A close-up of a blue and white background

Description automatically generated with medium confidence

**GBON National Contribution Plan**

[Country]

Systematic Observations   
Financing Facility

**[date and month] 2025**

GBON National Contribution Plan

[Country Name]

|  |  |
| --- | --- |
| SOFF country focal point and institution |  |
| SOFF peer advisor focal point and institution |  |

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# Module 1. National Target toward GBON Compliance

Based on the results of the GBON National Gap Analysis, the SOFF peer advisor, in collaboration with the country and in coordination with the IE, recommends a GBON National Contribution Target. The target expresses the number of new and improved upper-air and surface-based stations the country needs to operate and maintain to meet the GBON standard density requirements and to contribute to the international data exchange, as requested in Table 1. Section four on GBON compliance of GBON chapter[[1]](#footnote-1), along with the compliance criteria shown below in Tables 2 and 3 should guide the definition of the GBON National Contribution Target.

The target reflects the country's ambition level, considering the national circumstances and the feasibility of implementing the activities to achieve such a target. Ultimately, the target ambition must focus on activities that are expected to provide the most significant impact on NWP skill and for which long-term sustainability can be assured.

*(Summarize the national target toward GBON compliance in the table below and provide the technical details as needed)*

Table 1. GBON National Contribution Target.

| Type of station | WMO GBON Global Gap Analysis, June 2023 | | | | GBON National Contribution Target | |
| --- | --- | --- | --- | --- | --- | --- |
| Target | Reporting | Gap | | To improve | New |
| To improve | New |
|  | [# of stations] | | | | [# of stations] | |
| **Surface** |  |  |  |  |  |  |
| **Upper-air** |  |  |  |  |  |  |
| **Marine** | **\*when applicable** | | | | | |

*(Add here a map of existing and proposed surface and upper-air stations with 200km/500 (****diameter****) km circles (500km/1000 km for SIDS that are Small Island States) to indicate the coverage of the stations and provide the explanation as needed )*

Figure 1. Map of existing and proposed surface and upper-air stations. *Please use horizontal resolution as diameter = radius is half the horizontal resolution.*

Table 2. Compliance criteria for GBON Surface-land and -marine meteorological stations.

| Mark | Name | Description | Criteria |
| --- | --- | --- | --- |
| **SSL 1** | **Monthly Availability (%)** | No. of received monthly reports[[2]](#footnote-2) / (Days per month \* 24) Monthly[[3]](#footnote-3) | **≥ 80%** |
| **SSL 2** | **Timeliness (%)** | No. of late reports[[4]](#footnote-4) / (Days per month \* 24) | **< 5%** |
| **SSL 3** | **Monthly Quality (%)** | No. of rejected monthly reports[[5]](#footnote-5)/ (Days per month \* 24) | **< 5%** |

Table 3. Compliance criteria for GBON Upper-air – land and -marine observing station/platform and SOFF threshold.

| Mark | Name | Description | Criteria |
| --- | --- | --- | --- |
| **SUA 1** | **Monthly Availability (%)** | No. of received monthly profile (to 30hPa) reports[[6]](#footnote-6) / (Days per month \* 2)[[7]](#footnote-7) | **≥ 80%** |
| **SUA 2** | **Vertical Resolution[[8]](#footnote-8) (Y/N)** | Vertical resolution is at least 100 m | **Yes** |
| **SUA 3** | **Timeliness (%)** | No. of late reports[[9]](#footnote-9)/ (Days per month \*2) | **< 5%** |
| **SUA 4** | **Monthly Quality (%)** | No. of rejected monthly reports[[10]](#footnote-10)/ (Days per month\*2) | **< 5%** |

# Module 2. GBON Business Model and Institutional Development

## Assessment of national governmental and private organizations of relevance for the operation and maintenance of GBON

*Identify:*

* *Governmental stakeholders operating and acquiring meteorological observations or with the potential to support GBON;*
* *Private sector operators providing meteorological observations and data services in the country (for ship-based observations, identify fleet of ships government-owned or private and research owned) to install instrument packages)*

*Provide recommendation on how they could contribute to the implementation of the Plan and required activities to materialize the proposed partnerships:*

1. *Existing partners and relationships;*
2. *Potential new partners and their roles.*

## Assessment of potential GBON sub-regional collaboration

*Identify neighboring countries and regional organizations of relevance for potential sub-regional collaboration.*

*Provide recommendations for potential optimization of the observing network through sub-regional network design and other sub-regional partnerships for the implementation of the Plan.*

## Assessment of a business model to operate and maintain the network

*Assess the current funding sources, budget allocations and financial status related to operations of the NMHS-owned observing network.*

*Provide recommendation of a business model for public-private collaboration for the implementation of the Plan, based on the SOFF private sector business models,[[11]](#footnote-11) including:*

1. *Recommendation of a business model to operate and maintain the GBON infrastructure, considering arrangements for SOFF financial support during the Compliance phase*
2. *Identify potential private sector operators depending on the proposed business model*
3. *Develop a financial plan for operating the modernized infrastructure, including considerations on the total cost of ownership*

## Assessment of existing national strategies and projects related to observing networks

*Review the national strategies for establishing and improving observing networks*

*Review of existing or planned hydromet development projects related to GBON*

*Provide recommendation on activities to ensure consistency and complementarity of current and planned investments and development projects of relevance for GBON*

## Review of the national legislation of relevance for GBON

*Review the national legislation related to responsibility for measuring and providing weather observations related to GBON.*

*Review the legislation related to procurement, importation and customs processes of relevance for the proposed Plan's activities and investments.*

*Provide recommendation on how to address any constraints related to the national legislation required to implement GBON.*

# Module 3. GBON Infrastructure Development

## Design the surface and upper-air observing network and observational practices

*Provide recommendation on a harmonized observing network design, including siting and instrumentation of new and improved stations, including:*

1. *A map of observing network distribution and a list of the required new or rehabilitated GBON stations;*
2. *A list of observation instruments and systems per site; and*
3. *Investments and activities needed for the installation of new stations and the improvement of existing stations*
4. *Observational practices defined per network*
5. *Preliminary maintenance plan for existing and improved/new stations, including calibration practices / - equipment / - facilities*
6. *Technical specification for new instruments and observing systems for the procurement process*
7. *Considerations for stations’ security, constant power supply, communication and related contingencies (risks can be incorporated in section 5).*

## Design of the ICT infrastructure and services

*Provide recommendation on ICT infrastructure and services design and solutions on data transmission from an observing station to the national real-time data management system and GTS and WIS 2.0, including:*

1. *Detailed description of the ICT infrastructure and services design*
2. *Technical specifications for the data collection system from the observing station to the collection point*
3. *Technical specifications of the data services (compatible with the requirements of WIS 2.0)*
4. *Detailed description of the measures to ensure resilience and continuity of the full data processing chain*

## Design the data management system

*Provide recommendation on requirements for a data management system aimed to provide access to data used by operational applications on a real-time basis and the capability to deliver data to a Climate Data Management System (CDMS) for long-term archiving purposes. The system should provide the following:*

1. *Short-term data storage and access through the services and protocols required by applications for national and international operational activities*
2. *Acquisition of data to and from WIS/GTS, WIS 2.0 and other national or international sources required for operational activities*
3. *Data delivery to the national CDMS*
4. *Discovery and descriptive metadata management*
5. *Monitoring of data, processing and services*

## Environmental and sustainability considerations

*Recommend pragmatic approaches and measures for environmentally responsible design and evolution of the national networks to achieve GBON requirements, including:*

1. *Development and use of specifications that consider environmental sustainability for procurement of measurement instrument equipment to meet the GBON requirements*
2. *Integration of sustainability considerations for the management of operations of GBON stations, including installation, calibration, and maintenance*
3. *Careful material selection for the development, shipping and day-to-day operations of GBON stations, with a focus on developing and using reusable instruments and sustainable methods of observation (e.g., elimination of single-use plastics).*

# Module 4. GBON Human Capacity Development Modul

## Assessment of human capacity gaps

*Provide a summary of staff skills, education levels, and capacity gaps for technicians, experts, and management, including Port Meteorological Officers (PMO) when applicable, gender balance and gender opportunities.*

## Design capacity development activities for technical staff

*Provide recommendation on training activities and recruitment for technical staff, including:*

1. *Instrument and station maintenance at site*
2. *Calibration and maintenance at the workshop*
3. *Network monitoring*
4. *ICT system operations*

## Design capacity development activities for senior management

*Provide recommendation on training activities and recruitment for management in*

1. *Strategic and financial planning*
2. *Project management*

## Gender and CSOs considerations

*Provide recommendations on activities, consultations, and areas of collaboration for the implementation of the Plan to ensure active CSOs participation and promotion of gender balance and gender opportunities.*

# Module 5. Risk Management Framework

## Assess the risks of the observing network and propose mitigation measures

*Based on the SOFF Risk Management Framework, identify risks and recommend a risks management framework, including:*

1. *Identification and analysis of risks*
2. *Mitigating measures and responsible*
3. *Monitor and evaluation*

# Module 6. Transition to SOFF Investment phase

*This module involves supporting the country and the IE in preparing the Investment phase funding request based on the recommendations provided in the Plan.*

*Please provide any additional recommendation relevant for the translation of the National Contribution Plan into an Investment Phase Funding Request.*

# Summary of GBON National Contribution Plan

*Provide summary of GBON National Contribution Plan by filling this table*

|  |  |
| --- | --- |
| Components | Recommended activities |
| **Module 2.**  GBON business model and institutional development | 1. |
| 2. |
| 3. |
| 4. |
| 5. |
| **Module 3.**  GBON infrastructure development | 1. |
| 2. |
| 3. |
| 4. |
| 5. |
| **Module 4.**  GBON human capacity development | 1. |
| 2. |
| 3. |
| 4. |
| 5. |
| **Module 5.**  Risk Management | 1. |
| 2. |
| 3. |
| 4. |
| 5. |
| **Module 6.**  Transition to SOFF Investment phase |  |

# Report completion signatures

|  |
| --- |
| **Peer Advisor signature** |
| **Country signature** |
| **WMO Technical Authority signature** |

# Annexes (if any)

1. Find the GBON Chapter of the Guide to WIGOS (WMO‑No. 1165) [here.](https://library.wmo.int/records/item/55696-guide-to-the-wmo-integrated-global-observing-system)  [↑](#footnote-ref-1)
2. Monthly aggregation of observed variables from surface observation reports, received by at least one of the NWP centres monitored by WDQMS web tool [↑](#footnote-ref-2)
3. If a station is manually operated but is not operational 24 hours, this number can be reduced to the operational hours (hourly reporting i.e. 0800 – 1700 = 10 reports) as recorded in OSCAR/Surface. This needs to be registered as an exception to GBON regulations [↑](#footnote-ref-3)
4. Monthly aggregation of reports that missed time cut-off from NWP centres/WIS [↑](#footnote-ref-4)
5. Monthly aggregation of rejected reports from NWP centres, could also be gross errors or outside of OB-FG threshold [↑](#footnote-ref-5)
6. Monthly aggregation of observed variables from upper-air observation reports, received by at least two of the NWP centres monitored by WDQMS web tool [↑](#footnote-ref-6)
7. If a radiosonde station is only able to undertake one sounding per day, this number can be reduced to the scheduled as recorded in OSCAR/Surface. This needs to be registered as an exception to GBON regulations [↑](#footnote-ref-7)
8. High Resolution data (BUFR) being received confirmed by at least one of the NWP centres monitored by WDQMS web tool [↑](#footnote-ref-8)
9. Monthly aggregation of reports that missed time cut-off from NWP centres/WIS [↑](#footnote-ref-9)
10. Monthly aggregation of rejected reports from NWP centres, could also be gross errors or outside of OB-FG threshold [↑](#footnote-ref-10)
11. See II B of the [Operational Guidance Handbook](https://www.un-soff.org/document/soff-operational-guidance-handbook/) on four archetypal business models [↑](#footnote-ref-11)