



CREWS PROJECT PROGRESS REPORT (January – June 2021)

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1. Project title	Strengthening Operational Forecasting & Early Warning Systems in the South-West Indian Ocean	2. Project reference CREWS/RProj07/South West Indian Ocean
3. Implementing Partners involved in the project	WMO (lead) World Bank UNDRR	4. Regional/National Partners involved in the project Regional: IOC Commission, ACMAD, RSMC La Réunion, RTC and RSMC Pretoria, SWCEM (BoM & JAXA), EUMETSAT National: meteorological, hydrological, civil protection and DRR services from Comoros, Madagascar, Mauritius, Seychelles and Mozambique
5. Project Duration/Timeframe	Q3 2020 – Q2 2025	
6. Reporting focal point(s)	Jean-Baptiste Migraine – jbmigraine@wmo.int Sarah Houghton - houghton@un.org Keren Carla Charles – kcharles1@worldbank.org Nicholas James Callender - ncallender@worldbank.org Lizardo Narvaez Marulanda – lnarvaez@worldbank.org Xavier Agostinho Chavana - xchavana@worldbank.org	
7. Project overview	<p>Please include synergies, leveraging, key project deliverables and total funding in bullet points. (max 250 words)</p> <p>The overall project objective is to enhance the adaptive capacity and climate resilience of communities and economic sectors in five countries of the SWIO region. This will involve strengthening multi-hazard</p>	



and impact-based early warning systems through: (i) improving the regional cooperation frameworks for forecasting of climate and weather, including seasonal and sub-seasonal outlooks, tropical cyclones, storm surges, other severe weather events, flooding and climate extremes; and (ii) supporting dissemination, emergency planning and response capacities in each of the beneficiary countries. This project will create synergies with several initiatives in the region such as the Mozambique Disaster Risk Management and Resilience Program ([P166437](#)), the EU-funded Intra-ACP Climate Services Programme, WMO Severe Weather Forecasting Programme, RA I Tropical Cyclone Committee along with others such as the French Development Agency's (AFD) appraisal for a project titled Building Resilience through Strengthened Meteorological, Hydrological and Climate Services in the Indian Ocean Commission Member Countries (Hydromet Project), UNDP's proposed concept for providing investment resources to the national meteorological service in Madagascar, to name a few. As such, the project will support and guide investments to strengthen in parallel climate adaptation, prevention as well as emergency preparedness and response.

The project is implemented by WMO, the World Bank and UNDRR in close collaboration with focus on the following outputs:

- Regional Output: Institutional and human capacities in regional and intergovernmental organizations to provide regional climate and weather services to LDCs and SIDS increased
- National Output 1: NMHSs' service delivery improved, including the development of long-term service delivery strategies and development plans
- National Output 2: Risk Information to guide early warning systems and climate and weather service developed and accessible
- National Output 3: Information and Communication Technology, including common alerting protocol, strengthened
- National Output 4: Preparedness and response plans with operational procedures that outline early warning dissemination processes developed and accessible
- National Output 5: Knowledge products and awareness programmes on early warnings developed
- National Output 6: Gender-sensitive training, capacity building programmes provided



<p>8. Progress summary</p>	<p>What has been achieved between (reporting period)? – Please list the most significant and tangible developments?</p> <p>Project Status as for 30 June 2021:</p> <p>WMO:</p> <ul style="list-style-type: none">• Funds received 4 Dec 2020• Recruitment of a project officer expected Sept 2021 (see Vacancy Notice closing 24 Aug 2021)• IA with Météo France (RSMC La Réunion) signed 8 July 2021 to provide support to the National Meteorological and Hydrological Services (NMHSs) of the beneficiary countries for optimal use of long range forecasting, climate monitoring and tropical cyclone forecasting• Draft IA with South Africa Weather Service (SAWS) (RSMC Pretoria + RTC) ready for signature. The objective of the IA is to strengthen the existing Severe Weather Forecasting Programme (SWFP) to improve lead-time, accuracy, reliability and dissemination of forecasts and warning advisories for high-impact events by SAWS, and training and equipping forecasters with appropriate tools.• Agreement for SWCEM (Space-based Weather and Climate Extremes Monitoring) under consideration• ToR for detailed diagnostic and development of investment recommendations for NMHSs (with 4 consultants) ready for processing• Draft MoU with Indian Ocean Commission (IOC) <p>UNDRR:</p> <ul style="list-style-type: none">• Ongoing work in the definition of indicators for EWS effectiveness, through a global CREWS project, recently produced a draft of the indicators and the methodology of computation.• UNDRR will now be able to use this to initiate the discussions with Member States in Q4 2021• Two Member States from the region have participated in the expert group, Seychelles and Mauritius, and are very familiar with the indicators and methodology.
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	<ul style="list-style-type: none"> The broader project will now also be introduced to national counterparts and the IOC and synergies with the project “Building Resilience and Improving Institutional Capacity in Indian Ocean Island States for Disaster Risk Reduction” (funded by the European Union) aiming at supporting National Disaster Management Agencies (NDMAs) will be identified. <p>World Bank/GFDRR:</p> <ul style="list-style-type: none"> Creation of the internal TA (after the reception of the funds) on February 2021 Recruitment of a Sr. Hydromet Expert expected by mid August 2021 As initial activity under National Output 2 in Mozambique, a virtual workshop was implemented in June 10, 2021 in coordination with National Institute of Disaster Management (INGD), to discuss the impacts of Cyclone Eloise, using the Global Rapid post-disaster Damage Estimation (GRADE) methodology. A list of key counterparts in National Institute of Disaster Management (INGD), National Institute of Meteorology (INAM), and National Directorate for Water Resources Management (DNGRH) was elaborated after the workshop.
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9. Project Performance

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

	Rate of expenditure	Rate of delivery	Alignment of Objectives
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Coding	●	●	●
Narrative	<p>Expenditures are lower than anticipated, due to the lengthy recruitment of partners and staff for WMO (project officer expected Sept 2021) and World Bank/GFDRR (Sr. Hydromet Expert expected by mid August 2021). Used of funds as of July, 2021: WMO 14% (US\$253,735), WB 4% (US\$66,000), UNDRR 0% .</p>	<p>During the period December 2020 – July 2021, moderate progress is reported in project delivery. This period has been characterized for the set up of the team and the preparatory work of each institution. UNDRR component builds on ongoing work of the CREWS global project “Measuring Effectiveness of EWS through Sendai Framework Monitoring”. The first draft of indicators is available and will be the basis for the upcoming work with member states in within the SWIO CREWS project.</p>	<p>Despite low expenditures and moderate delivery of outcomes, the Objective of the project is achievable and on track to be attained before the closing date.</p>



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10. Risk Management Status

Risk Status	<p>What is the current risk status as compared to what was identified in the project proposal?</p> <p>The current risk rating for the overall project remains at Medium, as indicated in the proposal. Some of the key contributing factors to the risk are political/institutional, human resources and capacity, technology etc.</p>
Measures to address	<p>What mitigation measures have been developed to address the risk status?</p> <p>The risks as listed above will be addressed in the following ways:</p> <p>Political/Institutional: WMO will provide guidance to IOC to support the accreditation of WMO regional centers; In addition, through the Project Steering Committee, participation of all relevant national and regional institutions will be ensured.</p> <p>Human Resources/Capacity: The project will support the equivalent of 2 full time staff spread between headquarters and regional/national offices of the project partners and establish partnership agreements with the more developed NMHSs in the region.</p> <p>Technology: To address the issue of technology, the project will provide for specific design with a focus on localized solutions.</p>

11. Contributions to CREWS Output(s)

11.1 Overall Outputs

State Project Output(s) in this section	Overall Project Target	Target for reporting period	Progress by December 2020	Progress by June 2021
Monitoring and forecasting of climate and weather, including seasonal and subseasonal outlooks, tropical cyclones, storm surges, other severe weather events, flooding and climate extremes are improved	4 regional centers are accredited to support the 5 LDCs and SIDS	2	2 (La Réunion, Pretoria)	2



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	4 hazards for which forecasting and warning capacity is available in all 5 countries	2	2 (tropical cyclone, drought)	2
Warning dissemination, emergency planning and response capacities are improved	20% increase in # of people living in areas covered by forecasts and warnings for select hazards	0%	0%	0%
	2 LDCs and SIDS have risk information available to feed the early warning systems	0	0	0
	3 of LDCs and SIDS communicating warnings through common alerting protocol (CAP)	1	1 (Madagascar)	1

11.2 National Output(s)

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

State Project Output(s) in this section	Overall Project Target	Target for reporting period	Progress by December 2020	Progress by June 2021



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1.1 - Countries have received advisory services for optimal use of investments resources at national level	600 days of advisory services have been provided to Comoros, Madagascar, Mauritius, Seychelles	0 days	0 days	0 days
	250 days of advisory services have been provided to Mozambique	0 days	0 days	0 days
1.2 - The service delivery capacity of NMHSs is increasing	average level of service from the 5 NMHSs enhances by 1 level (from 1 – basic, to 4 – Advanced)	0	0	0

Narrative: briefly indicate the major issues or challenges faced and mitigation steps taken to addressing them. (150 to 200 words)
WMO hired a strategic planning expert (Yvette Ramos, see [ToR](#)) to support the development of national frameworks and strategic planning instruments in the 5 countries.

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

State Project Output(s) in this section	Overall Project Target	Target for reporting period	Progress by December 2020	Progress by June 2021
2.1 - Developing a risk and flood impact modeling platform to guide EWS in INGC Mozambique	5 EW stakeholders are contributing risk information at national level in Mozambique	0	0	0



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2.2 - Developing risk information to guide EWS in Comoros, Madagascar, Mauritius, Seychelles	5 EW stakeholders are contributing risk information at national level in each IOC LDC & SIDS	0	0	0
<p>Narrative: briefly indicate the major issues or challenges faced and mitigation steps taken to addressing them. (150 to 200 words) In Seychelles, the World Bank is supporting the revision of the hydromet and DRM policies to strengthen the link between forecasting and early action. Several working meetings were held and a revised policy text is in preparation.</p>				

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

State Project Output(s) in this section	Overall Project Target	Target for reporting period	Progress by December 2020	Progress by June 2021
3.1 - Provision of detailed guidance for common alerting protocol implementation in the 5 countries	5 countries in which NMHSs are trained on dissemination of forecasts and warning advisories using CAP format	0	0	0
3.2 - Dissemination systems in Mozambique	# households registered to receive SMS warnings	0	0	0
3.3 - Dissemination systems in Comoros, Madagascar, Mauritius, Seychelles	# households registered to receive SMS warnings	0	0	0



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Narrative: briefly indicate the major issues or challenges faced and mitigation steps taken to addressing them. (150 to 200 words)

In Mozambique, CREWS supported the hydrometeorological and socioeconomic impact assessment of Tropical Cyclone Eloise that hit in January 2021. A respective GRADE assessment was published and shared with government, which will inform early warning development under the PforR. In May, the government launched a consultancy for the development of a national early warning strategy that will be informed by CREWS.

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

State Project Output(s) in this section	Overall Project Target	Target for reporting period	Progress by December 2020	Progress by June 2021
4.1 - Advising INGC, INAM, and DNGRH on the development and implementation of integrated early warning systems in Mozambique	# EW stakeholders contributing in warning issuance decision process at national level in Mozambique	2 (DRM, meteo)	2	2
4.2 - Advising Comoros, Madagascar, Mauritius, Seychelles on the development and implementation of integrated early warning systems	4 EW stakeholders are contributing in warning issuance decision process at national level in each IOC LDC & SIDS	2 (DRM, meteo)	2	2

Narrative: briefly indicate the major issues or challenges faced and mitigation steps taken to addressing them.

No major challenges were encountered for the reporting period.



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

State Project Output(s) in this section	Overall Project Target	Target for reporting period	Progress by December 2020	Progress by June 2021
5.1 - Diagnostic and recommendations on multi-hazard early warning operational procedures	# countries with MHEWS diagnostic	0	0	0
<p>Narrative: briefly indicate the major issues or challenges faced and mitigation steps taken to addressing them. (150 to 200 words) The methodology for the diagnostic will be developed in Q3 2021 by 3 consultants selected for this mission, along these Terms of Reference : Rose Alabaster (water governance), Alice Soares (meteorology) and Sigha Nkamdjou (hydrology). They will also be supported by a civil protection expert to be identified by the World Bank.</p>				

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

State Project Output(s) in this section	Overall Project Target	Target for reporting period	Progress by December 2020	Progress by June 2021
<p>Narrative: briefly indicate the major issues or challenges faced and mitigation steps taken to addressing them. (150 to 200 words)</p>				



11.3 Regional Output(s)

CREWS Regional Output(s): Institutional and human capacities at Regional WMO and Intergovernmental organizations to provide regional climate and weather services to LDCs and SIDS increased				
State Project Output(s) in this section	Overall Project Target	Target for reporting period	Progress by December 2020	Progress by June 2021
SWIO-COF is established according to WMO standards (with support from Intra-ACP Climate Services and AFD Hydromet Grants)	5 countries have access to enhanced regional climate services	0	0	0
Regional WIGOS centers are established according to WMO standards (with funding from the countries)	2 RWC guidance notes are developed (East Africa & SADC)	0	0	0
Regional calibration center is working according to WMO standards (with support from AFD Hydromet Grants)	1 regional calibration guidance notes developed	0	0	0
SAWS capacities to support NMHSs with severe weather forecasting guidance is enhanced	Pretoria RSMC severe weather reaches 20 years of operation	16	15	16
TCC and TC RMSC are supported to provide guidance about tropical cyclone, coastal inundation and storm surge forecasting	4 twinning arrangements ensure provision of guidance from developed NMHSs to developing NMHSs	2	0	2
WMO proposes a detailed road map with regards to flood forecasting (urban, coastal, riverine) for each country	4 countries with access to flood forecasting guidance	0	0	0

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The 4 countries have established regular consultation and Sendai Framework Target G common custom indicators	4 countries trained on Sendai Framework Target G custom indicators	0	0	0
<p>Narrative: briefly indicate the major issues or challenges faced and mitigation steps taken to addressing them. (150 to 200 words)</p> <p>No major challenges were encountered for the reporting period.</p>				

12. Contributions to Value Propositions

Gender Responsive	The project considers gender equality in itself a key development objective, with direct demonstrated impacts in terms of increasing women’s contributions and access to early warnings, improving the participations of young officers and representatives of the civil society, and making institutions more representative. To this end, the project promotes approaches aimed at eliminating the differences between men and women in the early warning value chain, as well as to help give women a stronger voice within society.
Multiplier	The project mobilizes specific expertise to guide investments such as AFD Building Regional Resilience through Strengthened Meteorological, Hydrological and Climate Services in the Indian Ocean Commission (IOC) Countries (71.4 million USD), EU Climate Services (6 million €), and WB Disaster Risk Management and Resilience Program (P166437, 96 million USD).
People-centered	The project mobilizes expertise to support regional specialized centres such as ACMAD, RSMC La Réunion, RSMC Pretoria, active in several domains such as (i) Climate Outlook Forum (SWIOCOF); (ii) Regional WIGOS centres (RWC); (iii) Regional instruments center (RIC); (iv) Severe weather forecasting (SWFP); (v) Tropical cyclone forecasting and (vi) Flood forecasting (urban, coastal, riverine). Each of these centers are working directly with representatives from the countries to track user requirements and respond to as many of them as possible from the community to the regional levels.



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	User engagement is an important aspect of the design of the CREWS SWIO project. While the current global pandemic has made it challenging to conduct on-the-ground consultation, the project incorporates users' perspective through, for example, the development of service delivery strategy.
Promote Coherence	<p>The project integrates expertise from regional and global centers such as La Réunion RSMC, Niamey and Pretoria RTCs, Niamey and future SWIO RCCs, Pretoria RSMC, and coordinates frequently with multilateral and bilateral development partners in the sub-region. All key partners will be participating in the Steering Committee meetings.</p> <p>Coordination with international partners active in the hydromet domain in the SWIO region is key to ensuring effective use of funds and sustainability. WMO and WB are actively coordinating with those partners through bi-lateral meetings and workshops to understand their on-going and planned activities and inform them about our plan to seek complementarity and avoid duplication.</p>
Solution-oriented	<p>The project makes available information from global and regional centers to national meteorological and hydrological services. Cascading forecasting is substantially improving the lead time and accuracy of forecasts and warnings.</p> <p>Public private engagement is an integral part of strategic dialogue with governments in the region to ensure innovative business models and solutions are duly considered in considering different options.</p>
Unique	The seamless approach to early warning supported by the project is unique, possible in relation with the multiplier effect and coherence. The project leverages the economies of scale by promoting regional collaboration, and contributes to the development of cost-effective hydromet system regionally. Such an approach will also provide cross-learning opportunities for countries in the region and facilitate a peer-to-peer support system.

13. Visibility products

None at this time. The project has just started.

14. Supporting documents

None at this time. The project has just started.

