

Systematic observations of the climate system under the UNFCCC: An overview

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- **Objective:** discuss on-going work on systematic observation under the UNFCCC and how this work can further contribute to various work streams on adaptation
- **Contents:**
 - **History** - A brief look at developments up until now
 - **Implementing** - Who is undertaking systematic observation and how?
 - **Work done**
 - **Reporting** - Identifying progress and needs to support implementation
 - **Gaps and needs** - The gaps and needs identified by Parties and organisations
 - **Funding** – What is available for action on systematic observation
 - **Future opportunities**

Overview of developments in climate research and systematic observation

Late 1800s

International cooperation starts on climate monitoring, data collection and research

IMO established (1873)

1940s-1950s

Need for stronger inter-governmental cooperation on climate monitoring

WMO established (1950)

1970s

Growing public concern
Reports to the Club of Rome

1st World Climate Conference (1979)

1980s

Climate change gets into the global political agenda

IPCC established (1988)

1990s

Increasing scientific evidence

IPCC FAR (1990)

2nd World Climate Conference (1990)

Earth Summit in Rio de Janeiro (1992)

IPCC SAR (1995)

UNFCCC established (1992)

GCOS established (1992)

2000s

IPCC TAR (2001)

GCOS implementation plan (2004, update 2010)

GCOS regional workshops (2000-2005)

IPCC AR4 (2007)

World Climate Conference 3 (2009)

Decision on Cancun Adaptation Framework and long-term global goal to keep temperature increase below 2°C (2010)

2010s

IPCC AR5 (2013-14)

GFCS development: on-going

Upcoming:

GCOS 3rd report on adequacy of global observing systems (2015)

New GCOS implementation plan (2016)

Review of the 2/1.5°C goal (2015)

The new climate agreement (2015)

- New observational needs emerging, e.g. for adaptation, ecosystems, sustainable development
- Despite advances in observational capacity, gaps still exist, in particular in developing countries, there are still challenges in ensuring long-term observations



Parties

- NMHS
- Research organisations
- Space Agencies

GCOS

- Adequacy Reports
- Regional Workshops (2006-2010)
- Implementation Plans (2004, 2010, 2016)

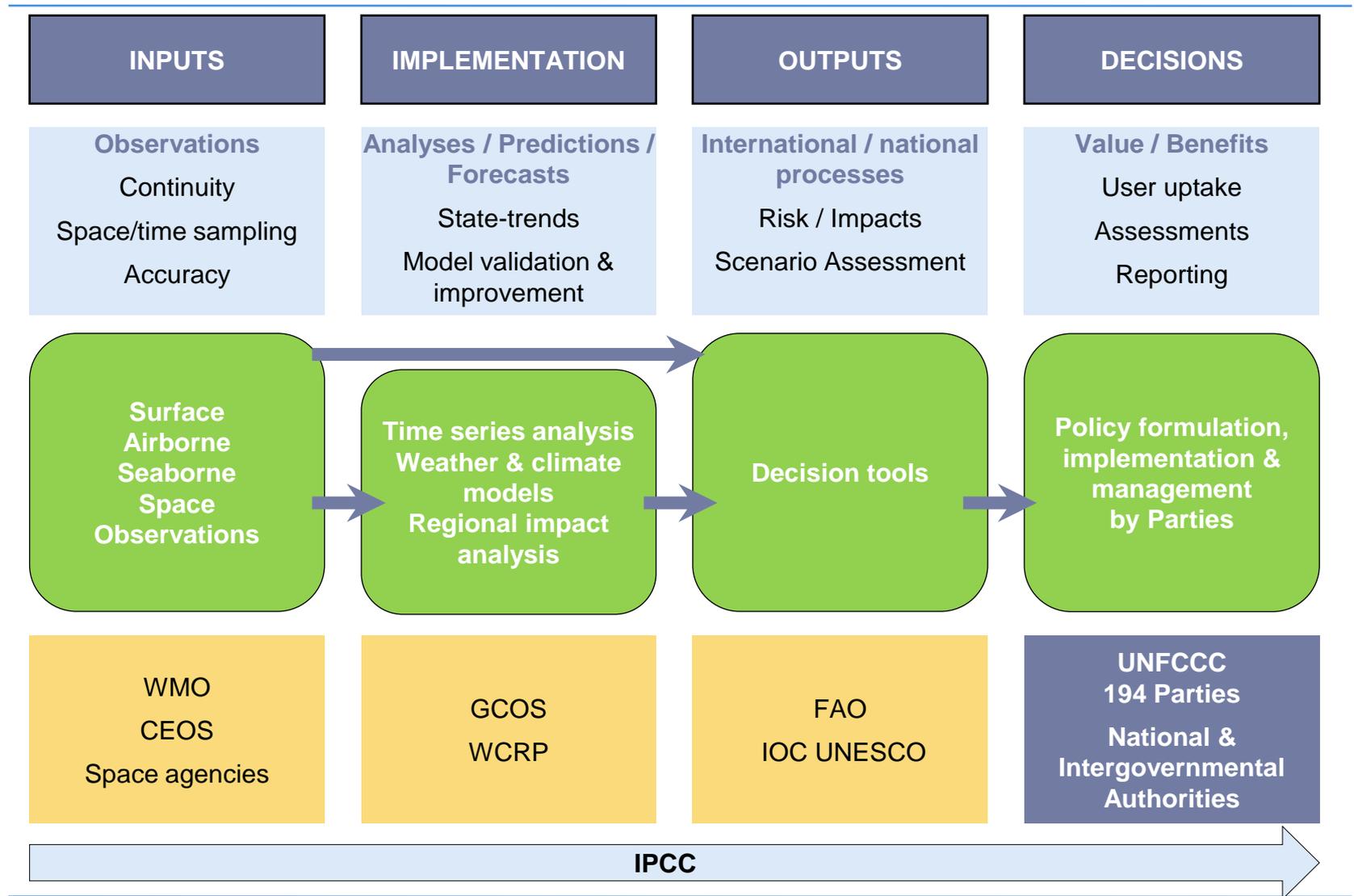
Full implementation of the GCOS Implementation Plan and its Satellite Supplement by Parties to the UNFCCC will provide those global observations of the ECVs and their associated products that assist Parties in meeting their responsibilities under Articles 4 and 5 of the UNFCCC. In addition, it will provide many of the essential observations required by the WCRP and IPCC

WMO

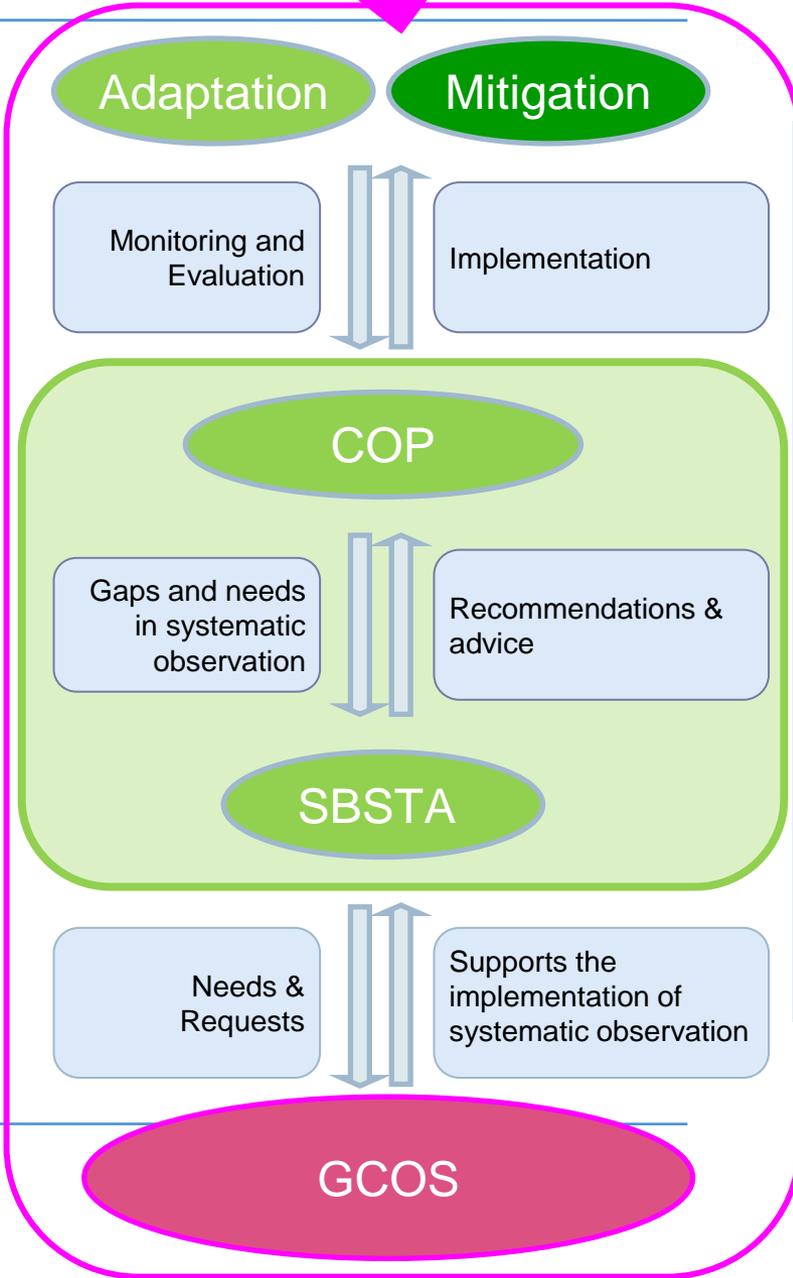
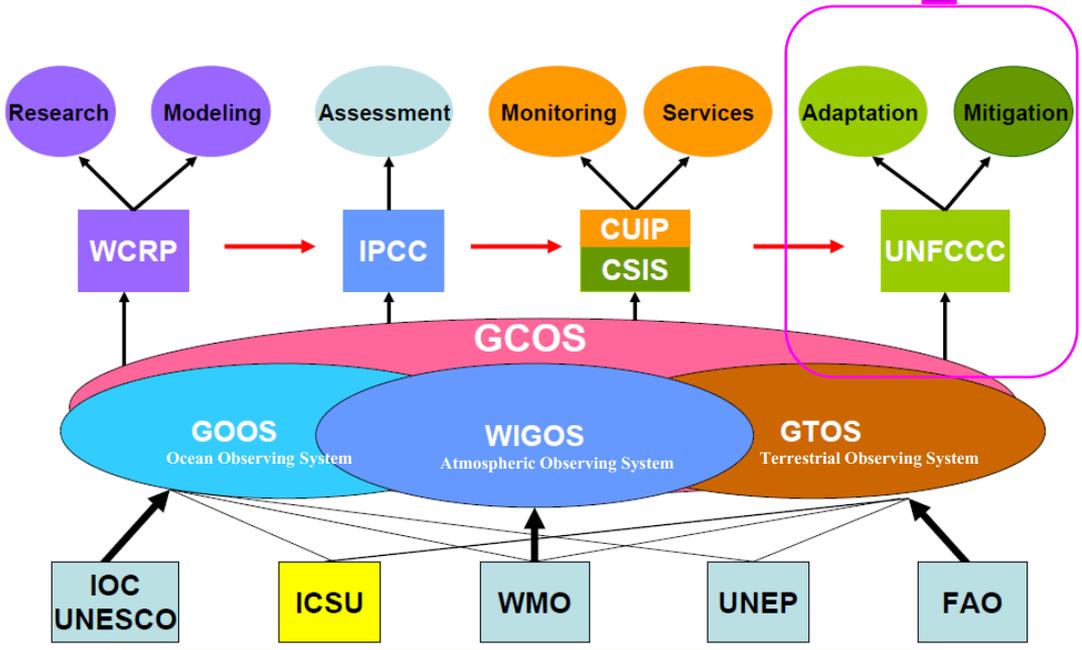
- Global Framework for Climate Services including Climate User Interface Programme & Climate Services Information System



The process of climate observation: from inputs to decisions



Relationship between UNFCCC, SBSTA and research bodies on climate observation



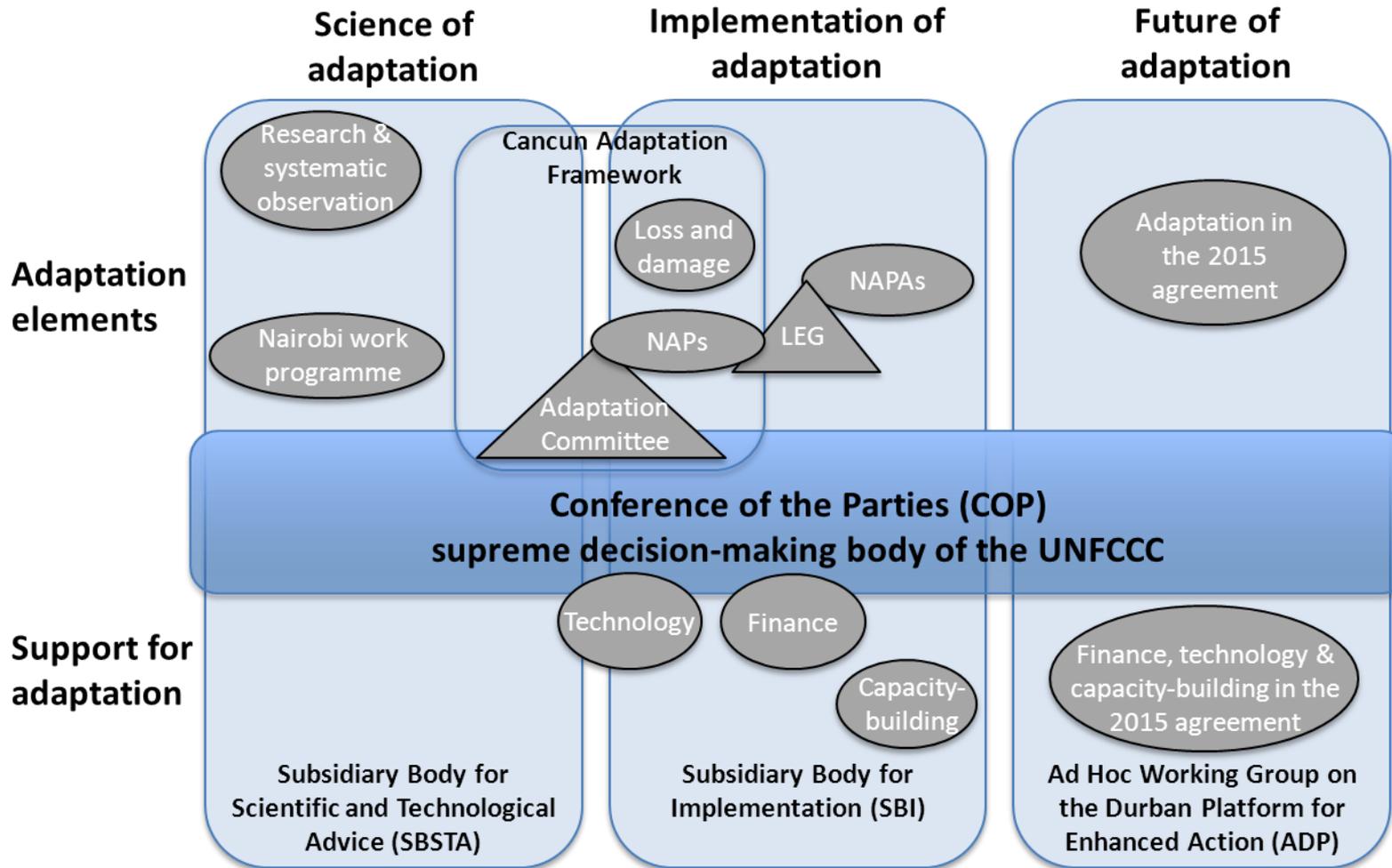
UN Framework Convention on Climate Change

Convention Articles 4 & 5:

Promote and cooperate in research and systematic observation of the climate system and exchange of information

...

Systematic observations must support decision making on mitigation and adaptation for the 2015 agreement and beyond.



- In line with UNFCCC guidelines and GCOS implementation plan
- All Parties report on observed and projected changes to their local climate in the NC chapters on National Circumstances and on Impacts, vulnerability and adaptation
- Annex I
 - Completed 5th NCs
 - Improving observing systems
 - Cooperation with networks on SO and data exchange
 - Supporting capacity building in developing countries
- non-Annex I
 - participation in and contribution to activities and programmes of national, regional and global research networks and observing systems and programmes relevant to adaptation and mitigation of climate change
 - Gaps and needs

- **Needs identified by Parties**
 - Not all climate information needs under the Convention are being met
 - Large areas for which in situ observations and measurements are not available, e.g. large areas in Africa
 - Support for digitalising historical data
 - Ensuring sustained long-term operation of essential *in situ* networks
- **Needs for least developed countries**
 - NAPA projects
 - NAP development and implementation
- **Research Dialogue**
 - Provides a forum to enhance communication between science and policy communities
- **Nairobi work programme on impacts, vulnerability and adaptation**
 - Expert meeting on work areas 1. methods and tools and 2. data and observations, 2008
 - Technical workshop on collaboration among regional centres and networks, 2010
 - Technical workshop on ecosystem-based approaches for adaptation to climate change, 2013
 - 98 partners involved in science, assessment, monitoring and early warning systems



- Parties are supporting building capacities by strengthening existing national and regional systematic observation and monitoring networks and establishing new observing stations and networks
- Provided through multiple channels, including development assistance, regional and bilateral cooperation, and the funding of projects and partnerships established with respective counterparts in developing countries by the national institutes working on climate-related observations and research
- Regional and international cooperation on climate monitoring include the GCOS Regional Action Plans, e.g. ClimDevAfrica
- GFCS
- Cancun Agreements:
 - [Technology Mechanism](#)
 - [Adaptation Forum](#)
- Durban Forum on Capacity Building



- **Current GEF funding**
 - **SCCF**
 - **LDCF**
- **Adaptation Fund (AF)**
under the Kyoto protocol, managed by the AF Board
- **Green Climate Fund (GCF)**
was established at COP 16 in Cancun, will launch in 2020, GCF is to become the main fund for global climate change finance, in the context of mobilizing 100 billion USD by 2020
- **Parties**
The COP urges Parties to carry on/enhance current funding for systematic observation through bilateral, regional and multilateral channels

- **Systematic observations play an increasingly important role for decision making on mitigation and adaptation for the 2015 agreement and beyond**
- **Despite wealth of data and information available, systematic observation must not be taken for granted**
- **Resources and efforts need to be maintained and improved, particularly on behalf of developing countries, to support their adaptation planning**
- **New sets of observation requirements to support adaptation and sustainable development are still emerging**
- **Must look into ways to better liaise with the implementation bodies, including identifying the negotiating items under which systematic observation is required and provide relevant information to stakeholders and regional hubs, including via the Adaptation Committee, Nairobi work programme and the LEG**

Thank you!

