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## **Elements of National Drought Policy in USA**

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### **Abstract**

After prolonged drought events, especially in the western United States, in the last few decades of the 20<sup>th</sup> Century, Congress created the National Drought Policy Commission (NDPC) to develop a comprehensive national drought policy. The NDPC held fact-finding hearings around the country to better assess stakeholder needs and to coordinate policy issues. A National Drought Policy Act was developed with preparedness as the foundation. The Act had five major goals, each with specific recommendations. The Act was presented to Congress in 2000, during an election year, as the National Drought Preparedness Act.

### **Introduction**

Drought is a normal part of the climate for virtually all regions of the United States, but it has been of particular concern in the West, where any interruption of the region's already limited water supplies over extended periods of time can produce devastating impacts on numerous economic sectors. In fact, in 2011, more than 90 percent of the state of Texas was suffering from "extreme to exceptional" drought conditions. State agriculture officials estimated a record \$5.2 billion in commodity losses due to the 10-month drought. Historical records show that drought occurs somewhere in the West almost every year and frequently throughout the remainder of the U.S. (<http://www.ncdc.noaa.gov/oa/reports/billionz.html>).

Despite the vagaries of the weather, stewardship of the land and natural resources is of vital importance for environmental quality, economic profitability and socio-economic equity (Feenstra 1997). A basic natural resource for agriculture as well as for rural and urban community needs is an adequate source or supply of water. If water is sufficiently available, agriculture and society can cope with drought. If water is mismanaged or is extremely limited, agriculture and society will face well-documented crises during drought. The United States did attempt to implement a national drought policy to better prepare the nation with a comprehensive and coordinated drought management strategy. This paper will present the background, process, and outcome of this effort by the National Drought Policy Commission.

### **Western Drought Coordination Council**

In a series of actions, the Western Governors' Association (WGA) responded to the serious drought episodes of the 1970s through 1990s by preparing a *Drought Action Plan of 1996*, which became the framework for a number of specific drought actions. The plan stated "The western governors believed that a comprehensive, integrated response to drought emergencies is critical...It is important to work together and cooperatively with other affected entities to plan for and implement measures that will provide relief from the current drought and prepare for future drought emergencies." The WGA and a separate federal drought initiative led to the formulation of a partnership called the Western Drought Coordination Council (WDCC). Its mission was to develop and implement model drought policies and management/mitigation measures that reduce impacts associated with droughts and that promote economic and environmental sustainability in the western states.

While the objectives of the WDCC were focused on the western states, they brought attention to the entire nation regarding a comprehensive vision of drought management (WDCC 1999). The objectives included the following: to encourage and help states, local, and tribal governments to develop and implement drought preparedness and mitigation programs and plans by establishing and maintaining a clearinghouse of information on techniques and procedures for drought monitoring and prediction, response, planning, and mitigation; to identify and make recommendations on drought issues, legislation, and program implementation at the state, regional, and national levels; to improve information exchange and coordination at all levels of government by facilitating the development and implementation of an efficient drought monitoring and information delivery system; and, to heighten awareness and understanding of regional drought management and policy issues and promote the efficient use of water in the West. Key elements of a drought plan include the following:

- 1) Monitoring, Assessment, and Prediction
- 2) Preparedness and Mitigation
- 3) Response
- 4) Communications

To be effective, a national policy must be enacted, which provides for a comprehensive, coordinated, and integrated approach to future droughts. The WDCC recommended that a National Drought Policy Commission (NDPC) should be established to raise awareness of drought issues at the national level in order to provide specific ideas, which Congress should then consider in national legislation for an effective national drought policy.

### **National Drought Policy Commission (NDPC)**

In 1998, Congress passed the National Drought Policy Act. The Act stated that this nation would benefit from a national drought policy based on preparedness and mitigation to reduce the need for emergency relief. It acknowledged that this country had no consistent, comprehensive policy driving the federal role to help reduce the impacts of drought. The Act also created the National Drought Policy Commission to advise Congress on how best to:

- 1) Integrate federal drought laws and programs with on-going state, local, and tribal programs into a comprehensive national policy to mitigate the impacts of and response to drought;
- 2) Improve public awareness of the need for drought mitigation; and,
- 3) Achieve a coordinated approach to drought mitigation and response by governments and non-governmental entities, including academic, private, and non-profit interests.

The Commission emphasized the belief that a national drought policy should use the resources of the federal government to support but not supplant nor interfere with state, tribal, regional, local, and individual efforts to reduce drought impacts. The guiding principles of a national drought policy should be:

- 1) Favor preparedness over insurance, insurance over relief, and incentives over regulation,
- 2) Set research priorities based on the potential of the research results to reduce drought impacts, and,
- 3) Coordinate the delivery of federal services through cooperation and collaboration with nonfederal entities.

This policy required a shift from the current emphasis on drought relief. It meant that there must be an adoption of a forward-looking stance to reduce this nation's vulnerability to the impacts of drought. This proactive concept was also the conclusion reached by the Senate Task Force on Funding

Disaster Relief in March 1995, among other entities. It was universally supported within the Commission and by the overwhelming majority of people who submitted testimony at public hearings before the Commission.

## **Commission Findings**

At its most severe, drought creates vast, windblown dust bowls eroding the landscape, damaging terrestrial and aquatic wildlife habitat, contributing to widespread wildfire, causing hundreds of millions of dollars in losses, and dashing hopes and dreams. Drought may be the last straw in driving farm and ranch families off their land and livestock producers out of business. It brings hardship to water-dependent enterprises and affects all sectors of society. Public hearings were held during the Commission around the country to gather facts about the impact of droughts on society. Drought definitions were one difficult example. The public perceived "drought" as a serious departure from normal water conditions. Public declarations of drought are often triggered by specific and well-defined conditions, such as a specific reservoir elevation on a specific date. These "drought triggers" become the practical definition of drought for a particular region and for specific issues. Defining these triggers is an inseparable part of planning for and responding to droughts. Once these triggers are defined, a region is much better able to estimate the costs, expected frequency, and risks of drought response.

The Commission found that in reality, drought is defined differently in different situations. For example, two months without rainfall during the growing season may result in serious drought conditions for farmers and homeowners in the eastern half of the country. The same dry period may be normal for those in the West, where water users may be more concerned with reservoir levels, which in turn are dependent on winter snow pack levels. A national drought policy must therefore define drought so that it meets the needs of diverse water users and for diverse functions. It must be flexible enough to include a variety of drought situations. It must also be specific enough to distinguish between those situations that are true drought emergencies and those that are normal cyclical conditions.

As of June 1999, 30 states had drought plans, with most of those oriented to relief rather than preparedness. The assessments found that in most states, drought responsibilities are normally located in the agencies that house the functions of agriculture, natural resources, water management, environment, or emergency management. The study also found that 88 drought-related federal programs were funded within the past ten years. Seven of these programs provided assistance for drought planning, 42 for drought mitigation, 22 for drought-related monitoring/prediction and research, and 47 for response. These numbers totaled more than 88 because some programs cover more than one facet of drought. For example, some of the mitigation programs also contained drought planning and response elements. Consequently, the multitude of federal programs caused problems for state, county, and tribal governments that often made governmental transactions but still have to deal individually with separate federal agencies for any number of drought-related issues. Further, the array of state, federal, and other drought-related programs can be intimidating and frustrating for those who had to access the services offered by the programs, but who do not deal with government agencies on a regular basis.

From the public hearings, more than one hundred people testified on behalf of urban and rural water associations, tribes, federal agencies, state and county governments, municipalities, livestock producers and farmer associations, and conservation groups. A clear assessment of the findings became very conclusive from all sectors of society affected by drought. Preparedness, including drought planning, plan implementation, proactive mitigation, risk management, resource stewardship, consideration of environmental concerns, and public education must become the cornerstone of a national drought policy. To ensure preparedness, there must be fundamental principles of a national drought policy. There must be an adequate national observation network to provide the basis for an

effective drought monitoring program. A national drought information “gateway“ needs to be accessible to the entire user community. The benefits of high quality research must be focused on information and technology that are fundamental to drought preparedness, with research results as well as the transfer of technology more effectively implemented in drought programs.

It also became clearly evident from the public hearings that even the best preparedness measures were not adequate to address all drought related risks. Risk management is another component of a proactive planning strategy. Insurance is one option, although it is generally limited in drought situations in the business communities. However, crop insurance has been a central component of U.S. agricultural policy for decades, covering only major field crops in all locations of the country. In the public hearings, farmers, livestock producers, and vegetable growers from across the country urged that a more comprehensive crop insurance program is needed. Another point that was clearly emphasized in the public hearings around the nation was the need for a safety net of emergency relief to help overcome the impact of extreme droughts or the impact of multi-faceted disasters. The key issues to be addressed, however, are efficient and responsive emergency measures that focus on the needs of the communities affected by the disasters. The Federal Emergency Management Agency (FEMA) was noted for its effective, proven model of organizing and providing emergency assistance during most catastrophic natural disasters (except droughts). One reason for FEMA’s success is the agency can draw on annual appropriated funds to pay for disaster assistance as opposed to requesting congressional disaster relief funds after a disaster occurs.

Finally, the need for coordination among federal drought-related programs was a strong and recurring theme in much of the testimony at the hearings and in written comments submitted independently to the commission. The report prepared by the Western Drought Coordination Council also strongly suggested establishing a federal drought coordinating body. As mentioned earlier, with 88 federal programs dealing with drought in different federal agencies, there was no coordination; and, in fact, there was duplication among programs without any knowledge of other activities. There was no central point of contact concerning federal programs and, consequently, no contact for people to help access programs, information, products and services. Collaboration is also a key part of the education process. From the deliberations, public education is a key element in successful drought preparedness. Many people are made aware of the need for water conservation and other measures during drought. But once drought is over, old habits tend to dominate. Workshops, newsletters, public service announcements, press releases, town hall meetings, school curricula, and interactive participatory decision-making processes are all included in education programs. These techniques and others provide communication links among organizations that provide assistance and the people whom they serve. Such techniques also help increase awareness of the value of preparedness to reduce costly impacts of droughts.

Hands-on training and technical assistance programs can help people formulate and implement plans to mitigate human and environmental impacts. Such programs can help farmers decide whether to include drought-resistant crops, on-farm wells, crop insurance, conservation systems, restoration of wetlands and wildlife habitat, and other important factors into their risk-management strategies. They can help farmers install water management practices and gain a basic understanding of the soils and climate conditions in their areas and the types of crops and plants suitable to those sometimes changing conditions. Such assistance can also help them understand complicated marketing options and other methods to manage risks. Training and technical assistance programs can help communities as they determine their own priorities for incorporating drought concerns and the need to protect environmental resources into on-going community planning and comprehensive water management plans aimed at ensuring safe, adequate drinking water (urban and rural) as well as water needed to fight fires.

In the arena of water supplies, the border between the U.S. and Canada cuts across natural drainage basins. Thus, the actions of one country can affect the other, and the impacts of drought can cross

the border. Although drought is a serious issue in the Columbia River and Great Lakes basins, the two countries have strong working relationships on these issues. The International Boundary and Water Commission (<http://ibwc.state.gov/home.html>) monitors allocation of water from the Colorado and Rio Grande rivers between the United States and Mexico. There is a need for watershed planning of the entire river basin, which is located in both the United States and Mexico.

### **Commission Recommendations: National Drought Policy Act**

The commission evaluated all the findings and concluded that the United States clearly needed to embrace a national drought policy with preparedness as its fundamental core. The NDPC recommended that Congress pass a National Drought Preparedness Act, which would establish a nonfederal/federal partnership through a National Drought Council (NDPC 2000). The primary function of the Council would be to ensure that the goals of the national drought policy are achieved. Five goals and specific recommendations were developed by the NDPC for implementation in the national drought policy. The following summarizes the goals and recommendations of the National Drought Policy Act.

**Goal 1:** Incorporate planning, implementation of plans and proactive mitigation measures, risk management, resource stewardship, environmental considerations, and public education as the key elements of an effective national drought policy.

#### *Specific Recommendations:*

- Congress should adequately fund existing drought preparedness programs.
- The President should direct appropriate agencies to find an effective way to meet the drought planning needs of those areas not traditionally served. Congress should fund these agencies' efforts to better serve the needs of the eastern part of the country.
- The President should direct all appropriate federal agencies to cooperate fully and to provide all assistance possible to encourage development or revision and implementation of comprehensive drought preparedness plans by states, localities, tribes, regional entities such as watershed and river basin organizations, and the private sector.
- Federal agencies providing drought planning assistance should encourage state, local, regional, and tribal planners to use or adapt existing planning materials and resources. These include materials developed by the National Drought Mitigation Center, the Army Corps of Engineers, the U.S. Department of Agriculture, the Western Drought Coordination Council, the states, and urban and rural water districts.
- The President should direct all appropriate federal agencies to develop and implement drought management plans for federal facilities such as military bases, federal prisons, and large federal office complexes in the United States. These plans should be coordinated with local and state drought planning and mitigation measures.
- The President should direct all appropriate federal agencies to study their programs for potential impacts on drought. Where such potential exists, the agencies need to integrate a national drought policy into their programs.
- The President should direct federal agencies with water resource management programs to develop and promote comprehensive public awareness efforts as part of an on-going public awareness strategy.

**Goal 2:** Improve collaboration among scientists and managers to enhance the effectiveness of observation networks, monitoring, prediction, information delivery, and applied research and to foster public understanding of and preparedness for drought.

### *Specific Recommendations:*

- The President should appropriately direct and Congress should authorize and fund a viable plan to maintain, modernize, expand, and coordinate a system of observation networks, cooperating with states to develop and improve baseline historical data sets that meet the needs of the public. Priority needed to be placed on filling the gaps on tribal lands and in rural America.
- The President should direct and Congress should authorize and fund the continuation of the U.S. Drought Monitor, <http://drought.unl.edu/dm>, and, for exploration of opportunities for its improvement and expansion.
- The President should direct and Congress should authorize and fund the continuation of Drought Predictions/Outlooks, [http://www.cpc.ncep.noaa.gov/products/expert\\_assessment/season\\_drought.gif](http://www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.gif), and for development of techniques to improve their accuracy and frequency.
- The President should direct and Congress should authorize and fund a comprehensive information gateway (possibly through expansion of the National Drought Mitigation Center's website, <http://drought.unl.edu>) to provide users with free and open access to observational network data and drought monitoring, prediction, impact, assessment, preparedness, and mitigation measures. Links among federal and nonfederal sources are critical.
- The President should direct the appropriate federal agencies to develop an effective drought information delivery system to communicate drought conditions and impacts to decision makers at the federal, regional, state, tribal, and local levels and to the private sector and general public. The systems should include near real-time data, information, and products developed at each of these levels and integrated in an appropriate fashion to accurately reflect regional and state differences in drought conditions.
- The President should direct appropriate federal agencies to expand technology transfer of water conservation strategies and innovative water supply techniques as part of drought preparedness programs.
- The President should direct and Congress should continue to adequately fund existing and future drought-related research. Existing competitive research grant programs should give high priority to drought. Areas of research should include topics that will either conserve water or make more water available for needs during drought.
- The President should direct and Congress should fund completion of the soil survey on all lands, with special and immediate emphasis on tribal lands.

**Goal 3:** Develop and incorporate comprehensive insurance and financial strategies into drought preparedness plans.

### *Specific Recommendations:*

- Congress should authorize and fund the U.S. Department of Agriculture to evaluate different approaches to crop insurance, including a cost of production plan. The evaluation should assess whether the approaches are practicable and prudent for all farmers, ranchers, and other stakeholders in all regions of the country and whether they set standards that encourage efficient water use.
- The U.S. Department of Agriculture, in cooperation with state and local governments and the private sector, expand training to rural communities, farmers, and ranchers across the country on various financial strategies.
- The Small Business Administration, through its private-sector partners, provides information and training to small business owners on developing financial and business management strategies.

**Goal 4:** Maintain a safety net of emergency relief that emphasizes sound stewardship of natural resources and self-help.

*Specific Recommendations:*

- Congress should authorize the Secretary of Agriculture to implement the Department of Agriculture's emergency programs.
- Congress should amend the appropriate U.S. Department of Agriculture's emergency programs to include livestock needs during drought.
- The Department of Agriculture should establish a single procedure to trigger, in a timely fashion, all of the Department's disaster programs.
- Emergency assistance acknowledges, encourages, and rewards natural resource stewardship and self-help without discriminating against those truly in need.
- Congress should appropriate an annual fund, similar to the Federal Emergency Management Agency (FEMA), for non-farm drought emergencies that affect tribes, communities, businesses, and the environment.

**Goal 5:** Coordinate drought programs and response effectively, efficiently, and in a customer-oriented manner.

*Specific Recommendations:*

- The President should immediately establish an interim National Drought Council through an executive order and in combination with a Memorandum of Understanding that provides adequate staffing and funding. Congress should create a long-term, continuing National Drought Council. Both should be composed of federal and regionally diverse non-federal members.
- The President should appoint the Secretary of Agriculture as co-chair of the interim National Drought Council, with a non-federal co-chair elected by the non-federal interim Council members. Congress should designate the Secretary of Agriculture as the permanent federal co-chair of the long-term Council, with a non-federal co-chair elected by the non-federal Council members.
- The President should request and Congress should provide administrative funding to support the interim and long-term National Drought Councils.
- The interim and long-term National Drought Councils will be responsible for coordinating the following:
  - Timely and efficient delivery of existing federal drought programs.
  - Cooperation and participation among federal, state, local, and tribal interests and private water systems in federal drought assistance opportunities by example and through facilitation.
  - Program assessments of drought-related assistance efforts.
  - Determination of which regions have the most pressing need and greatest opportunities to coordinate and implement drought preparedness assistance programs, recognizing the special drought preparedness needs of tribes, small rural water districts, and small self-supplied water users.
  - Development of an array of coordination strategies to provide support for state, local, and tribal drought planning and mitigation measures.
  - Support of state, local, and tribal initiatives to coordinate with current regional drought planning entities, perhaps within watersheds or river basins, or to establish new regional entities.



- An assessment of major river basin initiatives and state programs to determine which methods have proven most effective in reducing conflicts over water.
- A survey of user groups to ascertain drought monitoring, prediction, and research needs and expectations. Development of a handbook of emergency drought preparedness measures.
- Establishment of drought impact assessment teams of federal, state, and other experts who are responsible, after drought events occur, for analyzing the causes and aggravating factors that contribute to drought and its social, economic, and environmental impacts.
- Development of a handbook on water supply techniques, including traditional and non-traditional strategies.
- Advocacy of drought-related educational training programs within universities, agencies, and public sector programs.

The co-chairs should report to the President and Congress annually on the progress of these activities. Finally, the commission recommended that Congress provide federal departments and agencies with appropriate authority and funding needed to carry out the recommendations in the report. Consideration should be given to the costs and benefits associated with drought preparedness, mitigation, and response measures.

### **Congressional Legislation for the National Drought Policy Act**

The National Governor's Association (NGA) sponsored a bill in Congress to enact a permanent National Drought Preparedness Act in order to carry out the five goals described above. Congressional hearings were held during the summer of 2000, with widespread support for this legislation. The Senate was the first to act on the legislation and voted for passage of the National Drought Policy Bill. The House of Representatives continued to deliberate on the bill with committee hearings during the summer but failed to vote on the bill before summer recess and prior to the preparation for fall elections. The bill never came to a vote in the House prior to the Presidential and Congressional election in November 2000. The election resulted in a major change in congressional control and priorities. As a result, the Drought bill never passed. The NGA made several attempts to re-introduce the complete National Drought Preparedness Act in Congress in the early 2000's but each attempt failed to gain sufficient support for passage.

### **Lessons Learned**

From the years of work that went into The Western Governors' Association (WGA) Drought Action Plan, the partnership called the Western Drought Coordination Council (WDCC), and the two years of dedication to the National Drought Policy Commission, valuable lessons were learnt. The most valuable lesson that was learned, that others might follow, was that collaboration, coordination, and commitment are three keys to successful development of a national drought policy. Collaboration in this sense is the common effort among agencies (both federal and non-federal) to learn to work together to accomplish the necessary and desired goals. It was mentioned that many agencies had drought programs, but prior to the NDPC, there was very little discussion among agencies about who had responsibility for what activity related to drought. No agency really knew what the other agency was doing. The NDPC brought all federal/nonfederal agencies together for a common cause to collaborate on the urgent need for a more efficient proactive system. Coordination then became easier to define and to establish, making a more dedicated system to function more efficiently and to service the public more effectively. Finally, commitment refers to the individuals in each of the agencies and institutions who were entrusted with the authority, confidence and perseverance to help gather the facts, listen to all the stakeholder needs, prepare the documents and remain focused until the end to achieve some significant and desired results.

## Achievements

Although the ultimate goal of a national drought policy was not achieved, some of the important recommendations have been adopted.

- While unfunded, the U.S. Drought Monitor has continued to be produced and improved with increased partnerships among participating institutions. Recognizing that drought and water issues cross international boundaries, a North American Drought Monitor was developed and implemented with authors from Canada, the United States, and Mexico contributing respective country components. Training sessions were conducted to ensure the appropriate blending procedures across the international boundaries.
- Similarly, the National Weather Service undertook responsibility for issuance of Drought Outlooks, which are published routinely along with statistics of forecast accuracy.
- The National Drought Mitigation Center (NDMC) has continued to provide drought planning assistance to state, local, regional, and tribal planners.
- The National Integrated Drought Information System (NIDIS) Act was signed into law in 2006 ([http://www.drought.gov/portal/server.pt/community/what\\_is\\_nidis/207](http://www.drought.gov/portal/server.pt/community/what_is_nidis/207)) The NIDIS Act calls for an interagency, multi-partner approach to drought monitoring, forecasting, and early warning, led by the National Oceanic and Atmospheric Administration (NOAA). In late 2007, NIDIS launched the U.S. Drought Portal, or drought.gov, a website that pulls together many federal, state, and academic resources for monitoring drought. This was a major recommendation of Goal 2.
- The U.S. Department of Agriculture Farm Bill (Food, Conservation, and Energy Act of 2008) adopted the U.S. Drought Monitor as a single trigger for disaster programs by authorizing the Livestock Forage Disaster Program Grazing Loss because of drought on owned or leased grazing land or pastureland that is physically located in a county experiencing as follows:
  - D2 intensity for at least 8 consecutive weeks during the normal grazing period will be eligible to receive payment equal to 1 monthly payment;
  - D3 intensity during the normal grazing period will be eligible to receive a payment equal to 2 monthly payments;
  - D3 intensity for at least 4 weeks or D4 intensity during the grazing period will be eligible to receive a payment equal to 3 monthly payments.
- USDA organized a Drought Committee, chaired by the Farm Service Agency/Risk Management Agency, to monitor U.S. drought conditions and used the U.S. Drought Monitor as the trigger to coordinate emergency assistance programs.

## Conclusions

The National Drought Policy Commission (NDPC) was created to advise Congress on how best to develop a comprehensive national drought policy to mitigate the impacts of and respond to drought; to improve public awareness of the need for drought mitigation; and, to achieve a coordinated approach to drought mitigation and response by governments and nongovernmental entities. Hearings were held around the country to listen to stakeholder needs. The commission prepared a report for Congress with five basic goals of a national drought policy. These included: 1) planning and implementation of plans for proactive mitigation measures, risk management, resource stewardship, environmental considerations, and public education; 2) enhanced effectiveness of observation networks, monitoring, prediction, information delivery, and applied research, and promote public understanding of and preparedness for drought; 3) incorporate comprehensive insurance and financial

strategies into drought preparedness plans; 4) maintain a safety net of emergency relief that emphasizes sound stewardship of natural resources and self-help; and, 5) coordinate drought programs and response effectively, efficiently, and in a customer-oriented manner. While Congress failed to pass the National Drought Policy Act, some of the recommendations in the NDPC report have either been implemented or individually enacted.

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