23rd Meeting of the Steering Committee

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Agenda Item 3.1

CREWS Operational Plan 2026–2030

Summary

The draft CREWS Operational Plan 2026–2030 is presented for review and approval by the Members under Agenda Item 3.1.

1. At its 22nd Meeting, the Steering Committee invited the Secretariat to finalize a draft CREWS Operational Plan for 2026-2030. Further, the Steering Committee requested a brief on the application of new technologies and innovations to enhance early warning systems, as part of the operational plan (see Annex 1).

2. The draft CREWS Operational Plan 2026–2030 is a comprehensive implementation roadmap designed to translate the CREWS 2030 Strategy into actionable results. It serves as a management instrument to ensure that by 2030, the most at-risk populations in Least Developed Countries (LDCs) and Small Island Developing States (SIDS) have reliable access to life-saving, end-to-end early warning services.

3. During the preparation of its 2030 Strategy, CREWS held extensive discussions and consultations with partners. The outcomes of these consultations are informing the operational plan. At its 22nd CREWS Steering Committee Meeting, in February 2026, the Secretariat presented draft elements of the operational plan and sought feedback from the Members. Discussion at the meeting served as the backbone and directly informed the drafting process.

4. Targeted consultations to validate the draft were conducted with Steering Committee Members (SC), Implementing Partners (IPs), the CREWS Operational Coordination Group (OCG) comprised of national and regional institutions collaborating and benefitting from CREWS support, early warning and early action actors, strategic partners such as Risk Informed Early Action Partnership (REAP) and the Green Climate Fund (GCF).

5. Following review and approval by the Steering Committee, the Secretariat will produce a clean, designed version of the Operational Plan, as well as a shorter summarized version.

Proposed Decision

Decision 3.1/Item 3/23rd Meeting: The Steering Committee approves the CREWS Operational Plan 2026 –2030, once comments made at the Meeting are reflected, and requests the Secretariat to monitor and report regular progress on its roll-out to the Steering Committee.

List of acronyms

Acronym	Full term
ACMAD	African Centre of Meteorological Applications for Development
ADPC	Asian Disaster Preparedness Center
AF	Adaptation Fund
AGRHYMET	Regional Centre for Agriculture, Hydrology and Meteorology (West Africa)
AI	Artificial Intelligence
AOSIS	Alliance of Small Island States
ASW	Accelerated Support Window
CAP	Common Alerting Protocol
CDEMA	Caribbean Disaster Emergency Management Agency
CMO	Caribbean Meteorological Organisation
COP30	30th Conference of the Parties to the UNFCCC (Belém, 2025)
CREWS	Climate Risk and Early Warning Systems
DISHA	Data Insights for Social and Humanitarian Action
DRM	Disaster Risk Management
DFI	Development Finance Institution
ECMWF	European Centre for Medium-Range Weather Forecasts
EUMETSAT	European Organisation for the Exploitation of Meteorological Satellites
EW4ALL	Early Warnings for All (UN Secretary-General's initiative)
EWS	Early Warning Systems
FAO	Food and Agriculture Organization of the United Nations
FCV	Fragile, Conflict and Violence-affected States
FRLD	Fund for Responding to Loss and Damage
FY	Fiscal Year

GCF	Green Climate Fund
GEF	Global Environment Facility
GFDRR	Global Facility for Disaster Reduction and Recovery
GGA	Global Goal on Adaptation
ICPAC	IGAD Climate Prediction and Applications Centre (East Africa)
IFI	International Financial Institution
IFRC	International Federation of Red Cross and Red Crescent Societies
IP	Implementing Partner
ITU	International Telecommunication Union
LDC	Least Developed Country
M&E	Monitoring and Evaluation
MDB	Multilateral Development Bank
MEAL	Monitoring, Evaluation, Accountability and Learning
MENA	Middle East and North Africa
ML	Machine Learning
MOU	Memorandum of Understanding
NAP	National Adaptation Plan
NDC	Nationally Determined Contribution
NMHS	National Meteorological and Hydrological Service
ODA	Official Development Assistance
OP	Operational Plan
REAP	Risk-Informed Early Action Partnership
RM	Resource Mobilization
SADC	Southern African Development Community
SAP	Simplified Approval Process (GCF)
SC	Steering Committee
SDG	Sustainable Development Goal

Sendai	Sendai Framework for Disaster Risk Reduction 2015–2030
SIDS	Small Island Developing State
SOFF	Systematic Observations Financing Facility
SOP	Standard Operating Procedure
SPREP	Secretariat of the Pacific Regional Environment Programme
UN	United Nations
UNDP	United Nations Development Programme
UNDRR	United Nations Office for Disaster Risk Reduction
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organization
USD	United States Dollar
WFP	World Food Programme
WMO	World Meteorological Organization

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Executive Summary

The CREWS Operational Plan 2026–2030 translates the CREWS Strategy 2030, "From Delivery to Transformation", approved by the Steering Committee in February 2026, into an operational implementation roadmap constituted of investment planning, partnership commitments, and measurable results that will guide CREWS through the second half of this decade.

It is the management instrument that makes the Strategy's ambition accountable and clearly sets the goal that CREWS, by 2030, will significantly contribute to ensure that people most at risk across all LDCs and SIDS will have reliable access to life-saving, end-to-end early warning services that save lives and reduce impacts through timely early action.

CREWS enters this period from a position of demonstrated impact: since its establishment in 2015, CREWS has mobilised USD 142.4 million and catalysed over USD 900 million in leveraged financing.

A current pipeline of 29 projects, valued at USD 124.25 million across Africa, Asia-Pacific, the Caribbean, and MENA, gives this Operational Plan a concrete starting point for the next five years and a strong foundation against which CREWS can systematically scale-up its interventions.

The primary purpose of CREWS is to ensure that the most vulnerable populations in LDCs and SIDS are protected by effective, end-to-end early warning systems. In pursuing that purpose, CREWS, by building the foundational national capacity that LDCs and SIDS need, occupies a distinctive and necessary position in the international climate finance architecture.

It operates in the space between bilateral assistance, often too fragmented and too tied to donor priorities, and the major multilateral climate funds, whose access requirements presuppose levels of institutional and technical readiness that the most vulnerable countries do not yet have.

CREWS acts as the bridge institution: small, agile and flexible enough to respond to country demand within months, technically credible enough to build the institutional foundations that make countries investment-ready partners for climate funds such as the GCF, Adaptation Fund, FRLD, and multilateral development banks, and catalytic enough to ensure that every dollar from CREWS unlocks and multiplies larger-scale finance.

The de-risking logic that underpins the CREWS approach operates across three dimensions:

a) technical, ensuring that data, forecast systems, and warning services meet international standards;

b) institutional, building governance and coordination at national level; and

c) financial, providing the proof of concept and evidence of readiness that major financiers require to invest at scale in EWS projects and programmes.

Moreover, this Operational Plan organises CREWS' work to 2030 around three integrated strategic priorities:

- ✓ Priority 1 builds the institutional, technical, and policy prerequisites that every other investment depends on.

- ✓ Priority 2 translates those foundations into access to climate finance at scale from climate funds such as the GCF, AF, FRLD, multilateral development banks, and other financial institutions.

- ✓ Priority 3 pushes the frontier of what early warning systems can do, operating in impact-based forecasting, cell broadcast alerts for communities with no mobile network coverage, anticipatory action frameworks with pre-agreed financing triggers, and indigenous knowledge integration.

The 2026–2030 period covers the critical delivery phase of the Early Warnings for All (EW4ALL) initiative and the Sendai Framework targets. The 2023–2025 period generated higher levels of interest, frameworks, and institutional attention: 14 countries have developed national EW4ALL roadmaps with CREWS support and 5 more are in active preparation.

The task for 2026–2030 is to translate these commitments into operational, country-owned early warning systems that reach and protect the communities that need them most. CREWS, with its pipeline, its Implementing Partners, and its country relationships, is increasingly recognized as the dedicated multilateral vehicle to support that delivery.

CREWS' capacity to deliver runs through five Implementing Partners, WMO, GFDRR/World Bank, UNDRR, IFRC, and ITU, supported by more than 100 operational partners and a growing network of regional and local institutions. Of the 49 countries listed in the pipeline, 14 operate in FCV contexts. ASW rapid-response actions operate as a separate rolling mechanism alongside the project pipeline.

Dedicated Operational Procedures ensure principled, context-sensitive delivery across the entire portfolio, which is hardwired to the CREWS 2024 Monitoring, Evaluation, Accountability and Learning (MEAL) Framework and aligned with Global Goal on Adaptation indicators agreed at COP30.

In extreme synthesis the ambition of this Operational Plan is clear:

- ✓ CREWS will have supported 200 million additional people across LDCs and SIDS with access to reliable, end-to-end early warning services, against its 2024 baseline of 397.6 million;

- ✓ At least 12 to 15 countries will have secured climate finance at scale from international players such as the GCF, for which CREWS laid the institutional and technical ground, mobilising approximately USD 350 million through the GCF–CREWS Scale-Up Framework alone; and

- ✓ By 2028, an additional USD 100 million in new contributions will have been mobilised in line with G7 commitments, with total cumulative additional contributions reaching USD 175 million by 2030 (inclusive of USD 2 million per year allocated to the Accelerated Support Window), catalysing in turn approximately USD 1 billion in further climate finance through the GCF–CREWS Scale-Up Framework (target USD 350 million) and other co-financing partnerships.

1. Introduction and context

CREWS was established in 2015 as a multilateral trust fund with its Secretariat hosted by the World Meteorological Organization (WMO), and the World Bank serving as Trustee.

Its mandate is focused and intentional: to deliver catalytic, technically grounded investments in early warning systems and climate services in Least Developed Countries and Small Island Developing States, the countries most exposed to climate-related hazards and least able to finance the institutional and technical foundations they need.

CREWS 2021–2025 Operational Plan, "Delivering at Scale," established the core delivery modalities that have shaped CREWS operations to date. Building on the lessons and delivery record of that period, this updated 2026–2030 Operational Plan operationalises the CREWS 2030 Strategy, shifting the focus from project-by-project delivery to a programmatic, transformational model that leverages CREWS' track record, partnerships, and institutional position to achieve sustained, systemic change.

This Operational Plan was developed through a tiered consultative process: the CREWS Secretariat initiated the draft drawing from the Strategy 2030 consultations and based on elements presented to and discussed at the 22nd Steering Committee (Blantyre, Malawi, 13 February 2026).

Implementing Partners (WMO, UNDRR, World Bank/GFDRR, ITU and IFRC), and stakeholders such as the Operational Coordination Group, REAP Secretariat, the Green Climate Fund, Resurgence, Switzerland/SDC, United Kingdom/FCDO, and Canada/ECCC provided targeted feedback which has been considered.

The Operational Plan 2026–2030 launches at a moment when several conditions are converging, creating both urgency and a strategic opportunity:

- ✓ **The 2023–2025 period was the phase of political commitment to early warning systems:** the UN Secretary-General's Early Warnings for All initiative generated pledges, frameworks, and institutional attention at an unprecedented scale. While every CREWS funded operation contributes to the EW4All goal, more specifically, by end-2025, CREWS has supported 14 countries develop their EW4ALL national roadmaps, with 5 more in active preparation, concrete evidence that political commitment is translating into national planning action. The 2026–2030 period is the delivery phase, translating these commitments and gains into operational, country-owned early warning systems. CREWS, with its pipeline, its Implementing Partners, and its country relationships, is the dedicated multilateral vehicle best positioned to support EW4ALL delivery and target achievements during and beyond its commitment period.

- ✓ **The partnership between CREWS and the GCF has already demonstrated that targeted early-stage support can unlock significantly larger flows of finance:** USD 50 million in GCF financing has been approved for Togo, Belize, and Trinidad and Tobago, and at least 12 more projects are in the GCF-CREWS pipeline. But institutional momentum for this model must be sustained also during the GCF's next programming cycle (2028–2032) that may revise the GCF investment priorities. This Operational Plan positions CREWS to consolidate and scale this partnership model with the GCF, and to replicate it with other climate funds and climate financial institutions.

- ✓ **Six countries in CREWS' current pipeline face LDC graduation by 2029.**[1] Two of these countries, Comoros and Solomon Islands, will retain Small Island Developing States eligibility post-graduation and remain within CREWS' mandate. If the foundational infrastructure of early warning and climate services is not firmly in place before graduation, those countries fall into a financing gap that no other mechanism is designed to fill. CREWS can support countries that have graduated from LDC status as long as the decision is made prior to graduation allowing these countries to have robust early warning and climate services foundations in place ahead of their transition.

- ✓ **At COP30, for the first time, governments agreed on indicators for early warning systems under the GGA framework.** CREWS is the primary multilateral investment vehicle with the mandate, the pipeline, and the delivery capacity to support countries in meeting those indicators and this Operational Plan explicitly positions CREWS to make that case.

In other words, the 2026-2030 window is the opportunity for CREWS to consolidate its position as the decisive link between country need and international climate finance.

2. Strategic Priorities: Outcomes, Baselines and Targets

The CREWS 2030 Strategy organises CREWS' response around three strategic priorities. Understanding how those priorities relate to each other is as important as understanding each one individually:

- ✓ **Priority 1: Strengthening Foundations**. This priority is the prerequisite for the others: without reliable institutional structures, technical capacity, and policy frameworks at national level, no other investment produces lasting change. Countries without functioning national meteorological services, without risk knowledge systems, without legal frameworks for early warning cannot absorb larger climate finance, cannot sustain services after project closure, and cannot protect their populations when hazards strike; these gaps are addressed by Priority 1 activities, on which scaling and replication in Priorities 2 and 3 depend.

- ✓ **Priority 2: Catalysing Scaled Finance.** Priority 2 focuses on leveraging foundational investments from Priority 1 to build credible, investment-ready projects such as interventions that build well-equipped meteorological services. Under this priority, CREWS works in partnership with organizations like GCF, other donors and climate funds to confidently scale up funding and turn climate finance into transformational impact for adaptation.

- ✓ **Priority 3: Driving Innovation in Early Warning Systems.** This is the priority where CREWS uses its convening power, its partnership and technical network,to push the EWS frontier: AI-based impact forecasting, cell broadcast alert systems that reach communities with no mobile network coverage, anticipatory action frameworks that link forecast triggers to pre-agreed financing, and indigenous knowledge integration that makes warnings culturally legible.

Running across all three priorities are three delivery levers: catalytic financing (pooled, flexible, de-risking larger investments); knowledge and innovation (evidence generation, REAP

[1] The six graduating countries are: Bangladesh and Nepal (November 2026); Comoros, Solomon Islands and Myanmar (expected 2027); and Senegal (2029).

Secretariat alliance, innovation testbeds); and policy influence (national legislation, budget integration, disaster risk management frameworks). These levers are not discrete programmes, they are the how behind every investment CREWS makes.

Moreover, CREWS operationalises these three priorities and delivery levers through three financing pathways:

- The Accelerated Support Window (ASW) that provides rapid, small grants of up to USD 150,000 to test approaches, build country readiness, and prepare the pipeline for larger investments.
- The multi-year country and regional projects that then deliver proof of concept and essential services, forming the core of the portfolio.
- The GCF–CREWS Scale-Up Framework, that brings proven solutions to scale, connecting CREWS-prepared countries with major climate finance.

These three pathways are a progression: a country typically moves through them in sequence as its institutional readiness grows and its access to finance deepens.

Box 1: 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 credible, investment-ready investments. The success of this approach is most clearly demonstrated through the scale-up framework between CREWS and the Green Climate Fund, 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 realised and sustained.

The logic is simple but disciplined. It begins with upstream support that strengthens the technical and institutional foundations of early warning systems, improving data quality and sharing, strengthening coordination, 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 mobilised more quickly and with greater assurance.

The partnership between CREWS and the Green Climate Fund has already begun to deliver results. To date approximately USD 50 million has been approved for Togo, Belize and Trinidad and Tobago, and at least 12 more projects are in the pipeline.

Priority 1: Strengthen the Foundations of Early Warning Systems

Priority 1 is where the investment sequence begins. Every investment under it addresses the foundational prerequisites on which Priorities 2 and 3 build.

CREWS investments under Priority 1 span the full early warning and early action value chain: from risk knowledge and multi-hazard observation through forecasting, warning dissemination, and preparedness and anticipatory action. Priority 1 operates around five interconnected EWS operational sub-areas:

a) **Institutional strengthening and capacity development:** this sub-area builds the human and organisational foundations that make national meteorological, hydrological, and

disaster management services capable of delivering early warning sustainably, through skills assessments, training, mentoring, and the strengthening of coordination mechanisms between institutions at national, regional, and local level. This sub-area also strengthens institutional and community capacities to prepare for, respond to, and act upon warnings through contingency planning, simulation exercises, anticipatory action protocols, evacuation planning, and locally led preparedness mechanisms.

b) **Technical systems:** this sub-area addresses the physical and digital infrastructure through which warnings are generated and reach people: observation networks, data sharing arrangements, forecasting and prediction products, and the communication channels, including CAP-format alerts and last-mile dissemination, through which those warnings are issued. It also includes forecast thresholds, trigger systems and decision-support mechanisms that enable anticipatory action.

c) **Policy and regulatory frameworks:** this sub-area ensures that early warning services and anticipatory action are grounded in national law, strategy, and institutional mandates, so that they outlast individual projects and remain operational when external financing ends. This includes support to legal reforms, national EWS and anticipatory action strategies, and the integration of early warning, anticipatory action and forecast-based financing mechanisms into national adaptation plans and disaster risk management frameworks.

d) **Gender-responsive and people-centred service delivery:** this sub-area ensures that the people EWS are designed to protect are actively involved in co-producing them, from risk knowledge to dissemination design, and that women, youth, people with disabilities, and marginalised groups are not passive recipients of services designed without them. It also strengthens the linkage between early warning and anticipatory action, ensuring that warnings are actionable, accessible and usable by all groups, and that anticipatory action systems are informed by and responsive to differentiated needs, capacities and decision-making contexts, including through support to community-led preparedness, local volunteer networks and trusted local intermediaries for inclusive last-mile dissemination and action.

e) **FCV-sensitive programming:** this sub-area ensures service continuity and principled delivery in projects operating in fragile, conflict, and violence-affected countries and settings, where standard programming assumptions do not hold and where the consequences of a missed warning and no action are most severe.

Financing under Priority 1 follows a deliberate pathway progression. The ASW provides rapid, preparatory grants up to USD 150,000 per action to test approaches, build country readiness, and prepare the pipeline for larger investments. Multi-year projects deliver proof of concept and essential services, and the Scale-Up Framework brings proven solutions to scale. Strategic alliances with REAP Secretariat, SOFF, EUMETSAT, ECMWF, and met-to-met cooperation partners reinforce delivery across all pathway levels. The ASW operates within an annual envelope of USD 2 million per year, fully included within the USD 100 million FIF mid-term target set out in the CREWS Resource Mobilization Plan.

Table 1 Performance indicators: Priority 1

Baselines are validated as of 2024. Mid-term targets (2028) and end targets are noted cumulatively.

Table 1: Priority 1, Performance Indicators, Baselines and Targets Indicator	Baseline (2024)	Mid-term (2028)	End Target (2030)
# of people in LDCs and SIDS with access to/receiving forecasts and EWS developed or improved with CREWS support	397.6M	497.6M	597.6M
# of national plans, strategies and legislations on early warning andanticipatory action approved and/or implemented	81	117	All LDCs and SIDS supported by CREWS
# of hazards for which forecasting and warning services are in place in LDCs and SIDS through CREWS support	56	83	ALL identified priority hazards in countries supported
# of functioning monitoring and observation systems established or strengthened per hazard	111	157	Functional for all identified priority hazards
# of warnings issued in CAP format	350	368	All official hazard warnings in CAP format
# of preparedness or anticipatory action plans, SOPsthat are operational and linked to predication and warning services	98	122	All CREWS-supported countries: Operational Plans in place and actively implemented
# of risk maps and warning products available and adapted to user/sector needs	147	183	All priority hazards covered

Priority 2: Catalyse Transformation through Scaled and Sustained Investments

The foundational investments built under Priority 1 only fulfil their potential if they open the door to finance at a scale, this is where Priority 2 operates as the mechanism through which that potential is realised, turning credible national institutions and demonstrated results into credible partners for larger climate finance providers such as the GCF, MDB, and DFIs.

The delivery logic under Priority 2 runs in the following sequencing: CREWS makes a targeted catalytic investment that establishes proof of concept and builds institutional readiness that then maintains momentum and continuity through bridging finance between this phase and the

scaling up stage. With readiness demonstrated, the country is positioned to access large-scale financing through the Scale-Up Frameworks, pathways that CREWS has pioneered and intends to expand/replicate to other climate funds and IFIs beyond GCF during the implementation of this operational plan. Moreover, as larger finance flows in, CREWS broadens the partnership base, engaging Ministries of Planning and Finance, MDBs, bilateral donors, and the private sector, so that early warning services become embedded in national development plans and budgets rather than dependent indefinitely on external grants.

a) **National Integration** ensures that early warning services are embedded in national development plans, budgets, and public investment frameworks, moving countries from dependence on external grants toward institutionalised ownership of the systems that protect their populations. This requires direct engagement with Ministries of Planning and Finance, not only with meteorological and disaster management agencies. Investments in anticipatory action system development, including National Society Early Action Protocols, can directly leverage pre-arranged financing mechanisms such as the IFRC Disaster Response Emergency Fund (DREF) Anticipatory Action Pillar for the activation and implementation of early actions once agreed triggers are reached.

b) **Policy Alignment** ensures that CREWS investments are coherent with the national and regional frameworks that govern climate action and disaster risk management, including National Adaptation Plans (NAPs), Nationally Determined Contributions (NDCs), and Sendai Framework/DRM plans, and that they create the conditions for countries to access international financing mechanisms.

c) **Investment Mobilization** is the mechanism through which CREWS' catalytic grants unlock large-scale financing from multilateral development banks, climate funds, and the private sector. Building on the GCF–CREWS Scale-Up Framework, this sub-area pursues replication of that model with the Adaptation Fund, the FRLD, GEF, and other climate finance institutions, so that the leverage pathway pioneered with GCF becomes a replicable architecture, not a one-off arrangement.

d) **Climate Finance Support** provides the technical and institutional preparation that countries need to develop strong proposals to international climate funds and to sustain financing relationships beyond individual projects, strengthening readiness, building proposal development capacity, and ensuring that CREWS-supported countries can navigate the access requirements of GCF and other major financiers.

The performance indicators, baselines, and targets for Priority 2 are set out in Table 2 below in a cumulative manner.

Table 2 Performance Indicators: Priority 2

Indicator	Baseline (2024)	Mid-term (2028)	End Target (2030)
Total volume of funds leveraged through CREWS investments (USD)	USD 929M	1.539 billion	1.929 billion
# of LDCs and SIDS with national investment plans and budgets prioritizing multi-hazard early warning programmes	22	40	52
# of LDCs and SIDS benefitting from GCF resources through the GCF–CREWS scale-up framework	3	13	20
# of ASW actions approved	16	40	80

# of GCF projects approved through GCF/SAP–CREWS framework	2	6–8	14

Box 2: Leveraging Definition

Leveraging refers to the additional resources, financial or in-kind, mobilised from national governments, development partners, climate funds, and private actors as a direct result of CREWS investments.

CREWS draws on the definitional framework established by the Global Facility for Disaster Risk and Recovery (GFDRR), recognising two distinct types of leveraging:

1. Direct or prerequisite finance: CREWS financing has served as a pre-condition or enabling requirement for countries to access additional financing from other sources. The CREWS investment directly unlocked the additional resource.

2. Programmatic contribution: CREWS financing informs directly the design and contributes programmatically to another investment. CREWS provides specific technical assistance, expertise, and capacity to enhance the effectiveness of a larger programme.

CREWS will report leveraging against these two categories separately in its MEAL reporting to enable like-for-like comparisons with other climate finance institutions.

Priority 3: Drive Innovation in Early Warning Systems

Priorities 1 and 2 address what CREWS delivers today: the foundations that the most vulnerable countries need, and the finance to scale what works. Priority 3 is about where CREWS leads tomorrow ensuring that the early warning systems of the next decade are fundamentally better at reaching the communities that need them most. By 2030, all CREWS-supported systems will be designed to enable anticipatory action and to integrate meteorological, hydrological, and climate services.

To achieve this, a dedicated workstream[2] on Applying Emerging Technologies and Innovation for Early Warnings, Anticipatory Action and Climate Services is being established under this Operational Plan (see Annex 1). The workstream will pursue two complementary objectives: mainstreaming new technologies across the existing CREWS financing pathways and promoting technologies adapted to global south contexts. The current CREWS pipeline already includes USD 35 million directed toward the application of new and emerging technologies in LDCs and SIDS. Building on this, the workstream targets 25 new projects piloting innovative technologies or approaches through the three financing pathways by 2030.

CREWS brings a distinctive contribution to innovation: it can monitor, evaluate, and learn from innovation practices across its entire portfolio, and new technologies achieve their maximum impact when paired with the institutional strengthening that Priority 1 delivers.

a) Emerging Technologies, that supports the piloting and scaling of proven, deployable innovations in data-sparse LDC and SIDS environments, including AI and machine learning for impact-based forecasting, next-generation satellite and remote sensing data, smart weather applications, and cell broadcast alert systems that reach communities with no mobile network coverage. Additionally, this sub-area encompasses innovative approaches

[2] Concept note attached as an annex.

to technical assistance delivery, including AI-based tools that translate complex climate data into decision-ready information for governments and communities. This sub-area explicitly prioritises innovation for purpose over innovation for its own sake: investment is directed toward technologies and approaches that demonstrably improve warning reach, timeliness, or actionability for the communities CREWS serves. It also encompasses governance, regulatory, and standards dimensions, working with national regulatory authorities to ensure that innovative technologies can operate within the appropriate legal frameworks.

b) Anticipatory Action Integration, a sub-area that embeds early warning services within anticipatory action frameworks and early action protocols, linking forecast triggers to pre-agreed financing and response commitments, in close collaboration with governments and humanitarian actors, particularly IFRC. Moreover, this sub-area directly addresses the most persistent failure point in the EWS value chain: the gap between a warning being issued and resources being released in time to protect lives and livelihoods.

c) Scalability and Context-Appropriateness, this sub-area ensures that all innovation investments are assessed against the institutional and infrastructure realities of the countries CREWS serves before deployment. The workstream explicitly avoids one-size-fits-all solutions: innovation pathways are tailored to national circumstances and capacities, investment is directed toward operational innovation over experimentation, and system integration is prioritised over isolated pilots. Furthermore, key risks (such as technological lock-in, institutional resistance to reform, and data governance concerns) are mitigated through phased implementation, strong stakeholder engagement, and continuous monitoring and learning.

d) Multi-Hazard Coherence, is a sub-area that strengthens coordination across meteorological, hydrological, and climate services to address the fragmentation that limits effective multi-hazard warning. Additionally, it ensures that CREWS investments contribute to a nationally owned, institutionally coherent warning architecture, embedding innovation within national mandates, workflows, and coordination mechanisms rather than creating parallel systems that cannot be sustained.

e) Indigenous and Local Knowledge Integration, this sub-area requires that scientific forecasting is systematically co-produced with local, indigenous, and traditional knowledge holders, improving trust, accessibility, and local uptake of warnings. Finally, this sub-area recognises a fundamental truth: a warning that communities do not recognise or trust in their own terms has no real protective impact, regardless of its technical accuracy.

A cornerstone of Priority 3 across all five sub-areas is private sector engagement. CREWS will demonstrate the economic value of early warning systems, unlock co-financing, and expand delivery channels by pairing Implementing Partners with technical, financial, and philanthropic institutions through mentorship and technical support, engaging the private sector as a co-investor and co-implementer, not simply as a technology vendor. CREWS will ensure that private sector engagement follows clear governance frameworks, with fiduciary, procurement, and conflict-of-interest safeguards consistent with the requirements of CREWS' Implementing Partners.

The performance indicators, baselines, and targets for Priority 3 are set out in Table 3 below.

Table 3 Performance Indicators: Priority 3

Indicator	Baseline (2024)	Mid-term (2028)	End Target (2030)
# of agreements with private sector to co-finance or co-implement EWS initiatives	2	7	25
% of CREWS investments demonstrating innovation (new technologies, approaches, or knowledge systems)	10%	25%	50%
Level of integration of people-centred and gender-responsive approaches in CREWS projects	Low/Medium	High	High
# of ASW actions piloting innovation per year	1	3	3+

3. Portfolio and Coverage: Projected Growth 2026–2030

This section sets out what the CREWS project pipeline is expected to deliver, and the financing scenarios under which the 2030 coverage targets can be reached. Translating that pipeline into outcomes depends on how each investment is designed, implemented, monitored and evaluated. This chapter sets out the operational procedures that govern that delivery, the structured, codified body of standards through which CREWS ensures consistency, quality and accountability across every project, in every country, throughout the 2026–2030 period.

The Operational Plan rests on the CREWS pipeline list, which includes 29 proposed projects covering 49 countries identified through joint analysis with the Implementing Partners as eligible, demand-driven, and ready to absorb CREWS support over the 2026–2030 period. The pipeline list has reached a sufficient level of preparation to be submitted to the Steering Committee for full project development. This count covers multi-year country and regional projects only; ASW rapid-response actions operate as a separate, rolling mechanism alongside the project portfolio and are not individually listed here. The pipeline process remains dynamic, and it is continuously updated, at least on an annual basis and revised by CREWS and its partners.

Together, those 29 proposed projects represent an indicative budget of USD 124.25 million, an average leverage potential of USD 17.4 million per project, and a total estimated catalysed financing of USD 506 million. Geographically, the 29 proposals span Africa, the Asia-Pacific region, the Caribbean, the Middle East and North Africa, and four regional programmes designed to extend institutional reach beyond country boundaries.

Within the 49 countries in the pipeline list, 14 countries operate in FCV settings, split between two operational profiles: 7 in active or recent conflict countries, Afghanistan, the Central African Republic, the Democratic Republic of Congo, Haiti, Mozambique, Myanmar, and Yemen; and 7 in institutional and social fragility settings: Comoros, Kiribati, the Marshall Islands, the Federated States of Micronesia, the Solomon Islands, Timor-Leste, and Tuvalu. Of the 29 current project proposals, 8 are in FCV-affected settings. The asymmetry between the 14 FCV countries identified in the pipeline list and the 8 FCV proposals in the current set is therefore expected, not a gap: it reflects the structural difference between the broader inventory of eligible countries and the subset that, at this point in the planning cycle, have proposals mature enough for funding decisions. CREWS' core mandate remains to focus on LDCs and SIDS, with FCV being a programming objective set by the CREWS 2030 strategy.

As additional proposals reach the Steering Committee over the 2026–2030 period, the FCV reach within the active project portfolio will grow toward the pipeline-list ceiling, governed throughout by the CREWS Operational Procedures on Programming in FCV Contexts.

Also to be noted is that within the 49 countries in the pipeline list, six countries face LDC graduation during the Operational Plan period: Bangladesh and Nepal (November 2026); Comoros, Solomon Islands and Myanmar (expected in 2027); and Senegal (2029). Two of these countries, Comoros and Solomon Islands, will retain Small Island Developing States eligibility post-graduation and therefore remain within CREWS' mandate on that basis. Five of these six countries (Bangladesh, Comoros, Myanmar, Nepal, and Senegal) already have current project proposals in the 29-project set, with CREWS support specifically designed to preserve climate-resilient development gains through the graduation transition.

Furthermore, most of the 29 proposed projects align with more than one priority simultaneously: 25 contribute strongly or moderately to Priority 1, 23 to Priority 2, and 18 to Priority 3. This overlap reflects a balanced contribution of the current pipeline towards all three Strategy 2030 priorities.

While the scenarios below provide a clear view of the current 29-project pipeline, the pipeline should not be viewed as fixed. As new IP-led opportunities emerge, the CREWS portfolio will need to be periodically (at least annually) reassessed to ensure alignment with strategic priorities, organisational strengths, and expected impact. Regular portfolio review points will be embedded into governance processes to ensure the pipeline remains optimised and responsive over time.

3.1 Projections to 2030

The number of projects that CREWS can fund up to 2030 is subject to several variables, most notably the pace of new contributions to the CREWS Trust Fund and the rate of other financial institutions' approval of CREWS-incubated projects, such as the GCF through the Scale-Up Framework among others.

The CREWS Resource Mobilization Strategy sets a USD 100 million mid-term target. Against that target, and toward the overall 2030 goal, this Operational Plan models three financing scenarios.

Specifically, the 29 projects currently in the pipeline are expected to be financed by the USD 100 million mobilisation target to 2028 set in the CREWS Resource Mobilization Plan 2026–2028. From 2028 to 2030, the pipeline will continue to progress to absorb a further USD 75 million in new contributions, reaching the overall Strategy 2030 target of USD 175 million in CREWS mobilized resources by 2030, USD 100 million as the mid-term milestone by 2028, and USD 175 million as the cumulative total by 2030. The USD 100 million mid-term target is inclusive of USD 2 million per year allocated to the Accelerated Support Window.

Each scenario is constructed as a planning input: it specifies an expected range of capital mobilised, the corresponding number of pipeline projects that can be expected to be funded, and the cumulative coverage that the portfolio would deliver, allowing the CREWS Steering Committee and the Secretariat to track which scenario is materialising and trigger course correction as needed.

The three scenarios are the following:

A. **Strategy 2030 scenario**. This is the scenario that sets the trajectory towards 2030, with an expected USD 175 million mobilised, the full 29-project pipeline funded (immediate and urgent funding needs), and GCF Scale-Up approvals progressing at their current pace; cumulative coverage reaches the mid-term target of +100 million additional people by 2028 and the 2030 target of +200 million additional.

B. **Conservative scenario**. In this scenario there could be a 25–30% decrease in CREWS mobilised resources against those expected in the **Strategy 2030** case (USD 100 million), meaning CREWS would mobilise approximately USD 70–75 million in new contributions, sufficient to activate roughly 20–22 of the 29 pipelined projects. 7 countries with immediate funding requirements would not be covered. Cumulative coverage gain would reach +70 to +75 million additional people by 2028 (cumulative total around 470 million) and +120 to +130 million additional by 2030 (cumulative total around 520–530 million).

C. **Optimal scenario**. Under this scenario, CREWS exceeds 25–30% of the Strategy 2030 case scenario mobilisation target of USD 175 million, mobilising up to USD 200–230 million in new contributions and enabling approximately 36–38 projects to be funded. Cumulative coverage gain would reach +125 to +130 million additional people by 2028 (around 525 million cumulative) and +220 to +230 million additional by 2030 (around 615–625 million cumulative). Acceleration of GCF Scale-Up approvals (15+ projects by 2030) would compound the optimistic case further.

These scenario brackets are a planning instrument, not a forecast. The current pipeline list was used as the starting point. The coverage projections are first-order linear scaling of the base-case anchors and assume that fewer projects under the conservative scenario, or more under the optimistic scenario, will produce proportionally less or more coverage. In reality, projects in the pipeline reach countries of very different population sizes and with different needs, so the precise coverage delivered under a 25–30% shortfall depends materially on which projects are deferred. The CREWS Secretariat will take adaptive measures as appropriate in any of the three scenarios above.

4. Operational Procedures

Chapter 4 outlines how CREWS translates essential and universally accepted principles for effective early warning systems into operational results. This chapter sets out the seven Operational Procedures that govern how CREWS investments are designed, delivered, and evaluated.

Operational Procedures serve as the tools through which the CREWS Secretariat performs its portfolio oversight function and provides guidance to Implementing Partners (IPs) for more efficient and effective design, implementation, monitoring and evaluation of CREWS projects and actions. They are the operational counterpart of the Strategy 2030: the Strategy sets the direction; the procedures translate that direction into reproducible practice.

Seven Operational Procedures (described in Table 5) together govern the design and execution of CREWS investments across the three Strategic Priorities introduced in Chapter 2. Procedures 01, 02 and 04 establish the delivery backbone, programming and project development, monitoring and evaluation, and the ASW, while Procedures 03, 05, 06 and 07 define the programming character of CREWS investments by codifying gender-responsive, people-centred, private sector-engaged, and conflict-sensitive delivery.

Table 5. The seven CREWS Operational Procedures

#	Operational Procedure	Key Scope
01	Programming and Project Development	Standards for pipeline review, quality assurance, IP engagement; endorsement letters from national or regional institutional partners required for all full project proposals.
02	Monitoring and Evaluation	Portfolio Monitoring Plan, indicator tracking, IP reporting against the CREWS MEAL Framework.
03	Gender-Responsive Programming	Gender-responsive action plans, women's leadership, disability-inclusive design, and co-production requirements.
04	Accelerated Support Window	ASW eligibility, approval procedures, and readiness-for-scale criteria.
05	People-Centred Risk-Informed Approaches	User engagement across the full early warning systems co-production cycle.
06	Private Sector Engagement	Modalities for private sector co-financing and co-implementation in CREWS investments.
07	Programming in FCV Settings	Conflict-sensitive design, neutrality, community trust, and contextual adaptation in fragile and conflict-affected contexts.

Consistent application is what gives the Operational Procedures their value; they accompany every CREWS investment from concept through final evaluation. In this context, the CREWS Secretariat exercises its oversight function at four stages of the project cycle (see Table 6 with details), drawing on Implementing Partner reporting, the Portfolio Monitoring Plan, and, from 2026, the new online M&E results system that will systematize the reporting of progress against the CREWS MEAL Framework.

Table 6. Secretariat oversight across the project cycle

Project cycle stage	Secretariat monitoring and oversight role
Design	Ensure proposed activities align with CREWS objectives and funding parameters, and that processes are inclusive and demand-driven.
Monitoring	Apply CREWS Operational Procedures through routine implementation oversight and progress monitoring, including monitoring visits to selected project sites where appropriate.
Reporting	Ensure reporting follows CREWS requirements, including the reporting of indicators through the M&E online system.
Evaluation	Apply CREWS evaluation procedures and adhere to the requirement of at least one independent evaluation per project; track independent evaluations and maintain a repository for learning purposes.

In addition to forming the foundation for delivery, four of the seven Operational Procedures (03, 05, 06 and 07) distinctly characterise CREWS investments. These procedures directly address the CREWS Strategy 2030 commitment to prioritise individuals most at risk in LDCs, SIDS, and FCV countries as outlined in the CREWS pipeline list referenced in Chapter 3. Each procedure is implemented throughout the project cycle via dedicated protocols and monitored using indicators integrated within the CREWS 2024 MEAL Framework. Baselines reflect 2024 values; some mid-term and end targets remain to be confirmed (TBD) pending the MEAL review alignment with the GGA indicators on early warning adopted at COP30. Below a specific description of each of these four Operational Procedures.

4.1 Gender-Responsive Programming

The Operational Plan will ensure that CREWS, through its investments, contributes to the ability of relevant national and local institutions to provide gender-responsive early warning systems and climate information, ensuring that services are accessible to al, including women, persons with disabilities, youth, and marginalised groups. CREWS investments will specifically support women's entry, retention, and leadership within national meteorological and hydrological services, recognising that gender equity within technical institutions is foundational to gender-responsive service delivery.

The approach will be operationalised through continuous oversight by the CREWS Secretariat to ensure that gender considerations remain systematically integrated across all activities. This includes actively valuing, promoting, and embedding gender-responsive practices in planning, implementation, and evaluation processes; strengthening recognition among all stakeholders of the importance of gender equality, disability inclusion, and social equity; and supporting women and marginalised groups in local organisations and communities to be meaningfully engaged, creating space for their perspectives to inform actions and priorities of CREWS-supported activities. Disability-inclusive design principles will be applied to ensure that warning products, dissemination channels, and response protocols are accessible to persons with disabilities.

Dedicated budget lines will be established to support and advance women's leadership, enabling their full and active participation at all levels. Gender Operational Procedures will be updated, and gender experts can be tapped as necessary to support. Minimum GEDSI standards will be defined and applied consistently across the CREWS portfolio, with the percentage of projects meeting those standards serving as the core performance measure, consistent with the indicator revision in Table 3 (Chapter 2).

Table 7. Gender-Responsive Programming indicators

Indicator	Baseline (2024)	Mid-term (2028)	End Target (2030)
Level of users' engagement satisfaction in the people-centred and gender-responsive activities	Medium	Medium	High
# of climate and weather information products co-designed to users' needs by groups representing vulnerable segments of exposed populations	270	287	317

4.2 People-Centred Risk-Informed Approaches

The Operational Plan will ensure that early warning systems supported by CREWS, regardless of scope and scale, are deliberately grounded in, and responsive to, the needs of the people they are designed to protect.

User engagement will be practised at all stages of co-production of early warning systems by: (i) identifying and engaging actors; (ii) co-creating a collaborative design process; (iii) co-exploring, co-developing and co-delivering solutions; (iv) capacity building and learning; and (v) monitoring and evaluation. Local actors, including community-based organisations, civil society networks, and National Red Cross and Red Crescent Societies, play an essential role as trusted intermediaries in the co-production process, particularly in reaching marginalised and last-mile populations. CREWS investments will support the competencies, resources, and operational roles of these actors in the design and delivery of people-centred early warning services.

Table 8. People-Centred Risk-Informed Approaches indicators

Indicator	Baseline (2024)	Mid-term (2028)	End Target (2030)
# of preparedness and anticipatory plans or Standard Operating Procedures (SOPs) that are operational and linked to prediction and warning services	98	122	All countries: Operational Plans in place and actively implemented
# of risk maps, advisory services and other warning products that are available and adapted to the user group / development sector needs	147	183	All priority hazards covered

4.3 Private Sector Engagement

The Operational Plan will leverage private sector engagement in early warning systems for innovation, resources, and operational capacity to enhance the effectiveness, reach, sustainability and last-mile delivery of early warning services.

This will be operationalised through compiling modalities, based on current practices, for expanded, efficient and effective engagement with the private sector in the implementation of CREWS projects. Leveraging existing partnerships, platforms and experience with the private sector in supporting efficiency, quality, sustainable and innovative solutions will be sought. CREWS will leverage existing private sector platforms, including ARISE, and strengthen linkages with SMEs and impact investors in climate resilience markets to diversify engagement beyond technology vendors. Further, Implementing Partners will be asked to analyse the option and provide reasons for including or not including the private sector in all CREWS projects, or to

create an environment conducive to private sector engagement aimed at meeting CREWS objectives. Mapping of current private sector engagement in CREWS projects, review and update of the Operational Procedures, and alignment with the work of the Implementing Partners will be carried out during the Operational Plan period. All private sector engagement under this Operational Procedure will be subject to clear governance frameworks consistent with the fiduciary, procurement, and transparency requirements of each CREWS Implementing Partner. Co-investment and co-implementation modalities will be structured to avoid conflicts of interest and ensure fair competition, in line with implementing partners' institutional standards.

Table 9. Private Sector Engagement indicators

Indicator	Baseline (2024)	Mid-term (2028)	End Target (2030)
# of agreements with private sector to co-finance or co-implement Early Warning System initiatives	2	7	25

4.4 Programming in Fragile and Conflict-Affected States

The Operational Plan will ensure the delivery of CREWS investments and activities in FCV-affected countries. Through its Operational Procedures on Programming in FCV contexts, it will promote the integration of an understanding of conflict risks into EWS design and implementation, safeguarding neutrality, equity, and community trust. It will also maximise the protective impact of early warning services in fragile, conflict and violence-affected settings. Further, CREWS will align its investments with other designated financing mechanisms operating in FCV settings. CREWS recognises that not all FCV settings are the same; hence, tailored and adapted interventions for each context will be promoted in the design and implementation of CREWS projects.

In FCV settings, locally trusted actors, including National Red Cross and Red Crescent Societies and community-based organisations, play an irreplaceable role as implementation partners for warning dissemination and anticipatory action, given their established presence and operational access in contexts where other actors cannot operate. CREWS will prioritise partnerships with locally trusted actors in FCV project design. Innovative, context-appropriate technologies (including low-bandwidth alert systems and community radio integration) will be prioritised in FCV settings where digital infrastructure is limited.

5. Strategic Partnerships

CREWS does not deliver alone, it delivers its operations through a joint programming model with its Implementing Partners, complemented by strategic and targeted partnerships based on the capacity of certain actors to multiply impact across the three priorities. This chapter outlines this partnership architecture and the way it will evolve over the 2026–2030 period.

5.1 The CREWS Joint Programming Model and Implementing Partners

CREWS delivers through a joint programming model with five Implementing Partners (see Table 11 for details), each contributing distinct mandates, networks, technical and institutional strengths. The 22nd Steering Committee approved the expansion of the Implementing Partners partnership to include IFRC and ITU, both under formal accreditation. The Secretariat will develop and maintain an internal IP comparative advantage mapping document providing a shared reference for strategic coordination and division of roles and responsibilities across the five IPs.

A lead Implementing Partner is designated per country or regional project, ensuring programmatic coherence while leveraging the complementary expertise of all IPs. Joint programming does not require all five Implementing Partners to participate in every CREWS project. The composition of Implementing Partners engaged on any given country or regional project is determined by the country's needs and demand, the technical expertise required, and the country's absorptive capacity, with the lead Implementing Partner designated on that basis.

Table 10. CREWS Implementing Partners

Implementing Partner	Core mandate in CREWS	Accreditation status
WMO	Lead for meteorological and hydrological early warning systems; NMHSs capacity development; WMO Technical Regulations alignment.	Full
GFDRR / World Bank	Disaster risk reduction; leveraging MDB pipelines; financing meteorological and hydrological modernization programmes and climate resilience investments; ministry-level policy dialogue with Ministries of Planning and Finance.	Full
UNDRR	Disaster risk governance; Sendai Framework reporting; multistakeholder national engagement.	Full
IFRC	People-centred early action; CAP-compliant actionable alert dissemination and trusted last-mile networks; Early Action Protocols and Forecast-based Financing system development; anticipatory action and community-based preparedness; Red Cross / Red Crescent network in LDCs, SIDS, and FCV settings.	Under accreditation
ITU	Digital communication infrastructure; CAP; cell broadcast systems; alert dissemination technologies.	Under accreditation

Box 3: Alliance with the REAP Secretariat amplifying CREWS objectives

The partnership with the Risk-Informed Early Action Partnership (REAP Secretariat) is being strengthened to provide CREWS an upward and outward function. The aim is to achieve tangible benefits of the alliance in terms of shared resource and economy of scale. Robust information and evidence platforms will inform CREWS project design and prioritization. The REAP Secretariat's communication activity will embed storytelling of the success of CREWS operations and the value of reducing fragmentation. A window of opportunity exists to align information management systems in early warning and early action so that investment decision-making becomes more data-driven.

The REAP Secretariat operates within a defined governance arrangement with CREWS: its workplan and knowledge outputs are aligned with CREWS operational priorities, and it reports progress to the CREWS Secretariat on a periodic basis for inclusion in Steering Committee updates. This relationship ensures that REAP Secretariat contributions are clearly integrated into CREWS programming rather than operating as a parallel track.

Beyond the Implementing Partners network, technical assistance and advisory services are provided in countries by over 100 operational partners, including regional meteorological organisations, specialised firms and not-for-profit organisations. Together, the IPs and this operational layer form the delivery channel through which the Operational Procedures set out in Chapter 4 are applied.

Alongside the Implementing Partners network, CREWS has established strategic and targeted partnerships that multiply the impact of its operations across all three Strategic Priorities. These alliances fall into five complementary categories: regional delivery, Met-to-Met cooperation, finance and innovation, humanitarian and civil society, and the United Nations system, each addressing a different bottleneck in the EWS value chain. Alongside National Meteorological and Hydrological Services, National Disaster Management Agencies and DRM platforms are critical institutional anchors for last-mile warning dissemination, and CREWS partnerships increasingly engage these actors as key stakeholders at national and sub-national level.

5.2 Regional Delivery

Regional institutions with the mandates and expertise to lead increasingly anchor CREWS financing decisions in their respective sub-regions. CREWS partners with ACMAD (Africa), ADPC (Asia), AGRHYMET (West Africa), CDEMA/CMO (Caribbean), SPREP (Pacific), ICPAC (East Africa) and SADC. For the Pacific region CREWS is strengthening further its support to regional leadership by engaging through the Weather Ready Pacific initiative (MOU signed at COP30).

Target: By 2030, 5 cooperation arrangements will be in operation with regional institutions to increase operational efficiency, cascading technical expertise from regional institutions to national organisations, and promoting common standards, processes and best practices across the regions.

5.3 Met-to-Met cooperation

Cooperation agreements between NMHSs, where services with sufficient capacity and expertise provide technical assistance to NMHSs in least developed countries, have proven highly effective in CREWS-financed programmes. The Operational Plan will systematize and strengthen these operational modalities, for which the NMHS can provide its services on a cost-recovery basis.

Target: By 2030, 10 cooperation frameworks will systematise the technical assistance provided by NMHSs through CREWS financing and the GCF CREWS Scale-Up Framework. This will build on effective cooperation with the UK Met Office, the Australian Bureau of Meteorology, Météo-France, the Norwegian Meteorological Institute and the Finnish Meteorological Institute (FMI). Cooperation frameworks will further enable peer-to-peer exchanges among Met Offices on a South–South, North–South and Triangular basis, to enhance capacities and to support technology and knowledge exchange in a more structured way. Cooperation will also be strengthened with ECMWF on open data policy and emerging technology partnerships.

5.4 Finance and innovation

CREWS holds an integrated set of partnerships with climate finance institutions and innovation platforms that anchor Priority 2 (scaling and leverage) and Priority 3 (innovation) of the Strategy 2030. The common thread across these relationships is coordination with financing institutions to ensure complementarity, no duplication of efforts, sharing of pipelines, and replication of the CREWS scale-up framework where feasible. All partnerships build on successful cooperation modalities in place with the World Bank through GFDRR, the GCF–CREWS Scale-Up Framework and the Systematic Observations Financing Facility (SOFF), with the country hydromet diagnostics used as reference for CREWS project design when available, and SOFF readiness packages aligned with the CREWS pipeline.

Target: By 2030, replicate successful cooperation models with the Global Environment Facility (GEF); the Adaptation Fund (AF); the Fund for Responding to Loss and Damage (FRLD); and the Santiago Network.

5.5 Humanitarian and civil society partnerships

CREWS partners with humanitarian and civil society actors that operate close to the people CREWS is mandated to protect. These include the Anticipation Hub; DISHA (Data Insights for Social and Humanitarian Action); the UN Secretary-General's Innovation Lab; and a network of local and national civil society organisations in LDCs and SIDS that connect early warning to community-level early action.

5.6 United Nations agencies

CREWS coordinates with UN agencies, WFP, FAO, UNIDO, UNEP and UN Resident Coordinators, for coordinated delivery of programmes at country level, to leverage technical expertise (including operational expertise as Accredited Entities for the GCF), and to ensure alignment between country-level activities and global frameworks. Upstream coordination with Ministries of Planning and Finance is part of this UN-agency engagement, supporting the inclusion of early warning in national investment plans and budgets, a precondition for the sustained financing of services beyond the CREWS investment cycle.

5.7 Operational Coordination Group (OCG)

The strategic partner network (OCG) will be expanded during the Operational Plan 2030 implementation period and the CREWS Operational Coordination Group will function as a platform for coordination and collaboration between actors involved in CREWS operations (Implementing Partners, and operational partners, including UN entities, development banks, meteorological services that provide technical assistance and regional institutions). The OCG:

- ✓ exchanges information, lessons learned and emerging good practices from CREWS country programming and risk management;

- ✓ reviews progress and exchange experiences on the roll-out of the CREWS Operational Procedures in country operations;

- ✓ collects experience and discuss the roll-out of the CREWS Monitoring, Evaluation, Accountability and Learning (MEAL) framework, as a basis for making recommendations to revise it;

- ✓ contributes to collecting information on the needs, demand and leveraging potential on early warning across LDCs and SIDS as a basis for informing Steering Committee financing decisions (pipelining).

The Steering Committee will be duly informed that new partnerships are formed and invited to approve prior to formalisation. Priority will be given to technical and financial partnerships that can increase the efficiency and financial leverage of CREWS, including partnerships with other international financial institutions and the private sector.

6. Monitoring, Evaluation, Accountability and Learning (MEAL)

This chapter sets out how CREWS measures the results that its funded activities produce; the systematic process of monitoring and evaluation is instrumental to feeding lessons that CREWS, a continuously learning institution, can feed back into the design of its pipeline and management of its portfolio. The MEAL function described in this chapter is the link that closes the loop between the Strategic Priorities of Chapter 2, the pipeline scenarios of Chapter 3, the procedures of Chapter 4, and the partnerships of Chapter 5.

The CREWS 2024 MEAL Framework provides the primary reference for all indicators, baselines, and verification protocols in this Operational Plan. A dedicated Monitoring and Evaluation Operational Procedure is also available to serve as a guide to Implementing Partners on CREWS M&E requirements, as part of the seven-procedure framework introduced in Chapter 4. The results tables in Chapter 2 are hardwired to existing MEAL indicators; no new indicators are introduced by this Operational Plan. While the MEAL Framework remains anchored in its 2024 SC-approved baseline, CREWS is committed to progressively pushing its measurement boundaries, extending coverage to community-level resilience outcomes, trust-based indicators, and behavioural uptake metrics as methodology and data availability mature.

The MEAL Framework is currently under review to align with the Global Goal on Adaptation (GGA) indicators on early warning adopted at COP30, as requested by the 22nd Steering Committee. The review will also consider how the contribution of CREWS investments to the SDGs and to other international frameworks is best captured and reported.

Moreover, an online M&E system will be launched before the end of 2026. This will be the main tool through which CREWS systematizes the reporting of progress and tracks results against the MEAL Framework. The system is also the operational mechanism for accountability described below: it will give beneficiaries, contributors and the Steering Committee a single transparent view of pipeline delivery, indicator progress, and the trajectory toward the 2028 and 2030 coverage targets discussed in Chapter 3.

The CREWS 2030 MEAL function is built around four interrelated pillars (monitoring, evaluation, accountability and learning, see Table 11), each addressing a distinct dimension of how CREWS knows whether it is delivering, how it learns from what it delivers, and how it accounts to the constituencies involved in its activities.

CREWS attribution will be reported only for indicators that explicitly reference CREWS support and for which data are sourced from implementing partners' reports. For indicators whose data are drawn from external monitoring systems, attribution cannot be established and will therefore measure CREWS' contribution.

Table 11. CREWS MEAL Architecture

Pillar	How it works
Monitoring	Annual operational reviews by the Secretariat, drawing on Implementing Partner reporting, Portfolio Monitoring Plans, and the online results system. Reviews assess progress, inform adaptive management, and guide course correction and resource reallocation.
Evaluation	Independent reviews at key intervals: (i) an external assessment of the Accelerated Support Window; (ii) the mid-term review of the CREWS 2030 Strategy in 2028, informing strategic adjustments toward 2030; and (iii) the final evaluation, aligned with the Steering Committee reporting cycle. Clear evaluation process and methodology guidance provided to Implementing Partners, as noted in the CREWS Operational

	Procedures on Monitoring and Evaluation, to enable them to build evaluation requirements into project design and budgeting from the outset.
Accountability	Online results tracking system to enhance transparency and accountability to beneficiaries, donors, and the Steering Committee, to be launched in 2026. Annual reporting to the Steering Committee.
Learning	Systematic capture of good practices and lessons learned through the REAP Secretariat partnership, the Innovation and Technology workstream, and knowledge products. Implementing Partner operational experience, peer exchanges, and project-level lessons learned are systematically collected and integrated into the learning cycle alongside externally generated knowledge. Learning feeds back into pipeline prioritisation and Operational Procedure updates.

The four MEAL pillars do not operate in isolation: monitoring uses the indicators set out in the Chapter 2 Priority results tables and the thematic indicators of Chapter 4. Evaluation reviews, and in particular the 2028 mid-term review, feed into the financing scenarios of Chapter 3 by providing the empirical basis on which the Steering Committee adjusts the pipeline and the resource mobilisation trajectory. Accountability is operationalised through the online M&E system and the annual SC reporting cycle. Learning is anchored in the strategic partnerships introduced in Chapter 5, particularly the REAP Secretariat partnership, the Innovation and Technology workstream, and the network of regional and Met-to-Met partners, and feeds back into the Operational Procedures so that what is learned in one project shapes the design of the next.

7. Risks and Mitigation

This chapter completes the Plan by identifying the principal risks to delivery and the mitigation arrangements that address them. The risk matrix that follows applies to the Operational Plan as a whole and is the line of sight along which CREWS will track adaptive management decisions over the 2026–2030 period.

The following risk matrix identifies the principal risks to the delivery of the CREWS Operational Plan 2026–2030. Seven risks are presented across, each scored against likelihood and impact, and each paired with a mitigation arrangement drawn from elsewhere in the Plan.

FCV-related risks are treated as operational programming considerations rather than standalone risk items: the Operational Plan addresses them through Procedure 07 (Programming in FCV Settings) discussed in Chapter 4 and through conflict-sensitive design, flexible implementation modalities and humanitarian coordination, rather than by isolating them as a separate financial or institutional risk class.

Table 12. CREWS Operational Plan 2026–2030:, risk matrix

Risk	Likelihood / Impact		Mitigation measures
Insufficient resource mobilization, CREWS falls short of the Strategy 2030 contribution targets by 2030, constraining pipeline activation and scale-up.	Medium / High		Four-tier RM strategy (Resource Mobilization Plan 2026–2028); new contributor outreach; GCF–CREWS scale-up model and expansion to other climate funds; annual SC review of pledging status; bridge financing through the Accelerated Support Window. Note: uncertainty around GCF-3 priorities is acknowledged, the

			Operational Plan is designed to remain relevant across a range of GCF strategic scenarios.
Delivery bottlenecks in FCV settings, conflict, insecurity, or political instability disrupts project implementation in the 14 FCV pipeline countries.	Medium / High		Operational Procedure 07 (FCV programming); conflict-sensitive design; flexible implementation modalities; coordination with humanitarian actors (IFRC, WFP, UNDP); do-no-harm and neutrality protocols.
LDC graduation, 6 pipeline countries (Bangladesh, Nepal, Myanmar, Comoros, Solomon Islands, Senegal) lose LDC eligibility during 2026–2030, potentially affecting CREWS eligibility and other donors' funding prioritization. Note: Comoros and Solomon Islands retain SIDS eligibility post-graduation and remain within CREWS' mandate on that basis.	Medium / Medium		Accelerated pipeline approval and project preparation for graduating countries; advocacy for transition arrangements; alignment with GCF and other non-ODA-dependent sources; SOFF readiness packages to sustain service continuity.
MEAL indicators not aligned with the Global Goal on Adaptation (GGA) framework lead to reporting gaps and reduced credibility with donors.	Low / High		Dedicated MEAL review on GGA indicator alignment by 2026 Q3 (SC decision, 22nd meeting); online results system development; annual operational reviews.
Secretariat capacity constraints:, staffing gaps reduce operational quality and responsiveness during the critical 2026 pipeline activation phase.	Medium / Medium		Proposed additional Secretariat positions to be addressed in the separate Administrative Budget paper; Implementing Partner delegation of technical functions; regular SC oversight; consultant support as needed for the Operational Plan implementation phase.
Innovation adoption barriers, emerging technologies (AI/ML, cell broadcast, satellite) fail to translate into operational EWS in LDC and SIDS contexts due to cost, connectivity, or institutional readiness.	Medium / Medium		Innovation workstream concept note ; ASW for piloting (3 actions per year); context-appropriateness criteria embedded in Operational Procedure 01; private sector engagement modalities under Procedure 06.
Fiduciary risk and safeguarding failures, misuse of funds, procurement irregularities, or safeguarding breaches in IP or sub-contractor delivery could undermine CREWS credibility and donor trust.	Low / High		Trustee (World Bank) fiduciary oversight framework; IP-specific fiduciary controls, audit requirements, and accountability reports; CREWS Secretariat portfolio monitoring and IP reporting; grievance and complaint mechanisms; enhanced due diligence for private sector partners under

			Operational Procedure 06; alignment with IP safeguarding policies.

The risk matrix is a synthesis: it shows on a single page where each risk is addressed within the Plan and where adaptive management decisions will need to be focused if a risk materialises. As the CREWS portfolio matures, an aggregated view of risks identified at project and proposal level will complement this OP-level matrix, providing the Steering Committee with a portfolio-level risk signal alongside the strategic-level picture.

The risk matrix will be reviewed annually, in parallel with the annual operational reviews described in the MEAL section. The 2028 mid-term review of the CREWS 2030 Strategy will provide the principal moment for a substantive re-rating of likelihood and impact across all risks, and for the addition or retirement of risk items as the operating context evolves. The Secretariat will keep the matrix live between Steering Committee cycles and will flag any material change in residual risk in its Annual Report to the Steering Committee.

Innovation and Emerging Technologies for Early Warning and Climate Services

CREWS Strategy 2030 Workstream

Achieving a world where everyone - especially those most at risk - is protected by timely, accurate, accessible, and actionable early warning systems (CREWS Strategy 2030) will require understanding and applying innovative approaches and emerging technologies to its operations with institutions in the global south.

- Artificial Intelligence (AI) has emerged as a tool to generate weather forecasts at lower costs, improving forecast lead times by 12–48 hours and increased accuracy by 20–30%, paving the way for meteorological services in LDCs and SIDS to become increasingly empowered and effective, while reducing reliance on ground-based meteorological station networks in data-scarce regions.
- Integrated river sensors, GIS and cloud platforms provide real-time water level monitoring and automated alerts, required for flood and drought monitoring and capable of reaching communities through interactive voice response systems.
- Digital tools to analyze predictions, to generate risk scenarios and alerts are lowering the costs and increasing the effectiveness of meteorological and disaster management institutions. Smart weather apps are increasing hyper-localized accessibility of information and alerts.
- ITU is employing AI to map how many people within a geographic area are likely to receive warnings, meaning work can be taken ahead of a natural hazard event to make sure everyone knows what is coming.
- AI is currently being used in anticipatory action for communication (language access) and mapping (open-source smartphone app that helps volunteers collect and improve geospatial data)

By 2030, through this workstream, CREWS will apply **25 new projects piloting innovative technologies or approaches through its three financing pathways**, including the GCF- CREWS scale-up framework. CREWS current Pipeline of projects includes **USD 35 million towards the application of new and emerging technologies in LDCs and SIDS**.

CREWS unique added value

- Pairing the application of new technologies and innovation with awareness raising, institutional strengthening, stakeholder engagement - including the private sector - and capacity building; and,
- Continuously monitoring, evaluating, and learning from its innovation practices across its whole portfolio of projects.

How will the workstream operate

- Investment in enabling technologies where they clearly enhance early warning effectiveness
- Support for institutional and policy reforms that allow systems to function more effectively, including data sharing agreements and governance frameworks
- Scaling of proven pilots of emerging technologies and services
- Capacity building to ensure sustainability and adaptability

Innovation in current CREWS projects

Caribbean ECTEL (ASW ongoing, USD 5.5 M project under preparation, World Bank and ITU)

- Multi-stakeholder emergency alert system.
- Cell broadcast technology to enable the dissemination of public safety messages to mobile users in Commonwealth of Dominica, Grenada, St. Kitts and Nevis, Saint Lucia, and St. Vincent and the Grenadines.

AI for EW4All in Malawi (ASW, WMO, Met Norway and ECMWF)

- Piloting an AI-based weather prediction system that runs locally.
- Forecasts-in-a-Box concept, for faster and more frequent forecasts, allowing meteorologists to focus on impacts and warnings.

User-driven weather services in Tonga (ASW, WMO, Tonga Weather Service)

- Smart Weather Tonga App
- Shared forecasts and warning improving preparedness

Digital transformation for early warnings in Africa (ASW ongoing, USD 5 M project in the CREWS pipeline, WMO and ACMAD)

- Open-source digital tool suite to transform how weather and climate information is produced and shared.
- Rolled out to 17 African countries, ClimWeb, WIS2box and CAP-composer enable faster forecasts, CAP-compliant warnings, and integration of local data.

The workstream prioritizes

- Operational innovation over experimentation: improving how systems function in practice and replicating successful pilots
- System integration and reform: embedding innovation within institutional strengthening, national mandates, workflows, and coordination mechanisms
- People-centred outcomes: incentivize innovations that ensures warnings are actionable, trusted, and responsive to user needs, including by strengthening operational centres to engage systematically with intermediary organizations (e.g., DRR, humanitarian and sector actors) that can translate last-mile risks into operational requirements for warning products and priorities.

Delivering through partnerships

The workstream will pair CREWS Implementing Partners, World Bank, WMO, UNDRR, ITU and IFRC with advanced national meteorological and hydrometeorological services (NMHSs), private sector, research institutions and tech foundations.

Coordination and outreach with other initiatives will be ensured through the AI Group of the Early Warnings for All (EW4All) Initiative, led by ITU.

The workstream will be implemented closely with the Risk-Informed Early Action Partnership (REAP) to ensure visibility, outreach, and relevance.

For additional information please contact: crews-secretariat@wmo.int

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, UNFCCC LDC Group

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