



World Meteorological Organization

Weather • Climate • Water

# Overview structure of available ENSO information and coordination:

## Climate Services in support of the Post-2015 Development Agenda

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# Outline

- Climate in the post-2015 development agenda
- Climate finance and its impacts on implementation
- El Niño information → climate services
- Global Framework for Climate Services



# Climate and development post-2015

- Sendai Framework for Disaster Risk Reduction
  - The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries
  - Disasters involving hydro-meteorological hazards affect 55 times as many people and account for nine times the deaths and three times the economic losses as all other hazards combined



# Climate and development post-2015

- Sustainable Development Goals



End poverty in all its forms everywhere 

## 1.1

by 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day

## 1.2

by 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions

## 1.3

implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable

## 1.4

by 2030 ensure that all men and women, particularly the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership, and control over land and other forms of property, inheritance, natural resources, appropriate new technology, and

financial services including microfinance

## 1.5

by 2030 build the resilience of the poor and those in vulnerable situations, and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters

## 1.6

ensure significant mobilisation of resources from a variety of sources, including through enhanced development cooperation to provide adequate and predictable means for developing countries, in particular LDCs, to implement programmes and policies to end poverty in all its dimensions

## 1.7

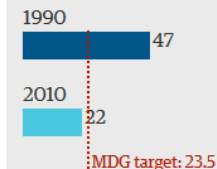
create sound policy frameworks, at national, regional and international levels, based on pro-poor and gender-sensitive development strategies to support accelerated investments in poverty eradication actions

## Relevant MDG



## Progress

Proportion of people living on less than \$1.25 a day, percentage



# Climate and development post-2015

## • Sustainable Development Goals

2

End hunger, achieve food security and improved nutrition and promote sustainable agriculture ☺

### 2.1

by 2030 end hunger and ensure access by all people, in particular the poor and people in vulnerable situations including infants, to safe, nutritious and sufficient food all year round

### 2.2

by 2030 end all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons

### 2.3

by 2030 double the agricultural productivity and the incomes of small-scale food producers, particularly women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets, and opportunities for value addition and non-farm employment

### 2.4

by 2030 ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters, and that progressively improve land and soil quality

### 2.5

by 2020 maintain genetic diversity of seeds, cultivated plants, farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at national, regional and international levels, and ensure access to and fair and equitable sharing of benefits arising from the utilisation of genetic resources and associated traditional knowledge as internationally agreed

### 2.6

increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development, and plant and livestock gene banks to enhance agricultural productive capacity in developing countries, in particular in least developed countries

### 2.7

correct and prevent trade restrictions and distortions in world agricultural markets including by the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the [Doha Development Round](#)

### 2.8

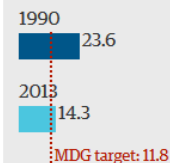
adopt measures to ensure the proper functioning of food commodity markets and their derivatives, and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility

### Relevant MDG



### Progress

Proportion of undernourished people, percentage



# Climate and development post-2015

## • Sustainable Development Goals

3

Ensure healthy lives and promote wellbeing for all at all ages 

### 3.1

by 2030 reduce the global maternal mortality ratio to less than 70 per 100,000 live births

### 3.2

by 2030 end preventable deaths of newborns and under-five children

### 3.3

by 2030 end the epidemics of Aids, tuberculosis, malaria, and neglected tropical diseases and combat hepatitis, water-borne diseases, and other communicable diseases

### 3.4

by 2030 reduce by one-third pre-mature mortality from non-communicable diseases (NCDs) through prevention and treatment, and promote mental health and wellbeing

### 3.5

strengthen prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol

### 3.6

by 2020 halve global deaths and injuries from road traffic accidents

### 3.7

by 2030 ensure universal access to sexual and reproductive health care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes

### 3.8

achieve universal health coverage (UHC), including financial risk protection, access to quality essential health care services, and access to safe, effective, quality, and affordable essential medicines and vaccines for all

### 3.9

by 2030 substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination

### 3.10

strengthen implementation of the [Framework Convention on Tobacco Control](#) in all countries as appropriate

### 3.11

support research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the [Doha Declaration](#) which affirms the right of developing countries to use to the full the provisions in the [TRIPS](#) agreement regarding flexibilities to protect public health and, in particular, provide access to medicines for all

### 3.12

increase substantially health financing and the recruitment, development and training and retention of the health workforce in developing countries, especially in LDCs and SIDS

### 3.13

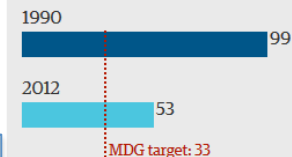
strengthen the capacity of all countries, particularly developing countries, for early warning, risk reduction, and management of national and global health risks

#### Relevant MDG



#### Progress


Under-five mortality rate, deaths per 1,000 live births



# Climate and development post-2015

## • Sustainable Development Goals

6

Ensure availability and sustainable management of water and sanitation for all 

### 6.1

by 2030, achieve universal and equitable access to safe and affordable drinking water for all

### 6.2

by 2030, achieve access to adequate and equitable sanitation and hygiene for all, and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations

### 6.3

by 2030, improve water quality by reducing pollution, eliminating dumping and minimising release of hazardous chemicals and materials, halving the proportion of untreated wastewater, and increasing recycling and safe reuse by x% [to be decided] globally

### 6.4

by 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity, and substantially reduce the number

of people suffering from water scarcity

### 6.5

by 2030 implement integrated water resources management at all levels, including through transboundary cooperation as appropriate

### 6.6

by 2020 protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

### 6.7

by 2030, expand international cooperation and capacity-building support to developing countries in water and sanitation related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies

### 6.8

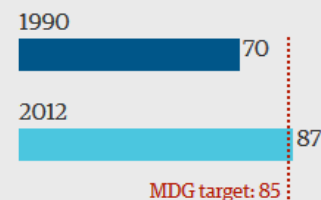
support and strengthen the participation of local communities for improving water and sanitation management

### Relevant MDG



### Progress


Proportion of population using an improved drinking water source, percentage



# Climate and development post-2015

- Sustainable Development Goals



Ensure access to affordable, reliable, sustainable and modern energy for all 

## 7.1

by 2030 ensure universal access to affordable, reliable, and modern energy services

## 7.2

increase substantially the share of renewable energy in the global energy mix by 2030, increase substantially the share of renewable energy in the global energy mix by 2030

## 7.3

double the global rate of improvement in energy efficiency by 2030

## 7.4

by 2030 enhance international cooperation to facilitate access to clean energy research and technologies, including renewable energy, energy efficiency, and advanced and cleaner fossil fuel technologies, and promote investment in energy infrastructure and clean energy technologies

## 7.5

by 2030 expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, particularly LDCs and SIDS

## Relevant MDG






# Climate and development post-2015

## • Sustainable Development Goals

11

Make cities and human settlements inclusive, safe, resilient and sustainable 

### 11.1

by 2030, ensure access for all to adequate, safe and affordable housing and basic services, and upgrade slums

### 11.2

by 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

### 11.3

by 2030 enhance inclusive and sustainable urbanisation and capacities for participatory, integrated and sustainable human settlement planning and management in all countries

### 11.4

strengthen efforts to protect and safeguard the world's cultural and natural heritage

### 11.5

by 2030 significantly reduce the number of deaths and the number of affected people and decrease by y% [to be decided] the economic losses relative to GDP caused by disasters, including water-related disasters, with the focus on protecting the poor and people in vulnerable situations

### 11.6

by 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality, municipal and other waste management

### 11.7

by 2030, provide universal access to safe, inclusive and accessible, green and public spaces, particularly for women and children, older persons and persons with disabilities

### 11.8

support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning

### 11.9

by 2020, increase by x% [to be decided] the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, develop and implement in line with the forthcoming [Hyogo Framework](#) holistic disaster risk management at all levels

### 11.10


support least developed countries, including through financial and technical assistance, for sustainable and resilient buildings utilising local materials



# Climate and development post-2015

- Sustainable Development Goals



Take urgent action to combat climate change and its impacts\* 

## 13.1

strengthen resilience and adaptive capacity to climate related hazards and natural disasters in all countries

## 13.2

integrate climate change measures into national policies, strategies, and planning

## 13.3

improve education, awareness raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning

## 13.4

implement the commitment undertaken by developed country Parties to the [UNFCCC](#) to a goal of mobilising jointly \$100bn annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalise the [Green Climate Fund](#) through its capitalisation as soon as possible

## 13.5

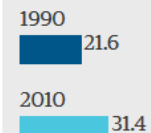
Promote mechanisms for raising capacities for effective climate change related planning and management, in LDCs, including focusing on women, youth, local and marginalised communities

## Relevant MDG



## Progress

Emissions of carbon dioxide (CO<sub>2</sub>), billions of metric tons



# Climate and development post-2015

## • Sustainable Development Goals

14

Conserve and sustainably use the oceans, seas and marine resources for sustainable development 

### 14.1

by 2025, prevent and significantly reduce marine pollution of all kinds, particularly from land-based activities, including marine debris and nutrient pollution

### 14.2

by 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration, to achieve healthy and productive oceans

### 14.3

minimise and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels

### 14.4

by 2020, effectively regulate harvesting, and end overfishing, illegal, unreported and unregulated (IUU) fishing and destructive fishing practices and implement science-based management plans, to restore fish stocks in the shortest time feasible at least to levels that can produce maximum sustainable yield as determined by their biological characteristics

### 14.5

by 2020, conserve at least 10% of coastal and marine areas, consistent with national and international law and based on best available scientific information

### 14.6

by 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, and eliminate subsidies that contribute to IUU fishing, and refrain from introducing new such subsidies, recognising that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the WTO fisheries subsidies negotiation

### 14.7

by 2030 increase the economic benefits to SIDS and LDCs from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism

### 14.8

increase scientific knowledge, develop research capacities and transfer marine technology taking into account the [Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology](#), in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular SIDS and LDCs

### 14.9

provide access of small-scale artisanal fishers to marine resources and markets,

### 14.10

ensure the full implementation of international law, as reflected in [UNCLOS](#) for states parties to it, including, where applicable, existing regional and international regimes for the conservation and sustainable use of oceans and their resources by their parties

### Relevant MDG



# Climate and development post-2015

## • Sustainable Development Goals

15

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss 🐦

### 15.1

by 2020 ensure conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests wetlands, mountains and drylands, in line with obligations under international agreements

### 15.2

by 2020, promote the implementation of sustainable management of all types of forests, hal deforestation, restore degraded forests, and increase afforestation and reforestation by x% [to be decided] globally

### 15.3

by 2020, combat desertification, and restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land-degradation neutral world

### 15.4

by 2030 ensure the conservation of mountain ecosystems, including their biodiversity, to enhance their capacity to provide benefits which are essential for sustainable development

### 15.5

take urgent and significant action to reduce degradation of natural habitat, halt the loss of biodiversity, and by 2020 protect and prevent the extinction of threatened species

### 15.6

ensure fair and equitable sharing of the benefits arising from the utilisation of genetic resources, and promote appropriate access to genetic resources

### 15.7

take urgent action to end poaching and trafficking of protected species of flora and fauna, and address both demand and supply of illegal wildlife products

### 15.8

by 2020 introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems, and control or eradicate the priority species

### 15.9

by 2020, integrate ecosystems and biodiversity values into national and local planning, development processes and poverty reduction strategies, and accounts

### 15.10

mobilise and significantly increase from all sources financial resources to conserve and sustainably use biodiversity and ecosystems, mobilise and significantly increase from all sources financial resources to conserve and sustainably use biodiversity and ecosystems

### 15.11

mobilise significantly resources from all sources and at all levels to finance sustainable forest management, and provide adequate incentives to developing countries to advance sustainable forest management, including for conservation and reforestation

### 15.12

enhance global support to efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities

### Relevant MDG



### Progress

Terrestrial and marine areas protected, percentage

1990

8.3

2012

14



# Climate and development post-2015

## • Sustainable Development Goals

17

Strengthen the means of implementation and revitalise the global partnership for sustainable development

### 17.1

strengthen domestic resource mobilisation, including through international support to developing countries to improve domestic capacity for tax and other revenue collection

### 17.2

developed countries to implement fully their ODA commitments, including to provide 0.7% of GNI in ODA to developing countries of which 0.15-0.20% to least-developed countries

### 17.3

mobilise additional financial resources for developing countries from multiple sources

### 17.4

assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries (HIPC) to reduce debt distress

### 17.5

adopt and implement investment promotion regimes for LDCs

### 17.6

enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation, and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, particularly at UN level, and through a global technology facilitation mechanism when agreed

### 17.7

promote development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed

### 17.8

fully operationalise the [Technology Bank](#) and STI (Science, Technology and Innovation) capacity building mechanism for LDCs by 2017, and enhance the use of enabling technologies in particular ICT

### 17.9

enhance international support for implementing effective and targeted capacity building in developing countries to support national plans to implement all sustainable development goals, including through North-South, South-South, and triangular cooperation

### 17.10

promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the WTO including through the conclusion of negotiations within its Doha Development Agenda

### 17.11

increase significantly the exports of developing countries, in particular with a view to doubling the LDC share of global exports by 2020

### 17.12

realise timely implementation of duty-free, quota-free market access on a lasting basis for all least developed countries consistent with WTO decisions, including through ensuring that preferential rules of origin applicable to imports from LDCs are transparent and simple, and contribute to facilitating market access

### 17.13

enhance global macroeconomic stability including through policy coordination and policy coherence

### 17.14

enhance policy coherence for sustainable development

### 17.15

respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development

### 17.16

enhance the global partnership for sustainable development complemented by multi-stakeholder partnerships that mobilise and share knowledge, expertise, technologies and financial resources to support the achievement of sustainable development goals in all countries, particularly developing countries

### 17.17

encourage and promote effective public, public-private, and civil society partnerships, building on the experience and resourcing strategies of partnerships

### 17.17

encourage and promote effective public, public-private, and civil society partnerships, building on the experience and resourcing strategies of partnerships

### 17.18

by 2020, enhance capacity building support to developing countries, including for LDCs and SIDS, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts

### 17.19

by 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement GDP, and support statistical capacity building in developing countries

### Relevant MDG



# Climate and development post-2015

- UN Framework Convention on Climate Change
  - Mitigation (climate services for renewable energy)
  - Adaptation
  - Loss and Damage



# Climate finance

- Funding sources
  - Global Environment Facility
  - Adaptation Fund
  - Pilot Programme on Climate Resilience
  - Green Climate Fund
  - Bi-lateral programmes
- GFCS Meeting on Implementation Coordination, September 2014
  - 16 countries
  - Over 100 projects focused on strengthening hydro-met and climate services
  - Combined budget USD 700m





# El Niño information → climate services

- Bhutan – National Stakeholder Consultation
  - Energy (hydropower) 50% of GDP
  - Agriculture, health, disaster risk reduction
  - Needs
    - Strengthened observing systems
    - Historical data
    - Seasonal forecasts
    - Early warning systems
    - Tailored products for decision support
    - Climate change projections

## Guide to Hydrological Practices WMO No.168



Volume I: Hydrology –  
From Measurement to  
Hydrological  
Information



Volume II:  
Management of Water  
Resources and  
Application of  
Hydrological Practices



Climate Data  
Management System  
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# El Niño information → climate services



- Burkina Faso

- Drought and floods are the most destructive hazards
- Risk and EW information needed (source: CADRI)
  - Consolidated, multi-hazard risk assessments
  - System for tracking losses and damage
  - National Seamless Multi-Hazard Early Warning System
- Current needs (source: draft national GFCS plan)
  - Reinforcement of the observing network
  - Strengthened capabilities for data storage, management and dissemination
  - Strengthened stakeholder engagement
  - Capacity development
  - Strengthened institutional positioning of the NMHS at national and local levels



# Global Framework for Climate Services

- Established during the third World Climate Conference in 2009
  - Endorsed by 13 heads state or government, 81 ministers and 2,500 scientists
- Seeks to guide the development and application of science-based climate information and services in support of decision-making in climate sensitive sectors



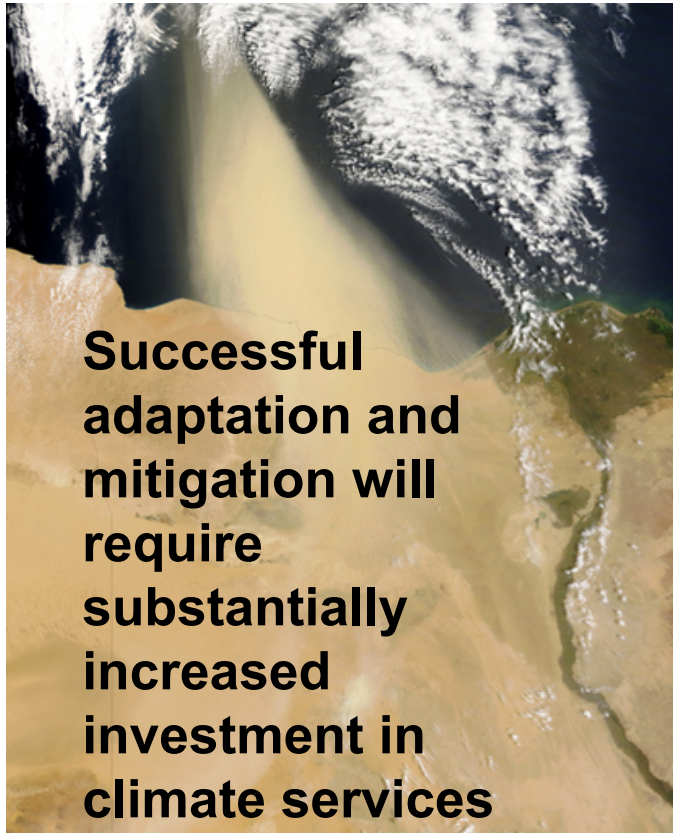
# Global Framework for Climate Services

- Member state governance structure
  - Inter-governmental Board on Climate Services
- Partners Advisory Committee
  - European Commission, FAO, IFRC, UNDP, UNEP, UNISDR, WFP, WMO, World Bank, World Business Council for Sustainable Development and others
- 10-year initial implementation plan designed over three years by dozens of experts, backed by initial financing

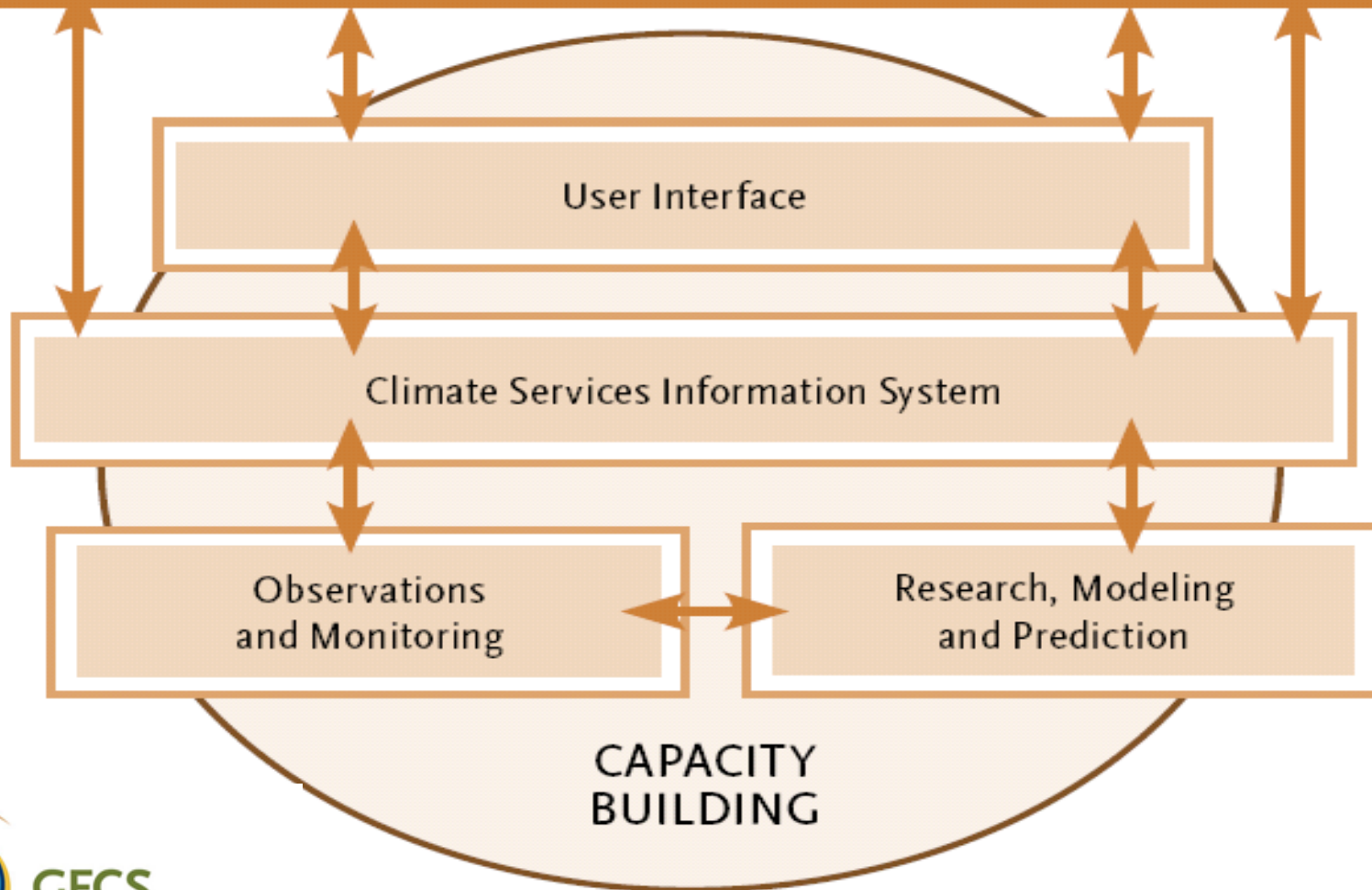


# Priority areas

- ✓ **Water**
- ✓ **Disaster risk reduction**
- ✓ **Health**
- ✓ **Agriculture/food security**
- ✓ **Energy**



Tailored information for decision-support to achieve higher yields, improved food security and water resource management, sustainable energy for all, reduced disaster losses, better health





# Global Framework for Climate Services

- Implementation requirements
  - Country level coordination structures and plans, clearly linking climate services to improved development outcomes, backed by aligned programmes
  - Technical advisory, planning and coordination support services to support implementation
  - Global institutional architecture
    - NMHSs/NCFs/NCOFS, RCCs/RCOFS, GPCLRFs
  - Policy support
- Needs
  - Engagement in policy processes
  - Integrated, structured approach (v.s. piecemeal, project-level efforts and one-off initiatives)
  - Funding to make expertise available





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# Thank you for your attention

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