



**Fourteenth Steering Committee**  
**27-29 May 2026**

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**Updated SOFF Results**  
**Framework for the Extended First**  
**Implementation Period 2022-2027**

Decision 14.6

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Systematic Observations  
Financing Facility

**Weather  
and climate  
data for  
resilience**



## Decision 14.6: Updated SOFF Results Framework for the Extended First Implementation Period 2022-2027

### Acknowledges:

- that the SOFF Results Framework is anchored in the [SOFF Theory of Change](#) and strengthens the operational level clarity and measurability of results for the three SOFF phases (Readiness, Investment, and Compliance)
- the need to update targets under the SOFF Results Framework to reflect the extension of the First Implementation Period to 2022–2027, in line with [Decision 11.3](#).

**Notes** the inputs received from Steering Committee members on the draft Updated Results Framework ([INF 13.4](#)).

**Welcomes** the revised targets and the introduction of Annex I that further clarifies outcomes, outputs and indicators as set out in the Result Framework

**Decides** to adopt the updated SOFF Results Framework for the Extended First Implementation Period (2022-2027).

### **Purpose of this Document**

This document outlines the purpose of the SOFF Results Framework, further clarifies the definition of outcomes and indicators, and presents the updated targets for the Extended First Implementation Period (2022–2027).

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# Updated SOFF Results Framework for the Extended First Implementation Period 2022-2027

## 1. Background

The purpose of the SOFF Results Framework is to provide a basis for results-based management, accountability, and strategic oversight of SOFF implementation. Grounded in the [SOFF Theory of Change](#) and [Terms of Reference](#), it translates SOFF's objectives into measurable results, linking support across the Readiness, Investment and Compliance phases to sustained compliance with the Global Basic Observing Network (GBON) and improved weather and climate prediction products.

The SOFF Terms of Reference defined the high-level results architecture, including its objective, outcomes, and compliance-based financing approach, which provided the overarching framework for SOFF implementation over its initial 10-year horizon. The Results Framework operationalizes this by establishing indicators, baselines and targets to track implementation progress, reflecting SOFF's core results chain from GBON gap identification to sustained data exchange.

The SOFF Steering Committee first adopted the SOFF Results Framework for the Readiness phase at its third meeting in November 2022 ([Decision 3.2](#)), and subsequently updated it at its sixth meeting on 27 November 2023 ([Decision 6.7](#)) to cover all implementation phases for the First Implementation Period (July 2022 – June 2025).

An updated version of the Results Framework with revised targets for the extended First Implementation Period until June 2027 was presented for consultation at the thirteenth Steering Committee meeting ([INF 13.4](#)). The present version, submitted for consideration at the fourteenth Steering Committee meeting, reflects the inputs received.

## 2. Rationale for the update and revised elements

The targets set under the SOFF Results Framework adopted under [Decision 6.7](#) were designed to cover the First Implementation Period ending in June 2025. Following [Decision 11.3](#) to extend the First Implementation Period to June 2027, a revision of targets was required to reflect the extended timeframe.

The updated Results Framework revises targets to align with the extended implementation period. Table 1 presents the corresponding changes.

In addition, based on implementation experience, the updated Results Framework includes **Annex I**, which provides definitions of SOFF outcomes, outputs and indicators to enhance clarity and consistency in the interpretation.

**Table 1.** SOFF Results Framework indicator level targets updated for the period July 2022-June 2027

Phases	Outputs	Indicator	Baseline <sup>1</sup>	Target	Updated Target
<b>Readiness</b>	Unchanged				
<b>Investment</b>	3. GBON infrastructure in place	# of surface stations rehabilitated and/or installed with SOFF support	0	40	<b>55</b>
		# of upper air stations rehabilitated and/or installed with SOFF support	0	1	<b>3</b>
	4. GBON human and institutional capacity in place	# NMHS staff trained	0	120	<b>150</b>
# Institutional capacity building activities		0	20	<b>30</b>	
# National consultations		0	60	<b>60</b>	
<b>Compliance</b>	5. Annual GBON compliance report and SOFF annual reports produced		0	2	<b>0</b>
	Other indicators	Unchanged			

[1] This baseline is based on July 2022 which corresponds to the start of the first implementation period.

### 3. Updated SOFF Results Framework July 2022-June 2027

#### 3.1 High-level outcome

The SOFF high-level outcome is *'Improved weather and climate prediction products'*. The measurement of the associated indicator (*Improvement in NWP standard measure of skills*) is done through reports prepared by selected WMO Global Producing Centers in collaboration with WMO on the impact of observations.

The SOFF Steering Committee, through [Decision 6.8](#), endorsed and approved funding for SOFF Impact Reports based on scenarios of GBON implementation. The study was conducted in three phases. The first phase ([Decision 9.2](#)) provided a literature review and assessment of the state of knowledge on forecast skill improvement and established the importance of surface and upper-air observations. In the second phase ([Decision 11.2](#)), targeted experiments used synthetic data to assess the impact of Global Basic Observing Network (GBON) infrastructure in under-observed regions. The results of the experiments quantified the forecast skill improvements from expanded GBON coverage, with results showing up to 30% uncertainty reduction in Africa and significant global benefits. With [Decision 12.4](#), SOFF Steering Committee approved the third phase of the Impact Experiments to extend results of Phase II into the medium-range, with the results

presented in INF 14.3. These studies are undertaken by the European Centre for Medium-Range Weather Forecasts and coordinated by WMO.

### 3.2 Outcome

The SOFF outcome is '*Sustained compliance with GBON*'. Acknowledging the complexities of achieving full GBON compliance in SIDS and LDCs this indicator measures progress toward GBON compliance.

According to [Decision 5.7](#) the definition of GBON compliance includes two parts: (a) station-level compliance and (b) country-level compliance. SOFF supports and rewards progress by focusing on station-level compliance while striving to support countries to achieve country-level compliance as much as possible.

During the last year of the Investment Phase, the country is expected to fully operate and maintain the network striving to achieve the sustained operation of all the SOFF-supported stations according to the GBON compliance criteria. This is called the 'Commissioning Period'.

### 3.3 Outputs

SOFF has eight outputs for the Readiness, Investment and Compliance phases. The baseline and targets for the Readiness and Investment phase outputs are based on the updated SOFF work programme for the First Implementation period (Decision 6.6), extended until June 2027 by Decision 11.3.

For the Readiness Phase the proposed target of countries accessing Readiness funding is 75. With this target, SOFF will provide support to 50% of the 149 SOFF eligible countries for Readiness phase, and nearly all SIDS and LDC countries eligible for SOFF support will receive Readiness phase support.

The indicators for the Investment Phase reflect the operational experience so far and provide a measurement of progress towards the delivery of the outputs. Based on the SOFF work programme, 50 countries are expected to enter the Investment Phase by June 2027.

As the first countries are expected to move into Compliance phase by 2028, the targets for the first three Compliance outputs will be at baseline by June 2027.

The indicators will continue to be monitored by the SOFF Secretariat in accordance with the Operational Manual and the Monitoring, Evaluation and Learning Framework (Decision 14.7).

**Table 2:** SOFF updated Results Framework for the extended First Implementation period July 2022-June 2027

High-level outcome		Indicator	Baseline	Target <sup>1</sup>	Source
<b>Improved weather and climate prediction products</b>		Improvement in NWP standard measure of skills	0	TBD	Global Producing Centres
Outcome		Indicator	Baseline	Target <sup>2</sup>	Source
<b>Sustained compliance with GBON</b>		Countries progress against the GBON gap analysis baseline	0	TBD	WMO Technical Authority
	Outputs	Indicator	Baseline <sup>3</sup>	Target	Source
Readiness phase	<b>1. GBON gap established and reviewed</b>	# of GBON gap reports produced and reviewed	0	75	SOFF Secretariat
	<b>2. GBON national contribution plan developed</b>	# of GBON national contribution plan developed	0	75	SOFF Secretariat
Investment phase	<b>3. GBON infrastructure in place</b>	# of surface stations rehabilitated and/or installed with SOFF support	0	55	SOFF Secretariat Implementing Entities
		# of upper air stations rehabilitated and/or installed with SOFF support	0	3	SOFF Secretariat Implementing Entities
	<b>4. GBON human and institutional capacity in place</b>	# NMHS staff trained	0	150	SOFF Secretariat Implementing Entities
		# Institutional capacity building activities	0	30	
		# National consultations	0	60	

<sup>1</sup> This target will be set for the Sustaining and Implementation period in collaboration with the Global Producing Centers and WMO

<sup>2</sup> This target will be set for the Sustaining and Implementation period and monitored through the SOFF Compliance Phase.

<sup>3</sup> This baseline is based on July 2022 which corresponds to the start of the First Implementation period.

Compliance phase	5. Annual GBON compliance report and SOFF annual reports produced	Annual reports produced	0	0	WMO Technical Authority SOFF Secretariat
	6. GBON data internationally shared and results-based finance provided	Total # of stations internationally sharing GBON data and receiving result-based finance	0	0	WMO Technical Authority SOFF Secretariat
	7. On-demand GBON operational and maintenance advisory provided	# of countries receiving satisfactory advisory services delivered	0	0	SOFF Secretariat
	8. Weather and climate analysis products freely available through WMO Global Producing Centres	# of Global Producing Centres that provide free and open access to data  # of forecasts products that have free and open access	TBC	TBC	Global Producing Centers, WMO Technical Authority, SOFF Secretariat

## Annex I: Definition of SOFF Outcomes, Outputs and Indicators in the SOFF Results Framework

High-level outcome		Indicator	Definition
<b>Improved weather and climate prediction products</b>		Improvement in NWP standard measure of skills	<p><b>Numerical Weather Prediction (NWP)</b> forecast skill is quantified by measuring reduction in forecast uncertainty. Improved global numerical weather prediction products, enabled through the integration of additional GBON data from data sparse regions, resulting from reduced forecast uncertainty. This indicator is assessed through impact experiments conducted by global producing centers together with WMO.</p>
Outcome		Indicator	Definition
<b>Sustained compliance with GBON</b>		Countries progress against the GBON gap analysis baseline	<p><b>GBON gap analysis baseline</b> refers to the baseline set in the Global GBON gap analysis produced by WMO in 2023.</p> <p><b>Progress against</b> these targets refers to GBON infrastructure in place and data internationally shared as monitored in WDQMS.</p> <p>The outcome refers to <b>sustained compliance with GBON</b>, which will be measured by quarter through the WMO GBON Compliance report and tracked over time. The WMO Annual Compliance Report will provide the number of quarters that each SOFF-funded station meets GBON compliance requirements.</p>
Outputs		Indicator	Definition
Readiness phase	1. GBON gap established and reviewed	# of GBON gap reports produced and reviewed	<p><b>The GBON gap reports</b> refers to the GBON National Gap Analysis developed by the National Meteorological and Hydrological Services (NMHS) together with SOFF Peer Advisors, using WMO GBON Global Gap Analysis as the reference standard. The results of the National Gap Analysis are reviewed and signed by WMO Technical Authority.</p>

Investment phase	2. GBON national contribution plan developed	# of GBON national contribution plan developed	<p><b>A GBON National Contribution Plan</b> is a country-owned plan that defines how a country will establish, operate, and sustain its contribution to the Global Basic Observing Network in line with WMO requirements.</p> <p>The GBON National Contribution Plan is developed by the National Meteorological and Hydrological Services (NMHS) together with SOFF Peer Advisors, using the results of the GBON Gap Analysis as the reference standard. The plan is reviewed and signed by WMO Technical Authority.</p>
	3. GBON infrastructure in place	# of surface stations rehabilitated and/or installed with SOFF support	<p><b>The number of surface/upper surface stations</b> that countries have installed or upgraded to meet GBON standards. Thus, the physical network exists and can contribute data, even if full compliance is not yet achieved.</p>
		# of upper air stations rehabilitated and/or installed with SOFF support	
4. GBON human and institutional capacity in place	# NMHS staff trained	<p><b>NMHS staff trained</b> tracks the number of trained personnel (disaggregated by gender) in areas relevant to GBON, including training on operations, maintenance, data exchange, and quality control for GBON stations.</p> <p><b>Institutional capacity building activities</b> tracks the number of institutional capacity building activities including workshops, trainings and webinars that develop the institutional capacities of the NMHS to achieve GBON compliance.</p> <p><b>National consultations</b> tracks number of engagements with national stakeholders. All the above three indicators are tracked and reported by Implementing Entities in their semi-annual and annual reports, including gender segregated data.</p>	
	# Institutional capacity building activities		
	# National consultations		

Compliance phase	5. Annual GBON compliance report and SOFF annual reports produced	Annual reports produced	<b>The annual reports produced</b> refer to the WMO annual GBON compliance reports assessing each country's adherence to GBON requirements. The basis for these reports is GBON data from surface and/or upper-air stations shared by countries via WMO systems in near-real-time. WMO's central databases track station metadata, operational status, and reporting compliance.
	6. GBON data internationally shared and results-based finance provided	Total # of stations internationally sharing GBON data and receiving result-based finance	<b>This indicator tracks the number of stations sharing GBON data</b> internationally through WMO's WDQMS, verified by WMO through quarterly and annual GBON compliance reports and showcased in the SOFF Compliance tool. In parallel, the indicator will track those stations receiving annual results-based payments through the annual SC decisions. If both conditions are met, the station will be counted against this target.
	7. On-demand GBON operational and maintenance advisory provided	# of countries receiving satisfactory advisory services delivered	<b>Countries receive</b> tailored technical support and troubleshooting support to maintain and operate their GBON surface and upper-air stations in accordance with WMO standards.
	8. Weather and climate analysis products freely available through WMO Global Producing Centres	# of Global Producing Centres that provide free and open access to data  # of products that have free and open access	<b>Refers to the availability of weather and climate analysis products</b> generated by WMO Global Producing Centres and provided to all countries under free and open access conditions. This will be measured by the WMO Technical Authority.  Impact studies show if and how the SOFF-supported GBON contributions improve the accuracy and reliability of global weather and climate analysis products, reduce forecast uncertainty, particularly in data-sparse regions and ensure free and open access for all countries.