

17th Mai, 2024



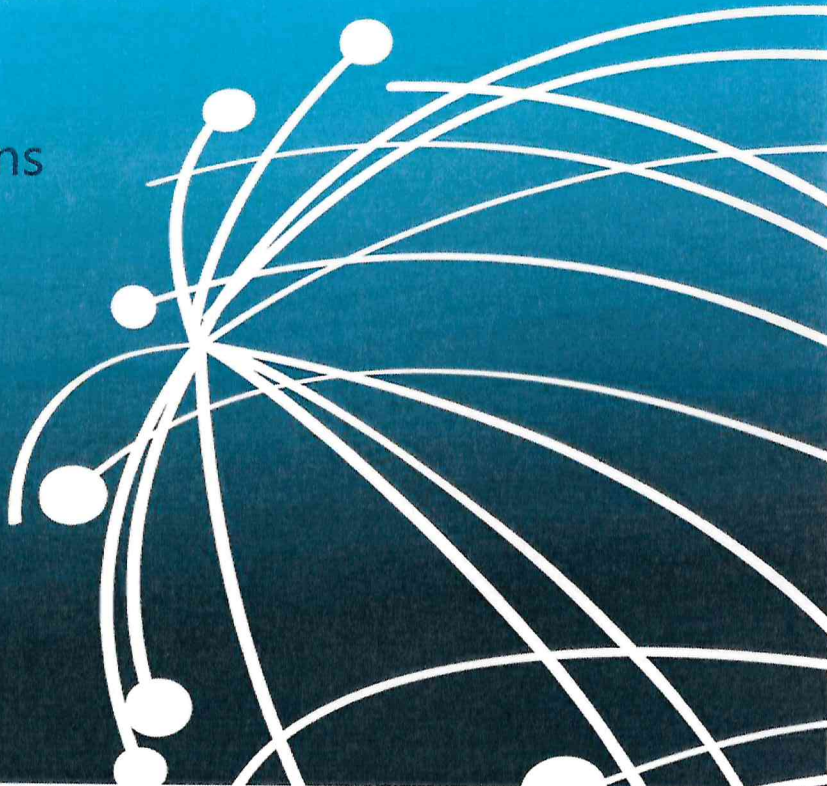
S  **FF**
Systematic Observations Financing Facility

GBON National Gap Analysis

Comoros

Systematic Observations
Financing Facility

**Weather
and climate
data for
resilience**





Screening of the National Gap Analysis (NGA) of Comoros

WMO Technical Authority screens the GBON National Gap Analysis to ensure consistency with the GBON regulations and provides feedback for revisions as needed. *The screening of the NGA is conducted according to the SOFF Operational Guidance Handbook, version: 04.07.2023 and the provisions in Decision 5.7 of the SOFF Steering Committee.*

Following iterations with the peer advisor and beneficiary country, WMO Technical Authority confirms that the National Gap Analysis is consistent with GBON regulations.

Date: 20 October 2025

Signature:

Albert Fischer

Director, WIGOS Branch, Infrastructure Department, WMO

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GBON National Gap Analysis Report

Comores

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1. Country information from the GBON Global Gap Analysis

Table I. WMO GBON Global Gap Analysis (June 2023). Illustration of the information that the WMO Secretariat provides to each country

A. GBON horizontal resolution requirements	B. Target	C. Reporting (GBON compliant) ¹	D. Gap to improve	E. Gap new	F. Gap total
Surface stations Standard density ² 500 km (SIDS)	1	0	1	0	1
Upper-air stations over land Standard density ² 1000km (SIDS)	1	0	0	1	1

2. Analysis of existing GBON stations and their status against GBON requirements

Table II. Assessment of existent stations per their operational status and network ownership

GBON Requirements	Existing observation stations (# of stations)	
	NMHS network	Third-party network

¹ The rationale for classifying surface and upper-air stations as reporting is based on the WIGOS Data Quality Monitoring System (WDQMS) for the chosen time period (WMO GBON Global Gap analysis, June 2023). Stations with data availability more than 80% on at least 80% of days, are considered as reporting. Other listed stations are counted as having the possibility to be improved.

² For SIDS, for the WMO GBON Global Gap Analysis in June 2023, the EEZ area has been added to the total surface area which is the basis for the target number of stations. The standard density requirements for SIDS have been calculated with 500 km for surface stations and 1000 km for upper-air stations.

	Reporting (GBON compliant) ³	To improve	Reporting (GBON compliant) ³	To improve
Surface land stations Standard density ⁴ 500km (SIDS) Variables: SLP, T, H, W, P, SD	0	33	0 (*)	1
Upper-air stations operated from land Horizontal resolution ⁴ : 1000km (SIDS) Vertical resolution: 100m, up to 30 hPa Variables: T, H, W	0	0	0	0
Surface marine stations in Exclusive Economic Zones: ⁷ 500 km Variables: SLP, SST	0	0	0	0
Upper-air stations operated in Exclusive Economic Zones: ⁵ 1000 km Vertical resolution: 100m, up to 30 hPa Variables: T, H, W	0	0	0	0

(*): The Hahaia station, already affiliated To GBON, is in good condition but requires an upgrade to restore regularity of transmission

Table III. Assessment of existing GBON stations per station characteristics. Station type: S: Surface, UA: Upper-Air; M: Marine; Owner of the station: NMHS or name of third-party; GBON variables: SLP: Atmospheric pressure; T: Temperature; H: Humidity; W: wind; P: Precipitation; SD: Snow depth; SST: Sea surface temperature; Reporting cycle: Number of observation reports exchanged internationally per day (0-24); GBON compliance: whether the station is GBON compliant or not (see GBON guide on compliance criteria).

³ The rationale for classifying surface and upper-air stations as reporting is based on the WIGOS Data Quality Monitoring System (WDQMS) for the chosen time period during the development of National Gap Analysis Stations with data availability more than 80% on at least 80% of days, are considered as reporting. Other listed stations are counted as having the possibility to be improved.

⁴ For SIDS, for the WMO GBON Global Gap Analysis in June 2023, the EEZ area has been added to the total surface area which is the basis for the target number of stations. The standard density requirements for SIDS have been calculated with 500 km for surface stations and 1000 km for upper-air stations.

⁵ Although GBON marine stations and stations in EEZ are not part of initial SOFF scope, peer advisors are encouraged to analyze in this step when considered relevant e.g. SIDS, the status of current marine stations for future GBON marine observations investments.

Station name	Station type (S/UA/M ⁶)	Owner (NMHS/3rd party) (*)	Funding source	GBON variable measured							Reporting cycle (obs/day)	GBON Compliant (Y/N)
				SLP	T	H	W (**)	P	SD	SST		
GRAND-COMORE												
<u>Moroni (ancien aéroport)</u>	S	NHMS	PNUD	x	x	x	x	x			0	N
<u>Moroni (headquarter ANACM)</u>	S	NHMS	PNUD	x	x	x	x	x			0	N
<u>Mvouni</u>	S	NHMS	PNUD &GCF	x	x	x		x			0	N
<u>Salimani</u>	S	NHMS	PNUD &GCF	x	x	x		x			0	N
<u>Ntsaoueni</u>	S	NHMS	PNUD &GCF	x	x	x		x			0	N
<u>Mitsamiouli</u>	S	NHMS	PNUD &GCF	x	x	x		x			0	N
<u>Ivouani</u>	S	NHMS	PNUD &GCF	x	x	x		x			0	N
<u>Maoueni</u>	S	NHMS	PNUD &GCF	x	x	x		x			0	N
<u>Mbeni</u>	S	NHMS	PNUD &GCF	x	x	x		x			0	N
<u>Idjikoundzi</u>	S	NHMS	PNUD &GCF	x	x	x		x			0	N
<u>Pidjani</u>	S	NHMS	PNUD &GCF	x	x	x		x			0	N
<u>Foumbouni</u>	S	NHMS	PNUD &GCF	x	x	x		x			0	N
<u>Dimadjou Hamahamé</u>	S	NHMS	PNUD &GCF	x	x	x	X	x			0	N
<u>Diboini</u>	S	NHMS	PNUD &GCF	x	x	x	X	x			0	N
<u>Chézani</u>	S	NHMS	PNUD &GCF	x	x	x	X	x			0	N
<u>Koimbani</u>	S	NHMS	PNUD	x	x	x	x	x			0	N
<u>Makorani (***)</u>	S	NHMS	PNUD	x	x	x	x	x			0	N
<u>Hahaya Airport</u>	S	AVIATION(ASEC NA)	AVIATION(ASEC NA)	x	x	x	x	x			0	N
ANJOUAN												

⁶ Please see guidance on marine stations in Section 2 on Scope.

Ouani Aéroport	S	NHMS	EU	x	x	x	x				0	N
Jimilimé	S	NHMS	PNUD &GCF	x	x	x		x			0	N
Patsi	S	NHMS	PNUD &GCF	x	x	x		x			0	N
Adda	S	NHMS	PNUD &GCF	x	x	x		x			0	N
Mramani	S	NHMS	PNUD &GCF	x	x	x		x			0	N
Pomoni	S	NHMS	PNUD &GCF	x	x	x		x			0	N
Mdjamaoué	S	NHMS	PNUD &GCF	x	x	x		x			0	N
Sima	S	NHMS	PNUD &GCF	x	x	x	X	x			0	N
Bambao Mtsanga	S	NHMS	PNUD &GCF	x	x	x	X	x			0	N
Domoni	S	NHMS	PNUD	x	x	x	x	x			0	N
MOHÉLI												
Bandarsalam airport	S	NHMS NHMS	PNUD	x	x	x	x	x			0	N
Takoudja	S	DTM/A NACM	PNUD &GCF	x	x	x	X	x			0	N
Fomboni	S	NHMS	PNUD &GCF	x	x	x		x			0	N
Wanani	S	NHMS	PNUD &GCF	x	x	x		x			0	N
Itsamia	S	NHMS	PNUD &GCF	x	x	x		x			0	N
Miringoni	S	NHMS	EU	x	x	x	X	x			0	N

(*): the owner of the station

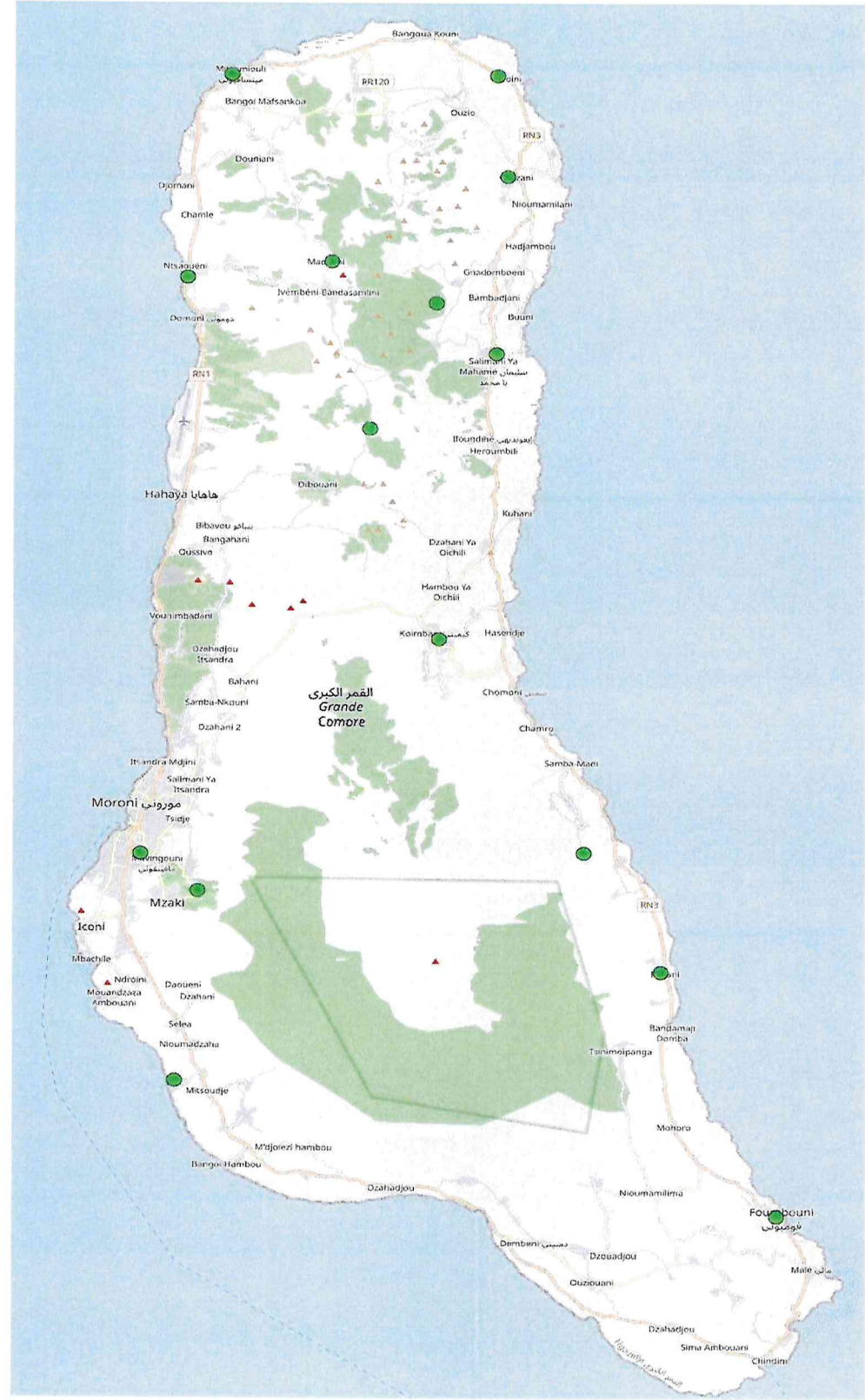
(**): a set of stations have wind measurement sensors installed less than 10 meters from the ground (case of agrometeorological stations)

(***): automatic station available but not installed

NB :

- Among the sites shown in Table III, there are sites that have several weather stations. In the case of these sites, the station to be upgraded is the most recent automatic station and which requires the minimum modification to comply with GBON requirements.
- Five other sites are equipped with outdated and unmaintainable automatic stations and are not reported in **Table III**. These sites must be removed or equipped with new

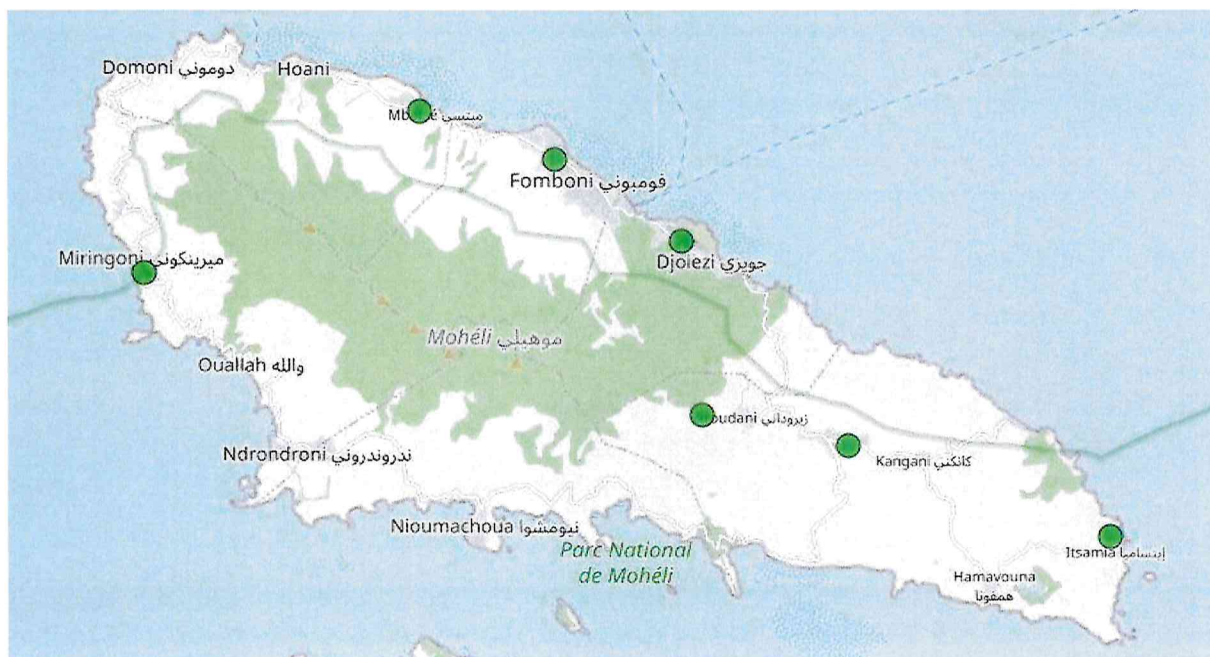
automatic stations. Only existing automatic stations that can be upgraded are reported in **Table III**.



Grande-Comore



Anjouan



Mohéli

3. Results of the GBON National Gap Analysis

Table IV. Results of the GBON national gap analysis. SLP: Atmospheric pressure; T: Temperature; H: Humidity; W: wind; P: Precipitation; SD: Snow depth; SST: Sea surface temperature.

GBON requirements	Global GBON target (# of stations)	Approved national target (# of stations)	GBON Compliant stations (#)	Stations gap	
				To improve	New
Surface land stations	1	1	0	1(*)	0
Upper-air stations operated from land	1	1	0	0	1(**)
Surface marine stations in Exclusive Economic Zones:⁷ Density 500 km Variables: SLP, SST Observing cycle: 1h	1	1	0	0	1 (***)
Upper-air stations operated in Exclusive Economic Zones:⁸ Density 1000 km Vertical resolution: 100 m, up to 30 hPa Variables: T, H, W Observing cycle: twice a day	0	0	0	0	0

(*) : The DTM is interested in three stations managed by ANACM that cover the specificities of the three islands of the Union of the Comoros. However, the global gap analysis identifies the need for only one station (see simulation with 200km radius circles). **The proposed station requires an upgrade in terms of hardware and telecommunications system. It also requires regular maintenance via a maintenance contract (over five years) covering parts and labor.**

(**) : The proposed site for the installation of the Upper-air station is ANACM headquarters.

(***) : The proposed site for the installation of the marine surface station is Moroni Harbor.

⁷ Although GBON marine stations are not part of initial SOFF scope, peer advisors are encouraged to analyze in this step when considered relevant e.g. SIDS, the need for future GBON marine observations investments according to the GBON requirements.

⁸ Although GBON marine stations are not part of initial SOFF scope, peer advisors are encouraged to analyze in this step when considered relevant e.g. SIDS, the need for future GBON marine observations investments according to the GBON requirements.

3.1 Recommended existing surface, upper-air and marine⁹ stations to be designated to GBON

Table V. Recommended existing surface, upper-air and marine stations to be designated to GBON.

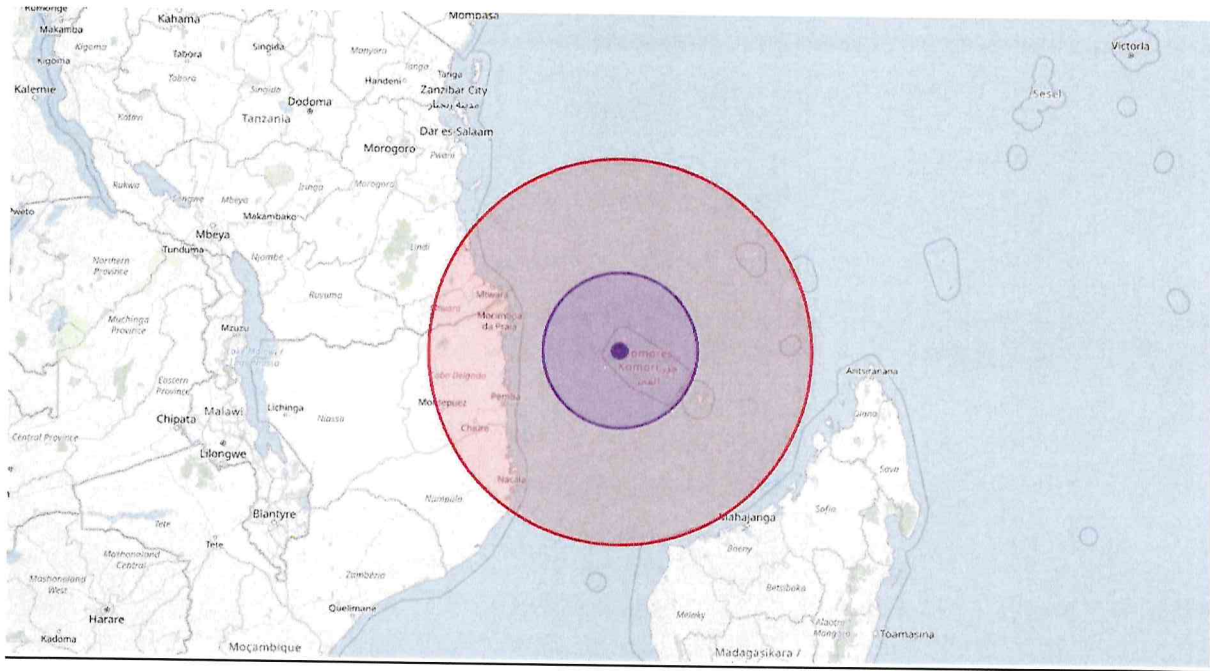
Ile	Station name	Pseudo Name	WIGOS ID	Station type (S/UA/M)	Latitude	Longitude
GRAND-COMORE	Moroni (ANACM headquarter)			S	11°42'30"S	43°14'47"E

Ile	Upper Air Stations	Pseudo Name	WIGOS ID	Station type (S/UA/M)	Latitude	Longitude
GRAND-COMORE	Moroni (ANACM headquarter)			UA	11°42'30"S	43°14'47"E

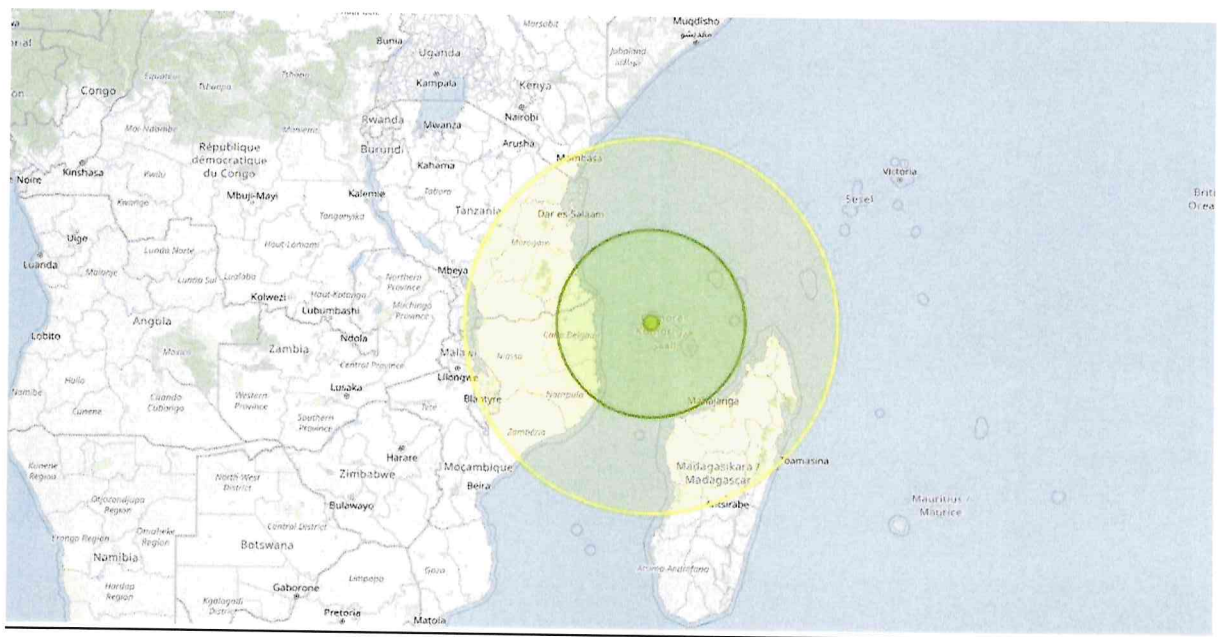
Ile	Surface marine stations in Exclusive Economic Zones ⁹	Pseudo Name	WIGOS ID	Station type (S/UA/M)	Latitude	Longitude
GRAND-COMORE	Moroni Harbor			M	11°42'18"S	43°14'54"E

⁹ Although GBON marine stations are not part of initial SOFF scope, peer advisors are encouraged to analyze in this step when considered relevant e.g., SIDS, the need for future GBON marine observations investments according to the GBON requirements.

A map of surface stations, located at ANACM headquarters, with 200km circles (blue) and upper-air station to be installed at ANACM headquarters with 500km circle (Red) indicating station coverage



A map of surface stations, located at ANACM headquarters, with 500km circles (Green) and upper-air station to be installed at ANACM headquarters with 1000km circle (Yellow) indicating station coverage.



4. Report completion signatures

Peer Advisor signature

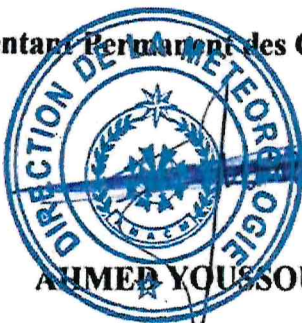
**Représentant Permanent
du Royaume du Maroc
auprès de l'O.M.M.
Signé : Mohammed DKHISSI**

WMO Technical Authority screening signature

Altaffich

Beneficiary Country signature

Le Représentant Permanent des Comores auprès de l'OMM


AHMED YOUSOUF ABDU