A Little Bit About GCOS

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Implementation Project Manager

GCOS Secretariat

Geneva

GCOS Surface Network

Around 1000 Stations (From RBCN)

Roughly 150-300 Km Spacing

Mandatory Requirements:

Monthly CLIMAT Report of Max, Min, Mean Temps, Total Precip

Target Requirements

Daily Max Min, Mean Temp, Precip, Pressure (i.e SYNOP)

Operated by National Met Services

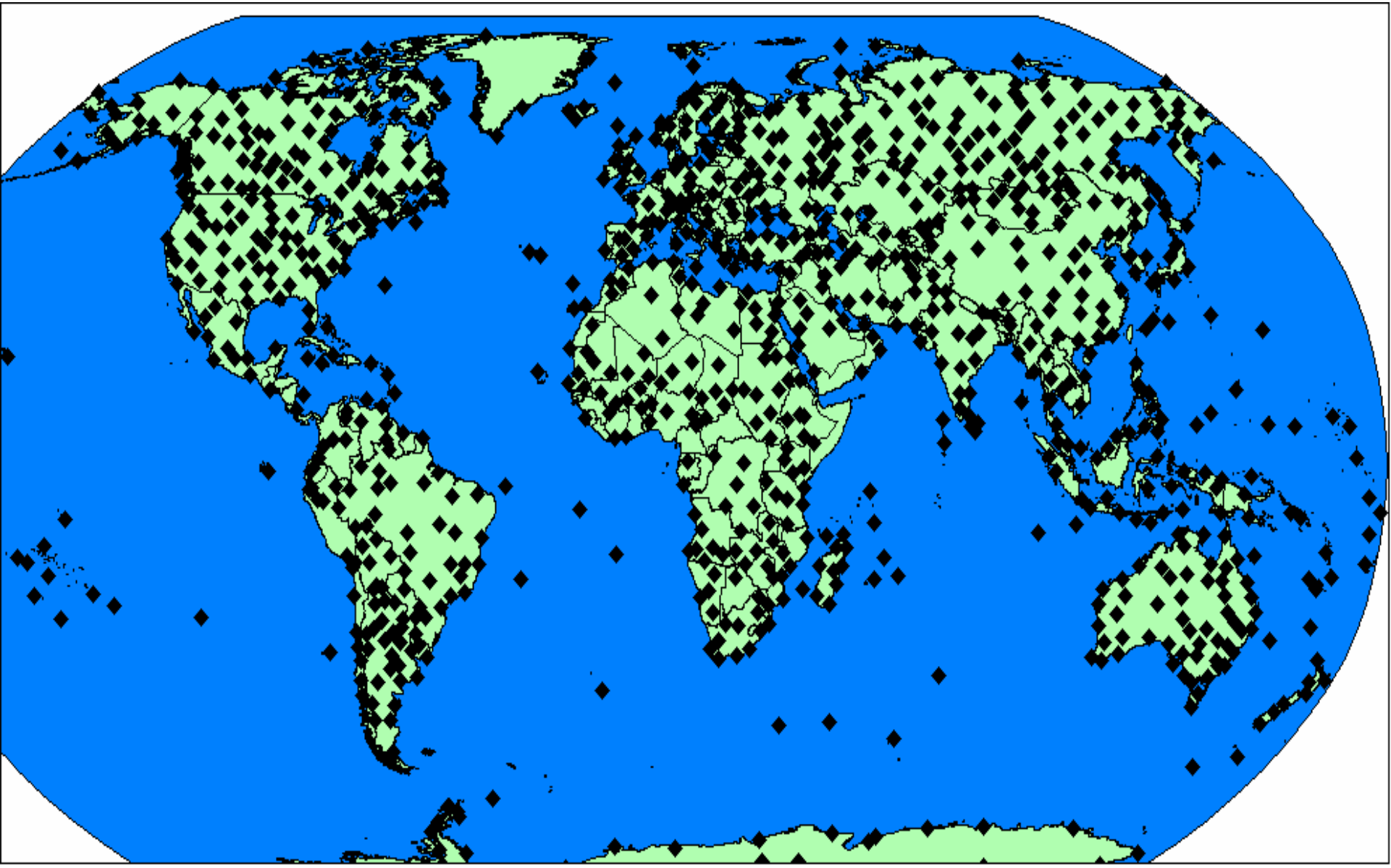
Biggest problems:

No Monthly CLIMAT Reports Prepared

Mis-Identification GTS Routing

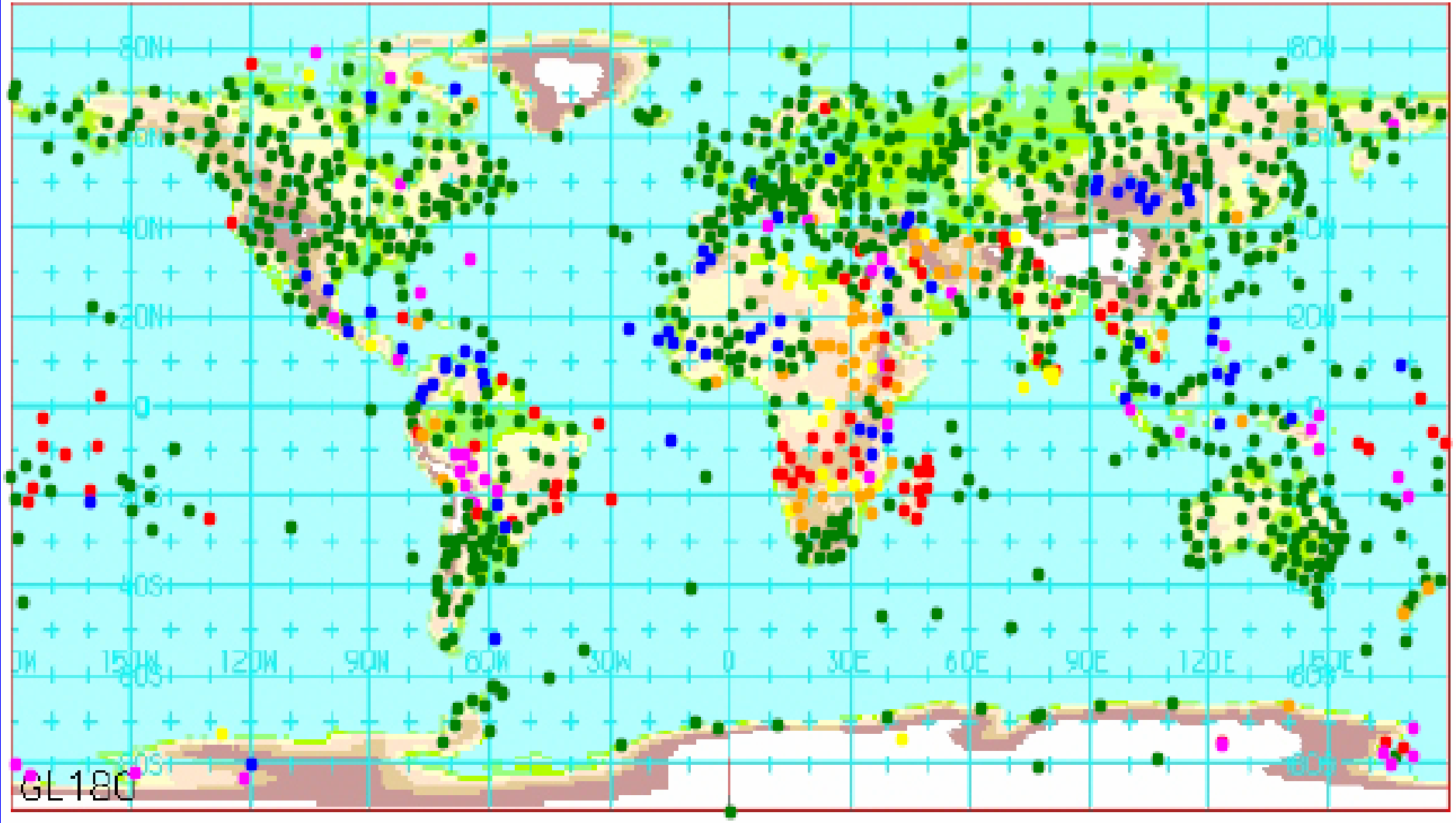
Old , Un-Calibrated Equipment

GSN



Percentage of received CLIMAT-Reports

Selection: GSN-stations from November 2009 to April 2010



- 100% rec. (774 St.)
- 76 - 99% rec. (69 St.)
- 51 - 75% rec. (42 St.)
- 26 - 50% rec. (45 St.)
- 1 - 25% rec. (24 St.)
- not rec. (74 St.)

rec.: received until 20th day of a month following the month to be monitored

GSNMC Germany

GCOS Upper Air Network

About 150 Stations (From RBSN/RBCN)
Uniform Global Distribution (5-10 Deg)
Minimum Requirement
At least 25 soundings/month to 30HPa
Temp, Humidity, Wind Speed and Direction
Target requirement
Temp, Wind, Humidity as High as Possible

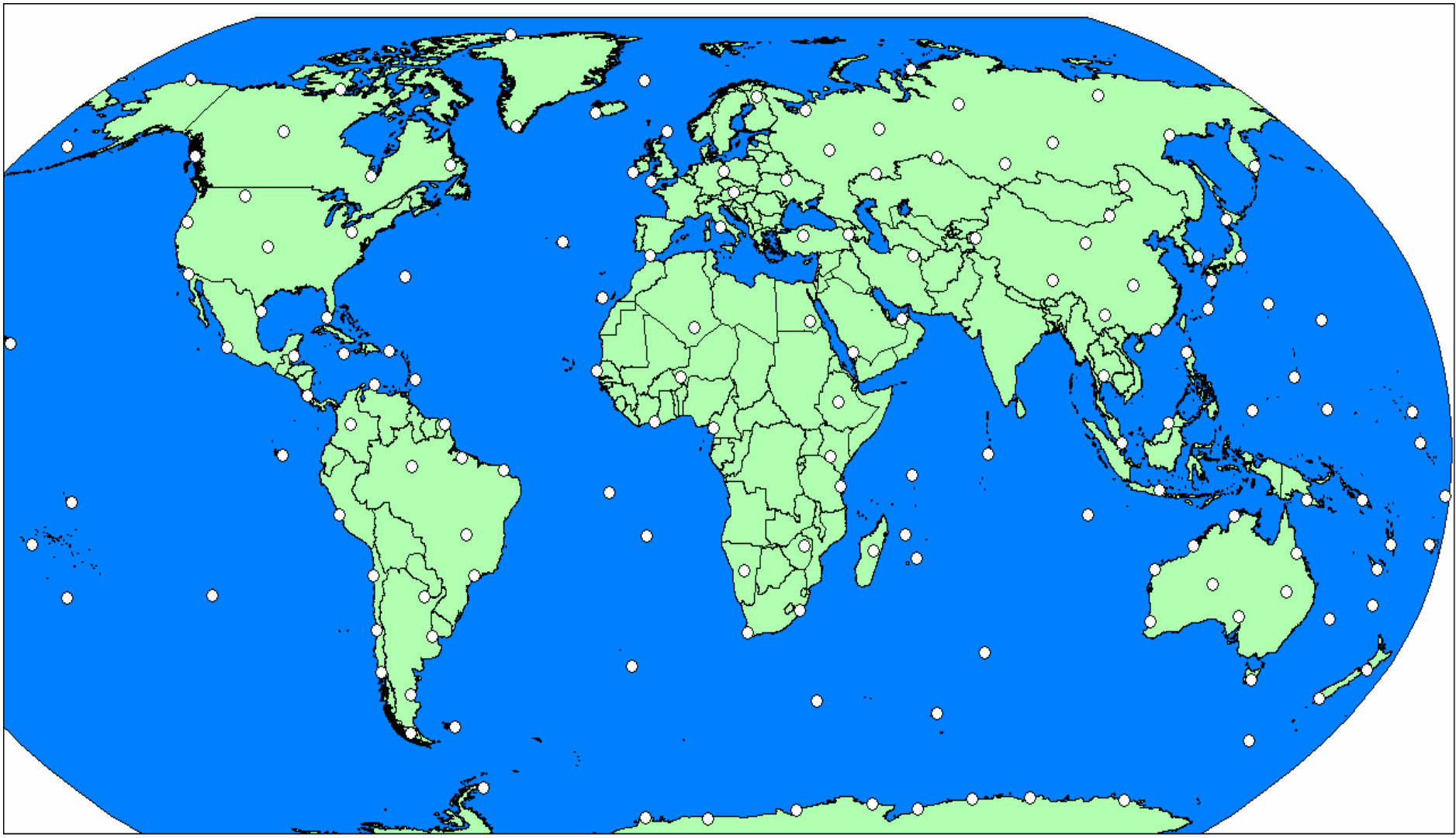
Biggest problems:

Operating Costs

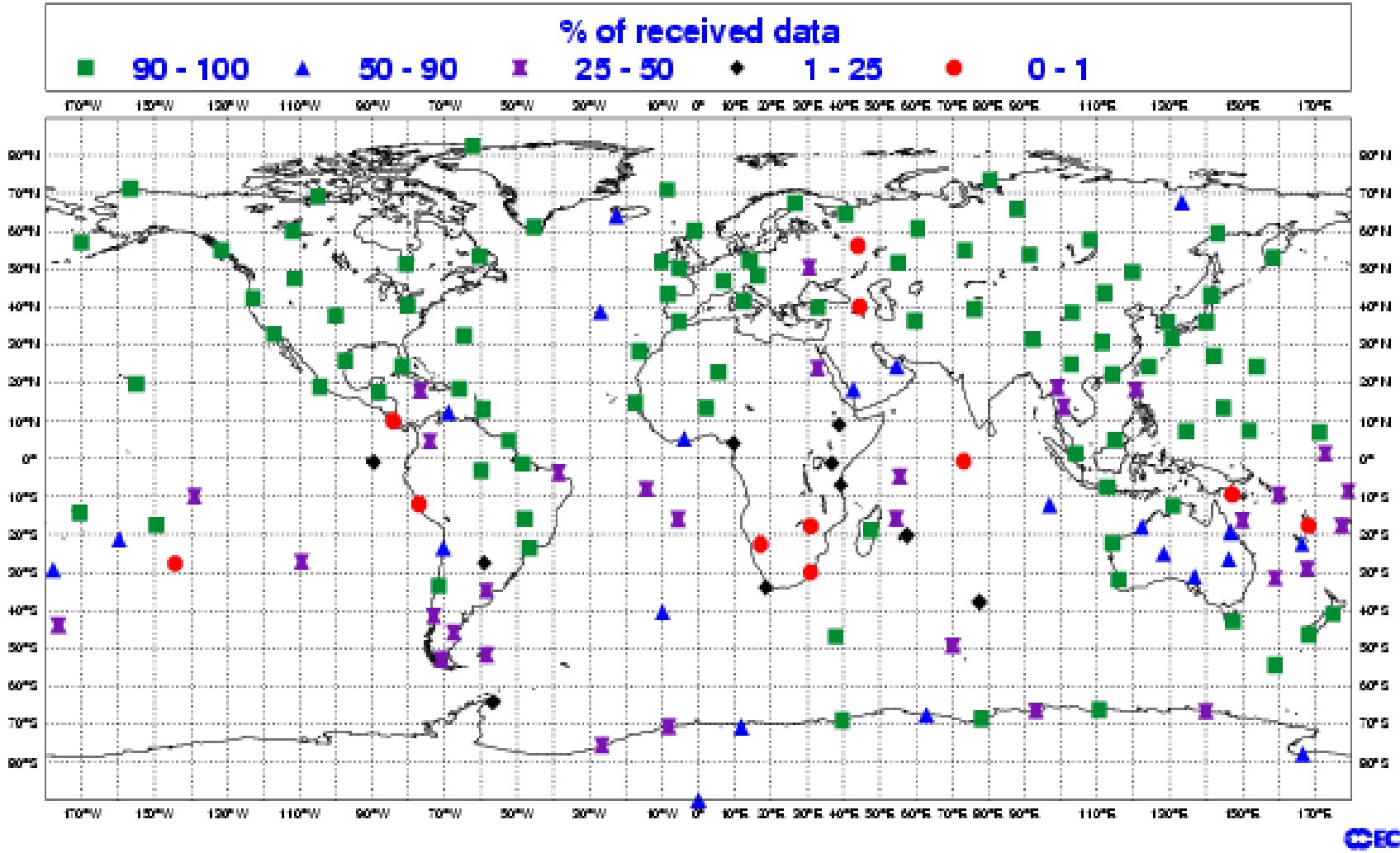
GTS Routing Problems

Old Equipment

GUAN



GUAN STATIONS AUG 2010
Frequency of RECEPTION data at ECMWF
Level: 300 hPa Temperature SUMMARY 00/12 UTC

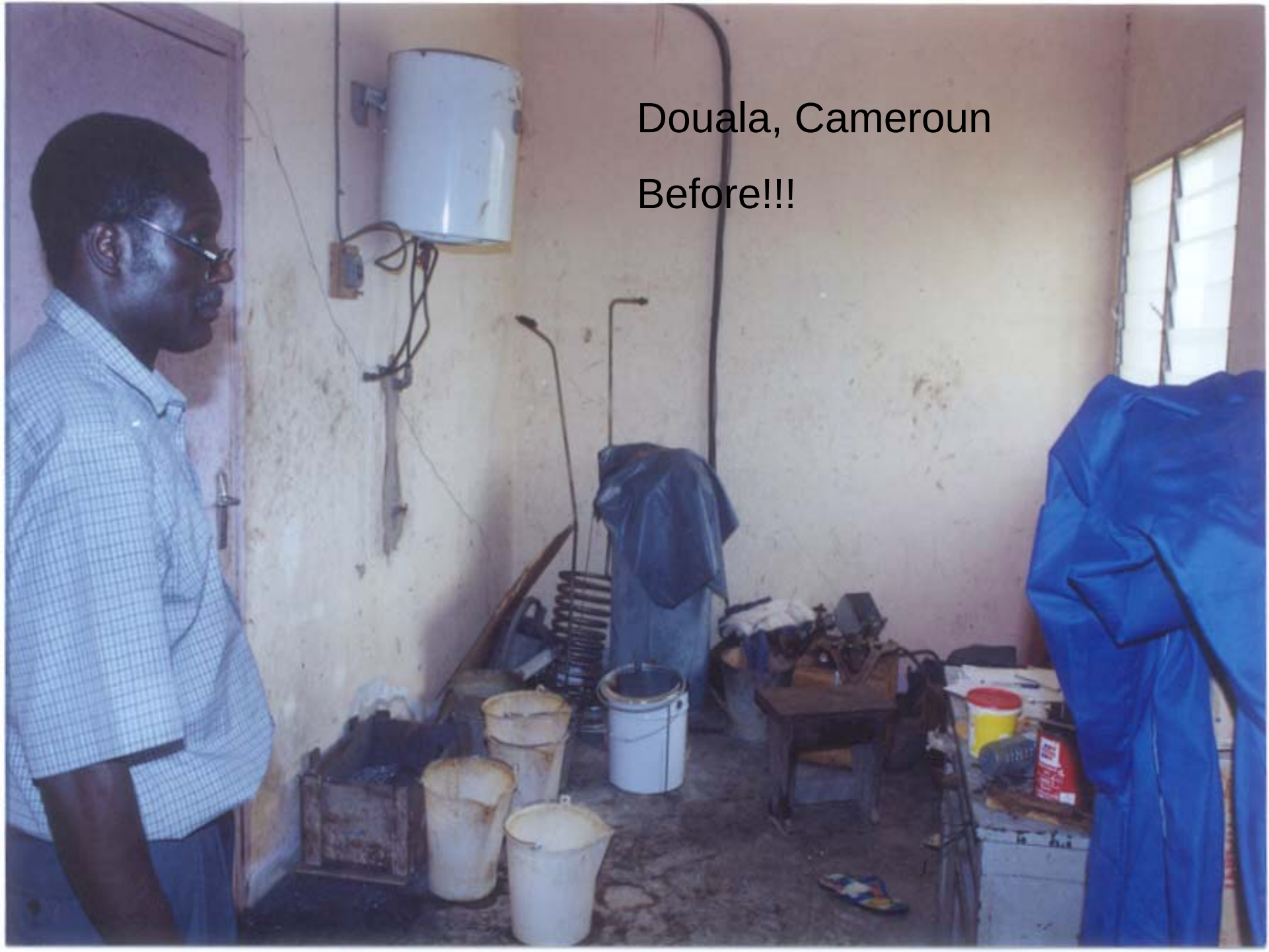


New GUAN Station at Dar es Salaam

New GUAN Station at Gan, Maldives

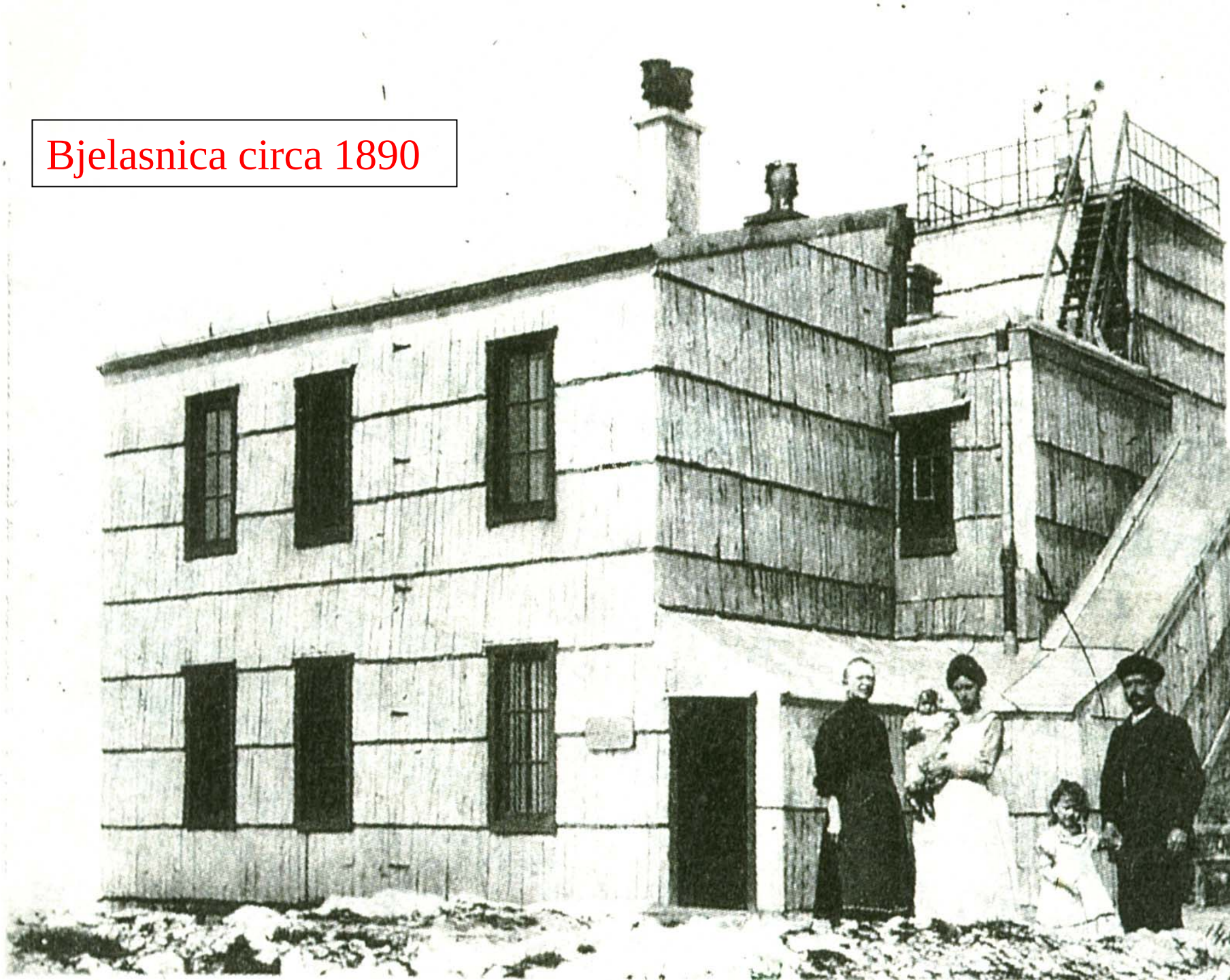
Yerevan, Armenia

Windhoek


Douala, Cameroun
Before!!!

Antananarivo, Madagascar

Before!


Bjelasnica circa 1890


Bjelasnica

Revitalization Activities

Equipment Replacement

Hydrogen Generators and Upper Air Systems

Gan, Maldives

Windhoek, Namibia

Yerevan, Armenia

Douala, Cameroon

Dakar, Senegal

Nairobi, Kenya

Honiara, Solomon Islands

Galapagos, Ecuador

Mahe, Seychelles

Dar es Salaam, Tanzania

Harare, Zimbabwe

Penrhyn, Cook Islands

Antananarivo, Madagascar

Addis Ababa, Ethiopia

Bauerfield, Vanuatu

Laoag, Philippines

Niamey, Niger

Abidjan, Cote d'Ivoire

Radiosondes and Balloons To Many


2009.12.11 12:58

GCOS Technical Support Projects

Four One Year Projects Established

- **Pacific Islands (New Zealand Met Service)**
- **Caribbean (Private Company)**
- **SADC Africa (Botswana Met Service)**
- **Americas (Private Company)**

Visit Each GUAN Station 2 Times per Year

Visit as Many GSN as Possible

Monitor reports from all Stations

Technical Support Projects

Site Visits:

Better Meta Data

Including Photos Around Sensor Suite

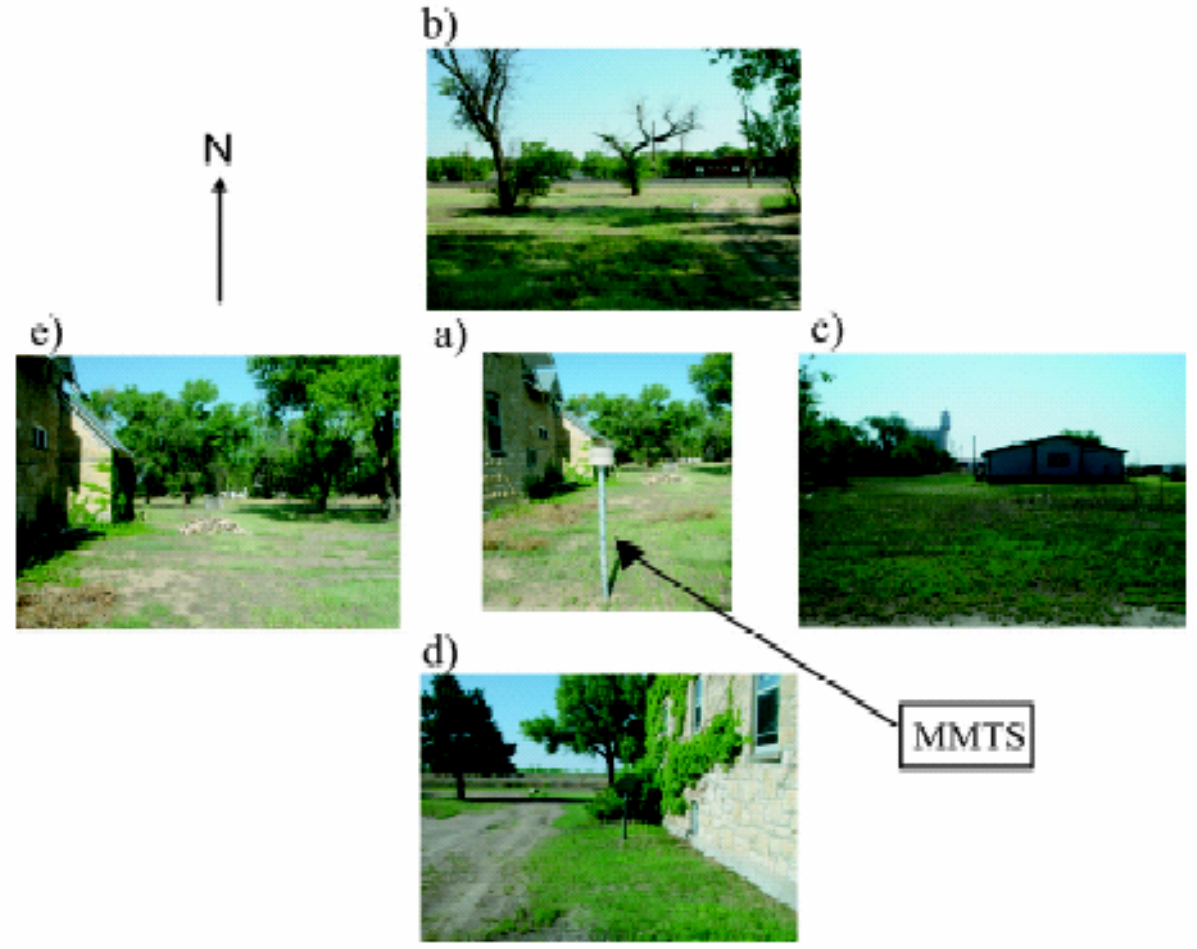
Actual Location of Many are Wrong

Many are no Longer Good Sites

Calibration and Training

Photos Around Station

Example



GCOS Cooperative Mechanism (GCM)

Funds from Spain

- **Latin American Countries**
- **Addressing Uruguay GSN**

Funds from UKMO

- **Radiosondes, Yerevan, Seychelles, Maldives**

Funds From US

- **Implementation Project Manager**
- **Some Projects**

GCOS Cooperative Mechanism (GCM)

Funds From Switzerland

Support for Africa

GSN Renovations in Angola

Radiosondes for Dar es Salaam

and Harare

Next Likely to Renovate Luanda Upper Air

GCOS Cooperative Mechanism (GCM)

Funds from Netherlands

- **Africa Technical Support**
- **Several H2 Generators**

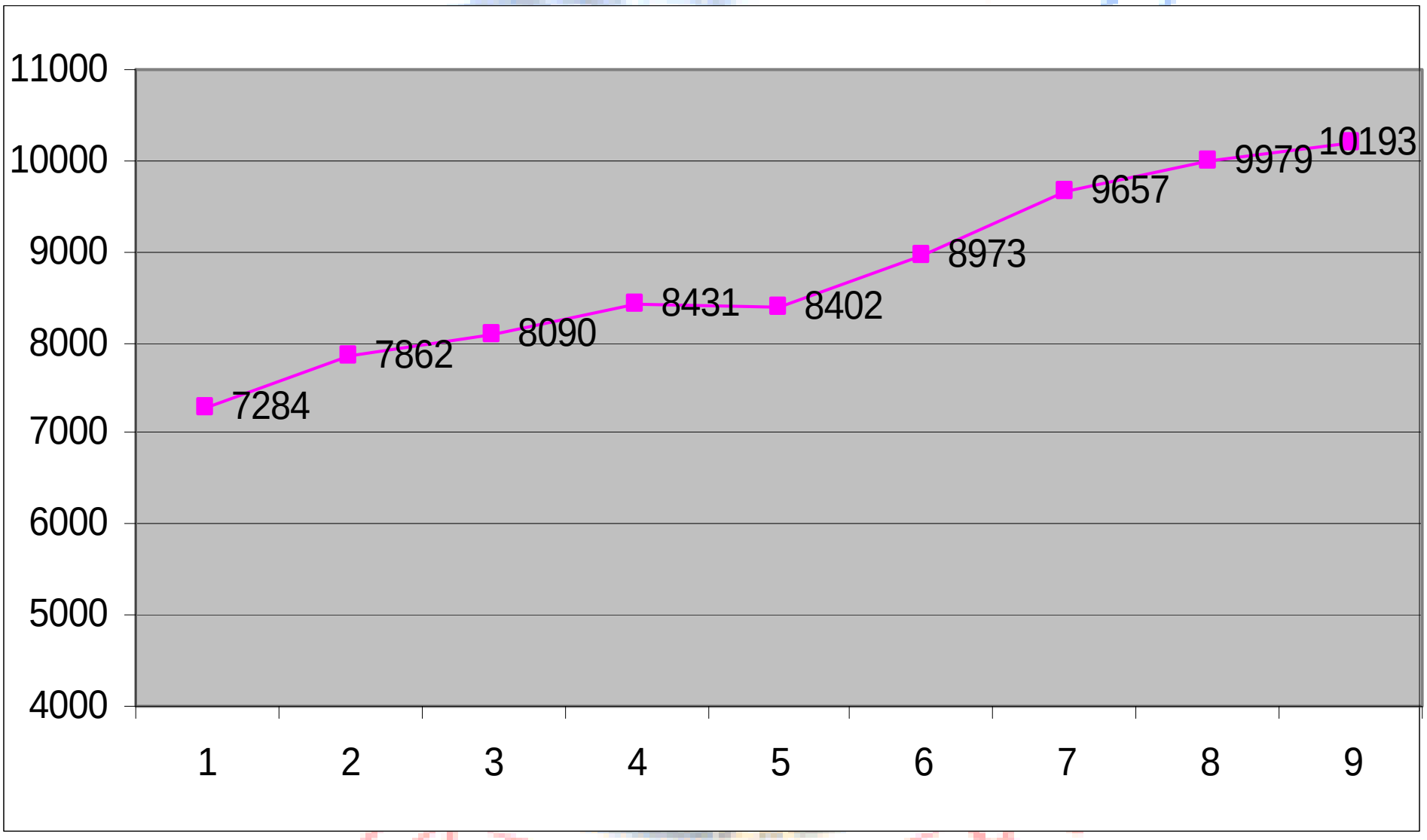
Funds from Germany

- **Former CIS Countries**
- **Wind System for Bjelasnica**

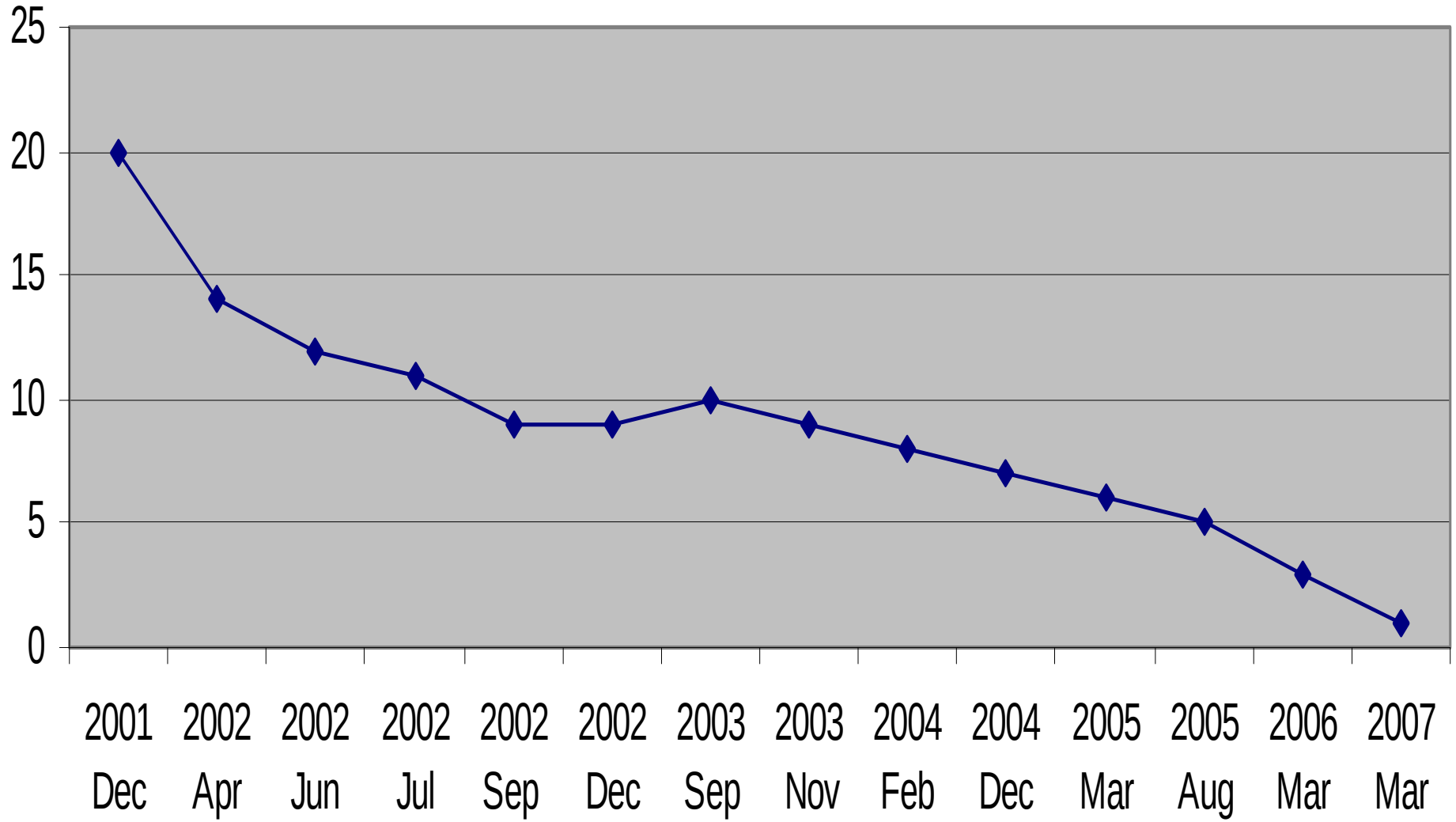
Funds from Canada

- **TSP for the Americas**

Number of CLIMAT Received at NCDC



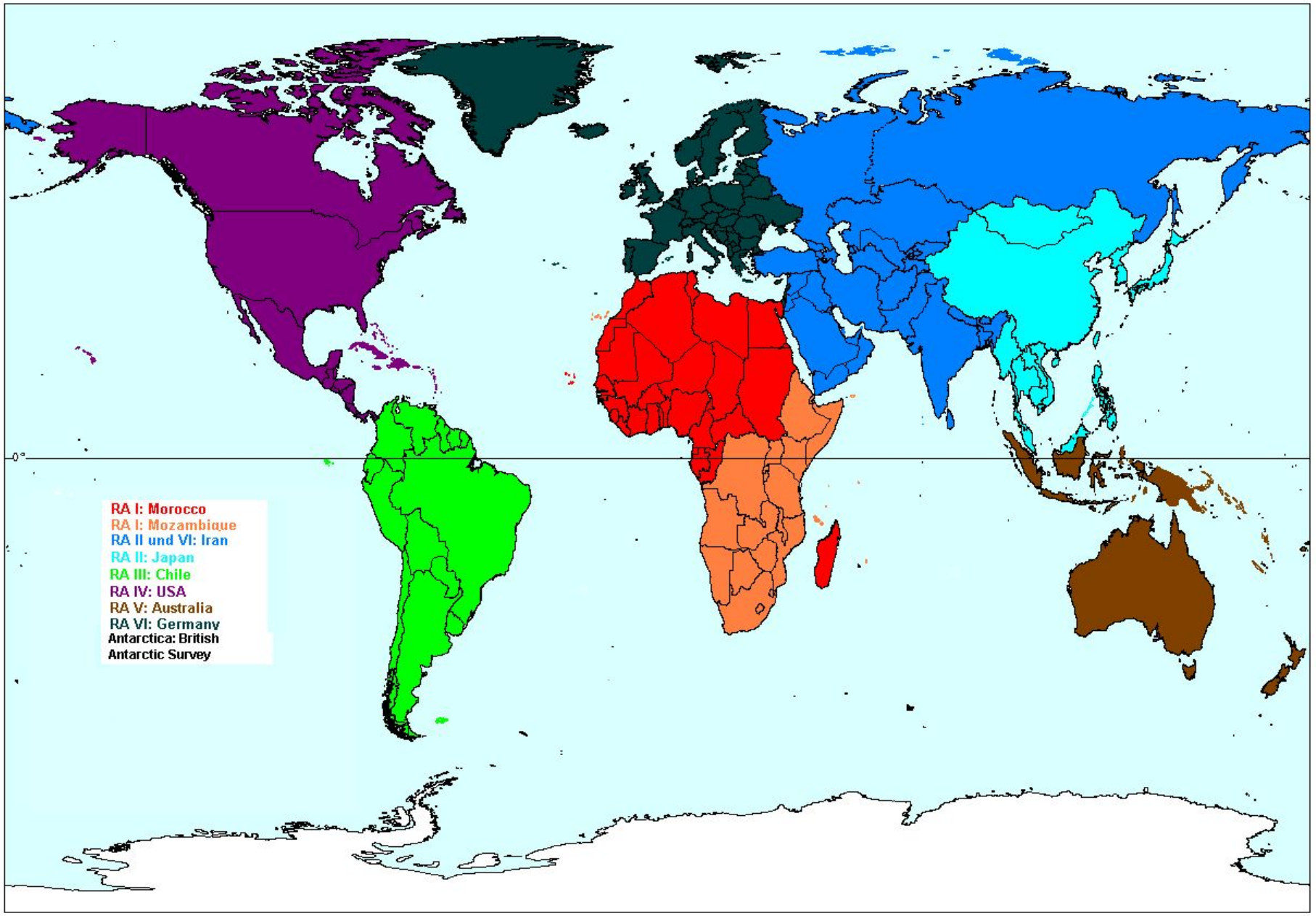
SILENT GUAN


25
20
15
10
5
0
2001 Dec
2002 Apr
2002 Jun
2002 Jul
2002 Sep
2002 Dec
2003 Sep
2003 Nov
2004 Feb
2004 Dec
2005 Mar
2005 Aug
2006 Mar
2007 Mar

CBS Lead Centers for GCOS

Japan	**Takafumi Umeda**
US	**Matt Menne**
	(Assisted by Stuart Hinson)
British Antarctic Survey	**Jonathan Shanklin**
Chile	**Jorge Carrasco**
Mozambique	**Domingos (Mosquito) Patricio**
Germany	**Christiana Lefebvre**
Australia	**Kevin Smith**
Morocco	**Rachid Sebbari**
Iran	**Mina Jabbari**

Areas of Responsibilities of the CBS Lead Centers for GCOS



Status: 01.01.2008

CBS Lead Centers for GCOS

Terms of Reference

Diagnose problems in the GSN and GUAN by using the monitoring reports produced by the GCOS Monitoring and Analysis Centers;

Liaise with nominated National Focal Points for GCOS and related Climatological Data, and other responsible officials, to improve data and meta data availability and quality;

Co-ordinate activities with other GCOS Centers and/or other centers as appropriate;

Monitor and report to CBS and GCOS on actions taken, progress achieved, concerns and recommendations on a yearly basis in a time frame that corresponds to planned AOPC and CBS meetings;

Assist AOPC in the revisions of GSN and GUAN stations;

Assist the WMO Secretariat in maintaining the list of National Focal Points for GCOS and related Climatological Data.

CBS Lead Centers

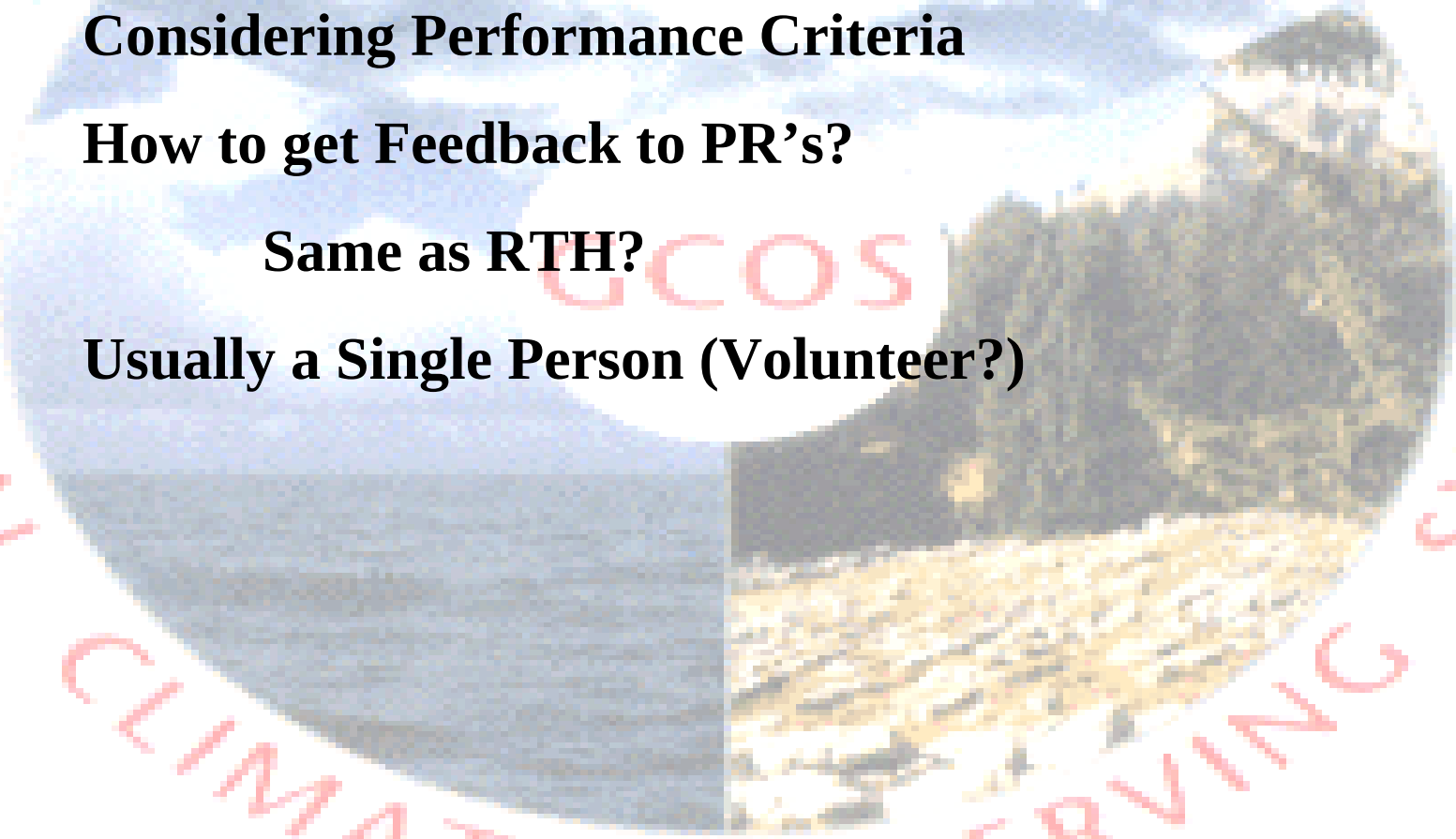
Some Are Better than Others!

Considering Performance Criteria

How to get Feedback to PR's?

Same as RTH?

Usually a Single Person (Volunteer?)



Many New Performance Reports

Access Through GCOS Home Page

ECMWF

NCEP

NCDC

DWD/JMA

OGIMET (University of Grenada)

Recent New Reports

CLIMAT Reports from:

Cuba

DRC

CAR

Zimbabwe

Cameroon

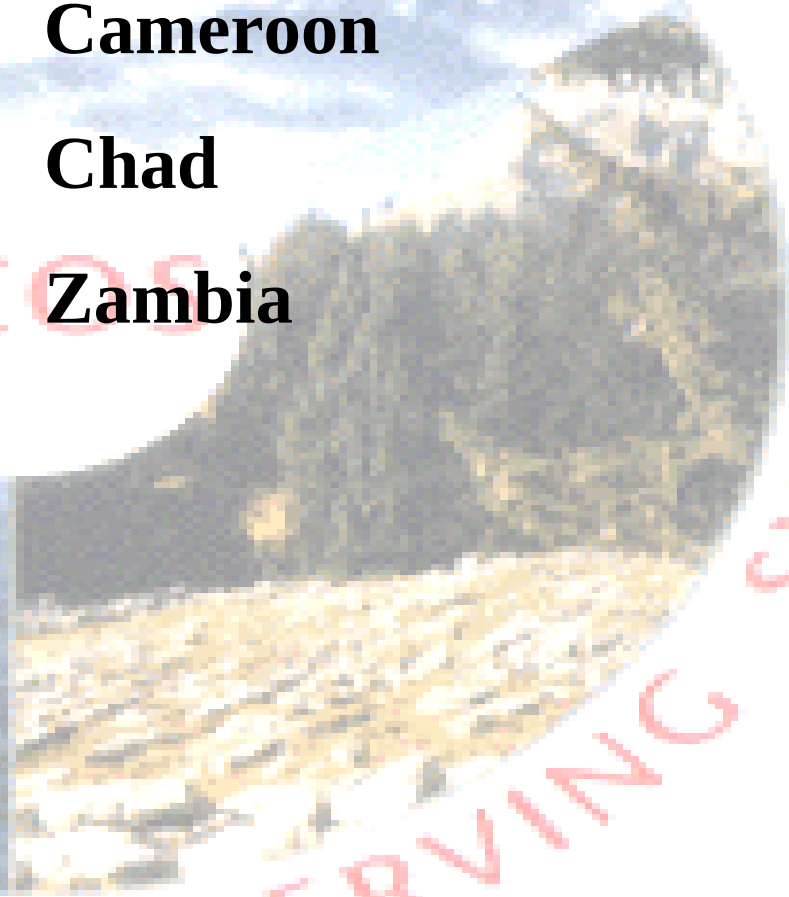
Chad

Zambia

Upper Air Reports

Lima

Conakry



So Why am I here?

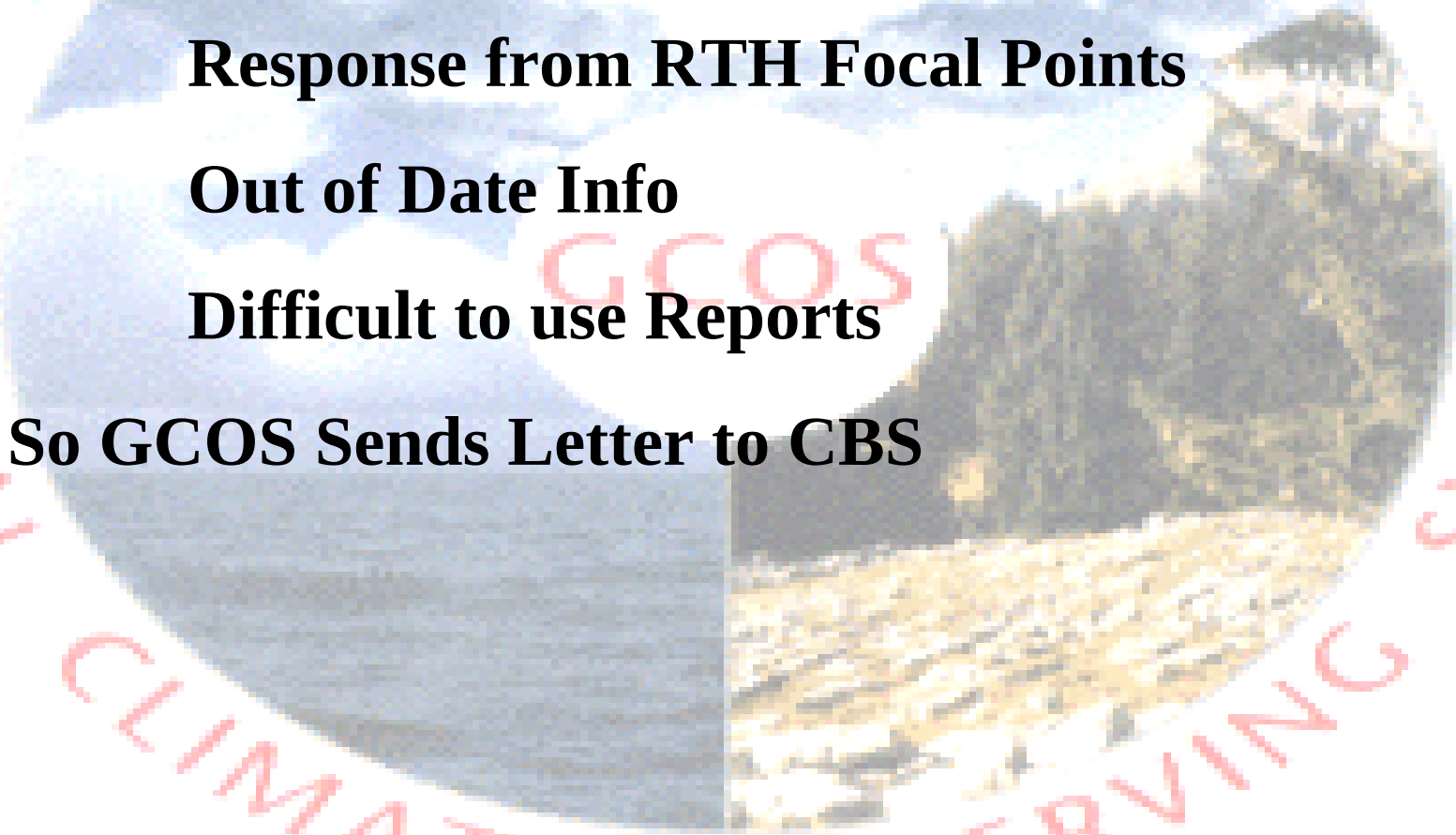
CBS lead Centers Complain About Routing

Response from RTH Focal Points

Out of Date Info

Difficult to use Reports

So GCOS Sends Letter to CBS



So What Do We Want From OI-ET?

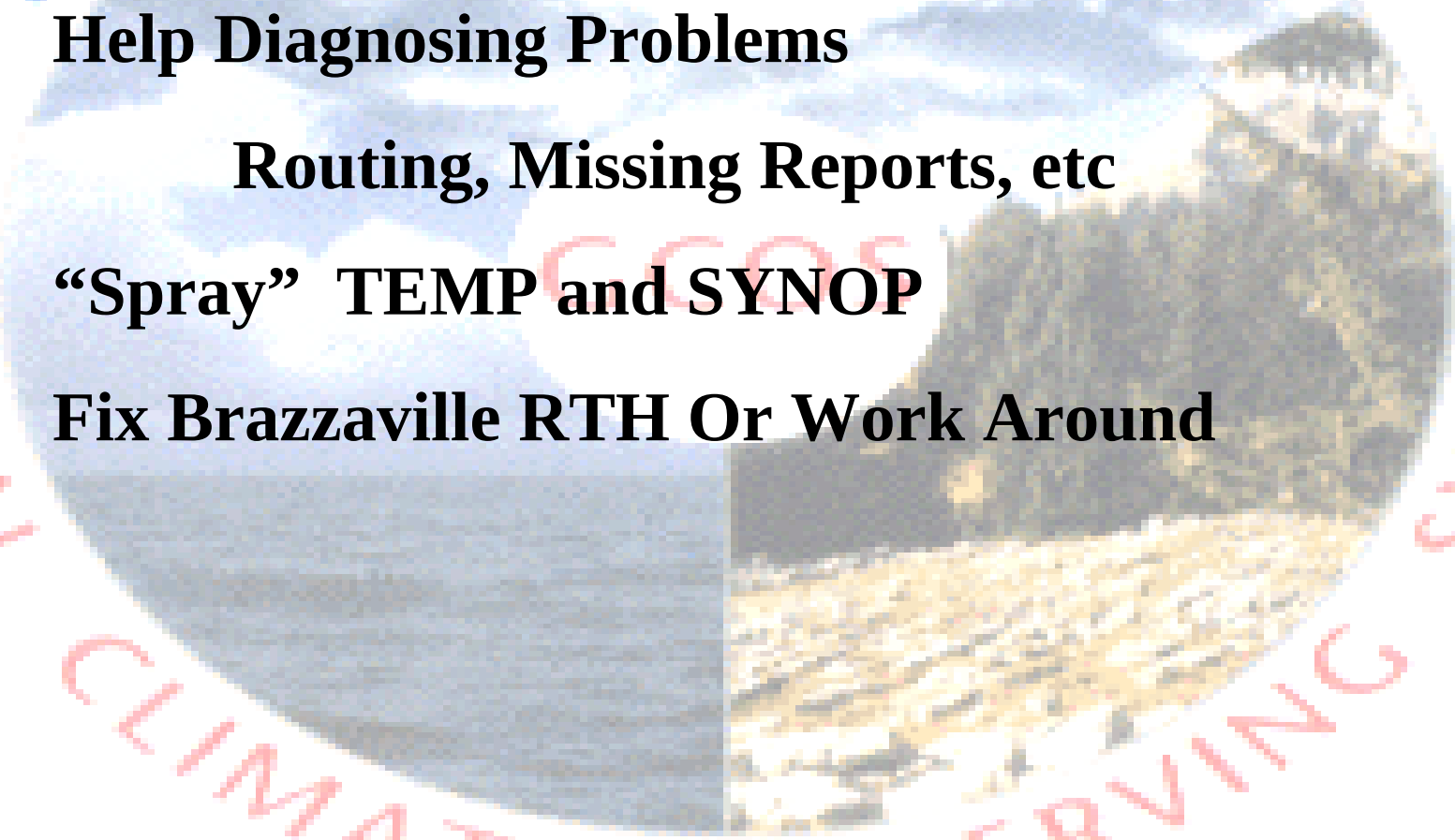
Improved Cooperation/Coordination

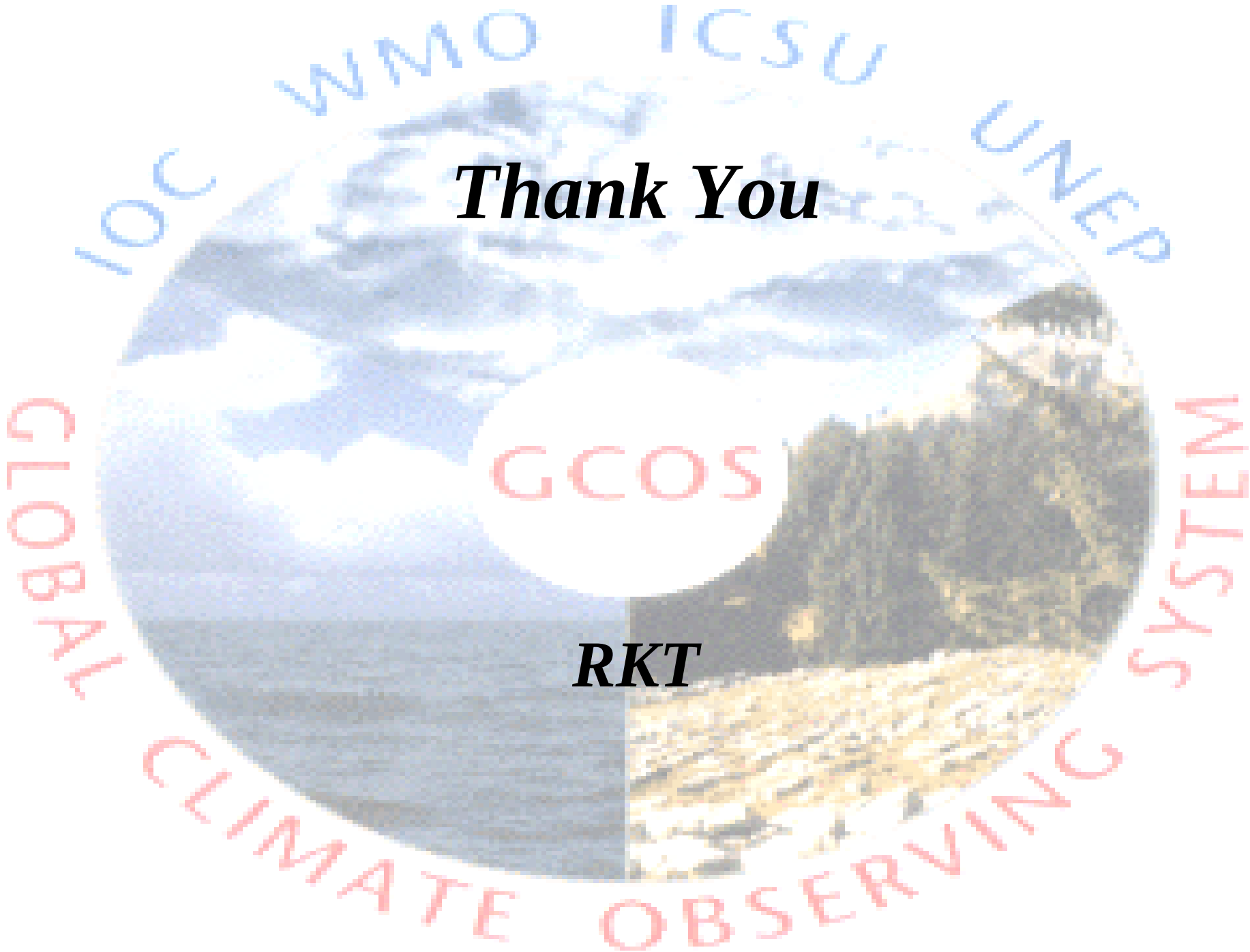
Help Diagnosing Problems

Routing, Missing Reports, etc

“Spray” TEMP and SYNOP

Fix Brazzaville RTH Or Work Around





Thank You

RKT