



# Data and observation needs under the UNFCCC

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– From Concepts to Application  
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**Karoliina Saarniaho**

Adaptation, Technology and Science Programme (ATS)

UNFCCC Secretariat

[ksaarniaho@unfccc.int](mailto:ksaarniaho@unfccc.int)

<http://www.unfccc.int>

# Outline

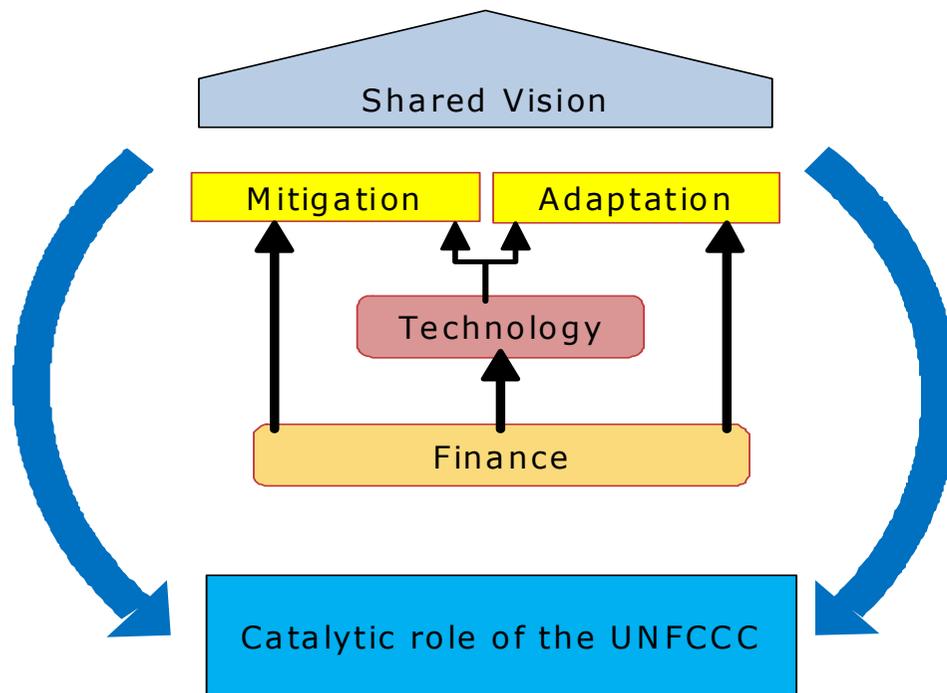
- Current negotiations
  - Enhancing the implementation of UNFCCC
  - Adaptation needs for climate information, data and observations
- Meeting the needs
  - IPCC
  - GCOS Implementation Plan;
  - WCC -3
- Action on adaptation under the UNFCCC
  - Nairobi Work Programme (NWP)
  - National Adaptation Plans of Action (NAPAs)
- Conclusions
  - Concepts relevant in the context of space-based information



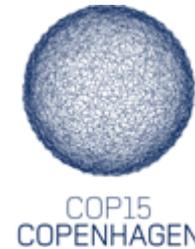
# Current negotiations | The Bali Action Plan

Ad-hoc Working Group on Long-term Cooperative Action  
(AWG-LCA)

Enhancing the implementation of  
the UNFCCC



World leaders have called for a comprehensive, ambitious and fair international climate change deal to be sealed at the United Nations Climate Change Conference (COP 15) in Copenhagen, **7-18 December 2009.**



The process leading to Copenhagen was launched in Bali, December 2007, when all Parties agreed on the Bali Action Plan - a two-year process leading to an agreed outcome on climate change action in Copenhagen.



## Current negotiations | Identified needs for data and observation

### **Adaptation – A global framework of action on adaptation**

*Solid foundation of scientific knowledge, (including emerging scientific findings), research and observation suggested as a basis for implementation of adaptation activities. Activities listed include*

**Enhancing or developing the needed information and knowledge base** (both biophysical and socioeconomic), including improving scientific research, data systems and data collection through enhancing observations and data and data availability

**Exchange of information, data and knowledge at local, regional and international level**

**Support to capacity building for adaptation**, including systematic observation, data collection and archiving, analysis, modelling, dissemination and application

**Establishing regional centres and networks** i.a. to coordinate and disseminate information



Focus on the most vulnerable countries



# Current negotiations | Identified needs for data and observation

## ***Adaptation –***

*As regards **risk reduction and management**, Parties have proposed to*

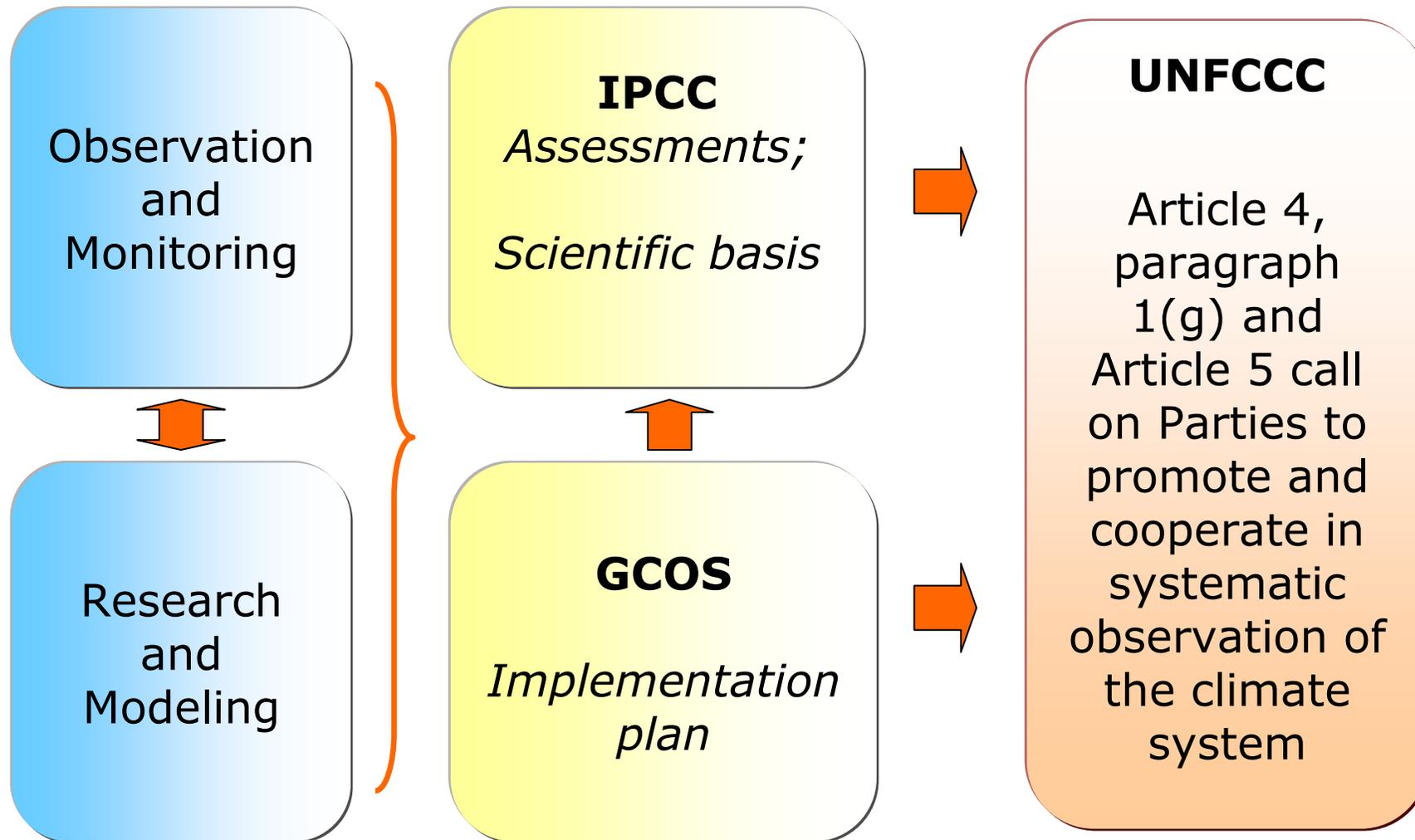
***Establish an international mechanism*** to address the unavoidable loss and damage from the adverse effects of climate change

Preparation of ***national adaptation plan*** that is consistent with, or incorporate elements of, national risk reduction, and that ***includes strengthened risk observation, analysis and information dissemination***

Systematically **integrate risk reduction measures into national, subnational and sectoral development planning and programming**



# Flow of scientific information into the UNFCCC process | IPCC and GCOS



# Intergovernmental Panel on Climate Change— The scientific basis

IPCC 4<sup>th</sup> Assessment Report (2007)WG II –  
Impacts, adaptation and vulnerability

***“Impacts due to altered frequencies and intensities of extreme weather, climate and sea-level events are **very likely** to change”***

***... Confidence has increased, that***

***“some weather events and extremes will become more frequent, more widespread and/or intense during the 21<sup>st</sup> century.”***



# Global Climate Observing System – Meeting the needs for climate information

## GCOS Implementation Plan

- GCOS provides information on the total climate system, including range of physical, chemical and biological properties, and atmospheric, oceanic, hydrologic, cryospheric and terrestrial processes (ECVs)
- Designed to meet the needs for climate-related observations, including the needs of the Parties to the UNFCCC, for the purposes of the Convention
- Implementation carried out by various national meteorological, hydrological, oceanographic, space, environment, research and other Earth observing agencies of the Member countries of the sponsors of GCOS



## Some elements from the report on progress with the GCOS IP

- The increasing profile on climate change has reinforced world-wide awareness of the importance of an effective Global Climate Observing System
- Space agencies have improved both mission continuity and observational capability, and are increasingly meeting the identified needs for data reprocessing, product generation, and access
- The Global Climate Observing System has progressed significantly over the last five years, but still falls short of meeting all the climate information needs of the UNFCCC and broader user communities

### Priority activities include:

Encouragement for the coordinated implementation and long-term continuity of the cross-cutting space-based component of GCOS



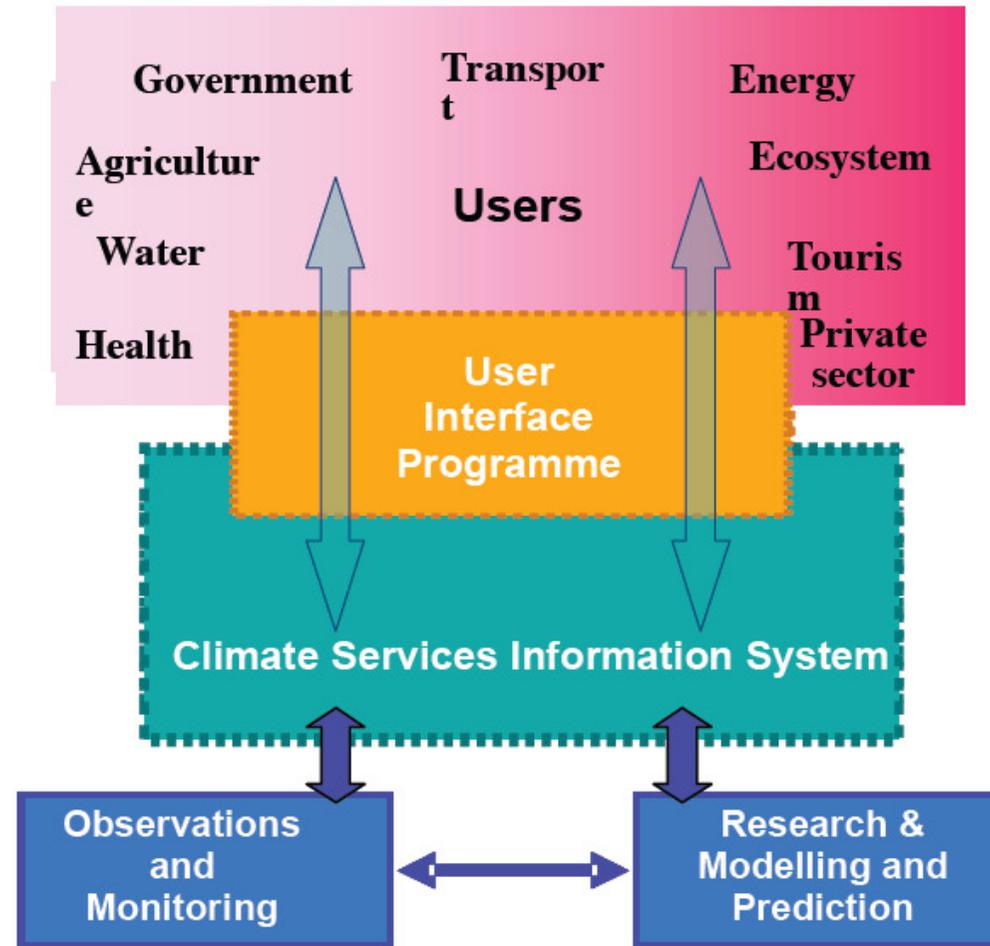
## ECVs dependent upon satellite observations | Space-based component of the GCOS

Domain	Essential Climate Variables
Atmospheric (over land, sea and ice)	Precipitation, Earth radiation budget (including solar irradiance), upper-air temperature, wind speed and direction, water vapour, cloud properties, carbon dioxide, ozone, aerosol properties
Oceanic	Sea-surface temperature, sea level, ocean colour (for biological activity), sea state, ocean salinity
Terrestrial	Lakes, snow cover, glaciers and ice caps, albedo, land cover (including vegetation type), fraction of absorbed photosynthetically active radiation (fAPAR), leaf area index (LAI), biomass, fire disturbance, soil moisture

Source: Systematic Observation Requirements for Satellite-based Products for Climate – Supplemental Details to the GCOS Implementation Plan

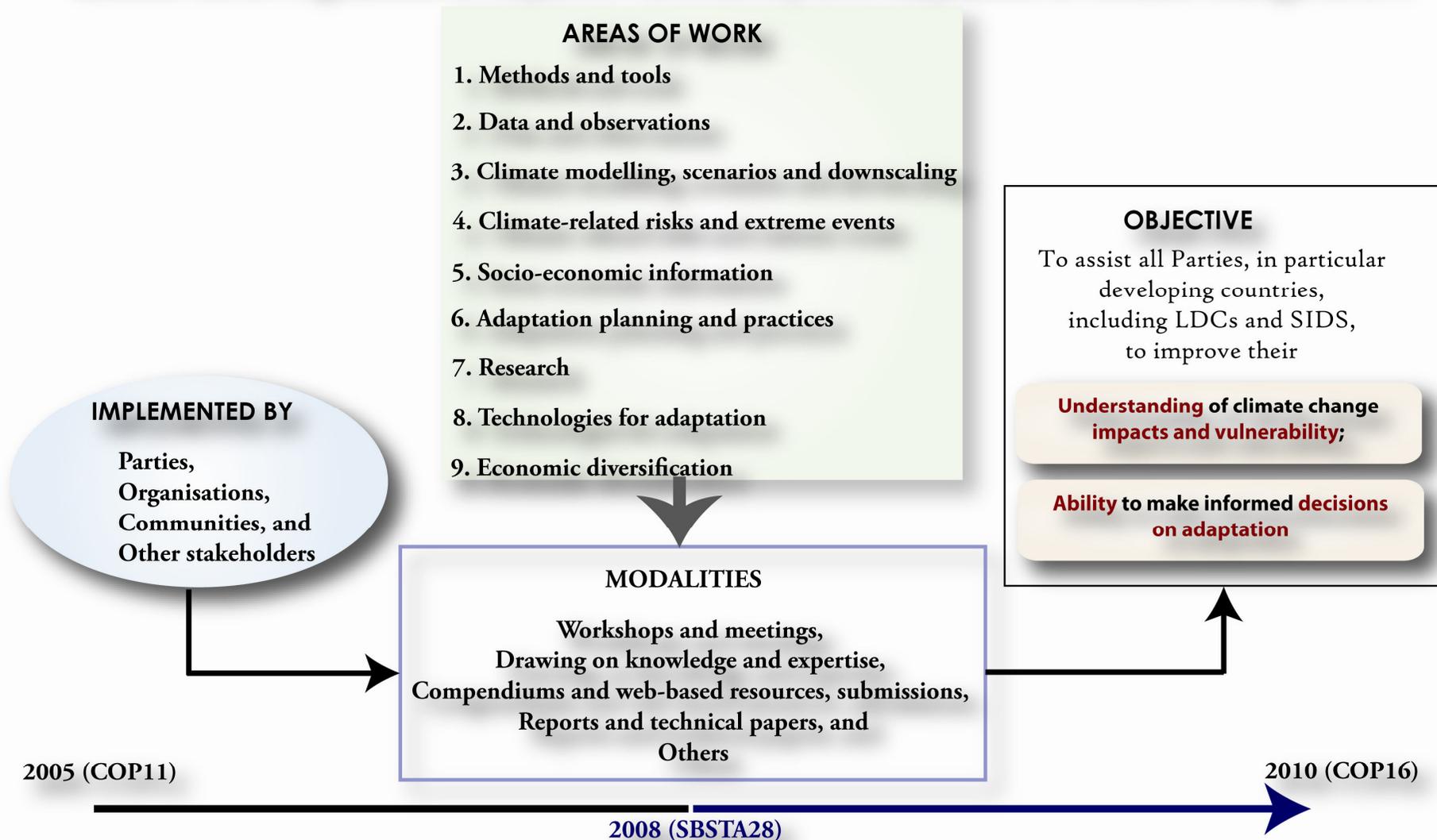


# World Climate Conference 3



# Building capacity, informing decision making on adaptation

## Nairobi Work Programme on Impacts, Vulnerability and Adaptation to Climate Change (NWP)



# Nairobi Work Programme

## Work area: Climate related risks and extreme events

**Workshop** (Cairo, June 2007) – see workshop report [FCCC/SBSTA/2007/7](#)

**Call for Action** *promoting understanding of impacts of, and vulnerability to, climate change, current and future variability and extreme events, and the implications for sustainable development*

Recommendations include:

- Allow continuous access to information on data archives and databases necessary for risk assessment and prediction
- Build capacity for the integration of climate-based information and services through collaboration dialogues
- Document, catalogue, use and disseminate traditional knowledge to assist climate risk reduction, prediction and management and adaptation planning



# Nairobi Work Programme

## Work area: Data and observations

**Expert meeting** (Mexico City, March 2008) - see workshop report **FCCC/SBSTA/2008/3**

**Call for Action** *improving collection, management, exchange, access to and use of observational data and other relevant information on current and historical climate and its impacts, and promoting improvement of observations, including the monitoring of climate variability*

Recommendations include:

- Define authoritative set of data and information needs for adaptation, identifying the essential variables (climate, ecosystems, economic and social) specific to impacts, vulnerability and adaptation
- Improve awareness of data and information already available
- Promote continuing dialogue between providers of data relevant for adaptation and the users of the data



# Nairobi Work Programme

## Work area: Adaptation planning and practices

**Workshop** (Havana, March 2009) - see workshop report [FCCC/SBSTA/2009/5](#)

**Call for Action** *Promoting understanding of impacts of, and vulnerability to, climate change, current and future climate variability and extreme events, and the implications for sustainable development*

*Promoting the development and dissemination of methods and tools for assessment and improvement of adaptation planning, measures and actions, and integration with sustainable development*

*Collecting, analysing and disseminating information on past and current practical adaptation actions and measures, including adaptation projects, short- and long-term adaptation strategies, and local and indigenous knowledge*

Elements identified include:

- The need for enhanced data availability, effective knowledge sharing and regional cooperation, including through regional centres
- Delivering information must take into consideration the needs of the users of this information



# National Adaptation Programmes of Action (NAPAs)

- Several identified needs relating to strengthening climate-related data and observations
  - Around 30 identified projects to date on early warning that need climate information to be effective
  - Several other projects have also identified intrinsic climate data and information needs
- Preparation and implementation of the NAPAs supported by the LDC Fund and Least Developed Countries Expert Group (LEG)



# Conclusions

Concepts relevant in the context of space-based information

- Access to and availability of data and information important, especially for the developing countries
- Need too ensure long-term continuity of space-based observations
- Need for improved observations in terms of cross-sectoral information, coverage and all variables (ECVs).
- Responding to the user needs – services, communication





Thank you!

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