

SOFF Readiness Funding Request Template

Version 1.0

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.



1. Basic information

SOFF Beneficiary Country	Chad
Country Focal Point	Sakine Youssouf Batchomi (sakine_youssouf@yahoo.fr)
	Director General ANAM, Agence Nationale de la Météorologie
Peer advisor	Geosphere Austria, Vienna
Peer advisor Focal Point	Giora Gersthein (Giora.Gershtein@geosphere.at)
Prospective Implementing Entity	World Food Program
Prospective Implementing Entity Focal Point	Jesse Mason (Jesse.mason@WFP.org)
Total budget USD	188415
Delivery timeframe	6 months – April to September 2023
Date of approval	30 th March 2023
Signature SOFF Steering Com funding request)	mittee co-chairs (after Steering Committee approval of the



2. SOFF Programming criteria

Table 1: Programming criteria

Close the most significant The GBON gap analysis performed by the WMO Expert Team of the Commission for Observation, Infrastructure, and Information Systems (INFCOM) for Chad is presented in Table 1.

data gaps

Table 1: GBON gap assessment for Chad							
		WMO Memb	er: Chac	k			
		Area : 1.284.	000 km²	2			
Baseline: 1	13 station	s surface-bas	sed and	2 upper air sta	ations		
Station Type	Target Reporting Gap # stations # of New						
		to upgrade Stations required					
GBON Terrestrial stations (Standard Density)	33	2	31	11	20		
GBON terrestrial stations (High density)	129	2	127	11	116		
GBON upper air stations	6	0	6	2	4		

This gap assessment shall be considered as well under the light of the automatic weather stations currently being installed by UNDP through the National Adaptation Plan (NAP) Project (see Create Leverage section). This project envisages an installation of up to 70 stations by the end of 2023, when the project ends. As of Jan 2023, 42 stations have been installed and are operational with data available on ANAM server managed by the "Direction des reseaux observation et de prévisions météorologique". 6 stations out of the 70 stations are received by NAP from the "Projet Gestion Communautaire de Risques Climatiques au Tchad" (PGCRCT project, UNDP). While a large number of stations is deployed, maintenance staff is too limited to ensure proper functioning of the sites.

Depending on the location of the remaining expected stations from the UNDP project, the GBON target of 33 terrestrial stations may be achieved. However, NAP currently concentrates in the Sahelian and Sudanian regions of Chad while no stations are deployed in the north, leading to a limited geographical coverage and not fulfilling either the standard density or the high density GBON criteria.

Among the 70 envisaged stations, 19 are synoptic stations, 9 of which have already been replaced and upgraded with the NAP project stations and are operational. The remaining 10 are still to be operationalised.

While the number of stations shall increase in the future, the long- or even shortterm operability is not ensured. Namely there is limited maintenance capacity (available technicians, vehicles for maintenance missions, spare parts) and also



limited coverage of the telecommunication costs and infrastructure. Currently, ANAM budget is essentially of salary nature with limited O&M (Operation and Maintenance). In addition, there are only 5 technicians of which 3 are dedicated to maintenance of equipment for all Chad. Maintenance of NAP stations is covered by UNDP until the end of the project at the end of 2023.

As it is clear from the GBON analysis, Chad lacks upper air station capacity entirely with two former locations in Ndjamena and Sarh Airports that are currently not operating.

While additional station deployment is in the process, there are still gaps to cover Target to reach fulfillment of the GBON requirements. Based on the existing initiatives easy fixes in the country, the possibility and opportunity for rehabilitation and improvement of potential GBON stations in Chad already exists for the envisaged and/or existing synoptic stations. While some of the synoptic stations are already transmitting to the ANAM servers on a 15-minute basis and will be able to transmit on WIS through Casablanca through the CREWS-TCHAD project, not all of the stations will obtain this capacity. Within the SOFF umbrella, and through the agreement with the Implementing Entity, an effort to upgrade and truly operationalize a number of synoptic stations to transmit to WIS through the ANAM server could be undertaken. This would require additional funding to ensure long-term sustained operability in terms of personnel, maintenance, training, telecommunications and station infrastructure. Throughout the readiness phase this upgrading will be investigated to identify stations and specific upgrading and sustainability actions.

> Under SOFF umbrella and upon discussion and agreement with the Implementing Entity, the possibility to gradually reach the target of standard density terrestrial GBON stations could be further explored with clear focus on long-term sustainability and time and spatial coverage of the national domain. Additional stations from the NAP project could be both enhanced through the SOFF initiative as well as ensured sustainable operations. The selection of stations, both number and location, could be performed during a mission of the Peer Advisor team to Chad in collaboration with ANAM, WFP and UNDP.

> In terms of upper air sites, there used to be two locations, Ndjamena and Sarh Airports. Bringing them back to operation could be considered easy fixes through collaboration with <u>ASECNA</u> (Agence pour la Sécurité de la Navigation Aérienne en Afrique et Madagascar) managing international airports in Chad. In a follow up step, additional sites could be selected to fulfill the GBON requirements, specifically in the Northern part of Chad (Faya Largeau), Northeastern region and near North Sudan border (Amdjarass, where a new international airport has been inaugurated).

Sustainability and long-term operability are crucial in all the activities. All station enhancement and deployment, both currently done by UNDP or enhanced through the SOFF umbrella, could then be accompanied, and considered as



	target easy fixes, by specific training activities for calibration, operation and data management as well as maintenance.
Maximize delivery capacity	Geosphere Austria, formerly known as the Austrian Meteorological and Geodynamics service, has performed the Hydromet Diagnosis in Kazakhstan, North Macedonia, and Albania, and has deployed EWS in Myanmar while having a long tradition of cooperation within the international domain. The WFP is a well-established global organization that has full capacity to, in line with its strategic goals and priority lines, provide the required support and engagement with the SOFF activities in all its phases. Both Geosphere Austria and WFP can therefore act as SOFF peer advisor and Implementing Entity with the right capacity to deliver SOFF support efficiently and effectively in Tchad. The Peer Advisor is receiving no additional funds from other source to perform the activities and has no running or former projects in the country.
Create leverage	As mentioned above the NAP Project provides a tremendous opportunity to close the gaps in GBON type stations in Chad. Collaboration with the UNDP, World Bank, ASECNA and WMO (for CREWS-TCHAD project) would facilitate a quick response to GBON implementation needs. This collaboration will be explored during the planned missions of the Peer Advisor and Implementing Entity Team to Chad as well as with bilateral discussions as required. The following are current and planned projects in Chad which offer opportunities for collaboration: • Chad National Adaptation Plan Advancement Project (NAP). The Objective is to "integrate climate change adaptation into medium- and long-term planning and budgeting of climate sensitive sectors to support the nation in achieving its Nationally Determined Contribution to the Paris Agreement as
	 well as global goals for low-carbon climate-resilient development". To that end, the project has acquired automatic weather and hydrologic water gauging stations and provided training to ANAM and water resource directorate personnel for their maintenance. Negotiation with UNDP is required to ensure the remaining NAP weather stations are installed at the location of the remaining synoptic weather stations. Other NAP stations could be selected and agreed on to be part of the GBON, thus meeting the Target of 33 stations. SOFF may help ensure the maintenance and telecommunication costs at the end of the NAP Project (Dec 2023) to provide a sustainability support. <u>CREWS-TCHAD</u> is strengthening ANAM's for Multi-Hazard Early Warning services and, in that context, is collaborating with ANAM and UNDP for the transmission of observing data from NAP Project stations into WIS through GISC. A team of experts from WMO (Secretariat) and GISC Casablanca has recently wirited ANAM (and of lap 2022) to identify insues to collaboration and the project of the project for the project of the project of the project of the project has a station of the project for the project for
	recently visited ANAM (end of Jan 2023) to identify issues to solve in order to feed WIS. A dialogue will be established to identify capitalisation areas for other potentially operationalised stations.





	 of Chad if upper air soundings stations exist in Western and Northwestern regions of Sudan. Upper air sites in Ndjamena and Sarh would serve Northern Nigeria and Cameroon. CREWS-Central Africa will facilitate data exchange in central Africa through WIS and training of personnel as well as help improve prediction of severe weather.
Ensure country balance	Chad is a Least Developed Country (LDC)

3. 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 <u>SOFF Operational Manual</u>, 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.

	Timeline					
Outputs	Month 1 -Apr 23	Month 2	Month 3	Month 4	Month 5	Month 6 ¹ - Sep 23
National GBON Gap Analysis						
GBON National Contribution Plan						
Country Hydromet Diagnostic (on demand) – update existing one						
Total budget USD ²			188	415		

Table 2: outputs, timeline and budget

¹ It is expected that the assignment is completed within six months. If more time is required for exceptional circumstances, please add additional months to the table.

² 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	GBON national contribution plan developed (Y/N)	GBON national contribution plan developed and reviewed by WMO Technical Authority
Contribution Plan	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

5. 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).



6. Readiness Phase Risk Management Framework

Table 3: Risk Management Framework

Risk category	Description	Probability	Mitigation action
Contextual risks Risks related to conflicts, safety and political insecurity jeopardizing the	Chad is surrounded by regions in conflict that may potentially affect the accessibility to the country.	Low	While conflict or political developments cannot be mitigated per se or even predicted, the approach will be to have periodic (monthly interaction – via email and if possible, via videoconference) to ensure as much as up- to-date information and exchange. In case of limited on-site access, email and videoconference will then be method of choice and strong support by the implementing entity, who has more regional access, will be required.
delivery of the Readiness phase outputs	Weather or natural hazardous situations, there is a risk of not having the possibility of performing the face- to-face visits by the peer.	Low	Periodic (monthly interaction or higher frequency depending on needs – via email and if possible via videoconference) to ensure as much as up- to-date information and exchange. In case of limited on-site access, email and videoconference will then be method of choice and strong support by the implementing entity, who has more regional access, will be required.



Institutional risks Risks related to the beneficiary country's institutions participation in the Readiness phase activities	The engagement with ANAM, facilitated by the consultant Abdoulaye Harou has been as required. However, there is still a risk that the engagement with the ANAM staff and stakeholders is more complex or takes longer than anticipated leading to a limited understanding or accessibility of information to the peer.	Medium	Mitigation will be here in the form of seeking high level support by the SOFF secretariat to act as facilitators to ease and trigger engagement. Close interaction with the SOFF secretariat and the PR of the beneficiary country, as well as always liaised with the Implementing Entity will facilitate engagement at the require levels.
	Delays or complexities with discussions at ministerial levels (if and when required) while designing the contribution plan, leading to delays or complexities due to other interests or priorities at political level.	Medium	Close interaction with the SOFF secretariat and the PR of the beneficiary country, as well as always liaised with the Implementing Entity will facilitate that the funding is used with the right purposes. In the National Contribution plan an accountability plan is to be developed to this aim.



	Limited personnel resources and national capacity to perform the activities or high turn-over.	High	Lack of personnel or capacitated staff can only be addressed by providing as much support as possible and provide written material as possible to facilitate handovers or warm start of new staff.
Programmatic risks Risks related to country ownership of the Readiness phase outputs	The main risk is that the activities continuously rely on external expertise and engagement therefore weakening the national governance and not strengthening the national capacity.	Medium	The main mitigation strategy is to always bring the component of sustainability in any of the activities and planning. Having a national focus on sustainability (both technical, governance and staff) is key for national ownership.



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 Geosphere Austria to ANAM 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 <u>SOFF Operational Manual</u>, 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

- 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

- Is accountable to the beneficiary country.
- 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

- 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 <u>operational guidance documents</u> 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. It is expected to have two two-week (the logistical infrastructure of the country requires to have buffer days for travelling and meeting organisation) visits to:
 - Perform the GBON gap analysis.
 - Perform the interview/exploratory activities to gather the information for the CHD. This will include interaction with the PR and staff members, potential visists to station locations and exchange with stakeholders.
 - Perform a review and agreement of the CHD final version. Please note that a former CHD exists and will be updated/revisited with the activities hereby performed.
 - Have face-to-face discussions and exchange with all the relevant national/international key players for the preparation of the National Contribution Plan.



- Coordination arrangements with the prospective Implementing Entity. This activity envisages:
 - 1 Initial Kick-off meeting with the implementing entity, peer advisor and beneficiary country.
 - o 2 workshops, if possible, face to face during the aforementioned visits.
 - 1 Agreement meeting (virtual) to finalise and formally agree on the National Contribution Plan.
- In-person or virtual consultation meetings with relevant national and international stakeholders and partners.
 - Within the on-site visits, a set of face-to-face discussions with national stakeholders will take place. This aims at exploring both sustainability and usability of data and products to facilitate considerations of the complete value chain in all the SOFF activities.
 - A virtual workshop is expected at the end of the 6-month period together with both ANAM, implementing entity and stakeholder, national and representatives of major international organisations (as possible)
- Delivery partners that support the peer advisor in the delivery of the outputs, as applicable. The performance of the SOFF activities will include the liaison and support of the consultant Abdoulaye Harou, who is the responsible of the first CHD assessment in the region and who, through his background knowledge will act as facilitator, reviewer and general support in the on-site and off-site activities.
- Peer advisor delivery team and focal point. The activities include the following team members:
 - Giora Gershtein Focal Point
 - Delia Arnold SOFF support
 - On-demand technical expertise based on the initial assessment. The profile will focus on observational aspects including maintenance and data provision.
- Timeline for the development of the outputs. The outline follows that of the financial proposal:
 - o Initial visit first half of June
 - Finalisation of the GBON Gap Analysis 30 June 2023
 - Finalisation of the CHD 30 June 2023
 - Second visit first half of August 2023
 - Finalisation of the National Contribution Plan 30 September



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	
<).	SAKINE YOUSSIUF BATCHOMI
Peer advisor	
Gr	
	Andreas Schoffhauser
Robert Supper	Andreas Schaffhauser
	Directorate General GeoSphere Austria
Prospective Implementi	ng Entity
Jesse Mas	Senior Technical Lead ,Climate Change & DRR Unit, The World Food Programme