

UNFCCC expert meeting on a range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather and slow onset events

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In Africa, most socio-economic sectors are at risk due to climate variability and change. Between the years of 1980 and 2007, around 96 per cent of the events, over 98 per cent of casualties and 50 per cent of economic losses were caused by weather--related extremes and conditions (source:CRED). The top hazards are: drought, strong winds, thunderstorm or lightning, flash floods, forest or wild land fire, river flooding, desert locust swarm, aviation hazards, smoke, dust or haze, dense fog, earthquakes heat wave, and hail storm (WMO 2006 DRR survey).

Local and national decision-makers in these sectors have the opportunity to make effective use of climate information if it becomes available to enhance decision-making across sectors such as agriculture and food security, water resource management, health, and disaster risk management..

A fundamental requirement for risk assessment is the availability of historical and real-time hydro-meteorological data, metadata, as input to statistical analysis of hazards and risk analysis and forward looking climate modelling from short term to long-term time scales. This requires:

1. Ongoing, systematic and consistent observations of environmental parameters for defining the hazards, climatic and environmental trends;
2. Quality assurance and proper archiving of the data into temporally and geographically referenced and consistently catalogued observational datasets;
3. Ensuring that the data can be located and retrieved by users; and
4. Sustainability of the infrastructure, data management system and human expertise to operate.

Some of the most significant challenges in developing and least developed countries in regards to development and sustainability of systems are

1. Design per user requirements
2. Data digitization and management
3. Theft and tampering of the equipment
4. Too much or too little but not adequate for decision support

However, there are significant need for strengthening of the Capacity Assessment of National Meteorological Services (NMS) in Africa, in the 2006 WMO Disaster Risk Reduction Survey in which 28 out of 52 countries responded, showed that:

1. 67% of countries need amendments or restructuring of their national policies and legislation as the role of National Meteorological Services need to be clearly reflected in policies, legislation, national plans linked to DRR and adaptation, and ensuring that appropriate funding and resources become available to these agencies,
2. 88% NMS need strengthening or full institutional and infrastructure, particularly the observations, forecasting systems, communication, data rescue and management;
3. 74% NMS need technical and management training of staff, especially in regards to data bases, mapping and analysis and (meteorological, hydrological and climate), forecasting and analysis tools and Quality management Systems;
4. 92% of NMS need guidelines, standards for maintenance of hazard data, metadata, analysis and mapping tools, including statistical and forward looking tools; and
5. 85% of NMS need to strengthen or build multi-sectoral institutional partnerships, and coordination and service delivery to provide data and other services.

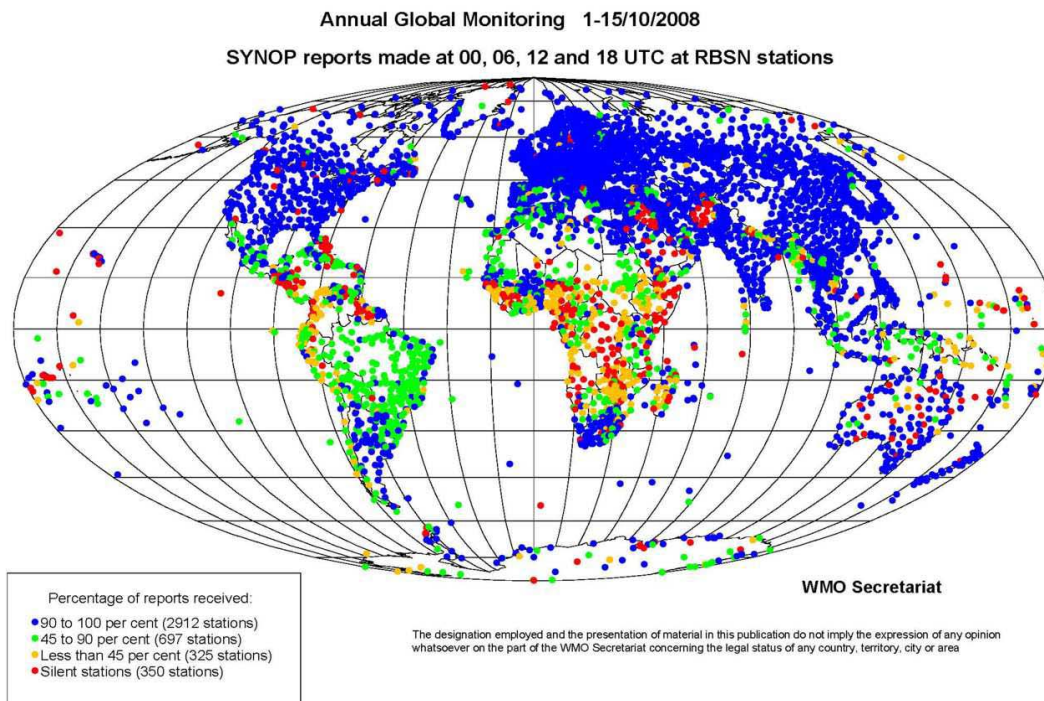


Figure 1 Infrastructure Challenges: Significant weather and climate observations gaps in Africa, Pacific, parts of Asia and LAC.

The main challenges to National Meteorological Services include:

1. Modernisation of observation networks
2. Data rescue
3. Data management systems
4. Maintaining standard hazard database and metadata
5. Hazard analysis and mapping tools
 - a. Statistical analysis
 - b. Climate modelling and forecasting
6. Technical and management training of staff

In many countries the sustainability of the observing networks of NMS is not properly subsidized. Sustainability of the observing network remain a major challenge in Africa, and needs significant consideration as if we are unable to monitor the conditions, this will significantly compromise ability to assess current climate risks as well as the changing patterns of risks linked to climate variability and change and develop concrete risk management solutions. Data availability and exchange remain a challenge.

At the same time there are a number of practices in Africa engaging the NMS and various national and local agencies for development of weather-indexed insurance markets, risk analysis and Early warning Systems. Among such countries include, Ethiopia, Malawi, South Africa, Morocco and Mozambique. Further more, through a number of projects WMO is working with the NMS and partners to carry out Data rescue programmes and support development of flood and drought monitoring and warning systems.

However, overall,

1. Present capabilities for providing climate services do not exploit all that we know about climate
2. Present capabilities fall far short of meeting current and future needs and delivering their full and potential benefits, especially in developing countries

3. Many developing countries lack the infrastructural, technical, human and institutional capacities to provide high-quality climate services

Following the endorsement by the Third World Climate Conference in 2009, a Framework for Climate Services is being considered building on existing capacities to enable better management of the risks of climate variability and change at all levels, through development and incorporation of science-based climate information and prediction into planning, policy and practice.”

Thank you,