

April 2025



GBON National Gap Analysis

Systematic Observations
Financing Facility

**Weather
and climate
data for
resilience**





Screening of the National Gap Analysis (NGA) of Somalia

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: 24 April 2025

Signature:

Albert Fischer

Director, WIGOS Branch, Infrastructure Department, WMO

GBON National Gap Analysis Report

Somalia

Beneficiary Country Focal Point and Institute	Dr. Guleid Artan (PR of Somalia), and Omar Shurie (former PR of Somalia)/SOMALIA
Peer Advisor Focal Point and Institute	Oluwaseun Wilfred IDOWU/ (NiMet)

1. Country information from the GBON Global Gap Analysis

Please provide in this Table the country information as provided by the WMO Global GBON 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 to req. ¹	D. Gap to improve	E. Gap new	F. Gap total
Surface stations Standard density 200km	16	0	16	0	16
Upper-air stations over land Standard density 500km	3	0	0	3	3

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

Please complete the two tables below and add remarks and Annexes with technical details as needed.

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	
	Reporting to req. ²	To improve	Reporting to req. ³	To improve
Surface land stations Standard density 200km Variables: SLP, T, H, W, P, SD	0	0	0	23
Upper-air stations operated from land Horizontal resolution: 500km Vertical resolution: 100m, up to 30 hPa Variables: T, H, W	0	0	0	0
Surface marine stations in Exclusive Economic Zones: 500 km Variables: SLP, SST	0	0	0	0
Upper-air stations operated in Exclusive Economic Zones: 1000 km Vertical resolution: 100m, up to 30 hPa Variables: T, H, W	0	0	0	0

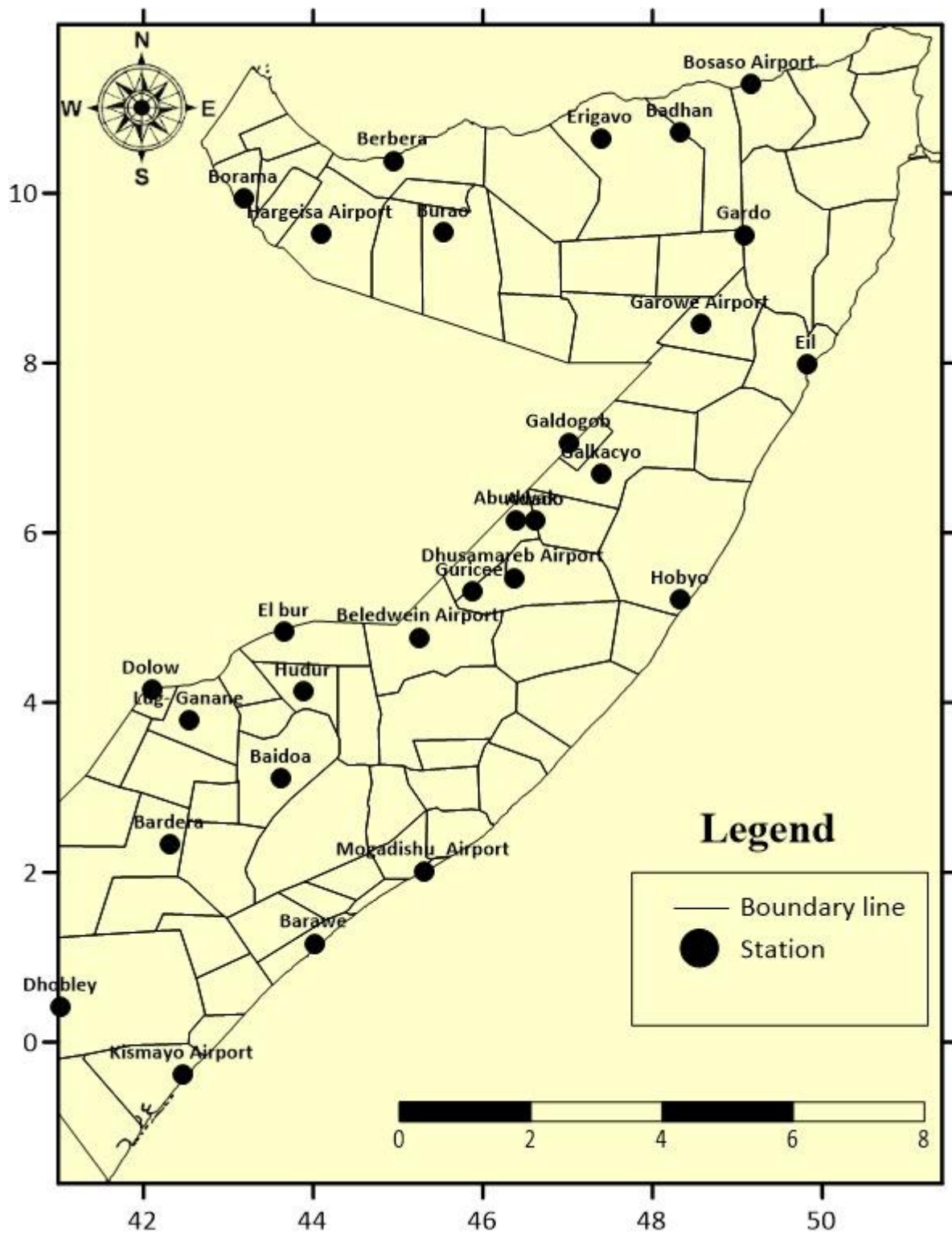


Figure 1: Map of existing surface stations in Somalia

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: weather the station is GBON compliant or not (see GBON guide on compliance criteria).

Station name	Station type (S/UA)	NMHS / 3rd party station	Power Supply	Security	GBON variable measured						Staff, Trained operators	Regular Maintenance, Calibration	Communication	Data processing centre	Reporting cycle (# of observations)	Incident response/ investments to extend lifetime	GBON Compliance (Yes/No)	Comments, Recommendations
					SLP	T	H	W	P	SD								
Abudwaq	S	ICPAC	Solar		X	X	X	X	X		None	Nil	GSM	None	15min		No	
Adado	S	ICPAC	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	
Badhan	S	ICPAC	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	
Baidoa	S	ICPAC	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	
Beledwein	S	ICPAC	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	
Borama	S	ICPAC	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	
Bosaso	S	ICPAC	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	
Burao	S	ICPAC	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	
Dhobley	S	ICPAC	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	
Dhusamareb	S	ICPAC	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	
Dolow	S	ICPAC	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	

Erigavo	S	ICPA C	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	
Galdogob	S	ICPA C	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	
Galkacyo	S	ICPA C	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	
Garowe	S	ICPA C	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	
Guriceel	S	ICPA C	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	
Hargeisa	S	ICPA C	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	
Hobyo	S	ICPA C	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	
Hudur	S	ICPA C	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	
Kismayo	S	ICPA C	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	
Mogadishu_Air	S	ICPA C	Solar			X	X				None	Nil	GSM		15min		No	
Mogadishu_Min	S	ICPA C	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	
Qardho	S	ICPA C	Solar		X	X	X	X	X		None	Nil	GSM		15min		No	

3. Results of the GBON National Gap Analysis

Please complete the two tables below and add remarks and technical details in Annexes as needed.

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	Approved national target	Reporting	Gap	
				To improve	New
[# of stations]					
Surface land stations	16	16	0	16	0
Upper-air stations operated from land	3	3	0	0	3
Surface marine stations in Exclusive Economic Zones:⁴ Density 500 km Variables: SLP, SST Observing cycle: 1h	0	0	0	0	0
Upper-air stations operated in Exclusive Economic Zones:⁵ Density 1000 km Vertical resolution: 100 m, up to 30 hPa Variables: T, H, W Observing cycle: twice a day					

⁴ 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.

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

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

Station name	Station type (S/UA/M ⁷)
Baidoa	S
Burao	S
Dollow	S
Garowe	S
Gebiley	S
Mogadishu	S
Qardho	S
Kismaayo	S
Aburin	S
Boroma	S
Eyl	S
Galkayo	S
Hargeisa	S
Hobyo	S
Erigavo	S
Beledwein	S
Mogadishu Airport	U/A
Bosaso Airport	U/A
Garowe Airport	U/A

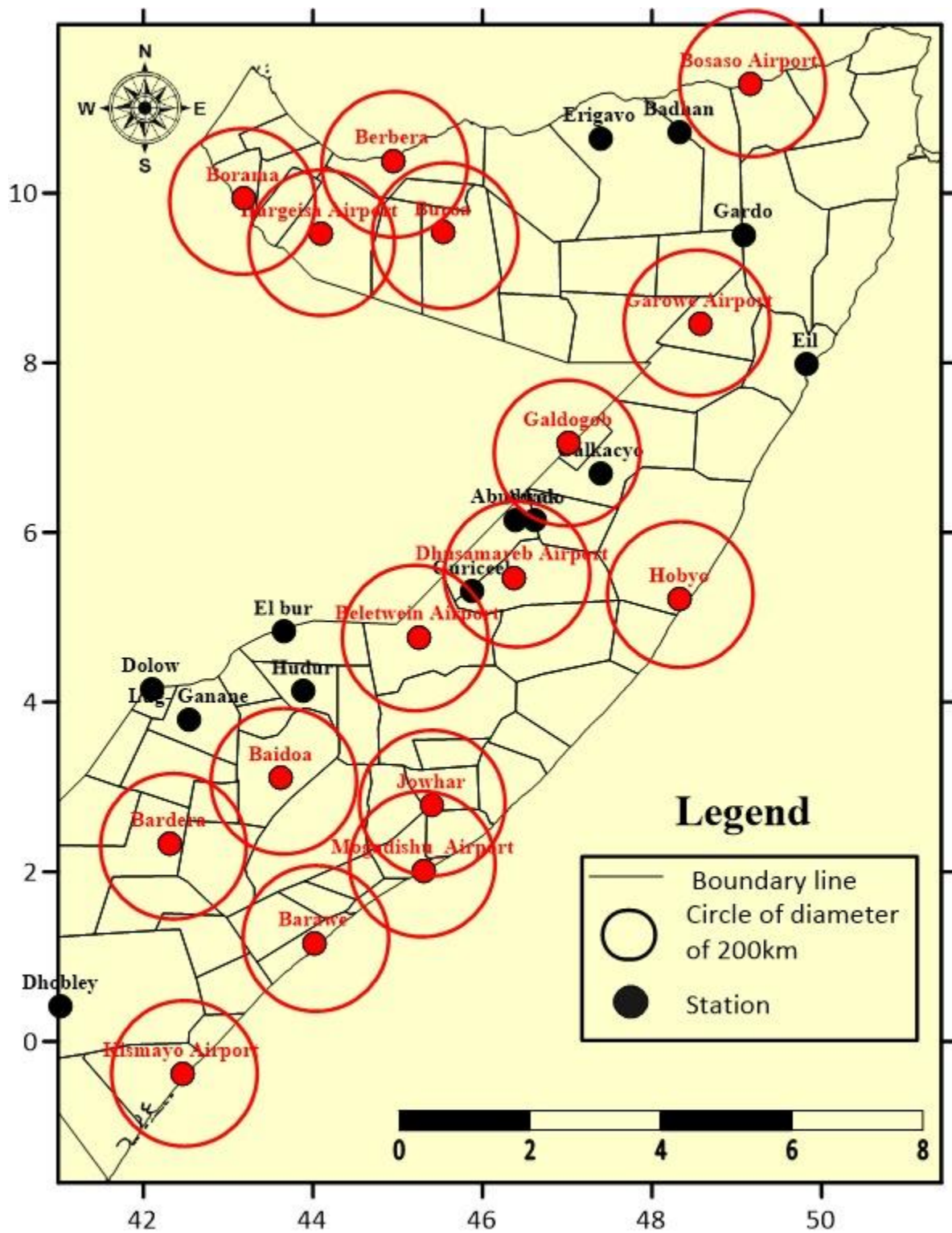


Figure 2: Map of existing surface stations. Stations recommended for an upgrade to meet GBON requirements are circled in red, with a horizontal resolution of 200km.

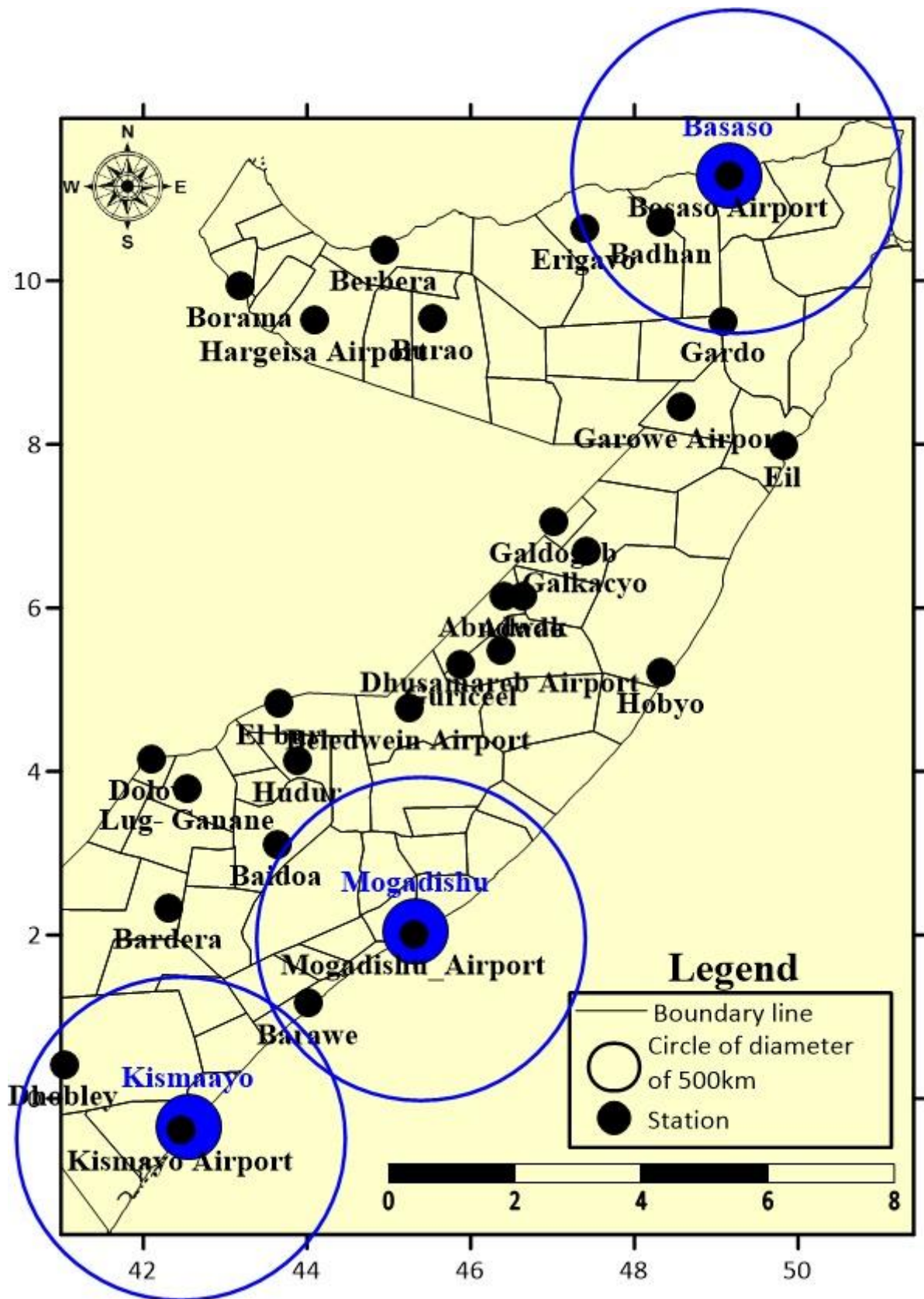



Figure 3: Locations recommended for the new upper air stations are circled in blue, with a horizontal resolution of 500km.

4. Report completion signatures

Peer Advisor Signature


THE DIRECTOR-GENERAL/CEO
& PERMANENT REPRESENTATIVE
OF NIGERIA WITH WMO

WMO Technical Authority Screening Signature



Beneficiary Country Signature



ADDENDUM

1. There no governance structure or a recognised entity of government charged with the duties and responsibilities of NMHS in Somalia. However, efforts are ongoing to establish one through legislation. A law to this effect is pending at the national legislature.
2. Since there is no NMHS, there are no staff (including Meteorologists, Observers, Engineers, etc) employed for the purpose of meteorological operations. The former Permanent Representative of Somalia with WMO only worked with a team of volunteers who worked with him on a project-to-project basis.
3. Various government ministries/agencies and development partners are in charge of the existing observation network across the country. These stations were established through government interventions and donations from different development partners.
4. All the existing stations are AWS as there is no manpower to operate manned/manual observation stations.
5. There is no surface station currently meeting GBON requirements and there is no upper air station in Somalia.
6. The Somali Civil Aviation Authority (SCAA) operates meteorological observation stations in airports across the country. Observation data from these stations are transmitted internationally via AFTN, for aviation purposes. A few of these data appear on WDQMS from time to time but are often too few to meet GBON requirements.

RECOMMENDATIONS:

1. Pending when the NMHS will be established, there is an urgent need in the interim to train personnel at SCAA, MoECC and MOEWR on methods of meteorological observations and international data exchange.
2. Any assistance or interventions that could help in fast-tracking the establishment of NMHS is highly recommended.
3. Some of the existing stations requires minor maintenance of their perimeter fencing. It is recommended that SOFF intervention should consider them.
4. Due to the security situation across the country, a phased approach in the intervention by the implementing entity is highly recommended. Stations located in the regions with better security measures should be rehabilitated first while the others follow as the security situation improves.
5. There is an urgent need to install the WIS2.0 Box to fully utilize the existing server for international data exchange.
6. There is a need for a stronger WMO presence in the country especially in providing training opportunities for those involved in weather and climate-related activities in the country.
7. Somalia is a strategic coastal country in the Great Horn of Africa, with active marine operations in and around its ports, and as such requires the services of marine observations. There is currently no marine station in the existing network of observing stations. It is therefore recommended that SOFF implementing entity, or any other developmental partners should consider the establishment of marine stations in their future interventions, especially after the NMHS has taken off.