMS OF REFERENCE

78 Mr John Cortinas, Coordinator of the IOCARIBE GOOS WG, presented the Terms of Reference (ToRs) to the participants. The ToRs focus on what the IOCARIBE GOOS WG aims to achieve, the expected contributions, and the type of engagement required. The ToRs are designed to be flexible, avoiding excessive detail that might restrict the group's functionality. The IOCARIBE GOOS WG plans to have additional meetings to develop the Work Plan and incorporate new ideas.

79 Participants are encouraged to review the ToRs and submit comments to the IOCARIBE Secretariat. These comments will be compiled and considered for the next version of the document. The ToRs highlight the importance of integrating observations into information systems and services, emphasizing the need for a holistic approach that

combines models and observations. Additionally, it mentions the role of satellites in the group's activities, as an area needing more attention.

80 Specific suggestions for the ToRs include updating terminology, and consider open participation to ensure appropriate representation. The IOCARIBE GOOS WG ToRS can be found in Annex I of this report.

6. WORK PLAN

81 Ms Emily Smith, National Oceanic and Atmospheric Administration (NOAA, USA), provided a report on the IOCARIBE GOOS WG Work Plan. She presented a Work Plan for (2023-2024) which will not require feedback since it reflects actions taken to date.

82 The 32nd Session of the IOC Assembly decided to allocate funds to support observing systems in four GRAs, including IOCARIBE GOOS. This is the first time funds have been directly sent to regions, making it important to have a work plan to track expenditures and report back to the IOC Assembly or Executive Council. The goal is to demonstrate how the funds are used to enhance ocean observing in these regions and to gather input for future plans and components to include.

DISCUSSION

83 Ms Lorna Inniss, recommended the IOCARIBE GOOS WG to create a subgroup, which will be responsible to engage with the IOCARIBE GOOS WG members for the preparation of a Work Plan for the period of 2026-2027. She invited participants to express their interest in being a part of the subgroup in the follow up to this meeting. She also mentioned that IOCARIBE may hire a consultant to support the coordination and guide the subgroup in this task.

84 Ms Devin Burri, NOAA, added that along with the Work Plan review, the IOCARIBE GOOS WG could develop a road map to implement the work plan. The road map should include a timeline, including capacity stakeholder needs and IOCARIBE goals.

7. ANY OTHER BUSINESS

85 Ms Lorna Inniss, Head of IOCARIBE, informed participants about important future meetings such as the 2025 UN Ocean Conference which will take place in Nice, France from 9-13 June 2025. She added that the Eighteenth Session of the Sub-Commission for the Caribbean and Adjacent Regions (SC-IOCARIBE- XVIII) will take place from 31 March to 4 April 2025. She encouraged the IOCARIBE GOOS WG members to have the GOOS WG Work Plan (2026-2027) ready for its approval at the SC-IOCARIBE-XVIII.

86 The Head of IOCARIBE, informed about intentions to have an IOCARIBE GOOS WG in person meeting in 2025 which aligns with the Observations Coordination Group meeting, to allow IOCARIBE to learn from other regions.

8. CLOSURE

87 Mr John Cortinas, Coordinator of the IOCARIBE GOOS WG, thanked all the participants for their interventions. He acknowledged the efforts of the different regional initiatives and invited participants to provide their feedback regarding the ToRs and draft

of the Work Plan (2025-2026). The First meeting of the IOCARIBE GOOS Working Group closed at 11:30 am Colombian Time (COT).

ANNEX I. TERMS OF REFERENCE OF THE IOCARIBE GOOS WORKING GROUP

ANNEX II. AGENDA

ANEEX III. LIST OF PARTICIPANTS

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