

# ICSU involvement in Observing Systems

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# Rationale



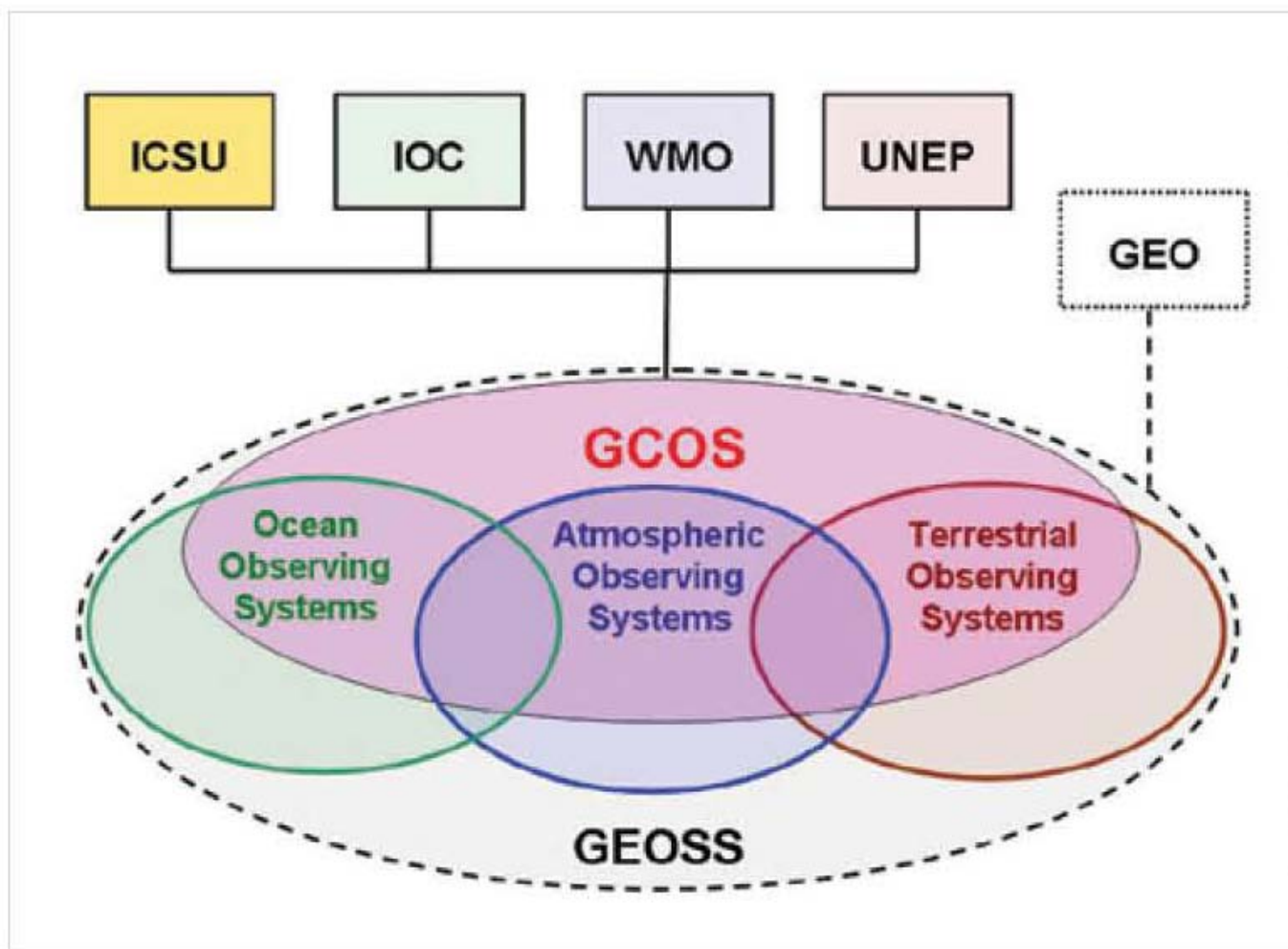
- observations  $\longleftrightarrow$  data collection  $\longleftrightarrow$  data analysis  $\longleftrightarrow$  research  $\longleftrightarrow$  modeling  $\longleftrightarrow$  understanding of the Earth system.
- Observing systems critical for ICSU programmes and many Union activities
- Underpin environmental and climate services
- Development of Earth observation systems requires input from the scientific community

# ICSU's current role(s)



1. co-sponsor of 3 global environmental observing systems:
  - climate, GCOS;
  - oceans, GOOS;
  - terrestrial, GTOS
2. '*Participating Organization*' in the Group on Earth Observations (GEO) and the Global Earth Observing System of Systems (GEOSS)
3. ICSU Visioning - Grand Challenge 2 'Develop the observation systems needed to manage global and regional environmental change'

# Observing systems – a complex picture



# Observing System sponsors



<b>System</b>	<b>Sponsors</b>	<b>Secretariat</b>	<b>ICSU currently represented on SC by</b>
GOOS	ICSU, WMO, IOC-UNESCO, UNEP	IOC-UNESCO Paris	SCOR
GTOS	ICSU, WMO, UNESCO, FAO, UNEP	FAO, Rome	ICSU Secretariat (but this SC has met only sporadically)
GCOS	ICSU, WMO, IOC-UNESCO, UNEP	WMO, Geneva	ICSU Secretariat

# Where we stand



- These systems have different histories, structures and challenges.
- MoUs between sponsors for all three systems are more than a decade old and being updated.
- ICSU sponsorship does not provide financial support.

## ICSU's engagement



- ICSU has an *ex-officio* position on the scientific steering committee (as do the other sponsors).
- The chair and the members of the scientific steering committees are appointed by all sponsors,

## The climate example (GCOS)



- GCOS coordinates and facilitates the taking of the needed observations by national and international organizations in support of their own and shared requirements.
- GCOS role is complementary to WCRP
- To be clear, GCOS does not directly make observations, nor generate data products.



# GEO/GEOS



- Group of Earth Observations (GEO) coordinating efforts to build a Global Earth Observing System of Systems (GEOS).
- Response to calls for action by 2002 World Summit on Sustainable Development (WSSD) and 2003 G8 meeting.
- GEO, formally established in 2005, is a voluntary partnership of governments and international organizations.
- As of September 2011, 86 countries are GEO members with the right to vote.
- 61 international bodies have been recognized as “Participating Organizations”, including ICSU and its progs.

# GEO/GEOS



## Structure around nine Societal Benefit Areas:

- disasters,
- health,
- energy,
- climate,
- water,
- weather,
- ecosystems,
- agriculture
- biodiversity.

# ICSU and GEO/GEOSS



- Member of the GEO Committees on Science and Technology, (chaired by COSPAR)
- CODATA and WDS represented on Architecture and Data Ctee.
- DIVERSITAS lead in developing the GEO Biodiversity Observation Network (GEO-BON).

# ICSU and GEO/GEOSS (cont.)



- CODATA lead on GEOSS Data Sharing Principals and their Implementation Guidelines.
- WDS will support the GEOSS long-term framework
- GCOS, GOOS and GTOS are 'Participating Organizations'
- GCOS recognition as the climate component of GEOSS. [GTOS, and GOOS not yet been fully recognized as component systems].

# Why a strategic review?



- Reviews suggest sub-optimal links between the GEC programmes and the observing systems
- Grand Challenge 2 '*Develop the observing systems needed for managing the global and regional environmental change*'
- Belmont Challenge report calls for '*more effective use of physical and societal observations*'
- Urgency to integrate social observations into operational observing systems

# The way forward



- motivation for effective, strategic engagement by ICSU is clear.
- Does current arrangement provide this?
- need to evaluate the niche for ICSU and how observing systems serve the relevant research programmes and societal needs.
- Engage with partners to get ‘buy in’ to a review



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# Proposed decisions



In the context of the overall Strategic Plan 2012-2017:

- 12.1 to work with the global observing systems and GEOSS in relation to the Grand Challenges and Earth System Sustainability Initiative;
- 12.2 to conduct a review of the role of ICSU in earth observation systems.