wissen
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GKSS
FORSCHUNGSZENTRUM
in der HELMHOLTZ-GEMEINSCHAFT

Climate Service Center Germany

Science-Policy Interactions in National Policy, Utrecht, September 14, 2009

Lutz Cleemann

HELMHOLTZ
GEMEINSCHAFT

After IPCC AR4:
Adapting to climate change is considered to be as urgent as mitigation

WAS: Is anthropogenic climate change occurring?

NOW: What will be the impact of climate change on our human and natural systems and how should we respond?

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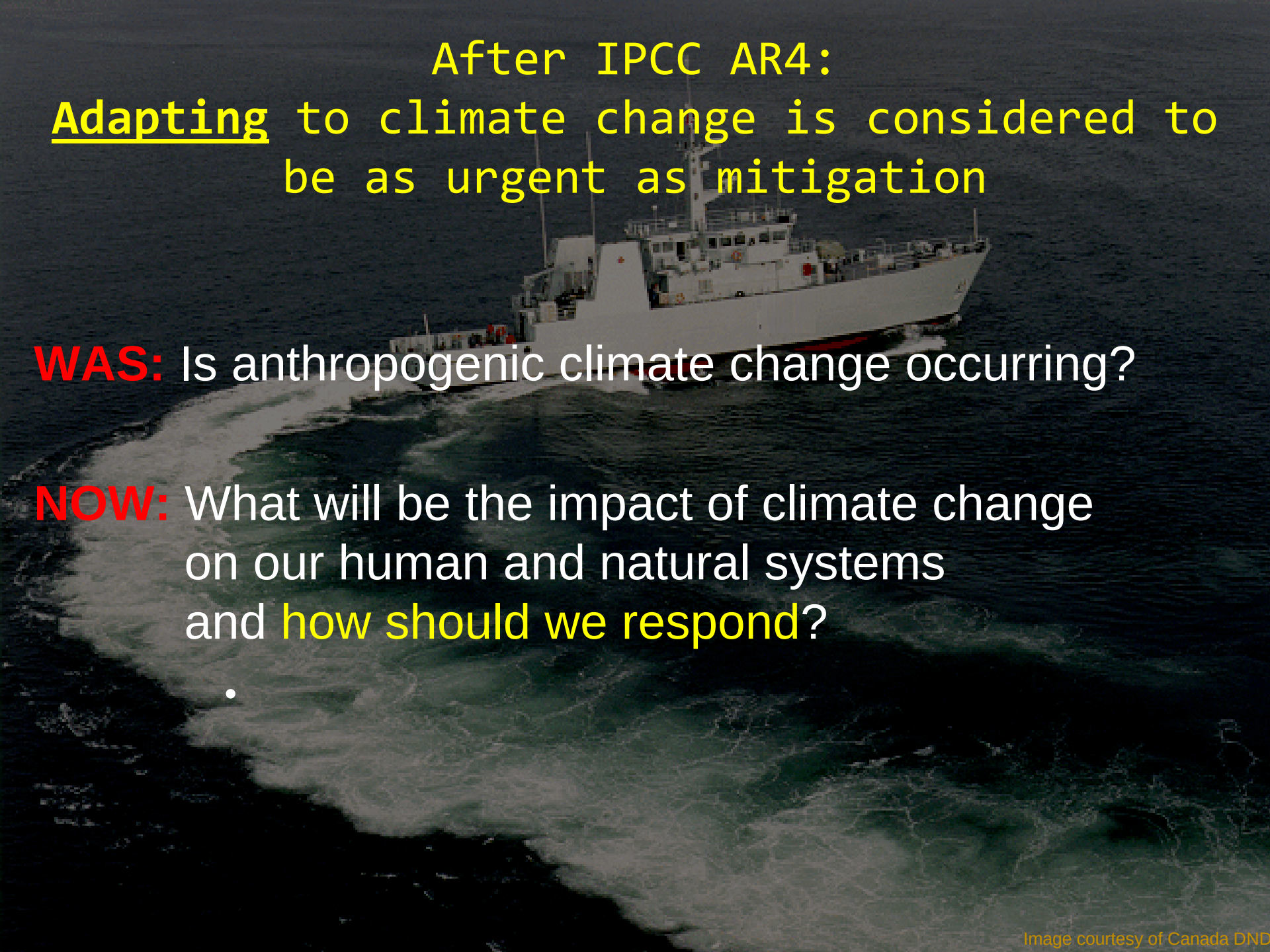
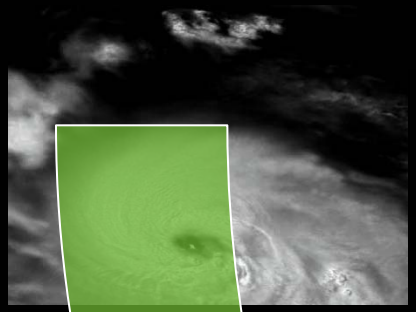


Image courtesy of Canada DND

The Challenge

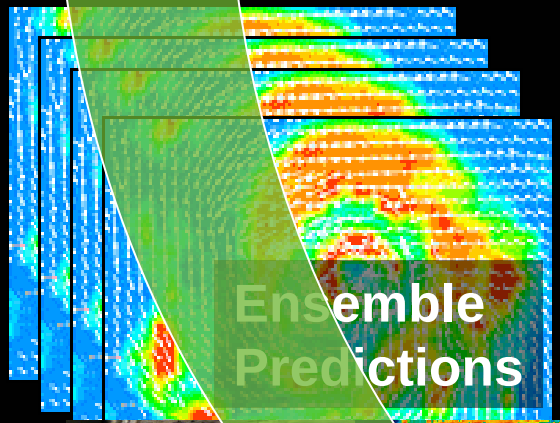
- Climate variability and change are considerably important for a wide range of human activities and natural ecosystems.
- Climate science has made major advances during the last two decades, yet climate information is neither routinely useful for nor used in planning.
- Climate science has to be connected to decision-relevant questions and to support building capacity to anticipate, plan for, and adapt to climate fluctuations.

How to integrate Research Model and Data into end-use Knowledge Systems!

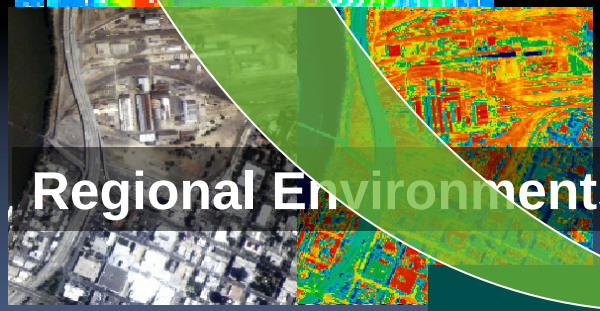


Weather/Climate Data Assimilation Models

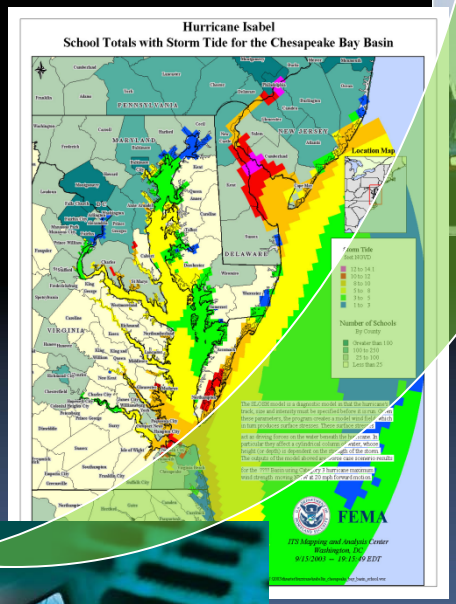
Reliable Information Delivery



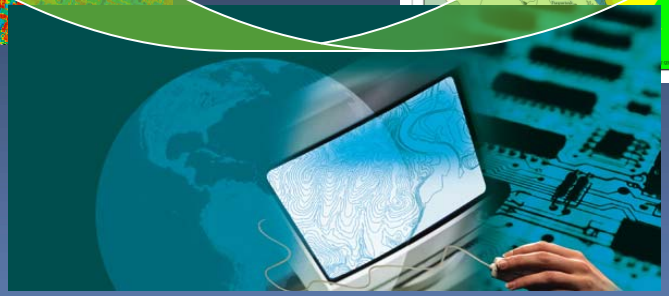
Ensemble Predictions



Regional Environments



Operational Implementation



Decision Tools

Important Requirements

1. Improve understanding: climate research based on societal needs, not on their own agenda, scientists must focus on societal questions
2. Detailed regional information on the basis of global models that can represent high resolution processes such as convection, hurricanes, surface hydrology.
3. Communicate actionable information to society through a dialogue between scientists, decision-makers and the public.

The primary role of the German

Climate Service Center (CSC)

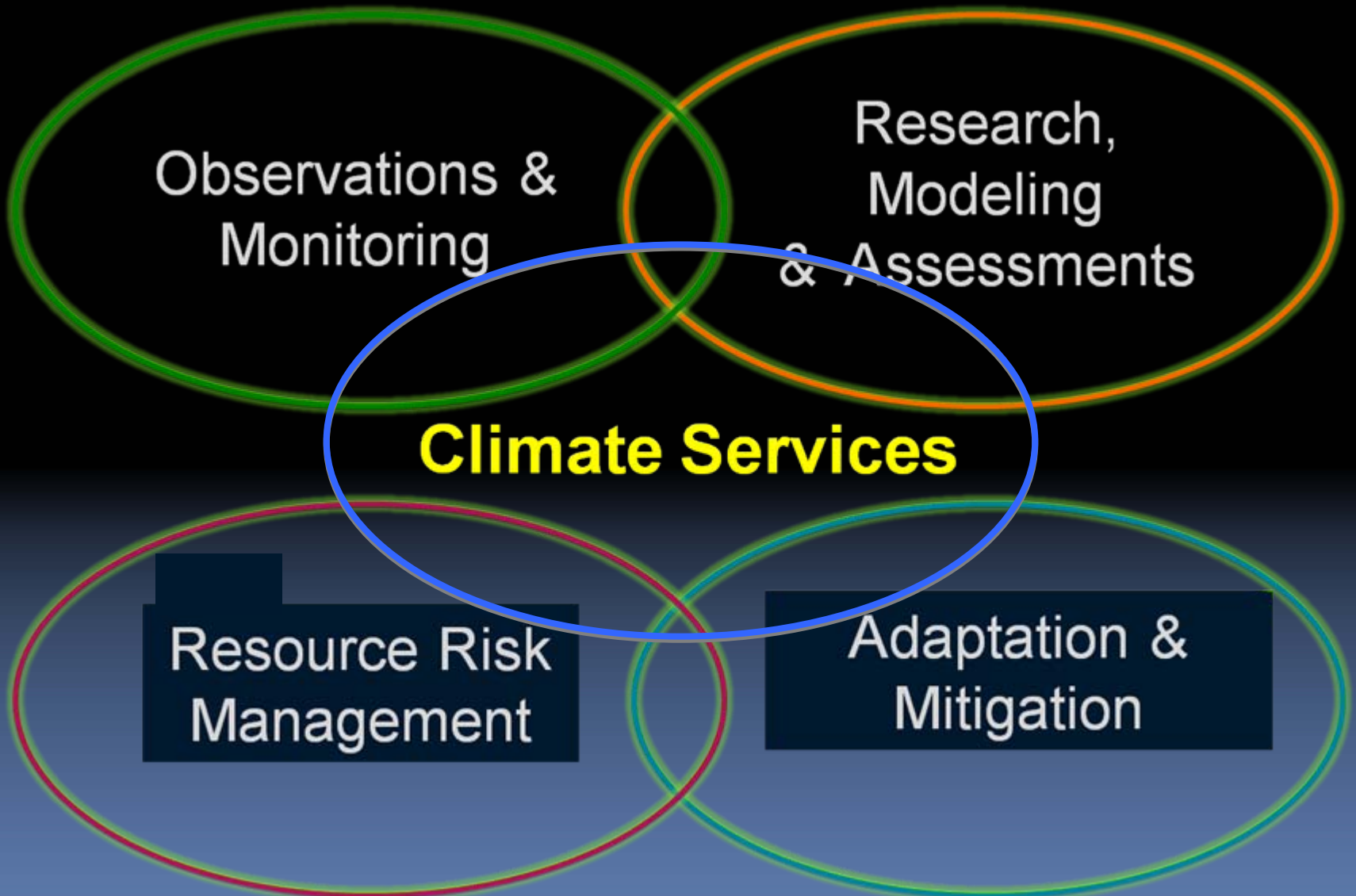
headed by Guy Brasseur

(funded by the German Ministry of Education and Research, BMBF)

CSC Vision

- As a national initiative and as a partnership with different German institutions, the CSC will produce and deliver useful, authoritative, and timely science-based knowledge, using Earth system observations, model predictions/projections, and analysis to help (1) mitigate the causes of environmental changes and (2) manage climate-related risks, opportunities and impacts.

The Climate Service Center will build bridges between research and decision-makers



The mission of the German Climate Service Center

- Provide balanced, credible, cutting edge scientific and technical information
- Engage a diversity of users in meaningful ways to ensure their needs are being met
- Provide and contribute to science-based products and services to minimize climate-related risks
- Strengthen observations, standards, and data stewardship
- Improve regional and local projections of climate change
- Inform policy options

Many Sectors will benefit from the German Climate Service Center

- Energy
- Agriculture
- Forestry and land management
- Water management
- Coastal management
- Fisheries
- Transport
- Tourism
- Trade and Commerce
- Human health
- Financial services and insurances
- Construction and urban development
- Civil protection and environmental security

Particularly the Financial Sector expressed the need for improved climate informations*

The majority of financial service providers indicate that they are ”poorly informed“ and/or ”would like to be better informed“ regarding the following industries affected:

- Construction and real estate industry (16 out of 17)
- Infrastructure and transport (14 out of 16)
- Tourism (12 out of 15)
- Water sector (11 out of 15)
- Financial sector (11 out of 15)

* Study of the Sustainability Business Institute as part of the German Ministry of Education and Research (BMBF) sponsored project „CFI – Climate Change, Financial Markets and Innovation, www.cfi21.org

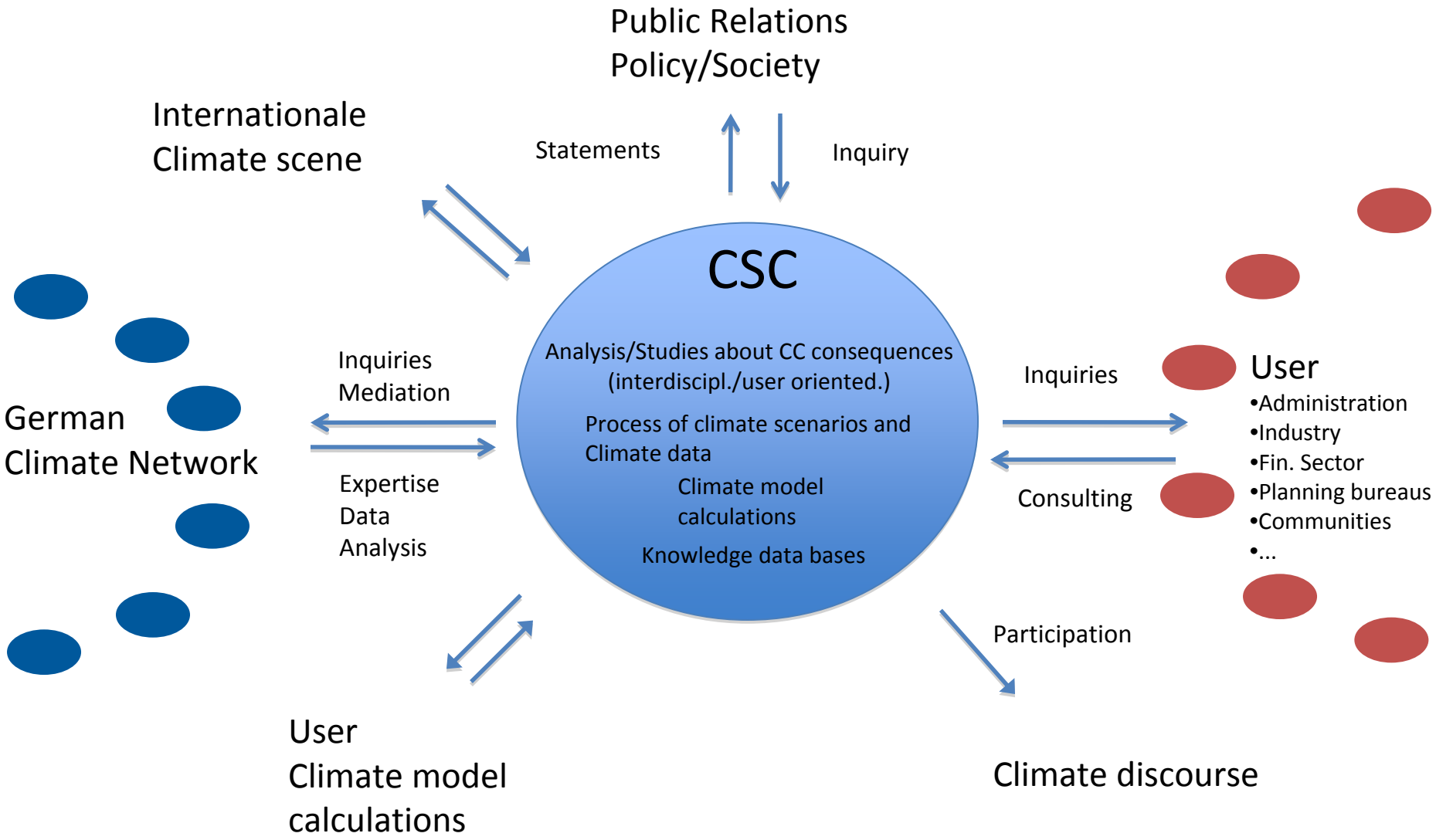
What is needed by the Financial Sector?

- Concrete data on expected changes for a specific location and a specific time horizon for the next 5-10 years (14 out of 19)
- Concrete data on expected changes for a specific location and a specific time horizon for the next 10-30 years (15 out of 19)
- Interpretation and assessment of the quality of the data and/or forecasts in terms of probabilities and/or uncertainties (17 out of 19)

…and more

- Implementation of regional financial studies in addition to the regional scenario models that already have been developed in many industry/research projects (especially in cooperation with local banks)
- Studies on market potentials and market exploitation levels, especially for new business models
- Research on insurance issues regarding new technologies
- Studies on (international) economic and regulatory issues of climate change, climate protection and "climate policy"
- Studies on the potential for the prevention of losses and catastrophes
- Research on the "carbon impact" or "carbon footprint" of technologies and businesses
- Market forecasts on electricity and CO_2 certificate prices
- Research on the awareness of citizens and their climate-friendly behaviour

Climate Service Center Governance



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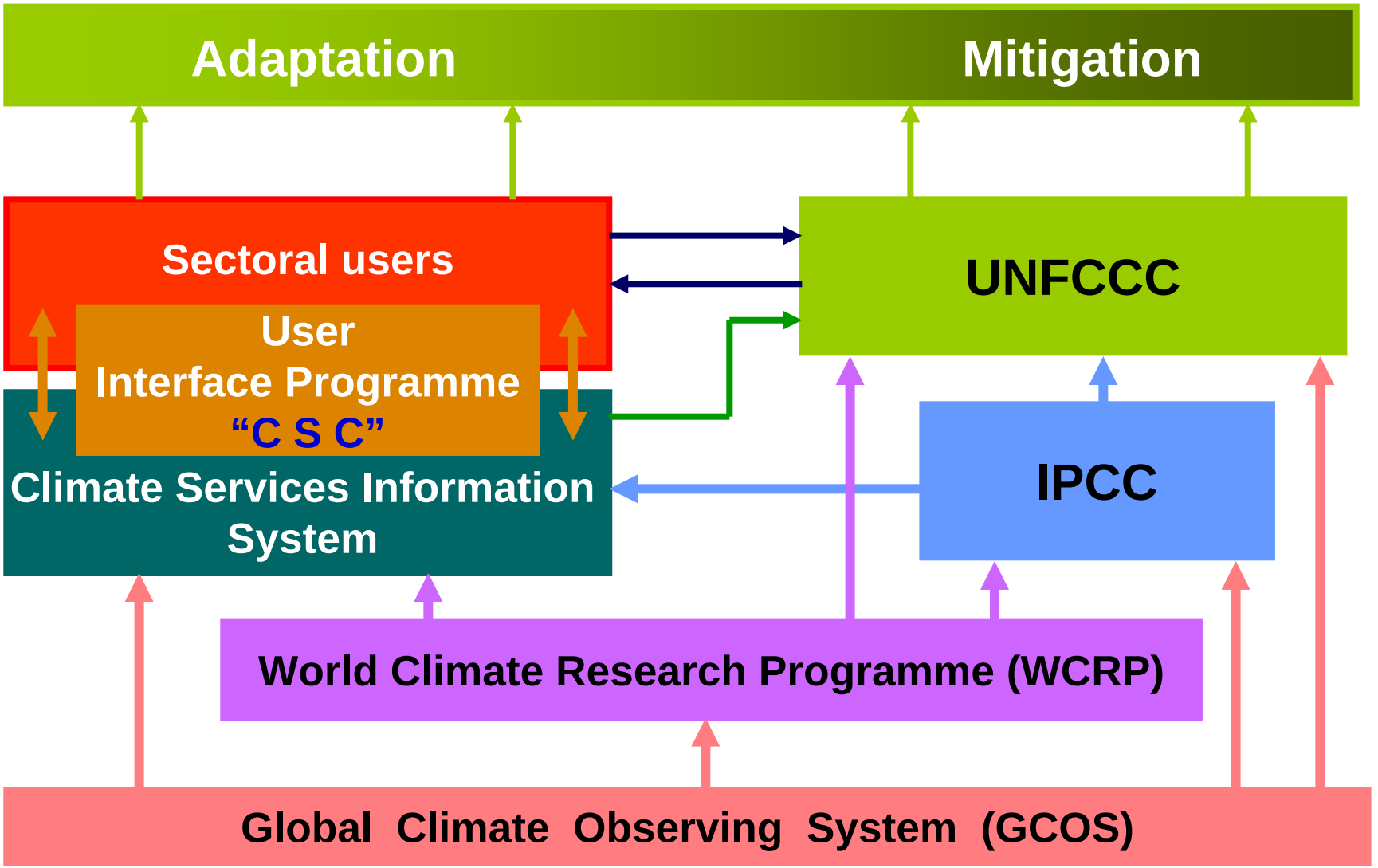
The German Climate Service Center is ahead of the Global Vision of WCC-3

An international framework for climate services that links science-based climate predictions and information with the management of climate-related risks and opportunities in support of **adaptation** to climate variability and change in both developed and developing countries.

Global Framework for Climate Services



WCC-3

HIGH-LEVEL DECLARATION

DO 1 We, Heads of State and Government, Ministers and Heads of Delegationpresent at the High-level Segment of the World Climate Conference-3 (WCC-3) in Geneva, noting the findings of the Expert Segment of the Conference;

OP 1 ***Decide*** **to establish a Global Framework for Climate Services** (hereafter referred to as "the Framework") to strengthen production, availability, delivery and application of science-based climate prediction and services;

OP 2 *Request* the Secretary-General of WMO to convene within four months of the adoption of the Declaration an intergovernmental meeting of member states of the WMO to approve the terms of reference and to endorse the composition of a **task force of high-level**, independent advisors to be appointed by the Secretary-General of the WMO with due consideration to expertise, geographical and gender balance;

OP 3 *Decide* that the task force will, after wide consultation with governments, partner organizations and relevant stakeholders, **prepare a report, including recommendations on proposed elements of the Framework**, to the Secretary-

General of WMO within 12 months of the task force being set up. The report should contain findings and proposed next steps for developing and implementing a Framework. In the development of their report, the taskforce will take into account the concepts outlined in the annexed Brief Note;

OP 4 *Decide* further that the report of the task force shall be circulated by the Secretary-General of WMO to Member States of the WMO for consideration **at the next WMO Congress in 2011, with a view to the adoption of a Framework and a plan for its implementation;** and

OP 5 *Invite* the Secretary-General of WMO to provide the report to relevant organizations, including the UN Secretary-General.