

2 November 2022

# Decision item 3.4: Adoption of first batch of SOFF programming countries

Third Steering Committee meeting

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Systematic Observations  
Financing Facility

**Weather  
and climate  
data for  
resilience**



### Decision item 3.4: Adoption of first batch of SOFF programming countries

The Steering Committee:

- **Adopts first batch of SOFF programming countries** as submitted to the Steering Committee on the 12 October
- **Requests the SOFF Secretariat to:**
  - Develop a Readiness funding request template under guidance and review of the SOFF Steering Committee co-chairs by 21 November 2022
  - Conduct the necessary actions following the process and steps as stated in the SOFF Operational Manual to coordinate the preparation of Readiness funding requests for the 26 first batch programming countries to be submitted by 28 February 2023 to the Steering Committee Members for consideration and decision at the 4th Steering Committee meeting 30 March 2023
  - Work with WMO to capture good practices and lessons learned, including related to sustainability of investments, for WMO to promulgate these and to keep the SOFF Steering Committee updated on progress.
- **Requests the SOFF and CREWS Secretariats** to continue their close collaboration and to mutually share at early stages pipeline country opportunities
- **Takes note** of the recommendations of the Advisory Board on the first batch of SOFF programming countries; and based on these recommendations:
  - **Requests the SOFF Secretariat to** develop a proposal for mapping SOFF opportunities, synergies and funding complementarities in the programming countries, stating its potential resource implications, and submit this proposal for the 4th Steering Committee for its consideration
  - **Encourages SOFF Advisory Board members and Implementing Entities** to reach out to their respective focal points in the first batch of SOFF programming countries to alert about opportunities and synergies between their activities and SOFF

## **Third Steering Committee** **2 November 2022**

### **First batch of SOFF programming countries**

Decision 3.4

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# 1. Programming targets and criteria

## 1.1. Targets and assumptions

On its first meeting the Steering Committee adopted the preliminary SOFF work programme, which articulates how SOFF will deliver the support to beneficiary countries in terms of targets and planned allocation of resources for the SOFF First Implementation Period from July 2022 to June 2025 ([Decision 1.6](#)).

The table below presents a summary of the SOFF work programme 2022-2025 in terms of targets and resource allocation.

Phase	Countries target			Total	Resources USD
	Y1	Y2	Y3		
<b>Readiness phase</b>	15	20	20	55	11 M
<b>Investment phase</b>		15	20	35	140 M
<b>Compliance phase</b>	GBON data internationally shared and results-based finance provided		Up to 150 stations	Up to 150 stations	3 M
	On-demand advisory services			10 countries	1 M
	SOFF impact report <sup>1</sup>			3 reports	0.3 M
<b>Total SOFF support</b>					<b>155 M</b>
Total SOFF support plus administrative costs <sup>2</sup>					173 M
Portfolio allocations buffer					27 M
<b>Total preliminary work programme 2022-2025<sup>3</sup></b>					<b>200 M</b>

This work programme was structured based on the following assumptions (full list of assumptions in decision document 1.6):

- **Capacity to deliver.** The target number of countries and the corresponding allocation of resources for the Readiness and Investment phase assume the adequate capacity of the SOFF peer advisors and Implementing Entities to deliver their support.
- **Speedy delivery of the Readiness phase.** The target number of countries and the corresponding allocation of resources assume that the Readiness phase support is delivered within an average of six months.
- **Allocations for Readiness phase.** The estimated allocations for the Readiness phase are calculated based on an estimated allocation of up to USD 200,000 per country.

<sup>1</sup> Report to assess the impact of observations in the Numerical Weather Prediction models to be prepared by WMO in collaboration with selected Global Producing Centers.

<sup>2</sup> It includes 7% WMO indirect support cost for administratively hosting the SOFF Secretariat; 7% Implementing Entities fee, percentage calculated based on the total allocation expected for the Investment phase; 7% WMO fee for managing the pass-through mechanism and corresponding contracts for the provision of SOFF peer advisory services calculated based on the total allocation expected for the Readiness phase and Compliance phase; 1% Trustee fee - Based on expected contributions required to implement the SOFF work programme.

<sup>3</sup> All sub-totals were rounded up.

- **Allocations for Investment phase:** The allocations calculated for the Investment Phase are based on average global costs and a mix of upper-air and surface-based observations. Actual costs per country will depend on the country-specific funding needs.
- **Allocations for Compliance phase:** Allocations assume up to 150 stations receiving results-based funding in the third year and an average cost of operation and maintenance per station based on experts' opinion, including human and institutional capacity costs. Results-based payments require completion of the Readiness phase.

## 1.2. Programming criteria

The programming criteria presented below were adopted at the first Steering Committee meeting ([Decision 1.4](#)). Based on these criteria, SOFF support requests from beneficiary countries and the information provided by countries, WMO Technical Authority, peer advisors and Implementing Entities (IEs), the SOFF Secretariat prepared the programming proposal for the first batch of countries to prepare SOFF Readiness funding request for Steering Committee's consideration and decision. Section 3.2 presents how the SOFF programming criteria were considered for the preparation of the SOFF first programming proposal.

1. **Close the most significant data gaps:** Emphasis on geographic areas with the poorest observational coverage, where strengthening the observing network would yield the largest results regarding the quality of the numerical weather prediction products
2. **Target "easy fixes":** Countries where through relatively small interventions, stations and related infrastructure could be fixed to start quickly delivering the data into the global system per Global Basic Observing Network (GBON) regulations
3. **Maximize delivery capacity:** Countries where IEs and peer advisors can operate and deliver SOFF support efficiently and effectively
4. **Create leverage:** Opportunities for complementarity of SOFF with larger operations under implementation or preparation by the IEs and other funds, including those represented in the SOFF Advisory Board
5. **Sub-regional gains:** Opportunities to create economies of scale and optimize the design of the observing networks through multi-country/sub-regional implementation
6. **Ensure country balance:** Balanced support among Small Island Developing States (SIDS) and Least Developed Countries (LDCs) and across regions, including Fragile and Conflict-affected States (FCS).

## **2. Programming approach**

Given the call for urgent action and increasing momentum on the UN Early Warnings for All Initiative expected to be announced by the United Nations Secretary-General at COP27, this proposal aims at increasing the level of ambition and accelerate delivery of SOFF support. It is proposed that the third SOFF Steering Committee considers the 26 countries listed in this document.

All countries have submitted a request for SOFF support to the SOFF Secretariat. Additional countries have already submitted an expression of interest and would be included in the pipeline for the following batches. It is therefore proposed that the Steering Committee considers the requests from the remaining 29 countries by October 2023, rather than spread decisions across the three years of the First Implementation Period as stated in the SOFF work programme.

The proposal to consider 26 countries at the third Steering Committee meeting is also based on the availability of SOFF UNMPTF financial resources and the readiness and ability of peers and SOFF Implementing Entities to deliver in these countries.

This programming proposal follows a consultative process as stated in the SOFF Operational Manual. It has been informed by consultations with SOFF partners and beneficiary countries. The first workshop with peers and Implementing Entities took place in Vienna 29 August – 2 September 2022 to explore initial opportunities on potential countries and sub-regions to be included in the first readiness programming to be proposed to the third Steering Committee.

In addition, the proposal reflects the outcomes of consultations with SOFF beneficiary countries, including those taking place at the margins of the WMO Regional Technical Conferences. These meetings include the Latin American WMO Regional Conference in Colombia in July 2022 and the SOFF Pacific Programming workshop on 13 October as part of the WMO Regional Conference South-West Pacific. Additional regional consultations are expected to take place in 2023.

### 3. Programming proposal: First batch

#### 3.1. Proposed countries

The table below presents the 26 countries proposed for the first batch of SOFF programming for consideration and approval of the SOFF third Steering Committee on the 2<sup>nd</sup> of November, 2022

Regions	Sub-regions		
Africa	West Africa	Central and East Africa	Southern Africa
	Burkina Faso, Senegal, Cabo Verde, Liberia <sup>4</sup>	Chad <sup>4</sup> , Ethiopia, United Republic of Tanzania, Democratic Republic of Congo, South Sudan, Rwanda	Madagascar, Malawi, Mozambique
Asia	Bhutan, Maldives <sup>4</sup> , Nepal, Timor-Leste		
Pacific	Fiji, Kiribati, Samoa, Solomon Islands, Tuvalu		
Latin America and the Caribbean	Belize, Grenada, Guyana, Ecuador		

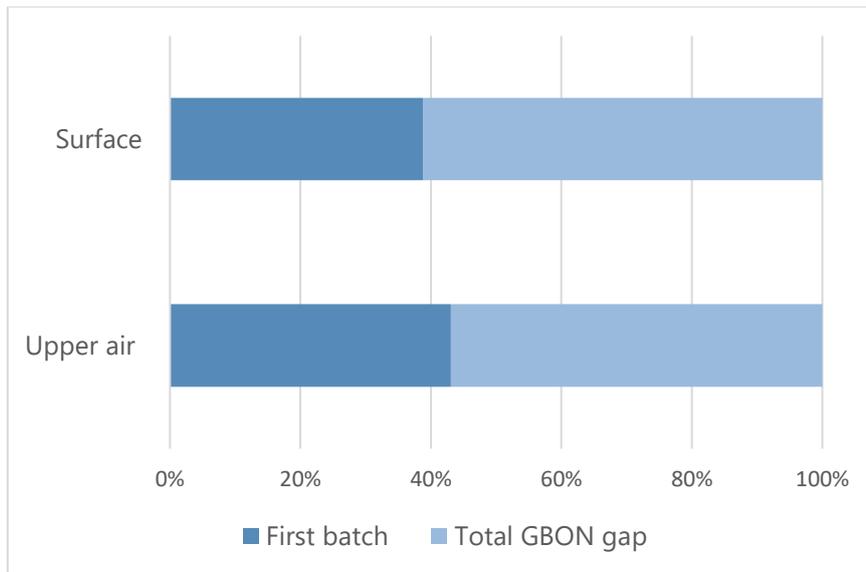
#### 3.2. Considerations on SOFF programming criteria

##### 3.2.1. Close most significant data gaps

The programming proposal is driven by the goal of maximizing the critical input from observations to the Numerical Weather Prediction (NWP) models. Determining what observations have the highest priority and largest impact on NWP is not a simple process. However, there are a set of basic principles to ensure the largest impact in NWP from additional investments in observations. The SOFF Secretariat worked with WMO Technical Authority to assess and explore the most significant opportunities following these principles:

- **General principle:** Highest priority to areas from which few or no observations are currently available, addressing the biggest consistent data gaps. Getting a given country from 0 to 20% GBON compliance is likely to have a higher impact than getting its neighbor from 80% to 100% compliance. According to the WMO Global GBON Gap Analysis 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 proposed, 17 are meeting less than 25% of the GBON-required reporting stations. The proposed 26 countries represent about 40% of the total GBON gap in SIDS and LDCs.

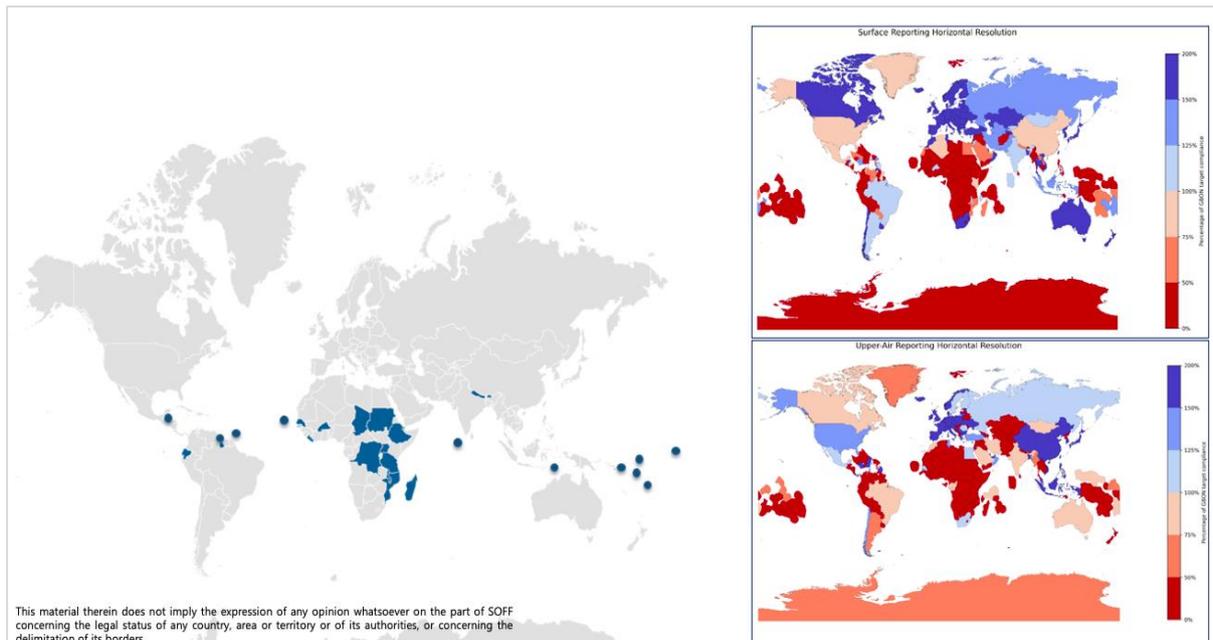
<sup>4</sup> Country Hydromet Diagnostic already conducted.



**Figure 1.** Percentage of GBON upper air and surface stations gap of proposed countries with respect to the total GBON gap in SIDS and LDCs. Source: SOFF Secretariat based on the WMO Global GBON Gap Analysis

- **Upper air observations have a higher NWP impact than surface observations.** In particular, as per the current observing coverage, radiosondes in the Pacific have an over-proportionally high impact among all observations. The proposed countries represent well over 40% of the total GBON upper air gap in SIDS and LDCs and about 50% of the total upper air GBON gap in the Pacific.
- **Surface observations also have applications beyond NWP** and are essential for forecast verification. The surface observations gap in the proposed countries represents close to 40% of the total surface GBON gap in SIDS and LDCs.
- **Opportunities for regionally coordinated action** can have substantial benefits in terms of better NWP products and efficiencies due to regional coordination of network design. The proposed countries also reflect sub-regional clusters where expected collaboration and joint implementation are expected (See 3.2.5).

Based on these principles and the WMO Global GBON Gap Analysis from January 2022, the countries included in this proposal reflect a balanced geographic coverage, with emphasis on the areas with the largest data gaps, in particular for upper air observations; opportunities to rehabilitate or improve existent upper air and surface stations; and high potential for regionally coordinated action to optimize observing network design.



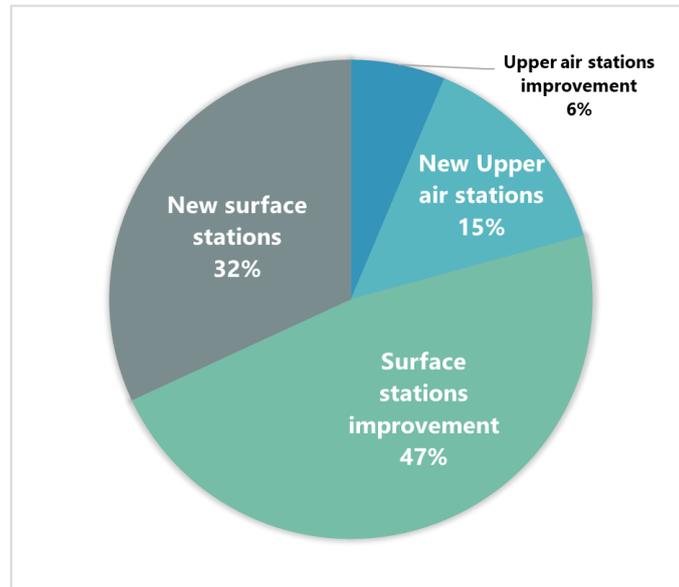
**Figure 2.** Distribution of proposed countries for the first batch of SOFF programming. Closing the most significant gaps while maximizing opportunities for regionally coordinated action. Plots to the right reflect the results of the WMO Global GBON Gap Analysis for surface (top right) and upper air (bottom right) stations. Areas in dark red are far from meeting the GBON requirements. Source: SOFF Secretariat and WMO Global GBON Gap Analysis, January 2022.

### 3.2.2. Target “easy fixes”

A wealth of observation infrastructure is already installed in several countries. However, due to resources and capacity constraints, a lot of this infrastructure is not operated and maintained and currently failing to share the GBON data. SOFF aims to close the largest data gaps through new infrastructure but also by rehabilitating and improving infrastructure previously supported by other partners.

About 53% of the GBON needs in the proposed countries are related to the improvement and rehabilitation of existent stations. In the case of surface stations close to 50% of the stations need rehabilitation. The WMO Global GBON Gap Analysis defines stations to be improved as the number of stations that could a priori be improved to meet the GBON requirements for example by increasing the number of shared observations.

The specific types of improvements needed will depend on each country and the detailed national GBON gap analysis as part of the SOFF Readiness phase, but in many cases, the improvements are related to increase reporting frequency, while in other cases it requires more complex actions such as installation or upgrade of telecommunication equipment; software upgrade to convert data to standard WMO formats; provide consumables (radiosondes, balloons); repair/procure hydrogen generators; staff training; transition from manual to automated stations; and institutional capacity building.



**Figure 3.** Distribution of surface and upper air new and improved stations needed to close the GBON gap in the proposed countries. Estimations based on the WMO Global GBON gap analysis results as of January 2022. The actual number of stations will depend on the countries' detailed national GBON gap analysis and contribution plan. Source: SOFF Secretariat, WMO Global GBON Gap Analysis.

### 3.2.3. Maximize delivery capacity

The proposal is based on the indication of availability and readiness of peer advisors and SOFF Implementing Entities to support beneficiary countries as of April 2023. Together, all eight Implementing Entities are ready to support the proposed first batch of countries.

In the case of the peer advisors, for all regions there is interest from at least three peer advisors to work in the selected regions. There is a high interest from many peer advisors to work in particular in Africa and Asia and a sufficient number of peer advisors to cover the large support requirements in particular for Africa.

### 3.2.4. Create leverage

SOFF programming strives to create leverage by aligning SOFF operations with larger projects/programs by the Implementing Entities and other climate and environment funds. This proposal reflects consultations with Implementing Entities, Green Climate Fund, Adaptation Fund, Global Environment Facility, Climate Investment Funds and CREWS and analysis of their current portfolios and pipeline information on activities of relevance for SOFF. The following dimensions were considered.

- **“Legacy” investments:** Opportunities from ‘low hanging fruits’ e.g. countries where previous investments in observations have been made, but data are still not shared. SOFF is designed to provide specialized long-term technical and financial support for GBON observations that other funds and mechanisms cannot offer. A comprehensive network of Automated Weather Stations has been installed in many countries, in particular in Africa. However, for many of those networks no observations are available at the NMHS, no observations are being internationally exchanged, no standard data

formats are in place, and the telecommunication capabilities are inadequate. The GCF and other partners have been similarly supporting observing networks in SIDS and LDCs with past and ongoing investments, including for example a GCF programme to boost the observational network in five Pacific SIDS, and SOFF support is essential to ensure the long-term sustainability of these efforts.

- **Complementarity:** Ongoing or planned activities of multilateral and bilateral partners that complement SOFF efforts e.g. GBON investments in non-LDC/SIDS countries; strengthening observations beyond GBON regulations; and Investments in other aspects of the meteorological value chain, including downstream activities. For instance, SOFF and CREWS play complementary roles and CREWS investments going forward focuses on the latter parts of the value chain. The proposal aims at ensuring consistency with CREWS portfolio and pipeline.
- **Funding for GBON investments in non-LDC/SIDS countries:** These countries are included in the programming proposal only when there is an indication from a SOFF Implementing Entity of possible investments in the observing network in such countries. The proposal only includes one non-LDC/SIDS country.

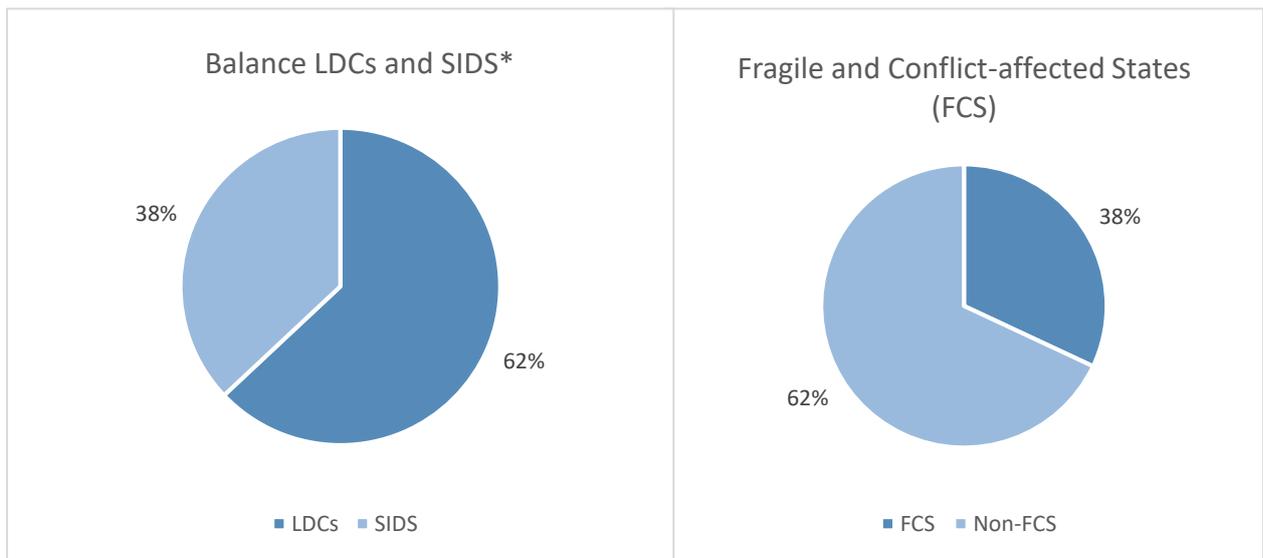
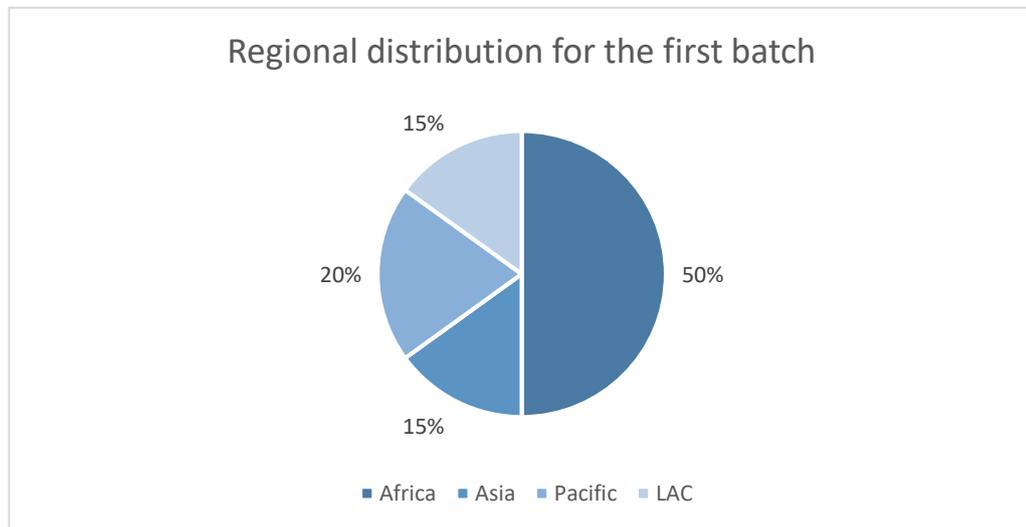
### 3.2.5. Regional and sub-regional gains

While SOFF interventions will be based on country ownership, sub-regional approaches to SOFF programming and implementation provide the opportunity to create economies of scale and optimize the design of the observing networks through multi-country/sub-regional coordination and implementation.

- **GBON sub-regional coordinated implementation:** Investments in observational infrastructure require coordination between neighbouring countries e.g. on the placement of upper air and surface stations to ensure cross-border efficiency. While respecting the national GBON commitment, involvement of entities outside the countries will be promoted when relevant, such as Regional Telecommunication Hubs, Global Information System Centres and Regional WMO Integrated Global Observing Systems (WIGOS) Centres. Regional WIGOS Centres provide support to countries with GBON implementation including supporting GBON site identification, data entry, calibration, training, procurement, IT etc.
- **Regional procurement and operation and maintenance:** Based on the national GBON gap analyses and contribution plans, sub-regional opportunities for unified and standardized procurement and GBON operation and maintenance practices and collaboration will be explored. This facilitates economies of scale, avoid fragmentation and enhance the effectiveness of SOFF investments.
- **Regional fora for learning exchange:** the sub-regional clustering presented in this proposal will also be used to facilitate interaction and consultations among SOFF partners. SOFF learning and evaluation, WMO technical training related to GBON implementation and other consultations will strive to maximize as possible SOFF sub-regional collaboration and coordination based on the sub-regional groups as presented in this proposal.

### 3.2.6. Country balance

The **26 countries** proposed for the first batch include **25 Small Island Developing States (SIDS) and Least Developed Countries (LDCs)**. These countries reflect a balanced regional distribution. **10 of the 26 countries** are classified as Fragile and Conflict-affected States (**FCSs**).



*\*It should be noted that four countries are classified as both SIDS and LDCs, which inflates the share of LDCs in this graph.*

## 4. Looking ahead

The table below provides an overview of the upcoming Steering Committee meetings and the respective programming decisions.

Date	Meeting	Format	Programming decisions
<b>2<sup>nd</sup> November 2022</b>	<b>3<sup>rd</sup> Steering Committee</b>	<b>Virtual</b>	<ul style="list-style-type: none"> <li>• Programming decisions on first batch of countries to prepare readiness funding requests</li> </ul>
<b>30<sup>th</sup> March 2023</b>	<b>4<sup>th</sup> Steering Committee</b>	<b>Virtual</b>	<ul style="list-style-type: none"> <li>• Approval of first batch of readiness funding requests</li> <li>• Programming decision on second batch of countries to prepare readiness funding requests</li> </ul>
<b>20<sup>th</sup> June 2023</b>	<b>5<sup>th</sup> Steering Committee</b>	<b>Physical/ Hybrid</b>	<ul style="list-style-type: none"> <li>• Approval of second batch of readiness funding requests</li> <li>• Programming decisions on third batch of countries to prepare readiness funding requests</li> </ul>
<b>31<sup>st</sup> October 2023</b>	<b>6<sup>th</sup> Steering Committee</b>	<b>Virtual</b>	<ul style="list-style-type: none"> <li>• Approval of first batch of investment funding requests</li> <li>• Approval of third batch of readiness funding requests</li> <li>• Programming decision on fourth batch of countries to prepare readiness funding requests</li> </ul>