

Activities during February 2022- March 2023 in relation with the role as GCOS Lead Center for the WMO RA-III

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1. Activities of Lead Center for GCOS – CHILE

The monitoring of this report corresponds to February 2022 and March 2023. Considering the latest events resulting from the pandemic did not have major changes in term of CLIMAT emission. Unfortunately, there is no evaluation of the behaviour of the GSN station between 2019 and 2021, therefore the analysis was based on the last report issued by the Germany Climate Center, the Deutscher Wetter Dienst (DWD) and its comparison with the behaviour of 2018. For the analysis of the GUAN stations, we had the contribution of NCDC-NOAA.

The reports received by the DWD are sent to focal points and in some cases to the Meteorological Service Director, indicating problems and recommendations to resolve. It's important to mention that there are countries that have serious problems sending CLIMAT due to internal service issues, especially Venezuela, Bolivia y Ecuador. The latter is working with Chilean advice to improve its networks and the sending of reports.

Is worth mentioning that Venezuela did not issue a bulletin throughout the whole period. This issue was discussed in person with the Permanent Representative of Venezuela with no positive response.

Since the beginning of the year, Bolivia has been sending a CLIMAT with significant lack of data in some stations (CLIMAT section 1, groups 8 y 9) this is due to the fact that those stations now belong to a other institution (NAABOL) and do not make observations on weekends. Bolivia continues sending bulletins trough Chile or due to problems with GTS.

Surinam only has one station and still appears as GCOS, station 81202 (nickerie) as in previous periods, remains silent and has no communication with the focal point

Perú had problems with the sending and quality of the messages, which was due to the fact that the CLIMAT bulletin was in charge of Peruvian Airports Corporation and Commercial Aviation (CORPAC) and not of the Meteorological Service. this problem was discussed with the Service Director and had a notable improvement due to a conversation between both institutions.

The Station 80001 San Andrés belongs to Colombia has been added to CLIMAT stations

In addition to the monthly CLIMAT, Chile (2019) and Argentina have been sending daily data bulletins.

In 2021, Chile conducted a BUFR data exchange course involving 80 participants from RA-III, which included the BUFR encoding of monthly CLIMAT with daily data.

Silent GSN stations are:

Suriname 81202 Nickerie

Brazil 82571 Barra do Corda
 82704 Cruzeiro do sul
 83264 Gleba celeste
 83842 Curitiba
 83481 Joao Pinheiro
 Bolivia 85230 Charana
 Ecuador 84140 Pichilingue
 Venezuela 80405 La Orchila
 80423 Guiria
 80425 Mene Grande
 80438 Merida
 80450 San Fernando de Apure
 80453 Tumeremo
 80462 Santa Elena de Uairen

Silent GUAN stations are:

Brasil 82397 Fortaleza
 Ecuador 84008 San Cristóbal
 Perú 84628 Lima/Callao
 Argentina 87576 Ezeiza

2. Availability of GSN and GUAN stations in RA-III

The number of GSN station between February 2022 to March 2023 remained practically the same as in previous years. There was only one station added in Colombia bringing the total of 102.

On average 79% of the stations were received (CA) and 72% presented no errors (CC)
 On the other hand, GUAN stations has remained at 18 for the last 4 years

Table N°1: Number of GSN and GUAN stations between 2019 and 2023

	Surface Observations							
	N° of Stations GSN				N° of Stations GUAN			
	2019	2020	2021	2022	2019	2020	2021	2022
Argentina	28	28	28	28	3	3	3	3

Bolivia	10	10	10	10	-	-	-	-
Brasil	18	18	18	18	5	5	5	5
Chile	11	11	11	11	5	5	5	5
Colombia	3	3	3	4	1	1	1	1
Ecuador	4	4	4	4	1	1	1	1
Guyana	1	1	1	1	1	1	1	1
Island	2	2	2	2	1	1	1	1
Paraguay	2	2	2	2	-	-	-	-
Perú	10	10	10	10	1	1	1	1
Suriname	1	1	1	1	-	-	-	-
Uruguay	4	4	4	4	-	-	-	-
Venezuela	7	7	7	7	-	-	-	-
Total	101	101	101	102	18	18	18	18

**Table N°2:
Performance
of GNS
stations Feb.
2022-
Mar.2023**

Country 2022	Number of stations	CA	CC	Ind
Argentina	28	1,0	1,0	1,0
Bolivia	10	0,8	0,7	0,7
Brazil	18	1,0	0,7	0,9
Chile	11	1,0	1,0	1,0
Colombia	4	1,0	1,0	1,0
Ecuador	4	0,4	0,3	0,3
Guyana	1	1,0	1,0	1,0
Island	2	1,0	1,0	1,0
Paraguay	2	1,0	0,7	0,8
Perú	10	1,0	0,9	0,9
Suriname	1	0,0	0,0	0,0
Uruguay	4	1,0	1,0	1,0
Venezuela	7	0,0	0,0	0,0

Prom:0.7

CA: Received CLIMAT messages

CC: Correct CLIMAT messages

The indexes with 100% are Argentina, Chile Colombia, Uruguay. The lower indices are Suriname, Venezuela, (which do not register CLIMAT shipments) and Ecuador. These countries register their reports with more errors, as shown in Fig. N° 1

Figure N°1 Performance indicators

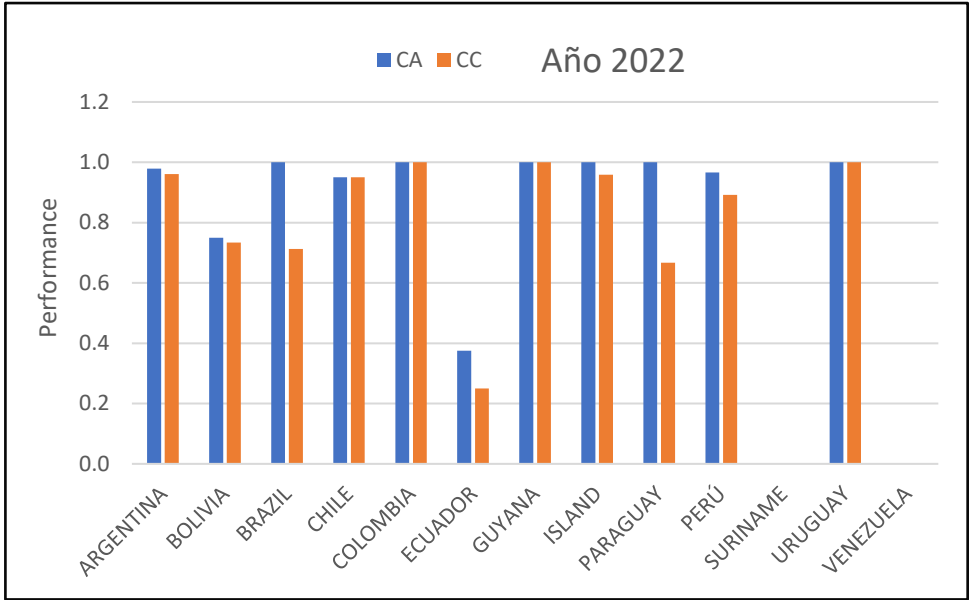
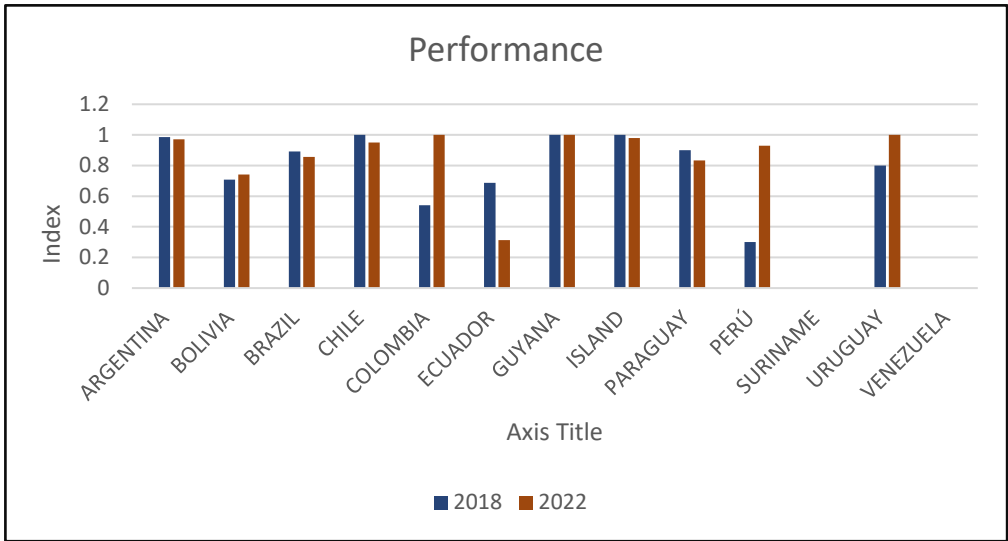


Figure N°2 Performance of GSN stations for two years



In Figure N°2 the countries show a similar behaviour when compared to 2018 which means the same for the last 3 years with a considerable growth in Colombia, Perú and Uruguay and a decrease in Ecuador. The greatest problem is shown in Venezuela and Suriname. Regarding the index, it remained at 0.7 in 2018 and 2022 (where 1 is the optimum).

Figure N°3 Percentage of GSN stations received for two years

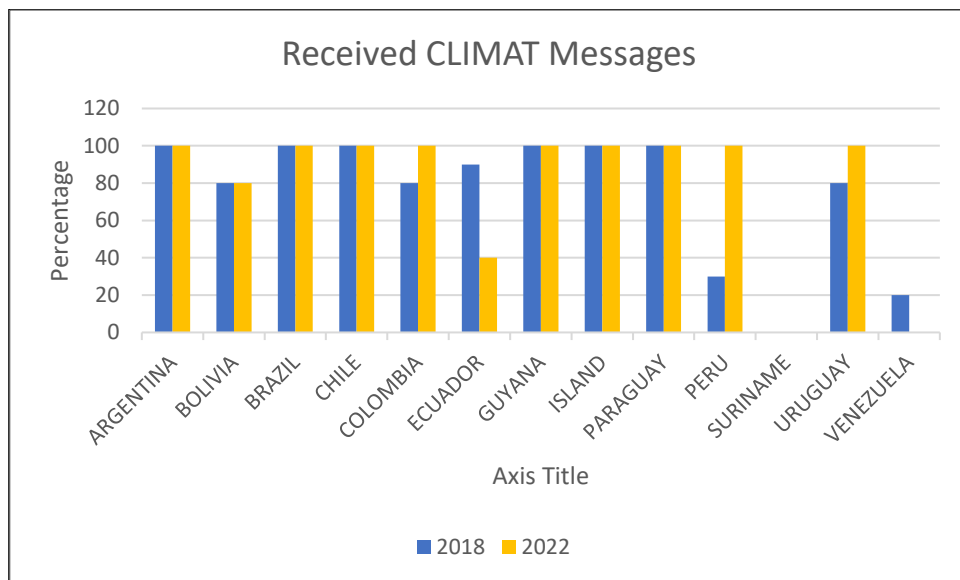
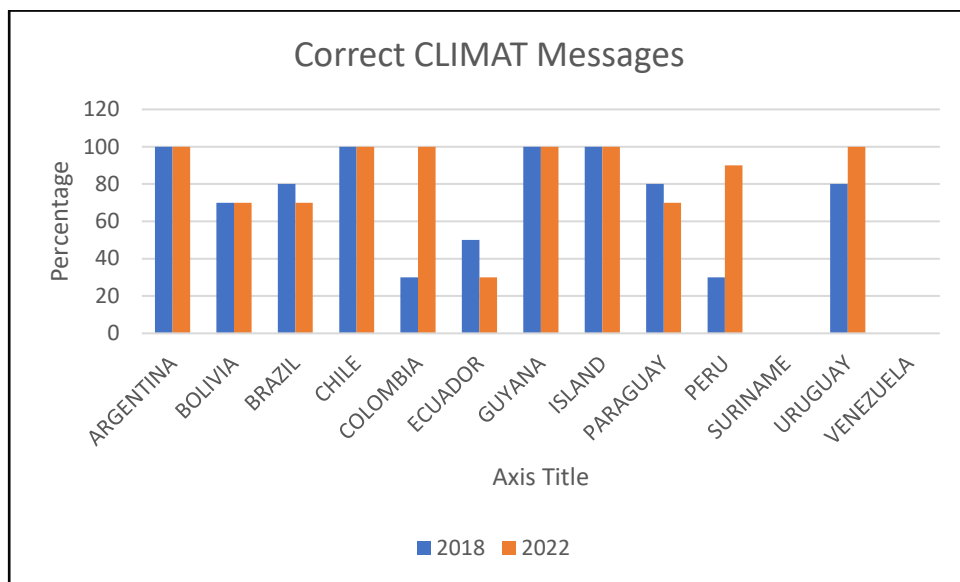


Fig. N ° 3. Shows that in 2018 Perú had a very low percentage of bulletin received (30%), but in 2022 there was a considerable increase. On the other hand, Ecuador shows a significant decrease, the same with Suriname and Venezuela that do not issue a bulletin.

Figure N°5 Percentage of correct messages for two years



In terms of quality, Colombia and Perú stand out for their improvement, with Colombia achieving 100% of correct messages and Perú reaching 90%. As in the messages received, the same countries that present problems are Venezuela (0%), Suriname (0%) and Ecuador (30%).

3. Problems and Solutions

Venezuela is one of the countries that presents the greatest problems in sending the bulletin and in the quality of the data.

Despite having a face to face meeting with the permanent representative of Venezuela, there has been no progress. Surinam presents the same problem, but the focal point of PR has not been contacted.

Ecuador has had a very poor performance, but Chile has been working with them to solve their networks problems and message coding issues.

Most of the countries mention lack of budget for station maintenance and lack of personnel

The Guan station 84008 San Cristobal in Ecuador, 82397 Fortaleza in Brazil, are not reporting from 2016, the same is true of the 84628 Lima/Callao station in Peru since 2018.

The 87576 Ezeiza station in Argentina was out of operation between 2019 and 2020, then it was active between 2021 and April 2022, indicating supply problems

Stations 87155 Resistencia of Argentina and 82332 Manaus of Brazil, stopped working between 2019 and 2020 due to lack of inputs, after this date are operating normally.

4. Recommendations

To manage with WMO at least one face to face regional meeting or workshop on GCOS. There have been online meetings attempts, but without results.