9 September 2024

GBON National Gap Analysis

Systematic Observations Financing Facility

Weather and climate data for resilience

WEATHER CLIMATE WATER

Screening of the National Gap Analysis (NGA) of Ecuador

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 peer advisor and beneficiary country, WMO Technical Authority confirms that the National Gap Analysis is consistent with GBON regulations. While the WMO GBON Global Gap Analysis identified the need for 7 surface stations and 2 upper air station over land to meet the GBON horizontal requirement, the **WMO Technical Authority confirms the NGA results which indicate the need for 8 surface land stations and 3 upper station based on specific national circumstances.**

Date: 18 November 2024

Signature:

Albert Fischer

Director, WIGOS Branch, Infrastructure Department, WMO

GBON National Gap Analysis Report
Ecuador

Beneficiary Country Focal Point and Institute	Bolivar Erazo, Executive Director Instituto Nacional de Meteorología e Hidrología "INAMHI", Ecuador
Peer Advisor Focal Point and Institute	Leading Peer Advisor: Marcel Haefliger, Federal Office of Meteorology and Climatology MeteoSwiss, Switzerland (hereafter MeteoSwiss) Supporting Peer Advisor: Servicio Meteorológico Nacional Argentina (hereafter SMN)

Executive summary

This preliminary gap analysis was carried out prior to the visit to INAMHI, taking into account various sources of information, mainly obtained through the OSCAR platform, the WQDMS, the regional WIGOS center, and a series of discussions with INAMHI staff.

According to the existing Global Gap Analysis, Ecuador would need 7 surface and 2 upper-air GBON-compliant stations to meet the station density requirements at the lowest resolution (200 km grid). Considering the location of the Galapagos Islands, an additional surface station as well as an additional upper-air observing station are justified from our point of view. This was acknowledged by WMO Technical Authority (WMO TA), which has approved an additional Surface and one Upper Air Station. The number increases to 26 surface and 3 upper-air for the highest density (100 km grid). It is important to keep in mind that SOFF at this stage is concerned with helping countries to be compliant at least at the lower resolution.

As of today, Ecuador has 45 surface stations registered in OSCAR, of which 11 are closed or silent. All 45 are manned stations, with some belonging to INAMHI and others to the Dirección General de Aviación Civil (DGAC). The 34 that are active provide 3 hourly data in some periods of the day and only some of the required variables. In addition to the manned stations, there are 117 automatic stations also belonging to both institutions (103 of INAMHI – 65 in working conditions – and 14 of third parties – 10 in working conditions), which do not appear in OSCAR but provide information to local authorities.

Concerning upper-air soundings there are 3 registered sites, but no information has been exchanged through WIGOS during the last 3 years. We believe that a very positive effect of SOFF would be to recover the 3 soundings, particularly re-establishing the one from Galapagos Island.

For surface stations the situation deserves further analysis. Raw numbers say that Ecuador counts nearly 100 stations that are operational, a much larger number than the minimum proposed by GBON. Nevertheless, none of these stations are as of today GBON compliant: the manned stations do not operate in 24/7 basis and do not transmit hourly values, and the automatic stations are not linked to WIGOS.

After the on-site visit in Ecuador and the information, which was collected, and the WMO TA decision 7 surface stations in continental Ecuador were identified and an additional station on the Galapagos Island. One of these 8 stations will be a new station in the Amazon region.

Next step will be to develop a sustainable implementation plan, based on the information, that are available after the on-site visit.

1. Country information from the GBON Global Gap Analysis

According to the results of the Global Core Observation Network Global Gap Analysis for Ecuador (ref. 18876/2022/I/WIGOS/ONM/GBON), and considering a land area of 256'370 km^2, Ecuador should have at least 7 surface stations (in a 200 km grid density scenario). In a high-density scenario (100 km grid), 26 surface stations are needed to meet the GBON requirements. In terms of upper-air observing stations, there should be at least two in operation in Ecuador.

Using circles with a 100 km radius around the station instead of a 200 km grid, the number of stations would increase to 8 surface stations instead of 7, as proposed by the Global Gap Analysis.

Considering the location of the Galapagos Islands, an additional surface station as well as an additional upper-air observing station are justified from our point of view. This was acknowledged by WMO Technical Authority (WMO TA), which has approved an additional Surface and one Upper Air Station. The Global Gap Analysis didn't consider the geographical separation of the Galapagos Islands from the mainland.

According to the records of the WMO Secretariat, none of the stations in Ecuador reports according to the GBON requirement.

Given the potential of the installed capacity, it is important to consider the inclusion of additional surface stations in the GBON network as a possible scenario.

Table I. WMO GBON Global Gap Analysis (June 2023). Illustration of the information that the WMO Secretariat provides to each country (Galapagos wasn't considered in this report)

A. GBON horizontal resolution requirements	B. Target	C. Reporting (GBON compliant)[1]	D. Gap to improve	E. Gap new	F. Gap total
	[# of stations]				
Surface stations Standard density[2] 200 km	7	0	7	0	7
Upper-air stations over land Standard density[2] 500km	2	0	2	0	2

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

The total number of stations declared in OSCAR for Ecuador is 45, all of them manual. Within this list of stations, 34 are partially operational; the rest (10 stations) are silent or closed[3]. These 34 stations

[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.

[3] The stations that are currently non-operational have the following characteristics:

- 3 sea profiling stations (silenced)

report with some interruptions according to the WDQMS tool of the WMO, classifying them as "partially operational". During the last 3 years, no upper-air observation data have been available from the 3 stations declared in OSCAR.

The stations are owned and operated by Instituto Nacional de Meteorología e Hidrología INAMHI and Dirección General de Aviación Civil DGAC:

INAMHI	DGAC
• 14 partially operational surface stations[4] • 3 surface stations closed	• 22 partially operational airport stations • 2 Airport stations closed

Between the two institutions (INAMHI and DGAC) there are a total of 37 observing stations, of which 34 are surface stations and 3 are upper-air observation stations (see Table 2 and Figure 1 to 3).

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 (GBON compliant) [5]	To improve	Reporting (GBON compliant) [3]	To improve
Surface land stations Standard density [6] 200km Variables: SLP, T, H, W, P, SD	14	14	20	20
Upper-air stations operated from land Horizontal resolution[4]: 500km Vertical resolution: 100m, up to 30 hPa Variables: T, H, W	**0**	**2**	**0**	**1**
Surface marine stations in Exclusive Economic Zones:[7] 500 km Variables: SLP, SST	**-**	**-**	**-**	**-**

- 1 GAW (ozonesonde, closed)
- 4 airports closed
- 3 closed conventional stations

[4] In addition to the 22 stations located at airports reported in OSCAR, there are two stations located at airports that were recently incorporated to the DGAC network and are not yet reporting to OSCAR.

[5] 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.

[6] 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.

Upper-air stations operated in Exclusive Economic Zones:[7] 1000 km Vertical resolution: 100m, up to 30 hPa Variables: T, H, W	-	-	-	-

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).

Station name	Station type (S/UA/M)	Owner (NMHS/3rd party)	Funding source	GBON variable measured						Reporting cycle (obs/day)	GBON Compliant (Y/N)
				SLP	T	H	W	P	SD		
INGUINCHO	S	INAMHI	INAMHI	X	X	X	X	X	-	5	N
IZOBAMBA	S	INAMHI	INAMHI	X	X	X	X	X	-	5	N
RUMIPAMBA SALCEDO	S	INAMHI	INAMHI	X	X	X	X	X	-	5	N
NUEVO ROCAFUERTE	UA	INAMHI	INAMHI	-	-	-	-	-	-	0	N
PICHILINGUE	S	INAMHI	INAMHI	X	X	X	X	X	-	5	N
PUERTO ILA	S	INAMHI	INAMHI	X	X	X	X	X	-	5	N
SAN GABRIEL	S	INAMHI	INAMHI	X	X	X	X	X	-	5	N
SAN CRISTOBAL - GALAPAGOS	UA	INAMHI	INAMHI	-	-	-	-	-	--	0	N
QUEROCHACA	S	INAMHI	INAMHI	X	X	X	X	X	-	5	N
BALTRA AEROPUERTO-GALAPAGOS	S	DGAC	DGAC	X	X	X	X	X	-	5	N
CUENCA AEROPUERTO	S	DGAC	DGAC	X	X	X	X	X	-	5	N
EL COCA AEROPUERTO	S	DGAC	DGAC	X	X	X	X	X	-	5	N
ESMERALDAS AEROPUERTOS	S	DGAC	DGAC	X	X	X	X	X	-	5	N
AEROPUERTO DE GUAYAQUIL	S	DGAC	DGAC	X	X	X	X	X	-	5	N
AEROPUERTO DE GUAYAQUIL	UA	DGAC	DGAC	-	-	-	-	-	-	0	N
AEROPUERTO LATACUNGA	S	DGAC	DGAC	X	X	X	X	X	-	5	N
AEROPUERTO MACAS	S	DGAC	DGAC	X	X	X	X	X	-	5	N
MANTA AEROPUERTO	S	DGAC	DGAC	X	X	X	X	X	-	5	N
NUEVA LOJA AEROPUERTO	S	DGAC	DGAC	X	X	X	X	X	-	5	N

[7]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)	Owner (NMHS/3rd party)	Funding source	GBON variable measured						Reporting cycle (obs/day)	GBON Compliant (Y/N)
				SLP	T	H	W	P	SD		
SALINAS AEROPUERTO	S	DGAC	DGAC	X	X	X	X	X	-	5	N
AEROPUERTO DE SAN CRISTÓBAL - GALAPAGOS	S	DGAC	DGAC	X	X	X	X	X	-	5	N
AEROPUERTO SANTA ROSA	S	DGAC	DGAC	X	X	X	X	X	-	5	N
SHELL MERA AEROPUERTO	S	DGAC	DGAC	X	X	X	X	X	-	5	N
TOMO CATAMAYO AEROPUERTO	S	DGAC	DGAC	X	X	X	X	X	-	5	N
TULCAM AEROPUERTO	S	DGAC	DGAC	X	X	X	X	X	-	5	N
AEROPUERTO SUCRE	S	DGAC	DGAC	X	X	X	X	X	-	5	N
LA TOLA	S	INAMHI	INAMHI		X	X	X		-	5	N
NUEVO ROCAFUERTE	S	INAMHI	INAMHI		X	X	X		-	5	N
PUYO	S	INAMHI	INAMHI		X	X	X		-	5	N
LA CONCORDIA	S	INAMHI	INAMHI		X	X	X		-	5	N
CAÑAR	S	INAMHI	INAMHI		X	X	X		-	5	N
LOJA - LA ARGELIA	S	INAMHI	INAMHI		X	X	X		-	5	N
SAN CRISTOBAL - GALAPAGOS	S	INAMHI	INAMHI		X	X	X		-	5	N
TOMALON TABACUNDO	S	INAMHI	INAMHI		X	X	X		-	5	N
AMBATO AEROPUERTO	S	DGAC	DGAC		X	X	X		-	5	N
TENA AEROPUERTO	S	DGAC	DGAC		X	X	X		-	5	N
AEROPUERTO DE GUALAQUIZA	S	DGAC	DGAC		X	X	X		-	5	N

3. Results of the GBON National Gap Analysis

According to the information gathered so far, Ecuador does not have any stations compatible with the GBON criteria. After the on-site visit end of November 2023, 6 surface stations were identified from the existing network, which should be improved in order to be GBON compliant. One additional station is recommended to be built in the Amazon region. This station will also be an upper-air station. As mentioned in Section 1, one surface station and one upper-air station have been added, each located on the Galapagos Islands. So, there are a total of 8 surface stations and 3 upper-air stations.

Considering the climatic zones of Ecuador, it is recommended to establish additional stations in the future that comply with GBON standards in order to ensure adequate coverage and high-quality data. This will be presented to and discussed with the Inter American Development Bank.

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	7	8	0	**7**	**1**
Upper-air stations operated from land	2	3	0	**2**	**1**
Surface marine stations in Exclusive Economic Zones:[8] Density 500 km Variables: SLP, SST Observing cycle: 1h	-	-	-	**-**	**-**
Upper-air stations operated in Exclusive Economic Zones: [9] Density 1000 km Vertical resolution: 100 m, up to 30 hPa Variables: T, H, W Observing cycle: twice a day	-	-	-	**-**	**-**

3.1 Recommended existing surface, upper-air and marine[11] stations to be designated to GBON

After the on-site visit to Ecuador following 7 surface stations and an additional station on Galapagos are recommended to be designated to GBON. For the Amazon region it is proposed to establish a new Station, which will also be an Upper-air station.

[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.
[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.
[10] 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.
[11] 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.

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

Station name	Station type (S/UA/M[12])
Guyaquil (relocated)	S/UA
Izobamba	S
Sacha INIAP (New Station)	S/UA
La Concordia	S
La Teodomira	S
Loja – La Argelia	S
Puyo	S
San Cristobal - Galapagos	S/UA

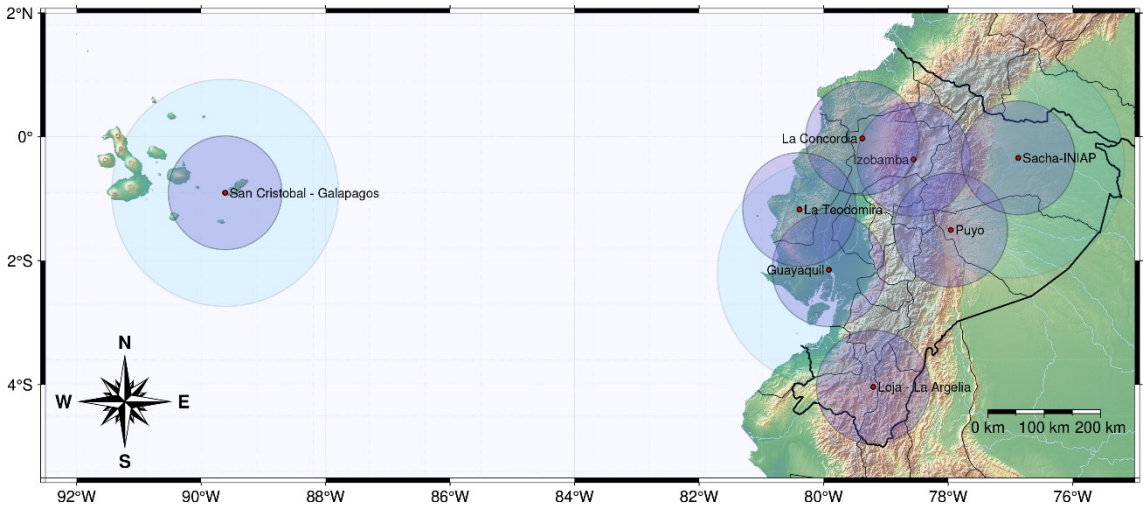
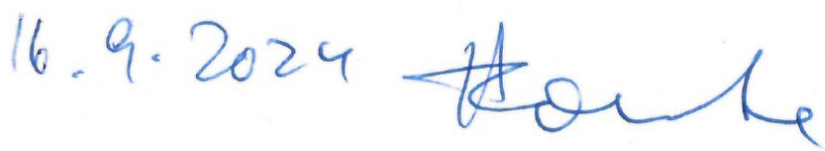


Figure 1: Map with the proposed 8 GBON Stations and 3 UA Stations. Sacha-INIAP is the planned new surface and UA station.

[12] Please see guidance on marine stations in Section 2 on Scope.

4. Report completion signatures

Peer Advisor signature 
Beneficiary Country signature 
WMO Technical Authority screening signature 

ANNEX

Additional observations not shared internationally

According to the information provided by INAMHI, there is a significant number of automatic weather stations (AWS) in continental Ecuador. This is additional information collected as part of the Gap Analysis, and we believe it may be useful to survey the country's observing capabilities, although none of the automatic stations surveyed are reported in OSCAR nor are they shared internationally.

A total of 117 AWS were counted, of which 103 are owned by INAMHI, and 14 are owned by third parties.

According to the information provided by INAMHI staff, their operation can be categorized as follows:

	INAMHI	Third Party
Operational	65	10
Semi-Operational or Non-Operational	38	4
Total	103	14

IMPORTANT: There are no automatic stations declared in OSCAR. The details of these stations are shown in the following table.

Code	Database name	Network	Transmitting (June)	Status	Owner	Type of transmission
H0011	MIRA EN LITA	Hydrological	YES	Operational	INAMHI	GOES
H0012	LITA AJ MIRA	Hydrological	NO	Non-Operational	INAMHI	GOES
H0017	APAQUI D GRUTA LA PAZ #3	Hydrological	YES	Operational	INAMHI	GOES
H0064	EL ANGEL EN PTE.AYORA	Hydrological	NO	Non-Operational	INAMHI	
H0136	ALAMBI EN CHURUPAMBA	Hydrological	YES	Operational	CELEC	GPRS
H0148	GUAYLLABAMBA DJ PISQUE	Hydrological	YES	Operational	INAMHI	GOES
H0149	GUAYLLABAMBA EN PTE.CHACAPATA	Hydrological	YES	Operational	INAMHI	GOES
H0150	INTAG D.J. PAMPLONA	Hydrological	YES	Operational	CELEC	GOES
H0158	PITA AJ SALTO	Hydrological	YES	Operational	INAMHI	GOES
H0168	ESMERALDAS DJ SADE	Hydrological	YES	Non-Operational	PNUD/INAMHI	GOES
H0170	GUAYLLABAMBA AJ BLANCO	Hydrological	NO	Operational	PNUD/INAMHI	GOES
H0173	TEAONE AJ ESMERALDAS	Hydrological	YES	Non-Operational	PNUD/INAMHI	GPRS
H0229	CARRIZAL EN CALCETA	Hydrological	YES	Operational	INAMHI	GOES
H0235	CHONE EN CHONE	Hydrological	YES	Operational	INAMHI	GOES
H0266	PORTOVIEJO EN H. VASQUEZ (GUARUMO)	Hydrological	NO	Non-Operational	INAMHI	GOES
H0343	ECHEANDIA EN ECHEANDIA	Hydrological	NO	Non-Operational	INAMHI	GOES
H0346	ZAPOTAL EN LECHUGAL	Hydrological	YES	Operational	INAMHI	GOES
H0347	QUEVEDO EN QUEVEDO	Hydrological	NO	Non-Operational	INAMHI	GOES
H0371	SAN PABLO EN PALMAR	Hydrological	YES	Operational	INAMHI	GOES

Code	Database name	Network	Transmitting (June)	Status	Owner	Type of transmission
H0448	PAYO AJ BULUBULU	Hydrological	YES	Operational	INAMHI	GOES
H0471	CAÑAR DJ RAURA	Hydrological	NO	Non-Operational	INAMHI	GOES
H0587	PINDO AJ AMARILLO	Hydrological	YES	Operational	INAMHI	GOES
H0589	PUYANGO AJ MARCABELI	Hydrological	YES	Operational	INAMHI	GOES
H0591	PUYANGO EN CPTO.MILITAR (PTE.CARRETERA)	Hydrological	YES	Operational	INAMHI	GOES
H0620	CATAMAYO EN PTE.SANTA ROSA	Hydrological	YES	Operational	INAMHI	GOES
H0719	QUIJOS DJ OYACACHI	Hydrological	YES	Operational	INAMHI	GOES
H0790	CEBADAS AJ GUAMOTE	Hydrological	NO	Non-Operational	INAMHI	GOES
H0797	PANSACHI EN HDA.BAÑOS	Hydrological	NO	Non-Operational	INAMHI	GOES
H0854	CUTUCHI EN CASPI	Hydrological	YES	Operational	INAMHI	GOES
H0884	ZAMORA AJ BOMBOIZA	Hydrological	NO	Non-Operational	INAMHI	GOES
H0890	ZAMORA DJ NANGARITZA	Hydrological	NO	Non-Operational	INAMHI	GOES
H0894	PAUTE EN PAUTE (DJ GUALACEO)	Hydrological	YES	Operational	INAMHI	GOES
H1133	AGUARICO EN NUEVA LOJA (LA GABARRA)	Hydrological	YES	Operational	INAMHI	GOES
H1134	COCA EN SAN SEBASTIAN	Hydrological	YES	Operational	INAMHI	GPRS
H1136	NAPO EN NUEVO ROCAFUERTE	Hydrological	YES	Operational	INAMHI	GOES
H1149	SANTIAGO EN BATALLON SANTIAGO	Hydrological	YES	Operational	INAMHI	GOES
H1153	NAPO AJ PAYAMINO	Hydrological	NO	Non-Operational	INAMHI	GOES
H5007	ZARUMILLA EN CARCABON	Hydrological	NO	Non-Operational	INAMHI	GOES
H5011	PAYAMINO AJ NAPO	Hydrological	NO	Non-Operational	INAMHI	GPRS
M0001	INGUINCHO	Meteorological	YES	Operational	INAMHI	GOES
M0002	LA TOLA	Meteorological	YES	Semi-Operational	INAMHI	GPRS
M0003	IZOBAMBA	Meteorological	YES	Semi-Operational	INAMHI	GPRS
M0004	RUMIPAMBA SALCEDO	Meteorological	YES	Operational	INAMHI	GPRS
M0006	PICHILINGUE	Meteorological	NO	Non-Operational	INAMHI	GPRS
M0007	NUEVO ROCAFUERTE	Meteorological	YES	Non-Operational. Valores atípicos	INAMHI	GOES
M0008	PUYO	Meteorological	YES	Operational	INAMHI	GPRS
M0012	LA CUCA	Meteorological	NO	Non-Operational	INAMHI	GPRS
M0024	IÑAQUITO	Meteorological	YES	Semi-Operational	INAMHI	ETHERNET
M0025	LA CONCORDIA	Meteorological	YES	Operational	PNUD/INAMHI	GPRS
M0026	PUERTO ILA	Meteorological	NO	Non-Operational	INAMHI	GPRS
M0031	CAÑAR	Meteorological	YES	Operational	INAMHI	GPRS
M0033	LOJA - LA ARGELIA	Meteorological	YES	Operational	INAMHI	GPRS
M0037	MILAGRO (INGENIO VALDEZ)	Meteorological	YES	Semi-Operational	INAMHI	GPRS

Code	Database name	Network	Transmitting (June)	Status	Owner	Type of transmission
M0055	QUITO AEROPUERTO-PARQUE BICENTENARIO	Meteorological	YES	Operational	INAMHI	GPRS
M0102	EL ANGEL	Meteorological	YES	Operational	INAMHI	GPRS
M0103	SAN GABRIEL	Meteorological	YES	Operational	INAMHI	GPRS
M0105	OTAVALO	Meteorological	YES	Operational	INAMHI	GPRS
M0117	MACHACHI	Meteorological	YES	Operational	GAD MUNICIPAL CANTÓN MEJÍA	
M0124	SAN JUAN LA MANA	Meteorological	YES	Operational	INAMHI	GPRS
M0130	CHILLANES	Meteorological	NO	Non-Operational	INAMHI	GPRS
M0136	CHUNCHI	Meteorological	NO	Non-Operational	ESPOCH (MODEM Y CHIP propuesto por INAMHI)	
M0139	GUALACEO	Meteorological	NO	Non-Operational	INAMHI	GPRS
M0146	CARIAMANGA	Meteorological	NO	Non-Operational	INAMHI	GPRS
M0150	AMALUZA 1	Meteorological	NO	Non-Operational	INAMHI	GOES
M0156	QUININDE	Meteorological	YES	Operational	PNUD/INAMHI	GPRS
M0160	EL CARMEN	Meteorological	YES	Operational	PNUD/INAMHI	GPRS
M0162	CHONE-U. CATOLICA	Meteorological	YES	Operational	INAMHI	GPRS
M0168	PEDERNALES	Meteorological	YES	Operational	INAMHI	GPRS
M0188	PAPALLACTA	Meteorological	YES	Operational	INAMHI	GPRS
M0189	GUALAQUIZA	Meteorological	NO	Non-Operational	INAMHI	
M0221	SAN CRISTOBAL-GALAPAGOS	Meteorological	YES	Semi-Operational	INAMHI	GPRS
M0258	QUEROCHACA	Meteorological	YES	Operational	INAMHI	GPRS
M0427	SAYAUSI (MATADERO DJ)	Meteorological	NO	Non-Operational	INAMHI	
M0444	TEAONE-TABIAZO	Meteorological	YES	Operational	PNUD/INAMHI	GPRS
M1036	RIOBAMBA POLITECNICA	Meteorological	YES	Operational	INAMHI	GPRS
M1040	MACAS SAN ISIDRO-PNS	Meteorological	YES	Semi-Operational	INAMHI	GPRS
M1094	TOMALON-TABACUNDO	Meteorological	YES	Operational	INAMHI	GPRS
M1107	LAGUACOTO	Meteorological	YES	Operational	INAMHI	GPRS
M1124	SIERRAZUL	Meteorological	YES	Operational	INAMHI	GOES
M1128	EL INGENIO	Meteorological	NO	Non-Operational	INAMHI	GPRS
M1170	SANTA ELENA	Meteorological	NO	Non-Operational	INAMHI	GPRS
M1171	HUATICOCHA	Meteorological	NO	Non-Operational	INAMHI	
M1190	SAN BERNABE	Meteorological	YES	Operational	PNUD/INAMHI	ETHERNET y GOES
M1203	LUMBAQUI	Meteorological	NO	Non-Operational	INAMHI	GPRS
M1207	NOBOL	Meteorological	YES	Operational	INAMHI	GPRS
M1208	LA TEODOMIRA	Meteorological	YES	Operational	INAMHI	GPRS
M1217	BAHIA DE CARAQUEZ-PUCE	Meteorological	NO	Non-Operational	INAMHI	GPRS
M1219	TENA HDA. CHAUPISHUNGO	Meteorological	YES	Operational	INAMHI	GPRS
M1220	ATASCOSO (VIA PICHINCHA)	Meteorological	NO	Non-Operational	GADP Pichincha	
M1221	SAN JOSE DE PAYAMINO	Meteorological	NO	Non-Operational	INAMHI	GOES
M1233	CANTAGALLO-GRANJA UNESUM	Meteorological	YES	Operational	INAMHI	GPRS
M1240	IBARRA - 1	Meteorological	YES	Operational	INAMHI	GPRS

Code	Database name	Network	Transmitting (June)	Status	Owner	Type of transmission
M1242	EL ALMENDRAL - GRANJA ALMENDRAL	Meteorological	NO	Non-Operational	INAMHI	GPRS
M1244	PALMALES	Meteorological	NO	Non-Operational	INAMHI	GPRS
M1246	LAS LAJAS	Meteorological	YES	Operational	INAMHI	GPRS
M1247	CHUQUIRIBAMBA	Meteorological	YES	Operational	INAMHI	GPRS
M1249	PALESEMA	Meteorological	NO	Non-Operational	INAMHI	GPRS
M1253	PUERTO HONDO	Meteorological	YES	Operational	SENESCYT	GPRS
M1256	RANCHEROS DEL NORTE-EL CARMELO	Meteorological	YES	Operational	INAMHI	GOES
M1259	MACARA - 1	Meteorological	NO	Non-Operational	INAMHI	GOES
M1262	LA PALMA	Meteorological	YES	Operational	PNUD/INAMHI	GPRS
M1266	SAN MARCOS -LA CELICA	Meteorological	YES	Operational	PNUD/INAMHI	GPRS
M1271	GUAYAQUIL (FACULTAD CCNN)	Meteorological	YES	Operational	INAMHI	GPRS
M1273	LLOA	Meteorological	YES	Operational	INAMHI	GPRS
M1274	POLITECNICA SALESIANA-CAMPUS SUR	Meteorological	YES	Operational	UPS Quito - Universidad Politécnica Salesiana	GPRS
M5090	LA LAMPADA	Meteorological	YES	Operational	INAMHI	GPRS
M5091	TANZARAY	Meteorological	NO	Non-Operational	INAMHI	GOES
M5092	GUALLETURO	Meteorological	NO	Non-Operational	INAMHI	GPRS
M5131	CAMARONERA-SONGA	Meteorological	NO	Non-Operational	SENESCYT	GPRS
M5132	COE-MONTE BELLO	Meteorological	YES	Operational	SENESCYT	GPRS
M5133	CUERPO DE BOMBEROS DIVINO NIÑO-DURAN	Meteorological	YES	Operational	SENESCYT	GPRS
M5134	MINISTERIO DE SALUD MACHALA-SNEM	Meteorological	YES	Operational	SENESCYT	GPRS
M5135	HOSPITAL PUBLICO-HUAQUILLAS	Meteorological	YES	Operational	SENESCYT	GPRS
M5136	COLEGIO 13 DE MAYO-PORTOVELO	Meteorological	YES	Operational	SENESCYT	GPRS
M5137	ZARUMA	Meteorological	NO	Non-Operational	SENESCYT	GPRS
M5151	GLACIAR 11 CHIMBORAZO	Meteorological	NO	Non-Operational	INAMHI	GOES
M5192	EL CHONTAL	Meteorological	YES	Operational	PNUD/INAMHI	GOES