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Creating a Network of Regional Drought  
Preparedness Networks: A Call for  
Action

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# Drought

## *Network News*

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## **Creating a Network of Regional Drought Preparedness Networks: A Call for Action**

Drought is a creeping, slow-onset natural hazard that is a normal part of climate for virtually all regions of the world; it results in serious economic, social, and environmental impacts. Its onset and end are often difficult to determine, as is its severity. Drought affects more people than any other natural hazard. Lessons from developed and developing countries demonstrate that drought results in significant impacts, regardless of level of development, although the character of these impacts will differ profoundly. At the Meeting on Opportunities for Sustainable Investment in Rainfed Areas of West Asia and North Africa (WANA), held in June 2001 in Rabat, Morocco, participants (including ministerial delegations of 13 countries of the WANA region) concluded that the primary keys to development of drylands in the region were reducing rural poverty, arresting natural resource degradation, accelerating economic growth, diversifying economic opportunities, and enhancing food security. The recurrence of persistent drought was identified as one of the obstacles to achieving these aims. The economic, social, and environmental challenges of drought in developed countries are also significant. Recent droughts in the United States, Canada, and Australia, for example, have resulted in serious impacts in the agriculture, transportation, and energy sectors and also serious water use conflicts and environmental impacts.

The impacts of drought, like those of other natural hazards, can be reduced through mitigation and preparedness. Drought preparedness should be an integral part of water resources management. Drought risk is a product of a region's or community's exposure to the natural hazard and its vulnerability to extended periods of water shortage. If nations, regions, and communities are to make progress in reducing the serious consequences of drought, they must improve their understanding of the hazard and the factors that influence vulnerability. The hazard or natural event is best characterized by the frequency of meteorological drought at different levels of intensity and duration, and this frequency is projected to increase for some regions in the future as a result of increasing concentra-

tions of greenhouse gases in the atmosphere. It is critical for drought-prone regions to better understand the drought climatology of their region and establish comprehensive and integrated early warning systems that incorporate climate, soil, and water supply factors such as precipitation, temperature, soil moisture, snow pack, reservoir and lake levels, groundwater levels, and stream flow. An integrated early warning system can provide timely and reliable information to decision makers from farm to national level to aid in reducing the impacts of drought.

Increasing society’s capacity to cope more effectively with the extremes of climate and water resources variability—i.e., floods and droughts—is a critical element of integrated water resources management. Historically, more emphasis has been given to flood management than drought management. With increasing pressure on water and other natural resources because of increasing and shifting populations, it is imperative for all nations to improve their capacity to manage water supplies during water-short years.

Vulnerability to drought is dynamic and influenced by a multitude of factors, including increasing and shifting population, technology, government policies, land use and other natural resource management practices, desertification processes, water use trends, and increasing environmental awareness. Therefore, the magnitude of drought impacts may increase in the future as a result of an

increased frequency of occurrence of the natural event (i.e., meteorological drought), changes in the factors that affect vulnerability, or a combination of these elements. All drought-prone nations should develop national drought policies and preparedness plans that place emphasis on risk management rather than follow the traditional ad hoc approach of crisis management, where the emphasis is on reactive, emergency response. Crisis management decreases self-reliance and increases dependence on government and donors.

### **Global Drought Preparedness Network**

Because of increasing concern over the escalating impacts of drought and society’s inability to effectively respond to these events, developing and developed countries are now placing greater emphasis on the development of national policies and plans that emphasize the principles of risk management. In addition, global initiatives, such as the U.N. Convention to Combat Desertification (UNCCD), are emphasizing the importance of improving drought early warning systems and seasonal climate forecasts and developing drought preparedness plans. A “Global Drought Preparedness Network” (GDPN) can provide the opportunity for nations and regions to share experiences and lessons learned (successes and failures) through a virtual network of regional networks. This could include information on drought policies, emergency response measures, mitigation actions, planning

## **Contents**

Creating a Network of Regional Drought Preparedness Networks .....	1
An Analysis of Recent Drought Conditions in Turkey in Relation to Circulation Patterns ....	5
Poor Water Resources and Drought in the Gujarat/Saurashtra Regions of India .....	7
Announcements .....	10

methodologies, stakeholder involvement, early warning systems, automated meteorological networks, the use of climate indices for assessment and triggers for mitigation and response, impact assessment methodologies, demand reduction/water supply augmentation programs and technologies, and procedures for addressing environmental conflicts. The mission of the IDIC and NDMC is to lessen societal vulnerability to drought through the application of appropriate risk management techniques, including preparedness plans and mitigation actions and programs. I have been promoting the concept of regional networks for the past year, and the IDIC/NDMC is prepared to play a substantial role in the establishment of these networks. These networks can build on the existing network of scientists, policy makers, and others who receive the IDIC/NDMC's newsletter, *Drought Network News*, which has been published since 1989 with support from the International Affairs Office/NOAA and the World Meteorological Organization.

The IDIC/NDMC will work in partnership with key U.N. agencies, U.S. federal agencies, NGOs, and appropriate regional and national institutions to create a global drought preparedness network (GDPN) that will promote the concepts of drought preparedness and mitigation with the goal of building greater institutional capacity to cope with future episodes of drought. In essence, this global drought partnership will enhance current national and regional institutional capacities through expansion of the NDMC's drought information clearinghouse on the World Wide Web and by building regional drought networks. Working individually, many nations and regions will be unable to improve drought coping capacity. Collectively, working through global and regional partnerships, we can achieve the goal of reducing the magnitude of economic, environmental, and social impacts associated with drought in the 21<sup>st</sup> century.

The objectives of the GDPN for the 3-year period 2002–2004 are:

1. To initiate, within drought-prone areas, regional drought preparedness networks that will bring together people and institutions to share information on regionally and locally appropriate strategies to improve drought preparedness and mitigate the effects of drought.
2. To identify regional institutions to coordinate regional networks and potential funding sources for these networks.
3. To identify key global partners and potential funding sources for the GDPN.
4. To enhance the NDMC's drought information clearinghouse website to provide more information on drought monitoring, mitigation, and preparedness techniques and methodologies and linkages to the principal institutions in each region.
5. To assist regional networks in the development of comprehensive drought-related websites that link the principal national and regional institutions.
6. To organize and conduct, with the assistance of regional institutions, regional workshops and longer-term training opportunities at the regional and global levels on various aspects of drought preparedness.

The IDIC/NDMC is currently working to:

- identify key institutions for developing partnerships and providing base funding for the creation of the GDPN;
- serve as a catalyst in the development of regional networks in the Mediterranean, Sub-Saharan Africa, South America, North America, eastern/central Europe, western Europe, Asia, and Australia and the Pacific;
- identify, with the assistance of countries within each region, key institutions to provide leadership in the development of regional networks;
- assist regions in obtaining funding for the establishment of the network, including funding for organizing and conducting a launching workshop in each region.

### **Progress to Date**

The concept of a regional network on drought preparedness has been discussed with regions in the Mediterranean, South America, North America, Asia, and eastern and central Europe.

For example, an advanced course, Management Strategies to Mitigate Drought in the Mediterranean: Monitoring, Risk Management, and Contingency Planning, was held in Rabat, Morocco, in late May 2001 with sponsorship of the Centro Internacional De Altos Estudios Agronomicos Mediterraneo's Instituto Agronomico Mediterraneo De Zaragoza, the European Commission, and the Kingdom of Morocco's Ministry of Agriculture. This course was used as a forum to discuss the establishment of a regional network for the Mediterranean region, institutional leadership and coordination, and financial requirements. The Rabat Declaration on Opportunities for Sustainable Investment in Rainfed Areas of West Asia and North Africa (ministerial meeting held June 25–26, 2001) has endorsed the development and implementation of a regional approach to drought preparedness through the development of appropriate policies and integrated drought management strategies. Cre-

ation of a regional drought preparedness network will be one of the first steps in this process.

In Brazil, the Institute of Agronomy at Campinas is seeking financial support to organize a regional launching workshop for a South American regional network. In organizing this workshop, the Institute will network with other Brazilian and South American institutions. Discussions have been held with the International Institute for Cooperation in Agriculture (IICA) regarding assistance in identifying the principal regional and national member institutions and funding opportunities.

If your institution is interested in working with the IDIC/NDMC in establishing a regional drought preparedness network, please contact me by e-mail (dwilHITE2@unl.edu). To learn more about the activities of the NDMC, see our website at **drought.unl.edu**.

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