Systematic Observations Financing Facility

Eighth Steering Committee
18-19 June 2024

SOFF Investment phase Funding requests

INF 8.3

Systematic Observations Financing Facility

Weather and climate data for resilience

Purpose of this document

This document provides an analysis of the SOFF Investment Phase Funding Requests submitted by seven countries namely Chad, Uganda, Timor-Leste, Madagascar, Malawi, Nauru and Samoa.

It outlines key information regarding the Global Basic Observing Network, the investment targets and needs in these countries, the budget, the implementation arrangements and summarizes the results of a preliminary risk assessment.

Table of contents

SOFF Investment phase funding requests

1 Funding requests overview

This document includes an overview of the SOFF Investments Phase funding requests submitted for consideration of the Steering Committee.

Table 1. List of received SOFF Investment phase Funding requests (*EW4All initial focus countries).

No.	Country	Implementing Entity	Peer advisor	Duration (years)	Peer advisor fee	IE funding USD
IPFR12	Chad*	WFP	Austria	5	500,000	6,445,084
IPFR13	Uganda*	IsDB	Netherlands	4	520,000	5,760,136
IPFR14	Timor-Leste	UNEP	Finland - Indonesia	5	366,402	5,364,692
IPFR15	Madagascar*	AfDB	Germany	3	430,000	3,974,671
IPFR16	Nauru	UNEP	Australia	5	262,500	5,913,654
IPFR17	Malawi	UNDP	Norway - Iceland	5	502,763	3,338,400
IPFR18	Samoa*	World Bank	Australia	5	332,500	5,649,600
Subtotal [1]					2,914,165	36,446,237
WMO indirect support costs (7%)[2]					203,992	
TOTAL USD						39,564,394

[1] The subtotal includes the Implementing Entity fee corresponding to 7% of each funding request total for all outputs, with the exception of WFP which applies a 6.5% fee.

[2] WMO indirect support costs correspond to the 7% of the peer advisory services.

2 Closing the GBON gaps

The objective of SOFF is to close the most significant GBON Gaps, prioritizing the Small Island Developing States (SIDS) and the Least Developed Countries (LDCs). According to the WMO Global GBON Gap Analysis 2023, the seven countries currently have no upper air stations and in total only 15 surface stations reporting in compliance with GBON (Table 3 under 'Reporting').

These countries, along with the previously approved eleven, now totaling eighteen countries, represent 29% of the GBON Gap for Surface stations and 28% of the GBON Gap for Upper air stations in LDCs and SIDS.

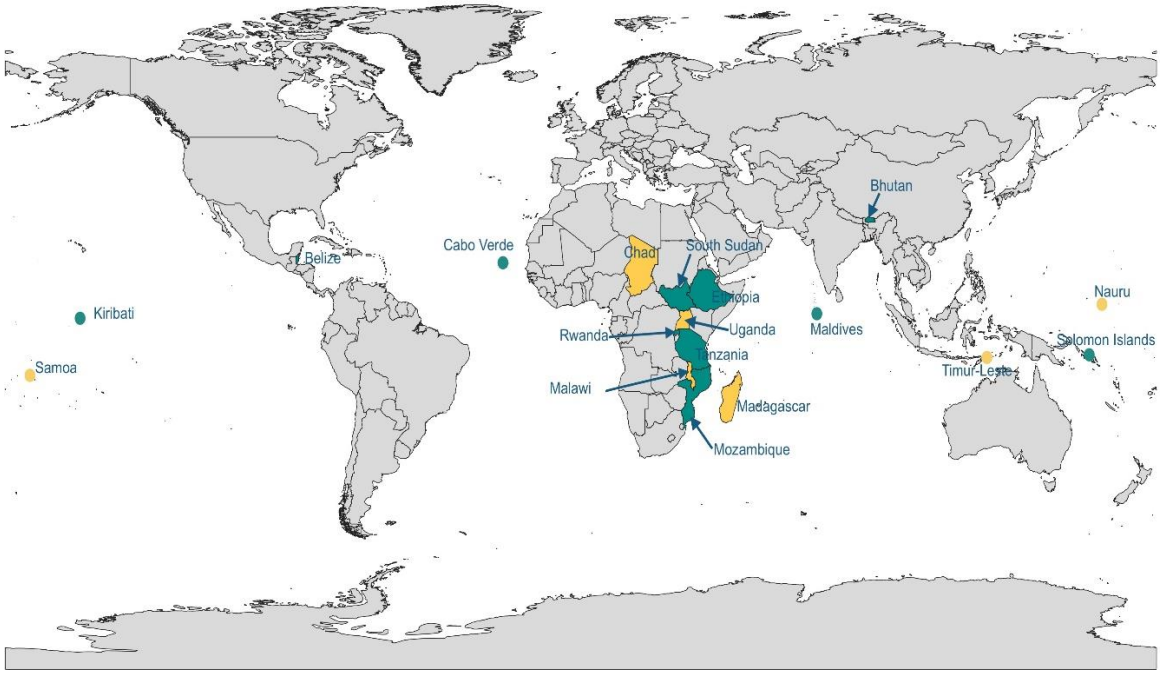

Figure 1. The map shows in green the eleven countries that have received SOFF Investment phase funding in the first and second batch. In yellow are the seven countries that have submitted an investment funding request for consideration.

2.1 National GBON gap analysis

As stated in Decision 5.7, WMO conducted a GBON Global Gap Analysis based on the June 2023 baseline (INF 6.2), which indicates the target number of GBON stations, the number of reporting stations, and gap for both surface and upper air observations over land in the countries. This report provides a reference for the peer advisors and beneficiary countries to further refine this assessment through the GBON National Gap Analysis.

The GBON gap numbers indicated in the WMO Global Gap Analysis and those included in the GBON National Gap Analysis developed by the countries may differ based on the results of the assessment by SOFF peer advisors. Table 2 below outlines the differences

between the GBON Global Gap Analysis, and the National Gap Analysis prepared under the SOFF Readiness phase.

Table 2. Overview of the WMO GBON Global Gap Analysis 2023 (left) in the seven countries and National Investment Targets based on in-country assessments by peer advisors during the Readiness phase (right).

	WMO GBON Global Gap Analysis						National Investment Targets[3]			
Country	Surface stations			Upper air stations			Surface stations		Upper air stations	
	Reporting	Gap New	Gap Improve	Reporting	Gap New	Gap Improve	Gap New	Gap Improve	Gap New	Gap Improve
Chad	1	0	32	0	4	2	6	27	3	0
Uganda	0	0	7	0	1	0	0	9	1	1
Malawi	10	0	0	0	0	1	0	4	1	0
Nauru	0	1	1	0	1	0	1	1	1	0
Timor Leste	0	0	1	0	1	0	0	1	1	0
Samoa	0	0	1	0	1	0	0	2	1	0
Madagascar	4	0	11	0	1	2	2	9	1	0

2.2 Applying SOFF flexibility principle

Differences between the National GBON Gap Analysis and the Global Gap Analysis may result from changes in the national circumstance since the Global Gap Analysis was prepared, alternatively it may reflect the application of SOFF principles of flexibility. The principles of flexibility are applied in specific circumstances to determine the number of stations to be supported by SOFF.

The WMO Technical Authority and SOFF Secretariat apply flexibility principles under specific circumstances when reviewing the National Gap Analysis and National Contribution Plan. The first principle is considering the specific topography of the country, for example countries with complex topography such as highly mountainous terrain, multiple microclimates, small islands with isolated and hard to reach areas. The second is considering regional observation coverage. This is applied for example if there are

[3] The National Investment Target is based on the GBON National Contribution Plan and indicates the number of stations that are going to be installed and/or improved to fill the gap toward GBON Compliance.

significantly under-observed regional areas, in particular conflict-afflicted areas, where reaching optimal coverage is not expected to be achieved in the short term.

These principles are applied conservatively upon close review by the WMO technical authority. In such cases, it is proposed to the Steering Committee to allow countries to receive SOFF support for a higher number of stations than the GBON standard density target indicated in the WMO Global GBON gap analysis. Additionally, it is recognized that in some instances it will be practically difficult for countries to install and maintain operational GBON stations in remote areas. In this case WMO Members have the option to claim exemption from meeting GBON Technical Regulations per Article 9 of the WMO Convention.

According to the GBON Global Gap Analysis, Uganda requires seven surface land stations and one upper air station. However, the country has requested to improve two additional surface stations and one upper air station to ensure adequate coverage of the national territory. Two stations are located near the border of the Democratic Republic of the Congo (DRC), where armed conflict might hinder the implementation of SOFF, rendering these close-border stations of sub-regional importance to increase data density in a conflict-afflicted area.

In the case of Timor-Leste, flexibility is applied to extend operations and maintenance support to a larger number of stations in the observing network. Based on the WMO GBON Global Gap Analysis and GBON National Contribution Target, to meet the GBON standard density requirements the country needs to improve one surface station and install one automatic upper-air station. However, given the complex mountainous topography of the country, and in line with guidance previously provided by WMO, UNEP is implementing a project to install nine Automated Weather Stations (AWS) and establish a higher-resolution network. This project "Enhancing Early Warning Systems to Build Greater Resilience to Hydrometeorological Hazards in Timor-Leste" (2022-2027) (UNEP GCF FP-171) is funded by the GCF and the document approved by the GCF Board indicates SOFF as a critical component of its sustainability strategy (section "B.6. Exit Strategy and Sustainability"). Therefore, SOFF support is required for the continuous maintenance and calibration of these additional nine stations to ensure the sustainability of the GCF investment, which will largely benefit the global and regional numerical weather prediction models.

3 Implementation arrangements

The implementation arrangements of SOFF investments are defined by the designated Implementing Entity in collaboration with the beneficiary country following the process described in the SOFF Operational Manual and in line with the United Nations Multi-Partner Trust Fund's legal agreements.

3.1 Execution models

The Investment phase Funding requests define the execution model and clearly outline the roles and responsibilities of the beneficiary country, the Implementing Entity and any additional Executing Partner(s). Recognizing the diverse needs of SOFF beneficiary countries, the choice of execution model is flexible and dependent on country demand and context. The table below provides a brief overview of the proposed execution models. The full description provided by the Implementing Entities can be found in Section 5 of each funding request.

Table 3. Overview of the execution models.

Country	Execution Model
Chad	Hybrid WFP will oversee the entire process from execution and financial handling to evaluation, reporting, and project conclusion within agreed deadlines. A steering committee involving Chad National Meteorological Agency (ANAM), WFP, and the peer advisor, Geosphere Austria will provide strategic and technical guidance. ANAM will act as the national Executing Entity, responsible for on-the-ground project execution and resource management, under a cooperation agreement with WFP outlining roles, responsibilities, and financial oversight. Procurement will mainly be handled by WFP using a joint procurement plan developed by ANAM and Geosphere. The Peer Advisor, Geosphere Austria, will provide technical support and contribute to the supervision of project implementation as well as support WFP and contribute in providing regular feedback to the SOFF secretariat on the evolution of the Investment phase activities.
Uganda	Hybrid Islamic Development Bank (IsDB) will lead and coordinate the annual and quarterly planning, implementation, financial management, evaluation, reporting and closure of the activities under the project, working together with the beneficiary, the Uganda National Meteorological Authority (UNMA), to ensure the proper management and application of SOFF Grant Proceeds. Overall guidance on the execution of the project will be provided by a project steering committee, consisting of UNMA, IsDB, key stakeholders including KNMI in an advisory capacity. A project management unit will be established with different technical task teams across UNMA's district meteorological service centers. UNMA will be responsible for supporting stakeholder engagement, preparing and submitting annual and quarterly work plans, requesting fund disbursements, overseeing station operation, maintenance, and calibration and

	handle data collection, analysis, and reporting. Specifications and Terms of Reference (TORs) for goods and services drafted under the National Contribution Plan may be used as technical specifications for procurement and will be updated before the procurement process is initiated. The peer advisor will provide technical advisory services to support UNMA in implementing the National Contribution Plan and agreed activities for the Investment phase.
Malawi	Implementing Entity-Executed UNDP as Implementing Entity will manage and execute the implementation of the Investment phase in Collaboration with the beneficiary country. A regular coordination mechanism between the Department of Climate Change and Meteorological Services (DCCMS) in Malawi and UNDP will be set up for technical coordination with an annual planning exercise. The flow of funds from UNDP to DCCMS will be defined in a legally binding Letter of Agreement between DCCMS and UNDP, leveraging an existing LoA between UNDP and DCCMS with similar activities. Procurement of assets will be mostly managed by the implementing Entity. DCCMS with support from the peer advisor will be responsible for the specification of technical requirements of goods and services to be procured, including drafting and revision of ToRs, proposals and other documents. The Implementing Entity will be responsible for process management, ensuring transparent and competitive processes as per UNDPs supply chain and procurement guidelines. DCCMS will ensure adequate information flows and coordination between central and local level representations from DCCMS. DCCMS will ensure adequate data flow to the Regional MET Centres.
Nauru & Timor Leste	Hybrid UNEP will deploy a hybrid executing model comprising a National Executing Entity and, at the request of the SOFF Beneficiary Country focal point, limited Executing Entity functions by UNEP itself. UNEP will be responsible for the implementation, financial management, evaluation, reporting and closure of the activities under the project. The National Directorate of Meteorology and Geophysics (DNMG) of Timor Leste and the Nauru Meteorological and Hydrological Service (NMHS) will serve as the national Executing Entities and will be accountable to UNEP as IE for Project execution at the national level and for the effective and efficient use of resources. UNEP will enter into an appropriate agreement (Project Cooperation Agreement) with DNMG and NMHS for the execution of the Project. UNEP in its executing role will engage relevant Technical Partner agencies to conduct activities such as trainings.
Madagascar	Client-executed The National Meteorological and Hydrological Service of Madagascar (DGM) will execute this project and manage other partnerships in the execution, with fiduciary responsibility to the AfDB. AfDB will conduct supervisory missions at least twice a year during the project implementation period and provide constant guidance in terms of technical aspects, fiduciary requirements including prohibited practices, environmental & social aspects, and monitoring & evaluation. A Project Coordination Team including the Ministry of Transport, DGM, Civil aviation Ministry of Water, SADC, relevant Ministries, representatives

	of international organizations implementing similar activities in Madagascar will support project's overall policy, review development of work plans and coordination of project activities in line with the Funding Agreement between AfDB and Madagascar. The AfDB will retain the overall responsibility for effective coordination, execution and management of the project including budget and financial management, procurement, progress reporting and monitoring. The Peer Advisor, Deutscher Wetterdienst (DWD) will provide technical support and contribute to the supervision of project implementation as well as support AfDB and contribute in providing regular feedback to the SOFF secretariat on the evolution of the Investment phase activities.
Samoa	Client-Executed The World Bank will be responsible for supporting the implementation, financial management, evaluation, reporting, and closure of the activities including monitoring and supervision of the project execution while leveraging global and national technical specialists to provide project implementation support. In addition, fiduciary and safeguards specialists based in the Pacific region will also provide implementation support. The Ministry of Natural Resources and Environment (MNRE) through the Samoa's national meteorological service (SMD) will serve as the Implementing Agency and will be accountable to the World Bank. The Bank will enter into an appropriate agreement (Financing Agreement - FA) with the Government of Samoa. The FA will establish clear roles and responsibilities for the delivery of the proposed activities, and the schedule and conditions for instalments, the determination of the prevailing fiduciary standards, and the terms and conditions for arbitrations and termination of contract. The FA will include specific obligations for the MNRE on Project execution, procurement, financial management, safeguards, personnel administration, and reporting. SMD in its executing role may consider engaging relevant Technical Partner agencies to conduct activities such as trainings.

3.2 Public-private partnerships

Most of the National Meteorological and Hydrometeorological Services (NMHS) of the countries discussed in this document follow a fully public business model.

However, some countries are exploring opportunities for involving the private sector in the operations and maintenance of the observing network as well as for calibration and training. For instance, Nauru is considering engaging actors such as the New Zealand's National Institute of Water and Atmospheric Research (NIWA), Vaisala, OTT Hydromet and exploring the feasibility of a model that is 'State/NMHS-owned, privately operated and maintained'. In Timor Leste, through GCF project support, efforts will be put into strengthening dialogue between the public and private sector, thereby creating an enabling environment for public-private collaboration and mutually beneficial cost-recovery mechanisms, based on freely available GBON data. SOFF support would be beneficial in facilitating private sector consultations that focus on what sector-specific products/services DNMG could provide if sufficient observations data was available, with

the aim of looking at where the private sector might wish to invest to fill additional data gaps.

The remaining countries see very limited presence of the private sector, however they intend to explore through consultations during the Investment phase future opportunities for private-public partnerships.

3.3 Regional Implementation

SOFF promotes regional and sub-regional approaches to GBON implementation and encourages countries to explore opportunities to create economies of scale and optimize the design of the observing networks. The objective of SOFF regional engagement is to foster coordinated SOFF implementation, leveraging investments and climate finance opportunities beyond SOFF, and knowledge sharing and consultation on technical issues relevant to the respective regions. Regional benefits in the implementation of the Investment phase will also be pursued in collaboration with regional organizations. Table 4 outlines the implementation of regional approach in the 5 funding requests.

Table 4. Overview of regional implementation.

Country	Regional Implementation
Chad	Currently Chad is one of the first countries to be programmed for SOFF support among its neighbouring countries. Therefore, stations installed near the borders can also serve the neighbouring countries once their data are transmitted internationally. Purchase of the same type of AWS equipment (ADCON) can be considered. A cooperative agreement with ASECNA which also operates in Cameroun, Niger and Central African Republic can be established which would facilitate regional maintenance, more effective spare parts management and training.
Uganda	SOFF support in Uganda will be linked with the IsDB Reverse Linkage Program, which aids peer-to-peer learning (on real-time and better forecasting and observatory systems) between countries in the global south, especially between countries in the East Africa sub-region. Potential regional collaboration includes regional trainings, instrument calibration, knowledge exchange through several existing regional agencies such as the WMO Regional Office for Africa or Regional WIGOS Center (EAC), the WMO Regional Climate Centre (RCC), Intergovernmental Authority on Development (IGAD) facilitation. Cooperation with the Regional Training Centre in Nairobi could also be established. Further opportunities for data sharing and network optimization with neighbouring countries, east African Community (EAC) engagement, CREWS East Africa, Lake Victoria communities, EW4All initiative will be considered.
Malawi	On-going efforts from the Southern Africa Development Community (SADC) such as the Intra-ACP Climate Services and related Applications Programme

	(ClimSA) for enhancing early warning systems will benefit from SOFF investments. For data sharing and capacity development, Malawi is affiliated with Regional WIGOS Centre (RWC) South Africa. Regional considerations for SOFF investments in terms of resource optimization, procurement and maintenance plans will be explored with neighbouring SOFF supported countries – Mozambique, Zambia and Tanzania. DCCMS Malawi is also part of regional collaborations such as Regional Climate Outlook Forums; Southern African Region COF annually and South-west Indian Ocean COF.
Madagascar	Madagascar is a member of various regional alliances such as the Indian Ocean Commission (IOC), the Southern Africa Development Committee (SADC), the Tropical Cyclone Committee and the Severe Weather Forecasting Programme South Africa. A GCF-supported project to "Build Regional Resilience through Strengthened Meteorological, Hydrological and Climate Services in the Indian Ocean Commission Member Countries" will improve the National Meteorological and Hydrological Services in Madagascar, Seychelles, Mauritius and the Comoros through a regional approach, by creating a Regional Climate Centre Network. Madagascar is currently covered by Regional WIGOS Center in Southern Africa countries.
Nauru	Nauru is part of SOFF Pacific SIDS Programme, WMO Regional Association for South-West Pacific, Pacific Meteorological Council and its committees, South Pacific Regional Environmental Programme - Weather Ready Pacific plan, Climate and Ocean Support Program in the Pacific (COSPPac), Pacific Community. SOFF Investment in Nauru is expected to contribute to a broader well-distributed multi-country network including Kiribati, Tuvalu, Solomon Islands and Papua New Guinea.
Timor-Leste	The Meteorology, Climatology, and Geophysical Agency of Indonesia and the Australian Bureau of Meteorology provide complementary technical support in terms of weather and climate services including capacity development activities and aviation meteorology services to DNMG, Timor-Leste. Timor-Leste's Ministry of Public Work, Transport and Communication (under which DNMG operates) signed a Memorandum of Understanding (MoU) with BMKG, under which BMKG will provide technical support for the calibration of meteorological equipment, human resource development, and to exchange data and information about meteorology, climatology and geophysics. BMKG as WMO Regional Training Centre provides training and capacity building for Regional Association II (Asia) and Regional Association V (South-West Pacific) regions.

Samoa	Samoa is part of the SOFF Pacific SIDS Programme, WMO Regional Association V (South-West Pacific) committee, Pacific Meteorological Council and its committees, Secretariat of the Pacific Regional Environmental Programme (SPREP), Pacific Resilience Partnership and the Pacific Community (SPC). Like for Nauru, SOFF Investment in Samoa is expected to contribute to a broader well-distributed multi-country network including Tuvalu, Nauru, Fiji and Kiribati, particularly for the upper air observations.

4 Leveraging investments

SOFF aims to leverage investments and co-financing beyond SOFF resources to ensure larger packages of programmatic support to beneficiary countries. The SOFF Implementing Entities will integrate or align SOFF funding with larger projects and programmes in the beneficiary country and identify opportunities to mobilize additional investments in the other parts of the hydro-meteorological value chain, drawing on their own resources or from the multilateral climate and environment funds. This section outlines how the seven SOFF funding requests leverage resources from multilateral climate funds as well as other sources.

4.1 Operationalizing the Framework for Collaboration for Enhancing Systematic Observation

SOFF investments aim to create leverage and synergies with major multilateral climate funds, namely the Adaptation Fund (AF), Climate Investment Funds (CIF), Green Climate Fund (GCF), Global Environment Facility (GEF) and the Climate Risk and Early Warnings System (CREWS), to increase the effectiveness and sustainability of investments in systematic observations. At COP28, the SOFF Secretariat, along with the Secretariats of these five funds, signed the jointly developed framework for collaboration for enhancing systematic observation and improving the use of basic weather and climate data for effective climate action. The framework for collaboration intends to further enhance complementarity, leveraging SOFF enhanced observations for better climate information services and early warnings.

The seven Investment funding requests exemplify the operationalization of the Collaboration Framework through SOFF investments, as outlined in table 5. Implementing Entities have identified potential areas for further synergies in Section 2 of each funding request.

Table 5. Overview of SOFF funding request for 8th Steering Committee and operationalizing the SOFF Collaboration Framework with 5 multilateral climate funds

Country	AF	CIF	CREWS	GCF	GEF
Chad	"Reversing the Degradation trend in the Oases of Borkou, Ennedi West and Wadi Fira through Strengthening Adaptation Measures and Improving Resilience to Climate Change of Vulnerable Communities". Project concept endorsed March 2023.		In Chad, CREWS supports the strengthening of national capacity to deliver climate, hydrometeorological and early warning services in selected sectors and communities. Human capacity development support can be leveraged to complement SOFF activities. CREWS Chad.pdf	As part of the Early Warnings for All Initiative, GCF Project Preparation Facility funding is being used to develop a full GCF proposal including a pre-feasibility study, economic analysis, gender analysis and safeguard assessments. The countries benefitting from this include Chad. These activities are expected to both leverage the SOFF investments and further capitalize on them to ensure additional coverage of skillful early warning systems are utilized in Chad.	
Uganda	Enhancing Community Adaptation to Climate Change through Climate Resilient Flood Early Warning, Catchment Management and Wash		Through the CREWS East Africa project, human capacity development support can be leveraged to complement SOFF activities in particular		

	Technologies in Mpologoma Catchment, Uganda. Project will be implemented by Ministry of Water and Environment of Uganda (MWE). Project agreement signed February 2024		related to WIS2. FINAL_CREWS EA Proposal-26.08.2022 (3).pdf		
Malawi	Adaption Fund funded a project to build urban climate resilience in south-eastern Africa, including Malawi	CIF's investments in Malawi are through its Pilot Program for Climate Resilience (PPCR) and Scaling up Renewable Energy Program (SREP)	CREWS supports Malawi to strengthen its national capacity related to weather forecasting, hydrological services, early warning action services and financial preparedness. CREWS Malawi proposal final.pdf	GCF M-CLIMES project (FP002) completed in 2023 provided support to expand the meteorological network, instal automatic weather stations, hydrological monitoring stations, and lake-based weather buoys, as well as increase the capacity to identify risks and forecast impacts.	Malawi received support by GEF to strengthen the weather, climate and hydrological monitoring capabilities, early warning systems and available information for responding to extreme weather and planning adaptation to climate change
Madagascar			SOFF investments will enhance the results of the CREWS project to support regional cooperation to strengthen seamless operational forecasting and multi hazard early warning systems at national level in the South-		Madagascar is a beneficiary of PACARC project co-financed by GEF and UNDP. SOFF will work closely with both organizations.

			West Indian Ocean South-West Indian Ocean - CREWS Proposal - final-approved.pdf		
Nauru	Nauru is currently a beneficiary of a project to enhance climate resilience of the fisheries and aquaculture sector		SOFF investment will complement outcomes of the CREWS Pacific SIDS projects in Nauru through further support for building institutional capacity and strengthening regional coordination mechanisms, strengthening Nauru's technical capacity for data transmission to WIS2.0, as well as providing further trainings and capacity building support CREWS_Pacific_Additional_Financing_1_0.pdf	Nauru is a beneficiary in 2 GCF projects: one for Sustainable and Climate Resilient Connectivity for Nauru (FP052) and regional project to enhance renewable energy coverage across the Pacific (FP036)	Nauru is beneficiary of several GEF projects, related to resilient fisheries, renewable energy, climate-resilient infrastructure and energy efficiency and are therefore of less relevance to GBON
Timor Leste			Timor-Leste is also expected to receive CREWS support under the Accelerated Support Window to strengthen disaster risk knowledge based on the systematic collection of data and disaster risk assessment.	SOFF investments will largely build upon, complement and ensure the sustainability of the GCF-funded project "Enhancing Early Warning Systems to Build Greater Resilience to	The Least Developed Countries Fund (LDCF) operated by GEF provided support to Timor-Leste to build climate resilience through two closely

			Since the core focus of this initiative will be to strengthen data collection on disaster risk losses and strengthen people-centred early warning systems. CREWS ASW Timor-Leste UNDRR - final.pdf	Hydrometeorological Hazards in Timor-Leste" (2022-2027)" (UNEP GCF FP-171) which aims to comprehensively strengthen climate information and early warning systems in Timor-Leste.	connected projects. However, those mostly related to constructing climate-resilient infrastructure and engaging communities for building resilience.
Samoa			The Climate Risk Early Warning Services (CREWS) initiative is working directly with Pacific countries to increase the availability of, and access to, early warning systems. As part of this project, National Strategic Plans for Meteorological Services are being developed for six Pacific SIDS, including Samoa. The project is due to be completed by December 2024. Under the World Bank, CREWS has supported Samoa to enhance its knowledge and capabilities for impact-based forecast and warning services.	A proposed One Pacific program, financed by the Global Climate Fund (GCF) and implemented by SPREP intends to be complementary to SOFF.	

4.2 Leveraging co-financing, blended finance and other investments

In addition to the Collaboration Framework with the five multilateral climate funds, SOFF activities will also leverage other investments in the beneficiary countries including bi-lateral cooperation activities, the work of technical agencies, and regional programmes. Implementing Entities are expected to further identify and integrate opportunities for SOFF Investment activities to complement or leverage previous, on-going or planned initiatives in other aspects of the hydro-meteorological value chain.

Table 65. Overview of complementary investments beyond the 5 multilateral climate funds.

Country	Complementary investments
Chad	In October 2022 a CERF framework for anticipatory action for drought was approved by the Central Emergency Response Fund (CERF), and work is in progress on a framework for anticipation of flooding. In 2024, WFP has received funding from the government of Austria to develop readiness and trigger thresholds for drought and flooding with the relevant government agencies and coordinating capacity building for the development of sub-seasonal forecasts.
Madagascar	The DGM is currently in dialogue with the African Development Bank (AfDB), the World Bank and the Hydromet IOC project to assess future options in weather radar stations. SOFF investments in Madagascar will leverage and complement initiatives such as ASECNA, National School of Aeronautics and Meteorology "Ecole Nationale d'Enseignement de l'Aéronautique et de la Météorologie", Trans-African Hydro Meteorological Observatory and the Deutsche Gesellschaft für Internationale Zusammenarbeit - GIZ Madagascar activities.
Malawi	Malawi was among the countries to pilot WIS2Box operationalization in Africa. Under the SAREPTA project, Norwegian Meteorological Institute (Met Norway) is supporting DCCMS to strengthen capacity in weather and climate services. DCCMS is also pursuing partnerships with private partners such as Telecom Networks Malawi (TNM) for most of the information communication and technological challenges.
Nauru	SOFF investments will contribute to the implementation of the UNDP Disaster Resilience for Pacific Small Island Development States (RESPAC), the Australia-funded COSPPac project through incorporating CliDE into the data management solution for Nauru and enabling data transmission to WIS2.0. Furthermore, the project will pursue synergies with the new Weather Ready Pacific programme through regional forums.
Timor Leste	NA

Samoa	SOFF will contribute to a component of the Weather Ready Pacific (WRP) Programme of the Pacific Meteorological Council (PMC). Proposed SOFF activities will complement existing and planned initiatives in Samoa such as the World Bank-financed Pacific Resilience Program (PREP) The World Bank is under discussion with the Government of Samoa on a potential pipeline investment that could include SOFF funds as co-financing to help ensure complementarity of global and national-level observation network improvements.
Uganda	Uganda is part of the Water at the Heart of Climate Action led by International Federation of Red Cross and Red Crescent Societies (IFRC) and funded by the Dutch Government. SOFF investments will aid and build on IsDB's interventions in the key sectors of agriculture, water, health, education, and social protection. These include Community Agricultural Infrastructure Improvement Program, Enhancing Resilience of Communities to Climate Change through Catchment-Based Integrated Management of Water and Related Resources, the Strengthening the Economic Resilience of the Vulnerable Enterprises Project, Millennium Village Program, and Sustainable Village Programs. Further leverage through IsDB's Reverse Linkage, Technical Cooperation Program, and Early Warning Capacity Development Program and project financing at the request of the Government of Uganda is foreseen.

5 Risks

Section 7 of the SOFF investment funding request presents the investment risk framework for the investment. Figure 2 illustrates an aggregation of the risks identified by the countries for the implementation of the investment phase and their corresponding risk levels which were in the medium range.

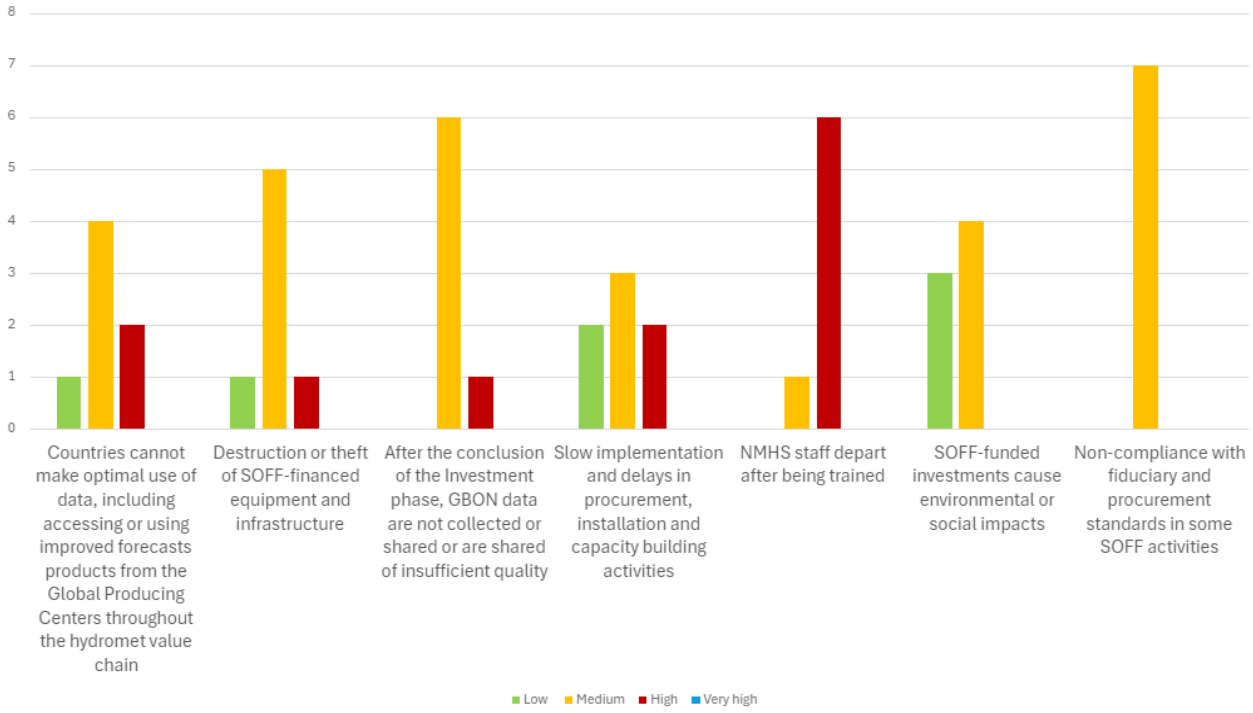

Figure 2. Distribution of risks in the Investment phase Funding requests.

Overall, the risk mitigation measures proposed for the current group of countries are similar to those proposed in the previously approved Investment Funding Requests.

SOFF Investment phase activities include extensive capacity building for both human resources and institutions, such as trainings, staff salaries and regional workshops, alongside infrastructure investments. These activities address various risks, including issues related to data sharing, data quality, and data flow, as well as staff retention. Workshops with stakeholders, including Civil Society Organizations, help raise awareness and support for the importance of National Meteorological Services, while also serving as protective measures for stations and equipment, particularly in remote areas where risks of destruction or theft exist.

To tackle risks related to fiduciary and procurement standards compliance, the Implementing Entities will evaluate the financial management capacity of national Executing Entities and provide ongoing support for capacity development. Close monitoring of project finances, annual audits, and establishment of internal controls will

ensure compliance with anti-fraud and anti-corruption frameworks, along with training on procurement and fiduciary policies. Clear responsibilities will be outlined through MoUs/agreements among parties.

Environmental and Social risks will be addressed through the policies and procedures of the Implementing Entity. Adherence to environmental policies and implementation of site-specific mitigation plans informed by Environment and Social Impact Assessments will ensure responsible project execution.

Effective collaboration between the Implementing Entity, Peer Advisor, and beneficiary countries, along with recruitment of experienced procurement staff and frontloading of complex procurements within the initial 18 months of implementation, will address risks associated with slow implementation and investment activity delays.

To address the risk of countries not optimally utilizing data, SOFF is partnering with Global Producing Centres, such as the European Centre for Medium-Range Weather Forecasts (ECMWF), to provide free access to improved forecast data and graphical products.