



**World Meteorological Organization**  
Working together in weather, climate and water

# **Global Framework for Climate Services And Regional Data Initiatives**

**By**

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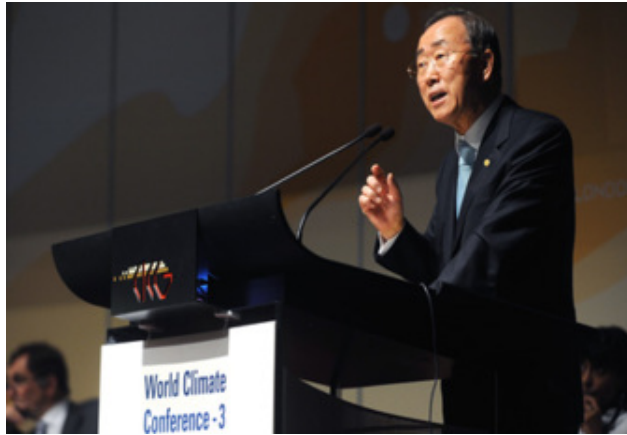
# Historical Background

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- First World Climate Conference (**WCC-1**), in 1979
    - Establishment of the World Climate Programme ( *Data and Monitoring, Applications and Predictions, Research, Impacts Assessment* )
  - Second World Climate Conference (**WCC-2**) in 1990
    - *Creation of the Global Climate Observation System (GCOS, in French SMOC) Monitoring principles, Reference networks for climate, Essential climate Variables..*
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# THIRD WORLD CLIMATE CONFERENCE **WCC-3**



*UN-SG Adressing WCC3*

A historic event (31 Aug – 4 Sept, 2009, Geneva)



**13** heads of state/heads of government,

**81** ministers

**2500** scientists



WCC 3 decided to establish a  
**Global Frame Work for Climate Services**  
GFCS - CMSC

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*To enable society to manage better the risks and opportunities arising from climate variability and change, especially as they concern those who are most vulnerable to climate-related hazards.*

- **Address Observation and Monitoring and bridge the existing gaps**
  - **Furthering Research for improved predictions**
  - **Focus on meeting user needs in climate information, timely and accessible to all**
  - **Focus on Capacity Development**
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# GFCS Priorities

All sectors to be tackled but in the first four years the GFCS is proposing giving priority to:

- Agriculture
- Disaster risk reduction
- Water
- Health







# The High Level Taskforce

Joaquim CHISSANO (Mozambique)

Jan EGELAND (Norway) Co-chair

Angus FRIDAY (Grenada)

Eugenia KALNAY (Ms)

(Argentina/USA)

Ricardo LAGOS (Chile)

Julia MARTON-LEFEVRE (Ms)

(Hungary/France/USA)

Khotso MOKHELE (South Africa)

Chiaki MUKAI (Ms) (Japan)

Cristina NARBONA RUIZ (Ms)

(Spain)

QIN Dahe (China)

Emil SALIM (Indonesia)

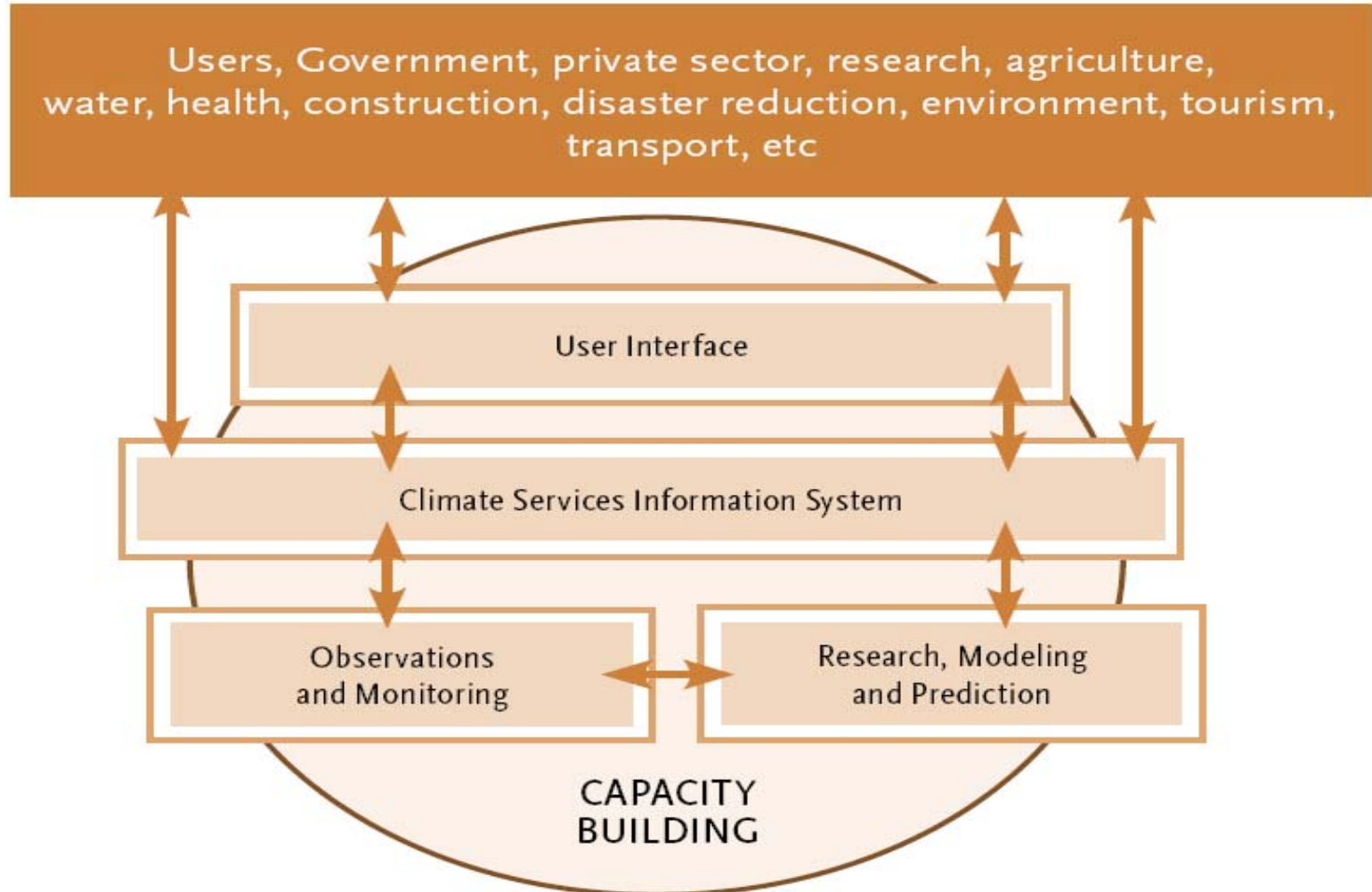
Mahmoud ABU-ZEID (Egypt) Co-chair

Fiaame Mata'Afa (Ms) (Samoa)





# The five main elements of the GFCS





# Basic conceptual elements of GFCS

## --Observations and Monitoring

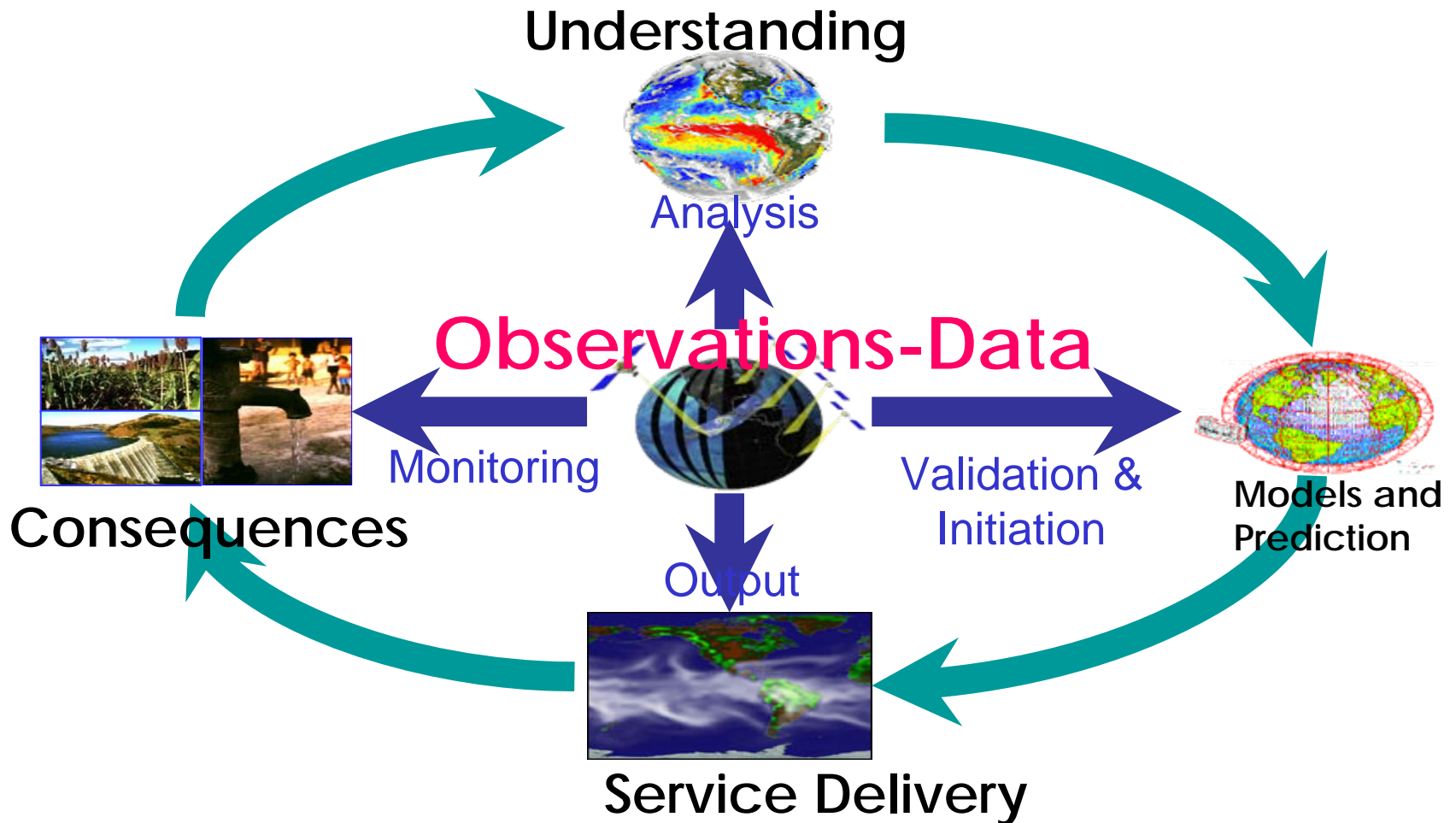
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- The purpose of this element of the Framework is to ensure that climate observations and data necessary to meet the needs of climate services are generated.
  - Key tasks for the Framework will be to define the gaps that most crucially affect climate services, to bring attention to these deficiencies and to assist in efforts to fill them.
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# Observations to meet GFCS needs



The availability of new observations strongly motivates advances in understanding, prediction, and application.



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# Major Data Gaps in the **Three** Domains

Atmosphere

Ocean

Terrestrial

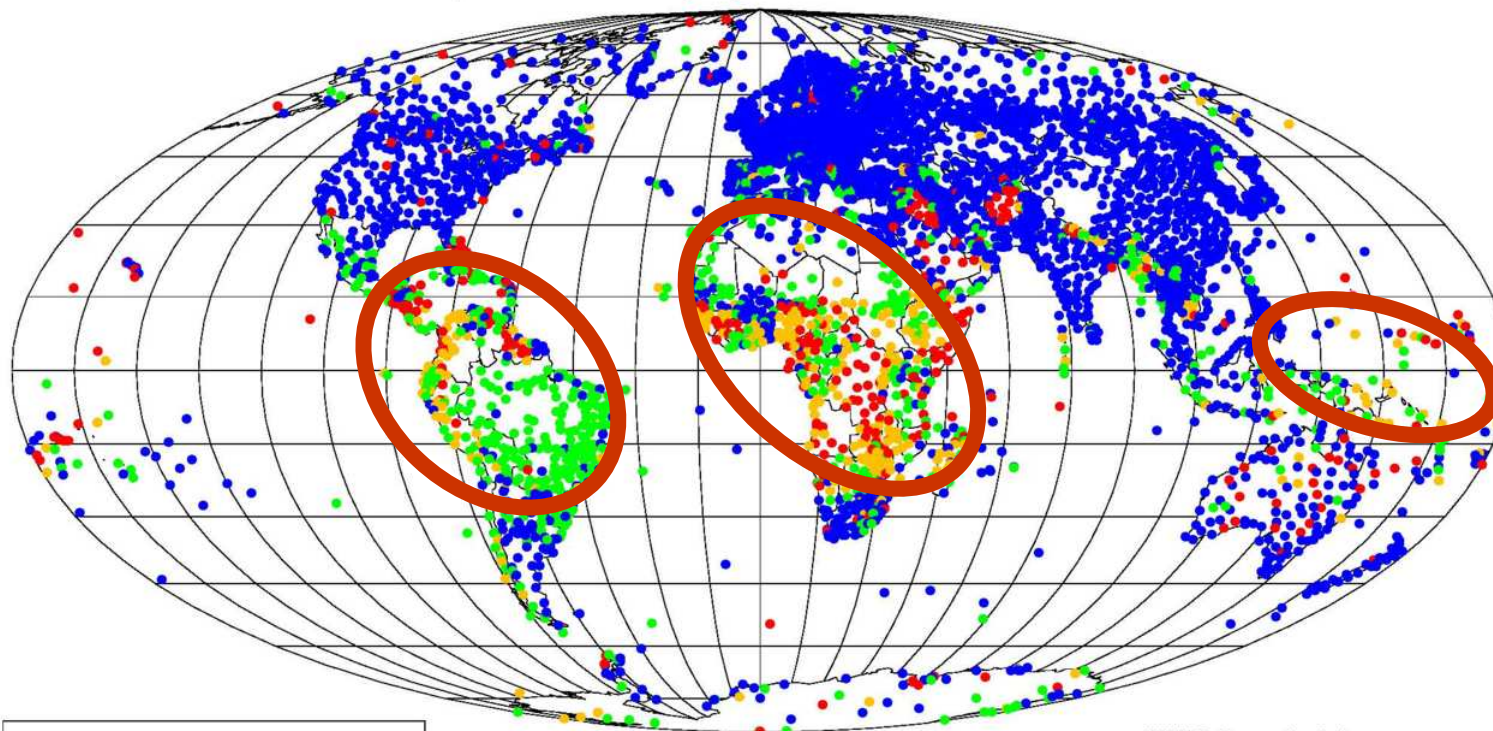
Polar Regions (all three domains)

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## Annual Global Monitoring 1-15/10/2008

SYNOP reports made at 00, 06, 12 and 18 UTC at RBSN stations



Percentage of reports received:

- 90 to 100 per cent (2912 stations)
- 45 to 90 per cent (697 stations)
- Less than 45 per cent (325 stations)
- Silent stations (350 stations)

WMO Secretariat

The designation employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the WMO Secretariat concerning the legal status of any country, territory, city or area



# Main findings

Some of major findings of the HLTF with regards to Observations and Monitoring

→ ocean observation system, polar and remote regions & data gap areas of developing nations **require substantial additional national efforts** to build and sustain their implementation;

→ There is a need of great improvement in **four** areas:

**Climate Data policy & sharing**

**Quality and long-term consistence**

**Historical Data Rescue**

**New Observing Capability Development for GFCS**



# Approaches to global data policy

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- **Principle** : The Framework will promote the free and open exchange of climate-relevant observational data while respecting national and international data policies, and clarify climate data policies
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# Importance of Regional Data Initiatives like MEDARE for the GFCS

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- Similarities of weather and climate systems
  - Historical and geographical realities
  - Long term and short term climate challenges
  - Existing infrastructure: *Regional Climate Centres, Regional Climate Outlook Fora,*
  - Economical and political arrangements
- Sharing knowledge and experiences and working together is key to address climate change issues and adaptation**
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# GFCS – Implementation Plan

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....On data issues

- 1) Need to promote collaborative efforts in data Rescue and high quality data set development .i.e MEDARE, ECA&D, ACRE,...
  - 2) Need to include Socio-economic data to support climate services
  - 3) Strong emphasis was made on the critical aspect of Sharing Data, ( *both Technical and Policy*)
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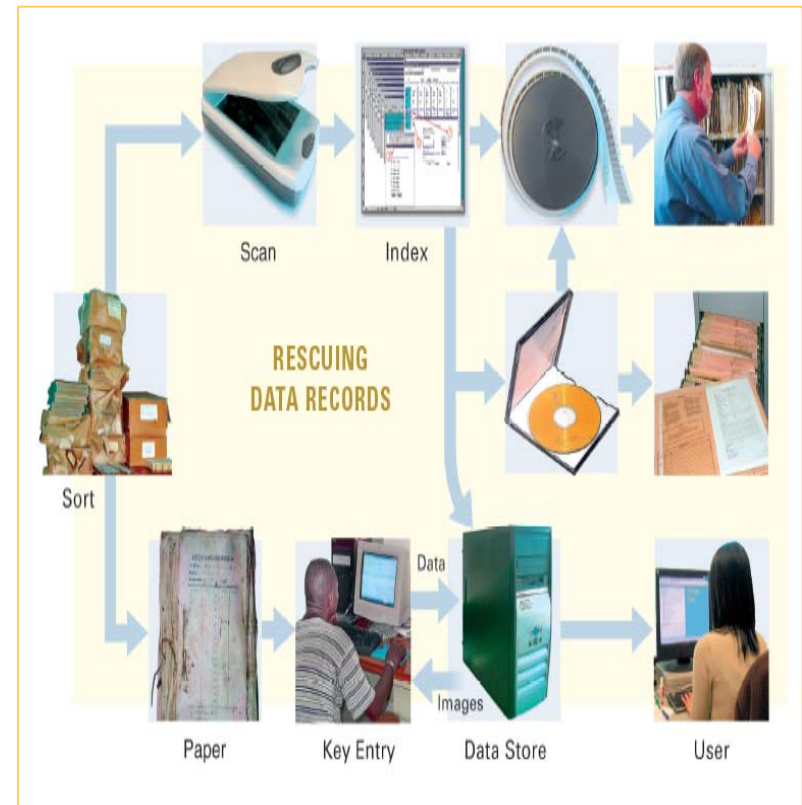


# Accelerating Data Rescue:

## *A fast Track Project for the GFCS*

The Report of the GFCS highlighted DARE as a critical component of the development of local climate services.

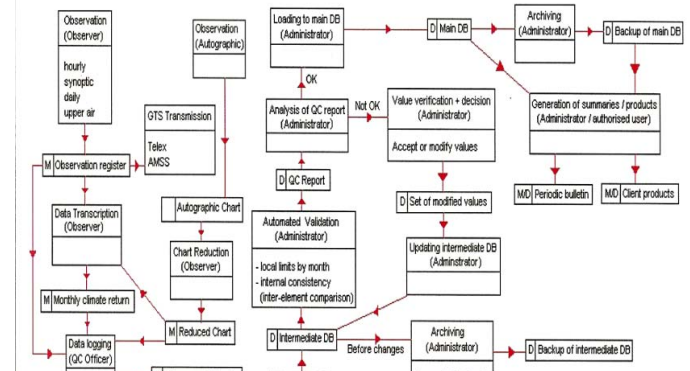
- 1) *Undertake DARE worldwide and mobilize experts and resources to accelerate DARE in the countries in need*
- 2) *Link DARE with Climate System Monitoring and Climate applications*  
*e.g. Development of useful information for decision making for climate change adaptation*  
*→ Climate change indices*





# Combining with improved Climate Data Management and Exchange

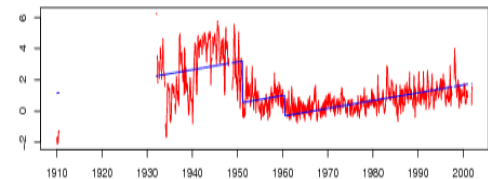
- 1) Fostering the use of modern Systems for **Climate data management** to ensure modern archiving systems and data services
- 2) Promote friendly tools to generate Climate Data products, such as for generating **CLIMAT messages** and new National Climate Monitoring data products based on climate indices
- 3) Producing and compiling World Weather Records and WMO climate normals based **on improved methodologies and guidelines** to the Members for their computation and dissemination





# ...Methodologies for Climate Data

- 1) Furthering the work on quality assurance for climate data and metadata with emphasis on standards for the collection of climate data and **Metadata and Homogenisation**,
- 2) Promoting the use of improved methodologies and techniques to **analyze climate data**,
- 3) Producing and making available high **quality climate data sets** for the use in climate monitoring and assessment



**Fig 3:** An example of data inhomogeneity in daily maximum anomalies series for station number 644580, Ouessou, in the Republic of Congo. The homogeneity testing software detected two large inhomogeneities in 1950 and 1960. To avoid having these inhomogeneities artificially bias the results, data prior 1960 was removed from the analysis, including a few isolated observations in 1910. The rest of the series is considered to be homogeneous.





# History of the GFCS



**31 AUGUST–  
4 SEPTEMBER 2009**  
WORLD CLIMATE  
CONFERENCE-3

**11–12 JANUARY 2010**  
INTERGOVERNMENTAL  
MEETING

**16 MAY–3 JUNE 2011**  
SIXTEENTH WORLD  
METEOROLOGICAL  
CONGRESS

**6–8 JUNE 2011**  
SIXTY-THIRD  
SESSION OF THE  
WMO EXECUTIVE  
COUNCIL

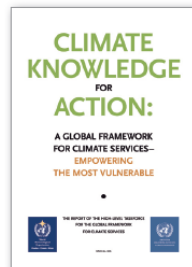
**25 JUNE–3 JULY 2012**  
SIXTY-FOURTH SESSION  
OF THE WMO  
EXECUTIVE COUNCIL

2009

2010

2011

2012



**2010**  
HIGH-LEVEL TASKFORCE

**FEBRUARY 2011**  
*CLIMATE KNOWLEDGE  
FOR ACTION: A GLOBAL  
FRAMEWORK FOR  
CLIMATE SERVICES –  
EMPOWERING THE  
MOST VULNERABLE*



**JUNE 2011**  
ESTABLISHMENT OF THE  
GLOBAL FRAMEWORK FOR  
CLIMATE SERVICES OFFICE IN  
THE WMO SECRETARIAT



**26–31 OCTOBER 2012**  
WMO GFCS USER  
CONFERENCE AND  
EXTRAORDINARY  
CONGRESS



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**For more information on GFCS:**

**[http://www.wmo.int/pages/gfcs/background\\_en.php](http://www.wmo.int/pages/gfcs/background_en.php)**

**For More information on WMO Data and Monitoring  
activities and projects**

**[http://www.wmo.int/pages/prog/wcp/wcdmp/index\\_en.php](http://www.wmo.int/pages/prog/wcp/wcdmp/index_en.php)**

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THANK YOU

