

Overview of Global Framework for Climate Services (GFCS)



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World Meteorological Organization
Organisation météorologique mondiale

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History of the GFCS

- **Third World Climate Conference (2009):** GFCS established as a UN-led initiative spearheaded by WMO
- **High Level Task Force (2010)** formed to propose elements for the Framework. “Climate knowledge for action: A global framework for climate services – empowering the most vulnerable” as the basis for GFCS
- **2011: Task team** (to develop the Implementation Plan) set up and GFCS office created
- **WMO Extraordinary Congress (2012):** Intergovernmental Board on Climate Services (IBCS) was established and the GFCS implementation plan was adopted for subsequent consideration of the IBCS.
- **IBCS-1:** First Session of the Intergovernmental Board on Climate Services (July 2013)
- **IBCS-2:** Second Session of the IBCS (November 2014)

**CLIMATE
KNOWLEDGE**
FOR
ACTION:

A GLOBAL FRAMEWORK
FOR CLIMATE SERVICES—
EMPOWERING
THE MOST VULNERABLE



THE REPORT OF THE HIGH-LEVEL TASKFORCE
FOR THE GLOBAL FRAMEWORK
FOR CLIMATE SERVICES

WMO-No. 108



Vision

To enable better management of the risks of climate variability and change and adaptation to climate change, through the development and incorporation of science-based climate information and prediction into planning, policy and practice on the global, regional and national scale.

GFCS Priorities

- Agriculture
- Disaster risk reduction
- Water
- Health
- Energy



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Why a Framework for Climate Services?

- It will enable **greater integration and coordination across disciplines, actors and sectors in the climate services agenda for better use of existing infrastructure, technical capabilities (and resources...) for improved outcomes in climate-sensitive sectors**

A Framework for Climate Services will **build on existing capacities and leverage these through coordination** to address shortcomings

Decision-making across timescales



10 Begin planning and monitoring of forecasts

10 Update contingency plans

10 Sensitize communities

10 Enable early-warning systems

10 Continue monitoring

10 Adjust plans

10 Warn communities

10 Local preparation activities

10 Activate response

10 Instruction to communities to evacuate, if needed

Climate is what you expect, weather is what you get

Mark Twain

Major needs

1. **Capacity development** for production and effective application of climate services
2. Improved, **standardized**, and quality controlled sector monitoring data;
3. **Effective, and cost-effective use of climate information** for sector decisions;
4. **Research and prediction of sector impacts** associated with climate variability and climate change;
5. **Development and deployment of early warning systems**;
6. Sustainable **financial and technical** support;
7. **Better collaboration** for interdisciplinary policy, practice and research.

GFCS Components

- **Observations and Monitoring**
- **Research, Modeling and Prediction**
- **Climate Services Information System (CSIS)**
- **User Interface Platform (UIP)**
- **Capacity Building**



GFCS implementation priorities

- Capacity development:
 - Linking climate service users and providers.
 - Developing national capacity in developing countries.
 - Strengthening regional climate capabilities.
- High-profile projects to address gaps across pillars and priority areas;
- Observations and data recovery in data sparse areas;
- Partnerships across sectors and disciplines for addressing gaps and priorities;
- Governance, leadership and management capacity to take the Framework forward.

Implementation approach



Priorities

- Reducing vulnerability to climate hazards
- Advancing development goals
- Mainstreaming climate information for decision-making
- Engagement of providers and users
- Maximizing utility of climate service infrastructure

- 40 project proposals for a total of CHF 140 million
 - From 1 to 10 years
 - From CHF 0.1 to 40 million
- Contribution modalities
 - Direct contribution to GFCS Trust Fund
 - Selection of Projects for implementation
 - Designation of activities contributing to GFCS based on a set of criteria
- **Implementing partners**
 - **UN: FAO, UNDP, UNESCO, UNESCO/IOC, UNISDR, UNITAR, WB, WFP, WHO, WMO**
 - **Others: GWP, IFRC**
 - **Joint offices:**
WMO-WHO; WMO-GWP; WMO-WFP

Early implementation



Focus of activities in

Bhutan – RA II

Burkina Faso – I

Colombia – III

Dominica – IV

Moldova – VI

Papua New Guinea –V

Peru - III

Tanzania - I



Regional workshops for the most vulnerable countries

South East Asia, Caribbean,
South West Pacific, Latin
America, South East Europe,
Middle East and North Africa

Ten Pre-requisites

- 1) ***Strong institutional anchorage*** for the Framework for Climate Services
- 2) ***Meet the demand for tailored climate service*** in the priority climate-sensitive sectors in the country
- 3) ***Build the capacity of the NMHS*** and other technical services
- 4) ***Improve the Communication*** / widespread distribution of Climate Services
- 5) ***Diversify communication channels***
- 6) Modernize and increase the ***density of the national hydro-meteorological observing network***
- 7) Improve ***collaborative climate research***, towards more salient end-user driven climate research outputs
- 8) Develop and strengthen the ***capacity of end-users*** to utilize climate services
- 9) ***Sustain the newly defined Framework*** for Climate Services at the national level
- 10) ***Engage all national stakeholders***

Benefits

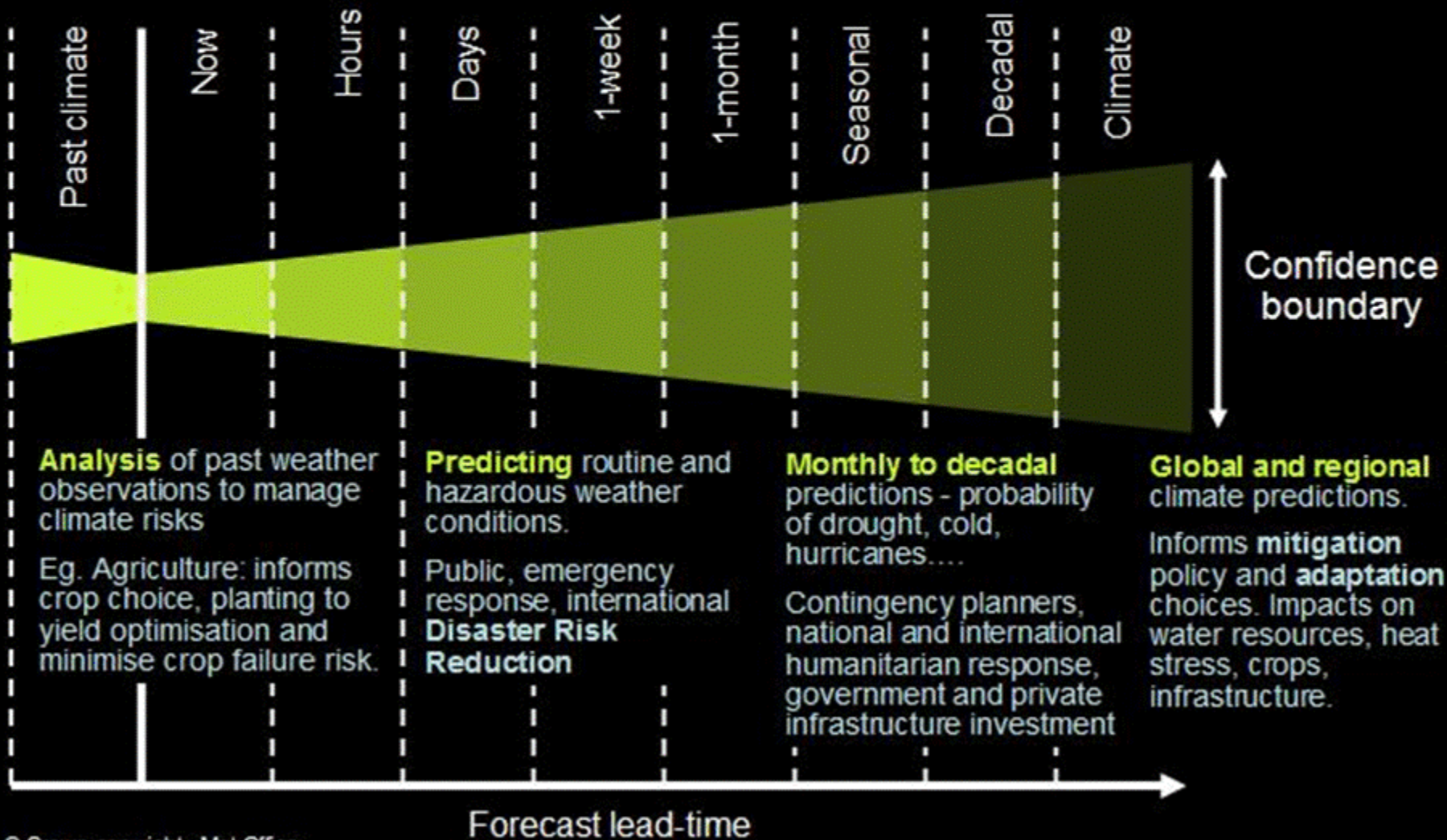
- **Better *water* resources management**
 - Inputs to hydrology (e.g. precipitation, evaporation, etc)
 - in planning, design, development and operation of water supplies
 - in flood and floodplain management and control
 - design and operation of irrigation and drainage systems;
- **Improved *disaster risk management***
 - Planning and emergency preparedness and response to extreme events
 - Siting of critical infrastructure such as hospitals, schools, etc
- **Improved support to planning and operations in the *health* sector**
 - Risk Assessment/health system risk management
 - Epidemiological Surveillance & environmental Monitoring
 - Health Services (heat health warning systems, malaria warning system, etc...)
- **Improved *agricultural* planning and management**
 - Better drought and flood management
 - Improved food security



Met Office

Full Implementation of Seamless Prediction: From Hours to Decades

Global coupled modelling on all timescales



Climate normals ?

Past

Normals for 1961-1990

October

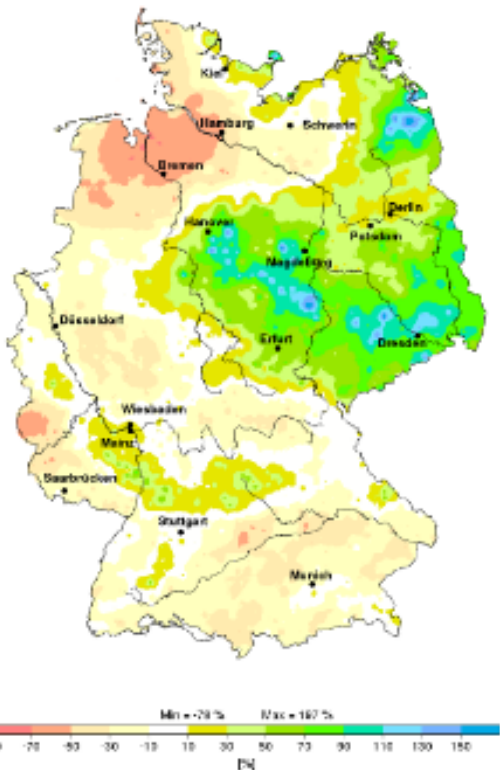


Current year: 2016 ?

Present

Anomaly with respect to 1961-1990 normals

October



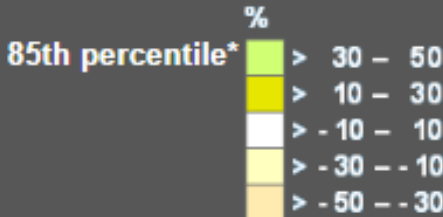
Climate scenarios ? ? Percentil

Anomaly with respect to 1961-1990 normals

Month / Season: October

Emission scenario: A1B

Time frame: 2010 - 2040



50th percentile*



15th percentile*

Basis: Ensemble of up to 21 regional climate models



Germany 1881 - 2016

Germany

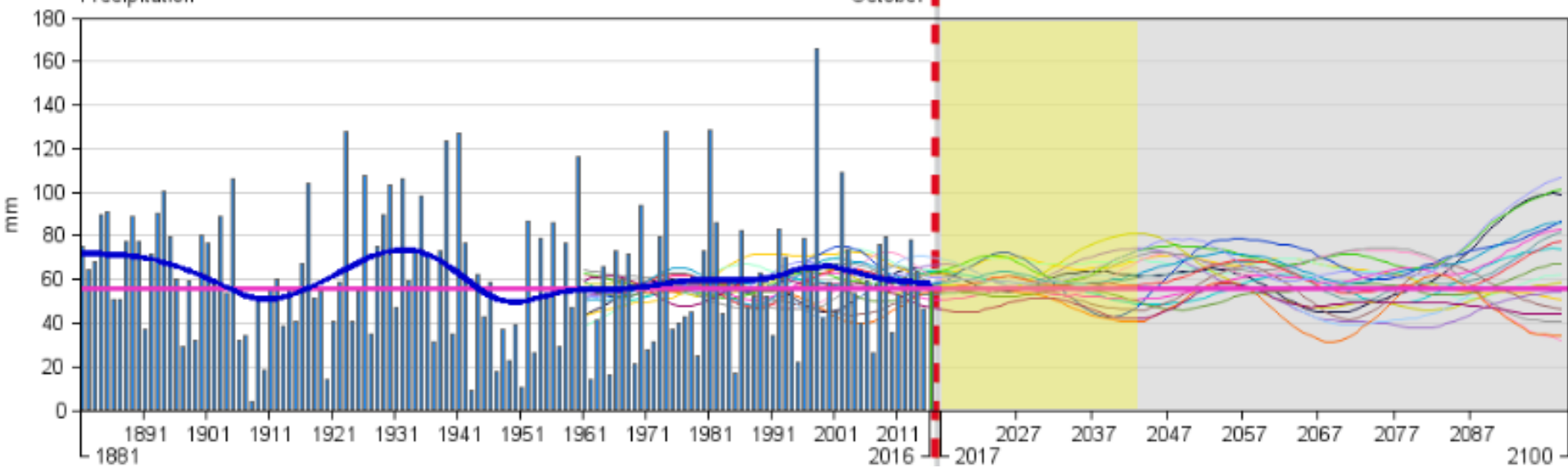


?

Germany 2017 - 2100

Precipitation

October



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Cataloguing Extreme Events

- Sendai Framework for Disaster Risk Reduction 2015–2030
- UNFCCC Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts
- Sustainable Development Goals
- Considering that:
 - Many National Met Services have developed and are maintaining historical catalogues of extreme events
 - Many countries have established disaster loss and damage accounting systems that could help in monitoring the implementation of the Sendai Framework and other international policies

17th WMO Congress (2015) passed **Resolution 9 -
IDENTIFIERS FOR CATALOGUING EXTREME WEATHER,
WATER AND CLIMATE EVENTS**

WMO Resolution 9 (cont)

- Decides to standardize weather, water, climate, space weather and other related environmental hazard and risk information and develop identifiers for cataloguing weather, water and climate extreme events
- To develop, in collaboration with all technical commissions and regional associations, a proposal on standardized identifiers for cataloguing hazardous events
 - Climatology - extreme climate events
 - Agricultural Meteorology - drought
 - Hydrology - floods
 - Oceanography - storm surge
 - Aeronautical Meteorology - volcanic ash

WMO Resolution 9 (cont)

1. Event typology

- Types of events to be catalogued and receive unique identifiers (droughts, different kinds of floods, heat/cold waves, various types of storms and severe weather, etc)
- Indices and parameters used/recommended for characterizing each type of event (magnitude, location, timing and duration) for establishing when an event has occurred and recording

2. Coding scheme

- Definition of a format of a unique identifier that can be assigned to an event when it occurs

3. Database management system

WMO Resolution 9 (cont)

Working structures and general work flow

- Existing technical commission groups and focal points already engaged in event definition, coding, database management systems
- Task Team on Cataloguing Extreme Weather, Water and Climate Events proposed as a coordination mechanism

WMO Commission for Agricultural Meteorology

Expert Team on Drought

- Conduct a comprehensive review of the definitions and phases of drought eg: onset, duration, recovery, and the 'end point' of drought in all regions in support of WMO Resolution 9;

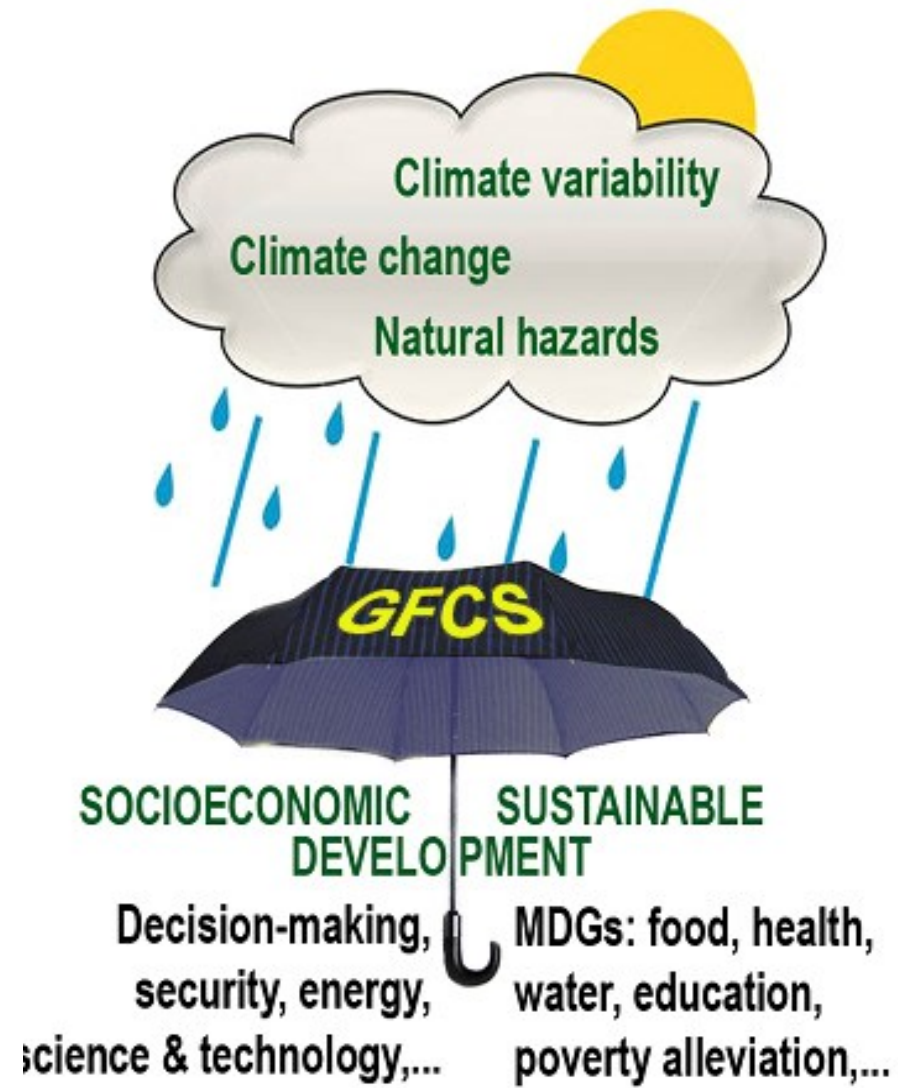
Summing-up

✓ 3 closely-related issues:

- *Adaptation to climate variability and change*
- *Disaster risk reduction*
- *Sustainable development & societal benefits*

✓ Requirements:

- *Reinforcing developing countries' adaptive capabilities*
- *Multidisciplinary partnerships across all sectors*
- *Capacity building to be seen as an investment, not an expenditure*



Thank you



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