SOFF
Systematic Observations Financing Facility

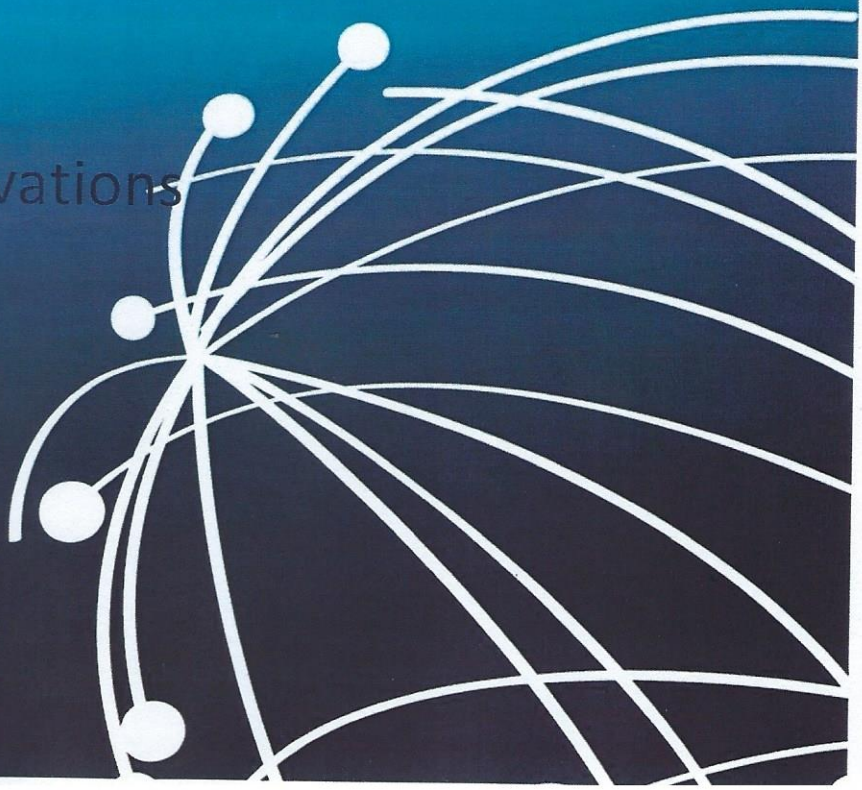
SOFF Readiness Funding Request Template

Version 1.0

17 January 2023

Systematic Observations Financing Facility

Weather and climate data for resilience



SOFF Readiness Funding Request

The SOFF Readiness Funding Request template includes the following sections:

1. **Basic information**
2. **SOFF Programming criteria**
3. **Readiness phase outputs, timeline and budget**
4. **Monitoring**
5. **Readiness Phase Risk Management Framework**

The **Assignment Terms of Reference** are included in **Annex 1**

Basic information

SOFF Beneficiary Country	*Democratic Republic of Congo*
Country Focal Point	*Itela Y'Ilondo Joseph (METTELSAT)* *(meteordcongo@gmail.com)*
Peer advisor	*Federal Office of Meteorology and Climatology MeteoSwiss* *(Switzerland)*
Peer advisor Focal Point	*Fabio Fontana (fabio.fontana@meteoswiss.ch)*
Prospective Implementing Entity	*African Development Bank*
Prospective Implementing Entity Focal Point	*James Kinyangi* *J.KINYANGI@afdb.org*
Total budget USD	*198000*
Delivery timeframe	*December 2023- September 2024*
Date of approval	
Signature SOFF Steering Committee co-chairs (after Steering Committee approval of the funding request)	

1. SOFF Programming criteria

Table 1: Programming criteria

Close the most significant data gaps	DR Congo is the second largest country in Africa by land area (2,344,858 km2). In the early 1960s the Meteorological Service had: ➢ 125 synoptic stations and 700 rainfall stations ➢ 6 Precipitation and wind radars (Lubumbashi, Mbandaka, Kisangani, Bukavu, Bunia, Kinshasa) ➢ 6 Radiosoundings DR Congo has suffered, however, from low investments in the Hydro-Meteorological sector for a long time. This has had serious impacts on its infrastructure. Consequently, today there exist very important gaps in the DRC, and hence over a significant part of the African continent. Current situation: In the entire area of DR Congo there is only a limited number of stations that transmit data to the global distribution system. A total of 15 manual stations are still in operation, but with technical equipment, that no longer meets WMO requirements. Through recent GEF/GFDRR Hydromet and CREWS projects (see below), a total of 40 stations (20 automatic synoptic and 20 manual synoptic) have been rehabilitated or renewed, which could potentially address 56% of GBON requirements (at 200km) as soon as the stations will be able to transmit messages to the WMO Information System (WIS). In addition, 20 precipitation measurement stations and 6 hydrological stations have recently been installed through a modernization. In many areas on the African continent including DRC, there is a limited availability of surface-based observational data, in particular also with respect to the number of regular radiosonde flights, the most important type of surface-based observations. Given the large geographical extent of the DRC on the African continent, the targeted implementation of GBON in the DRC is regarded very important to fill a significant data gap and thus contribute considerably to the achievement of SOFF objectives.
Target easy fixes	In terms of targeting easy fixes, it appears that a phased approach will be meaningful. As a first step, priority should probably be given to the stations rehabilitated and/or renewed as part of the recent WB/GEF/GFDRR and CREWS/WMO interventions (see above). These stations seem to be operational even though data transmission to the global distribution system is not fully established. Accordingly, initial interventions could aim to ensure the transmission of the collected

	data into the global distribution system compliant with the regulations of WMO (WIS 2.0). At the same time, as part of the readiness phase, analyses can be carried out on how the measurement network can be gradually expanded beyond these 40 stations. Also, given the importance of upper air observations for the NWP and the fact that this type of observation is not currently available in the DRC and broader areas of the African continent, it will be very important to explore ways to rehabilitate or renew existing, but dormant, stations as appropriate, e.g. Kinshasa (located in the west of the country), Kananga (located in the centre of the country) or Kisangani (located in northern DRC).
Maximize delivery capacity	MeteoSwiss has not undertaken any activities in the DRC in the past. Therefore, MeteoSwiss does not receive funding from other sources that would complement SOFF funding for peer advisory services in the DRC. However, it is envisaged that the peer advisory envisaged for the DRC will benefit from the SOFF readiness advice provided by MeteoSwiss to other beneficiary countries, and vice versa. Starting December 2023, MeteoSwiss will have the human capacity available to deliver the SOFF peer advisory to DR Congo according the schedule as outlined in Chapter 3 of this request. MeteoSwiss has broad expertise in the areas required by SOFF, and also has a wealth of experience in international development cooperation under the umbrella of the WMO. MeteoSwiss is in contact with the Swiss Embassy in the DRC in Kinshasa to regularly assess the situation in the country and to plan any possible visits to the country. The Swiss embassy has assured MeteoSwiss of its support on the ground, including in terms of any necessary contacts with government institutions or logistics and other areas. The AfDB has a country office in the DR Congo with excellent contacts with the Government and other organizations relevant to facilitating interactions for SOFF work and missions during the readiness and implementation phases.
Create leverage	In 2016/17 the Government of DR Congo and the Worldbank (WB)/Global Environment Facility (GEF)/Global Framework for Disaster Risk Reduction (GFDRR) appraised the "DR Congo – Strengthening Hydro-Meteorological and Early Warning Services" project, comprising the following components: a) Institutional and regulatory strengthening, capacity building and implementation support; b) Modernization of equipment, facilities and infrastructure

	for basic observation and forecasting; c) Improvement of Hydro-Meteorological information service delivery; d) Project Management. This project component has come to an end in January 2023. As part of this project, a number of stations were rehabilitated and/or renewed (see above) and will be a highly valuable starting point for the achievement of SOFF objectives. Climate Risk and Early Warning Systems Initiative (CREWS) resources have been supporting the objectives of the bigger WB/GEF/GFDRR operation seeking to develop capacities among stakeholders involved in the delivery of weather, climate and water-related early warning services. This project will come to an end in June 2023, however, METTELSAT has reached an agreement with CREWS-WMO to support the formulation of a masterplan for the meteorological and hydrological networks. The goal of this masterplan is, among other things, to guide investments in the network, provide an accurate picture of the density of the network, and strengthen the strategic planning process of the institution. It will be absolutely crucial that any activities related to SOFF will build upon the achievements and lessons learnt from these activities in order to avoid duplication of efforts. The AfDB has supported the DR Congo METTELSAT through the Severe Weather Information for Disaster Project (SAWIDRA) both from the ECCAS region, with capacity to improve numerical weather prediction and from the SADC center with an HPC server. AfDB will continue to provide country support and leverage SOFF through upcoming projects under the newly created Climate Action Window.
Sub-regional gains	So far, no regional or sub-regional initiatives to coordinate the planning of monitoring networks are known. In the context of the Peer Advisory, however, it makes sense to seek exchange with other peer advisors and neighboring countries in order to explore possibilities for a regional or sub-regional approach. Apart from network planning aspects, contacts are indeed taking place between METTELSAT and regional actors, in particular under the WMO umbrella with EAMAC (WMO-RTC in Niamey, Republic of Niger), RTH-Brazzaville (Republic of Congo) and RWC Casablanca. Further regional collaborations include: ACMAD: supports METTELSAT in building human capacity in the field of climatology SADC: METTELSAT is supported by SADC in the acquisition of equipment and other materials Furthermore, the replication of possible regional approaches pursued in the context of recent interventions (especially CREWS) could be

	considered in the context of SOFF. The AFDB will continue to provide linkages through regional hydromet projects with ECCAS and SADC
Ensure country balance	According to the DAC List of ODA Recipients, the Democratic Republic of Congo is categorized as a Least Developed Country.

2. Readiness phase outputs, timeline and budget

The Terms of Reference for the development of the SOFF Readiness phase outputs (see Annex I) provide more detailed information. They also summarize the roles and responsibilities, as stated in the SOFF Operational Manual, of the beneficiary country, the peer advisor, the prospective Implementing Entity and WMO Technical Authority for the delivery of the Readiness phase outputs.

The budget for the development of the SOFF Readiness phase outputs by the SOFF peer advisor shall be a lump-sum, fixed cost amount. It shall be calculated using a cost-recovery approach based on the peer advisors' standard cost recovery rates.

Table 2: outputs, timeline and budget

Outputs	Timeline									
	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10
National GBON Gap Analysis										
GBON National Contribution Plan										
Country Hydromet Diagnostic										
Total budget USD[1]	198000									

[1] Eligible expenditures are limited to: Staff and consultants; Consultations, national technical workshops, and communications; Travel and transportation costs; Other incidental expenditures.

4. Monitoring

The beneficiary country and peer advisor shall notify the SOFF Secretariat on any delays that may impede the timely delivery of the Readiness phase outputs. If the assignment takes more than six months, the SOFF peer advisor shall submit semi-annual progress reports to the SOFF Secretariat (form to be provided by the SOFF Secretariat) stating the delivery status of the outputs.

The Readiness phase completion will be monitored by the peer advisor and the SOFF Secretariat using the following country-level Results Framework for the Readiness phase.

Table 3: Result framework

Outputs	Indicator	Target
1. GBON National Gap Analysis	GBON gap established and reviewed (Y/N)	GBON gap analysed and reviewed by WMO Technical Authority
2. GBON National Contribution Plan	GBON national contribution plan developed (Y/N)	GBON national contribution plan developed and reviewed by WMO Technical Authority
	GBON National Contribution Plan includes gender considerations (Y/N)	GBON National Contribution Plan includes gender considerations
3. Country Hydromet Diagnostic (on demand)	Country Hydromet Diagnostic developed (Y/N)	Country Hydromet Diagnostic developed

3. Evaluation

An evaluation from both, the beneficiary country and the prospective Implementing Entity on the quality of support received by the peer advisor will be conducted at the end of the Readiness phase and the peer advisor's assignment (form to be provided upon completion of the Readiness phase by the SOFF Secretariat).

4. Readiness Phase Risk Management Framework

Table 3: Risk Management Framework No further input from the AfDB, we concur with the risk matrix

Risk category	Description	Probability	Mitigation action
Contextual risks Risks related to conflicts, safety and political insecurity jeopardizing the delivery of the Readiness phase outputs	Certain geographical areas in DRC cannot be visited due to political instability. This may make it impossible for the peer advisor to conduct analyses in these regions or to obtain information about SOFF-relevant aspects in these regions. It is also possible that political instabilities in connection with the elections at the end of 2023 could extend into the period of the peer advisory, which could affect the delivery of requested outputs.	Political instability in certain regions that adversely affect the peer advice: high probability of occurrence Political instability in certain regions that negatively influence an analysis: medium probability of occurrence	A close exchange between METTELSAT, MeteoSwiss and the AFDB shall ensure that the situation in the country can be taken into account in the planning of the Advisory. Close interaction with the Swiss Embassy in Kinshasa will provide additional insight into the situation in the country.
Institutional risks Risks related to the beneficiary country's institutions participation in the Readiness phase activities	A possible risk is that other tasks will require a level of resources from the METTELSAT SOFF team that will adversely affect the implementation of the SOFF readiness phase.	Low probability of occurrence	The high-level commitment already expressed by the METTELSAT Director General is an important basis for the future collaboration. Contact persons have been identified on

			both sides. Communication channels have been well established in elaborating the readiness funding request. Maintain frequent interaction between peer advisor and beneficiary country focal point. Proactively include METTELSAT focal points in planning of activities.
Programmatic risks Risks related to country ownership of the Readiness phase outputs	METTELSAT has in the past had difficulty in obtaining the financial resources from the government necessary for the operation of measuring networks and associated tasks. Even though SOFF will potentially implement alternative business models, a high degree of ownership on the part of the DRC government will be necessary to successfully transfer the findings from the readiness phase to the subsequent phases.	Medium to high probability of occurrence	Identifying key stakeholders during the SOFF readiness phase, including within government, can help mitigate this risk. Previous interventions (e.g. CREWS-WMO) were confronted with the same challenge, which is why detailed knowledge and consideration of the findings from these projects will be central. In addition, advocacy by the implementing agency will play an important role in meeting this challenge.

	The risk is that METTELSAT will not be provided with the necessary resources.		

Annex 1. Assignment Terms of Reference for the development of the SOFF Readiness phase outputs

1. Purpose and scope

The purpose of this Assignment is to provide SOFF peer advisory services by Switzerland, through its Federal Office of Meteorology and Climatology MeteoSwiss to the Democratic Republic of Congo (METTELSAT being the national meteorological service) to develop the outputs of the SOFF Readiness phase as described in section 3 of these Terms of Reference.

The provisions defined in the Terms of Reference are based on the SOFF Operational Manual, in particular Section 4.4 on Operational Partners and Section 4.5.1 on the Readiness phase.

2. Roles and responsibilities

Beneficiary country National Meteorological and Hydrological Service (METTELSAT)

- Is responsible for implementing the activities of the Readiness phase with the support from the peer advisor and the prospective Implementing Entity.
- Prepares the Assignment Terms of Reference following the standard Terms of Reference provided by the SOFF Secretariat, in collaboration with the peer advisor and in coordination with the prospective Implementing Entity.
- Submits the funding request for the SOFF Readiness phase support using the standardized template provided by the SOFF Secretariat.
- Is responsible for collaborating with the peer advisor to provide all the necessary information and participate in and facilitate the national activities the peer advisor needs to conduct in order to develop the Readiness phase outputs.
- Confirms receipt of the peer advisors' report with the Readiness phase outputs and provides comments on the outputs as needed.

Peer advisor (MeteoSwiss)

- MeteoSwiss is responsible for the diligent execution of the peer advisory service and for Readiness Phase outputs in accordance with WMO specifications.
- In dialogue with the beneficiary country, provides independent technical advice, analysis and recommendations to support the beneficiary country in implementing the activities of the Readiness phase.
- Develops the Readiness phase outputs and is responsible for their quality and timely delivery. Communicates regularly with the beneficiary country and the Implementing Entity.
- Engages with the civil society, including on the identification of stakeholders of relevance for GBON implementation.

- Submits the final report with the Readiness phase outputs to the country for comments and to the prospective Implementing Entity for feedback.
- Submits the final report including the beneficiary country's comments and the prospective Implementing Entity's feedback to the SOFF Secretariat.
- Notifies the SOFF Secretariat and the prospective Implementing Entity of any delays that may impede the timely delivery of the outputs, and for assignments for which the delivery takes more than six months submits a semi-annual progress report.

Implementing Entity (AFDB)

- Participates in the Readiness phase activities and collaborates with the beneficiary country and the peer advisor to ensure a common understanding of the Readiness phase outputs and that they address the technical needs for the design and implementation of the Investment phase.
- Contributes to the definition of the Terms of Reference and provides feedback on the outputs delivered by the peer advisor.
- Based on its experience in the beneficiary country, supports the work of the peer advisor, e.g. by sharing its knowledge and facilitating access to the network of relevant stakeholders.

WMO Technical Authority

- Provides basic technical support to the beneficiary country, peer advisor, and prospective Implementing Entity on GBON regulations.
- Is responsible for the technical screening of the draft GBON National Gap Analysis and the draft GBON National Contribution Plan against the GBON regulations.
- Is responsible for establishing and administering the pass-through mechanism for contracting and funding of the technical assistance provided by the peer advisors.

SOFF Secretariat

- Facilitates communication, coordination and collaboration between the beneficiary country, the peer advisor, the prospective Implementing Entity and WMO Technical Authority.
- Reviews the Readiness funding request, including the Terms of Reference, for compliance and consistency with the information requirements in the template and provides feedback as needed. Transmits the funding request to the SOFF Steering Committee for its decision.
- Confirms receipt of the peer advisors' report with the Readiness phase outputs.
- Organizes exchange of knowledge and experiences and captures lessons learned.

3. Readiness phase outputs

The peer advisor should perform the following tasks following the technical guidance and using the templates provided in the operational guidance documents for each one of the

outputs. A summary of the key steps and modules to be conducted for each output is presented below.

3.1 GBON National Gap Analysis

The GBON National Gap Analysis defines the gap between the mandatory requirements of the GBON regulations and the existing country surface and upper-air networks. In other words, it serves as the basis for identifying the number of observing stations that need to be installed or rehabilitated to comply with the mandatory requirements of the GBON regulations.

To develop the GBON National Gap Analysis, the following steps should be followed

- **Step 1** – Country information from the GBON Global Gap Analysis
- **Step 2** – Analysis of existing GBON stations and their status against GBON requirements
- **Step 3** – GBON Gap Analysis results
- **Step 4** – Country endorsement for integration of the GBON National Gap Analysis into the GBON National Contribution Plan

3.2 GBON National Contribution Plan

The GBON National Contribution Plan identifies the infrastructure, human and institutional capacity needed to achieve a progressive target toward GBON compliance, including the sustained operation and maintenance of the national GBON observing network.

To develop the GBON National Contribution Plan, the following modules should be completed

- **Module 1. National target toward GBON compliance:** Establishment of a progressive national target toward GBON compliance
- **Module 2. GBON business model and institutional development**: public-private business model as appropriate; partnerships, institutional and financial arrangements needed to operate and maintain the observing network
- **Module 3. GBON infrastructure development**: Appropriate investments needed to increase or improve the observing network and its Information and Communication Technology (ICT) infrastructure
- **Module 4. GBON human capacity development**: Human technical and managerial capacities required to operate and maintain the observing network
- **Module 5. Risk Management:** Operational risks of the observing network and required mitigation measures
- **Module 6. Transition to SOFF Investment phase:** Support the beneficiary country and the Implementing Entity in preparing the Investment phase funding request (template provided by the SOFF Secretariat).

3.3 Country Hydromet Diagnostics

The Country Hydromet Diagnostic (CHD) complements the GBON National Gap Analysis and the GBON National Contribution Plan. It is a standardized, integrated and operational tool and approach for diagnosing National Meteorological Services across the meteorological value chain, their operating environment, and their contribution to high-quality weather, climate, hydrological and environmental information services and warnings. Its assessment serves as a basis for investments beyond SOFF, across the whole value chain, by the SOFF Implementing Entity and other development partners.

The peer advisor should **assess the 10 CHD elements** with its respective indicators following the matrix provided in the CHD guidance document.

- Governance and institutional setting
- Effective partnerships to improve service delivery
- Observational infrastructure
- Data and product management and sharing policies
- Numerical model and forecasting tool application
- Warning and advisory services
- Contribution to climate services
- Contribution to hydrological services
- Product dissemination and outreach
- Use and national value of products and services

To develop the Country Hydromet Diagnostic, the following **steps** should be completed.

- Stage 1 – Information gathering. As input, the WMO Monitoring Evaluation Risk and Performance unit will provide available country data structured along the CHD elements and their indicators (performed remotely)
- Stage 2 – Validation and analysis (performed in-country if feasible)
- Stage 3 – Closure

4. Delivery process

The peer advisor in collaboration with the beneficiary country and in coordination with the prospective Implementing Entity should establish the specific activities and consultations needed to complete the outputs. The development of the outputs should include the following:

- Collaboration arrangements between the beneficiary country and the peer advisor, including at least one country visit, unless the country context does not allow it: METTELSAT and MeteoSwiss agree to organise a regular virtual exchange via video conference. The frequency of this exchange depends on the progress of the work and the availability of the respective contact persons. At a minimum, however, a short exchange should take place once every two weeks. It is further envisaged that MeteoSwiss will visit the country at least once during the peer advisory period in order to get an on-site picture of SOFF-relevant aspects. Depending on the situation in the country, there may be restrictions on which areas outside the capital can be visited. The feasibility of a trip to the country in general, and specific regions in particular, depends solely on the

assessment of the Swiss Embassy in Kinshasa, the travel recommendations of the Department of Foreign Affairs and the approval of MeteoSwiss management.

- Coordination arrangements with the prospective Implementing Entity: It is envisaged that a representative of the Implementing Entity will participate in regular virtual exchanges between METTELSAT and MeteoSwiss as required and appropriate to discuss the progress of the work. In the event of a possible country visit, the Implementing Entity ensures that a contact person is available on site to accompany the field mission from the Implementing Entity's point of view.
- In-person or virtual consultation meetings with relevant national and international stakeholders and partners: As part of the initial work in the SOFF Readiness phase and taking into account the findings from recent projects (CREWS-WMO, WB/GEF/GFDRR), a list of relevant national and international stakeholders will be jointly identified, which are relevant for the implementation of SOFF. At an appropriate time and in coordination between METTELSAT, the Implementing Entity and MeteoSwiss, a suitable format for consultation with the identified institutions will be defined. Should a trip to the country be undertaken, this exchange may well take place in person, otherwise a virtual format will be used more appropriately.
- Delivery partners that support the peer advisor in the delivery of the outputs, as applicable: It is at this point not foreseen that MeteoSwiss will hire consultancy support for the implementation of readiness phase support. MeteoSwiss is in contact with the Swiss Embassy in the DRC in Kinshasa to regularly assess the situation in the country and to plan any possible visits to the country. The Swiss embassy has assured MeteoSwiss of its support on the ground, including in terms of any necessary contacts with government institutions or logistics and other areas. In addition, based on the preliminary findings so far, close interaction will be needed with teams at WB and WMO-CREWS that have been involved in the "DR Congo – Strengthening Hydro-Meteorological and Early Warning Services project" so as to ensure full exploitation of synergies with this recent initiative. Also, interaction with WMO regional structures (RA I office, RTH) will be imperative. The AfDB will be available to support the planning and execution of in country missions and when possible, can join the missions.
- Peer advisor delivery team and focal point: Federal Office of Meteorology and Climatology MeteoSwiss. Focal point: Fabio Fontana
- Timeline for the development of the outputs: December 2023 to September 2024.

5. Reporting and completion

Reporting. For assignments for which the delivery of advisory services takes more than six months, the SOFF peer advisor shall submit a semi-annual progress report to the SOFF Secretariat (form to be provided by the SOFF Secretariat).

Completion

- **Step 1.** The peer advisor submits the draft GBON National Gap Analysis and the GBON National Contribution Plan reports to WMO Technical Authority and, as applicable, the draft Country Hydromet Diagnostics to the Monitoring Evaluation Risk and Performance unit of the WMO Secretariat. The draft reports have to follow the templates provided in the SOFF operational guidance documents.
- **Step 2.** WMO Technical Authority screens the draft GBON National Gap Analysis and the draft GBON National Contribution Plan to ensure consistency with the GBON regulations. The WMO Monitoring Evaluation Risk and Performance unit screens the draft Country Hydromet Diagnostics and provides feedback for revisions as needed.
- **Step 3.** The peer advisor submits the report with the Readiness phase outputs for beneficiary country and prospective Implementing Entity feedback.
- **Step 4.** The peer advisor finalizes the report for confirmation of receipt by the beneficiary country and, as needed, beneficiary country comments. Following beneficiary country receipt of the report, the peer advisor submits the report, including beneficiary country's comments and the prospective Implementing Entity's feedback, to the SOFF Secretariat.
- **Step 5.** The SOFF Secretariat confirms the satisfactory receipt of the report and informs the country and the prospective Implementing Entity accordingly. The SOFF Secretariat authorizes WMO to proceed with the release of the final payment, and informs the SOFF Steering Committee of the completion of the SOFF readiness phase.

6. Signatures

By signing this document, the beneficiary country, peer advisor and the prospective Implementing Entity agree with the provisions stated in this Terms of Reference.

Beneficiary country	22/02/2023
Peer advisor	
Prospective Implementing Entity	22/02/2023

6. Signatures

By signing this document, the beneficiary country, peer advisor and the prospective Implementing Entity agree with the provisions stated in this Terms of Reference.

Beneficiary country
Peer advisor 22.2.2023
Prospective Implementing Entity