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Drought -- National Drought Mitigation Center

Summer 2007

DroughtScape- Summer 2007

the National Drought Mitigation Center

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Summer 2007

U.S. Drought Monitor Forum

October 10-11, 2007

Portland, Oregon

You can still sign up!
[read more on page 9](#)

Drought Tools Workshops Underway

Missed Cheyenne? Stay tuned for North Dakota and Texas. Meanwhile, catch up on presentations.
[read more on page 7](#)

Coming Soon: Archived Drought Monitor Narratives

Narratives will soon be added to the new Drought Monitor Archive, which is really worth a visit if you haven't been there. It's designed to facilitate easy side-by-side comparison. Go see: <http://drought.unl.edu/dm/archive.html>

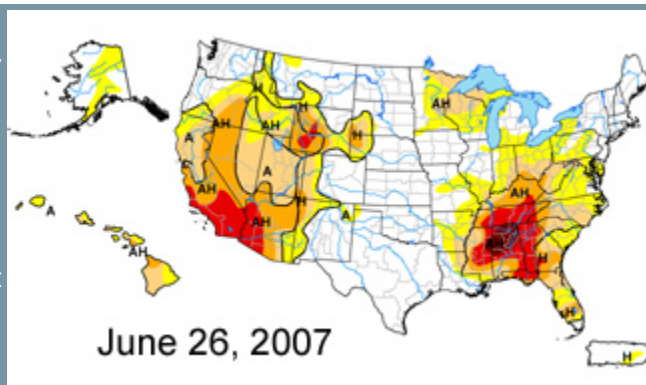
Water Factoid:

If all the world's water were in a gallon jug, only a tablespoon would be drinkable. The rest is salt water.

DroughtScape is the quarterly newsletter of the National Drought Mitigation Center (NDMC). The NDMC's mission is to reduce vulnerability to drought, nationally and internationally. Please email the editor with ideas: droughtscape@unl.edu

Summer 07 Outlook

We anticipate that California, Nevada and Utah will see drought intensify through the summer, as will Hawaii. The Gulf Coast should see some relief from drought,



as above-normal precipitation is expected, but we don't think it will be enough to alleviate the impacts being felt in northern Alabama, Mississippi, Georgia and Tennessee. Drought may continue its migration into the eastern Corn Belt. [read more on page 2](#)

Hayes Named Director of NDMC

In keeping with our emphasis on planning ahead, a smooth leadership transition is underway, with National Drought Mitigation Center Associate Director Dr. Michael J. Hayes poised to become Director as of August 1. On that date, Dr. Donald A. Wilhite, founder and Director of the NDMC, will become Director of the School of Natural Resources at the University of Nebraska-Lincoln, where the NDMC is based. [read more on page 4](#)



NDMC & UN Plan for Drought

The National Drought Mitigation Center teamed up with the United Nations' International Secretariat for Disaster Reduction to produce Drought Risk Reduction Framework and Practices: Contributing to the Implementation of the Hyogo Framework for Action, unveiled in June in Geneva. [read more on page 6](#)

Book Review: The Worst Hard Time

Philosopher George Santayana said, "Those who cannot remember the past are condemned to repeat it." Author Timothy Egan does an outstanding job of preserving the stories of Dust Bowl survivors, an invaluable contribution to our collective memory, and concludes that we still haven't really learned how to live on the Great Plains. Maybe it isn't too late to learn. [read more on page 8](#)

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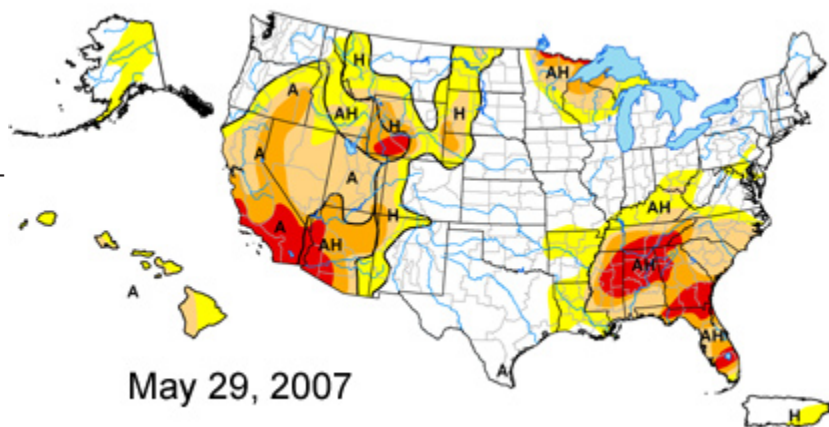
Summer 2007 Drought Outlook and April to June Summary

By Brian Fuchs, Climatologist, National Drought Mitigation Center

Drought classifications are based on the U.S. Drought Monitor. For a detailed explanation, please visit <http://drought.unl.edu/dm/classify.htm>. The outlook integrates existing conditions with forecasts from the National Oceanic and Atmospheric Administration's Climate Prediction Center: <http://www.cpc.ncep.noaa.gov/>

Outlook: Drought conditions over the far west are expected to continue over the next several months. The dry and hot summer months will intensify and spread existing drought, particularly in California, Nevada and Utah. Drought in Hawaii will continue, with impacts related to water supply, fire and agriculture being observed over most of the islands. The drought in the Southeast should show some improvements along the Gulf Coast through the Mid-Atlantic, with good chances of above-normal precipitation. Due to large precipitation deficits and numerous impacts already occurring, the northern parts of Alabama, Mississippi, Georgia and Tennessee probably won't show much improvement over the next several months. Drought over the Tennessee and Ohio River valleys will continue, with some migration of the dryness into the eastern Corn Belt.

April: Drought intensified during April even though the total area affected was reduced. April started out with 49.38 percent of the United States showing abnormally dry or drought conditions and ended with 47.57 percent. In contrast to this, areas in moderate to extreme drought expanded from 30.58 percent to 31.71 percent of the United States. Good news in the northern Rocky Mountains and High Plains was offset by dry conditions in the far west and Southeast.



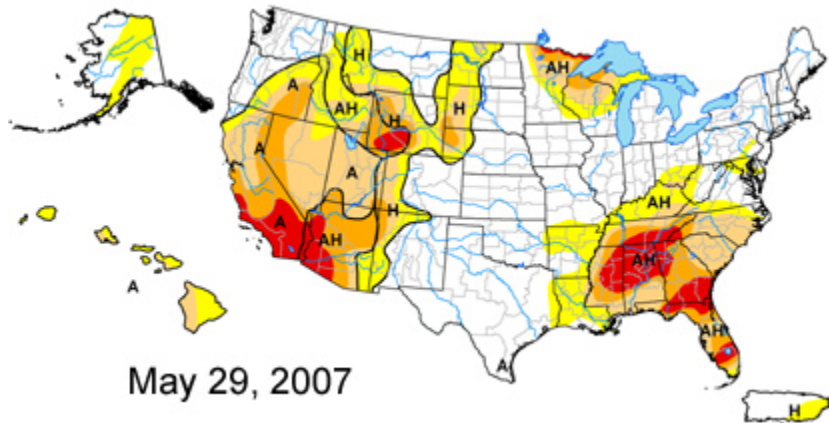
The strengthening drought in the Southeast led to many impacts associated with water supply, agriculture, wildfire, and energy. Wildfires were a problem over much of Georgia and Florida, as the number of fires and total acres burned were well ahead of average for this time of year. In the west, further expansion of D1 and D2 in California and Nevada corresponded closely to agricultural and fire danger impacts being reported in those regions.

May: As of May 29, 50.5 percent of the United States was experiencing abnormally dry to extreme drought conditions. Severe to extreme drought was affecting 17.66 percent of the country. Wet conditions over the Plains, Montana, and New Mexico and into Iowa continued to diminish drought in these regions. D3 was eliminated from Nebraska and reduced in Minnesota. For May much of the United States recorded below normal precipitation, intensifying

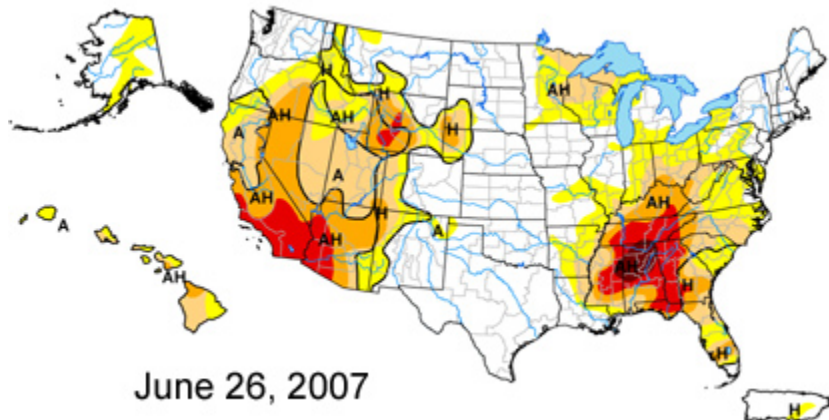
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2007 Outlook & Summary, continued from previous page

the drought in the Southeast and West. D3 conditions spread in the southeast, covering much of Alabama, Georgia, Florida, Mississippi, Tennessee and North Carolina. In Florida, Lake Okeechobee approached record low-levels, with strict water restrictions over much of south Florida. D2 conditions spread over more of the West, with more of Nevada, Oregon and California now experiencing D2 drought.



June: June saw continued wet weather in the Plains and dry conditions through much of the rest of the United States. Temperatures have been near normal for most locations, with the area around the Great Lakes well above normal. Currently, 53.58 percent of the country is categorized as being abnormally dry or in drought, compared to 50.50 percent at the beginning of the month. D4 drought has been identified in the Southeast, centered in Alabama where 43.7



percent of that state is suffering from exceptional drought conditions. Flooding rains have continued for the last several weeks in Texas and Oklahoma, completely reversing drought situations from a year ago when all of Oklahoma and almost all of Texas were experiencing long-term drought. Major wildfires have erupted in the West, with a large fire still uncontained in the Lake Tahoe area. As summer progresses, wildfire dangers in the West will worsen.

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Hayes & Wilhite Say "Yes" to New Challenges

A smooth leadership transition is underway at the National Drought Mitigation Center (NDMC). Dr. Michael J. Hayes, Associate Director, will become the Director as of August 1, and Dr. Donald A. Wilhite, the founder and current Director of the NDMC, will become Director of the School of Natural Resources at the University of Nebraska-Lincoln.

"I am convinced the NDMC will be in good hands under Mike's leadership," Wilhite said. A gradual transition is underway so that NDMC leadership can be handed off with a minimum of disruption. Although its mission is national and international in scope, the NDMC is based within the School of Natural Resources.

Hayes, a climatologist, has been with the NDMC since it was established in 1995. He began as Climate Impacts Specialist and was promoted to Associate Director in 2006. Wilhite, a Professor of Climatology, has been with the University of Nebraska-Lincoln since 1977, and established the International Drought Information Center before the NDMC.



**Michael Hayes,
Incoming Director of the
National Drought Mitigation Center**

Announcing Hayes' new position, Mark Kuzila, current Director of the School of Natural Resources, said, "Mike has been an extremely productive member of the NDMC faculty. He has published widely and has been very successful in securing grant funds from several federal agencies for NDMC research and outreach programs. Mike is well respected by scientists nationwide and has been an excellent communicator of climate and drought science issues to the media, public, and the policy community."

Hayes said that the NDMC will continue to focus on the main elements of drought planning – monitoring, reducing vulnerability to impacts, and planning. "I think for the future, we want to continue down the path of providing better and more relevant information at better spatial resolutions," Hayes said. "We want to identify lessons learned and successful strategies that can be transferred to other locations. We want to continue to build networks for improving drought impact collection. And we want to maintain our scientific stature while expanding our outreach."

Hayes noted that the NDMC has been directly and indirectly involved with drought planning efforts at the state, tribal and local levels over the past 12 years, and the overall level of preparedness appears to have improved. "Back in 1995, 29 states had drought response plans," Hayes said. "Now, 39 states have at least a drought response plan, with eight states having drought mitigation plans and two more moving in the mitigation direction. This emphasizes the gradual growth in awareness of the need for drought planning." The NDMC stresses mitigation – actions taken before a drought to reduce vulnerability – rather than response, which tends

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NDMC Leadership Transition, continued from previous page

to be disproportionately expensive where financial relief is involved. A response plan is a good beginning.

In addition to working with governments on drought planning, the NDMC was a founding partner in the U.S. Drought Monitor in 1999, continues to supply two of the rotating authors for the weekly maps that appear in newspapers and on web sites across the country, and hosts the official Drought Monitor web site. The NDMC has also worked with 70 countries on using the Standardized Precipitation Index in drought monitoring.

Recent partnership with the U.S. Department of Agriculture's (USDA) Risk Management Agency has enabled other research efforts to expand as well. Current initiatives include the satellite-based Vegetation Drought Response Index (VegDRI) and the related Vegetation Outlook (VegOut), the Drought Impact Reporter, Risk Reduction for Ranchers, developing a methodology for quantifying economic impacts of drought, and developing the Drought Atlas and Decision Support System. Other research sponsors include the National Aeronautic and Space Administration, the National Oceanic and Atmospheric Administration, and other agencies within the USDA. Other projects are focused on monitoring groundwater, anticipating the effects of low levels of water in rivers and streams, hydrologic modeling, and incorporating various kinds of data into drought monitoring and impacts reporting.

The organization began with a staff of six and has now expanded to 18, plus graduate students. In addition to producing scientific research, the NDMC has been heavily involved in workshops, seminars and conferences related to drought; in K-12 education and outreach; and in responding to inquiries from media and the general public.



Don Wilhite
Incoming Director of the
School of Natural Resources at
University of Nebraska - Lincoln

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NDMC Works With United Nations on Drought Risk Reduction

By Dr. Cody Knutson, NDMC Research Scientist

The National Drought Mitigation Center worked closely with the United Nations International Strategy for Disaster Reduction to produce a document on reducing drought risk in the most vulnerable countries. Dr. Cody Knutson, NDMC, and Dr. Pedro Basabe, ISDR, presented "Drought Risk Reduction Framework and Practices: Contributing to the Hyogo Framework for Action" at the First Session of the Global Platform for Disaster Risk Reduction in Geneva, Switzerland, on June 5, 2007 (see <http://www.preventionweb.net/globalplatform/>).

The document outlines strategies to reduce the global risk of drought through five primary themes: 1) policies and governance, 2) drought risk identification, impact assessment, and early warning, 3) drought awareness and knowledge management, 4) effective drought mitigation and preparedness measures, and 5) networks and mechanisms to encourage the implementation of drought risk reduction projects and practices.

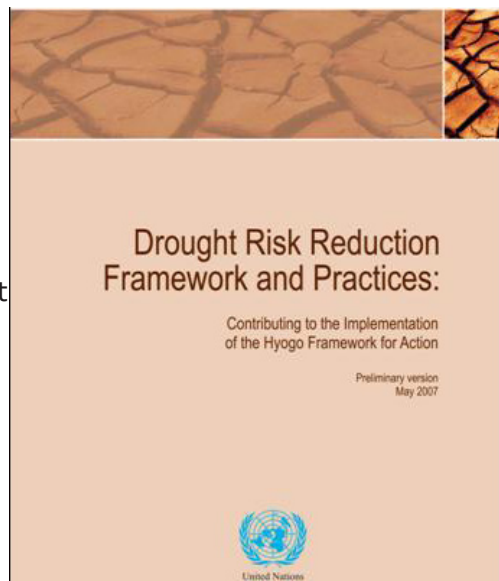
The Drought Risk Reduction Framework is a continuation of previous efforts. In 2003, the secretariat of the United Nations International Strategy for Disaster Reduction (ISDR) facilitated the creation of the Ad Hoc Discussion Group on Drought at the request of the United Nations Interagency Task Force on Disaster Reduction. Dr. Don Wilhite, Director of the NDMC, chaired the discussion group.

The endeavor brought together scientists and practitioners from a variety of institutes and UN agencies to propose new paradigms and actions to reduce global drought risk. The initiative resulted in an integrated approach to reducing societal vulnerability to drought, which has been used to promote drought-resilient nations and communities around the world (see <http://www.unisdr.org/droughts-doc>).

Subsequently, the World Conference on Disaster Reduction was held in Kobe, Hyogo, Japan, in January 2005, where governments adopted the landmark "Hyogo



Cody Knutson



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NDMC-UN Collaboration, continued from previous page

Framework for Action 2005-2015." The Hyogo Framework for Action outlines priorities to build resilience of communities and nations to natural hazards.

In order to merge criteria from the ISDR's 2003 integrated approach and the Hyogo Framework for Action, the Ad Hoc Discussion Group on Drought re-convened in Beijing, China, in June 2006. Dr. Knutson attended the Beijing meeting and chaired two working groups. At this meeting, members discussed the elements for drought policies in line with the priorities of the Hyogo Framework for Action.

Based on the recommendations from this meeting and a follow-up meeting of the Second African Drought Risk and Development Forum in Nairobi, Kenya, the NDMC and the ISDR published the *Drought Risk Reduction Framework*, which will soon be available on-line at the ISDR website (<http://www.unisdr.org/eng/library/lib-index.htm>). The NDMC will continue to work with the ISDR and other relevant UN agencies and interested parties to implement the recommendations outlined in the document.

Listening Sessions on Drought Monitoring Tools Underway

The National Drought Mitigation Center's most recent listening sessions on drought monitoring tools were June 21, 2007, in Cheyenne, Wyoming. Presentations focused on the Vegetation Drought Response Index (VegDRI), the Vegetation Outlook (VegOut), the Drought Impact Reporter, the Drought Monitor, Drought Atlas and Drought Decision Support System, and on Greenleaf and other innovative technology being applied by our partner, the Computer Sciences & Engineering Department at the University of Nebraska-Lincoln. Development of the tools is sponsored by the U.S. Department of Agriculture's Risk Management Agency.

Stay tuned for information about workshops later this year in North Dakota and Texas.

If you're interested in helping us fine-tune or ground truth products to make them as accurate and useful as possible, you can:

- Access recent presentations on-line at <http://drought2.unl.edu/news/listensession-WY2007.html> and send any comments to the contact people listed within them, or to droughtscape@unl.edu.
- Contact Meghan Sittler, NDMC Research & Outreach Specialist (402-472-2712, msittler2@unl.edu), and let us know more about your interest.
- Subscribe to *DroughtScape*, if you haven't already! You can do it on-line: <http://www.ianr.unl.edu/snr/dsssubscribe.htm>

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The Dust Bowl: Once Was Enough

Book Review by Kelly Helm Smith, NDMC Science Communicator



The Worst Hard Time: The Untold Story of Those Who Survived The Great American Dust Bowl

by Timothy Egan

2006, Houghton Mifflin Company, New York

340 pages

Winner of the 2006 National Book Award for Non-Fiction

Timothy Egan's book, *The Worst Hard Time*, could not be a more timely reminder of the consequences of short-term, profit-driven land use policies on the Great Plains. With the lure of ethanol driving up corn prices and the downplaying of the Conservation Reserve Program, we are once again seeing incentives to plant every available inch, and many hold fast to the belief that groundwater irrigation will always be viable. Egan interviewed Dust Bowl survivors to reconstruct the experiences of families

that sank roots and invested their lives in the Plains, only to watch their dreams and farms dry up and blow away. A few of the families, to their immense credit, held on and still farm.

There were people who knew better, starting with the Native Americans, whose livelihoods were intertwined with the herds of bison that thundered across the Plains, amply nourished by the complex mix of native grasses. Government policy led to eradication of the bison so that Native Americans would move off the land, clearing the way for white settlers. According to Egan, there were also cowboys who also knew better, who recognized that the land was good for growing grass and for grazing animals, but not for intensive agriculture. The land they first encountered was bountiful and good, and tilling turned it upside down.

The Homestead Act and high wheat prices combined to encourage plowing every available acre. Egan's book chronicles the dreams and misfortunes of Germans from Russia and other peoples who settled the High Plains, as well as the politicians and policy makers who tried to make sense of it.

Hugh Bennett emerges as a prophet of the times in Egan's account, "a son of the soil" who learned from his father that "the soil of their farm was not simply a medium through which passed a fibrous commodity but also a living thing," who went on to study soil in graduate school and to complete a soil survey of the United States. Bennett was one of the first to recognize humans' role in creating the conditions that led to the Dust Bowl – drought, after all, being a regular feature of Plains climate – and to advocate policies that encouraged more appropriate soil management practices.

By Egan's account, Bennett ingeniously timed his presentation to Congress on the need for a Soil Conservation Service to coincide with the arrival in Washington of a huge cloud of dust and dirt, an experience that convinced them more rapidly than any amount of testimony could have accomplished.

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Book Review, continued from previous page

Egan concludes that "the High Plains never fully recovered from the Dust Bowl." He points to some bright spots, such as the establishment of grasslands, but is not particularly optimistic about current trends.

In addition to being readable and relevant, Egan's book is a fine illustration of how land-use practices can increase and decrease resilience to drought.

U.S. Drought Monitor Forum: Portland, Oregon, October 10-11, 2007

Authors and users of the U.S. Drought Monitor -- <http://drought.unl.edu/dm/monitor.html> - will convene in Portland, Oregon, October 10-11, to discuss user needs and modifications to the tool. The U.S. Drought Monitor Forum is held every other year. This year's DM Forum is being sponsored by the NDMC, but is being hosted by the USDA-NRCS Water and Climate Center. Although the scope of the tool is national, the venue will provide an opportunity to focus on the drought-monitoring needs of the West. A [draft agenda](http://snr.unl.edu/ndmcsurvey/dmforumagenda05072007.pdf) (<http://snr.unl.edu/ndmcsurvey/dmforumagenda05072007.pdf>) is available now and details on the format will be made available soon.

Registration is free, but rooms and meeting rooms are limited, so please sign up early to ensure that there will be room. Please use our on-line [registration form](http://snr.unl.edu/ndmcsurvey/usdmforum.html) (<http://snr.unl.edu/ndmcsurvey/usdmforum.html>) to reserve your spot. Please register even if you are not staying at the conference hotel. As a backup, you may e-mail Ann Fiedler, afiedler2@unl.edu, with "US Drought Forum" in the subject line, expressing your intent to attend, and including your name and full contact information. Those without fully functioning web access may contact Ann by telephone, 402-472-6707.

The conference will be held at the Portland DoubleTree Hotel & Executive Meeting Center. A special conference and government rate of \$98 per night plus applicable tax and fees is available for attendees making reservations by September 9. There are two ways to register:

- On-line at www.portlandlloydcenter.doubletree.com. Select dates under "check availability," click "go," and enter the group code, which is "NDM."
- On the phone, by calling 1-800-966-0510, or 503-281-6111, and providing the NDM (Drought Monitor Forum) group code as you request the special rate.