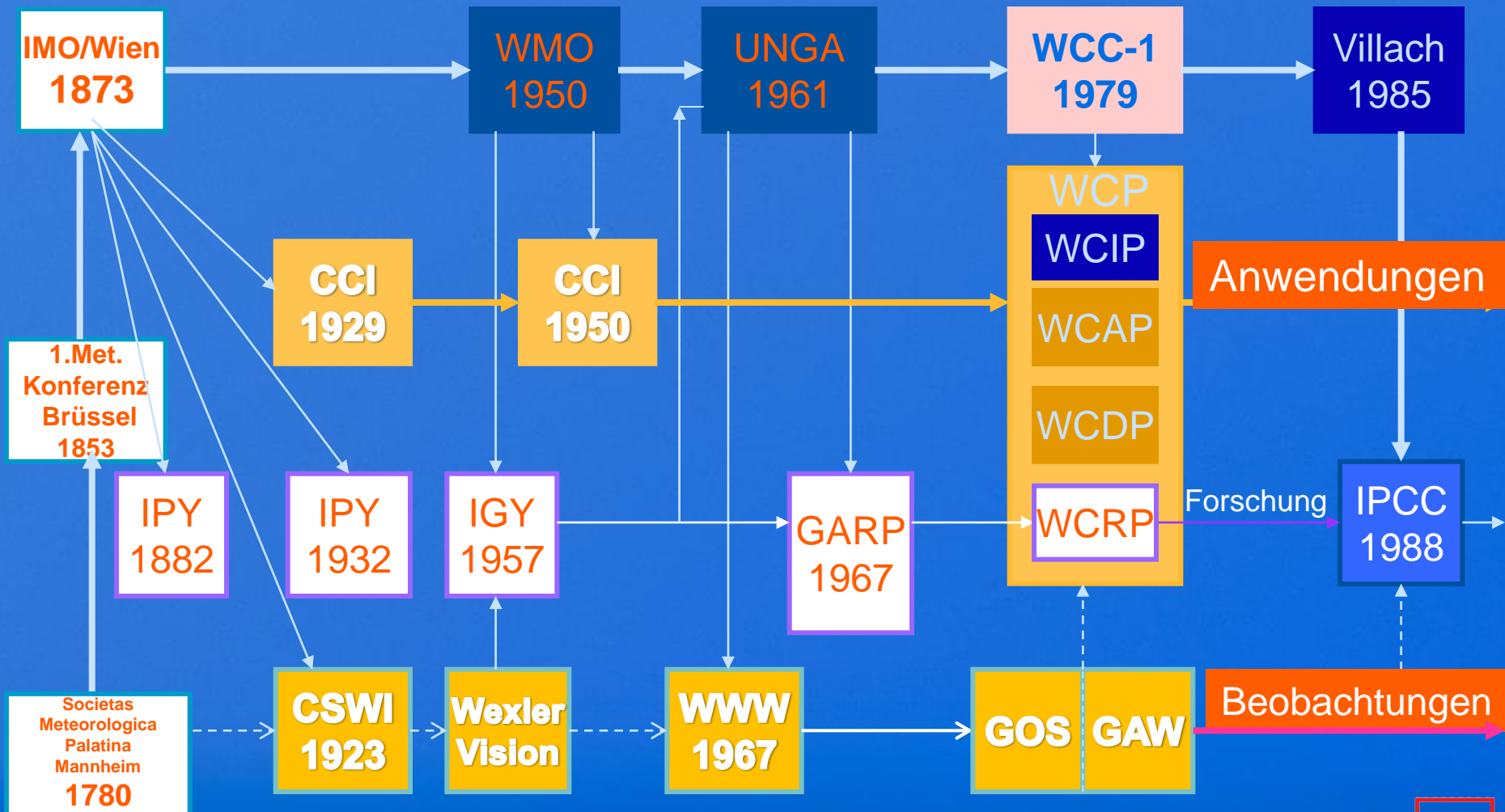




**GCOS 1992-2012**



# Die "KLIMAWELT" vor GCOS

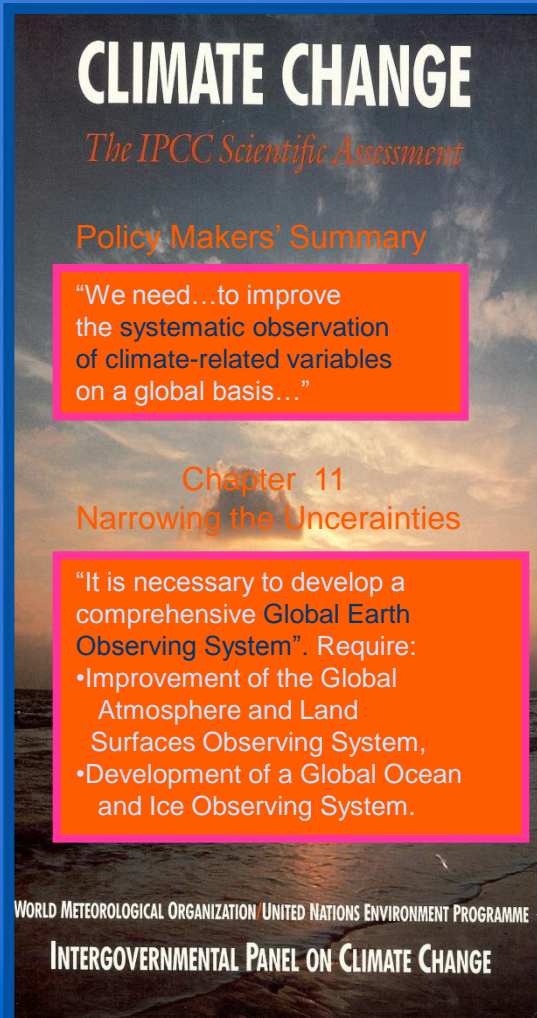


# Der Ursprung von GCOS

IPCC FAR  
August 1990

VIEUX BOIS  
1 November 1990

WCC-2  
Conference Statement



**CLIMATE CHANGE**  
*The IPCC Scientific Assessment*

Policy Makers' Summary

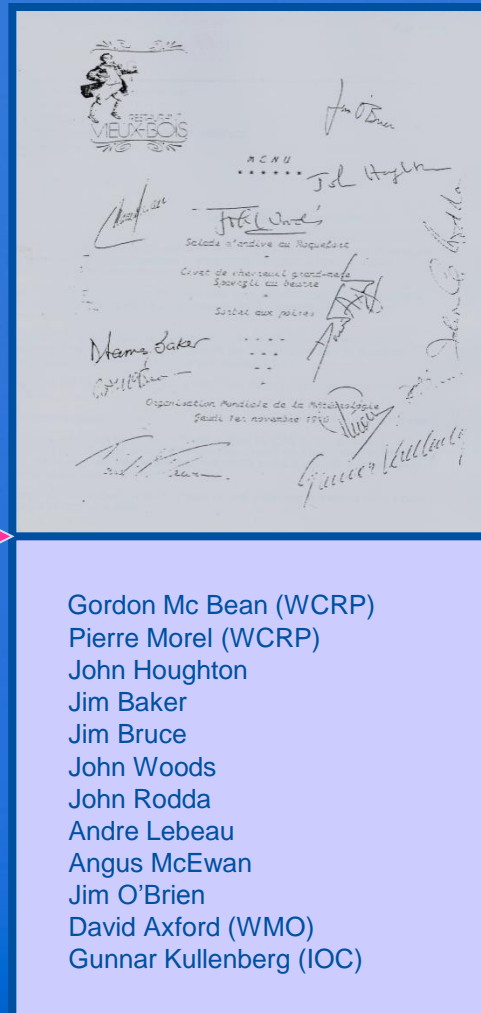
“We need...to improve the systematic observation of climate-related variables on a global basis...”

Chapter 11  
Narrowing the Uncerainties

“It is necessary to develop a comprehensive Global Earth Observing System”. Require:

- Improvement of the Global Atmosphere and Land Surfaces Observing System,
- Development of a Global Ocean and Ice Observing System.

WORLD METEOROLOGICAL ORGANIZATION UNITED NATIONS ENVIRONMENT PROGRAMME  
**INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE**



VIEUX BOIS

MCWU

John Houghton

Jim Baker

Jim Bruce

John Woods

John Rodda

Andre Lebeau

Angus McEwan

Jim O'Brien

David Axford (WMO)

Gunnar Kullenberg (IOC)



WMO UNEP UNESCO FAO IOC

**CLIMATE CHANGE:  
SCIENCE, IMPACTS  
AND POLICY**

“Present observational systems for monitoring the climate system are inadequate for operational and research purposes. They are deteriorating in both industrialised and developing regions...”

“There is an urgent need to create a Global Climate Observing System (GCOS) built upon the World Weather Watch Global Observing System and the Integrated Global Ocean Service System and including both space-based and surface-based components.....”

PROCEEDINGS OF THE SECOND WORLD CLIMATE CONFERENCE

EDITED BY J. JÄGER AND H.L. FERGUSON





# Die Gründung von GCOS

WCC-2  
Ministerial Declaration  
7 November 1990

Winchester Proposal  
January 1991

GCOS MOU  
April 1992 (revised 98)

WMO UNEP UNESCO IOC FAO ICSU

## CLIMATE CHANGE: SCIENCE, IMPACTS AND POLICY

“In particular, we invite the 11th Congress of the World Meteorological Organization... to ensure that the necessary arrangements are established in consultation with UNEP, UNESCO (and its IOC), FAO, ICSU and other relevant international organizations for effective coordination of climate and climate change related research and monitoring programmes”  
(Article 6).

PROCEEDINGS OF THE SECOND WORLD CLIMATE CONFERENCE  
EDITED BY J. JÄGER AND H.L. FERGUSON

## THE GLOBAL CLIMATE OBSERVING SYSTEM

ATMOSPHERE  
OCEAN  
LAND

WATER ENERGY CARBON  
GCOS

A proposal prepared by an *ad hoc* group, convened by the Chairman of the Joint Scientific Committee for the World Climate Research Programme  
at  
Winchester, United Kingdom  
14-15 January, 1991

The Meteorological Office

WMO of UNESCO UNEP ICSU

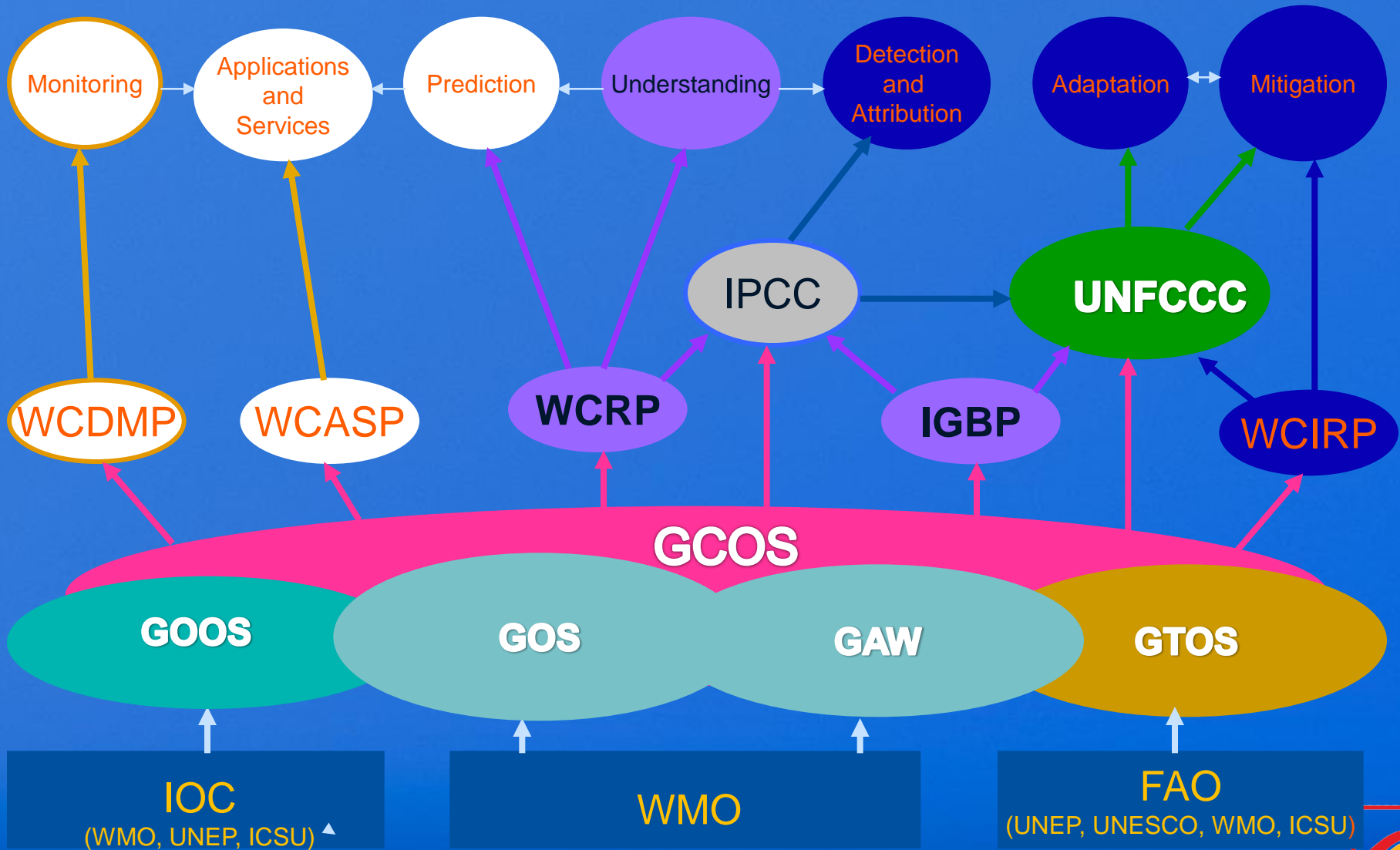
WMO, IOC, UNEP and ICSU

- Noting 1-6
- Recognizing.....
- Considering...
- Agree 1-5
- Agree further....
- Approve:
  - Annex A
  - Annex B
  - Annex C
- Agree....
- Agree....
- Agree....

Annex A Concept of the Global Climate Observing System  
Annex B Terms of Reference, Structure and Functions of the JSTC and JPO  
Annex C Financial Arrangements



# Das Konzept und die Hauptkomponenten von GCOS



# UN Rahmenübereinkommen über Klimaänderungen (UNFCCC) (Mai 1992)



## Article 4 Commitments

All Parties shall:

1(g) Promote and cooperate in scientific, technological, technical, socio-economic and other research, **systematic observation** and development of data archives related to the climate system.....

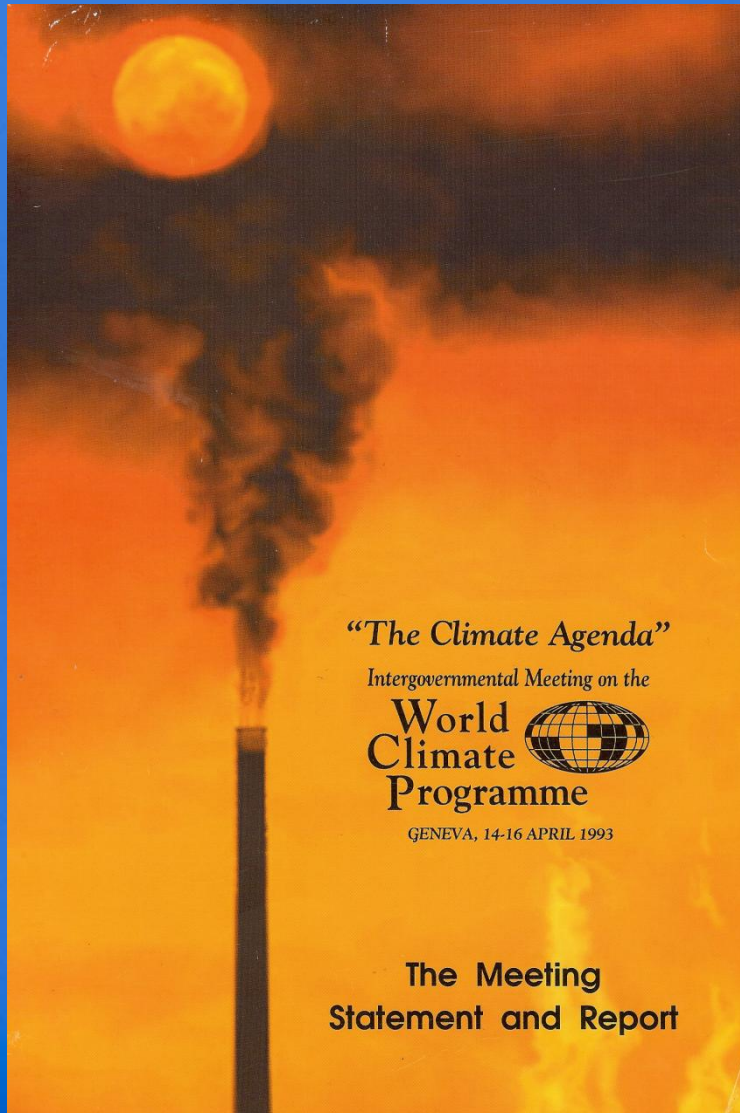
## Article 5 Research and Systematic Observation

In carrying out their commitments under Article 4, paragraph 1(g), the Parties shall:

- (a) Support and further develop...programs and networks or organizations aimed at defining, conducting, assessing and financing research, data collection and **systematic observation**, taking into account the need to minimize duplication of effort;
- (b) Support international and intergovernmental efforts to strengthen **systematic observation**....particularly in developing countries, and to promote access to, and the exchange of, data and analyses thereof.....



# Intergovernmental Meeting (1993) and the Climate Agenda



## Statement on the Climate Agenda (16 April 1993)

The Meeting .....endorsed the proposed four main thrusts of the World Climate Programme (WCP) and its associated activities:

- Climate services for sustainable development;
- New frontiers in climate science and prediction
- **Dedicated observations of the climate system**
- Studies of climate impact assessments and response strategies to reduce vulnerability.

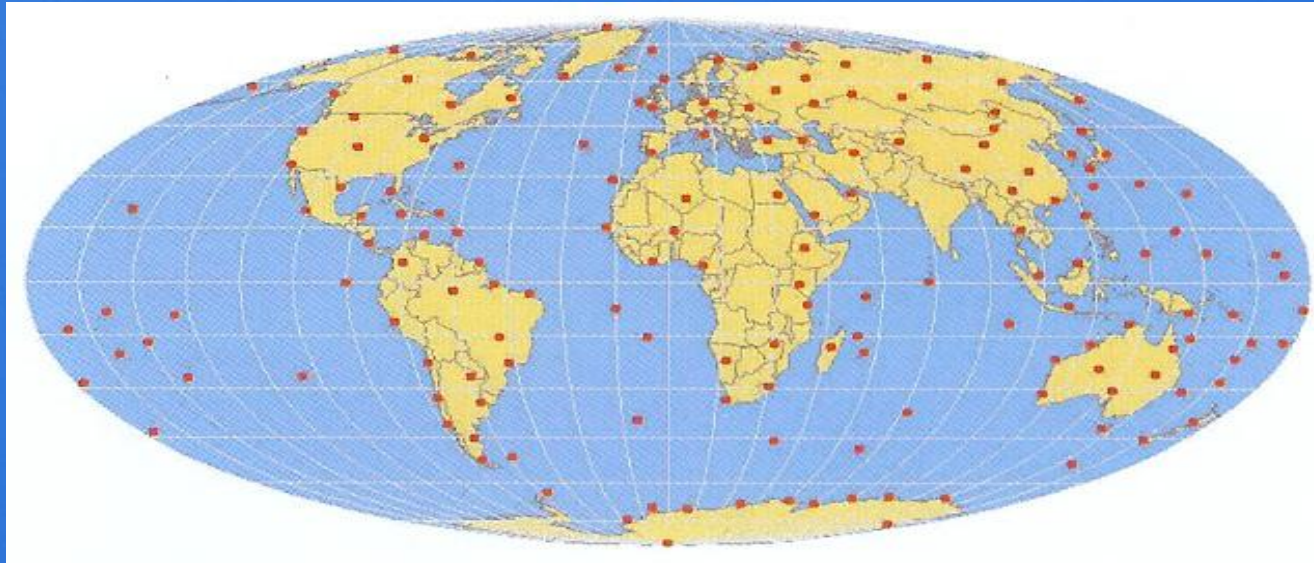




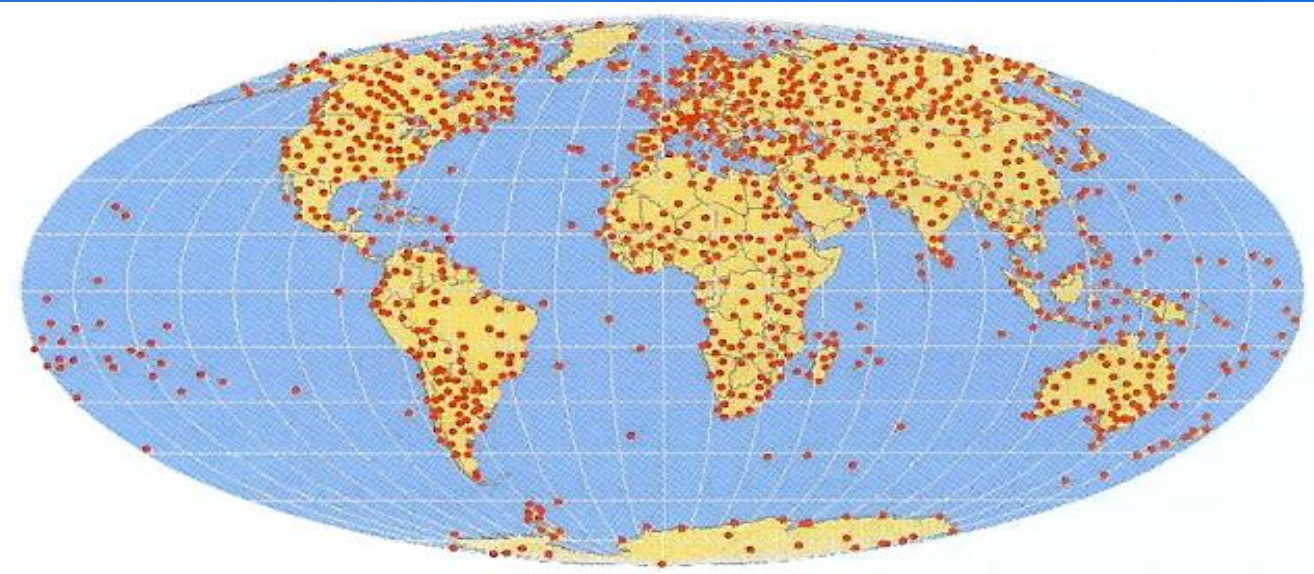
# GSN and GUAN



**GCOS Upper Air  
Network  
(GUAN)**

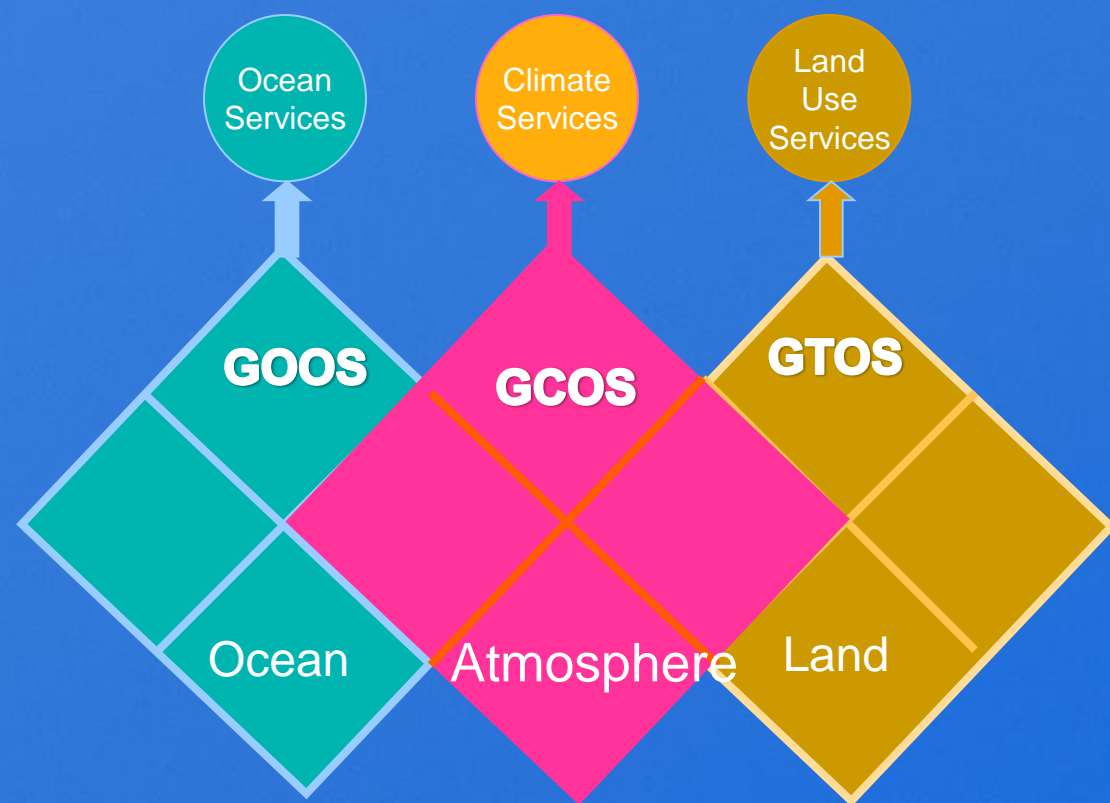


**GCOS Surface  
Network  
(GSN)**

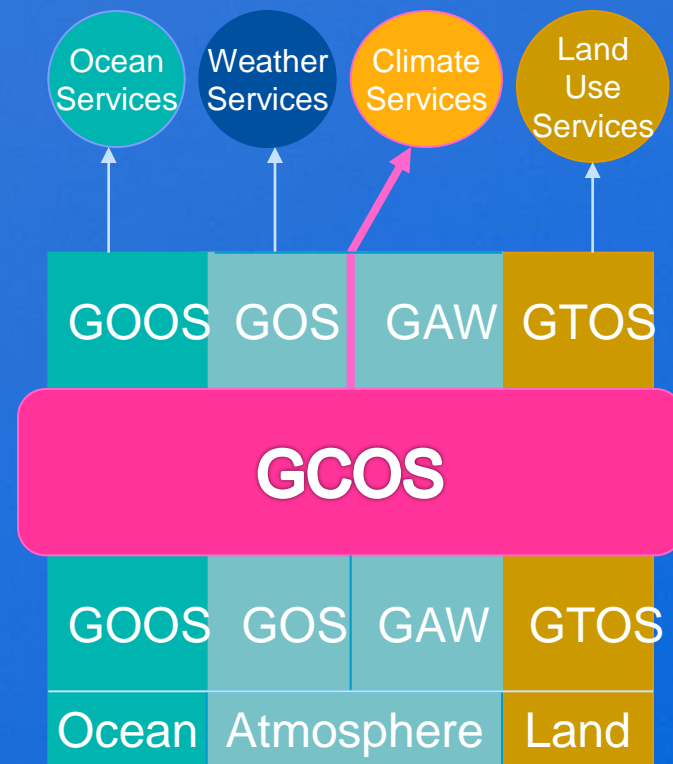




# IGOS-P (Integrated Global Observing Strategy) und die zwei Ansichten über GCOS



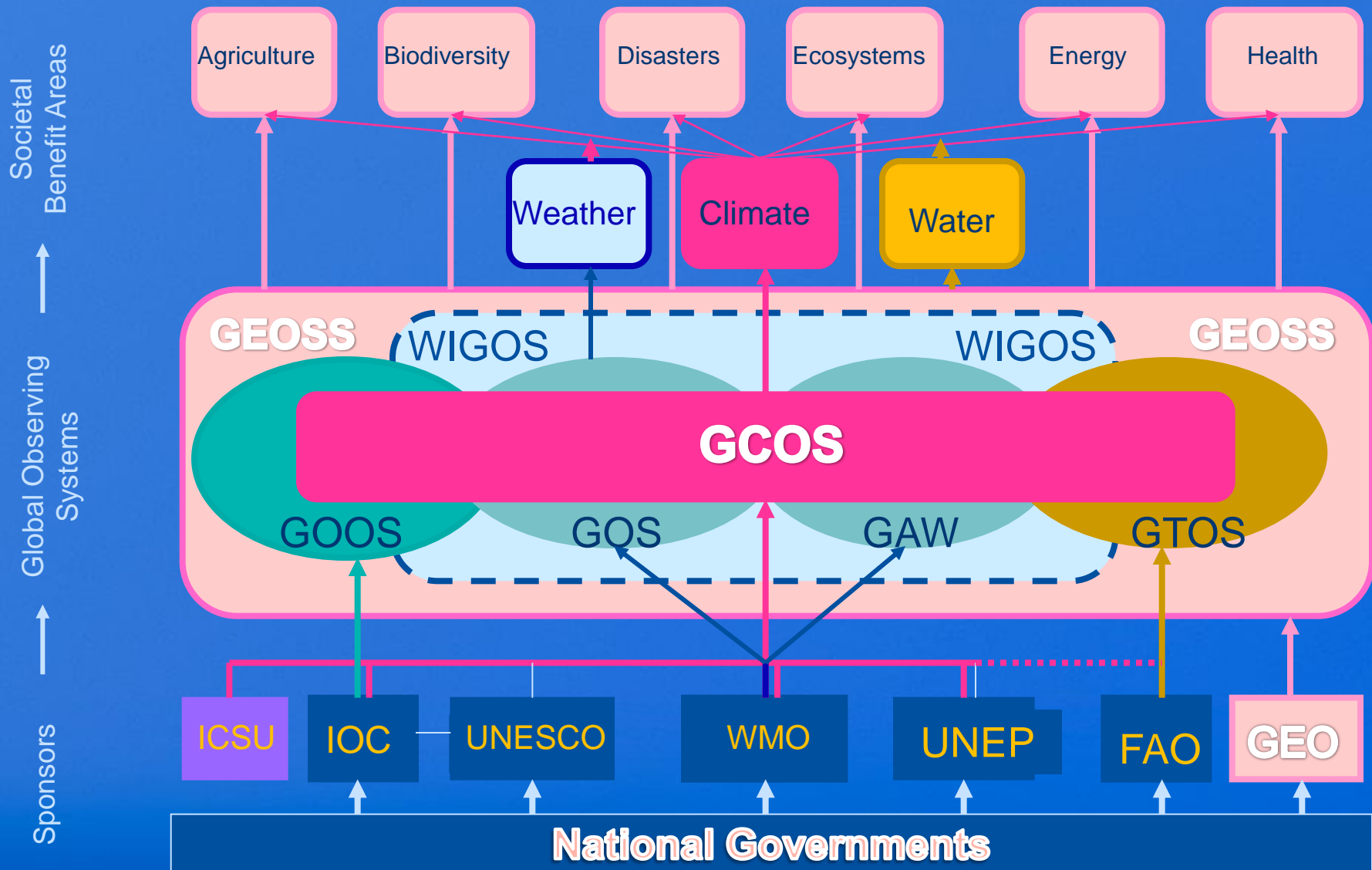
**G3OS Perspective**



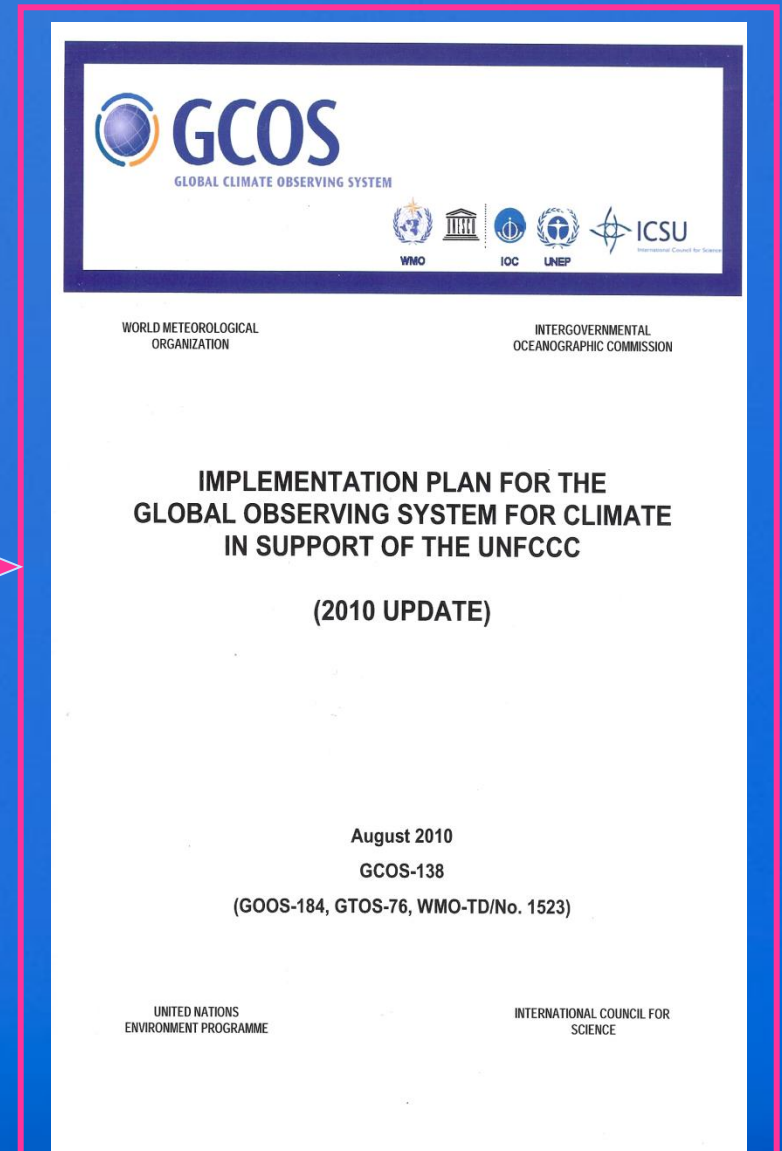
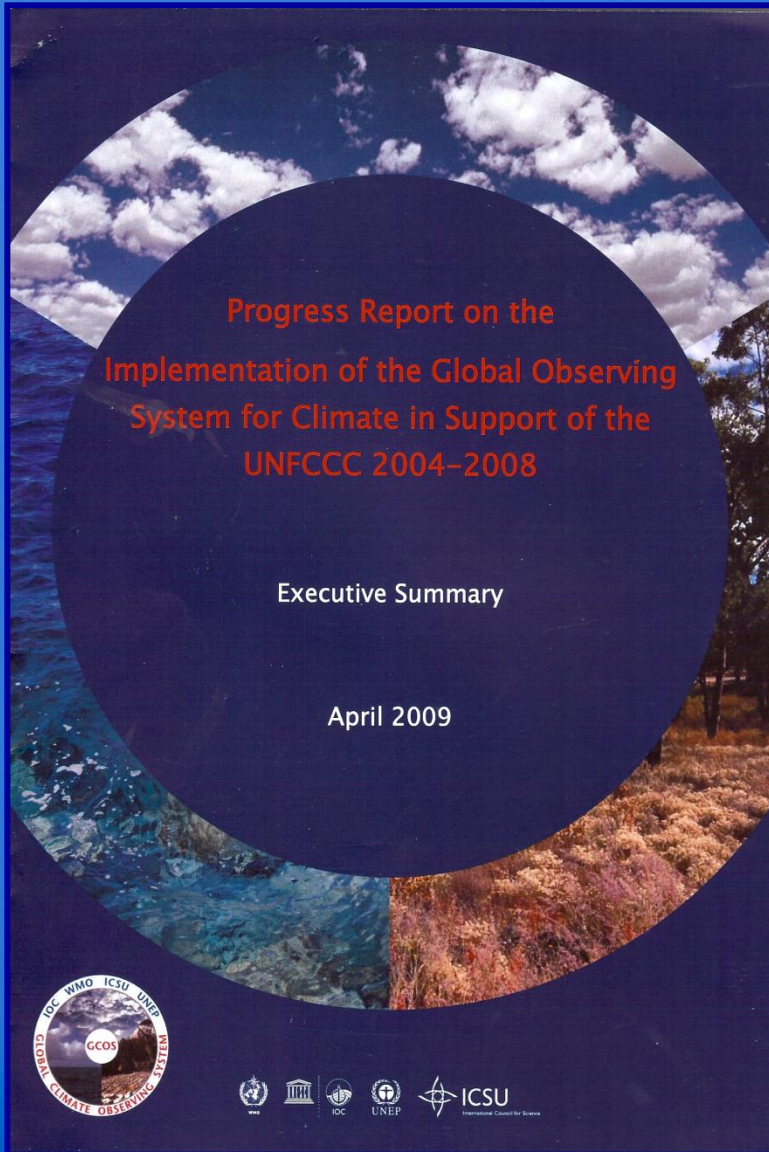
**Cross-cutting Perspective**



# Ab 2003: GCOS as the Climate Observing Component of GEOSS

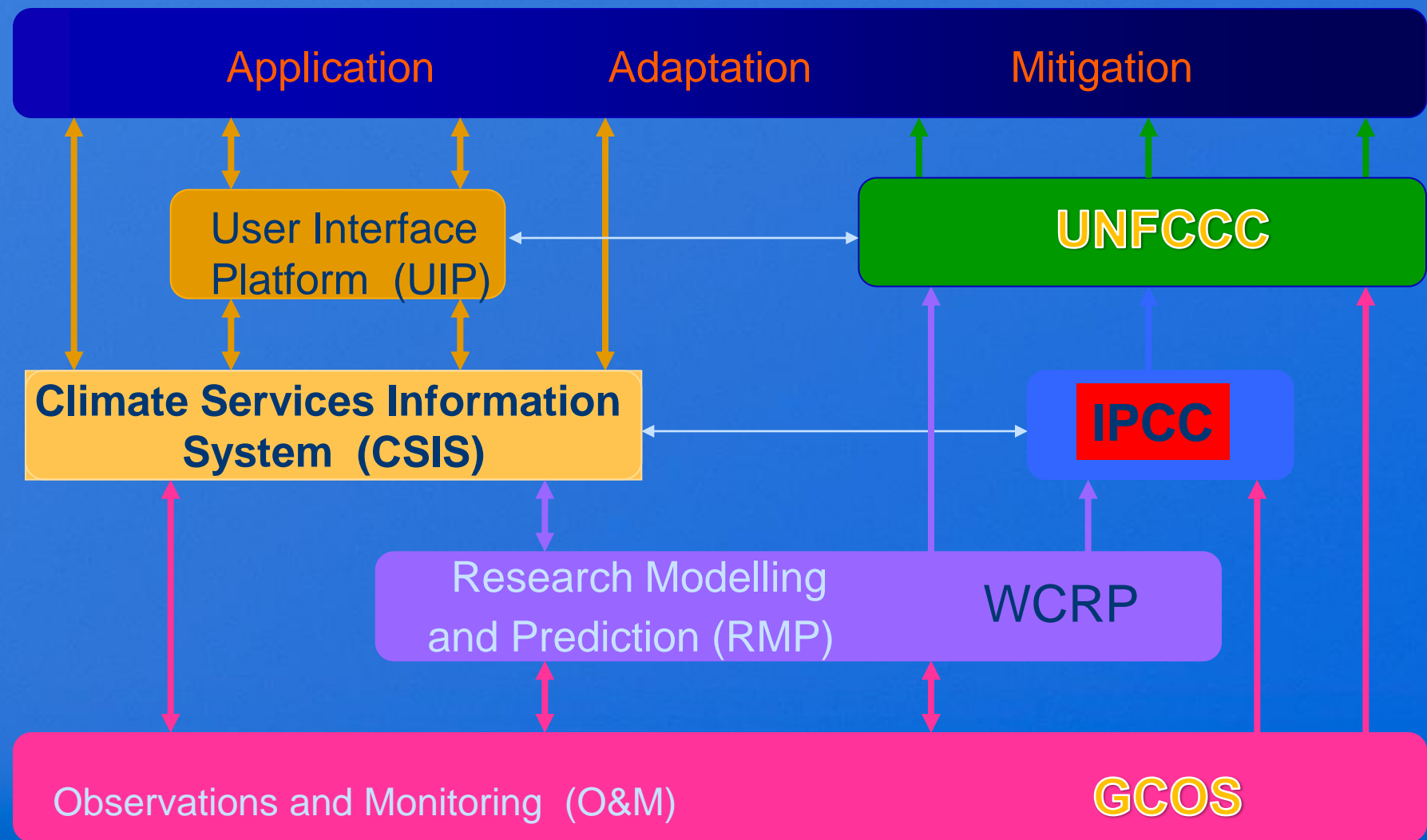


# 2009 Progress Report and 2010 Update of Implementation Plan



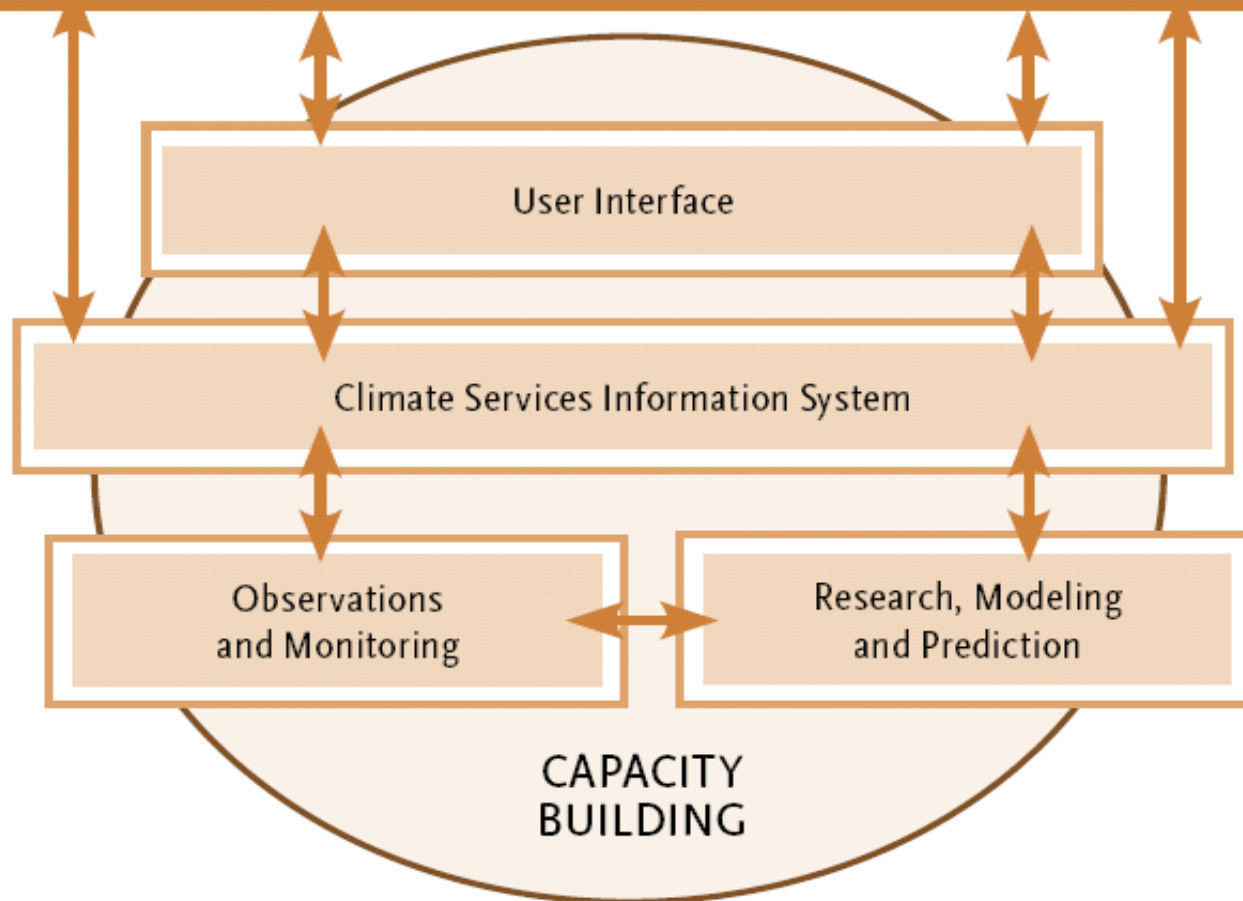


# 3 –WCC 2009: GCOS Supporting Climate Applications through the Global Framework for Climate Services (GFCS)



# Die Eckpfeiler des GFCS

Users, Government, private sector, research, agriculture, water, health, construction, disaster reduction, environment, tourism, transport, etc



# GCOS 1992 – 2012: Zusammenfassung



- Begonnen hat es mit den UN Resolutionen in der Generalversammlung von 1961, die zur Gründung des WWW und GARP führten. Die in den Folgejahren gesetzten Bausteine und Pläne um den Anforderungen und den Rahmen einer umfassenden globalen Klimabeobachtung gerecht zu werden, führten zur Gründung von GCOS. Es entstand aus der Forderung nach verstärkter Beobachtung sowie der Stärkung des WCP und seine Integration in die Klima-Agenda.
- In vielerlei Hinsicht ist es eine Erfolgsgeschichte der internationalen Planung und Koordination. Aber es ist auch eine Erinnerung daran, dass die Umsetzung solcher Pläne ein langer Prozess ist und nur dann vollständig umzusetzen ist, wenn sich die einzelnen nationalen Regierungen bereit erklären, einerseits die erforderlichen Ressourcen bereitzustellen und auch Engagement zeigen die internationale Pläne in die Realität umzusetzen.







**GCOS 1992-2012**

**Thank you**

Zentralanstalt für Meteorologie und Geodynamik

