

WMO

The World Meteorological Organization (WMO), founded in 1950, is a specialized agency of the United Nations for weather, climate, and water. WMO contributes to understanding the interactions between climate and land degradation through dedicated observations of the climate system; improvements in the application of agrometeorological methods and the proper assessment and management of water resources; and promotion of capacity building in the application of meteorological and hydrological data and information in drought preparedness and management.

NDMC

The National Drought Mitigation Center (NDMC), established in 1995, is based in the School of Natural Resources at the University of Nebraska-Lincoln. The NDMC's activities include maintaining an information clearinghouse and drought portal; drought monitoring, including participation in the preparation of the U.S. Drought Monitor; drought planning and mitigation; drought policy; advising policy makers; collaborative research; organizing and conducting seminars, workshops, and conferences for federal, state, and foreign governments and international organizations; and providing data to and answering questions for the media and the general public.

UNCCD

The United Nations Convention to Combat Desertification (UNCCD) had its origin at the United Nations Conference on Environment and Development (UNCED), which was held in Rio de Janeiro in 1992. In December 1992, the United Nations General Assembly adopted resolution 47/188, and the Convention was adopted in Paris on 17 June 1994 and entered into force on 26 December 1996. Over 179 countries were Parties as of March 2002.

Inter-Regional Workshop on Indices and Early Warning Systems for Drought

For more information on this workshop,
please contact:

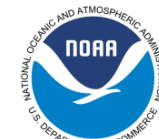
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UNIVERSITY OF
Nebraska
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U.S. National
Oceanic and
Atmospheric
Administration



United Nations
Convention
to Combat
Desertification



United States
Department of
Agriculture

Announcement

Inter-Regional Workshop on Indices and Early Warning Systems for Drought

Lincoln, Nebraska, USA
8-11 December 2009

INTRODUCTION

There have been several intense droughts and heat waves in the recent years, such as those in Europe in 2003, southeast Australia in 2009, and Argentina in 2008/09, which have increased the concern that droughts may be increasing in frequency. In February 2009, the Australian Bureau of Meteorology noted that: “The combination of record heat and widespread drought during the past five to ten years over large parts of southern and eastern Australia is without historical precedent and is, at least partly, a result of climate change.” This increase in Australian droughts could be a temporary climate event lasting 10 to 30 years. But the recent increase of drought and heatwaves in Australia is consistent with the WMO/UNEP Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report, which stated that the world has been more drought-prone during the past 25 years and that climate projections indicate an increased frequency in the future.

There is an urgent need to develop better drought monitoring and early warning systems. Drought is an insidious natural hazard that results from a deficiency of precipitation from expected or “normal” that, when extended over a season or longer period of time, is insufficient to meet the demands of human activities and the environment. Drought must be considered a relative, rather than absolute, condition. A critical component of national drought strategies should be a comprehensive drought monitoring system that can provide early warning of drought’s onset and end, determine its severity, and deliver that information to a broad group of users in a timely manner. With this information, the impacts of drought can be reduced or avoided in many cases.

One factor that distinguishes drought from other natural hazards is the absence of a precise and universally accepted definition. There are hundreds of definitions, adding to the confusion

about whether or not a drought exists and its degree of severity. Definitions also need to be application specific because drought impacts will vary between sectors. Drought means different things to different users such as a water manager, an agricultural producer, a hydroelectric power plant operator, and a wildlife biologist. Droughts are commonly classified by type as meteorological, agricultural, and hydrological and droughts differ from one another in three essential characteristics: intensity, duration, and spatial coverage.

There are numerous natural indicators of drought that should be monitored routinely to determine the onset, ending and spatial characteristics of drought. Severity must also be evaluated on frequent time steps. Although all types of droughts originate from a deficiency of precipitation, it is insufficient to rely solely on this climate element to assess severity and resultant impacts because of factors identified previously. Effective drought early warning systems must integrate precipitation and other climatic parameters with water information such as stream flow, snow pack, ground water levels, reservoir and lake levels, and soil moisture into a comprehensive assessment of current and future drought and water supply conditions.

In February 2009, the WMO Commission for Agricultural Meteorology held an International Workshop on Drought and Extreme Temperatures in Beijing, China to review the increasing frequency and severity of droughts and extreme temperature events around the world. The workshop adopted several recommendations to cope with increasing droughts and extreme temperatures on agriculture, rangelands and forestry. One of the main recommendations was for WMO to make appropriate arrangements to identify the methods and marshal resources for the development of standards for agricultural drought indices in a timely manner.

It is with this background that WMO, along with the U.S. National Drought Mitigation Center

(NDMC) and the School of Natural Resources at the University of Nebraska–Lincoln proposes to organize an Inter-Regional Workshop on Indices and Early Warning Systems for Drought at the University of Nebraska from 8 to 11 December 2009. This workshop is co-sponsored by NOAA/ National Integrating Drought Information System, U.S. Department of Agriculture, and the UNCCD Secretariat.

SPECIFIC OBJECTIVES OF THE WORKSHOP

- To review and assess drought indices currently used around the world for the three types of drought (meteorological, agricultural, and hydrological) ;
- To review and assess the strengths, weaknesses and limitations of existing drought indices and early warning systems;
- To develop a consensus standard index for each of the three types of drought;
- To develop guidelines for Members in implementing and improving drought early warning systems.

EXPECTED OUTCOMES OF THE WORKSHOP

Several drought experts from each of the six Regions of WMO will be invited to prepare state-of-the-art discussion papers to address the above objectives. Discussions during the workshop will help develop standards for drought indices and guidelines for drought early warning systems. Proceedings of the Meeting will be published by WMO and NDMC and will be widely distributed. Outcomes of the workshop will be presented at a thematic session on drought indices at the Second International Conference on Climate, Sustainability, and Development, in Semi-arid Regions to be held in Fortaleza, Brazil, 16-20, August 2010.