



World Climate Conference-3
Better climate information for a better future

Adaptation to climate change and the need for information systems



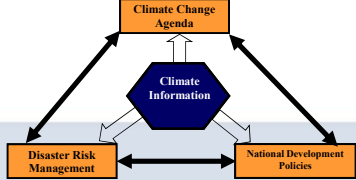
WCC-3

REUNION DE ALTO NIVEL SOBRE ADAPTACION AL CAMBIO CLIMATICO EN LOS PAISES DE LA CPPS, GUAYAQUIL, ECUADOR
NOVIEMBRE 28 DE 2008


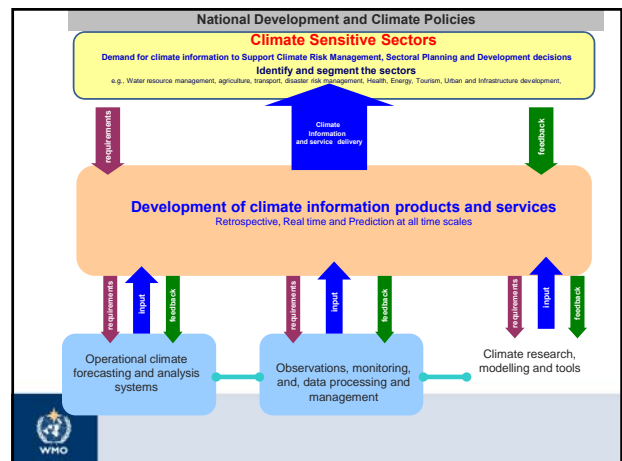
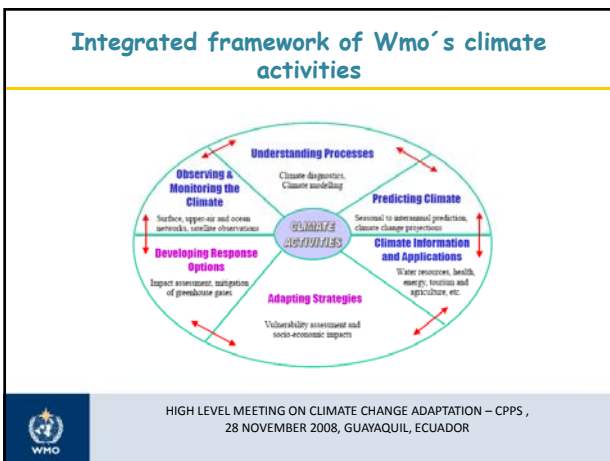
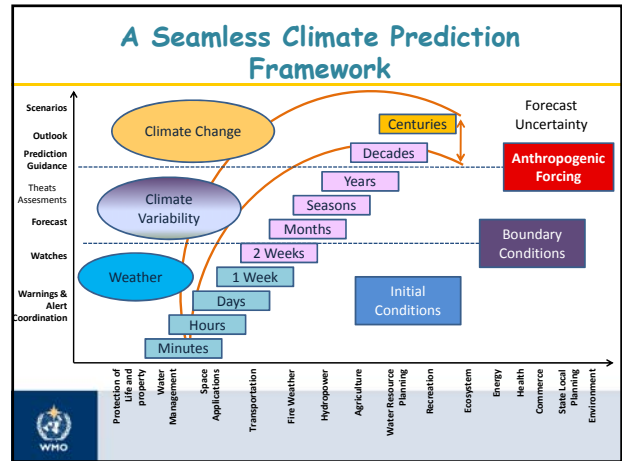
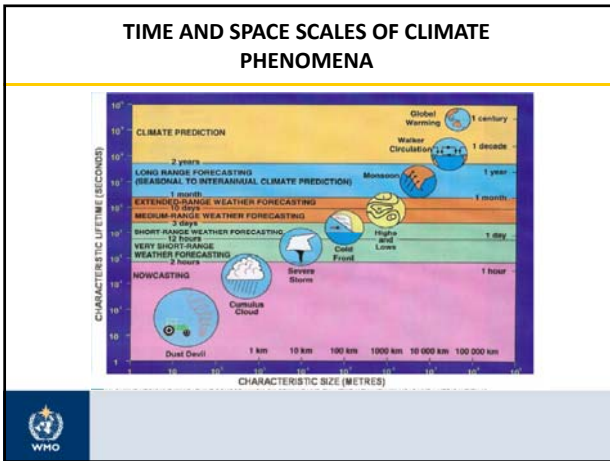


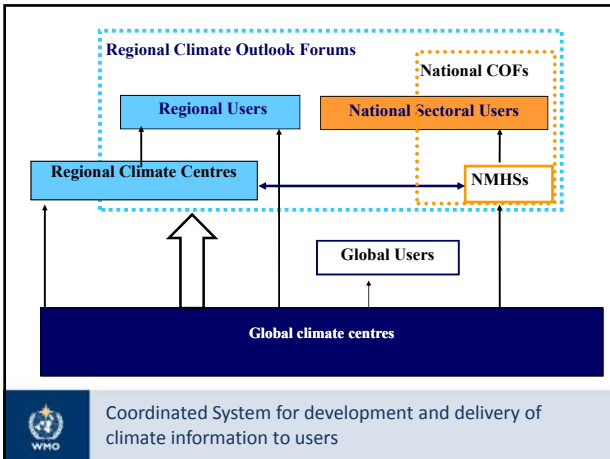
The Challenge

- Implications of IPCC Assessments
- Implications of the COP-13 Bali Action Plan
- Effective application of this information for societal and economic development, Climate Risk Management, building resilience
- UN: Delivering as one
- Transition from science-driven to user-driven climate information



The diagram shows a central blue hexagon labeled 'Climate Information'. It is connected to four surrounding orange boxes: 'Climate Change Agenda' (top), 'Disaster Risk Management' (left), 'National Development Policies' (right), and 'Climate Change Agenda' (bottom). Arrows indicate a flow from the central information to the other four areas, and bidirectional arrows connect the four outer areas to each other.



ADAPTATION

Some adaptation is occurring now, but it faces barriers, limits and costs.

Adaptation
Adjustment in natural or human systems to a new or changing environment.

Adaptation to climate change
Adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.

VULNERABILITY

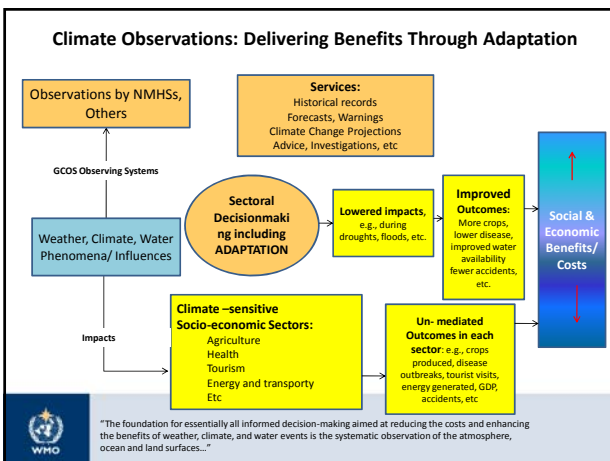
- Vulnerability can be exacerbated by other stresses (e.g. poverty, food insecurity, conflict, disease)
- Vulnerability depends not only on climate change but also on development paths; sustainable development can reduce vulnerability

Disasters result when there is the intersection of a hazard and a vulnerability

VULNERABILITY: conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards.

What is increasing our vulnerability?

- **More people and more complex societies**
 - Great concentrations of people in communities
 - Poverty
- **Choices or necessity –where/how to live, work, play and travel**
 - Urbanization frequently along coasts and rivers, in scenic mountains (flood, erosion, avalanche risks)
 - More structure –much of its aging (particularly in urban areas) –climate, pollution risks
 - Societies tend to delay investment in infrastructure and make short-term choices
 - People are turning agricultural and forest land into communities,
 - Development at coastlines often removes mangroves



WMO Contribution to Nairobi Work Programme

- Climate Watches
- El Niño and La Niña Updates
- RCOFs
- RCCs

Regional Climate Outlook Forums (RCOFs)

- There is a need for accurate, timely, useful forecasts of climate variability, especially related to ENSO.
- Reliable climate prediction is an important component of decision-making for adaptation
- Consensus in climate prediction ensures that there will be consistency across borders in the information provided to decision-makers.

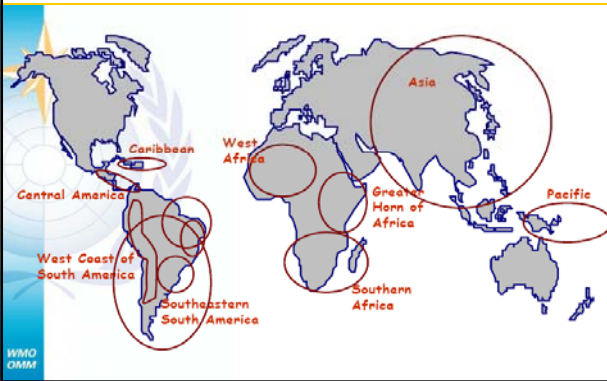


Regional Climate Outlook Forums (RCOFs)

- A major component of CLIPS activities.
- First established in 1996 at a Meeting in Victoria Falls, Zimbabwe, just prior to the major 1997–1998 El Niño event.
- A regional mechanism for the formulation and dissemination of climate forecasts/predictions/outlooks
- Bring together providers and users, and produce real-time consensus forecasts useful for decision-making by end-users.
- RCOFs are an important vehicle in developing regions for providing advance information on the likely climate features of the upcoming season
- Supported by a number of national, regional and international organizations (e.g., NOAA, IRI, Meteo France, etc.).



Existing RCOFs Worldwide



RCOFs sustain Capacity Building

RCOFs stimulate the development of climate capacity in the National Meteorological and Hydrological Services and do much to generate decisions and activities that mitigate adverse impacts of climate and help communities adapt to climate variability.

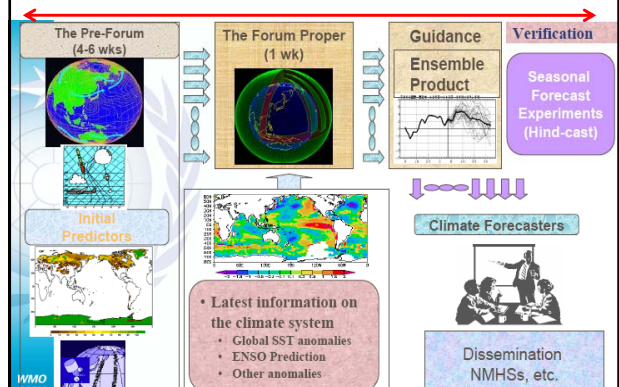


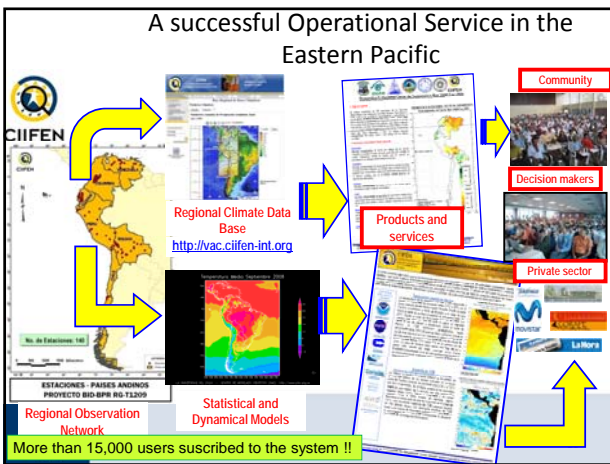
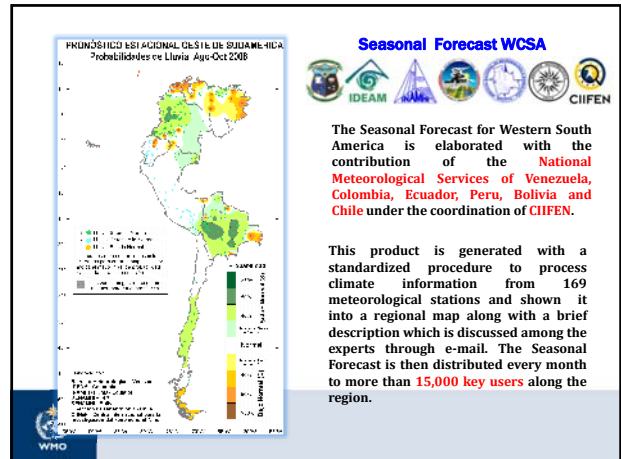
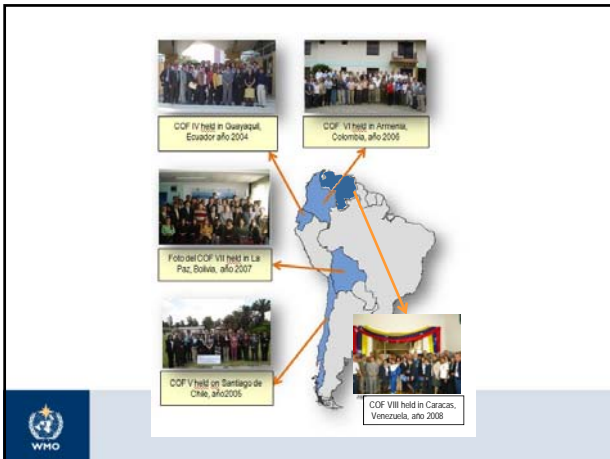
Climate Change and RCOFs

- RCOFs worldwide have been set up so far with the main focus on seasonal prediction.
- Adaptation decisions require information and advice related to climate change.
- RCOF mechanisms can be effectively expanded to develop and disseminate regional assessments of observed and projected climate change, including the development of downscaled climate change scenario products for impact assessments.
- Such initiatives are already being taken up by some RCOFs (e.g., Greater Horn of Africa)



The Regional Climate Outlook Forums



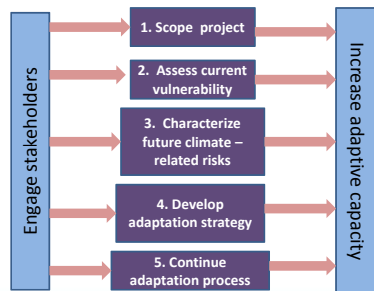


- ### Impact of changes and variability
- Global warming, melting of glaciers and sea-level rise International polar year (2007-08)
 - El Niño and la Niña, their role in global climate anomalies
 - Extreme events –an integral part of climate variability; while any single event cannot be attributed to climate change, persistent changes in their frequency and intensity can be related to climate change.
 - Seasonal to Interannual climate fluctuations strongly affect the agricultural production, water availability, energy supply and demand, health, etc.
 - Long-term climate change may affect agricultural productivity, water resources, land and marine ecosystems, environmental resources, etc.

- ### Climate-related Risk Management
- Works best if it is driven by the needs and requirements expressed by relevant decision sectors
 - Developed within real-world decision contexts
 - Enabled through facilitating institutions and policies
 - Based on environmental, sectoral and socioeconomic data
 - Based on tailored climate information
 - Supported by local capacity
 - Included in planning strategies that incorporate incentives
 - Supported by sector-specific services from National Meteorological and Hydrological Services and related institutions.

- ### Adaptation
- Adaptation is defined as “the adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities” (IPCC).
 - If ranges of disease may shift: Adaptation = Start using climate information to respond to disease today
 - If viable crops may change: Adaptation = Begin using seasonal climate information to influence type and timing of planting
 - People will adapt within the bounds of a known climate
 - The climate record is as important as climate predictions
 - Climate observations are necessary but not sufficient to address adaptation

An Adaptation Policy Framework



WMO and NMHSs contribute to the Nairobi Programme of Work in:

- Impacts and vulnerability
- Adaptation planning, measures and actions
- Data and observations
 - ◻ Climate data
 - ◻ Climate monitoring
 - ◻ Climate Model projections
 - ◻ Monitoring atmospheric composition
 - ◻ Alerts on dangerous interference with climate
- Methods and tools
 - ◻ Climate Watches
 - ◻ CLIPS
 - ◻ RCOFs
 - ◻ THORPEX
 - ◻ DPM

Expectations from WCC-3:

- Policy and legal
 - Commitments, agreements
- Capacity and resources
 - With special focus on Least Developed Countries

Concluding Remarks (1)

- WMO considers climate issues in the context of sustainable development, encompassing economic and social dimensions.
- Climate-related risk management requires multi-disciplinary collaborations and cross-disciplinary exchange of information, which can be achieved through interfacing institutes and processes.
- Risk management represents the proper interface between social and climate processes, and is a broader and more systematic approach to adaptation, aiming at reducing the probability of negative outcomes.
- At the global level, time is ripe to move forward on the proposal for a WCC-3 in 2009-2010 on Climate Prediction for Decision Making: Focusing on Seasonal to Inter-annual Timescales.

Concluding Remarks (2)

- WMO support the production of a regionally co-ordinated monthly and seasonal forecasts' including the efforts of the system of Global Producer Centers, Regional Climate Centers, NMHSs and other centres such as CI-FEN to participate in development and dissemination of these forecasts.
- NMHSs to continue to hold, and to implement, Regional Climate Outlook Forums and national Climate Outlook Forums where needed, and for WMO to continue to coordinate and to publish regular El Niño Updates as needed.

Recomendación

Considerando

- Que el Programa de Acción de Nairobi, demanda acciones urgentes en cuanto a la reducción de escala de los modelos climáticos, la mejor gestión de la información climática y la generación de escenarios de riesgo sectorial a escala nacional.
- Que la OMM se encuentra trabajando intensamente en el fortalecimiento de herramientas para la acelerar la implementación de planes de adaptación al cambio climático a través de los SMHNs.

Declara:

- Plantear a la próxima WCC3, mecanismos de coordinación intergubernamental entre los países de la región para iniciar acciones concertadas de adaptación al cambio climático con énfasis en sus efectos en el borde costero del Pacífico sudoriental y los ecosistemas marino costeros relacionados con el potencial incremento del nivel del mar, la acidificación de los océanos, posibles alteraciones en la circulación oceánica en la región y sus ecosistemas marinos.

