

30 March 2023

Decision item 4.3

First batch SOFF Readiness funding requests

Fourth Steering Committee meeting

Systematic Observations
Financing Facility

**Weather
and climate
data for
resilience**



Decision item 4.3: Approval of First batch of SOFF Readiness phase funding requests

The Steering Committee:

Approves the first batch of 26 Readiness funding requests included in the Document 4.3 as submitted to the Steering Committee on 6 March 2023 for the amount of USD 3,615,569.00

Urges Peer Advisors and Beneficiary Countries to complete the Readiness phase within the time frames indicated in the respective Funding requests

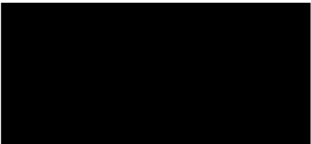
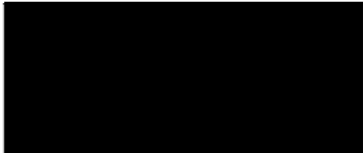
Encourages the SOFF Advisory Board Members to identify country-level synergies and complementarities and inform the SOFF Secretariat accordingly.

Requests:

- the UNMPTF Office to disburse the above stated amount corresponding to the above stated funding requests
- WMO to issue Assignment Agreements with the peer advisors that include the Terms of Reference as stated in the annex of each Funding request.

First batch of SOFF Readiness funding requests Project Document

Ref.: 08082/2023-1.21
Approved by Petteri Taalas, Wed Apr 05 06:34:11 UTC 2023

<p>Project Title:</p> <p>First batch of SOFF Readiness funding requests</p>	<p>Recipient UN Organization:</p> <p>World Meteorological Organization</p>
<p>Project Contact:</p> <p>Markus Repnik SOFF Secretariat 7bis Avenue de la Paix Case postale 2300 Nations, 1211 Genève Telephone: +41797901882 E-mail: mrepnik@wmo.int</p>	<p>Project Location:</p> <p>WMO Secretariat Geneva 7bis Avenue de la Paix Case postale 2300 Nations, 1211 Genève</p>
<p>Project Description:</p> <p>Readiness phase support - first batch of funding requests for the implementation of the SOFF Readiness phase in 26 countries across Africa, Asia, Pacific, Latin America and the Caribbean. The Readiness phase provides technical assistance for the development of the Global Basic Observing Network (GBON) National Gap Analysis, National Contribution Plan, and the Country Hydromet Diagnostics.</p>	<p>Total Project Cost for 1 July 2023 – 1 June 2024</p> <p>USD 3,615,569</p> <hr/> <p>Project Start Date: 1 April 2023 Proposed Project End Date: 1 June 2024 Project Duration: 14 Months</p>
<p>Recipient UN Organization and signatory:</p> <p>World Meteorological Organization Secretary-General, Petteri Taalas</p> <p>Signature: </p> <p>Date: 5 April 2023</p>	<p>Chair of the SOFF Steering Committee:</p> <p>Anthony Rea Co-Chair of the SOFF Steering Committee</p> <p>Signature: </p> <p>Date: 4 April 2023</p>

First batch of SOFF Readiness phase funding requests

1. Introduction

At its third meeting on 2 November 2022, the SOFF Steering Committee approved the first batch of programming countries ([Decision 3.4](#)). This batch includes 26 countries with large GBON data gaps in Africa, Asia and the Pacific, Latin America, and the Caribbean.

Table 1. Programming countries adopted by the Third SOFF Steering Committee, Decision 3.4

Regions	Sub-regions		
	West Africa	Central and East Africa	Southern Africa
Africa	Burkina Faso, Senegal, Cabo Verde, Liberia	Chad, Ethiopia, United Republic of Tanzania, Democratic Republic of the Congo, South Sudan, Rwanda	Madagascar, Malawi, Mozambique
Asia	Bhutan, Maldives, Nepal, Timor-Leste		
Pacific	Fiji, Kiribati, Samoa, Solomon Islands, Tuvalu		
Latin America and the Caribbean	Belize, Grenada, Guyana, Ecuador		

All 26 countries submitted funding requests to the SOFF Secretariat for consideration by the 4th SOFF Steering Committee. The following table presents an overview of the 26 funding requests.

Table 2. List of SOFF Readiness phase funding requests - Fourth Steering Committee

No.	Country	Peer advisor	Prospective Implementing Entity	Duration months	SOFF funding USD
RPF01	Belize	United Kingdom	IDB	6	199,757
RPF02	Bhutan	Finland	UNEP	6	80,000
RPF03	Burkina Faso	Spain in tandem with Nigeria	AfDB	6	199,300
RPF04	Cabo Verde	Netherlands	UNEP	7	73,000
RPF05	Chad	Austria	WFP	6	188,415
RPF06	Democratic Republic of the Congo	Switzerland	AfDB	10	198,000

RPFR 07	Ecuador	Switzerland in tandem with Argentina	IDB	10	200,000
RPFR 08	Ethiopia	Norway in tandem with Finland	UNDP	7	185,625
RPFR 09	Fiji	Australia	World Bank	6	96,905
RPFR 010	Grenada	Spain	Tbd	7	120,000
RPFR 011	Guyana	Austria	Tbd	8	170,748
RPFR 012	Kiribati	Australia	UNEP	6	105,255
RPFR 013	Liberia	Nigeria	AfDB	6	120,000
RPFR 014	Madagascar	Germany	AfDB	8	164,469
RPFR 015	Malawi	Norway in tandem with Iceland	UNDP	6	186,615
RPFR 016	Maldives	Finland in tandem with Indonesia	UNEP	6	97,105
RPFR 017	Mozambique	South Africa	WFP	6	95,900
RPFR 018	Nepal	Finland	UNEP	6	86,000
RPFR 019	Rwanda	Finland	UNDP	6	92,917
RPFR 020	Samoa	Australia	World Bank	6	96,905
RPFR 021	Senegal	Netherlands	IsDB	6	74,000
RPFR 022	Solomon Islands	Australia	UNDP	6	96,905
RPFR 023	South Sudan	Austria	AfDB	6	152,698
RPFR 024	United Republic of Tanzania	Denmark	UNDP	6	128,717
RPFR 025	Timor-Leste	Finland in tandem with Indonesia	UNEP	6	130,000
RPFR 026	Tuvalu	New Zealand	UNEP	2	39,800
Subtotal					USD 3,379,036
WMO indirect support costs (7%)					USD 236,533
TOTAL					USD 3,615,569

2. Process

The process for preparing these funding requests followed the provisions stated in the [SOFF operational manual](#).

Following the Steering Committee Decision 3.4 on SOFF first batch programming, the SOFF Secretariat informed those countries and sought expressions of interest from the pool of the 26 peer advisors and 8 Implementing Entities. 16 peer advisors and 7 Implementing Entities confirmed their interest. Based on the expressions of interest and the preferences indicated by

the beneficiary countries, the SOFF Secretariat facilitated the matching between beneficiary countries, peer advisors and Implementing Entities.

Following the Steering Committee Decision 3.4 related to the SOFF Readiness funding template, the SOFF Secretariat developed the template under the guidance and review of the SOFF Steering Committee co-chairs and by seeking inputs from the UNMPTF Office, beneficiary countries, peer advisors, WMO Technical Authority, UNDP, UNEP and circulated the final template with the countries, peer advisors and Implementing Entities.

The peer advisors supported the beneficiary countries in preparing the funding requests in collaboration with the prospective Implementing Entities. Grenada and Guyana are still exploring their potential Implementing Entities and will decide on this during the Readiness Phase.

The SOFF Secretariat gave countries and peer advisors feedback on their draft funding requests to ensure compliance with SOFF funding request template requirements. By 3 March 2023, all 26 beneficiary countries submitted the final Readiness phase funding requests to the SOFF Secretariat.

3. SOFF Readiness funding approach

The funding requests template follows an output-based approach for the implementation of the Readiness phase activities. The peer advisors, which are the leading operational partners for the Readiness phase, are expected to deliver three outputs – the GBON National Gap Analysis, the GBON National Contribution Plan, and on-demand the Country Hydromet Diagnostics (CHD) following standardized guidance provided in the SOFF Readiness phase operational guidance notes as part of the SOFF Operational Guidance Handbook (see document INF 4.1).

With the expected outputs of the SOFF Readiness phase highly standardized and described in detail in the operational guidance notes, the budgets for the provision of the SOFF peer advisory services correspond to a lump-sum, fixed cost amount. The budgets are calculated using a cost-recovery approach based on the peer advisors' standard cost-recovery rates.

Expenditures are exclusively for developing the advisory products identified in Terms of Reference of the respective SOFF Readiness funding requests, and eligible expenditures are limited to (i) staff and consultants; (ii) consultations, national technical workshops, and communications; (iii) travel and transportation costs; and (iv) other incidental expenditures.

The Readiness phase funding requests include five sections: (i) Basic information; (ii) SOFF Programming criteria; (iii) Readiness phase outputs, timeline and budget; (iv) Monitoring; (v) Readiness Phase Risk Management Framework; and an Annex with the Terms of Reference for the peer advisor Assignment Agreement between WMO that operates the peer advisors pass-through mechanism and the respective peer advisors, to be signed upon Steering Committee approval of the funding requests. To serve as SOFF peer advisors and before signing the Assignment Agreement, all peer advisors must sign the Umbrella Legal Agreement with WMO that provides the legal framework and governs the provision of all services provided by the SOFF peer advisor.

The following sections provide an overview of the funding requests, including funding, delivery schedule, risks, and a summary of how the countries meet the SOFF programming criteria.

4. Funding requests overview

The total funding requested by the 26 countries corresponds to USD 3,615,569. The range of budgets for this round of Readiness funding requests is between USD 39,800 and 200,000. The differences among budgets are due to multiple factors, including different standard cost-recovery rates of peer advisors from different geographies, various operating costs in different countries and regions, and the size of the GBON challenge in each country. The budgets closer to the lower end were common in small countries, some SIDS, or countries where due to ongoing development activities, GBON-related technical assessments are at relatively advanced stages. Budgets closer to the higher end are typical for large beneficiary countries, countries with complex socio-political circumstances, and countries in locations difficult to reach or far from the peer advisors' headquarters.

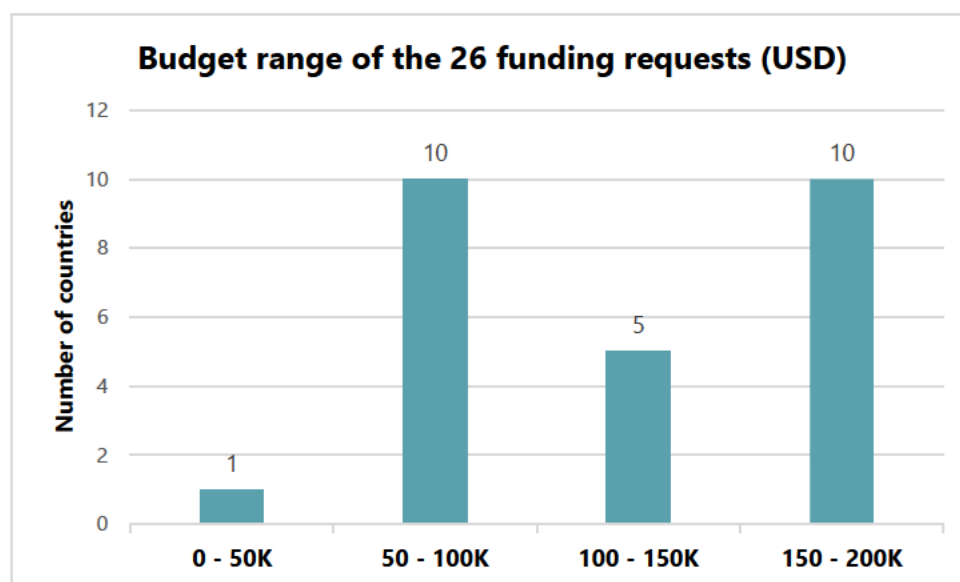


Figure 1: Overview of the budget ranges for the 26 countries' funding requests.

5. Readiness phase implementation schedule

Based on indications in the funding requests, 21 countries have planned to complete the Readiness Phase by September 2023 and could potentially submit an Investment phase funding request to the 6th Steering Committee Meeting in November 2023 (see figure 2).

The table below shows the range of timelines for completing the Readiness phase outputs.

Table 3. Timeline ranges for completion of Readiness phase outputs in 26 funding requests countries.

Readiness phase outputs	Completion timeline
GBON National Gap Analysis	2 to 3 months. For most countries 2 months
GBON National Contribution Plan	2 to 7 months. For most countries 4 to 5 months
Country Hydromet Diagnostics	3 to 8 months. For most countries 3 to 4 months

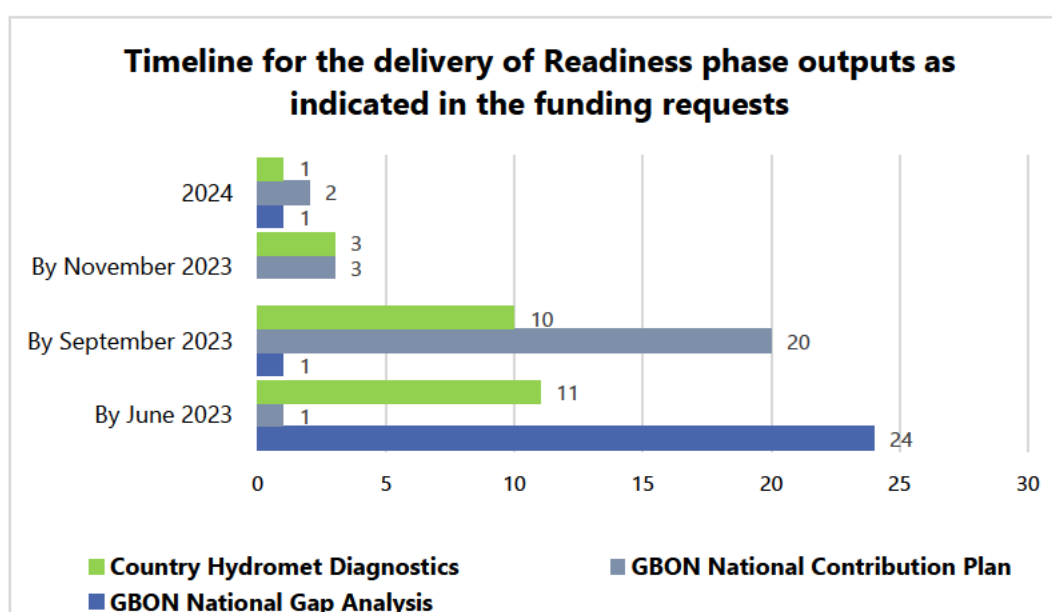


Figure 2: Overview of the delivery schedule of the Readiness outputs in the 26 countries

6. Funding requests risks overview

Most countries rated the risks related to the delivery of the Readiness phase from low to medium. Only a few exceptions of high risks occurred in countries with currently challenging socio-political situations or increased vulnerability to potential extreme weather events (see figure 3).

Based on the Risk Management Framework section from the funding requests, a Readiness phase risks overview for the 26 countries is presented as follows:

- Contextual risks.** Of the 26 countries, 10 are classified as Fragile Conflict-afflicted States (FCSs). All these countries have indicated a medium to high risk of conflicts, safety, and political insecurity jeopardizing the delivery of the Readiness phase outputs. Risks associated with natural hazards were also identified as a key concern in several countries, particularly the Pacific Islands and coastline countries. The COVID pandemic is still seen as a potential risk alongside other risks related to infectious diseases. Most peer advisors have a track record operating in the respective countries and already have well-established

practices, including close interactions with their embassies, monitoring the risk of traveling to specific locations and using virtual platforms for meetings as needed.

- Institutional risks.** Limited human resources and low technical capacity and other resources shortage were identified as the primary institutional risks in 22 beneficiary countries, but only a few countries highlighted this as a high risk. The willingness to cooperate and engagement of national or local stakeholders were also identified as risks in a few countries, however such risks were mostly rated as low. The main mitigation actions identified include institutional and technical capacity-building activities, careful planning and management of resources through close coordination with the national and local authorities.
- Programmatic risks.** Country ownership is regarded as a significant factor that could impact the delivery of the SOFF Readiness phase activities. Countries indicated potential challenges related to the change of personnel within the relevant ministries and a potential reliance on external technical support. Only a few countries mentioned the risk of the Readiness outputs not being endorsed by the relevant authorities. With only a few exceptions, the programmatic risks were rated mostly low to medium. For all the risks identified, close collaboration and frequent communication between the peer advisors, the beneficiary country and the prospective Implementing Entity were identified as crucial mitigation actions.

Despite significant risk management efforts, a certain margin of delay in implementing the Readiness phase activities might occur, particularly in FCSs.

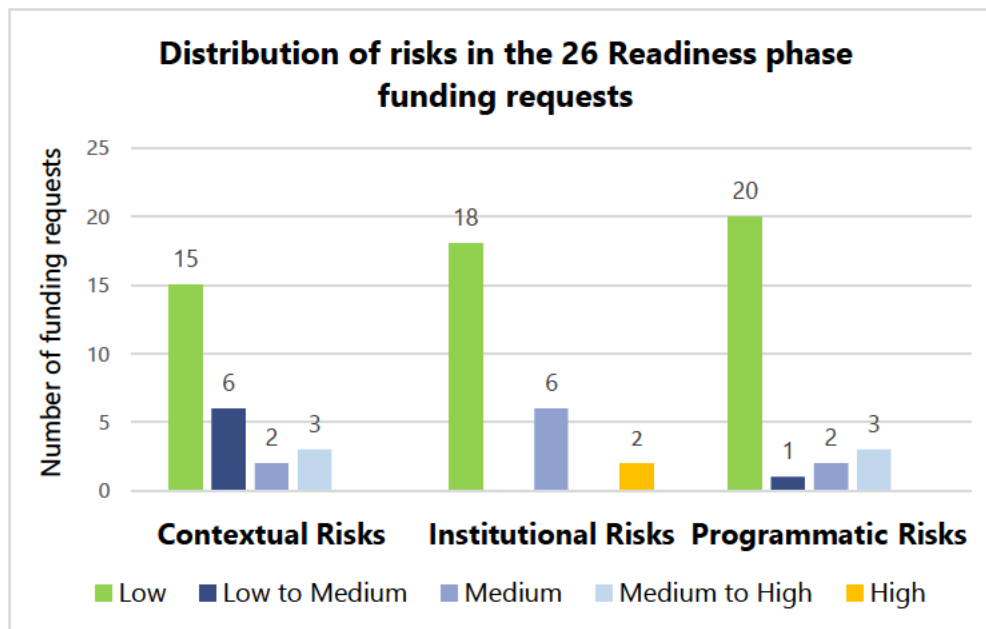


Figure 3. Distribution of risks in the 26 Readiness phase funding requests. Source: SOFF Secretariat

7. SOFF Programming criteria

The following section presents an overview on how the 26 countries meet the SOFF programming criteria ([decision 1.4](#))

7.1 Closing most significant data gaps

The 26 countries respond to the principle of giving the highest priority to areas from which few or no observations are currently available, addressing the biggest data gaps. According to the WMO GBON Global Gap Analysis as of January 2022, the Pacific and Sub-Saharan Africa are areas with significant data gaps. 50% of the proposed countries are in Africa and 19% in the Pacific. Out of the 26 countries, 17 are meeting less than 25% of the GBON-required reporting stations. The 26 countries represent about 40% of the total GBON gap in SIDS and LDCs (figure 4).

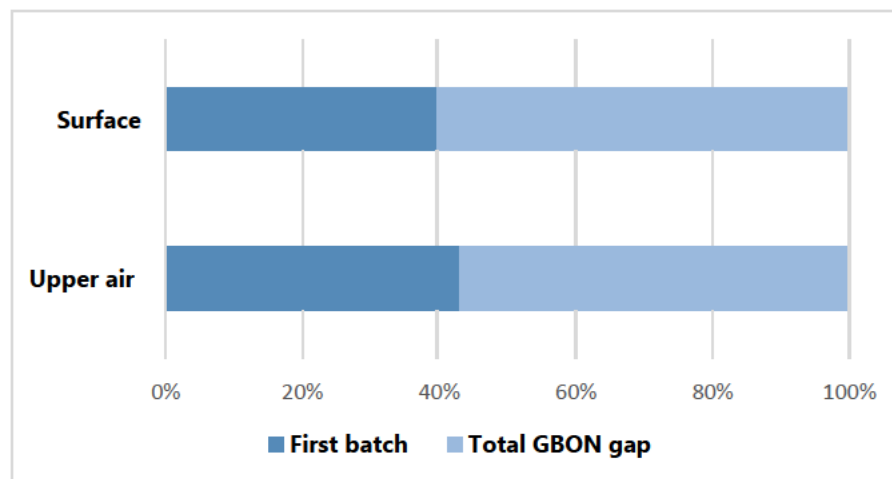


Figure 4. GBON gap for upper air and surface stations in SIDS and LDCs (and Ecuador) and share (in percentage) of SOFF first batch according to the WMO GBON Global Gap Analysis as of January 2022. Source: WMO Secretariat and SOFF Secretariat.

Section 1 in the funding requests on programming criteria and the criteria on "close the most significant data gaps" and "target easy fixes" provide an overview of key GBON challenges and gaps. Most countries used the information provided by the WMO GBON Global Gap Analysis as of January 2022 but also included additional insights from existing country assessments on the status of the observing systems. The richness of the information provided for this section of the funding requests reflects a productive and encouraging initial collaboration between the peer advisors and the beneficiary countries. Some key issues highlighted in the funding requests are summarized as follows.

- **Closing large national and sub-regional gaps:** Countries, particularly those in East Africa and the Pacific and large countries, highlighted missing observations nationally and from neighboring countries as a critical issue for NWP and forecast skill. The targeted implementation of GBON is expected to close a significant GBON gap in the poorest observed regions.

- **Areas of high significance for NWP:** Several countries, particularly SIDS, highlighted the importance of improving observations in specific geographic areas, given their relevance for NWP. Many countries highlighted the importance of establishing upper-air stations in countries surrounded by countries that do not have upper-air networks or operate some stations but are not located close enough to meet the GBON-required spatial resolution. Many countries emphasized the need to ensure that the GBON network design will help them ensure adequate inter-station distance and cover areas typically under-observed (e.g., high-altitude, isolated, difficult terrain) but of NWP relevance (e.g., balanced representation of climate zones).
- **GBON challenges.** The GBON gaps in the 26 countries are multi-faceted, including spatial coverage, observation frequency, communication, operation and maintenance of stations, and skills of observers, maintenance and management staff. Extreme weather events and the network's resilience were also recurrent topics. The harsh tropical environment that many of the 26 countries face can severely affect sensors on automatic weather stations and may therefore demand regular spares and maintenance support. Countries frequently highlighted issues related to data transmission to the WMO Information System (WIS), communication systems, and data management as some of the most significant bottlenecks preventing the existing networks from sharing the data.

7.2 Target "easy fixes"

The funding requests indicate significant opportunities for rehabilitation/improvement of existing infrastructure. These include a mixture of manual and automatic weather stations and upper air stations (although less often) that are already installed but are not transmitting data globally or do not report as often as needed or with all the parameters required by GBON.

- **Existing GBON-related observing networks:** Although SOFF support at this stage only covers the establishment of GBON standard density networks, the funding requests reflect several opportunities for countries and their peer advisors to explore easy fixes to upgrade existing stations (including high-density networks) and make them able to share their data internationally. Several countries have already installed high-density networks. Unfortunately, in most cases, those networks are not transmitting data globally and are not delivering the data to the WIS. Some countries already highlight third-party networks that could potentially contribute to GBON. While many stations have been deployed, resources for operation and maintenance are too limited to ensure the proper functioning of the stations.
- **Manual and Automatic Weather Stations (AWS).** Countries have a mix of manual and AWS. Several countries reported having newly established networks supported by previous international development and climate finance projects but emphasized the O&M limitations once the projects end. The large number of existing manual stations poses the challenge of reduced daily observations due to a shortage of meteorological observers, and obsolete and irreparable conventional instruments, which limits the weather parameters being observed and recorded. Many countries highlighted the need to replace manned stations with AWS since they can provide more frequent international sharing of observations. For AWSs, the gap is mainly on the duration of operation and frequency of

data communication due to limited maintenance capacity in terms of manpower, mobility and spares.

- **WMO Information System (WIS).** Most recurrent issues with the existing networks are related to connectivity and resources for maintenance, training, telecommunications and station infrastructure to support data exchange mechanisms (WIS), lack of spare parts, and old sensors. Capacity building on operating the WIS, acquisitions (e.g., WIS 2.0) and improvements in the data management systems are often stated as easy fixes. Measures related to the review and update of the WMO Observing Systems Capability Analysis and Review tool (OSCAR) with accurate metadata were commonly suggested as activities that could bring many existing stations into compliant reporting.
- **Upper air stations.** Some countries already have upper air stations primarily funded by previous international development or climate finance projects. Problems with these stations are largely related to the cost and availability of hydrogen gas supply, lack of consumables (radiosondes and balloons), and calibration. Several countries report failing to cover the operation and maintenance costs of the upper air stations after projects end.
- **Marine observations.** Although SOFF support does not yet cover GBON marine meteorological observations, many funding requests, in particular from the SIDS highlight the importance of these observations for NWP. Countries are interested in using SOFF peer advisors' technical assistance to evaluate potential easy fixes for their existing marine stations or for potential future SOFF support.
- **Sub-regional GBON optimization:** Many countries have already identified potential options to work with neighboring countries in the optimization of the GBON design, e.g., considering collaboration with bordering countries with more capacity and resources for upper air observations coverage, sharing technical facilities (such as validation, calibration and backup services, software solutions) and expertise. Several countries see the potential to become regional centers or laboratories for calibrations, maintenance, communications and training centers, data processing and database management. Many countries highlighted the importance of ensuring that data is shared globally and at a sub-regional level through existing regional centers and mechanisms (e.g., Regional WIGOS centers).

7.3 Maximize delivery capacity

For some countries, peer advisors are partnering with another peer advisor for the delivery of the Readiness phase advisory services. This tandem approach to the delivery of advisory services allows for leveraging different areas of expertise of the two peers while strengthening their capacity jointly.

The peer advisors are the leading operational partner in the Readiness phase. However, the delivery of the Readiness outputs is done in coordination with the Implementing Entities. Seven prospective Implementing Entities have been identified to support the 26 countries.

All peer advisors and prospective Implementing Entities have a previous track record and experience in the country or region and/or ongoing activities complementary to SOFF support.

7.4 Create leverage

Countries highlighted significant opportunities for creating leverage by aligning SOFF operations with complementary investments by other international climate and environment funds covering the latter parts of the meteorological value chain. SOFF support will also ensure the sustainability of investments previously made in observations that in many cases did not result in data sharing.

The Green Climate Fund (GCF) and other partners have been supporting observing networks in SIDS and LDCs with past and ongoing investments. For instance, a GCF Pacific programme will expand the surface-based observation network in the five countries in compliance with the expected GBON requirements. SOFF Readiness and Investment phase support will enable full compliance with GBON network requirements for the five countries. The support provided under the Compliance phase will ensure the long-term sustainability of the GCF programme outputs.

Most countries have CREWS projects ongoing or in the pipeline. SOFF support will address the sustainability issue of previous CREWS investments in observation infrastructure in several countries. Going forward, SOFF and CREWS play complementary roles as CREWS operations will focus on the latter parts of the value chain. CREWS is supporting several African countries to strengthen the NMHS's capacities and provide better climate services at the national and regional levels. In the Pacific, CREWS is implementing a regional project to enhance the capacity of the national hydrometeorological agencies to provide impact-based forecasts and to improve the effectiveness for Pacific Islands and Regional Early Warning Systems. This regional project includes all the proposed Pacific islands that are part of the SOFF Pacific Programme (see document 4.4)

This batch of countries includes only one non-LDC/SIDS, Ecuador. The country was selected because the prospective Implementing Entity indicated possible future investment in the observing network once the country has completed the SOFF Readiness Phase.

7.5 Regional and sub-regional gains

SOFF favors regional/sub-regional approaches to GBON implementation and invited the countries to look into opportunities to create economies of scale and optimize the design of the observing networks.

In Africa, the group of Western African francophone countries is exploring opportunities to collaborate in terms of sharing technical facilities (such as validation, calibration and backup services, software solutions) and expertise, regional capacity building activities for operation and maintenance, data processing and database management. In Southern Africa, countries will benefit from the ongoing efforts of the Southern Africa Development Community (SADC) to enhance coordination between NHMS, including sub-regional plans for procurement and capacity building for operation and maintenance.

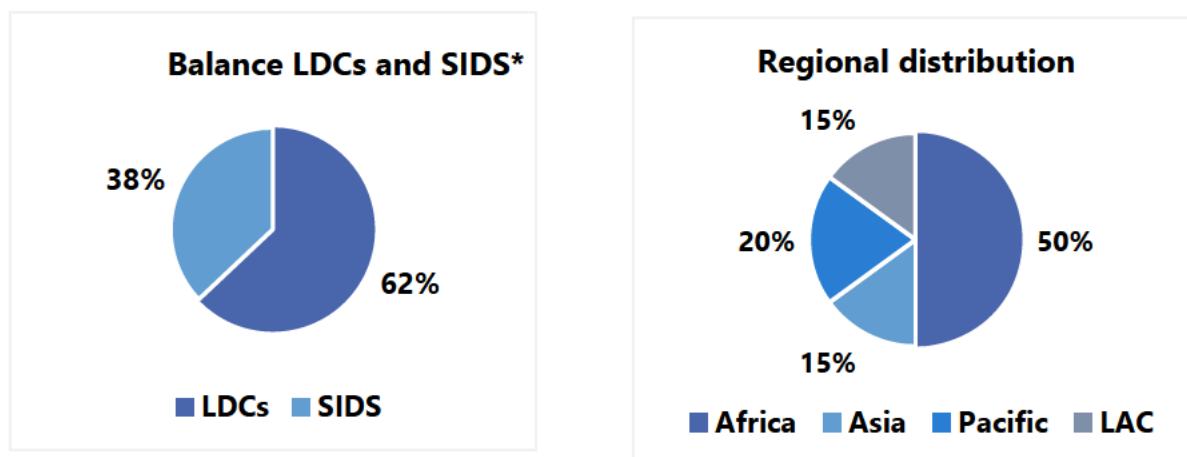
In Eastern Africa, the Intergovernmental Authority on Development (IGAD) Climate Prediction and Application Centre provides climate services and technical support to NMHS in the region.

Supporting Tanzania and Rwanda to achieve GBON compliance is expected to provide broader benefits to the Eastern Africa region.

The Pacific countries supported as part of this first batch of countries are expected to be part of a comprehensive SOFF Pacific Programme, which is expected to include additional 7 Pacific islands proposed for the second batch (see document 4.4). Due to their specific geographic characteristics and based on lessons learnt from the past, the Pacific countries have strongly advocated moving rapidly towards sub-regional implementation. Having all the Pacific countries ready for SOFF implementation in parallel is crucial to ensure economies of scale and optimal design of the observing networks. It also allows them to adopt a standardized approach for bulk procurement of equipment and technology.

7.6 Country balance

The 26 countries represent a balanced regional distribution which reflects the distribution of the 76 SOFF beneficiary countries eligible for SOFF investment and compliance phase support. All the countries except one, are classified as Small Island Developing States (SIDS) and Least Developed Countries (LDCs).



**Note: four countries are classified as both SIDS and LDCs, which artificially inflates the share of LDCs in this graph.*