The Global Observing System for Climate

GCOS Network Manager Report

GCOS Regional Workshop

30th Oct – 2nd Nov 2018

Entebbe, Uganda

GCOS Secretariat, WMO

Tim Oakley, GCOS Network Manager

WMO UNESCO IOC ICSU International Council for Science UNEP

GCOS
GLOBAL CLIMATE OBSERVING SYSTEM

UNEP

ICSU International Council for Science

IOC

UNESCO

WMO

GCOS established April 1992

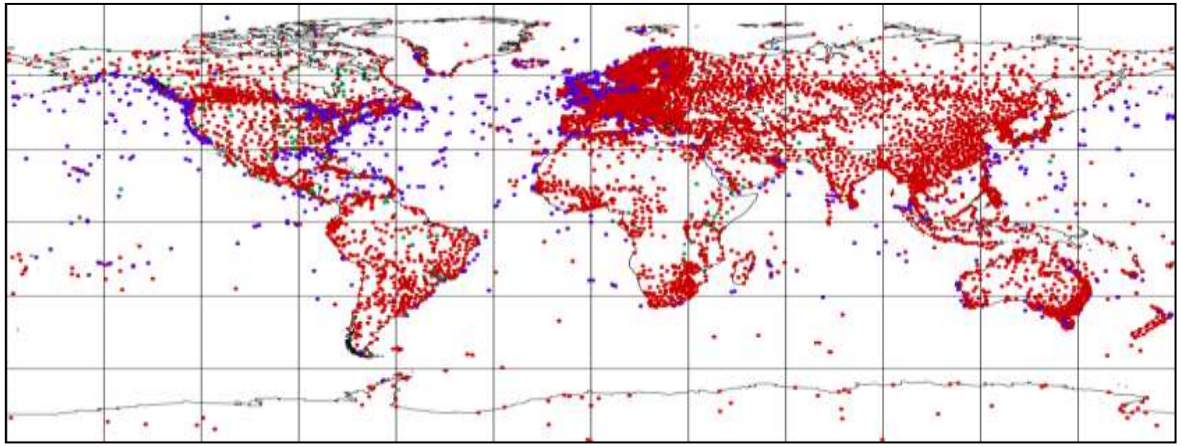
The vision of GCOS is that all users have access to the climate observations, data records and information which they require to address pressing climate-related concerns. GCOS users include individuals, national and international organizations, institutions and agencies.

The role of GCOS is to work with partners to ensure the sustained provision of reliable physical, chemical and biological observations and data records for the total climate system – across the atmospheric, oceanic and terrestrial domains, including hydrological and carbon cycles and the cryosphere.

GCOS is concerned with

the observations

- what is measured, how it is measured, where it is measured, how measurement is sustained, how change is managed



Locations of 36064 surface weather observations received by ECMWF 09-15UTC 12 June 2012

data transmission

- what is transmitted, with what time delay, in what code

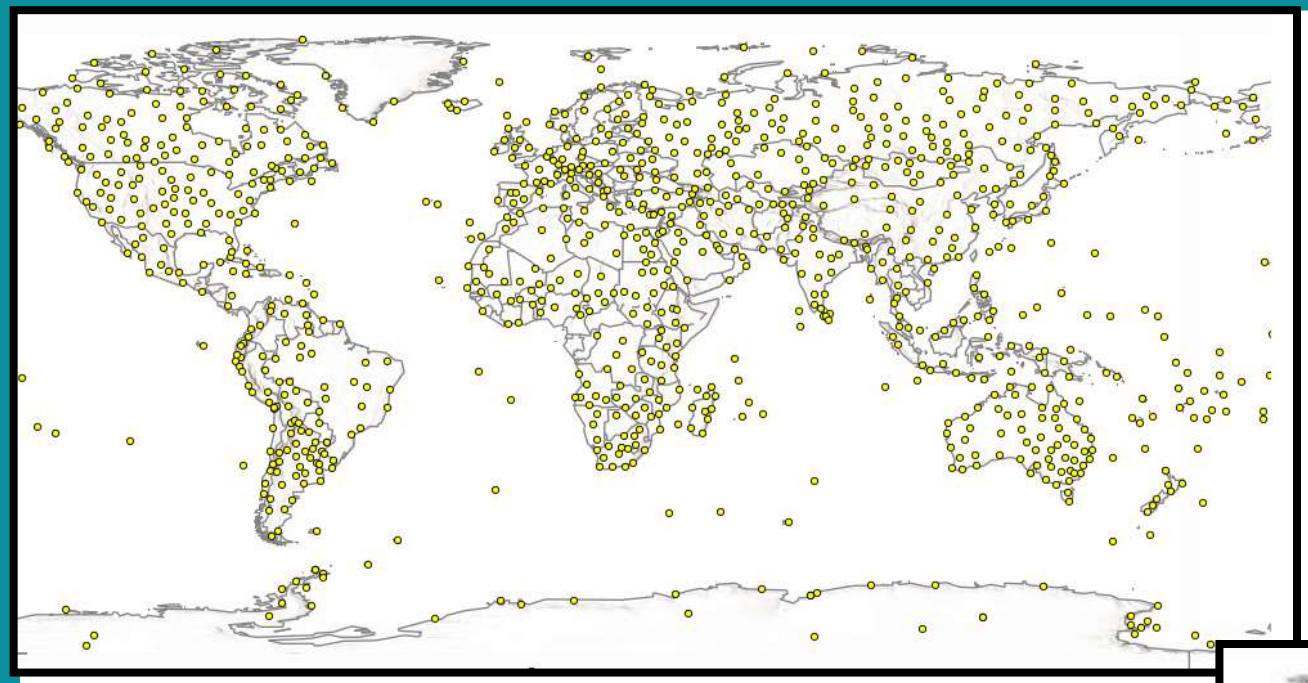
data management, including data rescue

- archiving and access to raw data, metadata, processed data records and products
- recovery and rehabilitation of past data

data records and products

- fundamental records, including recalibration and homogenisation
- satellite retrievals, gridded fields from *in situ* and remotely-sensed measurements, comprehensive reanalyses of multiple observational datasets based on weather-prediction systems

GCOS Networks



GCOS Surface Network (GSN) - 1023

GCOS Upper-Air Network (GUAN) - 177

GSN and GUAN – Station list (2018)

1.1 Network Station List (2018 update, yet to be approved by AOPC)

GCOS Surface Network (GSN)

RA-I	155 Stations (0)	No Changes
RA-II	258 Stations (0)	No Changes
RA-III	101 Stations (0)	No Changes
RA-IV	178 Stations (0)	No Changes
RA-V	151 Stations (0)	No Changes
RA-VI	138 Stations (0)	No Changes
ANTON	42 Stations (0)	No Changes
TOTAL	**1023 Stations**	

GCOS Upper Air Network (GUAN)

RA-I	23 Stations (0)	No Changes
RA-II	38 Stations (0)	No Changes
RA-III	18 Stations (0)	No Changes
RA-IV	24 Stations (0)	No Changes
RA-V	38 Stations (0)	No Changes
RA-VI	24 Stations (0)	No Changes
ANTON	12 Stations (0)	No Changes
TOTAL	**177 Stations (0)**	

Network Monitoring - GSN

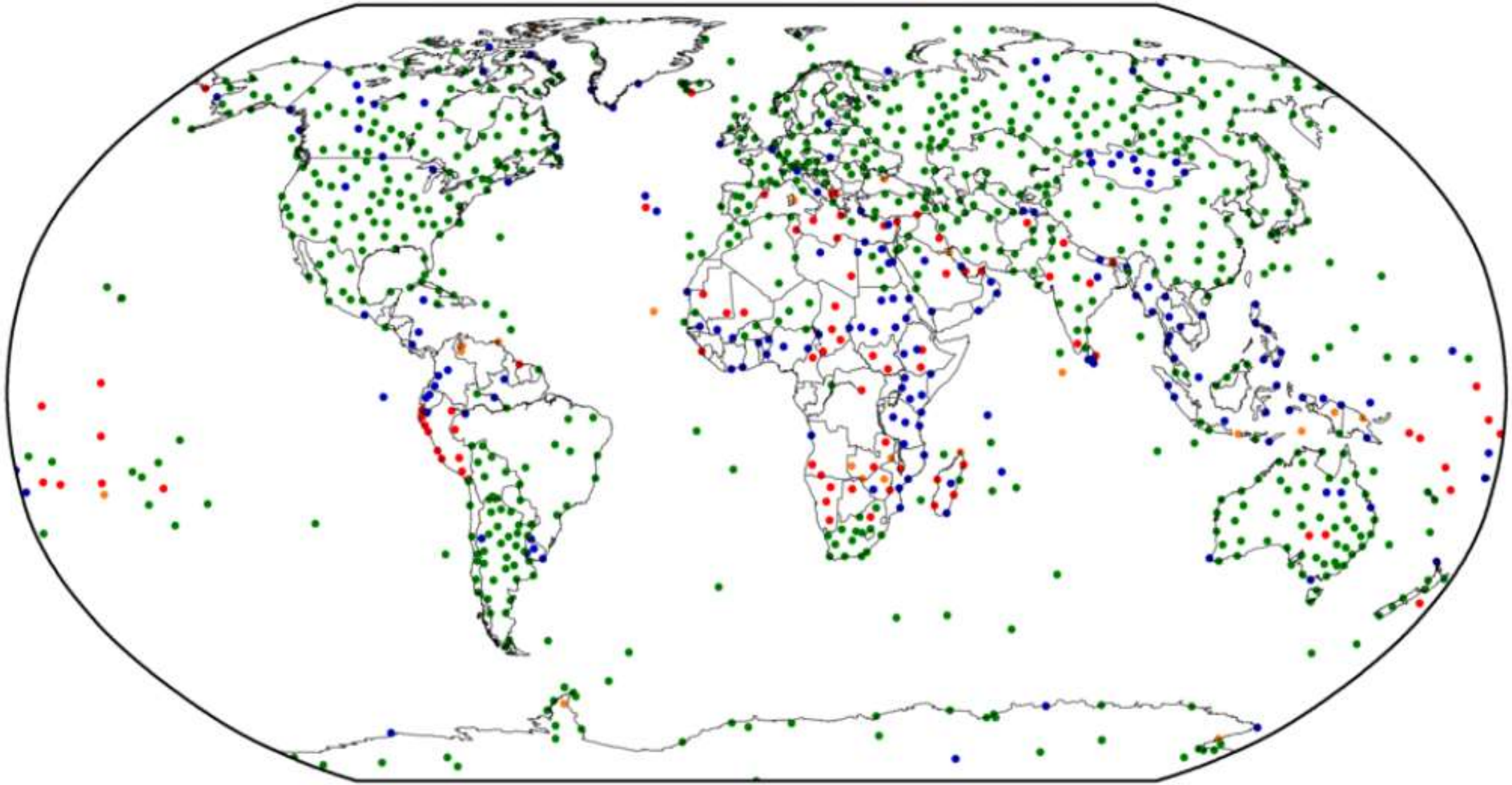
Performance Report of the GSN

The following statistics are an annual summary of the monthly CLIMAT messages in the GCOS Climate Archive (National Climate Environmental Information, NCEI, US). According to the GCOS requirements a fully compliant GSN/RBCN shall have 12 CLIMAT reports. The values represents the 2017 percentage (Oct 2016 to Sept 2017) of stations that are compliant and those that are partially or non-compliant. In brackets are the statistics for 2016, 2015, 2014, 2013, 2012 and 2011 respectively.

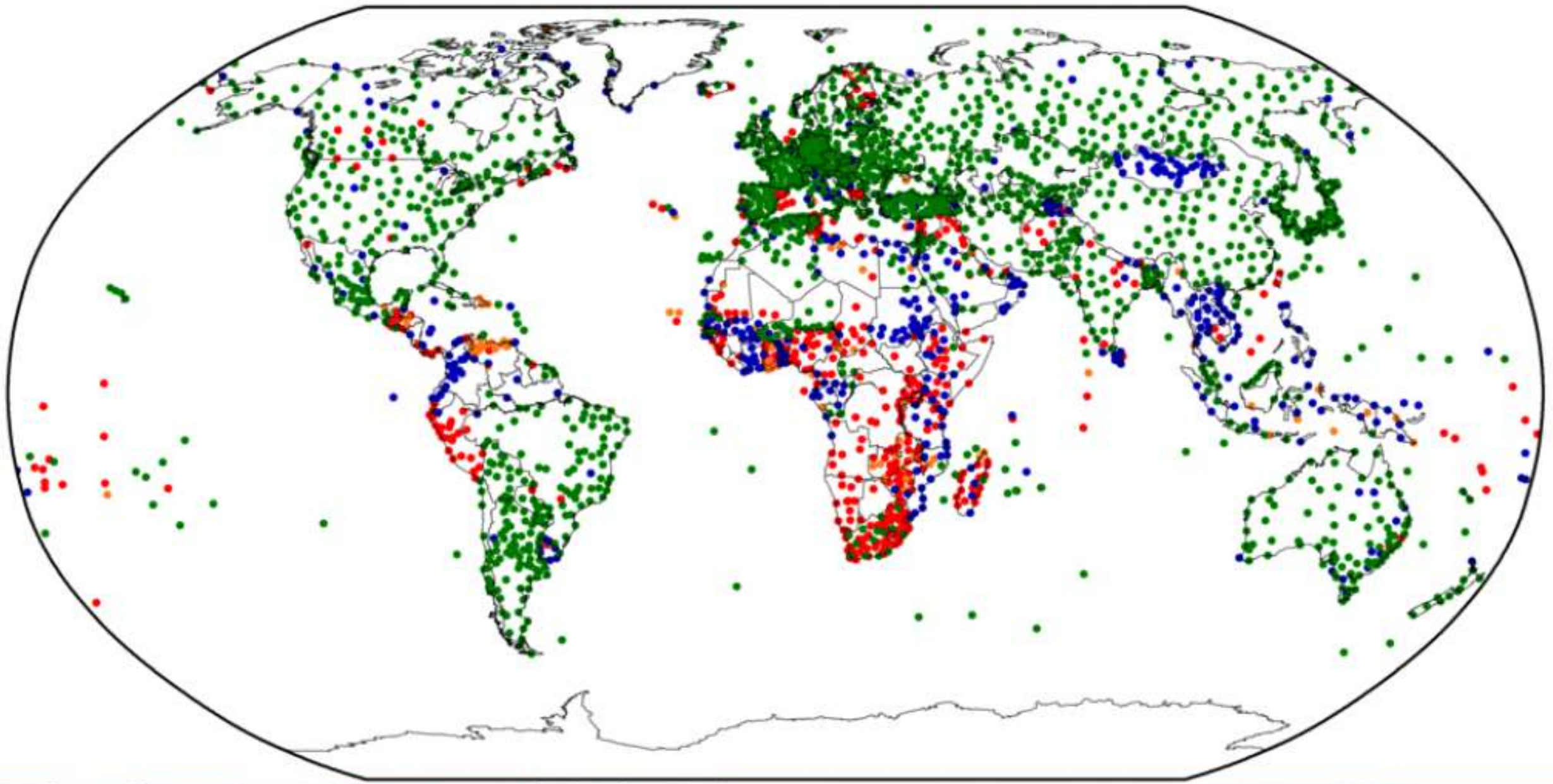
GCOS Surface Network (GSN)

Region	No.	12 Monthly CLIMAT	6 - 11 Monthly CLIMAT	1 - 5 Monthly CLIMAT	0 Monthly CLIMAT
RA-I	155	**36%** (40,29,29,32,28, 23)	**30%** (25,31,33,33,36,39)	**4%** (9,15,10,10,11,14)	**30%** (26,25,28,25,25,24)
RA-II	258	**81%** (83,78,71,73,73,75)	**13%** (10,14,21,19,19,19)	**0%** (2, 2, 3, 2, 2, 1)	**6%** (5, 6, 5, 6, 6, 5)
RA-III	101	**57%** (65,61,76,89,84,69)	**20%** (29,35,20,6,13,28)	**17%** (0, 0, 1, 0, 0, 0)	**6%** (6, 4, 3, 5, 3, 3)
RA-IV	178	**89%** (90,88,88,88,81,80)	**7%** (7, 9,10,11,17,18)	**4%** (2, 2, 1, 1, 1, 1)	**0%** (1, 1, 1, 0, 1, 1)
RA-V	151	**62%** (67, 66,70,63,58,52)	**20%** (15,16,17,16,23,34)	**2%** (3, 4, 1, 7, 7, 1)	**16%** (15,14,13,14,12,11)
RA-VI	138	**82%** (84,77,80,82,78,81)	**7%** (7,14, 9,12,17,15)	**4%** (2, 3, 5, 2, 1, 0)	**7%** (7, 6, 6, 4, 4, 4)
ANTON	42	**81%** (81,77,79,60,45,50)	**19%** (17,19,19,36,43,33)	**0%** (2, 2, 2, 2, 5, 12)	**0%** (0, 2, 0, 2, 7, 5)

GSN, No. months reporting (201704 to 201803), GREEN=12, BLUE=6 to 11, ORANGE=1 to 5, RED=0



RBCN, No. months reporting (201704 to 201803), GREEN=12, BLUE=6 to 11, ORANGE=1 to 5, RED=0



Network Monitoring - GUAN

Performance Report of the GUAN

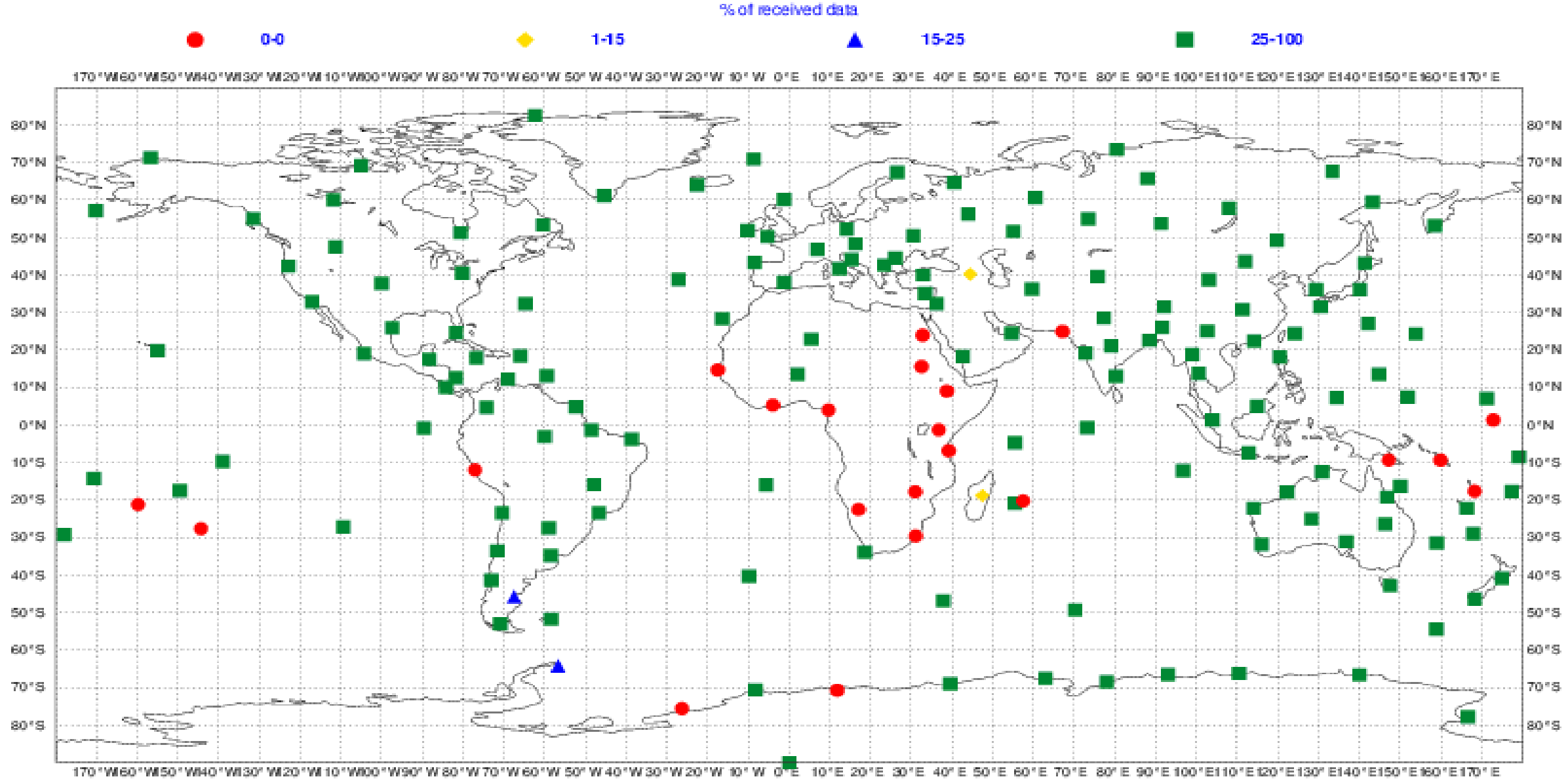
The following table is the 2017 summary for the GCOS Upper-Air Network (GUAN) monitoring against the GCOS minimum requirements (25 daily soundings to 30hPa per month) for each region, according to the monthly statistics provided by NCEP. In brackets are the same statistics for 2016, 2015, 2014, 2013, 2012 and 2011. For 2012 and 2011 these are based on availability according to NCEI.

Region	Number of GUAN stations	% meeting minimum GCOS requirements in 2017 (% for 2016, 2015, 2014, 2013, 2012 and 2011)
RA-I	23	30% (39%, 35%, 39%, 46%, 48%, 57%)
RA-II	38	89% (87%, 87%, 87%, 87%, 87%, 87%)
RA-III	18	61% (61%, 67%, 72%, 67%, 89%, 78%)
RA-IV	24	92% (87%, 79%, 83%, 75%, 83%, 87%)
RA-V	38	79% (84%, 79%, 76%, 74%, 84%, 87%)
RA-VI	24	87% (87%, 87%, 87%, 83%, 92%, 87%)
ANTON	12	67% (58%, 67%, 58%, 58%, 83%, 83%)

Eleven (11) of the GUAN stations (6%) were 'Silent' (zero reported TEMP observations) during 2017, which is the highest since this monitoring was started in 2011. In 2016 and 2015 it was seven (7), 2014 and 2013 it was three, four (4) in 2012 and five (5) in 2011.

GUAN STATIONS Aug 2018
Frequency of Reception data at ECMWF
Level: 100 hPa Temperature SUMMARY 00/12 UTC

-



The International Data Rescue (I-DARE) Portal

This International Data Rescue (I-DARE) Portal provides a single point of entry for information on the status of past and present worldwide to be rescued data and data rescue projects, on best methods and technologies involved in data rescue, and on metadata for data that need to be rescued.

https://www.idare-portal.org/

Data & Projects

Copernicus Climate Change Data Rescue Service

The Copernicus Climate Change Data Rescue Service that is currently being developed aims to provide an ongoing service to facilitate meteorological data rescue worldwide. It will provide a portal for discovery and registry of both data rescue projects and individual datasets. It will provide tools for scanning, digitising and quality checking data and an upload facility. These data will also be shared with international archives to improve the spatio-temporal coverage of key global climate monitoring datasets.

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Data & Projects (by Country)

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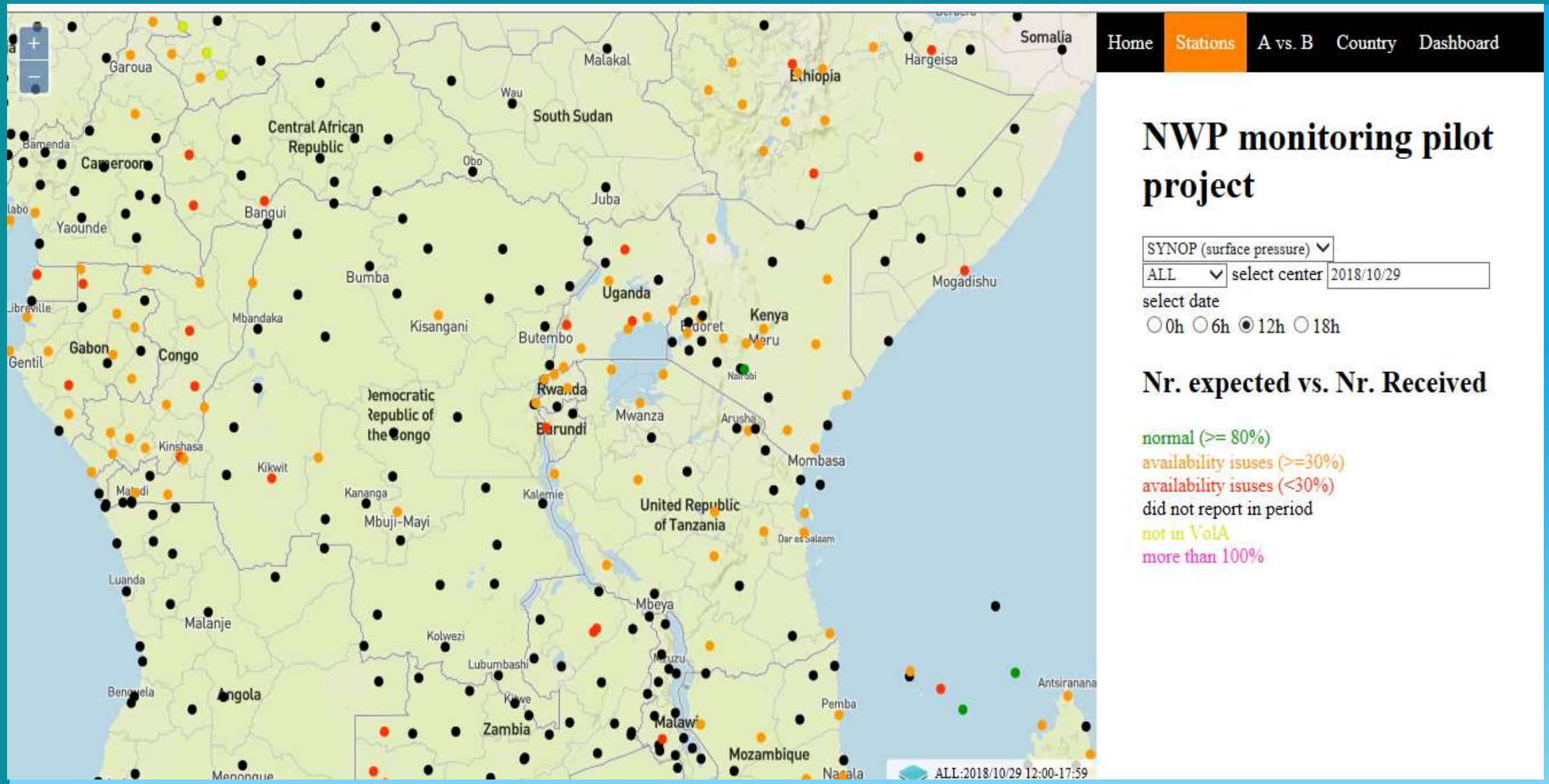
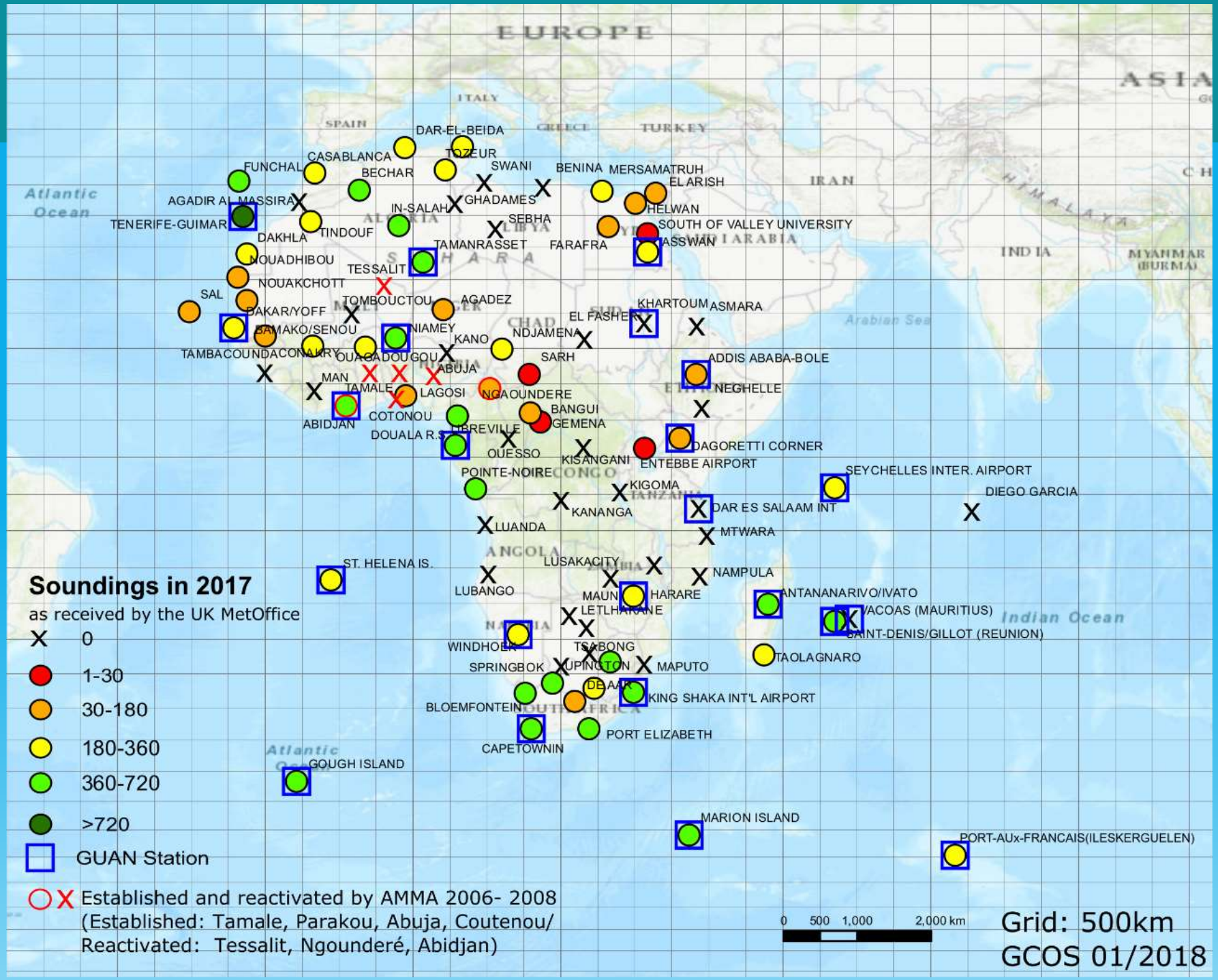
WMO OSCAR/Surface Monitoring – SYNOP (Pressure)




EUROPE
ASIA
ITALY
SPAIN
GREECE
TURKEY
IRAN
INDIA
MYANMAR (BURMA)
Atlantic Ocean
Arabian Sea
Indian Ocean
DAR-EL-BEIDA
CASABLANCA
FUNCHAL
BECHAR
TOZEUR
SWANI
BENINA
MERSAMATRUH
EL ARISH
AGADIR AL MASSIRA
GHADAMES
IN-SALAH
HELWAN
TENERIFE-GUIMAR
TINDOUF
SEBHA
SOUTH OF VALLEY UNIVERSITY
DAKHLA
TAMANRASSET
FARAFRA
ASSWAN
NOUADHIBOU
TESSALIT
NOUAKCHOTT
SAL
TOMBOUCTOU
AGADEZ
KHARTOUM
ASMARA
DAKAR/YOFF
EL FASHER
BAMAKO/SENOU
NIAMEY
NDJAMENA
KANO
TAMBACOUNDA
CONAKRY
OUAGADOUGOU
SARH
ADDIS ABABA-BOLE
ABUJA
MAN
TAMALE
LAGOSI
NGAOUNDERE
NEGHELLE
ABIDJAN
COTONOU
BANGUI
GEMENA
DOUALA R.S.
LIBREVILLE
DAGORETTI CORNER
OUESSO
KISANGANI
ENTEBBE AIRPORT
POINTE-NOIRE
SEYCHELLES INTER. AIRPORT
KIGOMA
DIEGO GARCIA
KANANGA
DAR ES SALAAM INT
LUANDA
MTWARA
ANGOLA
ST. HELENA IS.
LUSAKACITY
NAMPULA
LUBANGO
HARARE
ANTANANARIVO/IVATO
LETLHAKANE
VACOAS (MAURITIUS)
SAINT-DENIS/GILLOT (REUNION)
WINDHOEK
TSABONG
TAOLAGNARO
SPRINGBOK
UPINGTON
MAPUTO
DE AAR
KING SHAKA INT'L AIRPORT
BLOEMFONTEIN
PORT ELIZABETH
CAPETOWNIN
GOUGH ISLAND
MARION ISLAND
PORT-AUx-FRANCAIS(ILESKERGUELEN)
Soundings in 2017
as received by the UK MetOffice
0
1-30
30-180
180-360
360-720
>720
GUAN Station
Established and reactivated by AMMA 2006- 2008
(Established: Tamale, Parakou, Abuja, Coutenou/
Reactivated: Tessalit, Ngounderé, Abidjan)
0 500 1,000 2,000 km
Grid: 500km
GCOS 01/2018

The Global Observing System for Climate

Thank you

gcos.wmo.int

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