

“Observations for Adaptation to Climate Variability and Change” Workshop in 2013

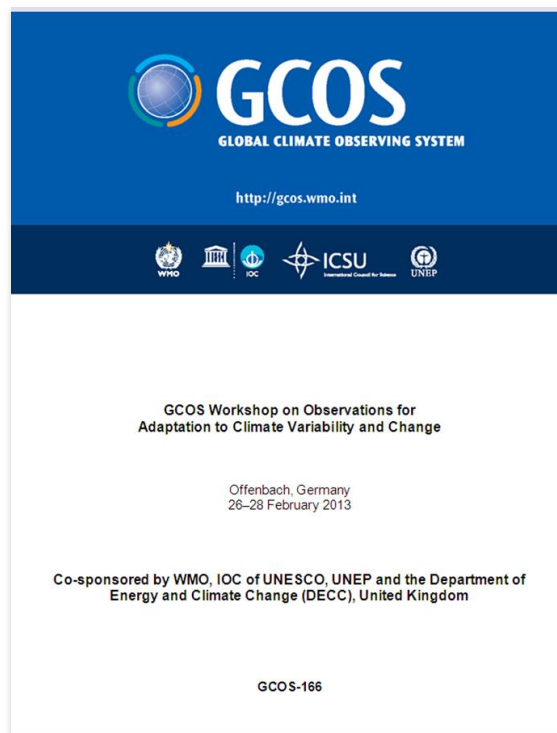
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Director, GCOS Secretariat

GCOS Workshop, in collaboration with UNFCCC and IPCC

10 – 12 February 2015, Bonn





**What is the
difference
between the
workshop in
2013 to the one
we are having
right now?**

Common Ground between 2013 and 2015 Workshop

Milestones (workplan)

Earth Observation Initiatives (links)

Climate Services: Adaptation and Mitigation (end-to-end)

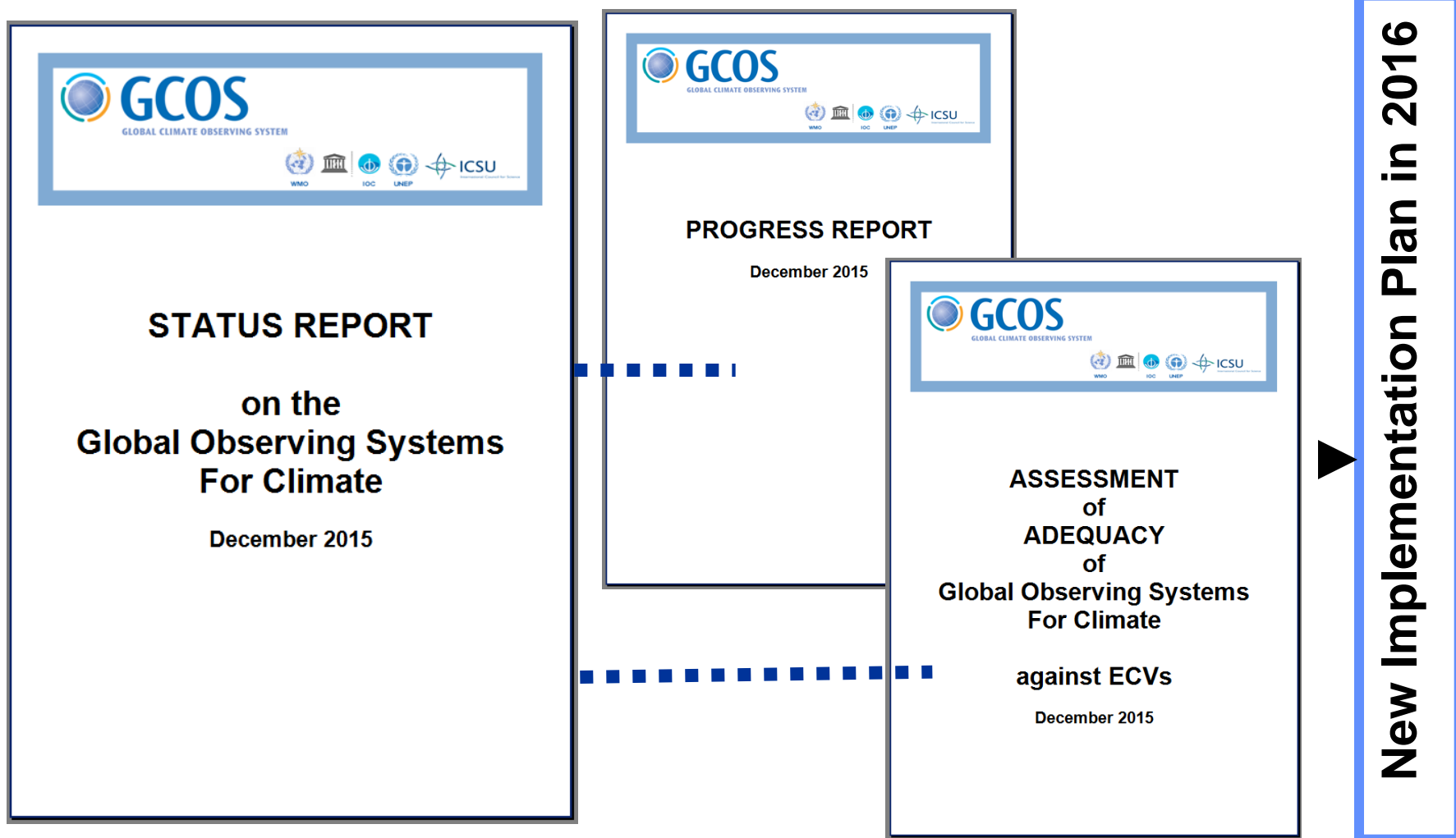
Workshop goals:

Statement on the adequacy of observations

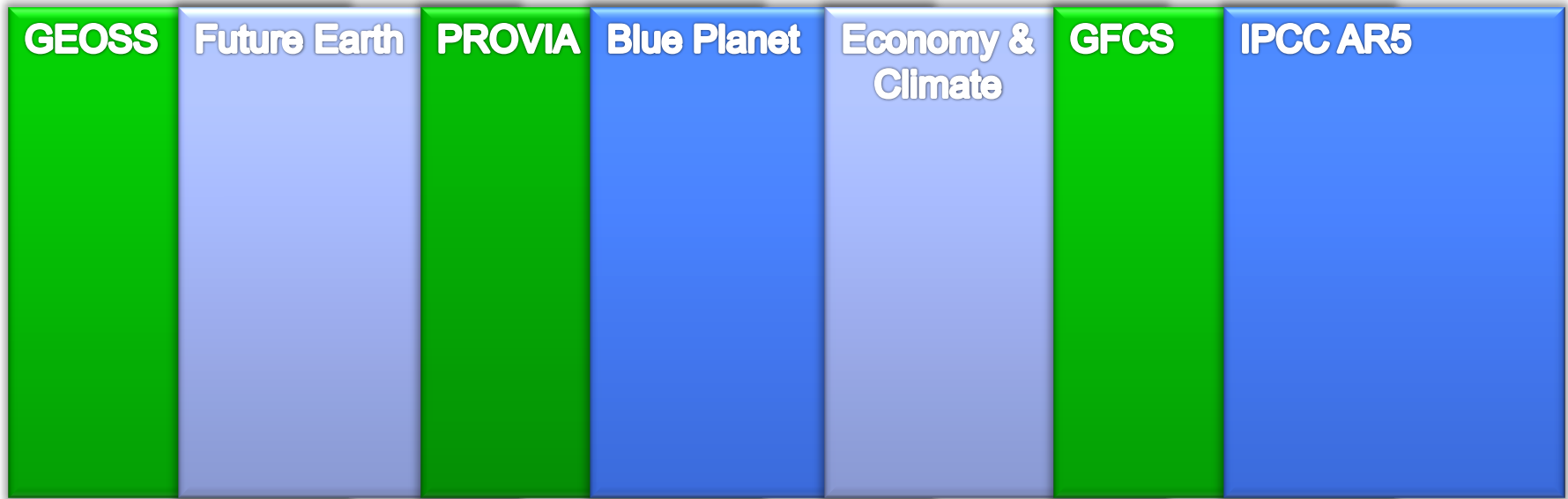
Identification of requirements

Provision of strategic guidance

GCOS – Milestones in 2015 and 2016



Earth Observation – Initiatives and new Reports



Assessment of Needs – Workshop in 2013

Cross-cutting issues:

- = Risk Management
- = Early Warning Systems
- = Research, Modeling and Assessment
- = Data Rescue and Management (User Interface)

Sectors (aligned to GFCS):

- = Water Resources
- = Coastal Zones
- = Health
- = Forestry
- = Agriculture
- = Energy
- = Transport

The direct need for observations is for:

- Meteorological (synoptic) parameters (T, precipitation, wind, humidity),
- soil moisture, sea level, ecosystem status, to meet needs of several sectors,
- other variables required for particular applications include some not explicitly identified as ECVs (dust, snow water equivalent, ...)
- variables in coastal zones (wave characteristics/ statistics, ..., topography (including subsidence), bathymetry, ...) some of which pose considerable measurement challenges at the local scale at which data is needed
- taking into consideration the respective roles, interdependencies and utility of in-situ (ground “truth”) and remotely sensed data

Data must support forecasting and longer term projection, through use for:

- validating, assessing and improving models
- initialising forecast models (to produce reanalyses as well as forecasts)
- assessing predictability
- assessing capabilities for climate projections that are useful on-the-ground in making decisions on adaptation

Findings of the Workshop in 2013

Information and products are inadequate for adaptation:

- more relevance to users; need of close consultation with practitioners.

Adaptation is local:

- Neither global climate models nor satellite-based forecasting systems are yet good enough to support decisions made at the local level;
- Need to invest in the ground-based network of primary hydro-meteorological observations;
- Need to establish and improve mechanisms to provide data access and data descriptions.

Observation Requirements

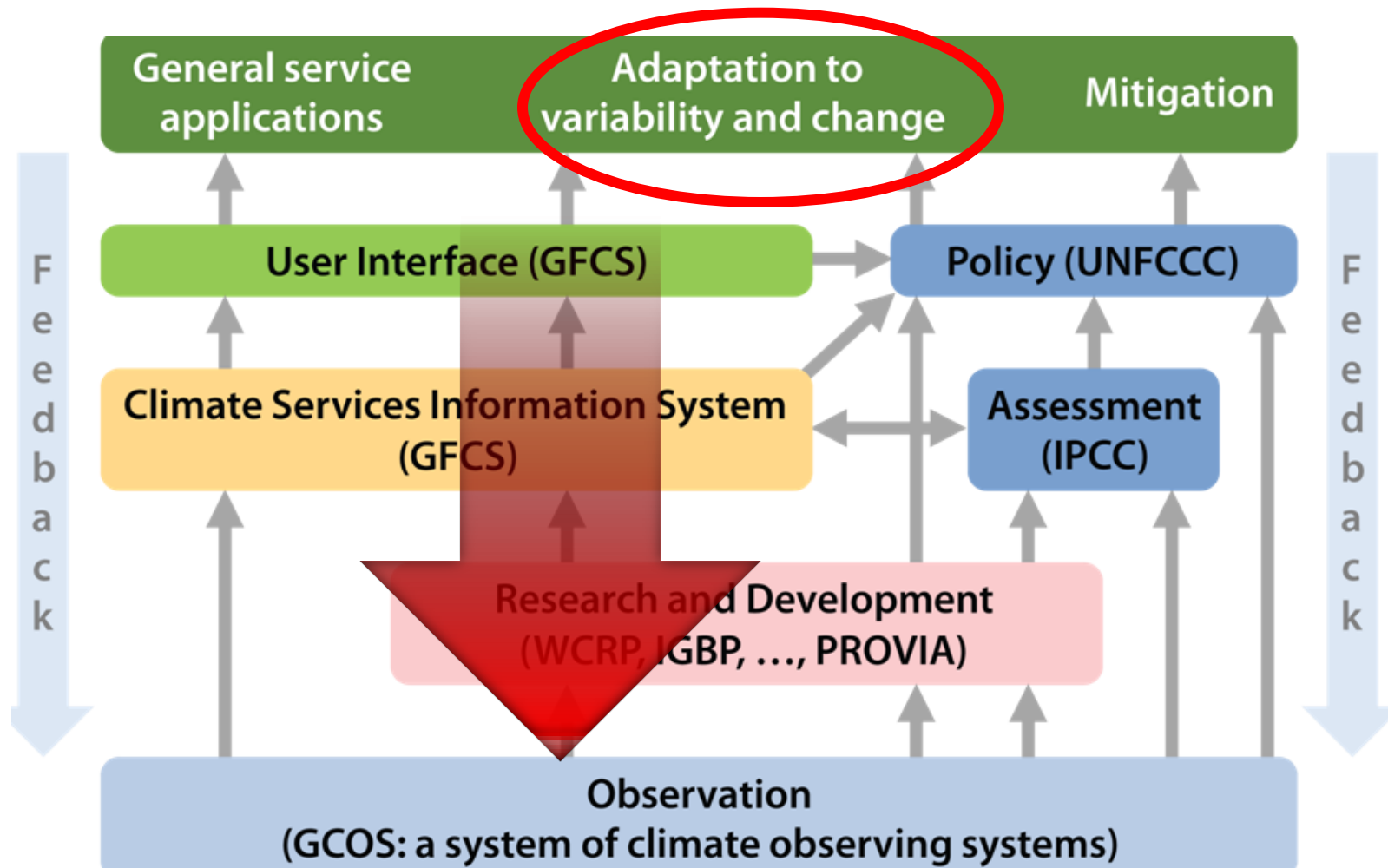
Common themes regarding observation requirements:

- Need for higher spatial and temporal resolution (“smallest pixel is too large”);
- Need to focus on regions where climate change will have significant sector effects and where there are vulnerable populations;
- Need to develop infrastructure and governance to support sustained data rescue (historical data is highly valuable, but data rescue is very expensive);
- Need to support research initiatives such as PROVIA and Future Earth.

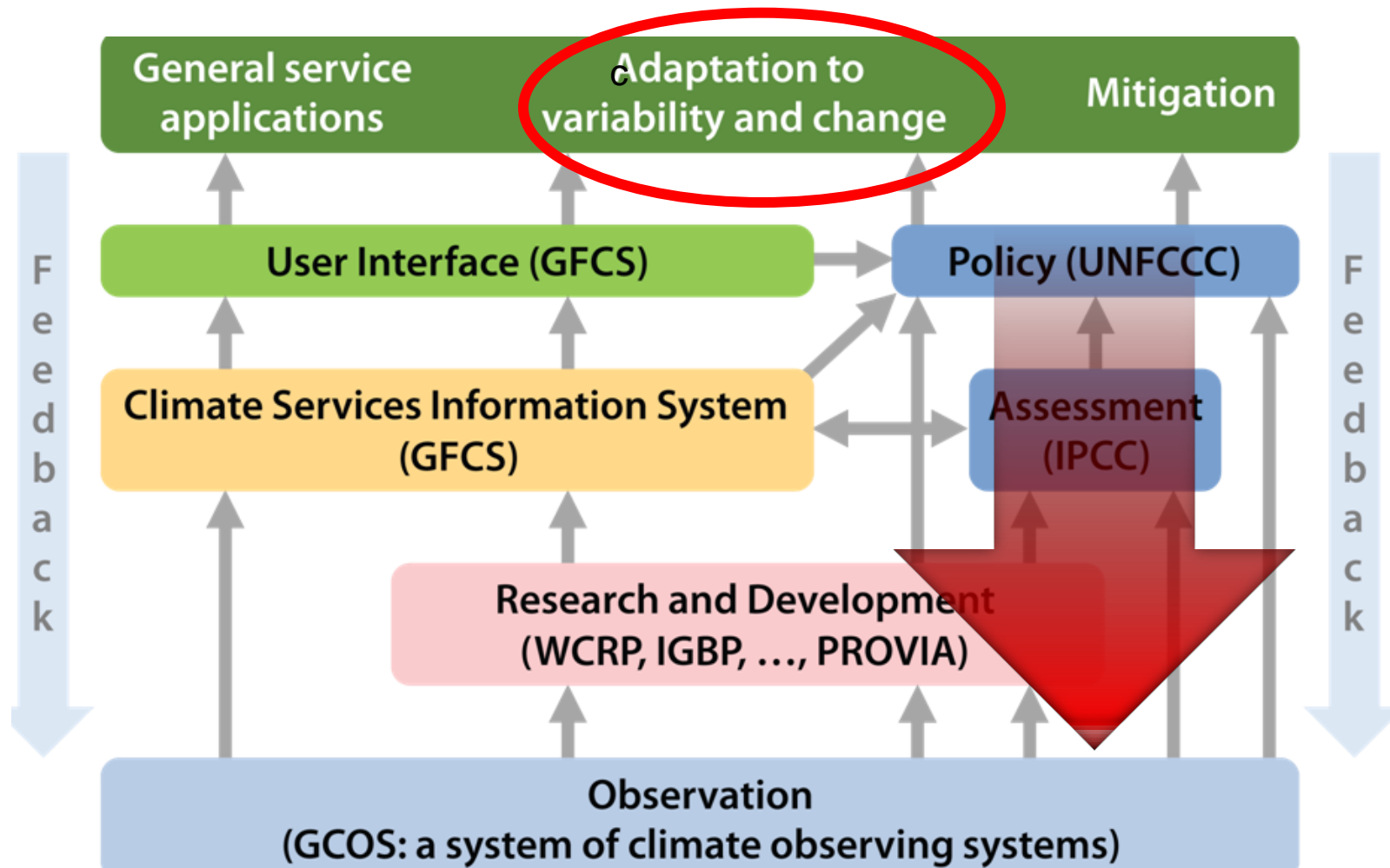
Regarding strategic guidance for GCOS, workshop participants in 2013 recognized:

- GFCS leading role in improving feedback mechanisms between data providers and users through the User Interface Platform. GCOS role in the Observations and Monitoring pillar; GCOS role for overall requirements, implementation, assessment;
- Difficulty of working effectively within a complex array of international organizations with mandates that can be either ambiguous or overlapping. Need to clarify responsibilities, define focal points for specific topics, build synergies, and generally strengthen cooperation among UN programmes.

GCOS supports the Global Framework for Climate Services



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Assessment of Needs – GCOS with UNFCCC and IPCC

Addressing needs in the priority areas of the Global Framework for Climate Services (GFCS):

- **Water**
- **Agriculture and food security**
- **Disaster risk reduction**
- **Health**

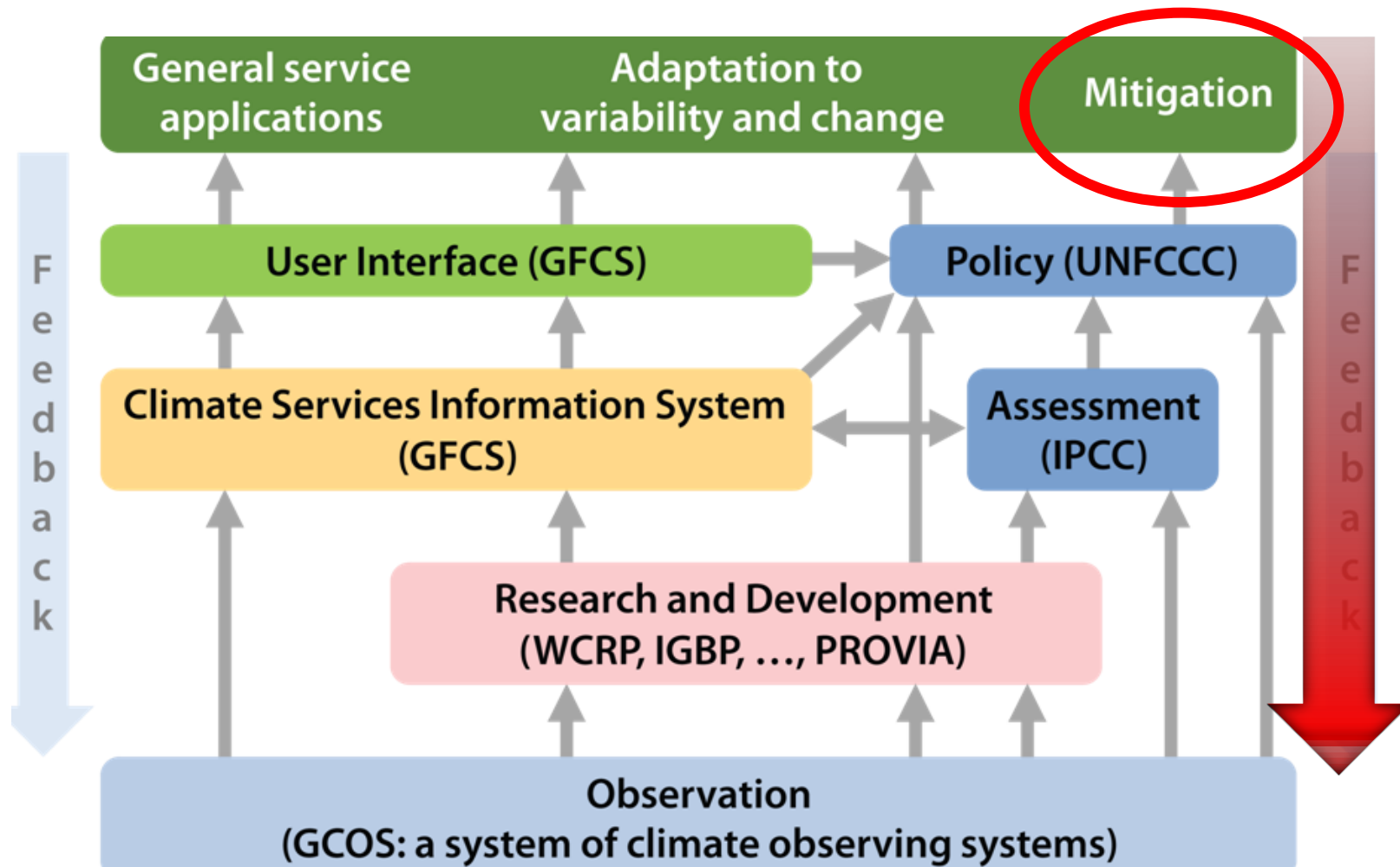
Support of:

- **SBSTA Agenda Item Research & Observation**
- **Adaptation under the UNFCCC**

Based on IPCC AR5:

- **WG I (Bern, 2014)**
- **WG II (Bonn, 2015)**

GCOS supports the Global Framework for Climate Services



Observation requirements for mitigation



<http://gcos.wmo.int>



GCOS Workshop on Observations for Climate Change Mitigation

Geneva, Switzerland
5–7 May 2014

Co-sponsored by the Land Cover Project Office of the Global
Observation for Forest Cover and Land Dynamics (GOFC-
GOLD) Programme



GCOS-185

GCOS, in collaboration with the Land Cover Project Office from the Global Observation for Forest Cover and Land Dynamics (GOFC-GOLD), has organized an international workshop to consider *the climate observation requirements to support mitigation to climate change mitigation.*

✦ ***Focus on Land Use (Agriculture) and Forest***

✦ ***Representatives from UNFCCC, FAO, ICRAF, ESA, IPCC, etc.***



Observations for Assessing Impacts of Response Measures

Mitigation

Atmospheric Composition: CO₂, methane (CH₄), NO₂, other long-lived GHGs, ozone, aerosols,
including estimation of net sources and sinks, fluxes,
Land-Use and Land-Cover, Fires

Adaptation

need of Precipitation, Temperature on specific scales

Socioeconomic data

Health indicators, agricultural productivity, mortality rate, gross domestic product...

Question and Challenge

Question:

- What observations help to make the right decisions on adaptation and mitigation measures?

Challenge:

- Support climate services with the information (data) currently available.