

CREWS Accelerated Support Window
CREWS Action Presentation Note

Action Title	Improve hydrometeorological information and early warning for disaster risk reduction and energy sectors
Country	Cuba
Partner Country Entity / Entities	INSMET (Institute of Meteorology of Cuban Republic) - NMS
Implementing Partner Requested	<p><i>Select at least 1:</i></p> <input type="checkbox"/> World Bank/GFDRR <input checked="" type="checkbox"/> WMO <input type="checkbox"/> UNDRR <input type="checkbox"/> No preference
Action Type	<p><i>Select at least 1:</i></p> <input type="checkbox"/> Continued Assistance <input checked="" type="checkbox"/> Analyses and Assessments <input type="checkbox"/> Advisory Services
Early Warning System Element(s) Supported	<p><i>Select at least 1:</i></p> <input checked="" type="checkbox"/> Monitoring, detection, analysis and forecasting of hydro-meteorological hazards providing lead-times for action <input checked="" type="checkbox"/> Dissemination of timely and authoritative warnings <input type="checkbox"/> Preparedness and response plans triggered by warnings and weather and climate predictions <input type="checkbox"/> Disaster risk knowledge based on the systematic collection of data and disaster risk assessment
Contribution to CREWS Programming Principles and Outputs Supported	<p><i>Select all relevant:</i></p> <p>CREWS Programming Principles addressed:</p> <input checked="" type="checkbox"/> People-centered <input checked="" type="checkbox"/> Gender-responsive <input type="checkbox"/> Promotes Coherence <input checked="" type="checkbox"/> Leverage
	<p>CREWS Results Framework Outputs to which the Action is expected to contribute to:</p> <input checked="" type="checkbox"/> NMHSs' service delivery improved, including the development of long-term service delivery strategies and development plans <input checked="" type="checkbox"/> Risk information to guide early warning systems and climate and weather services developed and accessible <input type="checkbox"/> Info. and comm. tech., including common alerting protocols, strengthened <input type="checkbox"/> Preparedness and response plans with operational procedures that outlines early warning dissemination processes strengthened and accessible <input type="checkbox"/> Knowledge products and awareness programmes on early warnings developed <input type="checkbox"/> Gender-responsive training, capacity building programmes provided <p><i>[Optional: provide additional information as relevant]</i></p> <p>CREWS Programme Indicators to which the Action is expected to contribute to:</p> <input checked="" type="checkbox"/> Loss of life <input checked="" type="checkbox"/> Forecasting and warning capacity <input checked="" type="checkbox"/> Access to early warning <input checked="" type="checkbox"/> Use of risk information <input checked="" type="checkbox"/> Capacity to disseminate warnings <input checked="" type="checkbox"/> Capacity to prepare for and respond to warning

<p>Specific Action and Objectives</p>	<p>[Max. 250 words describing the requested Action and the Objectives]</p> <p>It focuses on supporting the National Institute of Meteorology (INSMET) and the National Institute of Hydraulic Resources (INRH) to improve the joint capacity to generate information to better support warning decisions and planning of priority sectors. This will be done through an evaluation including the development of a plan to strengthen climatic, hydrometeorological and warning services in Cuba, and improving techniques to generate information for priority sectors (disaster risk reduction and energy). It will contribute to defining an action plan to improve climate and warning services, and strategies related to the national disaster risk reduction plan.</p> <p>This will be addressed through the following components:</p> <p>Component 1: Assessment of national capacities and requirements on climate, meteorological, hydrological, and warning services</p> <ol style="list-style-type: none"> a. Description of current national disaster management policies with a climate risk approach, the institutional strategies of INSMET, INRH and Civil Protection, and the related capacities and requirements, and recommendations for improvement. b. Design of an action plan to improve and develop climate and hydrometeorological services for priority sectors (agriculture, disaster risk reduction, energy, health), warning procedures and institutional/community early actions, including a financial proposal to be used for mobilizing resources. c. Validation workshop, including mapping of required information for priority sectors and recommendations for integration into their practices. <p><u>Method:</u></p> <p>The national assessment will be based on the Multi-Hazard Early Warning System (MHEWS) checklist, and it will consider collected information from previous WMO surveys in the country, and such as on EW4All. This will be coordinated with the Agencia Estatal de Meteorología (AEMET) of Spain, who will conduct the Country Hydromet Diagnostic for the “Establishing the Systematic Observations Financing Facility (SOFF)” in the same proposed period, and with additional specialists to evaluate capacities related to climatological and hydrological services. This will also build up existing reports on assessment of NMHS and EWS in Cuba.</p> <p>In addition, consultations will be conducted to the main user of services provided by the NMS (INSMET) and NHS (INRH, such as from the following sectors: DRR (Civil protection), Agriculture, Energy, Health, Civil society (vulnerable communities, etc. This will be used to structure specific recommendations for services improvement based on user needs.</p> <p>Finally, an analysis will be conducted to identify the potential donor to support the development of climate risk and EWS capabilities in Cuba. Then a concept note or draft project document, including a detailed financial plan will be developed and used by INSMET and WMO to work on a project development phase.</p> <p>Component 2: Improve the production of meteorological, climatological, and hydrological services for disaster risk reduction and energy sector.</p> <ol style="list-style-type: none"> a. Improving the process to generate weather forecasting through reinforcing server services (small infrastructure) to support warning decisions and the production of information for hydrological and energy sector and providing training on weather forecast to the Unión Eléctrica de Cuba (UEC) specialists. b. Design a plan to develop and implement a platform to produce information for the Cuban electricity sector (maps, tables, graphs), which can be easily accessible through the INSMET website. c. Improve specific hydrological forecasting products for warning decisions through the integration of weather forecasting and propose recommendations to improve contribution to Civil protection and DRM agencies. <p><u>Methods:</u></p>
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	<p>This will be carried out as followed: For INSMET, i) mobilization of local expertise to update local servers and improve the automatic production of weather forecast, ii) development and deliver 3 hands-on training sessions on weather forecast for hydropower specialists, and collecting their main requirements, iii) development of roadmap and technical specifications to build a meteorological platform for energy sector. For INRH, based on the improved production of forecasting a pilot basin will be chosen to force hydrological system and generating flood forecasting. Analysis will be conducted to evaluate the flood forecasting performance and identify improvement on bulletin for Civil protection.</p>
<p>Need and Rationale</p>	<p><i>[Max. 250 words articulating why the Action is needed and how it contributes to the country's early warning system efforts; if Cont. Ass., how it builds on CREWS Project]</i></p> <p>INSMET and INRH contribute to the national hydrometeorological monitoring and early warning system providing information to reduce impacts on lives. Both institutions have highly trained professionals, however their production of tailored services are confronted to technological limitations (i.e., calculation, storage, etc.), the lack of joint generation of user-centered. INSMET has developed and implemented meteorological, tropical cyclone, drought monitoring, forecasting, and warning systems. INRH implements hydrological monitoring and flood forecasting systems. The services provided by both institutions require urgent improvements to better provide information to Civil protection and other users.</p> <p>The National Economic and Social Development Plan 2030 of Cuba, in its axes 5 and objective 19 is targets to "Improve the Civil Defense System for the reduction of disasters in the face of natural hazards... to reduce the impact of disasters and the costs of adaptation to the effects of climate change". This will be possible through the improvement of INSMET and INRH warning services, and the consolidation of both national and community early warning systems. Cuba is a country impacted by natural events of cyclonic origin that cause loss of life and damage to populations that have limited access to resources, therefore it is vital for INSMET, INRH and Civil Defense to improve warning system strategies to contribute to reduce the impact of hydrometeorological and climatic events on populations.</p> <p>CREWS will support the development of a plan to improve the co-production of information between priority sectors (disaster risk reduction, agriculture, energy, health, tourism), the integration of adequate and lasting technologies, the improvement of the alert system with an emphasis on actions centered on people. This will also allow structuring better strategies for the integration of climate information in the practices of the mentioned sectors.</p>
<p>Alignment</p>	<p><i>[Max. 250 words articulating the alignment between the requested Action and existing/ongoing projects, programs, plans and commitments (e.g., EWS projects supported by bilateral or multilateral funds, NAP, NDC)]</i></p> <p>Some programmes contribute to building climate resilience and improving early warning in Cuban. The Cuban government through the national meteorological monitoring modernization programme supports the operation of radars, as well as researchers to improve forecasting and warning of tropical storms and coastal flooding.</p> <p>The International Development Research center of the Canada Government (IDRC) sponsors the development of the drought monitoring and forecasting system and planning for agriculture and water resources. The Italian Ministry of Ecological transition supports numerical modeling of ocean and waves to reduce the impacts of oil spill in coastal areas.</p>

	<p>The United Nations Development Program (UNDP) in the framework of “Caribbean Risk Management Initiative” supported Caribbean countries to improve capacities on Early Warning Systems. It was based on creating a toolbox to replicate Cuban model to reduce impact on disaster risk reduction.</p> <p>This proposal is aligned with the previous supports mentioned in Cuba. It will help leverage previous investments and increase the capacities of technical institutions. An action plan will be created to identify financial support to increase disaster risk reduction capacities. This will also contribute to better support to Caribbean countries, something that is well aligned with phase 2 of CREWS Caribbean.</p>
Timeframe	<i>Jan 2024 – Dec 2024</i>
Summary of Action Cost	<i>250,000 USD (See: Annexes: Table 1. Budget and deliverables, and Table 2. Timeline)</i>
Implementing Partner Requested	<i>Select 1:</i> <input type="checkbox"/> UNDRR <input type="checkbox"/> World Bank/GFDRR <input checked="" type="checkbox"/> WMO

Annexes:

Table 1. Timeline for implementation budget and deliverables

		2024											
N°	Activities	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	Component 1: Assessment of national capacities and requirements on climate, meteorological, hydrological, and warning services												
1.1	Assessment on climate, hydrometeorology and warning services (MHEWS), including users' consultation, and based on MHEWS checklist.	x	x	x	x	x	x	x	x				
1.2	Brief project proposal, including action plan with financial estimates							x	x	x	x	x	x
1.3	Validation workshop and user consultation											x	x
2	Component 2: Improve the production of meteorological, climatological, and hydrological services												
2.1	Improving the process to generate weather forecasting for warning and training		x	x	x	x	x	x	x	x			
2.2	Design a plan to develop and implement a platform to produce information for the Cuban electricity sector				x	x	x	x	x	x			
2.3	Improve hydrological forecasting products for warning decisions and recommendations to improve contribution to Civil Protection and DRM agencies					x	x	x	x	x	x	x	x
3	Missions, administrative support	x	x	x	x	x	x	x	x	x	x	x	x

Table 2. Budget breakdown and deliverables

N°	Activities	Deliverables	Budget (USD)
1	Component 1: Assessment of national capacities and requirements on climate, meteorological, hydrological, and warning services		50,000
1.1	Assessment on climate, hydrometeorology and warning services (MHEWS), including users' consultation, and based on MHEWS checklist.	Assessment report including user requirements and recommendations	30,000
1.2	Brief project proposal, including action plan with financial estimates.	Brief project proposal	10,000
1.3	Validation workshop on the assessment on MHEW Services focused on engaging actors on the related recommendations and actions for improvement.	Validation report	10,000
2	Component 2: Improve the production of meteorological, climatological, and hydrological services		170,000
2.1	Improving the process to generate weather forecasting for warning and training	Report on systems and products improved	90,000
2.2	Design a plan to develop and implement a platform to produce information for the Cuban electricity sector	Report on structured plan to develop or improve the platform for energy services	30,000

2.3	Improve hydrological forecasting products for warning decisions and recommendations to improve contribution to Civil Protection and DRM agencies	Report on improved hydrological products and recommendations	50,000
3	Missions, administrative support		30,000
Total			250,000

Table 3. Proposed Key performance indicators (KPI)

N°	KPI	Total
1	Survey on user needs on climate, hydrometeorology and warning services	1
2	Assessment report on MHEWS capabilities with actions for improvement	1
3	Draft project proposal to improve MHEWS	1
4	Weather forecast production system operating	1
5	Hands-on meteorological training sessions for dams' managers	3
6	Technical proposal to build weather platform for hydropower sector	1
7	Flood forecasting product improved	1