The 2023 Wet/Hurricane Season Caribbean Climate Outlook Forum (CariCOF)

Kingston, Jamaica

May 22nd – 25th, 2023

Concept Note

Background

Addressing climate change and increasing climate variability are regional and national priorities established by the Heads of Government of the Caribbean Community. Climate variability and change, as exemplified by extreme weather and climate events, such as droughts, floods, heat waves and tropical cyclones, continue to pose significant risks for the Caribbean region. These make early warning information systems critical components of preparedness, risk reduction and adaptation.

Regional Climate Outlook Forums (RCOFs) were first organized in 1997 in response to a threatening El Niño event, to provide seasonal climate information to help decision-makers reduce climate-related risks, develop technical forecasting capacity, and to strengthen connections between science providers and decision-makers[1]. Thanks to the promotion by the World Meteorological Organization (WMO), RCOFs are now active in several parts of the world. The Caribbean Climate Outlook Forum (CariCOF) is a significant step towards providing those relevant and necessary climate information and services to support adaptation and disaster risk reduction in climate sensitive sectors and communities across the Caribbean.

In June 2010, in the wake of one of the most intense droughts in Caribbean history, a workshop was convened to re-establish the Caribbean Climate Outlook Forum (CariCOF) after its hiatus in the early 2000s, in order to develop a sustained collaborative process that provides credible and authoritative real-time

[1] Gerlak, A. K., et al, 2018: Building a framework for process-oriented evaluation of Regional Climate Outlook Forums. Wea. Climate Soc., 10, 225–239, https://doi.org/10.1175/WCAS-D-17-0029.1

regional climate products. To cement the re-establishment, the first of many CariCOFs was held in February/March 2012 that consisted of three separate but complementary activities:

1. A Technical Training Workshop that developed a draft seasonal (three-month) rainfall outlook,
2. A Partnership Workshop that brought together key partners and users of climate information, and
3. The Outlook Forum that discussed the rainfall forecast with users, which determined the final product.

Since the 2012 CariCOF, the CIMH has been coordinating climate forecasting activities leading to a consistently growing body of climate forecasters who: (i) contribute to the monthly production of consensus-based seasonal climate outlooks, and (ii) engage with the user community, both nationally and regionally, to facilitate awareness-building within climate sensitive sectors. At the 2012 CariCOF, it was also agreed that the bi-annual hosting of such forums, roving across the region, just prior to the beginning of the wet season and the dry season in the Caribbean, be pursued. Since 2012, CariCOF face to face workshops were held in:

- Trinidad and Tobago, Jamaica, Saint. Lucia, Dominica, St. Vincent and the Grenadines, Barbados and Sint Maarten prior to the 2013 to 2019 wet/hurricane seasons;
- Antigua and Barbuda, St. Kitts and Nevis, Grenada, Guyana, Trinidad and Tobago and Barbados for the Dry Season CariCOF prior to the 2014 to 2019, and 2022 dry seasons.

The face-to-face forums followed a similar agenda to that in 2012, but with the partnership workshop and forum merged into one General Assembly. From May 2020 until May 2022, CariCOFs were held virtually due to the COVID-19 pandemic.

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The Caribbean wet/hurricane season typically has implications for disaster risk management, with perennial threats from tropical cyclones (tropical depressions and storms, and hurricanes), floods, landslides and, increasingly, heat. It is now customary to have participation from practitioners from national disaster management organizations for this CariCOF. However, the 2023 wet/hurricane season CariCOF will also

focus on the water and health sectors as three climate services related programmes funded by the European Union[2] provide climate information and services support to these two sectors.

In collaboration with our partners the European Union, the Organization of the African, Caribbean and Pacific States (OACPS), the National Oceanic and Atmospheric Administration of the USA, and the Columbia Climate School International Research Institute for Climate and Society, the 2023 Wet/hurricane Season CariCOF is scheduled for 22nd to 25th May in Kingston, Jamaica. The Forum will be held on the 24th and 25th May featuring 4 sections:

1. The delivery of the forecasts for the season (which includes rainfall and temperature forecasts, as well as forecasts of drought and dry spells that limit water availability, wet days, wet spells, extremely wet days and extreme wet spells that provide insight into the potential for flooding), the Atlantic Hurricane Season activity, and heatwaves along with sub-seasonal forecasts up to 2 weeks,
2. Climate change and its implication for the three targeted sectors (water, health and disaster risk management) in the Caribbean,
3. Climate services for the water sector and water users in the Caribbean, with a focus on new research and development activities
4. Caribbean health concerns in a changing climate.

This agenda reflects strides to transition the global RCOF to Regional Climate Forums where the focus moves beyond just the outlooks for the season, but broader climate related issues.

Pre-CariCOF Training of Caribbean Meteorologists and Climatologists

The technical training workshop, often referred to as the pre-CariCOF training of Caribbean meteorologists and climatologists will take place on Tuesday May 23, 2023. Training will focus on sub-seasonal forecasting of water-related extremes of dry spells and excessive rainfall (as relates to the potential for flash flood occurrence), as well as monitoring (bush) fire danger that stems from dry conditions.

[2] 1. European Union Intra-ACP Global Climate Change Alliance Plus (EU-GCCA+) and the Caribbean Community (CARICOM), for **Enhancing Climate Resilience in CARIFORUM Countries** executed by the Caribbean Community Climate Change Centre; 2. **Intra-ACP – Climate Services and related applications Programme – (CLIMSA)** – Caribbean programme being implemented by the Caribbean Institute for Meteorology and Hydrology/Caribbean Meteorological Organization, 3. **Strengthening Climate Resilient Health Systems in the Caribbean** implemented by the Pan-American Health Organization (PAHO).

Sub-seasonal forecasts can provide information on timing within a month of a potential event which, as compared to weather forecasts, extends the lead time for alerting and response by up to 2-3 weeks. In 2018, the National Oceanic and Atmospheric Administration (NOAA), the International Research Institute for Climate and Society (IRI), Columbia University and the CIMH, commenced investigating the skill of US-based weather models at the sub-seasonal scale, with encouraging results for rainfall, temperature, dry spells and heatwaves at various time scales between 1 to 4 weeks. The US-based models operate at a spatial resolution that is too low to explicitly resolve the smaller islands of the Eastern Caribbean and highlight potential differences between them. In order to improve the resolution of sub-seasonal forecasts produced by the US-RCC for the Caribbean, statistical downscaling using regional climate data is required. Through downscaling, it is expected that the quality of forecasts should improve in terms of skill.

The 10th Meeting of the Consortium of Regional Consortium of Sectoral Early Warning Information Systems across Climate Timescales (EWISACTs) Coordination Partners

Critically important to the climate services agenda in the region, is the implementation of a regional Roadmap and Plan of Action (RPA) 2020 to 2030 - the Caribbean's long-term vision for the co-design, co-development and co-delivery of sector-specific climate services. RPA implementation is being advanced by the Regional Consortium of Sectoral Early Warning Information Systems across Climate Timescales (EWISACTs) Coordination Partners. These partners include seven regional sector agencies[3] with mandates related to the six climate sensitive sectors served by the Caribbean Regional Climate Centre at CIMH. These include the three sectors targeted for the 2023 CariCOF, along with energy, agriculture and tourism. A number of other regional and international agencies provide support for the work of the Consortium as Observing Members[4].

[3] Including the Caribbean Agricultural Research and Development Institute (CARDI), the Caribbean Water and Wastewater Association (CWWA), the Caribbean Disaster Emergency Management Agency (CDEMA), the Caribbean Public Health Agency (CARPHA), the Caribbean Tourism Organization (CTO), and the Caribbean Hotel and Tourism Association (CHTA).

[4] Including the CARICOM Secretariat, the Caribbean Community Climate Change Centre (5Cs), the Commission of the Organization of Eastern Caribbean States (OECS), the Climate Studies Group of the University of the West Indies, Mona campus (UWI CSGM), the Pan American Health Organization (PAHO) and the Agricultural Alliance of the Caribbean (AACARI).

The 10th Consortium Meeting will take place on Tuesday May 23, 2023. The objectives of this meeting are:

- To review progress on RPA implementation over the past six-month period (since Nov 2022);
- To present finalised triennial work plans for joint RPA implementation for Performance Period 2 (2023-2025); and
- To discuss the feasibility of the development of intersectoral communities of practice (COP) in the near to medium-term.