



## CREWS PROJECT PROGRESS REPORT

(July - December 2023)

<b>1. Project title</b>	Strengthening Risk informed planning, Hydro-Meteorological and Early Warning Services in Malawi	<b>2. Project reference</b> CREWS/CProj/14/Malawi
<b>3. Implementing Partners involved in the project</b>	World Bank WMO	<b>4. Operational Partners involved in the project</b> <ul style="list-style-type: none"> <li>• Department of Climate Change and Meteorological Services (DCCMS),</li> <li>• Department of Water Resources (DWR),</li> <li>• Department of Disaster Management Affairs (DoDMA)</li> <li>• District Councils</li> <li>• IFRC, Red Cross Climate Center and National Societies (Malawi Red Cross Society)</li> <li>• The International Research Institute for Climate and Society (IRI)</li> </ul>
<b>5. Project Duration/Timeframe (from year – to year)</b>	2022-2026	<b>6. Total Funding Approved by Steering Committee (in US dollars), including fees</b> \$3,000,000
<b>7. Reporting focal point(s) from Implementing Partners</b>	<b>WB:</b> Nicholas Callender ( <a href="mailto:ncallender@worldbank.org">ncallender@worldbank.org</a> ) <b>WMO:</b> Joshua Ngaina ( <a href="mailto:jngaina@wmo.int">jngaina@wmo.int</a> )	

<p><b>8. Project overview</b></p>	<p><b>Please include objectives, key project deliverables, leveraging, contextual information/statistics, significant events during the reporting period <u>in bullet points</u>. (max 250 words)</b></p> <p>To strengthen the national capacity related to weather forecasting, hydrological services, early warning early action services and financial preparedness of the government of Malawi.</p> <p><b><u>Key Deliverables:</u></b></p> <ul style="list-style-type: none"> <li>• Report on TC Freddy investigation of the meteorological, climatological, and hydrological circumstances of the event – produced by hired firm, Jeremy Benn Associates (JBA)</li> <li>• Technical Report on MHEWS based on preliminary surveys, interviews an in-country mission. Draft MHEWS and DCCMS roadmap being prepared</li> <li>• Maprooms developed and updated to include new products tailored for agricultural and health sectors to enhance the uptake and use of climate services for climate change adaptation</li> <li>• Technical report on capacity building activities centred around three Enhancing National Climate Services Initiative (ENACTS) innovations, (i) Automatic Weather Station Data Tool (ADT<sup>1</sup>), (ii) Climate Data Tool (CDT<sup>2</sup>), and (iii) Data Library and maprooms. Draft report being prepared by IRI</li> <li>• Report on the NCOFs held for OND 2023 and JFM 2024 season to enhance user engagement, feedback and use of climate services in decision making processes. Report being prepared by DCCMS</li> <li>• Finalisation of engagement through LoA of implementing partner (MRCS) to support the development of a gender-sensitive and inclusive community-based EWS, including testing and refining it through a pilot project for future roll-out for the rest of Malawi</li> </ul> <p><b><u>Significant events during the reporting period:</u></b></p> <ul style="list-style-type: none"> <li>• <u>Enactment of the Disaster Risk Management Act:</u> Following Tropical Cyclone Freddy, Parliament passed the Disaster Risk Management Act of 2023, replacing the 1991 Disaster Preparedness and Relief Act, coming into force in November 2023. The Act establishes stronger structures at the national and local level for DRM, shifts from a civil protection ex-post approach to disaster response to a broader focus on</li> </ul>
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<sup>1</sup> The ADT is foundational for real time monitoring of floods, droughts and other climate hazards impacting agriculture, public health, energy, transportation, and other fundamental components of the Malawian society

<sup>2</sup> The CDT is a free, open-source, R-based software with an easy-to use graphical user interface used by NMHS in more than 20 primarily African countries, now including Malawi






	<p>preparedness, risk reduction and post disaster recovery, makes provisions for disaster risk financing mechanisms and funds and provides a basis for stronger regulation of land use in high-risk and disaster-prone areas.</p> <ul style="list-style-type: none"> <li>• <u>Approval of the US\$250 million Regional Climate Resilience Project (World Bank):</u> This project will leverage the MHEWS assessment to finance key priorities from the roadmap/diagnostic. 100M of the project amount is earmarked for TC Freddy reconstruction, for which the JBA work financed through the CREWS will also provide guidance on resilient reconstruction of transport and connectivity infrastructure</li> <li>• <u>Approval of the Malawi Resilience Development Policy Operation with Catastrophe Deferred Drawdown Option:</u> The project makes provisions for a year of work to establish a Disaster Risk Management Fund, for which the Government will make yearly contribution. CREWS will support on technical assistance around the DRM Fund regulations and advisory services</li> <li>• <u>Capacity development of DCCMS staff centred around 3 ENACTS innovations; ADT, CDT and Maproom. A total of 14 staff from national and regional offices DCCMS were trained on using the ADT, 9 staff trained on the CDT functions for their operations and 14 staff trained on the maintenance and use of DCCMS's maprooms<sup>3</sup></u></li> <li>• Roll out of the first National Climate Outlook Forum (NCOF) held for OND 2023 and JFM 2024 season in October 2023</li> </ul>
<p><b>9. Progress summary</b></p>	<p><b>What has been achieved during this reporting period? – Please list in bullet points the most significant and tangible outcomes? (max 250 words)</b></p> <ul style="list-style-type: none"> <li>• The focus during this reporting period has been on the Multi Hazard Early Warning System diagnostic assessment as well as the TC Freddy hindcasting, infrastructure failure analysis and technical recommendations to orient reconstruction in the country for road and bridge infrastructure.</li> <li>• With the preparation of a Regional Climate Resilience Project, coupled with a TC Freddy response/recovery program (250M), this CREWS work will support the leveraging of those resources, through providing key roadmap direction (on early warning, which will be a component under the program), for climate resilient infrastructure reconstruction and for implementing a top-to-bottom incident command structure for preparedness and response</li> <li>• Within sub-component 1.1 (strengthening the provision of climate services), significant achievements include development ENACTS sector applications and map rooms at the national level, as well as in selected districts, including training on priority topics such as (i) Installation and operationalization of the</li> </ul>




<sup>3</sup> An online climate information portal developed to make the climate information products available



	<p>latest version of CDT for DCCMS, (ii) advanced training conducted on CDT for DCCMS staff, (iii) installation and configuration of IRI ADT, (iv) training on the ADT for DCCMS staff and (v) training on IRI Data Library and Maproom.</p> <ul style="list-style-type: none"> <li>• Roll-out of the first National Climate Outlook Forums (NCOFs) in Malawi</li> <li>• Designation of focal point for project implementation at DCCMS and M&amp;E</li> <li>• Recruitment of Project Officer based in WMO ESA office in Nairobi, Kenya to support various WMO projects being implemented in Eastern and Southern Africa including CREWS Malawi project.</li> </ul>
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**10. Project Performance**

Interpretation of color coding		
<b>High</b>		Good progress; on track in most or all aspects of delivery
<b>Medium</b>		Moderate progress or on track in some aspects of delivery
<b>Low</b>		Less than moderate or poor progress. Not on track in critical areas of its delivery. Requires remedial attention

	Rate of expenditure	Rate of delivery	Alignment of Objectives
<b>Coding</b>			



<b>Narrative</b>	Disbursement as of December 2023  <b>From WB side:</b> Disbursed: 212,000 Committed: 269,000  <b>From WMO side:</b> Disbursed: USD 139,405 Committed: USD 301,512  <b>From UNDRR side:</b> Disbursed: Committed:	WB: On track WMO: On track	Aligned.
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### 11. Risk Status

<b>Risk Status</b>	What is the current risk status as compared to what was identified in the project proposal?  <ul style="list-style-type: none"> <li>The risk status remains the same with recurrent cyclonic and macro-fiscal challenges being a hindrance to project execution – there is a large pull and focus on responding to immediate critical needs (especially following TC Freddy which has been the worst cyclone to strike Malawi)</li> </ul>
<b>Measures to address</b>	What mitigation measures have been developed to address the risk status? <b>In bullet points</b>  <ul style="list-style-type: none"> <li>2 additional local consultants have been hired, in Malawi, to support WB program and execution of CREWS work</li> </ul>



	<ul style="list-style-type: none"> <li>• Adjustment of some of the planned implementation modalities (i.e. consultant teams over firms), to manage some of the time constraints on the GOM side</li> <li>• Advancement of the two immediate priorities supported by the Government of Malawi and the Early Warning Committee, to ensure full alignment with GOM interests and maximization of the use of resources for pipeline programs</li> <li>• WMO has also recruited a project officer to be based in Nairobi, Kenya who will support various WMO projects being implemented in Eastern and Southern Africa including CREWS projects.</li> </ul>
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## 12. Contributions to CREWS Output(s)

(use number for activities and products and % for project component completion)

### 12.1 National Output(s)

#### CREWS Output(s) 1: National Meteorological and Hydrological Services service delivery improved, including the development of long-term service delivery strategies and development plans

State Project Output(s) in this section	Overall Project Target	Progress by June 2023	Target for reporting period	Progress by December 2023
Evidence-based in-depth assessment and gap analysis, investment plan, and institutional roadmap for the implementation, strengthening, and modernization of Multi-hazard Early Warning Systems (MHEWS) in Malawi	In-depth assessment and gap analysis report  Institutional Roadmap  Investment Plan	TOR Developed in coordination with GOM and WMO.  Strategy to be confirmed with the GOM and assignment to be contracted	Hiring of team and commencement of activities	Expert team of 6 hired, supported by local and international WB team. Initial assessment completed, first in-country mission completed and engagement with the Government (DCCMS, DWR, Geological Survey and DoDMA) ongoing

<p>Enhancing National Climate Services (ENACTS) sector applications and maprooms at the national level, as well as in selected districts, including training on priority topics such as Climate Data tool (CDT), remote sensing, sectorial forecasts, rainy onsets, length of the rainy season, dry spells, etc.</p>	<p>Maprooms developed to enhance the uptake and use of climate services for climate change adaptation</p>	<p>The technical partner (the International Research institute for Climate and Society (IRI)) has been engaged, specific support discussed with DCCMS and an agreement signed for the activity. IRI have also already conducted a scoping mission to Malawi and engaged with DCCMS to plan for the activity.</p>	<ul style="list-style-type: none"> <li>• Installation and operationalization of the latest version of CDT, ADT Maprooms</li> <li>• Training conducted on CDT</li> <li>• Training on the ADT</li> <li>• Training on IRI Data Library and Maproom</li> <li>• Training workshop on the development process of the state of Malawi Climate document</li> </ul>	<ul style="list-style-type: none"> <li>• A total of 14 staff from national and regional offices DCCMS were trained on using the ADT,</li> <li>• 9 staff trained on the CDT functions for their operations</li> <li>• 14 staff trained on the maintenance and use of DCCMS's maprooms</li> </ul>
<p>Roll-out National Climate Outlook Forums (NCOFs) in Malawi</p>	<p>4 NCOFs supported throughout the project duration.</p>	<p>Discussions held with DCCMS on their needs and funding support provided through an LoA with DCCMS to hold 4 NCOFs throughout the project. Discussions have also begun with a</p>	<p>Roll out of NCOFs in Malawi</p>	<p>One (1) NCOF held by DCCMS and stakeholder IN October, 2023</p>



		technical partner (RIMES) to provide technical support to this activity.		
Strengthening of the production of climate services tailored for priority socio-economic sectors through development and roll out of Climate Services Toolkit (CST) with a multi-hazard and multi-sectorial approaches in partnership with ICPAC and RIMES based on capacity gap analysis, technical training and setting up Climate Watch Advisory System (CWS)	Multihazard CST developed	Discussions were held with DCCMS on their needs and discussions have begun with a technical partner (RIMES) to provide technical support to this activity. The technical proposal from RIMES is being reviewed internally by WMO.	NA	
<p><b>Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). <u>Please list in bullet points.</u></b></p> <ul style="list-style-type: none"> <li>• Country Ownership/leveraging resources: 2 activities being advanced are informed by immediate needs requested specifically by the GoM and are closely linked with two national lending operations (Regional Climate Resilience Program and the Resilience development policy operation) with the CREWS resources supporting preparation and implementation</li> <li>• People Centered early warning – the MHEWS diagnostic and roadmap was requested by the DCCMS to support their goal of early warnings for all in the coming years</li> <li>• Above assignment have considerations around gender access, with the overall focus of the institutional and investment plan being on broadening the reach of early warning messages and strengthening the quality of information provided</li> </ul>				





## CREWS Output(s) 2: Risk Information to guide early warning systems and climate and weather service developed and accessible

State Project Output(s) in this section	Overall Project Target	Progress by June 2023	Target for reporting period	Progress by December 2023
Post Freddy Technical Assessment, including: (i) investigation of the meteorological, climatological, and hydrological circumstances of the event; (ii) review the statistics of extreme value analysis for rainfall and where possible flow at key gauging stations across southern Malawi to investigate the validity of existing design flood parameters and guidance for repair, reconstruction, retrofitting, or improvement works; (iii) assessment of any flood or water level management actions taken prior to, during, or following Cyclone Freddy, what information was available, and what lessons could be learned; (iv) identification of areas of design and building standards or engineering practices that may need to be reviewed and updated	<p>Report on meteorological, climatological, and hydrological circumstances of the event</p> <p>Identification of areas of design and building standards or engineering practices that may need to be reviewed and updated</p> <p>Assessment of priority road designs and recommendations to</p>	<p>TOR Developed in coordination with GOM and WMO.</p> <p>TOR/RFP published for leading flood management firm.</p> <p>Technical Evaluation Carried out</p>	Firm hired. Work commenced	Firm hired and work commenced; inception report completed, 2 in-country mission and site visits completed; Draft meteorological, climatological and hydrological report completed



	improve quality of the design approach			
<p><b>Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). <u>Please list in bullet points.</u></b></p> <ul style="list-style-type: none"> <li>• Country Ownership/leveraging resources: 2 activities being advanced are informed by immediate needs requested specifically by the GoM and are closely linked with two national lending operations (Regional Climate Resilience Program and the Resilience development policy operation) with the CREWS resources supporting preparation and implementation</li> <li>• Will provide key statistical parameters to the DCCMS as well as indications as to contributions/understanding around rainfall intensity and mudslide/landslide which was requested by the Met Services department (solution-oriented objective)</li> <li>• Provides key inputs and parameters into upcoming design assignments and directly influences the pipeline resilience program and reconstruction agenda (multiplier)</li> </ul>				

**CREWS Output(s) 3: Information and Communication Technology, including common alerting protocol, strengthened**

State Project Output(s) in this section	Overall Project Target	Progress by June 2023	Target for reporting period	Progress by December 2023

**Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). Please list in bullet points.**

### **CREWS Output(s) 4: Preparedness and response plans with operational procedures that outline early warning dissemination processes developed and accessible**

<b>State Project Output(s) in this section</b>	<b>Overall Project Target</b>	<b>Progress by June 2023</b>	<b>Target for reporting period</b>	<b>Progress by December 2023</b>
Assessment following TC Freddy of the Structure and Coordination of Response and Early Recovery Efforts at the National Emergency Operations Center, and key actions needed moving forward	Assessment of capacity gaps  Proposal for Incident Command Structure  (Unplanned activity, but EOC support requested urgently from GOM)	Technical and financial proposal received from Malawi Red Cross Society. WMO is currently reviewing before proceeding.		
Support the development of a gender sensitive and inclusive community based EWS, test and refine it through a pilot project for future roll-out for the rest of Malawi (planned for the period 2023-2024)	EWS designed and tested	Technical and financial proposal received from Malawi Red Cross Society. WMO is currently reviewing before proceeding.	Review of technical and financial proposal from MRCS finalized.	LOA signing in advance stage



Simulation exercise for DoDMA and DCCMS staff and other key EWS stakeholders (planned for 2025)	Simulation workshop output/outcome documentation; lessons learned report	Technical and financial proposal received from Malawi Red Cross Society. WMO is currently reviewing before proceeding.	NA	NA
<p><b>Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). Please list in bullet points.</b></p> <ul style="list-style-type: none"> <li>- <b>Multiplier: Provides a good roadmap and understanding to frame a strong emergency preparedness and response component under the upcoming Climate Resilience program</b></li> </ul>				

**CREWS Output(s) 5: Knowledge products and awareness programmes on early warnings developed**

State Project Output(s) in this section	Overall Project Target	Progress by June 2023	Target for reporting period	Progress by December 2023



**Additional information: briefly indicate the contributions, with concrete examples, to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). Please list bullet points.**

**CREWS Output(s) 6: Gender-sensitive training, capacity building programmes provided**

State Project Output(s) in this section	Overall Project Target	Progress by June 2023	Target for reporting period	Progress by December 2023
Support the development of a gender sensitive and inclusive community based EWS, test and refine it through a pilot project for future roll-out for the rest of Malawi (planned for the period 2023-2024)	EWS designed and tested	Technical and financial proposal received from Malawi Red Cross Society. WMO is currently reviewing before proceeding.	Review of technical and financial proposal from MRCS finalized.	LOA signing in advance stage

**Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). Please list in bullet points.**

All activities and assessments are to consider, include and be tracked against inclusivity and gender sensitivity. The project also will engage MRCS to undertake specific activities that integrate gender-sensitivity and social inclusivity.

**12.2 Regional Output(s) (for Regional Projects)**

**CREWS Regional Output(s): Institutional and human capacities at Regional WMO and Intergovernmental organizations to provide regional climate and weather services to LDCs and SIDS increased**



State Project Output(s) in this section	Overall Project Target	Progress by June 2023	Target for reporting period	Progress by December 2023
N/A	N/A	N/A	N/A	N/A
<p>Additional information: briefly indicate, with concrete examples, the contributions to CREWS value propositions (gender-responsive, multiplier, people-centered, promote coherence, solution-oriented, unique), as relevant (150 – 200 words). <u>Please list in bullet points.</u></p> <p>N/A</p>				

### 13. Certification on Use of Resources

This needs to be provided at the end of the year as part of the submission of the 2<sup>nd</sup> semester report. Each Implementing Partner to provide a certification of the use of resources signed by their authorized representative.

### 14. Visibility products

- a. *Insert or copy any links to press releases, videos or communication items and/or social media links produced during the reporting period only*
  - i. *The Climate Risk and Early Warning Systems (CREWS). Implementation of Digital Innovation activities for capacity development in Malawi published in WMO project Newsletter. <https://mailchi.mp/a6104051fe0c/wmo-projects-newsletter-6163375?e=657829aaa9>*

### 15. Supporting documents

- a. *List and annex to the report any documents providing details on project activities conducted during the reporting period such as reports of training sessions, assessment reports, online solutions and tools, manuals, summaries of high-level discussions etc.*



**Workplans for project partners:**

- DCCMS workplan: <https://filecloud.wmo.int/share/s/ZflwmowxSU6zd6k5IG7E6w>
- IRI workplan: <https://filecloud.wmo.int/share/s/SZJbj-JHQEWPvFinESFHCQ>

## **16. Project History**

- a. Highlight key achievements since project started in bullet points, include all visibility and supporting documents other than those from the last 12 months*