CREWS CLIMATE RISK & EARLY WARNING SYSTEMS

Annual Report

WORLD METEOROLOGICAL ORGANIZATION
GFDRR Global Facility for Disaster Reduction and Recovery
Administered by THE WORLD BANK IBRD • IDA | WORLD BANK GROUP
UNDRR UN Office for Disaster Risk Reduction

CREWS Report Series – Annual Report 9 – 2025

Editor: Rebecca Venton

Design/layout: Design plus d.o.o., www.designplus.hr

CREWS Secretariat: John Harding, Maria Lourdes Kathleen Macasil, Mathias Mulumba, Hap Rothsopong, Rhodaline Tetteh-Narh, Catherine Thompson and Yi Wang

CREWS Trustee: Chalida Chararnsuk, Aishwarya Sanjay Geete and Abdourahmane Bechir Karwa and Larissa Vovk

CREWS Chair: Francis Pigeon and Linh Trinh

Acknowledgements: We recognise the contributions to the preparation of this report from the following:

WMO: Mohammed Ali, Patrick Anderseck, Sima-A Bernardine, Lara Bethonico de Moura, Alessandro Chiariello, Daniela Cuellar Vargas, Swastika Devi, Tania Gascon, Abdoulaye Harou, Fatih Kaya, Jean-Baptiste Migraine, Nakiete Msemo, Petra Mutic, Joshua Ngaina, Pinghouinde Michel Nikiema, Nakul Prasad, Lina Sjaavik, Henry Taiki, Tessa Tafua, Ramesh Tripathi, Guilherme Varro, Jason Thomas Watkins and Maxime Zufferey

GFDRR/ World Bank: Luc Bonnafous, Keren Charles, Kondwanie Chirembo, Carl Dingel, Ross Eisenberg, Efrem Ferrari, Sani Garba, Michael Hammond, Hemang Karelia, Yoko Kobayash, Yunziyi Lang, Mare Lo, Henriette Mampuya, Jian Vun, Hugo Wesley and Kpotivi Kpatanyo Wilson-Bahun

UNDRR: Saira Ahmed, Anwar Baksh, Stefanie Dannenmann-Di Palma, Gabrielle Emery, Chinatsu Endo, Makena Gitobu, Mahamadou Amadou Harouna, Muliro Mashauri, Marco Massabo, Sanjay Pariyar, Alice Soares and Andrew Spezowka with additional thanks to Carlie Labaria and Xuan Che (SFM data)

NOTE

The designations employed in CREWS Initiative publications and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of CREWS concerning the legal status of any country, territory, city or area or of its authorities or concerning the delimitation of its frontiers or boundaries.

The mention of specific companies or products does not imply that they are endorsed or recommended by CREWS in preference to others of a similar nature which are not mentioned or advertised. The findings, interpretations and conclusions expressed in CREWS publications with named authors are those of the authors alone and do not necessarily reflect those of CREWS or its Members.

Data disclaimers and limitations

Data limitations apply in this report. They concern all active projects and sources of data and information due to:

Data availability: Data is not available on all indicators, from all projects, for every year, from all partners, nor systematically disaggregated by sex.

Standardization: Differences in methodologies, definitions, and reporting responsibilities among and between implementing and operational partners.

Reporting time lag: Internal processes can affect availability of definitive figures and information.

Reporting bias: Data provided is self-reported by each Implementing Partner or source who is responsible for its accuracy.

Photos: Only stock images or project photos have been used in this report – there are no photos generated by Artificial Intelligence.

Cover image: Community disaster response simulation in Djibouti. Credit: WMO/ Patrick Anderseck

CREWS CLIMATE RISK & EARLY WARNING SYSTEMS

Annual Report 2025

A decade of delivery

The CREWS Initiative

The Climate Risk and Early Warning Systems (CREWS) Initiative funds life-saving climate action.

We are positioned as a trusted, country-driven and demand-led mechanism, aligning with the Sendai Framework, the Paris Agreement, the Sustainable Development Goals and the global Early Warnings for All initiative.

We help the world's poorest and most at-risk countries and territories to build early warning systems against hazards such as floods and drought to strengthen their resilience to climate shocks. CREWS also seeks to avert and minimize loss and damage through increased availability and improved access to early warning systems by 2030.

Our delivery model is simple but powerful: pooled donor resources are channelled through partners and implemented with governments and national stakeholders at the centre. This ensures that financing is efficient, catalytic and aligned with national strategies and regional frameworks.

We work with and benefit from the expertise and leadership of governments along with the collective experience of our Implementing Partners: World Meteorological Organization (WMO), the World Bank Group/ Global Facility for Disaster Risk Reduction and Recovery (GFDRR) and the United Nations Office for Disaster Risk Reduction (UNDRR).

Our support for least developed countries (LDCs) and small island developing States (SIDS) is through the CREWS Trust Fund, a pooled Trust Fund with contributions provided by 12 CREWS Members. Our financing pathways are designed to provide a progressive approach to strengthening multi-hazard early warning systems and climate risk information services, beginning with foundational support and moving towards long-term, scaled-up investments.

Our growing membership and financial support testify to the relevance, urgency and value of our work.

Content

Hauling in the fish at Oualie Beach Nevis caribbean
Credit: Peter Phipp/Travelshots.com

Foreword

It is with a great sense of honour and responsibility that Canada assumes the role of Chair of the Climate Risk and Early Warning Systems (CREWS) initiative at a pivotal moment for both the initiative and for global resilience efforts more broadly. As climate impacts accelerate amid deepening vulnerabilities and growing geopolitical complexity, the imperative for effective early warning systems has never been clearer – or more urgent.

2025 marks an important milestone for CREWS. Ten years ago, CREWS was founded on a powerful idea: that no community should face the devastating effects of climate-related hazards without being empowered to anticipate, prepare and respond to them. That vision remains as vital now as when it began. Today, the scale and speed of the climate crisis demand that we elevate our ambitions, drive bolder actions, strengthen and expand partnerships and amplify impact. This is why the new CREWS Strategy 2030 is so important.

Reflecting on a decade of delivery, we took stock of what we have achieved – and learned – collectively. Since 2015, CREWS has mobilised 142 million US dollars (US$), supported 84 countries and territories, and leveraged an additional US$ 2.8 billion in funding. Building on this strong track record, Strategy 2030 sets the course for the next five years, positioning CREWS to scale up support for countries and regions eager to develop or strengthen people-centred, end-to-end early warning systems to protect communities and empower them to take effective action in response to hazards. It continues to position CREWS as the only initiative which operates across the entire early warning value chain, putting communities and people at the centre of its interventions.

In 2025, CREWS was pleased to invite representatives of least developed countries (LDCs) and small island developing States (SIDS) to join its Steering Committee. This important change speaks to CREWS' commitment to ensuring that its interventions meet the needs of those on the receiving end. This same commitment underpins CREWS' development of operational procedures for its operations in countries – and territories – affected by fragility, conflict or violence, ensuring that all interventions in these challenging contexts are undertaken with sensitivity.

The need is great, yet financial resources are finite. It is therefore fitting that this Annual Report highlights how CREWS is mobilising climate finance to deliver country-led programmes focused on early warning. With the commitment of our 12 Contributing Members, we will continue to reinforce and maximize CREWS' catalytical role, multiplying impact for those who need it most. CREWS' staged funding approach has proven effective, enabling others to invest with confidence. The Green Climate Fund's approval of two projects in 2025 that build on – and scale up – the systems and services first developed with CREWS support is the perfect illustration of how CREWS can create the right conditions to mobilize additional resources.

CREWS is also recognised as a key financing mechanism to deliver on Early Warnings for All (EW4All). With CREWS support – through convening stakeholders, assessing technical capabilities, and designing effective systems – countries are developing and implementing their EW4All Roadmaps, improving their governance frameworks and strengthening institutional capacity. The five project case studies featured in this report demonstrate these achievements, looking beyond the numbers to celebrate progress, whilst recognising challenges and drawing lessons from experience.

A wide range of individuals and institutions have been fundamental to CREWS' success, enabled by its proactive and inclusive approach to building partnerships that bridge sectors and institutions across multiple levels. By harnessing local expertise and complementing it with technical know-how, innovation and services from partners across the public, private, civil and academic sectors, CREWS helps ensure lasting impact.

While we celebrate the achievements of the past decade, we remain humble in the face of the scale of the task ahead. The path forward is not without challenges, but it presents important opportunities. Working together, CREWS and its partners look forward to building on a decade of delivery by scaling impact and strengthening early warning systems in LDCs and SIDS in the months and years to come.

Francis Pigeon

Executive Director, Policy and Partnerships, Meteorological Service of Canada, Environment and Climate Change Canada

Chair, CREWS Steering Committee

A decade of delivery

The Climate Risk and Early Warning Systems (CREWS) initiative was officially launched in December 2015 at the 21st Conference of the Parties (COP21) in Paris, firmly placing early warning systems at the heart of the global agendas on climate – quickly followed by alignment with the Sustainable Development Goals (in 2016) and in 2025, the Global Goal on Adaptation.

From the outset, CREWS has been a driver for the development and implementation of effective, people-centred early warning systems in the world's most at-risk countries and territories. Since 2015, CREWS has supported 84 countries/territories through a combination of country, multi-country and regional multi-year projects in addition to a programme of short-term targeted support. Through these interventions, to date, CREWS has supported all but four of the world's least developed countries (LDCs) and small island developing States (SIDS),[1] including three quarters of the countries classified by the World Bank as either experiencing conflict or having high levels of institutional and social fragility.[2] Thanks to CREWS support – and through the dedicated work of its implementing, operational and local partners – the coverage and comprehensiveness of early warning systems in many LDCs and SIDS has tangibly improved. This progress is demonstrated by the year-on-year improvements reported in the Global Status Report on multi-hazard early warning systems.[3] It is also evidenced by the data presented in this report and – looking beyond the numbers – through the successes celebrated in the featured projects and in each project's highlight for 2025 within the regional portfolio overviews.

Drawing on a decade of experience, CREWS launched its Strategy 2030 in November 2025. CREWS' impact to 2030 – defined by three strategic priorities – will be achieved through three interconnected levers: catalytic financing, knowledge and innovation, and policy influence and underpinned by CREWS' values (see Box 1). In this way, CREWS continues to put people at the heart of everything it does and with a special focus on inclusivity which is demonstrated by the number of projects that are committed to gender equality – an increase from 13 last year to 16 by the end of 2025.

In marking ten years of delivering risk-informed early warning services and improving climate resilience, this year's Annual Report celebrates not just a year – but a decade – of CREWS' life-saving work. Simultaneously, it provides a baseline for measuring the impact of CREWS' new strategy, which commits CREWS to supporting LDCs and SIDS beyond the life of EW4All and through to at least 2030.

Box 1. CREWS' value proposition

CREWS' work is anchored by its value proposition where it seeks to maximise its impact by ensuring that its work is:

- **Unique** – driven by nationally defined needs
- **People-centred** – putting people's lives and livelihoods first
- **Solution-oriented** – using innovation and applying agile solutions for transformational and sustainable change
- **Acting as a multiplier** – mobilizing more climate finance and action with each investment
- **Gender responsive** – directly investing in women's empowerment for climate resilience of women and men
- **Promoting coherence** – complementing and building on others' work for coherency, efficiency – and greater impact

These icons are used throughout the report to draw attention to CREWS' values in action.

1 The only LDCs yet to benefit from CREWS support are Eritrea, Lesotho and Yemen; Singapore is the only SIDS not benefitting from CREWS' activities.

2 World Bank. Classification of Fragile and Conflict-Affected Situations. Accessed April 2026: https://www.worldbank.org/en/topic/fragilityconflictviolence/brief/classification-of-fragile-and-conflict-affected-situations

3 United Nations Office for Disaster Risk Reduction and World Meteorological Organization (2025). *Global status of multi-hazard early warning systems.* Geneva, Switzerland. Accessed April 2026: https://library.wmo.int/idurl/4/69684

CREWS in numbers 2015-2025

Since 2015 and in a decade of CREWS operations:

153 thousand

Deaths/missing people due to disasters in LDCs and SIDS[4]

129.3 million

people whose livelihoods were disrupted or destroyed, attributed to disasters in LDCs and SIDS[5]

397.6 million

people in LDCs/SIDS with access to/receiving EWS

CREWS interventions since 2015:

Supporting 84 countries/ territories

16 ASW actions

have provided targeted support to 14 countries, the continent of Africa and a group of 5 Caribbean countries

27 multi-year projects
(including 3 in phase 2 and 1 in phase 3)

- ✓ Including 76% countries/ territories in FCV situations
- ✓ 95% of all LDCs and SIDS have been supported

32% of trained people are women

94 national plans, strategies and legislation
on early warnings approved/ implemented

Funding CREWS, since 2015:

12
Contributing Members

US$ 142 million
contributed to the CREWS Trust Fund

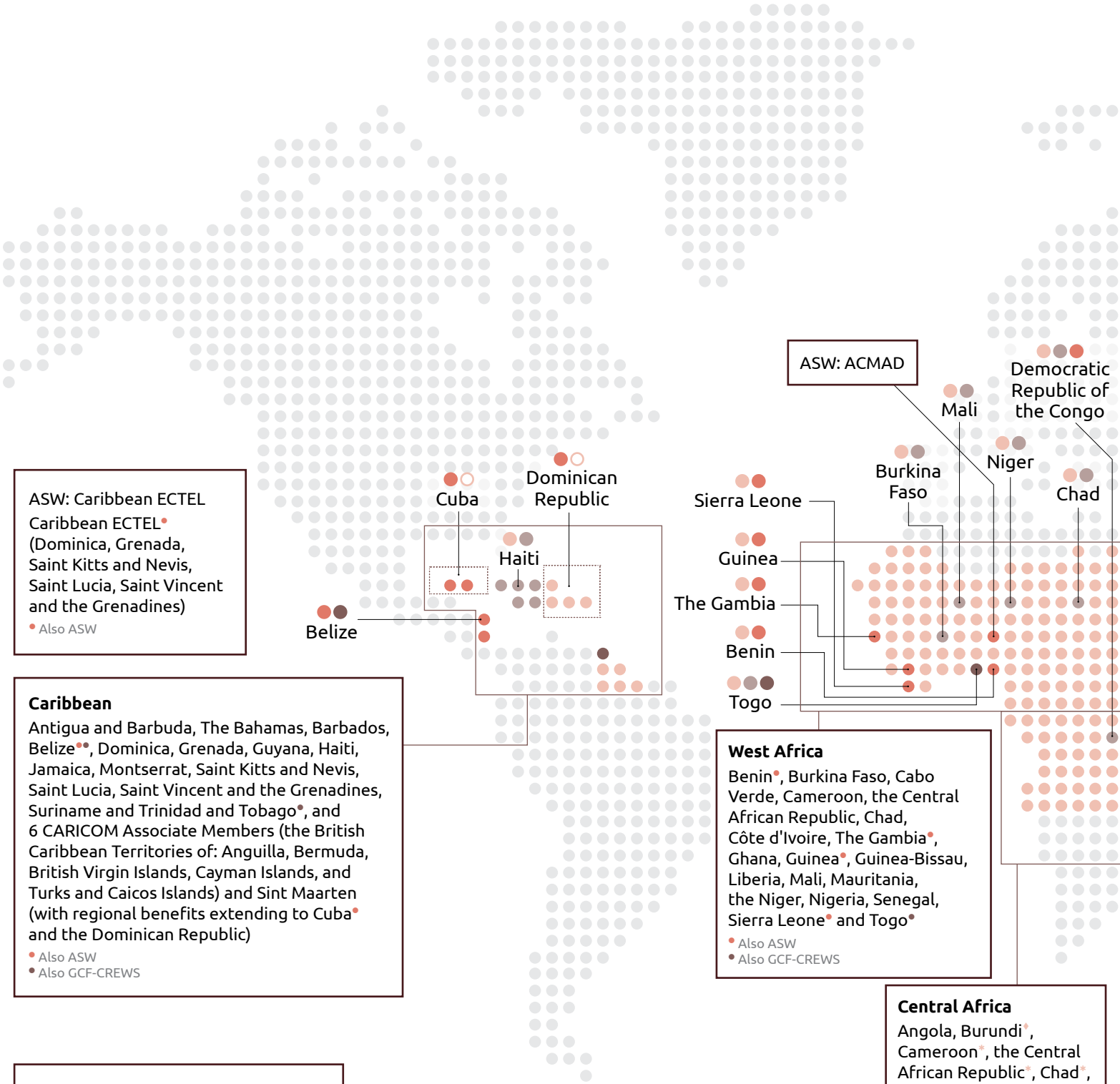
US$ 2.8 billion
resources leveraged from the World Bank, Green Climate Fund and other financing

US$ 124 million
required to deliver the current CREWS pipeline

4 Sendai Framework Monitor, April 2026: Data correct to 31 March 2026, noting that not every country/territory reports on every indicator in any given year and that data may be updated retrospectively and at any time.

5 Sendai Framework Monitor, April 2026.

A decade of global action



ASW: Caribbean ECTEL

Caribbean ECTEL• (Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines)

• Also ASW

Caribbean

Antigua and Barbuda, The Bahamas, Barbados, Belize••, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname and Trinidad and Tobago•, and 6 CARICOM Associate Members (the British Caribbean Territories of: Anguilla, Bermuda, British Virgin Islands, Cayman Islands, and Turks and Caicos Islands) and Sint Maarten (with regional benefits extending to Cuba• and the Dominican Republic)

• Also ASW
• Also GCF-CREWS

West Africa

Benin•, Burkina Faso, Cabo Verde, Cameroon, the Central African Republic, Chad, Côte d'Ivoire, The Gambia•, Ghana, Guinea•, Guinea-Bissau, Liberia, Mali, Mauritania, the Niger, Nigeria, Senegal, Sierra Leone• and Togo•

• Also ASW
• Also GCF-CREWS

Central Africa

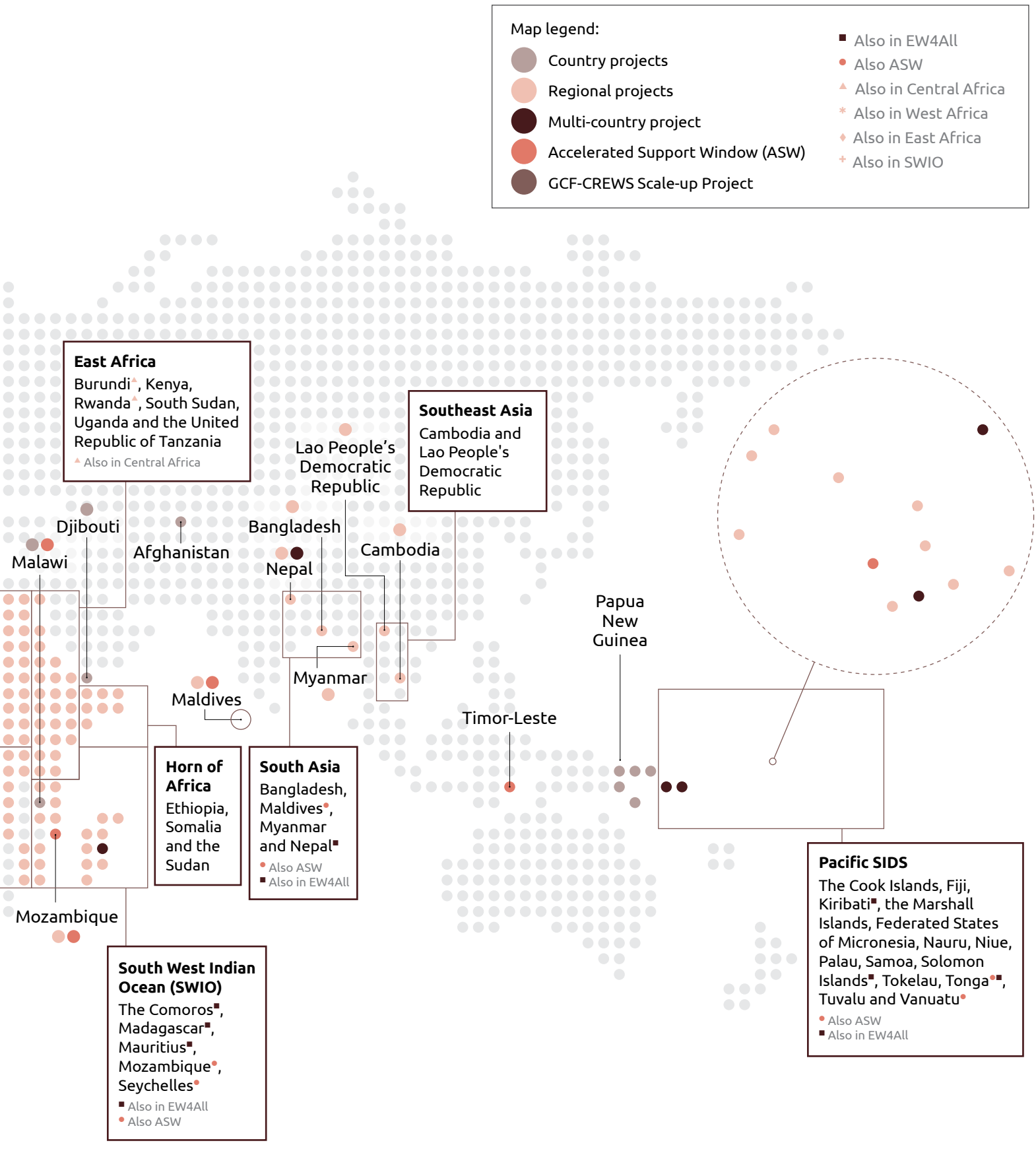
Angola, Burundi♦, Cameroon*, the Central African Republic*, Chad*, the Congo, the Democratic Republic of the Congo•, Rwanda♦ and São Tomé and Príncipe

* Also in West Africa
• Also ASW
♦ Also in East Africa

EW4All Accelerator

The Comoros+, Kiribati, Madagascar+, Mauritius+, Nepal, Solomon Islands and Tonga•

• Also ASW
+ Also in SWIO


Map legend:
Country projects
Regional projects
Multi-country project
Accelerated Support Window (ASW)
GCF-CREWS Scale-up Project
Also in EW4All
Also ASW
Also in Central Africa
Also in West Africa
Also in East Africa
Also in SWIO
East Africa
Burundi▲, Kenya, Rwanda▲, South Sudan, Uganda and the United Republic of Tanzania
▲ Also in Central Africa
Southeast Asia
Cambodia and Lao People's Democratic Republic
Lao People's Democratic Republic
Djibouti
Malawi
Afghanistan
Bangladesh
Nepal
Cambodia
Myanmar
Maldives
Timor-Leste
Papua New Guinea
Horn of Africa
Ethiopia, Somalia and the Sudan
South Asia
Bangladesh, Maldives●, Myanmar and Nepal■
● Also ASW
■ Also in EW4All
Mozambique
South West Indian Ocean (SWIO)
The Comoros■, Madagascar■, Mauritius■, Mozambique●, Seychelles●
■ Also in EW4All
● Also ASW
Pacific SIDS
The Cook Islands, Fiji, Kiribati■, the Marshall Islands, Federated States of Micronesia, Nauru, Niue, Palau, Samoa, Solomon Islands■, Tokelau, Tonga●■, Tuvalu and Vanuatu●
● Also ASW
■ Also in EW4All

CREWS as the platform for scaling up early warning systems in LDCs and SIDS

A decade of mobilising climate finance: How CREWS is transforming the climate finance landscape

The global demand for climate resilience and early warning investments has never been more urgent. One-third of the global population still lack early warning coverage, and nearly half of LDCs lack adequate early warning systems.[6] Yet the path from ambition to implementation remains fraught with obstacles. Funding for early warning systems is fragmented and geographically skewed towards a few countries. In the 2025 Global Status Report on multi-hazard early warning systems, it was reported that 4.04 billion US dollars (US$) had been approved for funding these systems. However, official development assistance is declining and funding from multilateral development banks and institutional funds – largely provided through loans and credit that must be re-paid rather than grants – continues to be out of reach for many LDCs and SIDS. This is largely due to a perception that the investments are high-risk and that countries have limited domestic capacity to design and execute complex projects. In this challenging environment, CREWS stands out as more than another funding mechanism but as a transformative platform guiding countries from stand-alone pilots to sustainable national early warning systems.

A farmer uses mobile phone technology to compare prices at various markets within Banfora Department, Burkina Faso, West Africa.
Credit: Jake Lyell

6 United Nations Office for Disaster Risk Reduction and World Meteorological Organization (2025). *Global status of multi-hazard early warning systems.* Geneva, Switzerland. Accessed April 2026: https://library.wmo.int/idurl/4/69684

Funding the future: CREWS' multiple financing pathways

Every CREWS investment is linked to larger financing opportunities, providing a clear route towards national ownership and sustained financing for early warning systems and services. This approach aligns with the strategic priorities set out in the CREWS Strategy through its catalytic funding, policy influence and commitment to sharing knowledge and supporting innovative approaches.

Through its three funding pathways, CREWS interventions support countries by providing technical support for preparatory work and by strengthening institutional and technical capacity whilst establishing essential services which demonstrate both readiness and potential for scaling up (see Figure 1).

Figure 1. CREWS' funding pathways

Five multi-year projects are featured in this year's Annual Report, including two countries which have benefited from more than one CREWS investment: Malawi (see Malawi project feature) and Togo (see Togo project feature) and other projects which are in or entering a second phase.

In Malawi, targeted support for the pilot testing of the use of artificial intelligence in weather forecasting was provided through an Accelerated Support Window action. This is an example of how CREWS can provide short-term funding for trialling of innovative approaches. Countries can also apply for funds to undertake preparation work – such as diagnostics – building a foundation for future investments. In special cases – such as that of Guinea (Box 2) – short-term funding from CREWS can provide an essential bridge to sustain life-saving services whilst other projects come online.

At the other end of the spectrum, Togo was the first country to be approved for funding from the Green Climate Fund (GCF) through the GCF-CREWS scaling-up framework, building on the success of the CREWS multi-year project "Togo – Hydromet and Early Warning Services".

Box 2. Accelerated Support Window: Strengthening meteorological services in Guinea to harness future investment

US$ 250 thousand – Led by WMO – Continued Assistance and Advisory Services



ANM temporary office. Credit: ANM, Guinea

The US$ 250 thousand ASW in Guinea ensured the continuation of essential meteorological services in challenging circumstances whilst also helping Guinea's National Meteorological Service (ANM) to improve its readiness for future investment:

> *"The Guinean meteorological service had long been housed in a very dilapidated building, which was further damaged on the night of 17-18 December 2023, during the fire at the Conakry fuel depot. The meteorological service was left without a workspace. To ensure continued service, it relocated to a temporary, rented building. Support from CREWS enabled the service to pay the rent for 2024, thus ensuring continuity of service and providing staff with a comfortable workspace, thereby increasing their efficiency. As construction of the new building is not yet complete, the Agence Nationale de la Météorologie (ANM) continues to occupy this temporary building. We are extremely grateful to the CREWS initiative for this support, without which the ANM would be in a much more difficult situation." Dr René Tato Loua, Director General, ANM*

In the first of two components, CREWS funds supported the continuation of ANM operations by renting suitable office accommodation and providing a robust internet connection. Meanwhile, the technical assistance provided by CREWS enabled ANM to make improvements to its systems and services, including connecting 28 stations to the WMO Information Service, a data-sharing platform. With CREWS support, ANM also launched a new public website which supported the issuance of warnings that are compliant with the Common Alerting Protocol (CAP) standard. Guinea's warnings were subsequently integrated into Google Public Alert, ensuring their availability across all Google platforms, a first for Africa and testament to their reliability.

CREWS funds were also used to strengthen ANM's institutional foundations and legal framework, which was a pre-requisite for effectiveness of the CLIMAGUI project. This 6 000 000 euros (€) project implemented by the Government of Guinea and funded by Agence Française de Développement (AFD) aims to reinforce ANM. CREWS support on institutional and legal frameworks has been designed to improve accountability and transparency of the agency, thereby supporting ANM's capacity to implement activities funded by AFD and by the government. Aligned with national policies and development frameworks CREWS also supported the development with national consultants – and validation by the ANM Board – of ANM's national strategic plan, action plan and business plan. Regulations on revenue generation were also drafted, providing a mechanism for funding services in the future.

With exceptional commitment from ANM staff, a strong sense of national ownership and support from development partners as well as institutions (nationally and regionally), the ASW in Guinea has ensured continuity of services, avoided duplication of efforts and promoted efficient use of limited resources. Whilst challenges remain, including delays to the completion of building works, CREWS' flexible funding approach has ensured operational continuity and enabled the inception of a large capacity development project.

Beyond funding: a platform for scaling up

CREWS leverages its convening power to align governments, donors and technical partners. By strengthening the foundational elements of early warning and climate services, CREWS transforms its projects into bankable, scalable investments. The success of this approach is most clearly demonstrated through the scale-up framework between CREWS and the Green Climate Fund.[7] This framework serves as a model that other funds and development banks might replicate. Crucially, it shows how targeted, early-stage support can reassure major international funders that the desired outcomes – and impacts – of their investments will be realized and sustained.

The logic is simple but disciplined. It begins with upstream support that strengthens the technical and institutional foundations of early warning systems. This includes improving data quality and sharing, strengthening coordination and collaboration among institutions, and addressing gaps in service delivery. These steps reduce uncertainty, both for countries and for financiers. Once early results are demonstrated and national ownership is clear, larger financing can be mobilized more quickly and with greater assurance.

The partnership between CREWS and the Green Climate Fund has already begun to deliver results. The first projects to be developed under the framework show how relatively modest initial investments can unlock significantly larger flows of finance. To date approximately US$ 50 million has been approved to support climate-resilient development and early action programmes firstly in Togo and then in Belize and Trinidad and Tobago (see Box 3). There are at least 12 more projects in the pipeline, including ones for Cambodia, Gambia, Fiji and Mauritania. However, with only around half of all LDCs and SIDS reporting the existence of multi-hazard early warnings,[8] the demand for CREWS support – and funds for scaling up – remains very high.

Box 3. GCF-CREWS scaling up in Belize and in Trinidad and Tobago

US$ 27.1 million – Executing Entities: Caribbean Meteorological Organization and the Caribbean Development Bank

Scaling up and expanding on the outcomes of the first phase of the regional CREWS Caribbean project, this US$ 27.1 million GCF project[9] – including a US$ 24.1 million grant from the GCF – will strengthen hydrometeorological and early warning services in Belize and in Trinidad and Tobago as well as in 14 other members of the Caribbean Meteorological Organization.

The project is designed around three complementary outcomes. These will build the technical and institutional foundations for effective early warning by improving governance, infrastructure and forecasting capabilities while enhancing resilience across key sectors. The project also seeks to improve risk communication and preparedness at the community level, ensuring that timely, actionable climate and weather information reaches vulnerable populations.

This investment demonstrates how CREWS projects provide a platform for scaling up – and fast-tracking financing modalities – to implement effective early warning systems at national and regional levels.

7 CREWS (2023). GCF-SAP CREWS scaling[-]up framework for early warning. Accessed April 2026: https://crews-initiative.org/wp-content/uploads/2024/07/20231121_CREWS_GCF-SAP_web-pages.pdf

8 United Nations Office for Disaster Risk Reduction and World Meteorological Organization (2025). *Global status of multi-hazard early warning systems.* Geneva, Switzerland. Accessed April 2026: https://library.wmo.int/idurl/4/69684

9 Green Climate Fund. SAP063: Scaling up of Caribbean Hydrometeorological and Multi-hazard Early Warning Services (CREWS) in Belize and Trinidad and Tobago, accessed April 2026: https://www.greenclimate.fund/project/sap063

Enabling large-scale investment: CREWS' de-risking mechanisms

CREWS employs a multi-dimensional de-risking strategy that prepares the ground for large-scale climate investment (Figure 2).

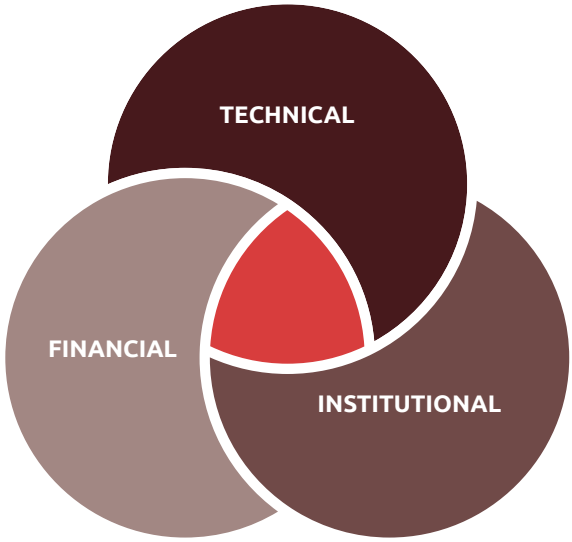


Figure 2. CREWS' de-risking mechanisms

Technical: CREWS focuses heavily on improving the quality of hydrometeorological data, weather forecasts and warnings, and climate services. By ensuring that technical foundations are robust, CREWS guarantees that proposed interventions are both viable and effective in delivering life-saving impacts.

Institutional: CREWS strengthens governance and coordination by convening and aligning national ministries, agencies and development partners around a shared vision. Institutional strengthening reduces implementation risks and ensures that systems remain operational long after the initial funding period has ended. Alignment at national and regional levels reduces duplication of effort and amplifies the overall impact of every dollar invested.

Financial: CREWS-supported projects provide major financing institutions – such as the World Bank and the Green Climate Fund – with the proof of concept and evidence of readiness that they require before making significant investments.

Scaling up finance for early warning: replicating the model

Still, the work is far from complete and the need to replicate the model is urgent.

The GCF-CREWS scaling-up framework provides a tested pathway for meeting the global need for early warning systems. A similar approach could be adopted across other climate and development finance mechanisms, with modifications made to the model to suit each institution's mandate, risk appetite and operational constraints. What matters most is the core principle of facilitating a structured handover from upstream de-risking to scaled investment. However, it is important for each funder to share their pipelines to ensure a coherent approach which avoids duplication and maximizes complementarity across the investments.

In practice, this would begin with each financing mechanism establishing dedicated windows for early-stage proof of concept and institutional strengthening work. Sustained financing for maintenance and operations – including data quality control and sharing – must also be prioritized. Treating these elements as core investments, rather than secondary considerations, will improve both performance and sustainability. Finally, partnerships must extend beyond government institutions and reach the last mile. Early warning systems succeed only when they reach people and enable action.

Looking ahead, the opportunity is clear. The GCF-CREWS scaling-up framework demonstrates that when risk is reduced, national ownership is strengthened and pathways are clearly defined, investment can follow more quickly and with greater impact. Extending this approach across other financial mechanisms would allow countries to spend less time navigating fragmented processes and more time delivering services that protect people. It would shift the focus from isolated successes to systemic change.

CREWS is doing more than just funding individual projects; it is building the fundamental conditions required for climate resilience to reach a global scale. By methodically reducing risk, strengthening national systems and mobilizing a broad coalition of partners, CREWS ensures that climate investments are larger, smarter, more sustainable and more readily available.

Improving early warning in LDCs and SIDS: looking beyond 2027

By helping the world's poorest and most at-risk countries and territories to build inclusive, people-centred early warning systems against hazards, CREWS is strengthening their resilience to climate shocks. As the only dedicated fund supporting early warning systems, from the launch of Early Warnings for All (EW4All) in 2022, CREWS was recognized as an essential delivery vehicle for achieving this important global goal by 2027.[10] Beyond this timeline, CREWS has made a strategic commitment to continue this work until at least 2030, with current programming out to 2029.

Building on a decade of delivery and launched at the Conference of the Parties in Belém in November 2025 (COP30). CREWS' Strategy 2030 "positions CREWS as a transformational enabler: beginning with targeted support, building and strengthening foundational capacities, and unlocking scaled, sustainable investments that reduce loss and damage and build long-term resilience."[11] The Strategy is formulated around three strategic priorities:

- Strengthening foundational early warning and climate services
- Catalysing transformation through scaled finance
- Driving next-generation systems

Whether working at the national or the regional level, CREWS supports the development – and implementation – of budgeted strategic/investment plans that prioritize multi-hazard early warning. These country-led plans are foundational, promoting coherence and providing an entry point for targeted investments by funders and development partners. By supporting countries/ territories to develop these plans, CREWS is encouraging them to act. The existence – or absence – of these important documents is represented by CREWS' first core indicator: Outcome 1: National and local multi-hazard early warning systems prioritized and funded (see Appendix 1). Thanks to CREWS support 14 countries now have EW4All Roadmaps.[12] These strategic documents serve as national blueprints for mobilizing investments in early warning systems and services. Recognising the importance of these plans to catalyse investment in their countries, another 5 countries have embarked on the development of national EW4All Roadmaps: Chad, Togo, Kiribati, Mauritius and Nepal.

10 Launched by the Secretary General of the United Nations in 2022, the aim of EW4All is to protect everyone on Earth from hazardous weather, water or climate events by the end of 2027. United Nations. Early warnings for all. Accessed April 2026: https://www.un.org/en/climatechange/early-warnings-for-all

11 CREWS. *From delivery to transformation: Scaling CREWS' impact to 2030. Our Strategy.* Page 2. Accessed April 2026: https://crews-initiative.org/wp-content/uploads/2025/11/CREWS-2030-Strategy_ENG.pdf

12 Afghanistan, Cambodia, Comoros, Fiji, Haiti, Lao People's Democratic Republic, Madagascar, Niger, Seychelles, Samoa, Solomon Islands, Somalia, Sudan and Tonga have developed EW4All Roadmaps thanks to CREWS support.

Expanding CREWS' expertise: formalising partnerships

By encouraging a systems approach to the design, development and implementation of early warning systems, CREWS projects often include activities and outputs from each element of these systems and thus, every pillar of EW4All.[13] With two of the EW4All pillar leads already implementing CREWS projects, in 2025, CREWS initiated the accreditation of the remaining pillar leads – the International Telecommunications Union (ITU), lead for Pillar 3 and the International Federation of Red Cross and Red Crescent Societies (IFRC), lead for Pillar 4.

The accreditation process for both organizations is expected to conclude in June 2026 and once completed, ITU and IFRC will join the other pillar leads (UNDRR and WMO) – as well as the World Bank's Global Facility for Disaster Reduction and Recovery (GFDRR) – as Implementing Partners of CREWS projects. However, both ITU and IFRC have already participated in CREWS projects, not least through the EW4All Accelerator project, where they have provided technical support to the seven focus countries, including Madagascar (see Box 4).

Farmers Planting Rice in Cambodia.
Credit: Godong/Alamy.com

13 Pillar 1. Disaster Risk Knowledge (led by UNDRR); Pillar 2. Detection, observation, monitoring, analysis, and forecasting (led by WMO); Pillar 3. Warning dissemination and communication (led by ITU); and Pillar 4. Preparedness and response capabilities (led by IFRC).

One of the top priorities of the global Early Warnings for All initiative is to reach the last mile in Least Developed Countries and Small Island Developing States, who are the most vulnerable to the impacts of severe weather and a changing climate. Since the launch of CREWS in 2015, WMO has worked hand in hand with national meteorological and hydrological services and regional centres to deliver life-saving early warning systems which lead to action. As CREWS marks its first decade and looks ahead to scaling up under Strategy 2030, the urgency has never been greater. WMO stands ready – through its people, programmes and partnerships – to meet this growing demand and protect communities worldwide.

Celeste Saulo
Secretary-General, World Meteorological Organization

The climate crisis is leading to more devastating disasters. This makes investing in disaster risk reduction ever more urgent, and multi-hazard early warning systems are among the most powerful tools for protecting lives and livelihoods from disasters. That is why UNDRR is proud to be an Implementing Partner of the CREWS Initiative, as a key global mechanism for helping the most at-risk countries strengthen early warning and action systems. As CREWS celebrates its first decade, we congratulate all those who have contributed to its success. We look forward to continued collaboration as CREWS implements its new Strategy 2030 to scale Early Warnings for All.

Kamal Kishore
Special Representative of the United Nations Secretary-General for Disaster Risk Reduction

The World Bank Group values its partnership with CREWS in helping client countries strengthen resilience to weather and climate risks through investments in people, systems and infrastructure. Early warning systems not only save lives – they also protect jobs, keep businesses operating and reduce economic disruption when disasters strike.

The World Bank Group has been at the forefront of expanding access to life-saving early warnings in some of the most at-risk countries – working through CREWS over the past decade and a broad coalition of partners to turn commitment into action. While progress is clear, the scale of need remains significant. We are deepening our engagement, mobilizing financing and helping countries build more resilient, job-supporting growth.

Ming Zhang
Global Director, Urban, Subnational Finance, Tourism, and Disaster Management, Resilience and Land Global Department, World Bank

The CREWS Portfolio 2015-2025

Type	Ongoing (and *new*) in 2025	Completed in 2025	Completed before 2025
Accelerated Support Window	• *ACMAD* • Belize • *Caribbean ECTEL* • Cuba • Democratic Republic of the Congo • The Gambia • *Malawi* • *Seychelles* • Vanuatu	• Guinea* • Sierra Leone • Timor-Leste • Tonga∞	• Benin∞ • Mozambique • Maldives∞
Country multi-year	• Afghanistan • Burkina Faso∞ • Djibouti • Democratic Republic of the Congo • Haiti • Malawi* • Niger 2.0	• Chad* • Mali • Togo*	• Niger 1.0 • Papua New Guinea
Regional multi-year	• Caribbean 2.0* • Central Africa • East Africa • Greater Horn of Africa • Southwest Indian Ocean • West Africa∞ • *Pacific SIDS 3.0 (aka SIEWAP)* • *South Asia* • *Cambodia and Lao People's Democratic Republic 2.0*	• Pacific SIDS 2.0∞ • Cambodia and Lao People's Democratic Republic 1.0*	• Pacific SIDS 1.0 • Caribbean 1.0
Multi-country multi-year	• EW4All Accelerator∞		• Measuring the effectiveness of multi-hazard early warning systems

* Indicates a project featured in this annual report

∞ Indicates a project featured in AR 2024

CREWS in Chad 2019-2025

Chad – Hydromet and Early Warning Services

Tailor-made services to farmers. Credit: CREWS Tchad

CREWS webpage: CREWS Chad

Implementing Partners: WB'S GFDRR (Lead) and WMO

Operational Partners: Agence Nationale de la Météorologie (ANAM); Agriculture and Rural Development Agency (ANADER); Direction des Ressources en Eau (DRE); Direction Générale de la Protection Civile (DGPC); and Le Système d'Information sur la Sécurité Alimentaire et d'Alerte Précoce du Tchad (Food Security Monitoring and Warning System, SISAAP)

Status: Completed in 2025; the country has high levels of institutional and social fragility

Value: US$ 3.2 million

In Chad, repeated droughts have substantially impacted agricultural production while flooding has led to infrastructure and crop destruction as well as massive displacement of population, with 1.2 million people living in displacement at the end of 2024 following the worst floods in decades.[14] Flooding is also a high priority hazard in the country, including in the city of N'Djamena, where, in July 2024, torrential rains and flooding killed 576 people and left 1.9 million homeless.[15] CREWS' work in Chad has therefore focused on flooding – in urban and rural settings – as well as convective storms, drought and food security. Through its implementing, operational and local partners, CREWS has strengthened national capacity to deliver climate, hydrometeorological and early warning systems, improving the availability and quality of weather, water and climate services in selected sectors and communities.

14 Internal Displacement Monitoring Centre. Chad - Floods trigger more displacements than in the past 15 years combined, May 2025. Accessed April 2026: https://www.internal-displacement.org/spotlights/chad-floods-trigger-more-displacements-than-in-the-past-15-years-combined/

15 World Bank. Floods 2024: N'Djamena's resilience thanks to preventive measures, December 2024. Accessed April 2026: https://www.worldbank.org/en/news/feature/2024/12/13/floods-2024-ndjamena-resilience-thanks-to-preventive-measures

Celebrating success

Providing tailor-made advice for farmers

Farmers in Chad are now able to make informed decisions relating to their crops thanks to the improved agrometeorological bulletins produced by ANAM and DRE, and distributed by ANAM and ANADER. These bulletins are tailored for specific crops and locations based on the crop calendars which indicate crop exposure and vulnerability for a particular season. The crop calendars were developed by ANAM staff following training in the use of specialist software and assistance from Fundació Universitat Rovira i Virgili (URV) and AGRHYMET[16] together with hands-on peer-to-peer training from other West African forecasters on how to calculate climate indices.[17] Chad was the first to put their new skills into action by independently developing their own national crop calendar software[18] and subsequently using the calendars to create insightful products for farmers.

Disseminating warnings and advisories through favoured channels

In Bongor, Linia-Mani and Mailaou-Tchendjou, local communities are now receiving warnings and advisories over their preferred channels – including radio and through community groups – ensuring that this life-saving information reaches the people at risk, enabling them to take action to save lives, maximize crop production and reduce losses related to climate, weather and hydrological extremes. Community representatives co-designed bulletins with technical experts and identified radio as an important channel. These warnings and forecasts are now being broadcast by three local radio stations – FM Liberté, Radio Karal and RTN Bongor and the same information is also being cascaded within local communities, including through 280 trained farmer-producers and extension agents from the ANADER. Staff from ANAM and DRE are now also disseminating warnings using CAP following access to – and training on the use of – a CAP warning composer tool, both provided as open source software by WMO.

Building the foundations for an urban flood model for N'Djamena

Hydrologists from the DRE now have essential data to enable them to forecast flooding in the city of N'Djamena. Crucial hydrological data – related to bathymetry, topography, river levels and flows – was collected for the Chari and Logone Rivers through targeted data collection campaigns that were organized by the World Bank's Integrated Flood Control and Urban Resilience Project (PILIER), the Ministry of Urban Planning and the Municipality of Ndjamena. With support from CREWS, DRE hydrologists updated the river-level curves that are used to convert water levels into runoff and then assimilate this information in the FANFAR flood model, run by AGRHYMET with support from the Sveriges Meteorologiska och Hydrologiska Institut (Swedish Meteorological and Hydrological Service, SMHI). To ensure full coverage – even for areas that are hard to reach – station data was complemented by satellite telemetry from HydroSatChad, as a result of a partnership between DRE, the Lake Tchad Basin Commission (LCBC), the French Research and Development Institute (IRD) and the French Center for Space Studies (CNES).

Preparing the way for targeted investment to build technical capacity

A US$ 13 million investment in early warning systems was approved by the GCF Board in February 2025, to be led by United Nations Development Programme (UNDP) and involving all four EW4All pillar leads. Together with a contribution from the World Bank PILIER project, it will address gaps in technical capabilities and thereby ensure that technical staff in the key agencies have the equipment, tools and training that they need to deliver effective early warning services. The implementing partners carried out capacity assessments of ANAM (by WMO) and DGPC (by the GFDRR) as well as Chad's early warning system overall. These assessments, together with the results of the Ready to Respond (R2R) diagnostic,

16 AGRHYMET is the Regional Climate Centre (RCC) for Africa and the Sahel: https://agrhymet.cilss.int

17 Climpact – a software package that is used to calculate climate indices that are relevant for the health, agriculture and water sectors (see https://climpact-sci.org, accessed April 2026) and INCLICS (see https://github.com/Lucmto/INCLICS).

18 CREWS. South-South knowledge transfer – Climate-smart crop calendar. Accessed April 2026: https://storymaps.arcgis.com/stories/cc9fa54d5d654ef19b7366aa6a4db8a6

have led to the prioritization of a hydromet monitoring and forecasting centre for ANAM and a response coordination centre for the Civil Protection Directorate (DGPC) which will be funded through an R2R investment plan valued at US$ 28 million as part of the PILIER project. These investments are aligned with the agencies' strategic plans, two of which – for ANAM and DGPC – were updated thanks to technical support from the WMO and GFDRR.

Establishing a national coordination mechanism for early warnings

A national coordination mechanism for early warnings has been established, providing a platform for the rollout of EW4All in Chad. The EW4All workshops have raised awareness about the importance of early warnings – and support from CREWS – with the government and United Nations officials in the country. Chad's EW4All Roadmap was adopted by the Minister in charge of civil protection in October 2025 setting a clear path for scaling up early warning in Chad and entry points for funders to support the country in this endeavour.

Overcoming challenges

The project team worked together to overcome – or minimize the impact of – several challenges during the project. These included:

- Managing low technical capacity and staffing of the key national institutions, including the meteorological (ANAM), civil protection (DGPC) and hydrological (DRE).
- Leadership changes meant that the project team needed to make – and re-make – the case for a national early warning system and to adjust the project to address new challenges. These delays contributed to the need for additional funding to finalize project outputs, provided by CREWS through an Accelerated Support Window (ASW) action.
- Finding local consultants with the necessary skills/experience – but without conflicts of interest in terms of the institutions involved – was a challenge and common in countries where there are few technical experts in hydrometeorology.

Specialist training. Credit: CREWS-Tchad

- Delays in the start of the UNDP GCF project (FP258) meant that ASW funding was essential for sustaining the project outcomes and maintaining service delivery from ANAM and DRE, especially for operations and maintenance, which is not yet funded by government.

Learning to share

It has been essential for stakeholders across the country to understand the reason for the project and the benefits it is expected to bring. A robust communication plan, supplemented by slides – to support the implementation of the project overall as well as specific project activities – and other promotional material (for example, posters or flyers) ensured that stakeholders were kept informed of project progress.

Good working relationships between technical staff within and across the different institutions is fundamental to success as early warning systems need inputs from many experts across multiple disciplines, for example, to identify priority hazards and vulnerable communities.

The delivery of life-saving public services like early warning systems need reliable funding from the central government. Where it is lacking, there is risk of project outcomes not being sustained.

> *"… through these activities we've already seen that the impact on the ground was that many farmers are interested, and the community radio stations that relayed our information have testified that, through the information, they saw that their audience had doubled. So, the impact is quite real, and we plan to build on this foundation [in order to be able] to provide an even closer and more extensive services."*
> *Mr Bianpambé Patallet, Directeur Général, ANAM*[19]

19 YouTube. CREWS Initiative: Mr Bianpambé Patallet presents his vision and challenges for early warning systems in Chad, accessed April 2026: https://www.youtube.com/watch?v=mMi_neA6Chc

CREWS in Malawi 2022-2026 (ongoing)

Strengthening risk informed planning, hydro-meteorological and early warning services in Malawi

Field visit with the community in Masongola ward, Zomba. Credit: CREWS

CREWS webpage: CREWS Malawi

Implementing Partners: WB GFDRR (Lead) and WMO

Operational Partners: Department of Climate Change and Meteorological Services (DCCMS); Department of Disaster Management Affairs (DoDMA); Department of Water Resources (DWR); District Council; IFRC, Red Cross Climate Centre (RCCC) and National Societies (Malawi Red Cross Society, MRCS); and Africa Conservation Tillage Network (ACT)

Status: Ongoing

Value: US$ 3 million

Malawi is highly exposed to drought and flooding. The country is also very vulnerable to the effects of climate variability and change, with nearly 80 percent of the population dependent on rain-fed agriculture or pastureland.[20] CREWS' work in Malawi has therefore focused on strengthening the technical capacity of the national institutions that are delivering weather, water, climate and early warning early action services. The outputs from CREWS' investment include improved warnings for communities – and tailored products for farmers and fishers – which are disseminated across a range of channels. The impact is even greater. When Cyclone Jude struck Malawi in March 2025, communities were able to access, understand and act upon the warnings they received, tangibly reducing the negative impacts of the event.

20 CREWS (2017). CREWS Mali Project Document. Accessed April 2026: https://crews-initiative.org/wp-content/uploads/2024/06/CREWS_CProj_02_Mali_0.pdf

Celebrating success[21]

Investing in forecasting capacity results in improved forecasts and warnings

Forecasters at DCCMS are implementing impact-based forecasting and tailoring their advice to meet the varying needs of different economic sectors and the location-specific vulnerabilities of Malawi's diverse communities. DCCMS is also adopting methodologies for verifying its forecasts – an important first step for understanding and improving the accuracy of their services. This has been achieved through specialist training and technical support from WMO, including the installation – and operationalization – of a suite of meteorological systems at DCCMS.[22]

To enable effective preparedness and anticipatory decision-making within Malawi's climate-sensitive sectors – including agriculture, health and disaster risk management – WMO also supported DCCMS to convene national stakeholders at a series of climate outlook forums. These events – held at national and district levels – enabled technical agencies to work with user groups to interpret meteorological data and co-produce sector-specific seasonal outlooks.

The forecasts and warnings issued by DCCMS take advantage of other investments in Malawi's meteorological and hydrological observations including those of the Regional Climate Resilience Programme in Malawi (RPCR2) and the Malawi Watershed Services Improvement Project (MWASIP). GFDRR's weather radar experts have also provided technical assistance to DCCMS in relation to the design of a new central radar and the implementation of a radar in the south of the country. Crucially, these activities are aligned with the ongoing and sustained operational implementation of the National Framework for Water and Climate Services in Malawi, which is guiding coordinated service delivery and was developed by DCCMS with support from WMO. They are also strategically aligned with DCCMS' Strategic Plan and Operational Plan which have been developed under the technical guidance of specialists from GFDRR.

Improving access to forecasts and life-saving warnings

Public access to early warning information has been improved as a result of the project. DCCMS has refined its communication products and increased its dissemination channels in direct response to the insights gained from a national user needs assessment conducted in early 2025 with support from WMO. Taking account of user preferences, accessibility requirements and sectoral decision contexts, DCCMS has since implemented a multi-channel approach with its user-friendly forecasts transmitted over radio and cascaded through civil protection committees. Forecasts and warnings are also published on a new and improved website thanks to WMO technical assistance to implement the ClimWeb package of digital tools[23] and CAP-compliant warnings are widely available through RSS feeds and Google platforms as well as being shared with the WMO community through the WMO Severe Weather Information Centre. A particular highlight in 2025 was the launch of the Zanyengo weather app. Co-designed with users, the app delivers forecasts and warnings to android smartphone users across the country in both English and Chichewa.

Ensuring communities are better prepared

In the lead up to Cyclone Jude making landfall in Malawi in March 2025, training delivered by CREWS in collaboration with Malawi Red Cross Society (MRCS) meant that communities were more able to interpret warnings and activate their preparedness plans. In Zomba and Mzuzu, 159 participants (71 women) received training on early warning systems, the interpretation of forecasts and effective preparedness actions.

With support from MRCS, Malawi has also initiated its transition from paper-based planning to the use of digitally enabled preparedness and anticipatory action tools with the training of 40 people (including

21 Please also see the two impact stories on the CREWS website: Prepared and Informed: CREWS Malawi in Action, September 2025. Accessed April 2026: https://storymaps.arcgis.com/stories/082988fd929a4da6953f75d00823825a and Artificial Intelligence for EW4All - Pilot Project in Malawi, January 2026. Accessed April 2026: https://storymaps.arcgis.com/stories/ca9279e98c7b4d3d9211e03c010d2472

22 Examples of new systems delivered to Malawi with CREWS support include ENACTS Maprooms and WIS2Box.

23 CREWS. Digital Tools Power Life-Saving Warnings Across Africa. Accessed April 2026: https://storymaps.arcgis.com/stories/792518a8d6b04217969002c6e5f6bc48

21 women) in the development and use of electronic contingency plans.

"This information about early warnings, we get them through the phones, WhatsApp and sometimes Facebook, and we also get them through the radio, TV, and also leaflets from the Zomba City Council. After getting the message, we do call people from the area, the community, regarding our assembly point, and we let them know this is what we have got."
Raphael Talipu, Ward Representative, Malonje Community, Zomba

Advancing social inclusion and gender mainstreaming

Contingency planning and early warning outreach approaches have been refreshed to ensure inclusive service delivery for women, youth and persons with disabilities as DCCMS acts on the insights gained from gender-sensitive risk assessments and community consultations undertaken in 2025. The findings of the report on gender and inclusion mainstreaming – developed with technical support from WMO – will guide future work, ensuring that gender- and vulnerability-specific risks are systematically incorporated into preparedness planning and dissemination approaches. This work builds on the strong foundation of inclusivity demonstrated throughout the project and exemplified by the high numbers of women participating in capacity building events.

Building community resilience by collaborating with the private sector

Complementary people-centred early warning and resilience activities have been initiated with ACT, a private sector organization which is developing weather index insurance for smallholder coffee farmers in Malawi's hilly agroecological zones. The results from ACT's baseline assessment in Ntcheu District will inform the design of people-centred, climate-responsive early warning and resilience solutions that link forecasting, preparedness and risk financing for smallholder farmers of perennial crops where climate risks affect production and post-harvest activities.

Launch of NFWCS. Credit: DCCMS

Overcoming challenges

The project has achieved significant success despite a challenging context which persists:

- In the post event analysis for Cyclone Freddy, DCCMS was found to have performed well. However, the lack of reliable and sustainable financial resources continues to limit DCCMS' effectiveness and its ability to fulfil its core mandate.
- While a framework has been developed to enable different institutions and ministries to work together, it has not yet been implemented and as a result, institutional arrangements – and associated funding – remain siloed rather than coordinated.
- A volatile macro-economic situation – including significant fluctuations in currency exchange rates and variations across financial markets – makes it difficult to accurately estimate the cost of project activities, with them sometimes being underestimated.

Learning to share

A broad communication/dissemination strategy informed by user needs has ensured consistent messaging and the provision of warnings in local language. The integration of indigenous knowledge and the integration of non-technical dissemination channels – such as markets, churches and other social spaces – were recognized as crucial to improving reach and trust.

At the community level, increased awareness and understanding of anticipatory action has resulted in improved action/ response plans. For example, communities identified local risk reduction measures such as maintaining drainage channels, planting trees and safer shelters.

The results of ACT baseline activities highlighted the importance of trusted communication channels, cooperative structures and livelihood-specific framing of early warning information, offering valuable lessons for scaling people-centred early warning services under CREWS and EW4All.

CREWS in Togo 2019-2025

Togo – Hydromet and Early Warning Services

Developing SOPs. Credit: ANAMET and ANPC Togo

CREWS webpage: CREWS Togo

Implementing Partners: WB GFDRR (Lead) and WMO

Operational Partners: Agence de la Météorologie Nationale (ANAMET); Direction des Ressources en Eau (DRE); and L'Agence Nationale de la Protection Civile (ANPC)

Status: Completed

Value: US$ 2.4 million

Togo is frequently affected by a range of natural disasters – especially droughts and floods, with flooding events causing major damage to infrastructure and significant loss of life while also accelerating erosion and degrading the quality of the farming land.[24] Thanks to CREWS, Togo's national institutions and population are more able to prepare in advance of high-impact events. National capacity for early warning has been strengthened and people from all walks of life – from journalists to educators and members of mothers' clubs for disaster disk reduction (DRR; réduction des risques de catastrophe, RRC) – are more aware of hazards, warnings and how to take action. Building on the strong foundations set by CREWS, in 2025, Togo became the first country to be approved for scale-up investment from the Green Climate Fund (GCF), setting a clear example for other projects to follow and other funds to replicate.

24 CREWS (2019). Togo Project Proposal. Accessed April 2026: https://crews-initiative.org/wp-content/uploads/2024/06/workdoc6_8th_Steering_Committee_CREWS_Togo_0.pdf

Celebrating success

Demonstrating how CREWS opens doors to new funding opportunities

Not only was Togo the first country to take advantage of the GCF-CREWS scaling-up framework but it was the first single-country project in the GCF portfolio. The GCF project – with a value of US$ 27 million – will strengthen the resilience of vulnerable communities in areas at high risk of climate change and disasters. It builds on CREWS' work to strengthen the technical capacity of Togo's institutions whilst mobilizing local actors and communities. The diagnostics and strategic planning work completed – with technical support from the GFDRR and WMO – were key inputs to design of the GCF project but have also catalysed other investments in the country. For example, World Bank supported a technical study on flood mitigation in Greater Lomé which was used in the preparation of an urban development project within the Togo Urban Transformation Program (P514363) financed by the World Bank (US$ 200 million).

Using new technical skills to improve services for key sectors

Sector-specific products and services have been improved as specialist staff from ANAMET, DRE and ANPC employ the knowledge and skills that they have acquired. Amongst other new skills gained through training and technical support from WMO, forecasters are able to interpret nowcasting satellite products while agrometeorological specialists have developed crop calendars (supported by Fundació URV)[25] that enable them to tailor seasonal forecasts for specific locations and crops [see Chad feature]. Meanwhile, DRE hydrologists are implementing new seasonal and riverine hydrological forecasts thanks to specialized training - provided by WMO - on various systems.[26] In addition, experts delivered dedicated

Simulation exercise. Credit: ANPC

GIS training so that national actors can leverage the data and tools of the online GIS portal hosted by the ANPC. The training was primarily conducted at the national level; however, international exchanges were established with Italy, Senegal and Sweden in the areas of operational forecasting and early warning processes. These exchanges have provided opportunities to strengthen cooperation between countries and institutions, an essential step towards managing the impacts of transboundary hazards.

Developing operating procedures for issuing and responding to warnings

Operational readiness was assessed during a 4-day long national simulation exercise which provided ANAMET, DRE and ANPC with the opportunity to begin developing standard operating procedures (SOPs) with technical support from PREDICT.[27] These SOPs have allowed for a review of roles and responsibilities among institutions and communication channels – key elements for achieving efficiency in the production and delivery of forecasts and alerts. Continued development of the SOPs will be a key activity in the GCF project.

25 CREWS. South-South knowledge transfer - Climate-Smart Crop Calendar, September 2025. Accessed April 2026: https://storymaps.arcgis.com/stories/cc9fa54d5d654ef19b7366aa6a4db8a6

26 DRE staff have received training in how to use PRESATO, FANFAR, VoltAlarm and GEOGLOWS.

27 PREDICT, also known a Predict Services, is a private company supported by Météo-France that provides integrated support for managing climate-related risk phenomena (floods, storms, coastal flooding, etc.) to municipalities. PREDICT. Who are we? Accessed April 2026: https://www.predictservices.com/en/who-we-are/

Responding to women's needs for early warnings thanks to a focus on gender-inclusivity

Women leaders and DRR mothers' clubs became a focus for community sensitization and outreach during the project, prompted by insights gained from women who participated in consultations and planning activities. Women from local communities, civil society and municipal councils collectively raised the issue of differential risk perceptions based on gender and explained how women's needs for weather and early warning services may differ to those of other groups. The technical capacity of women has also been improved through the active participation of women in the training events, workshops and international exchanges (with Fondazione Centro Internazionale in Monitoraggio Ambientale, CIMA Foundation) and Sveriges Meteorologiska och Hydrologiska Institut (Swedish Meteorological and Hydrological Institute, SMHI).

Improving awareness of weather forecasts and warnings through targeted outreach

Recognizing the power of community – and connections – the project team implemented an ambitious programme of community sensitization that directly reached 6,607 people in Togo, raising awareness of the early warning arrangements in the country and the work ANAMET, DRE and ANPC. These events targeted journalists, representatives from local authorities, educators and people working in hospitals, schools and markets, as well as people whose community is at risk of flooding, women leaders and members of DRR mothers' clubs. With awareness increased, the project partners worked to improve the availability and accessibility of forecasts and warnings, with WMO providing training and technical support to enable ANAMET staff to launch a new public website and to issue CAP-compliant alerts.

Overcoming challenges

During the implementation phase, the project team faced several challenges, including:

- Progress in the early stage of the project was significantly hampered by the COVID pandemic, for example, through travel restrictions, the suspension of in-person meetings and limitations on the number of participants in workshops and training events.
- Significant staff changes at the DRE – with only one Director and a short-term contract whilst other positions were vacant – meant delays in the implementation of hydrological activities.
- Several municipalities and local technical services lack the human and logistical resources to ensure the sustainable continuation of activities.
- Although planned, the multi-stakeholder disaster risk reduction monitoring and evaluation system has not yet been fully operationalized making it challenging to monitor national progress across activities linked to early warning.

Learning to share

Building on developed and enhanced knowledge through CREWS, ANAMET improved meteorological and climatological end-user products and delivered tailored guidance to farmers, which improved crop planning practices.

Regional platforms provided opportunities for specialists to share knowledge and experience, learn from each other and build strong working relationships. Regional training events not only strengthened technical skills but improved cross-border collaboration and coordination.

The use of objective vulnerability criteria (hydro-climatic, socio-institutional) ensured that interventions were targeted while the integration of CREWS outputs into national plans and procedures – and even the national school curriculum – ensured that project outcomes will be sustained.

Large-scale capacity building improved the uptake – and use – of warning information by local communities. In particular, the DRR Women Leaders Group and Mothers' Clubs proved to be robust community structures that enabled women to participate fully in awareness-raising, local monitoring and risk reduction initiatives.

CREWS in Southeast Asia 2021-2025

Reinforcing the capacities of meteorological and hydrological services and enhancing the early warning systems in Cambodia and Lao People's Democratic Republic

Building Resilience. Credit: People in Need, Lao People's Democratic Republic

CREWS webpage: CREWS Southeast Asia

Implementing Partners: WMO (Lead), WB GFDRR and UNDRR

Operational Partners: Asian Disaster Preparedness Center (ADPC); Badan Meteorologi, Klimatologi, dan Geofisika (BMKG, the Indonesian Agency for Meteorological, Climatological and Geophysics); CIMA Foundation; Global Water Partnership (GWP); Hydraulic Research Center (HRC); Korea Institute of Civil Engineering and Building Technology (KICT); People in Need (PIN); Partnership for Development in Kampuchea (PADEK); Regional Integrated Multi-Hazard Early Warning System (RIMES) for Africa and Asia; University of Southern Queensland (UniSQ); and World Food Programme (WFP)

Operational partners for Phase 2.0 are being identified.

Status: Phase 1.0 completed, Phase 2.0 initiated

Value: US$ 5.5 million (and US$ 7.8 million for Phase 2.0)

The Lower Mekong countries are extremely vulnerable to a host of disasters. Cambodia and Lao People's Democratic Republic have consistently figured among the most disaster-prone countries in the region and the world. Among the various hydrometeorological hazards affecting these countries, floods and droughts are the most critical hazards and the focus for CREWS, with the project improving the monitoring and management of these hazards at all levels - from the implementation of community-based systems to the advocacy of transboundary cooperation.

Cambodia. Credit: UNDRR/ Sanjay Pariyar

Celebrating success

Catalysing new investments through EW4All Roadmaps

The governments of Cambodia and Lao People's Democratic Republic have successfully unlocked financing to scale up early warning systems in their countries. Cambodia has secured investment from the Green Climate Fund (US$ 5 million) and the Systematic Observations Financing Facility (SOFF) (US$ 7.5 million) whilst Lao People's Democratic Republic has mobilized US$ 6.8 million and has applied for SOFF funding (approximately US$ 7.2 million). Together, the countries have also obtained CREWS funding for a second phase of work which started in July 2025. By aligning national priorities and strengthening institutional leadership, CREWS has supported the countries in developing EW4All Roadmaps that will guide these – and future – investments in inclusive and sustainable early warning systems that leave no one behind. These foundational plans have built a strong sense of ownership amongst the local actors, national ministries and development partners who coproduced them with technical support from WMO, GFDRR and UNDRR.

Ensuring a coherent approach to improving hydromet infrastructure

GFDRR supported the development of hydromet investment plans which set out how best to improve and/or modernize the hydromet networks in each country. These plans are based on the gaps and needs identified through a combination of hydromet assessments and in-depth consultations with the national meteorological and hydrological services in each country carried out by project partners including WMO and RIMES. Crucially, the plans include advice on the ongoing costs of operating and maintaining the different elements of the recommended systems, ensuring that these are not overlooked. The plans were developed in close collaboration with the relevant government agencies in each country and are critically important to ensure a coherent and coordinated approach which maximises the funding opportunities being offered by development agencies who are eager to support the development of hydromet services in the region.

Adopting a coordinated approach to the management of water resources

Vital plans for the management of water resources and drought are now in place and provide a blueprint for managing life-giving resources both within and across national borders. Work on these plans was led by the relevant ministries in each country and developed with support from national consultants and their respective Country Water Partnerships; in Lao People's Democratic Republic, additional support was received from the Global Water Partnership Southeast Asia. These utilized the vulnerability index maps for flood and drought which were developed in Lao People's Democratic Republic (in partnership with ADPC and WFP) and updated in Cambodia (in partnership with the National Committee for Disaster Management (NCDM) and WFP). To ensure early endorsement, promote inclusivity and foster a sense of shared ownership, the scope and outline of each of these plans was shared during stakeholder consultations.

A participatory process was used to develop the Drought Management Plans which are aligned with the relevant National Drought Management Policy Guidelines and structured around the three pillars of the Integrated Drought Management Programme. A similar, inclusive approach was taken for the development of each country's Integrated Water Resource Management (IWRM) strategy and action plan. In both Cambodia and Lao People's Democratic Republic, this work has been led by the country focal points for Sustainable Development Goal 6.5 which aims to implement IWRM at all levels by 2030 – including through transboundary cooperation, an essential consideration for countries in the Lower Mekong basin.[28]

The project teams promoted their work and raised awareness of Communities of Practice for IWRM and drought at a Regional Learning Exchange Workshop in Bangkok in May 2025.[29] These communities

28 United Nations Water. Progress on Integrated Water Resources Management (SDG target 6.5). Accessed April 2026: https://sdg6data.org/en/indicator/6.5.1

29 Global Water Partnership Southeast Asia. Climate Risk and Early Warning Systems (CREWS) in Southeast Asia. Accessed April 2026: https://www.gwp.org/en/GWP-South-East-Asia/WE-ACT/programmes/climate-risk-and-early-warning-systems-crews-in-southeast-asia/

promote knowledge exchange in the region by "engag[ing] more water and drought management experts, practitioners and other multi-stakeholders from different multidisciplinary levels (national, subnational and community), especially [those] who are involved in IWRM and drought management action plan development".

Building resilience through community-based systems

Community-based flood management (CBFM) systems[30] were piloted – and have been sustained – in three communes in Cambodia (led by NCDM and supported by ADPC and PADEK) and two communes in Lao People's Democratic Republic (led by GFDRR and supported by ADPC). System design was informed by community risk mapping, flood risk assessments and the installation of flood level-markers to support real-time monitoring. Technicians and community members received training and tested their skills in tabletop exercises and practice drills while improved coordination between community organizations and government institutions ensured a community-driven yet nationally aligned approach. In Cambodia, the CBFM manuals were made available in English and Khmer to maximize involvement of local stakeholders.

A people-centred and gender-responsive approach was central to the development of these systems, with key actors attending national workshops on gender mainstreaming in flood forecasting and early warning systems. In Lao People's Democratic Republic, this work was complemented by a national perception survey which highlighted significant communication gaps, particularly among persons with disabilities, ethnic minorities, and remote communities.[31] In Cambodia, it was supported by new guidance on how to integrate Gender Equality, Disability and Social Inclusion into every pillar of early warning systems.

"Having advanced warning information makes it easier for our citizens to prepare household items, important documents, food, textbooks and livestock. They don't wait for the flood to come to prepare. They prepare in advance."
Representative from Veal Village, Srae Sdok Commune, Cambodia

"We cannot stop the disaster, but we can be prepared for it"
Khemma Phuanthavisong, Primary School Director, Thin Village, Oudomxay Province, Lao People's Democratic Republic

Overcoming challenges

In support of the global goal, there was a conscious and strategic shift in both countries to focus on EW4All. This meant that resources initially allocated to the development of strategic plans or National Frameworks for Weather, Water and Climate Services were reallocated to EW4All activities. A compounding reason for this decision was the government change in Cambodia which led to changes in the Ministry of Water Resources and Meteorology. As a result of the change in focus, the EW4All Roadmap for Lao People's Democratic Republic was the first in the region to be endorsed.

In both countries – but especially in Lao People's Democratic Republic – the sustainability of project outcomes is a particular concern given a challenging economic climate.

Learning to share

Pilot areas and communities should be carefully selected. Plans must include capacity building, policy development and practical exercises held in parallel with activities that address technical issues and make improvements to infrastructure. Capacity building must be delivered at an appropriate level given local capacity, include practical work and be contextualized and tailored to meet local needs. Effective internal coordination, with investment at the institutional level.

Institutionalize two-way communication noting that integrating participatory features into national systems demands time, trust, and sustained support.

A strategic approach to inclusive engagement is essential to ensure the meaningful participation of – and ownership by – local groups and communities:

"enabling vulnerable groups to participate and take ownership." Community member, Oudomxay Province, Lao People's Democratic Republic

30 CREWS. Community-Based Flood Management (CBFM) – Building Flood Resilience Through Community Engagement in Cambodia. Accessed April 2026: https://storymaps.arcgis.com/stories/462c8d74bea145a898dbc98f4567c41e

31 United Nations Lao PDR. National Weather Forecasts and Early Warning System Perception Survey Report, Lao PDR. Accessed April 2026: https://laopdr.un.org/en/296358-national-weather-forecasts-and-early-warning-system-perception-survey-report-lao-pdr

CREWS in the Caribbean 2024-2027 (ongoing)

Strengthening Hydro-Meteorological and Multi-Hazard Early Warning Services in the Caribbean – Phase 2

Lightning competition. Credit: Camperdown Primary and Infant School, Jamaica

CREWS webpage: CREWS Caribbean 2.0

Implementing Partners: WMO (Lead) and UNDRR

Operational Partners: Caribbean Disaster Emergency Management Agency (CDEMA); Caribbean Institute for Meteorology and Hydrology (CIMH); and Caribbean Meteorological Organization (CMO)

Status: Ongoing; 1 country is affected by violent conflict (Haiti)

Value: US$ 7 million

Economic and social life in the Caribbean is intricately linked to the climate and the natural environment, making countries more vulnerable to disaster risk, climate variations and change. The region is also home to numerous highly-exposed small island developing States (SIDS) who typically have high levels of vulnerability due to their small size and/or complex topography, reliance on climate-sensitive economic activities such as agriculture and tourism, dependence on rainfall for fresh water and limited institutional capacity.[32] It is in this context that CREWS' second project in the region seeks to strengthen the operational capacities of the national institutions involved in early warning by leveraging the expertise of regional centres, promoting regional cooperation and improving regional governance. Through the project – which passed the halfway stage in 2025 – regional governance and coordination mechanisms have been strengthened, investments have been aligned, and alerting has been improved. Representatives from countries and territories across the region have also had the opportunity to reflect and learn from the experience of Hurricane Melissa which struck in October 2025.

32 CREWS (2023). *CREWS Project Presentation Note to the Steering Committee* for the Strengthening Hydro-Meteorological and Multi-Hazard Early Warning Services in the Caribbean - Phase 2 (CREWS Caribbean 2.0). Accessed April 2026: https://crews-initiative.org/wp-content/uploads/2024/06/CREWS-Caribbean-2.0-Project-Proposal.pdf

Celebrating success

Taking advantage of opportunities to align investments and strengthen regional governance

Coherence has been improved between global financing mechanisms, regional institutions and national authorities as they collectively seek to advance the implementation of the Global Basic Observing Network in the Caribbean. In May 2025, a Caribbean Regional Workshop – co-hosted by the Systematic Observations Financing Facility, the Inter-American Development Bank and CREWS – brought together representatives from 16 Caribbean countries to share priorities, identify governance gaps and agree on coordinated pathways for closing weather and climate data gaps. Participants agreed to strengthen regional governance by aligning investments, ensuring that improvements in basic observations – and other parts of the early warning value chain – translate into effective operational early warning services.

Helping the private sector to make business continuity plans

Barbados has set a pathway for other countries and territories in the region to help their private sector organizations to prepare for hazardous events. With support from the Barbados Chamber of Commerce and the Caribbean Chamber of Commerce (CARICHAM), a landscape assessment of business continuing planning in micro, small and medium-sized enterprises was completed. This baseline work enabled the project team to work with the private sector to develop templates for five important economic sectors: tourism, retail and trade, manufacturing, professional services and finance. The templates were endorsed by CARICHAM, meaning that this innovative work – which has been undertaken at a national level in Barbados – can be scaled up across the region.

Learning from the experience of Hurricane Melissa

Hurricane Melissa wreaked havoc across the Caribbean in October 2025, putting national and regional early warning mechanisms to the test. Against this backdrop, in December 2025, the Regional Early Warning Systems Consortium – which is chaired by CDEMA – convened members and observers over two days to strengthen regional coordination, review progress, and define a forward-looking pathway for advancing multi-hazard early warning systems. A thematic focus was operational learning from Hurricane Melissa, which enabled frank reflection on the strengths and weaknesses of existing early warning arrangements. Participants highlighted the critical importance of timely data sharing, cross-agency coordination and clear communication between technical agencies and disaster management authorities. Building on the success of their proposal to the Green Climate Fund, Trinidad and Tobago shared insights on the advancement of national multi-hazard early warning system programming, demonstrating how country-level initiatives can both inform and benefit from regional collaboration. [link to Box 3]

Showcasing innovative ways to improve awareness of lightning

Twelve schools took part in the Caribbean Lightning Safety Awareness Contest 2025, with entries from the Bahamas, Belize, Dominica, Jamaica and Trinidad and Tobago. Conceptualized by CMO – who co-delivered it with CDEMA, the Caribbean Examinations Council (CXC), the Caribbean Community (CARICOM), CIMH and WMO – this regional initiative sought to strengthen public awareness of lightning safety and first aid through youth engagement and creative expression. On International Lightning Safety Day (28 June), the winners were announced – first place in the 6-11 year age group went to Camperdown Primary and Infant School in Jamaica while the winner of 12-18 year old category was Manzanilla Secondary School in Trinidad and Tobago. The initiative exemplifies CREWS' gender-responsive and inclusive approach, equally engaging girls and boys

and reaching diverse communities through schools. The first-placed schools won lightning detectors and automatic weather stations, enabling them to complement their teaching about the weather with live monitoring tools, while private-sector partners from the HydroMeteorological and Environmental Industry Association – including AccuWeather, Campbell Scientific, Earth Networks and Vaisala – supported sustainability and innovation. Beyond awareness, this initiative – which comprised a series of lightning awareness and education events across the region – strengthened disaster risk knowledge and directly improved early warning communication and accessibility, positioning children as trusted messengers of safety within their families and communities.

Expanding CAP alerting through training, planning and the provision of digital tools

With support from WMO, the roll out of CAP alerting has continued across the region resulting in more than 1350 CAP warnings being issued in 2025 alone. Trainers from Jamaica and Trinidad and Tobago led CAP implementation workshops in Dominica, Grenada and Saint Lucia in early 2025. With technical support from WMO and the regional trainers, participants from each country developed draft national CAP implementation plans with timelines for operationalization and following the workshops, WMO's free, open-source CAP tool was prepared – and uniquely configured – for each country. In addition, CMO established virtual user groups as a mechanism for providing technical support. All three countries are now listed on the WMO Register of Alerting Authorities and in October 2025, Grenada and Saint Lucia transmitted their first CAP messages. Lessons learned from this activity are informing the plans for broader regional roll-out.

Caribbean Regional Workshop. Credit: WMO

Overcoming challenges

Hurricanes are a significant hazard in the Caribbean and can limit progress or cause delays, as experienced with Hurricane Beryl in 2024 and Hurricane Melissa in 2025. Recognizing this, during the hurricane season, the majority of project activities are conducted online, ensuring continued engagement. Targeted support also works in these dynamic contexts. For example, following a special request for CREWS support, in October 2025, WMO rapidly organized a specialist from Leonardo Germany GmbH to train five technicians from the National Meteorological Service of Belize (NMS). This rapid response not only brought Belize's radar system back online but also empowered national technicians with essential hands-on skills in radar calibration and preventive maintenance.

> *"On behalf of the NMS technicians, I would like to express my sincere gratitude to all those who helped in making this training possible. It was desperately needed, since we had no practical experience with the radar before the training week. The training has significantly improved our understanding and abilities which will benefit the NMS by ensuring that the radar is properly maintained in the years to come,"*
> *Dwayne Scott, Head of ICT at NMS Belize*

Learning to share

Regional projects are well-placed to scale up activities that were successfully piloted at the national level. For example, business continuity planning templates developed in Barbados have been endorsed by CARICHAM, paving the way for regional roll out. Similarly, technical programmes can be implemented incrementally to build up regional capacity and experience as exemplified by the Severe Weather Forecasting Project which is now being scaled up beyond the Eastern Caribbean.

The Caribbean Lightning Safety Awareness Contest 2025 demonstrates how CREWS funding, regional coordination and private-sector partnerships can combine to enhance public awareness and strengthen technical capacity.

Young woman with radio in front of hilly landscape, member of the minority of the Batwa, Burundi, Bujumbura rural, Mutimbuzi.
Credit: blickwinkel/Alamy.com

CREWS in Africa in 2025

Africa Region highlights at the end of 2025:

- 43 national plans, strategies or legislations on early warnings approved and/or implemented
- 607 risk maps, advisory and other warning products are available , with 427 produced in/for West Africa
- 1105 CAP alerts issued, of which 322 were issued by Chad

The continent of Africa is home to more than two thirds of LDCs, more than half of countries experiencing conflict and close to half of the countries experiencing institutional and social fragility.[33] The Africa region – as defined by the United Nations[34] – has also lagged other regions in terms of the coverage and comprehensiveness of multi-hazard early warning systems. Recognizing this, the demand for CREWS support is high, both at the national and regional levels and in 2025, there were 13 ongoing multi-year projects across the continent. This included 8 national projects and 5 operating at the regional level, as well as 7 Accelerated Support Window actions, one of which is benefiting every country on the continent by virtue of supporting the African Center of Meteorological Applications for Development (ACMAD).

In recent years, significant improvements have been reported across Africa, with more than half of the countries in the United Nations' Africa region now reporting the existence of these life-saving systems. Even more dramatic is the improvement in comprehensiveness scores in the region, rising from 0.27 in 2015 to 0.47 in 2025.[35] Much of this improvement is thanks to CREWS support. For example, in 2025 alone, the multi-year projects collectively produced 25 national plans, strategies, policies or legislation, establishing the enabling environment – for example through robust governance frameworks – needed for the development and implementation of effective, inclusive, people-centred early warning systems. Similarly, the 28 assessments carried out during 2025 establish the status of these systems and identify the improvements that are needed. In the pages that follow, highlights from 2025 are presented for each project.

33 World Bank. Classification of Fragile and Conflict-Affected Situations. Accessed April 2026: https://www.worldbank.org/en/topic/fragilityconflictviolence/brief/classification-of-fragile-and-conflict-affected-situations

34 In reports from the United Nations, African Arab States are included in the 'Arab States' region, not the 'Africa' region.

35 United Nations Office for Disaster Risk Reduction and World Meteorological Organization (2025). *Global status of multi-hazard early warning systems.* Geneva, Switzerland. Accessed April 2026: https://library.wmo.int/idurl/4/69684

BURKINA FASO

Strengthening national capacities for EWS Service Delivery in Burkina Faso

Credit: ANAM

CREWS webpage: CREWS Burkina Faso

Implementing Partners: WMO

Operational Partners: Agence Nationale de la Météorologie (ANAM); Agencia Estatal de Meteorología (AEMET)/Barcelona Supercomputing Center (BSC); AGRHYMET Regional Climate Centre (RCC) Niamey; Direction des Études et des Informations sur l'Eau (DEIE); Fundació URV; Global Information System Centre (GISC) Casablanca, Morocco (hosted by Direction Générale de la Météorologie (DGM) Maroc); L'Institut de l'Environnement et de Recherches Agricoles du Burkina Faso (INERA); Météo-France; L'Università di Firenze (UNIFI); and WMO Regional Training Centre (RTC) Niamey

Status: Ongoing; county is affected by violent conflict

Value: US$ 2.2 million

Highlight from 2025:

US$ 33 million
leveraged

With the technical work on the project largely completed by the end of 2021,[36] the project continued to provide technical advisory support to the US$ 33 million scale-up GCF project until June 2025. A highlight from 2025 is the extension of the project to the end of 2026 to enable training, optimal integration of tools and operational support. This enables technical support from WMO to continue, complementing the investments made by the other project.

CHAD

Chad Hydromet and Early Warning Services

Credit: CREWS Tchad

CREWS webpage: CREWS Chad

Implementing Partners: WB GFDRR (Lead) and WMO

Operational Partners: ANADER; ANAM; DGPC; DRE; and SISAAP

Status: Completed in 2025; country has high levels of institutional and social fragility

Value: US$ 3.2 million

Highlight from 2025:

US$ 34 million
leveraged

CREWS funding in Chad has successfully built technical and institutional capacity to the extent that WMO has transferred implementation funds to the national meteorological agency (Agence Nationale de la Météorologie, ANAM). With a strong sense of national ownership, collaboration across active projects is very well-coordinated, enabling the country to maximize the benefits of funding from the World Bank (US$ 10 million under PILIER), UNDP (US$ 13 million from the GFC FP258), WMO (US$ 5 million from the Adaptation Fund) and WFP (US$ 6 million from SOFF).

Link to Chad feature

36 The project was featured on pages 44-46 of the CREWS Annual Report 2024, accessed April 2026: https://crews-initiative.org/reports/annual-report-2024/crews-in-africa/#burkina

DEMOCRATIC REPUBLIC OF THE CONGO

DRC Strengthening Hydro-Meteorological and Early Warning Services

Credit: World Bank/ Luc Kakumba

CREWS webpage: CREWS DRC

Implementing Partners: WB GFDRR (Lead) and WMO

Operational Partner: Agence Nationale de Météorologie et de Télédétection par Satellite (Mettelsat)

Status: Ongoing; county is affected by violent conflict

Value: US$ 3.1 million

Highlight from 2025:

US$ 300 million
leveraged

Thanks to CREWS support which has paved the way to new funding opportunities, the government is implementing two important projects which will build the country's resilience to climate shocks. Together, the projects are strengthening the country's capacity to better prepare for – and respond to – climate emergencies by improving its infrastructure, systems and services. CREWS resources – including the knowledge and experience of its implementing and operational partners – were critical in mobilizing the international technical expertise needed to inform the design and implementation of the projects. For example, CREWS funding enabled specialists from GFDRR to carry out gap analyses and conduct stakeholder consultations in four[37] cities.

DJIBOUTI

CREWS Djibouti

Credit: WMO/ Patrick Anderseck

CREWS webpage: CREWS Djibouti

Implementing Partners: UNDRR (Lead) and WMO

Operational Partners: Agence Nationale de la Météorologie de Djibouti (ANM); Centre d'Études et de Recherche de Djibouti (CERD); Croissant-Rouge Djiboutien/ Red Crescent Society of Djibouti (RCSD); and Secrétaire Exécutif Chargé de la Gestion des Risques et des Catastrophes (SEGRC)

Status: Ongoing

Value: US$ 3.7 million

Highlight from 2025:

4 multi-hazard assessments, analyses and other mapping of needs, gaps priorities that inform investment requirements on early warning

Four assessments were carried out in Djibouti, providing important context for the EW4All Roadmap and informing other project activities. This included a technical assessment of the forecasting capabilities of the Agence Nationale de la Météorologie de Djibouti; a comprehensive gap analysis of Djibouti's early warning system; Enhanced Vulnerability and Capacity Assessments (EVCA) in targeted communities by Croissant-Rouge Djiboutien (the Red Crescent Society of Djibouti); and a gap analysis of disaster risk knowledge through a national workshop convened by UNDRR where government representatives validated the findings.

37 Kinshasa, Kalemie, Bukavu and Uvira.

MALAWI

Strengthening Risk informed planning, Hydro-Meteorological and Early Warning Services in Malawi

Credit: CREWS

CREWS webpage: CREWS Malawi

Implementing Partners: WB GFDRR (Lead) and WMO

Operational Partners: ACT; DCCMS; District Council; DoDMA; DWR; IFRC; RCCC; and MRCS

Status: Ongoing

Value: US$ 3 million

Highlight from 2025:

US$ 257.3 million
leveraged

Building on the success of CREWS and its foundational work in the country, Malawi has secured significant funding for strengthening hydrometeorological and early warning systems in the country. This includes US$ 240 million from the World Bank through: the Regional Climate Resilience Program for Eastern and Southern Africa 2 (RPCR2) and related projects; the Watershed Services Improvement Project for Malawi (MWASIP); and the Malawi Resilience and Disaster Risk Management Project (MRDRMP) as well as funding from the South Africa Development Community/ African Union (US$ 15 million) and the Weather and Climate Information Services (WISER) programme's ActionFirst™ initiative (US$ 2.3 million).

Link to Malawi feature

MALI

Mali – Hydrological and Meteorological Services Modernization

Credit: SAP/ CSA Mali

CREWS webpage: CREWS Mali

Implementing Partners: WB GFDRR (Lead) and WMO

Operational Partners: Agence Nationale de la Météorologie du Mali (Mali Météo); Direction Générale de la Protection Civile (DGPC); Direction Nationale de l'Hydraulique (DNH); and Système d'Alerte Précoce (SAP)

Status: Completed; county is affected by violent conflict

Value: US$ 3.3 million

Highlight from 2025:

2 multi-hazard assessments, analyses and other mapping of needs, gaps priorities that inform investment requirements on early warning

Led by GFDRR, in 2025, CREWS Mali supported a study on the socio-economic impacts of flooding in Mali, using a robust methodology that combined geospatial analysis, administrative data from multiple ministries and household survey results. Government representatives were trained to apply this baseline analysis to strengthen preparedness and inform future impact assessments. In parallel, GFDRR commissioned a water resources study in the Haut Bani River Basin in which hydrological and hydraulic modelling was used to assess flood impacts and inform recommendations for water resources development and flood mitigation. The findings – disseminated in June 2025 – generated strong stakeholder interest and informed discussions on reducing flood risks and advancing sustainable water management in the basin.

NIGER

Niger 2.0: Strengthening and Modernizing Early Warning Services

Credit: Bako Boubacar

CREWS webpage: CREWS Niger 2.0

Implementing Partners: WB GFDRR (Lead), WMO and UNDRR

Operational Partners: Agence Nationale pour la Société de l'Information (ANSI); Cellule de Coordination du Système d'Alerte Précoce et de Prévention des Catastrophes (CC/SAP); Direction de la Solidarité Nationale, Ministère de la Population, de l'Action Sociale et de la Solidarité; Direction Générale de la Protection Civile (DGPC); Direction Générale de l'Hydraulique (DGH); and Direction Nationale de la Météorologie (DMN)

Status: Ongoing; county is affected by violent conflict

Value: US$ 3.9 million

Highlight from 2025:

1 coordination mechanism strengthened or established to enhance collaboration on early warning among national or regional institutions

In Niger, CREWS has strengthened coordination of EW4All activities by bringing together stakeholders from across the early warning ecosystem. Representatives of key institutions – together with development partners in the country – have demonstrated their commitment to implementing EW4All in Niger. This inclusive, multi-sectoral and whole-of-society approach ensures strategic alignment and promotes coherence across all sectors nationally.

TOGO

Togo – Hydromet and Early Warning Services

Credit: Directeur Général de l'ANAMET Togo

CREWS webpage: CREWS Togo

Implementing Partners: WB GFDRR (Lead) and WMO

Operational Partners: ANPC; ANAMET; and DRE

Status: Completed

Value: US$ 2.4 million

Highlight from 2025:

US$ 242 million
leveraged

Togo has secured significant funding to scale up early warning systems across the country. Togo was the first country to successfully apply to the Green Climate Fund using the GCF-CREWS scaling-up framework with US$ 27 million approved in February 2025: SAP048. Studies for flood control in Lomé informed the Togo Urban Transformation Program (US$ 200M) financed by the World Bank and the WMO Public Investment Program (US$ 15 million).

Link to Togo feature

WEST AFRICA

West Africa Region: Seamless operational forecast systems and technical assistance for capacity building[38]

Credit: ANAM Burkina Faso

CREWS webpage: CREWS West Africa

Implementing Partners: WMO

Operational Partners: AGRHYMET; École Africaine de la Météorologie et de l'Aviation Civile (EAMAC RTC); GISC and Regional Weather Centre (RWC) Casablanca (hosted by DGM Maroc); HRC; Regional Specialized Meteorological Centre (RSMC) Dakar (hosted by Agence Nationale de l'Aviation Civile et de la Météorologie, ANACIM, Senegal); and SMHI

Location: Benin, Burkina Faso, Cabo Verde, Cameroon, Central African Republic, Chad, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone and Togo

Status: Complete; 6 countries are affected by violent conflict and 2 have high levels of institutional and social fragility

Value: US$ 5.3 million

Highlight from 2025:

US$ 174 million
leveraged

Originally due to complete at the end of 2024, a time-extension was requested to align with a project funded by the Green Climate Fund which runs until the end of 2026. In addition, the CREWS Steering Committee invited WMO – and its operational partners – to make preparations for a further phase of investment as a way of continuing support to West African regional centres. In the meantime, the extension of the flash flood guidance system (FFGS) from 3 to 24 countries across West and Central Africa was paused when support from the United States Agency for International Development (USAID) was interrupted in February 2025, with WMO leading the preparation of a new technical design to support the countries with similar support without contributions from USAID.

GREATER HORN OF AFRICA

Greater Horn of Africa – Strengthening early warning and early action systems for meteorological, hydrological and climate extremes

Credit: CREWS Greater Horn of Africa

CREWS webpage: Greater Horn of Africa

Implementing Partners: WB GFDRR (Lead), WMO and UNDRR

Operational Partner: IFRC

Location: Ethiopia, Somalia and Sudan

Status: Ongoing; 3 countries are affected by violent conflict

Value: US$ 5.2 million

Highlight from 2025:

6 national plans, strategies and legislations on early warnings approved and/or implemented

During 2025, the Implementing Partners have worked collaboratively to strengthen the legislative and institutional frameworks to support and sustain multi-hazard early warning systems in Somalia. Key documents developed include draft legislation to establish a national meteorological and climate services agency, the development of a Service Dissemination Strategy and the development and endorsement of an EW4All Roadmap. This is complemented by the implementation of guidance on how to mainstream gender within early warning systems.

38 The CREWS West Africa Project was featured on pages 40-43 of the CREWS Annual Report 2024, also available online, accessed April 2026: https://crews-initiative.org/reports/annual-report-2024/crews-in-africa/#west-africa

CENTRAL AFRICA

Central Africa – Seamless approach to forecasting and warning for meteorological, hydrological and climate extremes

Credit: WMO

CREWS webpage: CREWS Central Africa

Implementing Partners: WMO (Lead), WB GFDRR and UNDRR

Operational Partners: AEMET; AGRHYMET; Economic Community of Central African States (ECCAS) Centre d'Application et de Prévision Climatologique de l'Afrique Centrale (CAPC-AC) hosted by RCC Douala, Cameroon; GISC Casablanca; RSMC Dakar; and SMHI

Location: Angola, Burundi, Cameroon, Central African Republic, Chad, Democratic Republic of the Congo, Republic of the Congo, Rwanda and Sao Tomé e Principe

Status: Ongoing; 3 countries are affected by violent conflict and 4 have high levels of institutional and social fragility

Value: US$ 4.9 million

Highlight from 2025:

6 coordination mechanisms strengthened or established to enhance collaboration on early warning among national or regional institutions (2 regional and 1 national)

With CREWS support, a Regional Situation Room was established for the Economic Community of Central African States (ECCAS) together with 4 National EW4All Coordination mechanisms.

In Douala, Cameroon, staff working in the ECCAS Climate Application and Prediction Centre (CAPC) Situation Room have issued 26 multi-hazard bulletins which provide regional guidance and advisories for warnings issued at the national level. These were accompanied by more than 400 maps highlighting hazards such as extreme rainfall, drought, malaria, dry air and convective storm risks. While some countries have progressed with issuing their own warning bulletins in CAP format during 2025 - and on request - multi-hazard and targeted bulletins were also prepared for Burundi, the Democratic Republic of the Congo and Equatorial Guinea as a way to fill a capacity gap. In a bid to further strengthen regional expertise, the potential Regional Forecast Support Centre Yaoundé – under the Direction Nationale de la Météorologie – is now taking the lead for the Severe Weather Forecasting Programme in Central Africa.

EAST AFRICA

Strengthening Hydro-Meteorological and Early Warning Services in the East Africa Region

Credit: WMO

CREWS webpage: CREWS East Africa

Implementing Partners: WMO (Lead), WB GFDRR and UNDRR

Operational Partners: CIMA Foundation; East African Community (EAC); Finnish Meteorological Institute (FMI); ICPAC; and United Kingdom Met Office

Location: Burundi, Kenya, Rwanda, South Sudan, Uganda and the United Republic of Tanzania

Status: Ongoing; 3 countries are affected by violent conflict and 1 has high levels of institutional and social fragility

Value: US$ 7 million

Highlight from 2025:

2 coordination mechanisms strengthened or established to enhance collaboration on early warning among national or regional institutions

In 2025, WMO enabled regional meteorological coordination by supporting the latest Heads of Meteorological Services Meeting in East Africa. This regular forum serves as a crucial platform for regional cooperation and coordination relating to early warning, such as the development and alignment of national and regional strategies for numerical weather prediction, encouraging peer-to-peer learning and promoting coherence across projects. In addition, the Intergovernmental Authority on Development (IGAD) Climate Prediction and Applications Centre (ICPAC) hosted the Anticipatory Action Dialogues Platform, a critical mechanism that has promoted anticipatory action and strengthened regional collaboration for early warning and early action in the region.

SOUTH-WEST INDIAN OCEAN

Strengthening Operational Forecasting & Early Warning Systems in the South-West Indian Ocean (CREWS SWIO)

Credit: Seychelles Meteorological Authority

CREWS webpage: CREWS SWIO

Implementing Partners: WMO (Lead), WB GFDRR and UNDRR

Operational Partners: European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT); Intergovernmental Oceanographic Commission (IOC); RSMC La Réunion; RTC and RSMC Pretoria; RWC Casablanca; and the meteorological, hydrological, civil protection and disaster risk reduction services from Comoros, Madagascar, Mauritius, Mozambique and Seychelles

Location: Comoros, Madagascar, Mauritius, Mozambique and Seychelles

Status: Ongoing; 1 country is affected by violent conflict and 1 has high levels of institutional and social fragility

Value: US$ 4 million

Highlight from 2025:

2 national plans, strategies and legislations on early warnings approved and/or implemented

A coherent approach to monitoring – and reporting – the status of early warning in Seychelles has been introduced thanks to technical support from WMO to support the government in making updates to the meteorological act in the Seychelles. The revised act led to the implementation of a joint reporting mechanism – led by Seychelles Meteorological Agency – to simultaneously report on the progress of the National Framework for Climate Services, their National Strategic Plan and EW4All implementation.

CREWS in Asia-Pacific in 2025

Asia-Pacific Region highlights at the end of 2025:

- 33 national plans, strategies or legislations on early warnings approved and/or implemented
- 20 multi-hazard assessments, analyses and other mapping of needs, gaps and priorities that inform investment requirements on early warning

Whilst in 2025, the Asia-Pacific region had the highest reported coverage of multi-hazard early warning systems globally, both technical capacity and system comprehensiveness vary significantly.[39] The region is also vulnerable to a multitude of hazards and home to a number of countries experiencing violent conflict or fragility, resulting in a high demand for CREWS support.

In the Asia and Pacific region, CREWS support has been primarily through regional multi-year projects, with three projects running in 2025 – in Southeast Asia and the Pacific as well as a new project starting in South Asia in 2025 – and with a drought-focused project in the Pacific starting in 2026.[40] In addition to this regional work, CREWS has supported the development of early warning systems in Afghanistan since 2019, adjusting its approach to best meet the needs of the technical institutions in the country and the communities that they serve.

Thanks to CREWS support, countries in the region have set in place strong foundations on which to build – or scale up – effective, inclusive and gender-responsive early warning systems, including the successes of community-based flood management systems in Cambodia and Lao People's Democratic Republic. CREWS' work in the region has achieved substantial momentum – the number of plans, strategies, policies and legislations developed and implemented with CREWS support reached 33 by the end of 2025, with half of those developed in the last year. Following the same trend is the number of assessments and diagnostics of gaps and needs – including those related to the delivery of EW4All – which almost doubled from 11 in 2024 to 20 in 2025. Across the region, as elsewhere, CREWS has catalysed EW4All activities through workshops, technical assessments and the development of EW4All Roadmaps.

Project highlights from across the region are reported in these pages, supplementing the project feature on CREWS' work in Southeast Asia.

39 United Nations Office for Disaster Risk Reduction and World Meteorological Organization (2025). *Global status of multi-hazard early warning systems.* Geneva, Switzerland. Accessed April 2026: https://library.wmo.int/idurl/4/69684

40 CREWS' Drought Resilience and Early Warning (DREW) project in the Pacific was initiated in January 2026.

AFGHANISTAN

Afghanistan - AF-ECLIM: Enhancing hydromet, early warning and climate Services for Resilience

Credit: CREWS Afghanistan

CREWS webpage: CREWS Afghanistan

Implementing Partners: WB GFDRR (Lead) and WMO

Operational Partners: Afghanistan Disaster Risk Management Authority (ANDMA); Afghanistan Meteorological Department (AMD); General Directorate of Water Resources (GDWR) under the Ministry of Energy and Water (MEW); and Ministry of Agriculture, Irrigation and Livestock (MAIL)

Status: Ongoing; 1 country is affected by violent conflict

Value: US$ 3.7 million

Highlight from 2025:

1 climate and weather information product co-designed to users' needs by group representing vulnerable segments of exposed populations

Vulnerable communities in Afghanistan started receiving Flash Flood Bulletins in 2025 thanks to technical support from WMO and funded by CREWS. The provision of essential warnings for flash flood and precipitation-induced landslides has been made possible through the implementation of the Pakistan–Afghanistan Region Flash Flood Guidance System (PARFFGS). which has built on the strong foundations established with CREWS' capacity strengthening work with the Afghanistan Meteorological Department.

SOUTHEAST ASIA

Reinforcing the capacities of meteorological and hydrological services and enhancing the early warning systems in Cambodia and Lao People's Democratic Republic 1.0/2.0

Credit: UNDRR/ Sanjay Pariyar

CREWS webpage: CREWS Southeast Asia

Location: Cambodia and Lao People's Democratic Republic

Implementing Partners: WMO (Lead), WB GFDRR and UNDRR

Operational Partners: ADPC; BMKG; CIMA Foundation; GWP; HRC; KICT; PIN; PADEK, RIMES; UniSQ; and WFP (Operational partners for Phase 2.0 are being identified)

Status: Phase 1.0 completed, Phase 2.0 initiated

Value: US$ 5.5 million (and US$ 7.8 million for Phase 2.0)

Highlight from 2025:

6 national plans, strategies and legislations on early warnings approved and/or implemented

In 2025 the Implementing Partners provided technical support to operational partners – and other stakeholders at national and local levels – to develop, finalize and endorse national plans related to early warnings. These plans provided a strong foundation for a second phase of CREWS support and an entry point for other investments. Strategic documents developed by project partners include: an endorsed EW4All Roadmap in Cambodia; and a Disaster Risk Reduction Action Plan for the Ministry of Agriculture and Environment in Laos People's Democratic Republic. In addition, both countries now have Integrated Water Risk Management Plans and Drought Action Plans. In addition – and building on the successes of the first project – a follow-on project (Phase 2.0) was initiated in July 2025 and is ongoing.

SOUTH ASIA

Unlocking South Asia Regional Synergies for Resilience Building through Enhanced Access to Early Warning Services – CREWS South Asia Project

Credit: RIMES

CREWS webpage: CREWS South Asia

Implementing Partners: WB GFDRR (Lead), WMO and UNDRR

Operational Partners: Meteo Suisse; RIMES; University of Oxford; and University of Salford

Location: Bangladesh, Maldives, Myanmar and Nepal

Status: Initiated; 1 country is affected by violent conflict

Value: US$ 5.3 million

Highlight from 2025:

1 coordination mechanism strengthened or established to enhance collaboration on early warning among national or regional institutions

The main objective of the project – which was initiated in December 2025 – is to strengthen regional collaboration for improved hydrometeorological and early warning services in South Asia by supporting the South Asia Hydromet Forum and in particular, members who are LDCs or SIDS. Working Groups under South Asia Hydromet Forum have regularly met virtually to develop strategic documents and workplans, setting strong foundations for the project to build upon.

PACIFIC

Strengthening Hydro-Meteorological and Early Warning Systems in the Pacific (CREWS Pacific SIDS) Phase 2.0 and Phase 3.0: Scale[-]up Inclusive Early Warning and Action in the Pacific (SIEWAP)

Credit: SPREP

CREWS webpage: CREWS Pacific SIDS 2.0

Location: Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Nauru, Niue, Republic of Marshall Islands, Palau, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu

Implementing Partners: WMO (Lead), UNDRR and WB GFDRR (for Phase 2.0)

Operational Partners: BoM; Pacific Community (formerly the South Pacific Commission and still known as SPC); and Secretariat of the Pacific Regional Environment Programme (SPREP)

Additional operational partners for Phase 3 include: International Groundwater Resources Assessment Centre (IGRAC); National Institute of Water and Atmospheric Research (NIWA); and Pacific Disability Forum (PDF)

Status: Phase 2.0 completed, Phase 3.0 initiated; 5 countries have high levels of institutional and social fragility

Value: US$ 4.8 million (and US$ 5.60 million for Phase 3.0)

Highlight from 2025:

8 multi-hazard assessments, analyses and other mapping of needs, gaps priorities that inform investment requirements on early warning

Essential baseline data and technical assessments completed in 2025 have informed the design of CREWS' third phase of investment in the region through the Scale-up Inclusive Early Warning and Action in the Pacific (SIEWAP), a 4-year project which started in April 2025. Six technical assessments of early warning systems and a GFDRR-led groundwater assessment in Samoa were undertaken in 2025.
In addition – and as part of the Pacific SIDS 2.0 Project Steering committee meetings – an essential planning workshop was held with representatives from the technical agencies of all 14 countries to take stock of the capabilities and infrastructure of the agencies engaged in implementing and operating early warning systems. The assessment of technical gaps and priority needs was an important input to the detailed design of the SIEWAP project.

Jamaica,a farmer in the south shows the beetroot and green pepper on his land.
Credit: Ron Giling

CREWS in the Caribbean in 2025

Caribbean Region highlights from 2025:

- 4 coordination mechanisms strengthened or established to enhance collaboration on early warning
- 4 assessments/analyses to inform early warning investments
- 7 hazards being monitored across the region – severe weather, tropical cyclones, heavy rainfall, storm surges, flash flooding and strong winds

In the Caribbean, much of CREWS' work has been at the regional level, leveraging the expertise and important role of regional groups like the Caribbean Community (CARICOM) and regional institutions including the Caribbean Meteorological Organization (CMO), the Caribbean Institute for Meteorology and Hydrology (CIMH) and the Caribbean Disaster Emergency Management Agency (CDEMA) as well as regional offices and centres of United Nations System. Highlights from CREWS' work in the region is the strengthening of regional collaboration, for example, through the Regional Early Warning Systems Consortium (REWSC) which has a strategic role in governance and coordination, the adoption of CAP and the scaling up of the Severe Weather Forecasting Programme beyond the Eastern Caribbean [link to Caribbean project feature]. Crucially, the benefits from CREWS' regional work extend beyond the members of CARICOM, to include dependent territories and countries which are not members of CARICOM (for example, Cuba and the Dominican Republic).

Alongside its regional work, CREWS has provided targeted support to Haiti through a multi-year project as well as short-term interventions in Belize and Cuba through its Accelerated Support Window. In addition, a 12-month programme of technical assistance was initiated in the Eastern Caribbean in July 2025 with the aim of supporting the implementation of Cell Broadcast systems in the Commonwealth of Dominica, Grenada, St. Kitts and Nevis, Saint Lucia, and St. Vincent and Grenadines.

Whilst highlights from CREWS' work in the Caribbean during 2025 are noted here, this work is but a continuation of many years of dedicated support to the region which started in 2018. This includes an earlier phase of work across the Caribbean, which has been built in in Phase 2.0, as featured earlier Caribbean.

HAITI

Support of the Hydrometeorological Unit of Haiti (UHM) for sustainable operability and the implementation of a relevant and efficient hydrometeorological warning system

Credit: DGCG/ Mr. Hudson Guillaume

CREWS webpage: CREWS Haiti

Implementing Partners: WMO (Lead)

Operational Partners: UNDP Haiti and Unité Hydrométéorologique d'Haïti (UHM); WFP Haiti; and EW4All Pillar Leads in Haiti

Status: Ongoing; 1 country is affected by violent conflict

Value: US$ 1.5 million

Highlight from 2025:

2 national plans, strategies and legislations on early warnings approved and/or implemented

In 2025, 2 key strategic documents relating to early warning were approved in Haiti, setting a clear direction for early warning investment in the country. The EW4All Roadmap – a national strategy for the roll out/ scale up of multi-hazard early warning systems in Haiti – was approved by the government with involvement from all EW4All pillar leads and national representatives. This was achieved despite a challenging political and security context, demonstrating the country's commitment to the goal of EW4All. In addition, the Strategic Plan for the Hydrometeorological Unit of Haiti was updated with the support of a consultant, informed by the result of an independent evaluation of the last plan. A highlight of the new strategic plan – which is aligned with the EW4All Roadmap – is its focus on standards of inclusion, including gender.

CARIBBEAN

Strengthening Hydro-Meteorological and Multi-Hazard Early Warning Services in the Caribbean – Phase 2

Credit: WMO

CREWS webpage: CREWS Caribbean 2.0

Implementing Partners: WMO (Lead) and UNDRR

Operational Partners: Caribbean Disaster Emergency Management Agency (CDEMA); Caribbean Institute for Meteorology and Hydrology (CIMH); and Caribbean Meteorological Organization (CMO)

Location: Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Lucia, Saint Vincent and the Grenadines, St. Kitts and Nevis, Suriname, and Trinidad and Tobago and 6 CARICOM Associate Members (the British Caribbean Territories of: Anguilla, Bermuda, British Virgin Islands, Cayman Islands, and Turks and Caicos Islands) and Sint Maarten (and by extension, benefitting from regional developments: Cuba and the Dominican Republic)

Status: Ongoing; 1 country is affected by violent conflict

Value: US$ 7 million

Highlight from 2025:

1356 warnings issued in CAP format

With technical support from WMO, during 2025, countries and territories across the Caribbean have issued hundreds of CAP-compliant warnings. The CAP format enables official warnings – issued by registered national authorities – to be simultaneously transmitted across multiple channels. This was the result of CREWS investments in technical solutions (including the ClimWeb digital tools package which included a CAP editor), training and planning.

- *Anguilla: 53*
- *Antigua and Barbuda: 14*
- *Belize: 193*
- *The Dominican Republic: 592*
- *Turks and Caicos: 68*
- *Trinidad and Tobago: 72*

Link to Caribbean feature

Multi-country project in 2025

MULTI-COUNTRY

EW4All multi-stakeholder accelerator in LDCs and SIDS

CREWS webpage: CREWS EW4All Accelerator

Implementing Partners: UNDRR (Lead) and WMO (with support from IFRC and ITU)

Operational Partners: IFRC; ITU; and at the national level, the meteorological, hydrological, civil protection and disaster risk reduction services/agencies from Comoros, Kiribati, Madagascar, Mauritius, Nepal, Solomon Islands and Tonga

Countries supported: Comoros, Kiribati, Madagascar (see Box 4), Mauritius, Nepal, Solomon Islands and Tonga

Status: Ongoing; 3 countries have high levels of institutional and social fragility (Comoros, Kiribati and Solomon Islands)

Value: US$ 5.5 million

Highlight from 2025:

17 multi-hazard assessments, analyses and other mapping of needs, gaps priorities that inform investment requirements on early warning

Building on the initial assessment work completed in all seven countries in 2024, these were updated in 2025. Also in 2025, additional assessments were carried out by EW4All Pillar Leads, for example, National Cell Broadcast Readiness Assessments in four countries and an Enhanced Vulnerability Capacity Assessment in Kiribati.

Village single elderly african men, listening to the radio, sitting on a chair, in the yard.
Credit: poco_bw/Alamy.com

Box 4. EW4All accelerator project provides targeted support to Madagascar

Madagascar EW4All launch-2023. Credit: ITU

Madagascar faces significant vulnerability due to its high exposure to cyclones, heavy rainfall and floods with these events leading to loss of life and substantial economic loss, estimated as in excess of US$ 100 million each year.[41] Its topography also presents a challenge, especially in terms of installing and maintaining hydrometeorological equipment and associated services over a large area with climatologically distinct zones.

Through the EW4All Accelerator Project, Madagascar has received targeted support to develop and implement plans for improving the coverage and comprehensiveness of its early warning systems. Madagascar was an early adopter of the EW4All Roadmap, which was validated and endorsed by the government in 2024. The assessments, workshops and technical support for this endeavour was jointly funded by two CREWS projects – the EW4All Accelerator and CREWS Southwest Indian Ocean (SWIO). With a clear plan for EW4All implementation, CREWS has ensured the optimal use of donor money in the country by promoting coherence across multiple funders – for example, the United Nations Development Programme, the World Bank, the Green Climate Fund and the Systematic Observations Financing Facility – and across all 4 pillars.

During 2025, great progress was made across all of the EW4All pillars:

1. Disaster Risk Knowledge: A series of activities were completed including the development of a Pillar 1 workplan and a framework for improving the production, access and use of risk knowledge (including capacity building plans). A multi-stakeholder risk knowledge workshop was held and a review of financing of disaster risk reduction (including early warning systems) was completed.
2. Detection, observation, monitoring, analysis and forecasting: a baseline capacity assessment was completed and a strategic plan developed for the Direction Générale de la Météorologie. In addition, essential equipment was repaired, including the workstation through which forecasting staff receive meteorological observations and model data.
3. Warning dissemination and communication: ITU completed an assessment of Madagascar's readiness to implement cell-broadcast technology, developed a National Emergency Telecommunications Plan, produced a Disaster Connectivity Map and completed the preparatory work for CAP implementation.
4. Preparedness and response capabilities: the Malagasy Red Cross Society – with support from the IFRC – carried out a Pillar 4 Maturity Index gap analysis and developed an action plan. It also undertook a community perception survey, held a national simulation exercise and developed early action protocols for cyclones, floods and droughts.

41 UNDRR. Madagascar: Improving Infrastructure Resilience to Reduce Climate-Related Economic Losses, January 2025. Accessed April 2026: https://www.undrr.org/resilient-infrastructure/madagascar

"Meteorology, hydrology and climate contribute to the development of the country. Quality observation, accurate forecasts and efficient warnings enable preparedness and timely response, which contribute to reduce losses and safeguard human lives. Early warnings are not approximate messages, they are public services built upon norms, observations, analysis and institutional responsibilities".

Dina Hariniry Rakotomalala, Secrétaire Générale,
Ministère des Transports et de la Météorologie de Madagascar

Fishers and pirogues in Lompoul, Grande Cote, Senegal.
Credit: Juan Vilata/Alamy.com

CREWS on the global stage in 2025

Sharing early warning experience and expertise

Building on a strong track record of sharing its experience and expertise at regional and global early warning events, throughout 2025, CREWS has showcased its work in LDCs and SIDS.

Regional

September:

Caribbean: CREWS presented highlights from its ongoing Caribbean Phase 2.0 project and its contribution to strengthening MHEWS programming in the region. CREWS representatives also joined other stakeholders as they considered the lessons to learn from the experience of Hurricane Melissa (2025) at the 7th **Regional EWS Consortium** in the Caribbean.

Africa: CREWS explained its financing mechanisms for catalysing investment in early warning systems and presented on its African portfolio at the **2nd Africa Climate Summit** (ACS2) which was convened by the African Union in Addis Ababa, Ethiopia with the theme "Accelerating Global Climate Solutions and Financing for Africa's Resilient and Green Development".

Pacific: CREWS representatives showcased how the region was leveraging previous CREWS investment through its latest project in the region – the Scale-up Inclusive Early Warning and Action in the Pacific (SIEWAP) project. **Pacific Meteorological Council** (PMC) out-of-session meeting focused on strengthening inclusive early warning systems and actions, hosted by the Solomon Islands alongside a meeting of the Weather Ready Pacific Steering Committee.

Global

June:

CREWS launched its Annual Report 2024 at a reception co-hosted with the Anticipation Hub. CREWS also promoted best practice in scaling up early warning systems, with members of the CREWS Secretariat and Steering Committee sharing insights and experience through numerous events, as session chairs, panel members and through the innovation platform of the inaugural **EW4All Multi-stakeholder Forum** held alongside the 8th session of the **Global Platform on Disaster Risk Reduction** (GP2025) in Geneva, Switzerland.

Late June-early July:

CREWS showcased as best practice its framework for financing early warning systems and was recognized as central to global financing efforts aimed at supporting sustainable development and climate resilience at the **Sevilla Platform for Action at the 4th International Conference on Financing for Development** (FFD4) in Seville, Spain

Leading by example

CREWS demonstrated its leadership in the field of early warning systems by co-hosting several events during 2025, including:

- **June:** At GP2025 – and in collaboration with WMO – CREWS improved awareness and understanding of how to deliver people-centred and gender-responsive early warning systems by co-hosting with WMO an interactive Learning Lab for attendees of the Global Platform 2025 held in Geneva.
- **November:** CREWS supported the development of a global competency framework for impact-based forecasting which provides guidance on the core competencies, performance criteria and training resources needed to guide countries in delivering people-centred, risk-informed early warnings. The workshop was convened by WMO and CREWS and hosted by the Met Office in the United Kingdom, bringing together more than 30 experts from National Meteorological and Hydrological Services, regional training institutions and international partners.
- **December:** CREWS showcased its work to support the most at-risk countries, improving awareness and understanding of the financing pathways that are available and informing attendees of the analytical paper that has guided the development of operational procedures on CREWS programming in settings that are affected by fragility, conflict or violence[42] at a workshop entitled "Early Warning and Early Action in Least Developed Countries (LDCs) and in Conflict/Post-conflict Situations in Africa" which it co-delivered with UNDRR, WMO and IFRC.

October:

CREWS demonstrated how its investments are major drivers in advancing universal early warning coverage and reinforced the need for alignment amongst partners, as set out in its 2030 Strategy at the technical segment of the **4th meeting of the G20 Disaster Risk Reduction Working Group** in Cape Town, South Africa.

November:

CREWS launched its 2030 strategy and convened high-level events to drive systemic change, foster collaboration and innovation, and advance universal early warning coverage at the **United Nations Framework Convention on Climate Change Conference of Parties 30** (COP30) in Belém, Brazil.

42 The new operational procedures for programming in contexts of fragility, conflict and/or violence were finalised at the end of 2025 and are now published CREWS (2026). *CREWS Operational Procedures on Programming in Fragility, Conflict and Violence-affected Settings.* Accessed April 2025: https://crews-initiative.org/wp-content/uploads/2026/03/265046-OMM_CREWS_operational-plan_PREPRESS_1-1.pdf

A decade of effectively managing risks

A risk worth taking

Investing in the most at-risk countries globally – LDCs, SIDS and countries experiencing conflict and/or social and institutional fragility – does not come without risk but is important and comes with high rewards, not least when CREWS projects are scaled up by other funds (see page 12) or leveraged by development partners such as the World Bank in Chad (see Chad Feature). This is evidence of the efficacy of CREWS' multi-dimensional de-risking strategy – a combination of technical, institutional and financial de-risking – which seeks to prepare the ground for large-scale climate – and hydromet – investment. Understanding the costs, risks and benefits, the CREWS Steering Committee has adopted a high- risk appetite so as to deliver maximum benefit to the communities who most need CREWS support.

Proactively managing risk

Across the CREWS portfolio, risks are actively managed.[43] At the project level, risks are managed by Implementing Partners and their collaborators in-country whilst at the portfolio level, the Secretariat manages overall risk with support from a highly effective Steering Committee and from the Trustee.

The highest level risks are evident in the countries experiencing conflict or those that are socially or institutionally fragile – external factors which hinder project progress but often are also the root cause of community vulnerability (see Box 5). However, risks exist across the portfolio and unsurprisingly for an initiative which seeks to strengthen resilience by building early warning systems, many projects report technical risks that reflect the need for capacity to be built and infrastructure to be improved and other risks that exist at the country level but also affect project delivery, be they financial, institutional or operational (Figure 3). Project-specific risks typically reflect the lack of availability – and reliability – of resources (human, technical and financial), challenging timelines, escalating costs and the complexities of multi-stakeholder engagement, alignment and coordination.

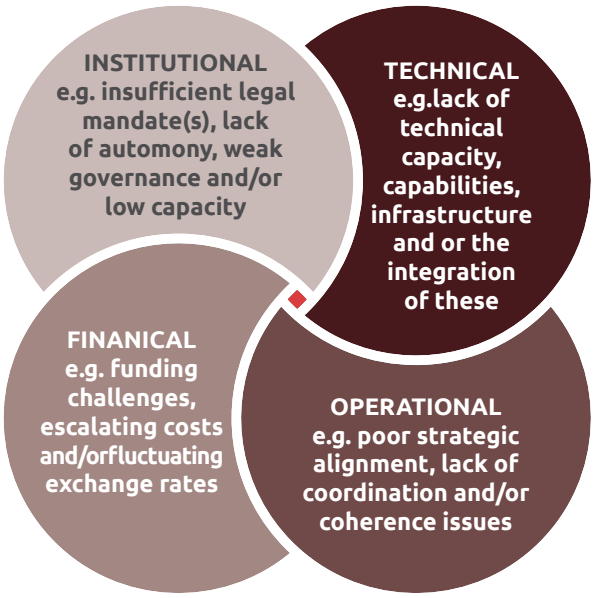


Figure 3. Country-level risks affecting delivery of CREWS project outcomes

43 CREWS (2017). *CREWS Risk Management Approach.* Accessed April 2026: https://crews-initiative.org/wp-content/uploads/2024/06/workdoc4_7th_Steering_Committee_CREWS_Approach_to_risk_management-2.pdf

Box 5. An agile approach that responds to emerging risks and changing priorities

From the outset, CREWS has adopted an agile approach to the delivery of its projects. With an efficient Secretariat and streamlined decision-making supported by a responsive Steering Committee, CREWS can respond swiftly to the changing needs and priorities of its projects as Implementing Partners – and their operational counterparts – respond to dynamic situations which can also be both challenging and dangerous. This is most evident in countries that are affected by fragility, conflict and/or violence. Below are just three examples from the last decade of where CREWS has responded to requests for support to sustain essential systems and life-saving services.

In **Afghanistan**, political changes in the country had multiple impacts on project delivery, including challenges in obtaining visas for technical experts, limitations on in-country access and lengthy procurement processes. Recognizing the changing context, the project was restructured in 2023, including an extension to December 2025. Whilst activities resumed at full capacity in 2024, with a constrained operating environment continuing to affect pace of delivery – but not the overall technical progress – the project has been extended again to December 2026.

In **Guinea**, ASW-support provided operational facilities for the Agence Nationale de la Météorologie following a fire that damaged their office (see Box 2).

In **Haiti**, a dynamic risk assessment approach was adopted to ensure that the project could still progress despite a challenging environment.[44] However, CREWS also ensured that staff from the Hydrometeorological Unit of Haiti could maintain basic forecasting and warning services during a period of unrest in 2024 by providing Starlink Internet for selected staff to enable them to work remotely when it was unsafe to travel in the country.

After working together in a community garden, Adhieu Deng Ngewei and her neighbors sing and dance as they walk home in Dong Boma, South Sudan.
Credit: Paul Jeffrey/Alamy.com

44 CREWS (2025). *Annual Report 2024: Achieving with confidence – navigating uncertainty.* Accessed April 2026: https://crews-initiative.org/reports/.

A portfolio approach to balancing risk

At the portfolio level, there is an opportunity to balance the overall risk through a combination of country-level and regional projects (see Figure 4). Typically, regional projects carry lower risk, in part thanks to the support of highly proficient regional organizations and technical centres. In addition, at the regional level – and also through multi-country projects like the EW4All Accelerator – there are opportunities for peer-to-peer learning and technical support, where more advanced countries and organizations can impart knowledge and experience, share examples of key documents – such as legislation or frameworks for early warning systems – and provide mentoring to technicians in other countries and territories.

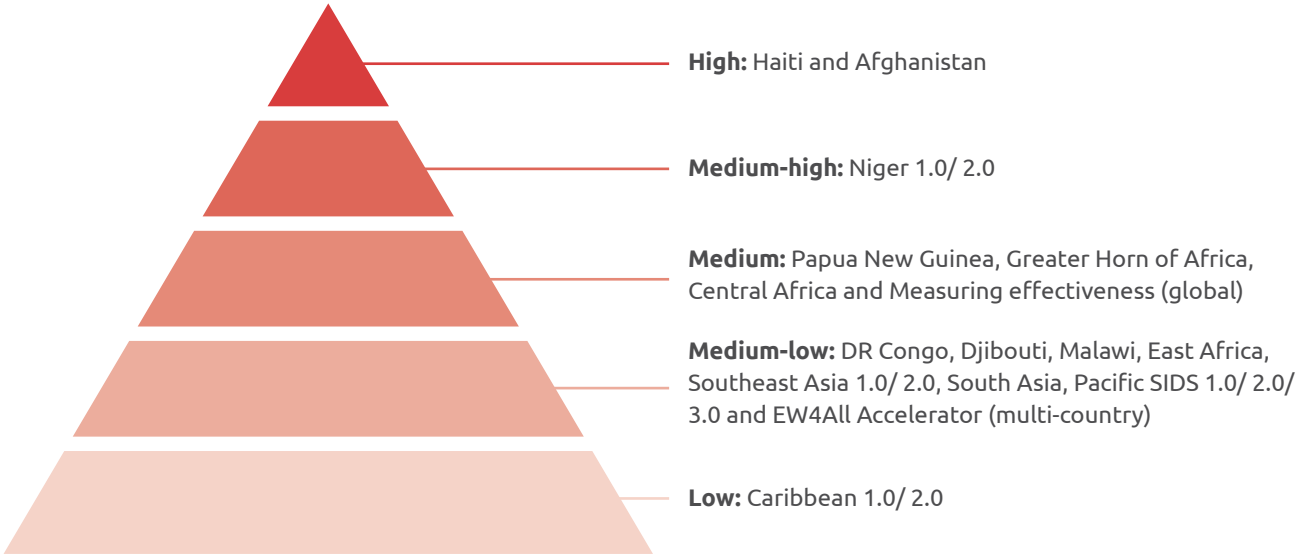


Figure 4. Risk status of multi-year projects in the CREWS portfolio (2015-2025)

Source: CREWS Secretariat

The benefit of multilateral cooperation

As a multilateral fund – with thanks to its 12 Contributing Members – CREWS has continued to grow despite a very challenging economic context, including reductions in development funding. CREWS continues to be a reliable partner for the world's most vulnerable people providing a trusted, country-driven and demand-led mechanism. In the context of a changing climate, never has the need been more urgent.

Financials

Fund contributions

The CREWS Initiative thanks its 12 Contributing Members for their generous support.

By the end of 2025, US$ 142.4 million in pledges and contributions[45] have been made into the CREWS Trust Fund since it was established in 2016. Of this amount, US$ 141.2 million has been received by the Trustee and applied to the CREWS Trust Fund (see Figure 5).

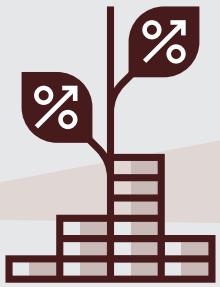
During 2025, the Trustee received in total US$ 13.3 million from Canada, Luxembourg, Monaco, Norway and Switzerland. In addition, the Trust Fund earned an investment income of US$ 7.3 million on its liquid balances, including the investment income received from the Implementing Partners.

Project funding

By 31 December 2025, the CREWS Steering Committee had approved US$ 128.6 million in funding (net of cancellations), of which 80.8% was directly funding CREWS interventions through multi-year projects (country, regional and multi-country) and Accelerated Support Window actions (see Figure 5).[46] At the end of 2025, the funds available to support CREWS Steering Committee funding decisions amount to US$ 19.9 million (see Table 1).

By 31 December 2025

the CREWS Steering Committee had approved



US$ 128.6 million in funding

80.8%

was directly funding CREWS interventions through

27 multi-year projects (country, regional and multi-country) and **16 Accelerated Support Window actions**

At the end of 2025, the funds available to support CREWS Steering Committee funding decisions amount to

US$ 19.9 million

45 A pledge represents a contributor's expression of intent to contribute. Pledges are formalized into contributions by way of a Contribution Agreement/ Arrangement between the Contributing Member and the Trustee.

46 The Steering Committee had approved US$ 12.68 million for implementation partner fees and US$ 11.94 million for administrative budgets to support the activities of the CREWS Secretariat and Trustee.

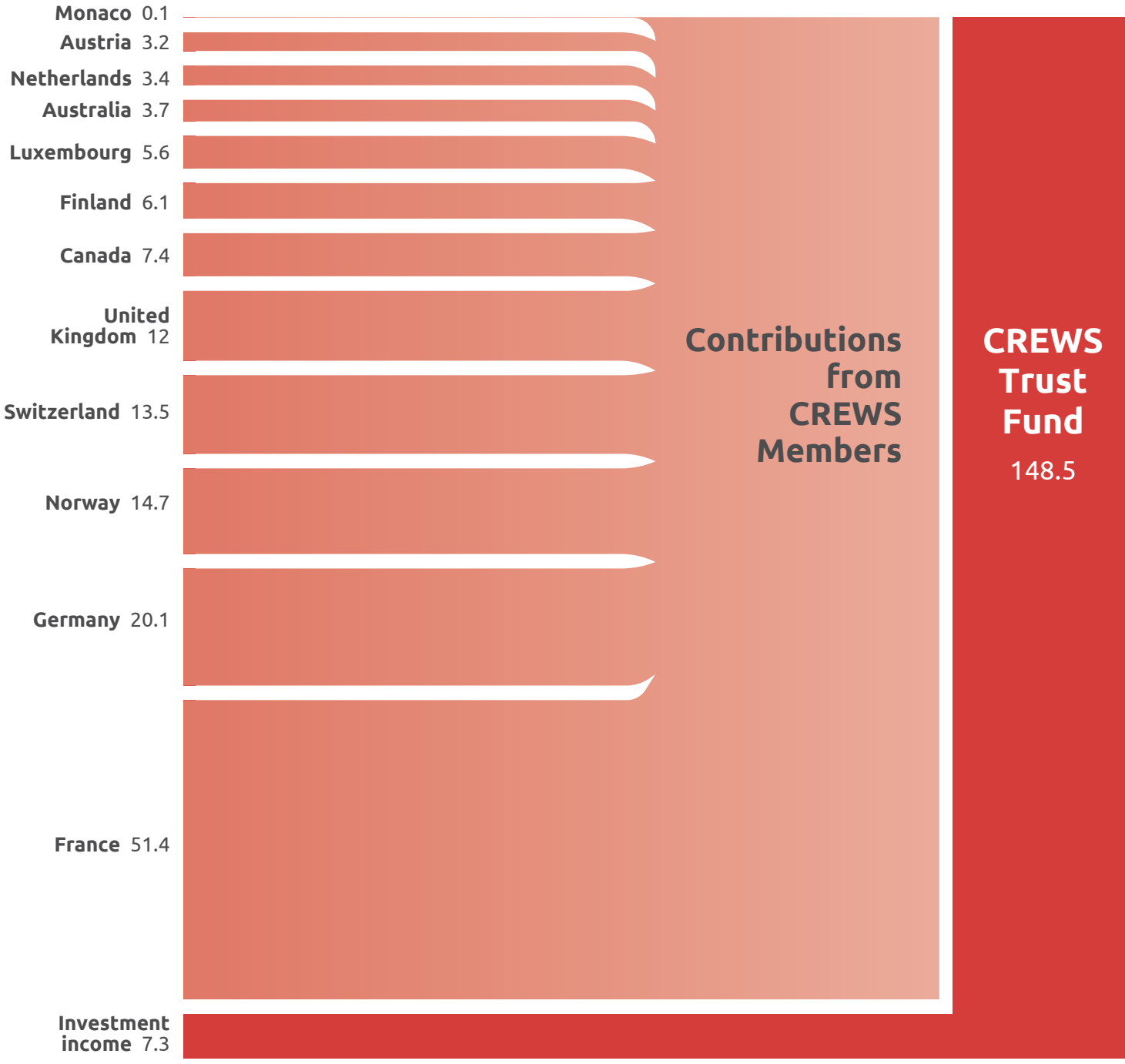


Figure 5. Contributions into the CREWS fund and funding decisions to projects[47] as of 31 December 2025 (in US$ millions)

Source: CREWS Trustee (World Bank)

47 Figures may differ from those provided in Trustee Reports resulting from the use of different aggregation methods, the timing of the report and/or the inclusion/exclusion of implementing partner fees. Regions include multi-year country and regional projects alongside Accelerated Support actions with multi-country projects shown separately.

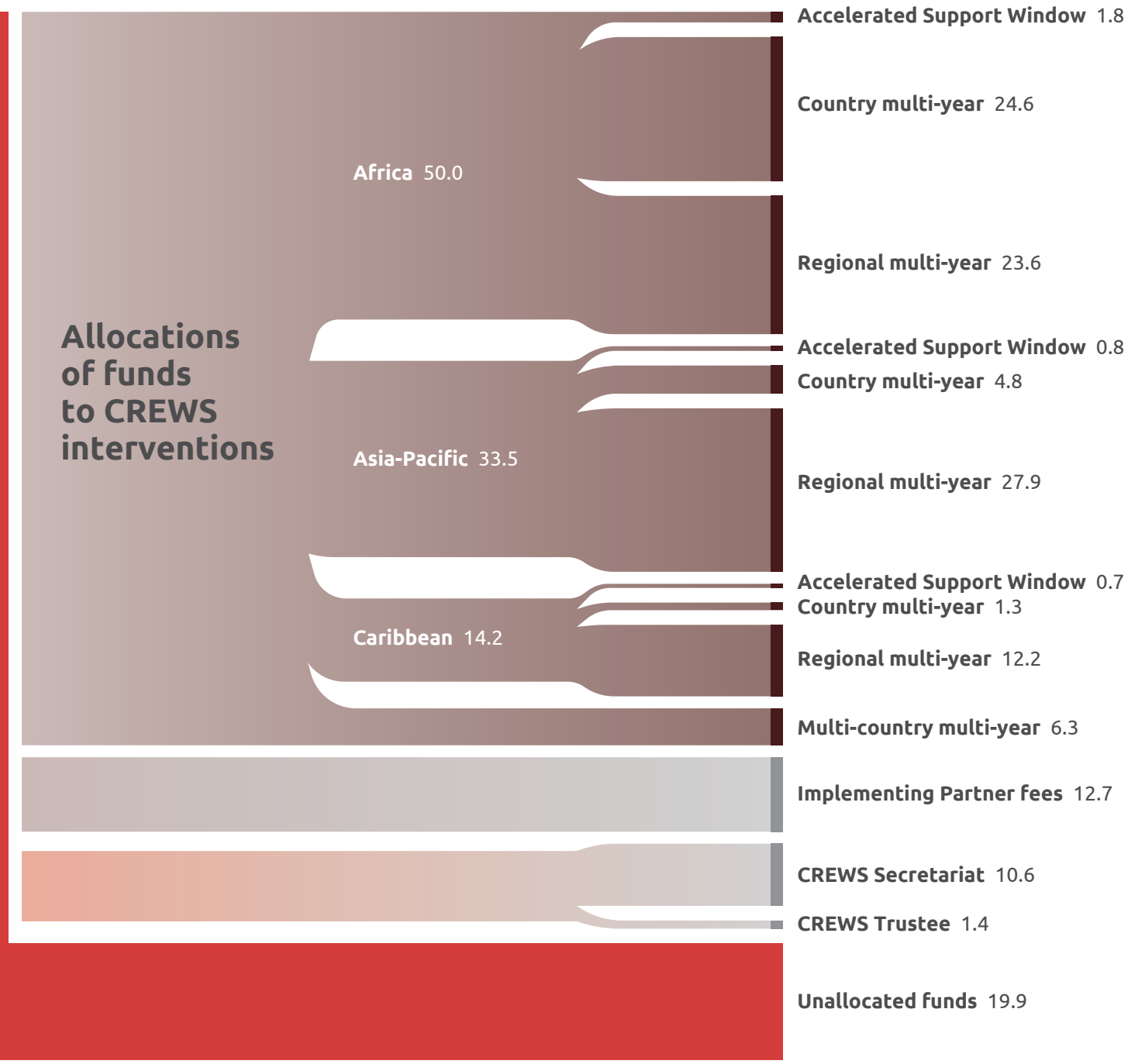

Allocations of funds to CREWS interventions
Africa 50.0
Asia-Pacific 33.5
Caribbean 14.2
Accelerated Support Window 1.8
Country multi-year 24.6
Regional multi-year 23.6
Accelerated Support Window 0.8
Country multi-year 4.8
Regional multi-year 27.9
Accelerated Support Window 0.7
Country multi-year 1.3
Regional multi-year 12.2
Multi-country multi-year 6.3
Implementing Partner fees 12.7
CREWS Secretariat 10.6
CREWS Trustee 1.4
Unallocated funds 19.9

Table 1. CREWS Trust Fund Summary

Inception through 31 December 2025 in US$ millions	**Total[a]**	**% of Total**
Donor Pledges and Contributions		
Contributions	142.4	100.0%
Pledges	-	0%
Total Pledges and Contributions	**142.4**	**100.0%**
Cumulative Resources		
Resources received		
Cash Receipts	141.2	94.3%
Investment Income earned[b]	7.3	4.9%
Total Resources Received	**148.4**	**99.2%**
Resources not yet received		
Contributions not yet received	1.2	0.8%
Pledges	-	0.0%
Total resources not yet received	**1.2**	**0.8%**
Total Potential Resources (A)	**149.7**	**100.0%**
Cumulative Funding Decisions		
Projects	104.0	80.8%
Fees	12.7	9.9%
Administrative Budget	11.9	9.3%
Total Funding Decisions Net of Cancellations (B)	**128.6**	**100.0%**
Total Potential Resources Net of Funding Decisions (A)–(B)	**21.1**	
Funds Available		
Funds Held in Trust with no restrictions	22.3	
Approved Amounts Pending Cash Transfers	2.5	
Total Funds Available to Support Steering Committee Decisions	**19.9**	

[a] Sub-totals may not add up due to rounding
[b] Represents investment income earned on the liquid balances of the CREWS Trust Fund and investment income received from implementing partners

Source: World Bank, CREWS Trustee

A female farmer gleans her fields by removing and stacking the hay left over from threshing their rice crop in northern Senegal, West Africa. Credit: Jake Lyell

Sustainable investment

Since July 2019, the CREWS Trustee (World Bank) has been integrating Environmental, Social and Governance (ESG) factors into its investment processes as part of a Sustainable and Responsible Investment approach to investment management. The CREWS investment portfolio primarily comprises short-term high-grade fixed-income securities (sovereign, supranational and agency securities, and bank deposits).

As of 31 December 2025, the portfolio has an ESG Quality Score of 6.8 (out of 10)[48] and an ESG Rating of A. For more information, please see the full Trustee Report.

48 ESG Quality Score is based on MSCI ESG Ratings and measured on a scale of 0 to 10 (worst to best) following a rule-based methodology (see https://www.msci.com/esg-and-climate-methodologies).

Looking ahead: reporting beyond the baseline

Credit: UNDRR/ Sanjay Pariyar

Embedding the new monitoring and evaluation framework

In 2024, a new monitoring, evaluation, accountability and learning (MEAL) framework was adopted, with all CREWS projects reporting against the new framework in their progress reports or final reports in early 2025. One year on, the framework is now embedded across the CREWS portfolio and all projects are required to align with the MEAL framework and develop a project theory of change and logical framework following the updated operational procedures for CREWS monitoring and evaluation (M&E). Importantly, the indicators are aligned with the goal and M&E framework of EW4All and the CREWS MEAL framework includes as one of its indicators the Early Warning (EW) Maturity Index which is under development – and being trialled by – the EW4All M&E working group, led by WMO and UNDRR. The CREWS indicators are also aligned with the early warning systems indicators of the Global Goal on Adaptation which were announced by the United Nations Framework Convention on Climate Change in Belém, Brazil in September 2025.[49]

Preparing for digital reporting

With the CREWS portfolio growing – and in support of its commitment to robust reporting – an Associate Monitoring and Evaluation Officer was recruited into the CREWS Secretariat in 2025, strengthening the Secretariat's internal capacity and expertise to fully operationalize the MEAL frameworks approved in 2024. In parallel, the Secretariat is advancing the digitization of MEAL processes by leveraging digital tools to transition existing frameworks and systems into a structured digital platform being developed by Athena Infonomics Limited,[50] with its launch planned before the end of 2026. This tool will be the main mechanism for project implementers to report their project's progress in the future and as a result, it has been essential to validate the project data before it is migrated into the new system. Therefore, in preparing this annual report, the consultations with Implementing Partners have focused on re-validating the figures reported in 2024 – the baseline year for the new framework – and reviewing the data submitted for 2025. Descriptions of CREWS' core indicators are provided in Appendix 1 and the validated figures for each project are presented in Appendix 2.

49 United Nations. Final list of potential indicators, UAE–Belém work programme on indicators. Accessed April 2026: https://unfccc.int/documents/649629
50 Athena Infonomics. Homepage. Accessed April 2026: https://www.athenainfonomics.com

A decade of delivery sets strong foundations for the future

Consolidating on a decade of delivery

Reflecting on a year – and a decade – of delivery, the eyes of CREWS are set to the future, anchored by a new strategy, with both an operational plan and a resource mobilisation plan to be reviewed and approved in 2026. These strategic documents represent a consolidation of what has been achieved so far – while the strategy is new, there is no change in direction, dilution of commitment or deviation from CREWS' core values of being unique, people-centred, innovative and solution-oriented and gender-responsive whilst promoting coherence and acting as a multiplier by leveraging complementary funding mechanisms. Nonetheless, CREWS will continue to learn – and share – from its experience of delivering projects in challenging contexts, evolving and adapting its approach to improving early warning systems and climate resilience in the world's most vulnerable locations. CREWS also remains humble, recognizing the vast number of people involved in delivering its impactful work and thankful of the power of connection with – and between – all of the communities, countries and delivery partners involved, whilst remaining ever grateful to the ongoing support of its Contributing Members who provide the funds to realise its project and programmatic plans.

Story collection mission in Mozambique - August 2024 Credit: WMO

Catalysing future investment

A central theme in this report has been the role of CREWS as a catalyst. This is evident within each project, with CREWS supporting essential foundational work, such as the development of national strategic plans and the co-design of new weather and climate products. CREWS has also supported many countries to progress plans to implement EW4All, providing financial and technical support for convening national stakeholders, carrying out technical capacity diagnostics and user needs assessments, and validating EW4All Roadmaps. However, CREWS' catalytic role is perhaps most evident – and most significant – in how it is mobilizing climate finance to deliver country-led early warning programmes. This came to the fore in 2025 with the Board of the Green Climate Fund approving two project proposals which took advantage of the GCF-CREWS scaling-up framework – one from Togo and one from Belize and Trinidad and Tobago. Responding to the recommendations of two recent evaluations, the mobilization of GCF funding to expand and extend the foundational work of CREWS is but the first step of an ongoing collaboration.[51] Together, the Green Climate Fund and CREWS are actively exploring other financing pathways. This has all been made possible by CREWS' multi-dimensional de-risking strategy – a combination of technical, institutional and financial de-risking – which prepares the ground for large-scale climate investment. Looking ahead, CREWS is in active discussion with other funders about the possibility of replicating this approach.

Initiating new projects and new opportunities

With the possibility of CREWS projects opening a door for larger investment in the future, there is high demand for CREWS support. In 2025, the CREWS portfolio grew, with new multi-year projects initiating in South Asia (to be reported in next year's report) and two existing projects entering a new phase. In Cambodia and Lao People's Democratic Republic, the successes of a first project – featured in this Annual Report – form the foundation for a second phase of work. Meanwhile in the Pacific, CREWS Pacific SIDS is entering a third phase through the project Strengthening Inclusive Early Warning Systems Across Pacific SIDS. Crucially, these regional projects strengthen regional institutions as well encourage peer-to-peer support, both resulting in the benefits extending beyond the focal countries to improve outcomes across all countries and territories in the wider region. By leveraging existing regional expertise, systems and infrastructure, these projects also serve to reduce the overall risk profile of the CREWS portfolio.

Setting countries on a pathway to investment

In 2025, the number of short-term interventions also increased, with 16 Accelerated Support Window actions active in 2025. For the first time, interventions extended beyond single country applications with one regional action (in the Caribbean) and one operating at the continental scale, led by the African Centre of Meteorological Applications for Development (ACMAD). In addition to developing a collaboration framework between ACMAD, the African Ministerial Conference on Meteorology and WMO, a select number of countries are receiving technical support including institutional strengthening and digital transformation.

51 In 2025, two evaluations were undertaken for the Green Climate Fund. The first focusing on its Climate Information and Early Warning Systems portfolio and the second focusing on its Simplified Approval Process.

A strong foundation for the future

At the end of 2025, strong foundations are set for the future. Already on the horizon is the accreditation of the International Telecommunications Union and the International Federation of Red Cross and Red Crescent Societies – when complete, this means that all four EW4All Pillar Leads will be CREWS Implementing Partners. There are also new projects initiating at the start of 2026 – including the Drought Resilience and Early Warning (DREW) project in the Pacific – and several new Accelerated Support Window actions. In addition, there are strong pipelines of countries, seeking support either from CREWS or from the Green Climate Fund, with 12 countries actively developing GCF proposals that will build upon the successes of multi-year CREWS projects. The case for replication has been made and the need is strong with CREWS experiencing high demand for its support. In a world defined by increasing climate uncertainty, the ability to scale up is no longer a luxury – it is an absolute necessity.

Tanzania, Zanzibar, Zanzibar City, Zanzibar Stone Town, Market Impressions, African man is listening to radio.
Credit: ONEWORLD PICTURE/Alamy.com

Malawian boy listening to a transistor radio, Chizumulu island, Malawi.
Credit: Nature Picture Library/Alamy.com

Appendix 1. CREWS metrics and indicators

Expected results	Indicators
Goal: Strengthened resilience to climate shocks and loss and damage averted and minimized through increased availability and improved access to multi-hazard early warning systems by 2030.	# of people living in LDCs and SIDS with access to/and receiving forecasts and early warning services developed or improved with CREWS support # of deaths and missing persons in LDCs and SIDS attributed to hydrometeorological events, per 100 000 population # of people in LDCs and SIDS whose livelihoods were disrupted or destroyed, attributed to disasters
Outcome 1 National and local multi-hazard early warning systems prioritized and funded Output 1.1 A country and/or region has developed or strengthened legislative and/ or institutional frameworks to support and sustain multi-hazard early warning systems Output 1.2 Multi-hazard needs, gaps and priority assessments, analyses and related investment plans for early warning systems in a country or region are driven by CREWS financing	# of LDCs and SIDS with national investment plans and budgets prioritizing multi-hazard early warning programmes # of national plans, strategies and legislations on early warnings approved and/or implemented # of multi-hazard assessments, analyses and other mapping of needs, gaps priorities that inform investment requirements on early warning
Outcome 2 Improved early warning service delivery and accessibility by national and regional institutions	EW Maturity Index [not yet available] # of hazards which pose a risk of life and economic loss for which forecasting and warning services are in place in LDCs and SIDS with CREWS support
Outcome 3 Early warning programmes are driven by people-centred and gender-responsive principles and promote private sector engagement	[associated indicators are not core indicators]
Output 3.1 People of different backgrounds, gender, youth, older persons, people with disability, poor, marginalized, displaced, and non-native, as well as related institutions have co-produced climate and weather information products tailored to their needs	# of climate and weather information products co-designed to users' needs by group representing vulnerable segments of exposed populations

Source: CREWS (2024). CREWS Operational Procedures Note No 2 Monitoring and Evaluation, revised in July 2024, accessed April 2026: https://crews-initiative.org/wp-content/uploads/2024/11/20241104_CREWS_OP_ME_web_pages.pdf

Appendix 2. CREWS Portfolio in 2025

Project	Countries/ territories supported	Timeframe	1. # of LDCs and SIDS with national investment plans and budgets prioritizing multi-hazard early warning programmes			1.1a # of national plans, strategies and legislations on early warnings approved and/or implemented		
			Reported in 2024	During 2025	by end 2025	Reported in 2024	During 2025	by end 2025
Country projects								
Burkina Faso	Burkina Faso	2017-2026	1	Plan exists	1	2	0	2
Chad	Chad	2019-2025	1	Plan exists	1	1*	3	4
Democratic Republic of the Congo	Democratic Republic of the Congo	2017-2027	0	1	1	1	1	2
Djibouti	Djibouti	2024-2028	0	0	0	0	0	0
Malawi	Malawi	2022-2026	1	Plan exists	1	2	1	3
Mali	Mali	2017-2025	1	Plan exists	1	2*	1	3
Niger 2.0	Niger	2024-2028	1	Plan exists	1	1*	0	1
Togo	Togo	2019-2025	1	Plan exists	1	4	4	8
Afghanistan	Afghanistan	2019-2026	0	0	0	4*	2	6
Haiti	Haiti	2021-2027	0	1	1	0*	2	2
Regional projects								
West Africa	Benin, Burkina Faso, Cabo Verde, Cameroon, the Central African Republic, Chad, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, the Niger, Nigeria, Senegal, Sierra Leone and Togo	2018-2025	1*	Plan exists	1	1*	0	1
Central Africa	Angola, Burundi, Cameroon, the Central African Republic, Chad, the Congo, the Democratic Republic of the Congo, Rwanda and Sao Tomé e Principe	2022-2026	1	4	5	1	4	5

1.2 # of multi-hazard assessments, analyses and other mapping of needs, gaps priorities that inform investment requirements on early warning			2 # of hazards which pose a risk of life and economic loss for which forecasting and warning services are in place in LDCs and SIDS with CREWS support			3.1a # of climate and weather information co-designed to users' needs by group representing vulnerable segments of exposed populations			Programme
Reported in 2024	During 2025	by end 2025	Reported in 2024	During 2025	by end 2025	Reported in 2024	During 2025	by end 2025	
7*	0	7	4	0	4	3	0	3	Burkina Faso
3	4	7	4	0	4	3*	Improved	3	Chad
4	2	6	3	1	4	0	0	0	Democratic Republic of the Congo
1*	4	5	0	0	0	0	0	0	Djibouti
4*	4	8	6*	1	7	2	2	4	Malawi
4*	2	6	4*	0	4	33	0	33	Mali
0	1	1	2	0	2	0	0	0	Niger 2.0
7	3	10	3	1	4	3	0	3	Togo
3*	2	5	3*	0	3	0	1	1	Afghanistan
2	0	2	2	0	2	0	0	0	Haiti
1*	0	1	6	0	6	0	0	0	West Africa
1*	2	3	1	3	4	0	0	0	Central Africa

Project	Countries/ territories supported	Timeframe	1. # of LDCs and SIDS with national investment plans and budgets prioritizing multi-hazard early warning programmes			1.1a # of national plans, strategies and legislations on early warnings approved and/or implemented		
			Reported in 2024	During 2025	by end 2025	Reported in 2024	During 2025	by end 2025
East Africa	Burundi, Kenya, Rwanda, South Sudan, Uganda and the United Republic of Tanzania	2023-2027	1	0	1	0	3	3
Greater Horn of Africa	Ethiopia, Somalia and the Sudan	2022-2027	1	2	3	0	6	6
Southwest Indian Ocean	The Comoros, Madagascar, Mauritius, Mozambique and Seychelles	2020-2027	3*	Plans exist	3	4*	2	6
South-East Asia	Cambodia and Lao People's Democratic Republic	2021-2025	2	Plans exist	2	4*	7	11
South Asia	Bangladesh, Maldives, Myanmar and Nepal	2025-2029	n/a	0	0	n/a	0	0
Pacific SIDS 2.0	The Cook Islands, Fiji, Kiribati, the Marshall Islands, Federated States of Micronesia, Nauru, Niue, Palau, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu	2017-2025	0*	0	0	11*	4	15
Pacific SIDS 3.0 (SIEWAP)	The Cook Islands, Fiji, Kiribati, the Marshall Islands, Federated States of Micronesia, Nauru, Niue, Palau, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu	2025-2029	n/a	1	1	n/a	2	2
CREWS Caribbean 2.0	Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname and Trinidad and Tobago and 6 CARICOM Associate Members (the British Caribbean Territories of: Anguilla, Bermuda, British Virgin Islands, Cayman Islands, and Turks and Caicos Islands) and Sint Maarten (and Cuba and Dominican Republic)	2024-2027	0	0	0	2	3	5

1.2 # of multi-hazard assessments, analyses and other mapping of needs, gaps priorities that inform investment requirements on early warning			2 # of hazards which pose a risk of life and economic loss for which forecasting and warning services are in place in LDCs and SIDS with CREWS support			3.1a # of climate and weather information co-designed to users' needs by group representing vulnerable segments of exposed populations			
Reported in 2024	During 2025	by end 2025	Reported in 2024	During 2025	by end 2025	Reported in 2024	During 2025	by end 2025	Programme
0	0	0	0	2	2	6	1	7	East Africa
2	5	7	2	0	2	2	1	3	Greater Horn of Africa
6	1	7	3*	0	3	0	0	0	Southwest Indian Ocean
4	0	4	4	1	5	5*	1	6	South-East Asia
n/a	0	0	n/a	0	0	n/a	0	0	South Asia
5	8	13	5	0	5	3	0	3	Pacific SIDS 2.0
n/a	1	1	n/a	0	0	n/a	0	0	Pacific SIDS 3.0 (SIEWAP)
4	4	8	5	1	6	0	0	0	CREWS Caribbean 2.0

Project	Countries/ territories supported	Timeframe	1. # of LDCs and SIDS with national investment plans and budgets prioritizing multi-hazard early warning programmes			1.1a # of national plans, strategies and legislations on early warnings approved and/or implemented		
			Reported in 2024	During 2025	by end 2025	Reported in 2024	During 2025	by end 2025
Multi-country project								
EW4ALL multi-stakeholder accelerator in LDCs and SIDS	The Comoros, Kiribati, Madagascar, Mauritius, Nepal, Solomon Islands and Tonga	2024-2026	1*	Plan exists	1	1*	7	8

* These figures differ from those reported in the CREWS Annual Report 2024 as a result of data validation with the project's Implementing Partners during the preparation of this report.

1.2 # of multi-hazard assessments, analyses and other mapping of needs, gaps priorities that inform investment requirements on early warning			2 # of hazards which pose a risk of life and economic loss for which forecasting and warning services are in place in LDCs and SIDS with CREWS support			3.1a # of climate and weather information co-designed to users' needs by group representing vulnerable segments of exposed populations			Programme
Reported in 2024	During 2025	by end 2025	Reported in 2024	During 2025	by end 2025	Reported in 2024	During 2025	by end 2025	
7	17	24	2	3	5	0	0	0	EW4All Accelerator

CREWS Implementing Partners

WORLD METEOROLOGICAL ORGANIZATION

GFDRR Global Facility for Disaster Reduction and Recovery

Administered by THE WORLD BANK IBRD • IDA | WORLD BANK GROUP

UNDRR UN Office for Disaster Risk Reduction

CREWS Operational Partners

ACMAD

adpc Asian Disaster Preparedness Center

AEMet Agencia Estatal de Meteorología

AGRHYMET

Anticipation Hub

Australian Government Bureau of Meteorology

CDEMA CARIBBEAN DISASTER EMERGENCY MANAGEMENT AGENCY Resilient States · Safer Lives

cima RESEARCH FOUNDATION

CIMH

EUMETSAT

FMI

RIMES

GREEN CLIMATE FUND

IGAD ICPAC IGAD Climate Prediction and Applications Centre

Global Shield against Climate Risks

IFRC

IRI International Research Institute for Climate and Society EARTH INSTITUTE | COLUMBIA UNIVERSITY

ITU

METEO FRANCE

Met Office

MeteoSwiss

Norwegian Meteorological Institute

People in Need

REAP Risk-informed Early Action Partnership

FAO Food and Agriculture Organization of the United Nations

SOFF Systematic Observations Financing Facility

RESURGENCE.

SPC Secretariat of the Pacific Community

SPREP Secretariat of the Pacific Regional Environment Programme

UN environment programme

UNDP

WFP World Food Programme

Weather Ready Pacific

The CREWS Initiative gratefully acknowledges the support of:

CREWS Members

Australia
Austria
Canada (Chair)
Finland
France
Germany
Luxembourg
Monaco
Netherlands
Norway
Switzerland
United Kingdom
AOSIS
UNFCC LDC group

CREWS Observers

Czech Republic
European Commission
Ireland
Japan
Mexico
New Zealand
Spain

Visit **www.crews-initiative.org**
Contact us: **crews-secretariat@wmo.int**
Follow us: https://www.linkedin.com/company/crews-initiative/
Watch us: https://www.youtube.com/@crewsinitiative6027
Engage with us: https://bsky.app/profile/crews-initiative.bsky.social