

Drought Activities at the NOAA/NCDC Climate Monitoring Branch

Richard R. Heim Jr.

*NOAA/NESDIS/National Climatic Data Center
Asheville, North Carolina*

USDM Workshop
Austin, TX, October 2009



National Climatic Data Center



Overview

- ✓ **Monthly State of the Climate drought reports**
- ✓ **Drought Monitor Activities (USDM, NADM)**
- ✓ **FMDI – Floating Month Drought Index**
- ✓ **Living Blended Paleo Drought Monitoring**
- ✓ **U.S.-Canadian GEO Bilateral Studies**
- ✓ **April 2010 NADM Workshop**



State of the Climate Drought Reports

✓ Monthly reports

- Narrative & graphics
- NOAA press release, plus: Global Analysis, Global Hazards & Significant Events, National Overview, Drought, Wildfire, Hurricane sections

✓ Drought has U.S. focus

✓ Online by mid-month (12th to 15th)

State of the Climate Drought August 2009
National Oceanic and Atmospheric Administration
National Climatic Data Center

Use the form below to access monthly reports.
Report: Drought
Year: 2009
Month: August
Get Report

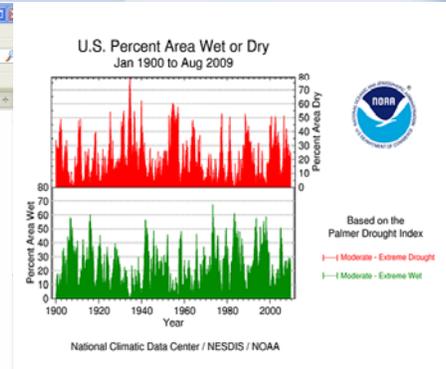
Issued 9 September 2009

Contents of This Report:

- National Drought Overview
- Detailed Drought Discussion
- State/Regional/National Moisture Status
- Drought Indicators
- Contacts & Questions

National Drought Overview

- Based on the Palmer Drought Index, severe to extreme drought affected about 13 percent of the contiguous United States as of the end of August 2009, an increase of about 2 percent from last month. About 19 percent of the contiguous U.S. fell in the severity to extremely wet categories.
- About 25 percent of the contiguous U.S. fell in the moderate to extreme drought categories (based on the Palmer Drought Index) at the end of August.
- On a broad scale, the 1980s and 1990s were characterized by unusual wetness with short periods of extensive droughts.
- A file containing the national in percent area severely dry and wet 1900 to present is available for the s to extreme and moderate to ex categories.
- Historical temperature, precipitation Palmer drought data from 1855 to p for climate divisions, states, and regi the contiguous U.S. are available : Climate Division Terrierp Precipitation-Drought Data page. filenames begin with "drd964c" and with "bit".
- According to the weekly U.S. D



Climate of August 2009
U.S. Drought Indicators
National Climatic Data Center, 9 August 2009

The data presented in this drought report are preliminary. Ranks, anomalies, and percent areas may change as more complete data are received and processed.

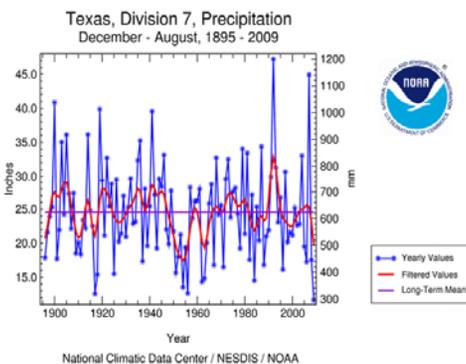
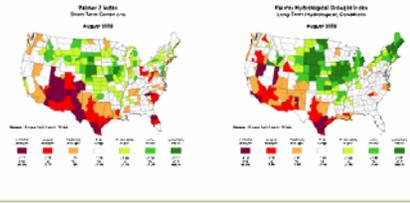
Several climate indicators are used to monitor drought in the United States. These indicators include:

Palmer-based Indicators

- The Palmer Z Index,
- Palmer Drought Severity Index, and
- Palmer Hydrological Drought Index

Standardized Precipitation Index

- one-month SPI,
- two-month SPI,
- three-month SPI,
- four-month SPI,
- six-month SPI,
- 12-month SPI

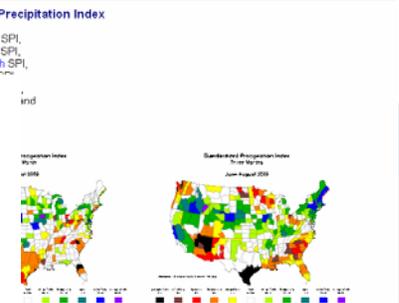
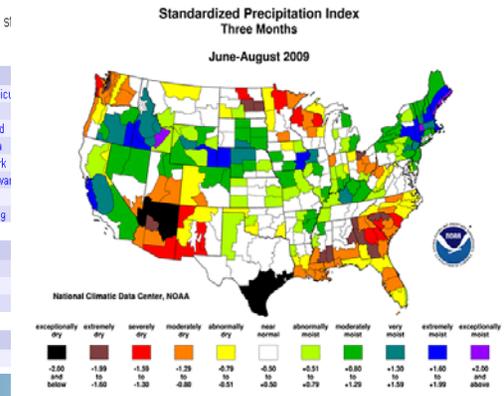


State/Regional/National Moisture Status
A detailed review of drought and moisture conditions is available for all contiguous U.S. states, the nine standard regions, and the nation (contiguous U.S.).

| States | | | | | |
|----------------|----------------|---------------|---------------|------------|--------------|
| Alabama | Arizona | Arkansas | California | Colorado | Connecticut |
| Delaware | Florida | Georgia | Idaho | Illinois | Indiana |
| Iowa | Kansas | Kentucky | Louisiana | Maine | Maryland |
| Massachusetts | Michigan | Minnesota | Mississippi | Missouri | Montana |
| Nebraska | Nevada | New Hampshire | New Jersey | New Mexico | New York |
| North Carolina | North Dakota | Ohio | Oklahoma | Oregon | Pennsylvania |
| Rhode Island | South Carolina | South Dakota | Tennessee | Texas | Utah |
| Vermont | Virginia | Washington | West Virginia | Wisconsin | Wyoming |

| Regional | | |
|-----------------|--------------------------|---------------|
| Northeast U. S. | East North Central U. S. | Central U. S. |
| Southeast U. S. | West North Central U. S. | South U. S. |
| Southwest U. S. | Northwest U. S. | West U. S. |

| National |
|--------------------------|
| Contiguous United States |



Center



CMB Drought Web Pages

✓ Drought Monitoring Tools

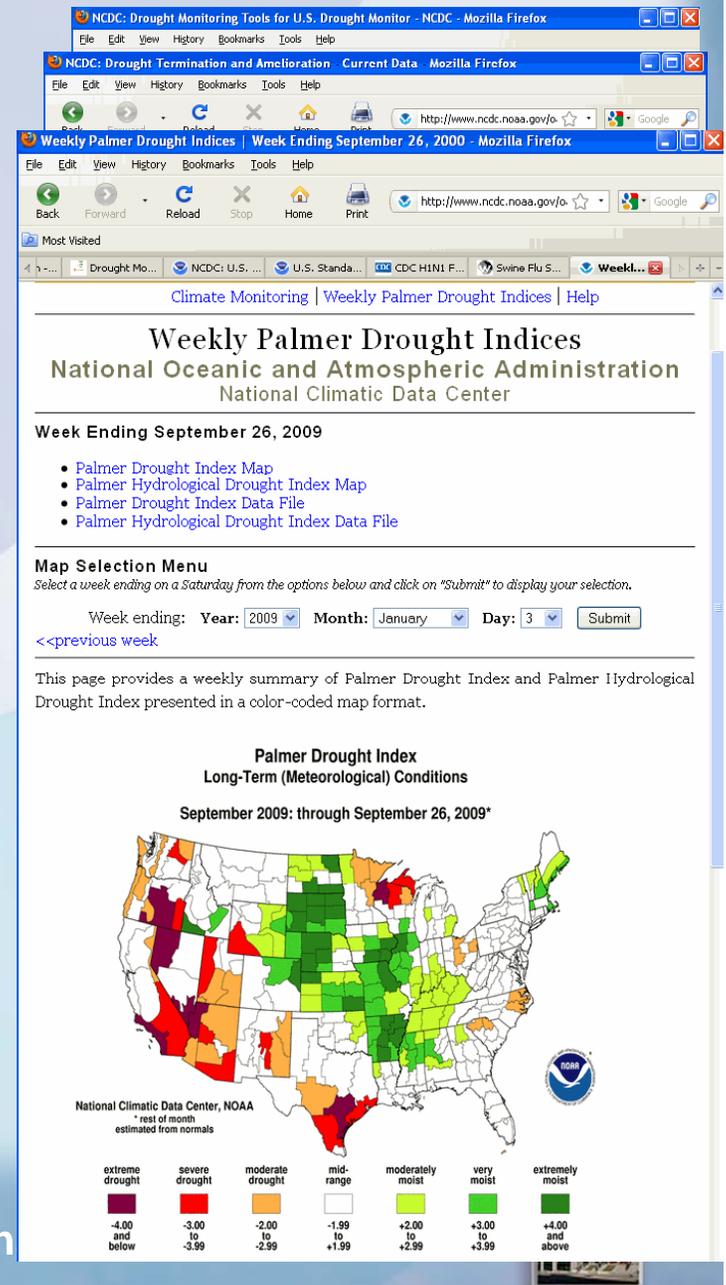
- A static page that provides links to drought web resources from other organizations

✓ Drought Termination in the U.S.

- Based on Palmer Drought Index
- Precip required to end/ameliorate drought & probabilities of it occurring

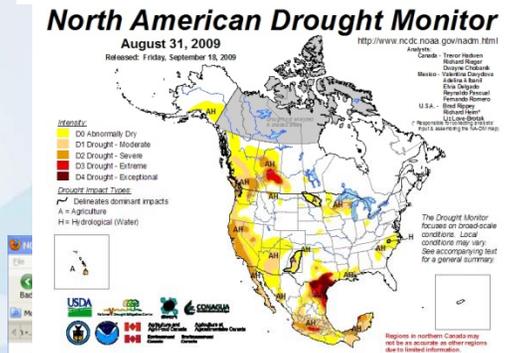
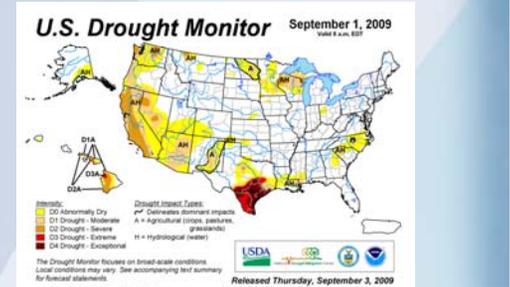
✓ Weekly maps

- Plot of indicators derived from CPC weekly data
- Monthly Palmer Drought Index computed weekly



Drought Monitor (USDM/NADM) Activities

- ✓ Author U.S. Drought Monitor (USDM) and North America Drought Monitor (NADM)
- ✓ Host the NADM web site:
<http://www.ncdc.noaa.gov/oa/climate/monitoring/drought/nadm/index.html>
- ✓ Compute the continental indicators for the NADM
 - U.S., Canadian, Mexican SPI, PCTPCP, & Palmer Drought Indices



NA-DM Overview
 NA-DM maps
 NA-DM maps (limited access)
 ArcGIS Archive (limited access)
 Drought Monitoring Indices and Data
 Other Drought Monitoring Indices
 NESDIS Satellite VHI
 CPC Modeled Soil Moisture
 U.S. NWS Precipitation Analysis
 Geographical Reference Maps
 Climatology Maps
 Associated Links

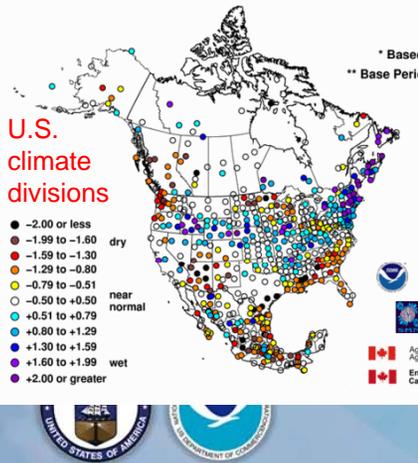
Workshops
 2003 | 2004 | 2006

North American Drought Monitor Overview

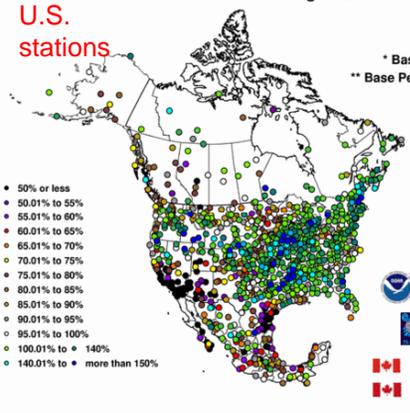
The North America Drought Monitor (NA-DM) is a cooperative effort between drought experts in Canada, Mexico and the United States to monitor drought across the continent on an ongoing basis. The program was initiated at a **three-day workshop** in late April 2002 and is part of a larger effort to improve the monitoring of climate extremes on the continent. The NA-DM (Lawrimore et al. 2002) is based on the highly successful U.S. Drought Monitor (US-DM), and as such, is being developed to provide an ongoing comprehensive and integrated assessment of drought throughout all three countries.

Since its inception in 1999, the US Drought Monitor (Svoboda et al. 2002) has been extremely successful in assessing and communicating the state of drought in the US on a weekly basis. As with the US Drought Monitor, the North America Drought Monitor blends science and art. There is no one 'correct' way to measure drought. Drought indices are used to detect and measure droughts, but different indices measure drought in different ways, and no single index works under all circumstances (Heim, 2002). So the Drought Monitor

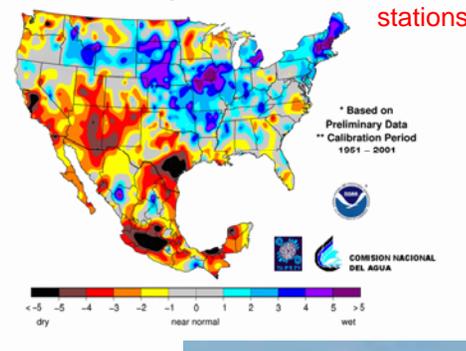
3-Month Standardized Precipitation Index
 June – August 2009



Percent of Long-Term Average Precipitation, 6-Month
 March – August 2009



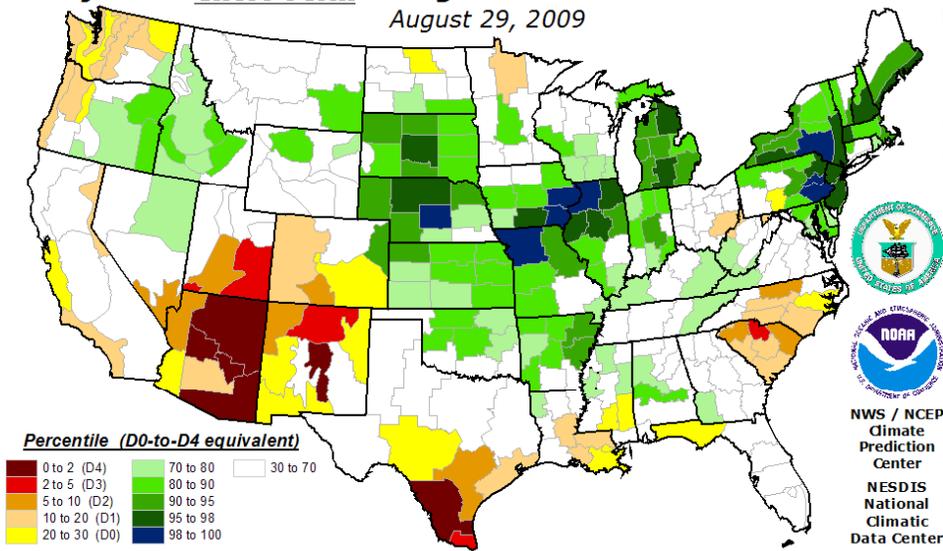
Palmer Drought Index
 August 2009



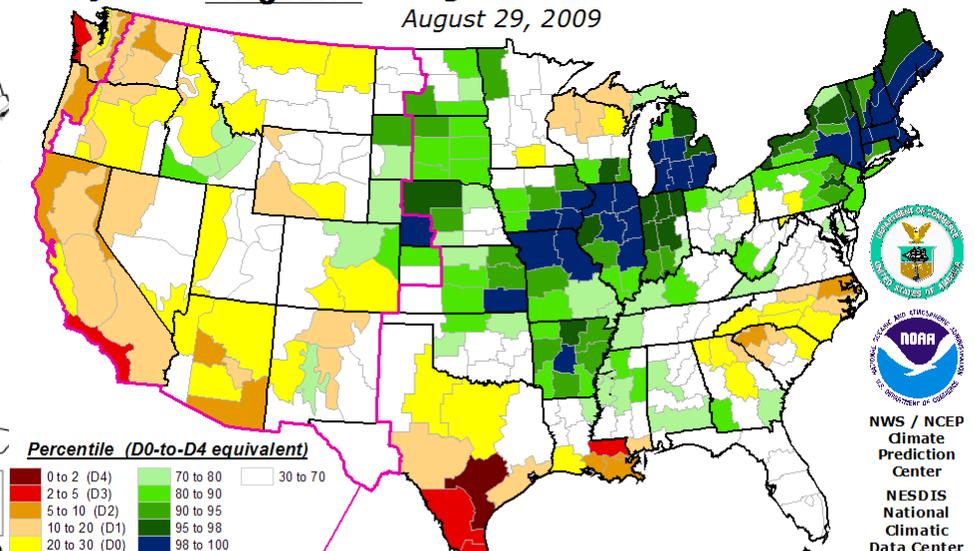
FMDI – Floating Month Drought Index

- ✓ FMDI – a new drought index to provide guidance on drought termination amidst conflicting indicators

Objective Short-Term Drought Indicator Blend Percentiles
August 29, 2009



Objective Long-Term Drought Indicator Blend Percentiles
August 29, 2009



FMDI – Floating Month Drought Index

- ✓ FMDI – a new drought index inspired by the Australian decile-based drought definition, USDM, & Objective Blends
- ✓ Based on precipitation percentiles
- ✓ Computes:
 - Precipitation percentile for current month
 - Length (number of consecutive months) and begin year/month of current dry spell
 - Precipitation percentile for current N-month dry spell
 - Dx dry spell category (based on USDM categories) for current month
 - Length (number of consecutive months) and begin year/month of current wet spell
 - Precipitation percentile for current N-month wet spell
 - Wx wet spell category (based on analog to USDM categories)



FMDI – Floating Month Drought Index

- ✓ **Dry Spell begins** – when 3 consecutive months each have an anomaly $\leq 30^{\text{th}}$ percentile and the anomaly of total precipitation for the 3 consecutive dry months falls beyond the cutoff (≤ 30 percentile)
- ✓ **Dry Spell ends when:**
 - the total precipitation for the months from beginning anchor year-month to current month no longer falls beyond the cutoff ($\leq 30^{\text{th}}$ percentile), OR
 - the precipitation for the past 3 months is extremely wet (3-month total precipitation $\geq 70^{\text{th}}$ percentile)

| | |
|---|------------|
|  | 0-2 (D4) |
|  | 2-5 (D3) |
|  | 5-10 (D2) |
|  | 10-20 (D1) |
|  | 20-30 (D0) |



FMDI – Floating Month Drought Index

- ✓ **Wet Spell begins** – when 3 consecutive months each have an anomaly $\geq 70^{\text{th}}$ percentile and the anomaly of total precipitation for the 3 consecutive dry months fall beyond the cutoff (≥ 70 percentile)
- ✓ **Wet Spell ends when:**
 - the total precipitation for the months from beginning anchor year-month to current month no longer falls beyond the cutoff ($\geq 70^{\text{th}}$ percentile), OR
 - the precipitation for the past 3 months is extremely dry (3-month total precipitation $\leq 30^{\text{th}}$ percentile)

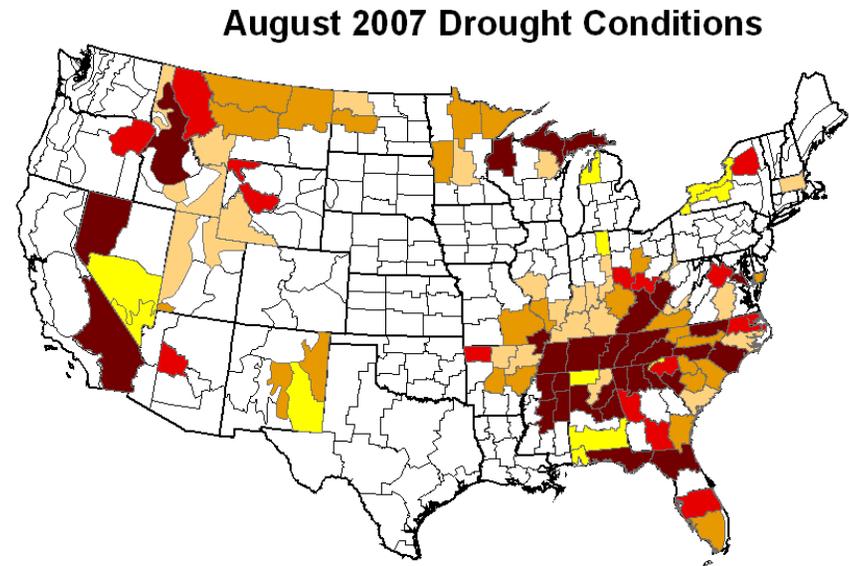
| | |
|---|-------------|
|  | 70-80 (W0) |
|  | 80-90 (W1) |
|  | 90-95 (W2) |
|  | 95-98 (W3) |
|  | 98-100 (W4) |



FMDI – Floating Month Drought Index

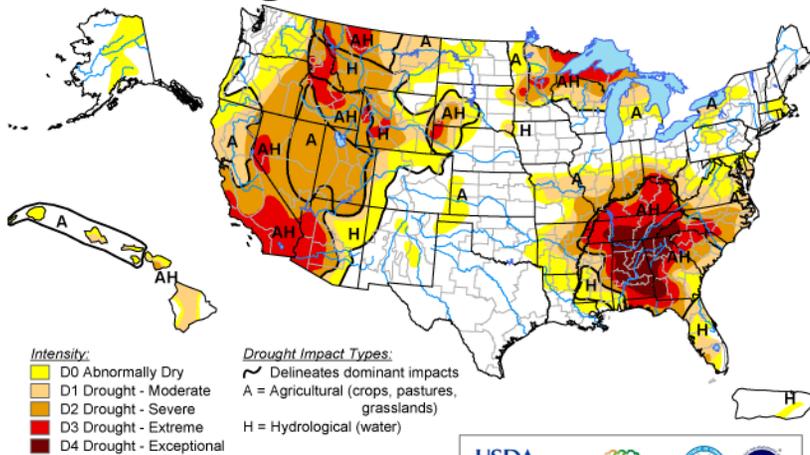
- ✓ Has a Near-Real Time component and a Backstepping component
- ✓ Requires serially complete data

FMDI
Drought Categories
fmdx-cur-dat-2007-08
PCTDRY



U.S. Drought Monitor

August 28, 2007
Valid 8 a.m. EDT



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://drought.unl.edu/dm>



Released Thursday, August 30, 2007
Author: Thomas Heddinghaus, CPC/NOAA

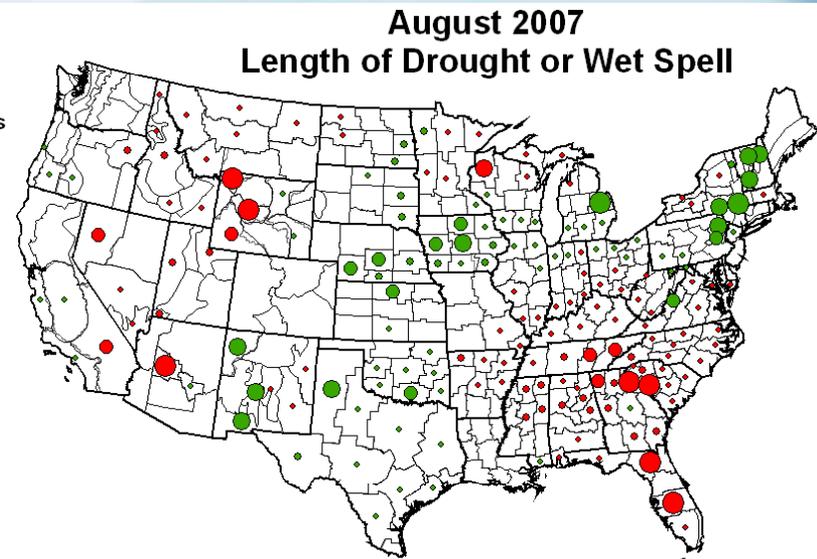
FMDI - Number of Months in Drought or Wet Spell

- 1 - 4 Months Dry
- 5 - 8
- 9 - 12
- 13 - 16
- 17 - 22

fmdx-cur-dat-2007-08

NMWET

- 1 - 4 Months Wet
- 5 - 8
- 9 - 12
- 13 - 16
- 17 - 22



National Climatic Data Center



FMDI – Floating Month Drought Index

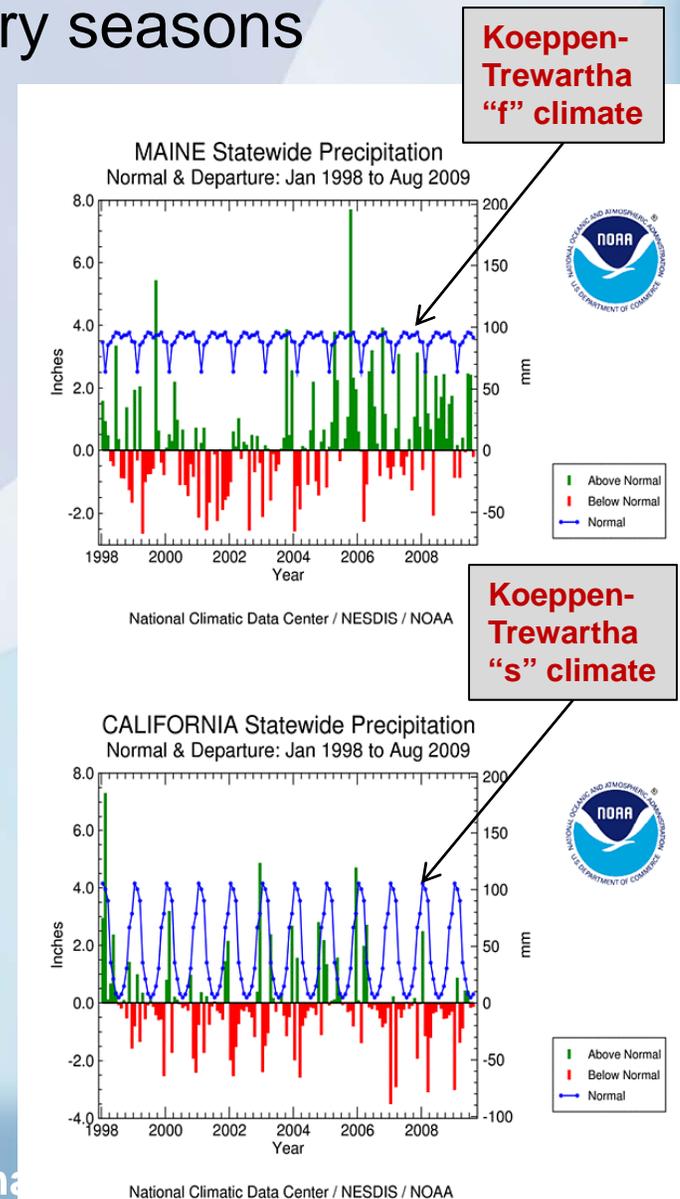
- ✓ Modification added for exceptionally dry seasons
- ✓ If no seasonality in precipitation, then monthly normal = 1/12 of annual normal for every month:

$$P_{\text{norm}(\text{month})} = 1/12 * P_{\text{norm}(\text{annual})}$$

- ✓ If a month is normally very dry, then don't count it as a drought or wet spell trigger.

- ✓ Solution: Find threshold X:

$$P_{\text{norm}(\text{month})} < X * 1/12 * P_{\text{norm}(\text{annual})}$$



FMDI Correlations With Other Drought Indices, All Months, All Divisions: Different Thresholds for Dry Season (Value for Factor X)

| INDEX | No Threshold (0) 1/1931-7/2009 | Threshold 10% 1/1931-7/2009 | Threshold 30% 1/1931-7/2009 | Threshold 50% 1/1931-7/2009 | Threshold 70% 1/1931-7/2009 | Threshold 90% 1/1931-7/2009 |
|----------|-----------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| PMDI | 0.713 | 0.713 | 0.717 | 0.708 | 0.684 | 0.615 |
| PHDI | 0.658 | 0.659 | 0.665 | 0.662 | 0.646 | 0.592 |
| PDSI | 0.688 | 0.688 | 0.690 | 0.679 | 0.655 | 0.588 |
| Z Index | 0.619 | 0.618 | 0.612 | 0.598 | 0.573 | 0.505 |
| SPI – 1 | 0.555 | 0.554 | 0.542 | 0.519 | 0.492 | 0.426 |
| SPI – 2 | 0.651 | 0.649 | 0.635 | 0.607 | 0.572 | 0.487 |
| SPI – 3 | 0.759 | 0.758 | 0.741 | 0.706 | 0.663 | 0.558 |
| SPI – 6 | 0.715 | 0.715 | 0.712 | 0.696 | 0.667 | 0.579 |
| SPI – 9 | 0.659 | 0.660 | 0.665 | 0.664 | 0.651 | 0.591 |
| SPI – 12 | 0.607 | 0.608 | 0.617 | 0.623 | 0.618 | 0.578 |
| SPI – 24 | 0.464 | 0.465 | 0.477 | 0.490 | 0.497 | 0.499 |
| USDM | 0.520* | 0.520* | 0.519* | 0.516* | 0.505* | 0.478* |



* 1/2000-7/2009

National Climatic Data Center



FMDI Correlations With Other Drought Indices, All Months, All Divisions: Different Thresholds for Dry Season (Value for Factor X)

| INDEX | No Threshold (0) 1/1931-7/2009 | Threshold 10% 1/1931-7/2009 | Threshold 30% 1/1931-7/2009 | Threshold 50% 1/1931-7/2009 | Threshold 70% 1/1931-7/2009 | Threshold 90% 1/1931-7/2009 |
|--------------------|-----------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| PMDI | 0.713 | 0.713 | 0.717 | 0.708 | 0.684 | 0.615 |
| PHDI | 0.658 | 0.659 | 0.665 | 0.662 | 0.646 | 0.592 |
| PDSI | 0.688 | 0.688 | 0.690 | 0.679 | 0.655 | 0.588 |
| Z Index | 0.619 | 0.618 | 0.612 | 0.598 | 0.573 | 0.505 |
| SPI - 1 | 0.555 | 0.554 | 0.542 | 0.519 | 0.492 | 0.426 |
| SPI - 2 | 0.651 | 0.649 | 0.635 | 0.607 | 0.572 | 0.487 |
| SPI - 3 | 0.759 | 0.758 | 0.741 | 0.706 | 0.663 | 0.558 |
| SPI - 6 | 0.715 | 0.715 | 0.712 | 0.696 | 0.667 | 0.579 |
| SPI - 9 | 0.659 | 0.660 | 0.665 | 0.664 | 0.651 | 0.591 |
| SPI - 12 | 0.607 | 0.608 | 0.617 | 0.623 | 0.618 | 0.578 |
| SPI - 24 | 0.464 | 0.465 | 0.477 | 0.490 | 0.497 | 0.499 |
| USDM | 0.520* | 0.520* | 0.519* | 0.516* | 0.505* | 0.478* |



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National Climatic Data Center



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|--------------------|-----------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| PMDI | 0.713 | 0.713 | 0.717 | 0.708 | 0.684 | 0.615 |
| PHDI | 0.658 | 0.659 | 0.665 | 0.662 | 0.646 | 0.592 |
| PDSI | 0.688 | 0.688 | 0.690 | 0.679 | 0.655 | 0.588 |
| Z-Index | 0.619 | 0.618 | 0.612 | 0.598 | 0.573 | 0.505 |
| SPI - 1 | 0.555 | 0.554 | 0.542 | X = 0.30 | | 0.426 |
| SPI - 2 | 0.651 | 0.649 | 0.635 | | | 0.487 |
| SPI - 3 | 0.759 | 0.758 | 0.741 | 0.706 | 0.663 | 0.558 |
| SPI - 6 | 0.715 | 0.715 | 0.712 | 0.696 | 0.667 | 0.579 |
| SPI - 9 | 0.659 | 0.660 | 0.665 | 0.664 | 0.651 | 0.591 |
| SPI - 12 | 0.607 | 0.608 | 0.617 | 0.623 | 0.618 | 0.578 |
| SPI - 24 | 0.464 | 0.465 | 0.477 | 0.490 | 0.497 | 0.499 |
| USDM | 0.520* | 0.520* | 0.519* | 0.516* | 0.505* | 0.478* |



* 1/2000-7/2009

National Climatic Data Center



FMDI Correlations With Other Drought Indices, All Months, All Divisions: Different Thresholds for Dry Season (Value for Factor X)

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|----------|--|--------------------------------|--|--------------------------------|--------------------------------|--------------------------------|
| PMDI | No Seasonal Check: Strongest Correspondence | | | | 0.684 | 0.615 |
| PHDI | | | | | 0.646 | 0.592 |
| PDSI | | | | | 0.655 | 0.588 |
| Z Index | 0.619 | 0.618 | 0.612 | 0.598 | 0.573 | 0.505 |
| SPI – 1 | 0.555 | 0.554 | 0.542 | 0.519 | 0.492 | 0.426 |
| SPI – 2 | 0.651 | 0.649 | 0.635 | 0.607 | 0.572 | 0.487 |
| SPI – 3 | 0.759 | 0.758 | 0.741 | 0.706 | 0.663 | 0.558 |
| SPI – 6 | 0.715 | 0.715 | 0.712 | 0.696 | 0.667 | 0.579 |
| SPI – 9 | 0.659 | 0.660 | Strong Seasonal Check: Weakest Correspondence | | | |
| SPI – 12 | 0.607 | 0.608 | | | | |
| SPI – 24 | 0.464 | 0.465 | | | | |
| USDM | 0.520* | 0.520* | 0.519* | 0.516* | 0.505* | 0.478* |

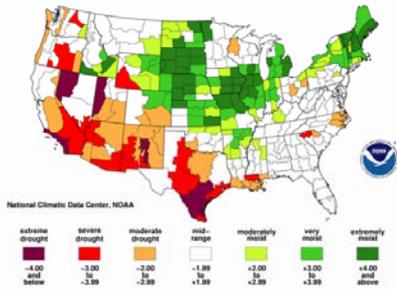


* 1/2000-7/2009

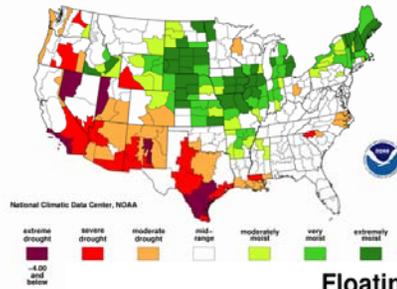
National Climatic Data Center



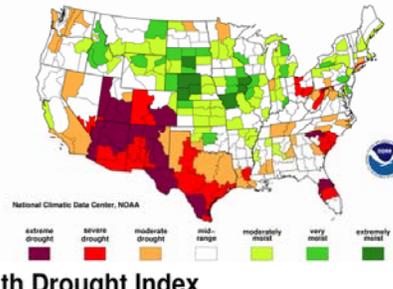
Palmer Hydrological Drought Index
August, 2009



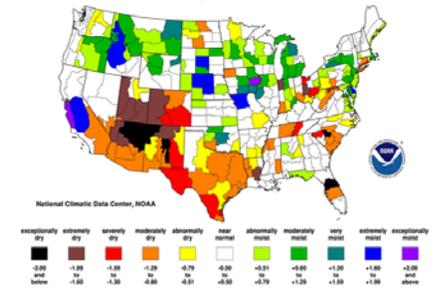
Palmer Modified Drought Index
August, 2009



Palmer Z-Index
August, 2009

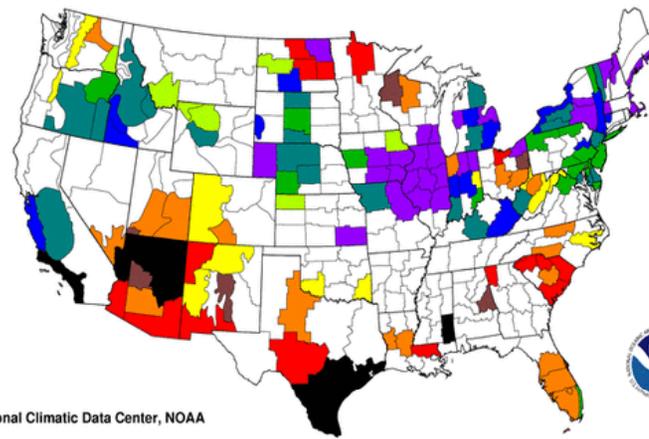


Standardized Precipitation Index
One Month
August 2009

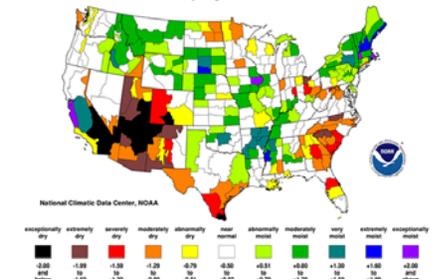


Floating Month Drought Index

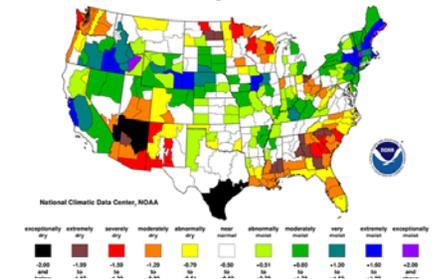
NO SEASONALITY August 2009



Standardized Precipitation Index
Two Months
July-August 2009

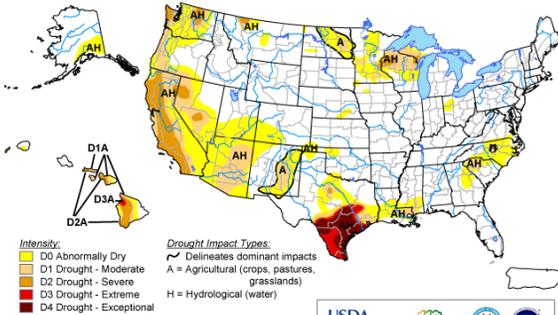


Standardized Precipitation Index
Three Months
June-August 2009



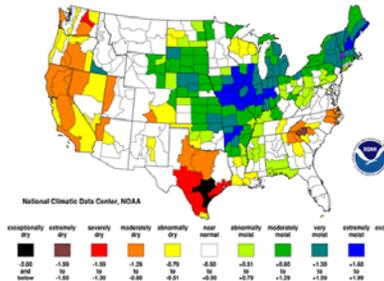
Comparison of FMDI to other standard drought indicators.

U.S. Drought Monitor September 1, 2009
Valid 8 a.m. EDT

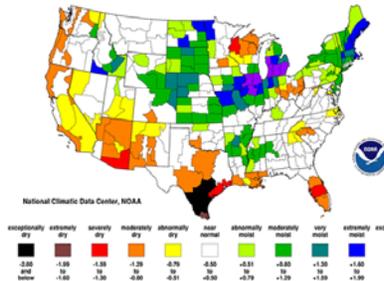


The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.
Released Thursday, September 3, 2009
Author: Brad Rippey, U.S. Department of Agriculture
<http://drought.unl.edu/dm>

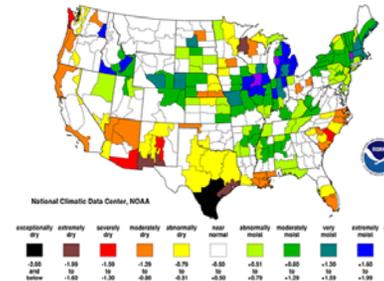
Standardized Precipitation Index
24 Months
September 2007-August 2009



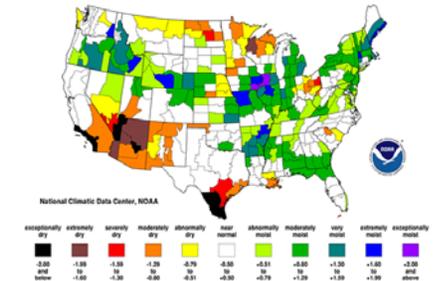
Standardized Precipitation Index
Twelve Months
September 2008-August 2009



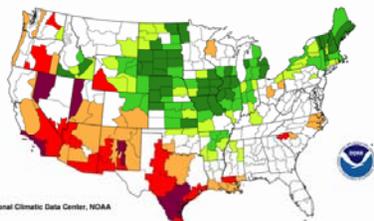
Standardized Precipitation Index
Nine Months
December 2008-August 2009



Standardized Precipitation Index
Six Months
March-August 2009



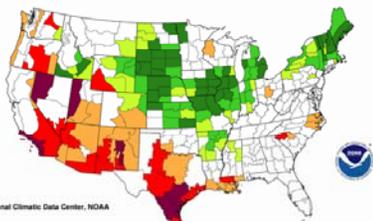
Palmer Hydrological Drought Index
August, 2009



National Climatic Data Center, NOAA



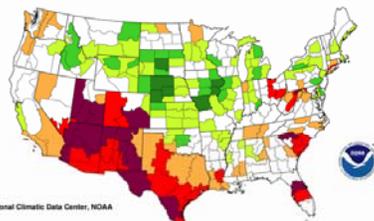
Palmer Modified Drought Index
August, 2009



National Climatic Data Center, NOAA



Palmer Z-Index
August, 2009

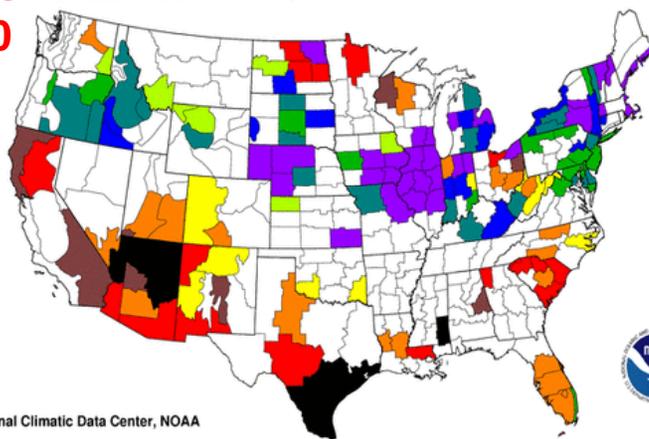


National Climatic Data Center, NOAA



Floating Month Drought Index

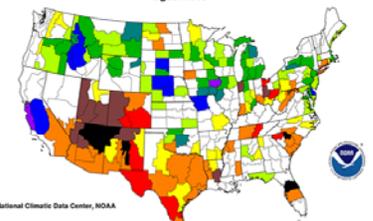
SEASONALITY: August 2009
X=0.30



National Climatic Data Center, NOAA



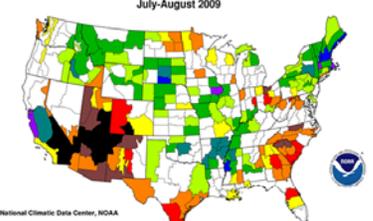
Standardized Precipitation Index
One Month
August 2009



National Climatic Data Center, NOAA



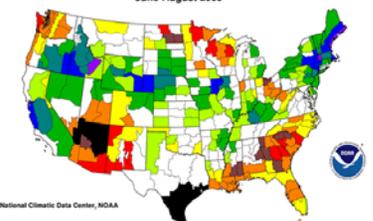
Standardized Precipitation Index
Two Months
July-August 2009



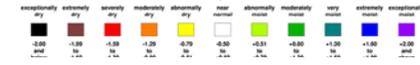
National Climatic Data Center, NOAA



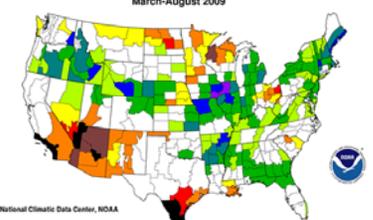
Standardized Precipitation Index
Three Months
June-August 2009



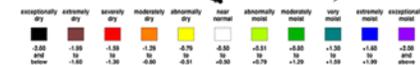
National Climatic Data Center, NOAA



Standardized Precipitation Index
Six Months
March-August 2009

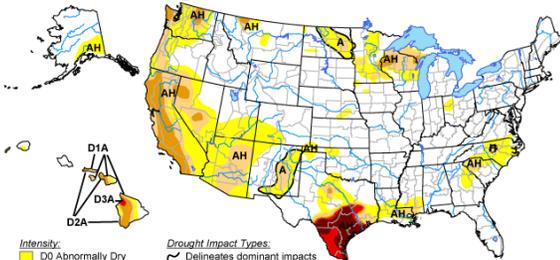


National Climatic Data Center, NOAA



Comparison of FMDI to other standard drought indicators.

U.S. Drought Monitor September 1, 2009
Valid 8 a.m. EDT



Intensity:
D0 Abnormally Dry
D1 Drought - Moderate
D2 Drought - Severe
D3 Drought - Extreme
D4 Drought - Exceptional

Drought Impact Types:
✓ Delineates dominant impacts
A = Agricultural (crops, pastures, grasslands)
H = Hydrological (water)

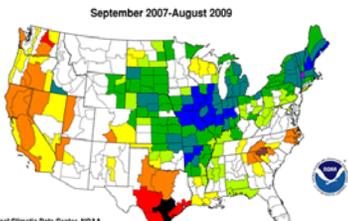


The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Released Thursday, September 3, 2009
Author: Brad Rippey, U.S. Department of Agriculture

<http://drought.unl.edu/dm>

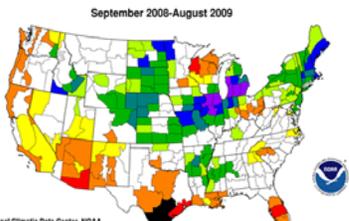
Standardized Precipitation Index
24 Months
September 2007-August 2009



National Climatic Data Center, NOAA



Standardized Precipitation Index
Twelve Months
September 2008-August 2009



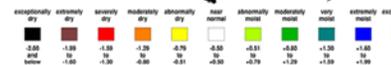
National Climatic Data Center, NOAA



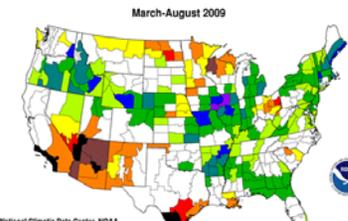
Standardized Precipitation Index
Nine Months
December 2008-August 2009



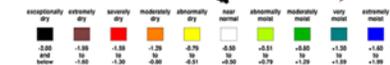
National Climatic Data Center, NOAA



Standardized Precipitation Index
Six Months
March-August 2009



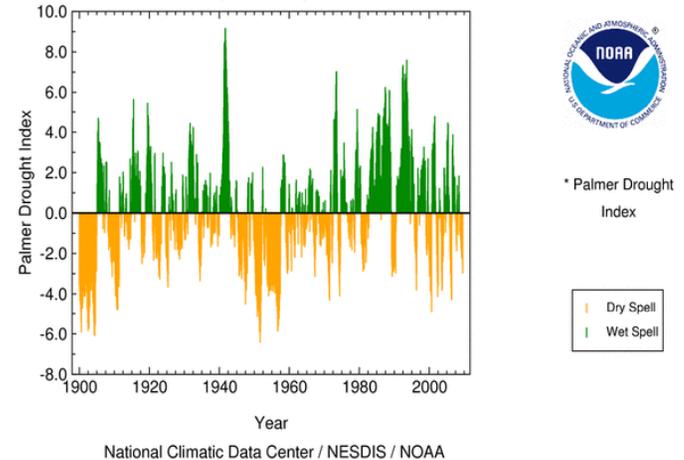
National Climatic Data Center, NOAA



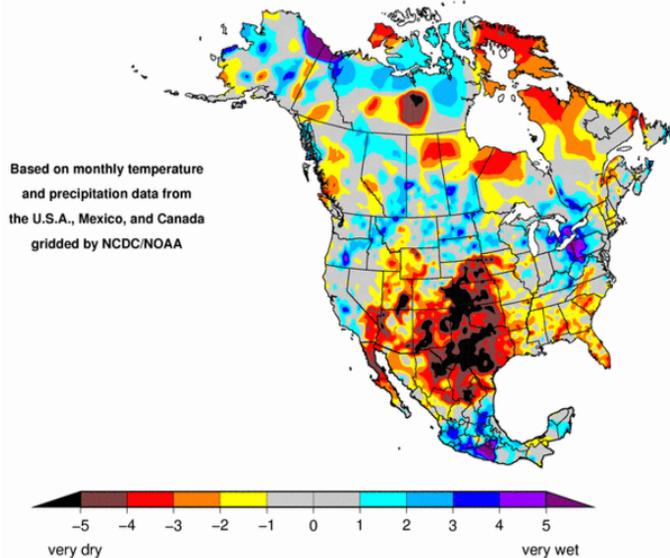
Living Blended Paleo Drought Monitoring

- ✓ The instrumental data record (PDI & PHDI) only ~100 years long
- ✓ Paleoclimatic (tree ring) data can extend our drought historical perspective back several hundred to thousands of years
- ✓ The LBDP project blends the current instrumental Palmer Drought Index data with the long-term gridded paleo data

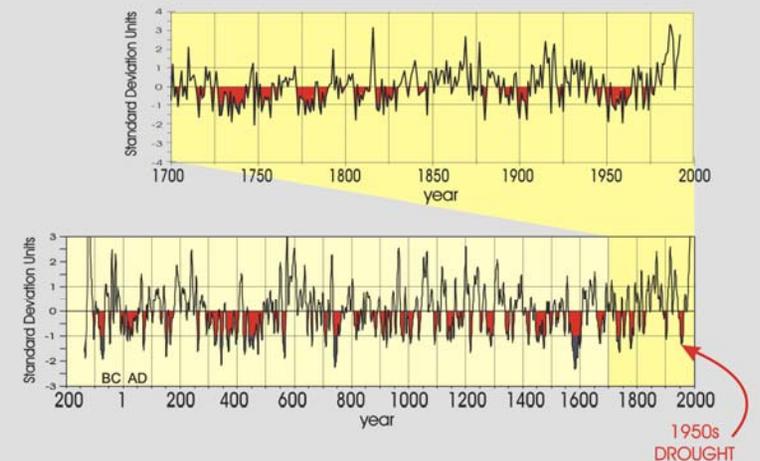
New Mexico Southwest Mountains (Div 4) PDI*
January 1900 - August 2009



Palmer Modified Drought Index, August, 1956



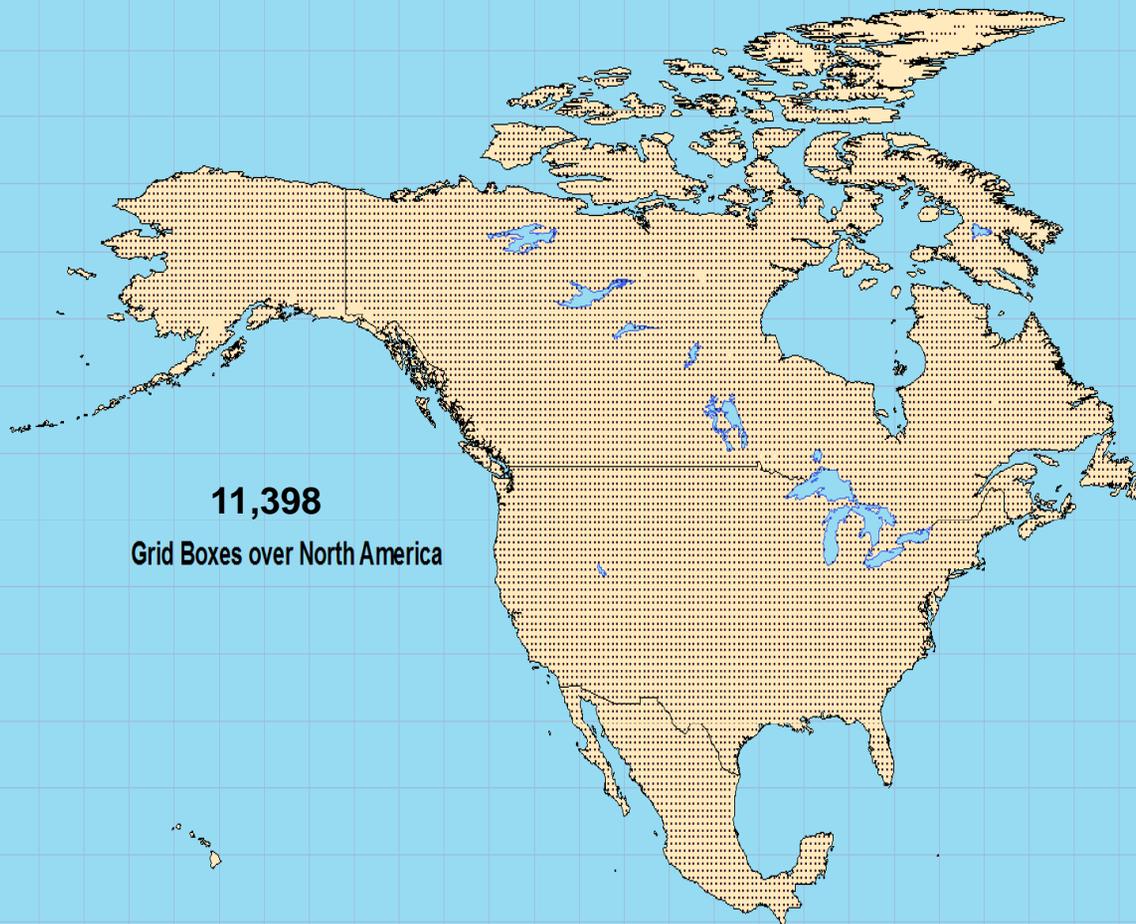
RECONSTRUCTED ANNUAL RAINFALL, WESTERN NEW MEXICO



from Grissino-Mayer 1996

Living Blended Paleo Drought Project

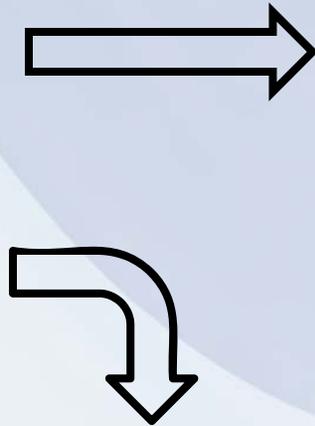
- ✓ This project is intended to expand our historical perspective
- ✓ But it will have an operational component that can be used to support the NADM



- ✓ Station data network across U.S., Canada, & Mexico
- ✓ 0.5 x 0.5 degree latitude/longitude grid, 11,398 gridpoints
- ✓ Fine spatial resolution for continental monitoring
- ✓ Will be updated operationally on a monthly basis

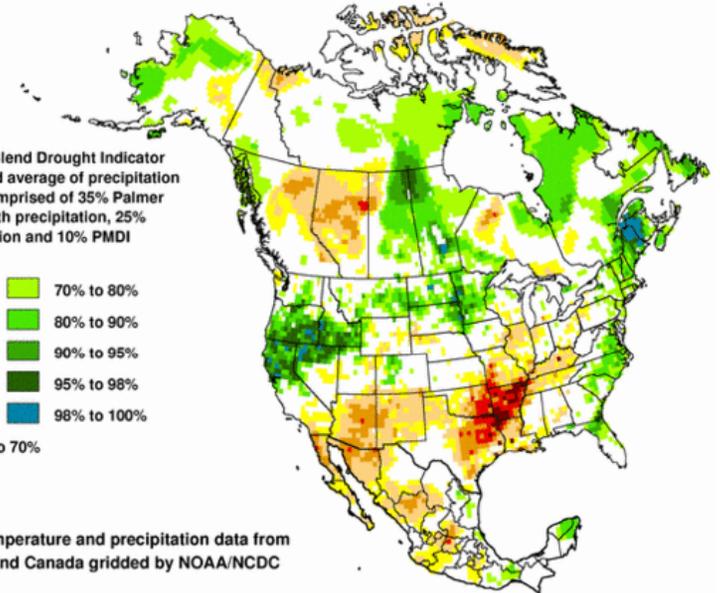
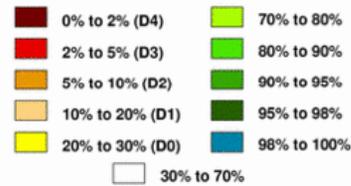


LBPD → NADM Operational Support



Short-Term Objective Blend Drought Indicator Percentiles
December, 2005

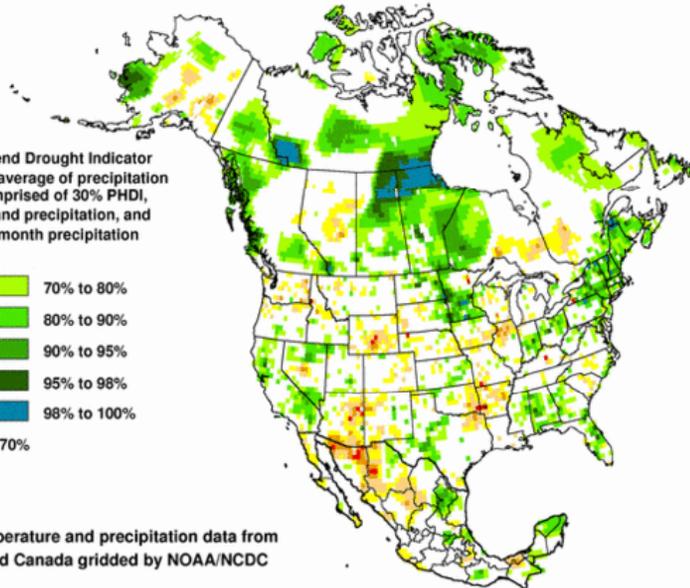
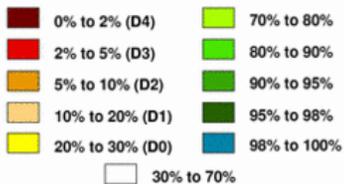
Short-Term Objective Blend Drought Indicator Percentiles are a weighted average of precipitation and drought indices comprised of 35% Palmer Z-Index, 30% 3-month precipitation, 25% 1-month precipitation and 10% PMDI



Based on monthly temperature and precipitation data from the U.S.A., Mexico, and Canada gridded by NOAA/NCDC

Long-Term Objective Blend Drought Indicator Percentiles
December, 2005

Long-Term Objective Blend Drought Indicator Percentiles are a weighted average of precipitation and drought indices comprised of 30% PHDI, 20% 60-month Z-index and precipitation, and 10% of 24-, 12- and 6-month precipitation



Based on monthly temperature and precipitation data from the U.S.A., Mexico, and Canada gridded by NOAA/NCDC

✓ The LBPD gridded data base can support:

- NADM continental indicators
- NADM Objective Blends
- FMDI for North America

National Climatic Data Center



Living Blended Paleo Drought Project

✓ Status:

- Historical instrumental gridded data base created from station data (1895-2005)
- Paleo regression software ready
- Operational software and data base “in progress”



GRACE Drought Project

- ✓ NOAA/NCDC, NOAA/CPC, NASA/GSFC, NDMC, UCI*, UMBC**, ESSIC***
- ✓ Goal: incorporate groundwater & soil moisture from NASA's Gravity Recovery and Climate Experiment (GRACE) satellites as input to the objective blends to support the USDM & NADM

* Univ. California at Irvine ** Univ. Maryland, Baltimore County
*** Earth System Science Interdisciplinary Center, College Park, MD



National Climatic Data Center



U.S.-Canadian GEO Bilateral Drought Studies

- ✓ 5 testbeds/projects approved by the bilateral US-Canada GEO Committee at its May 2009 meeting:
 - Three international, interdisciplinary water-related monitoring testbeds, building on existing initiatives, along the U.S.-Canada border:
 - Great Lakes
 - Prairie Region
 - Rocky Mountains
 - Two studies of drought in the context of hazards and extreme events:
 - Drought Definitions and Indices Study
 - Surface Water Supply Index (SWSI) Study
 - Charters being developed



U.S.-Canadian GEO Bilateral Drought Studies

✓ Drought Definitions and Indices Study

- Improved definition of drought for different climatic regions needed, & new & improved indices for drought needed
- Continent-wide study for comparative analysis across regions, with close links to testbed activities
- 58 participants involved
- GEO Drought Indices community set up on NIDIS drought portal

The screenshot displays the user interface of the GEO Drought Indices community portal. At the top, a navigation bar includes links for 'Administration', 'My Account', 'Help', and 'Log Off'. Below this is a search bar with a dropdown menu set to 'Everywhere' and a 'Search' button. The main content area is divided into several sections:

- Community Projects:** A table with columns for 'Project Name' and 'Status'. One project, 'GEO Drought Indices', is listed with a status of '0%'.
- Project Search:** A search box with filters for 'All Categories' and 'All Projects', and a 'All Languages' dropdown.
- Community Documents:** A table listing documents with columns for 'Name', 'Project', 'Date Modified', and 'Checked In By'. The table contains four entries:

| Name | Project | Date Modified | Checked In By |
|------------------------------------|---------------------|-----------------|---------------|
| participants_CGEO-USGEO_Droug | GEO Drought Indices | 9/28/09 8:59 AM | Richard.Heim |
| N-America-Drought-Indices-USG | GEO Drought Indices | 9/25/09 4:18 PM | Kevin.Kodama |
| updated participants_CGEO-USGE | GEO Drought Indices | 8/24/09 4:11 PM | Richard.Heim |
| Instructions for Using Collaborati | GEO Drought Indices | 8/20/09 7:42 AM | Jason.Symonds |
- Community Announcements:** A section containing an introductory email from Richard Heim, dated Thursday, August 27, 2009, at 15:00:51 -0400. The email welcomes participants to the community and provides instructions on how to access the portal and use the community features.



North American Drought Monitor Forum

- ✓ USDM & NADM workshop “season” shifting from Autumn this year to Spring next year
- ✓ USDM & NADM workshops alternate each year
- ✓ Last year’s (2008) NADM workshop was in Canada, 2006’s was in Mexico, U.S. up to host 2010’s
- ✓ NOAA/NCDC is volunteering to host and organize the 2010 NADM Forum workshop



NADM 2010 Forum

- ✓ Location: Asheville, NC, USA
- ✓ When: April, 2010
- ✓ Potential Agenda:
 - NADM technical & administrative issues
 - NADM user issues & general drought issues
 - U.S.-Canadian GEO bilateral testbeds & drought studies
 - Expanded international drought monitoring, global drought early warning system



Thank You!

Richard.Heim@noaa.gov

**NCDC Climate Monitoring Branch Reports & Products:
<http://www.ncdc.noaa.gov/oa/climate/research/monitoring.html>**

**NCDC State of the Climate Reports:
<http://www.ncdc.noaa.gov/sotc/>**

**North America Drought Monitor:
<http://www.ncdc.noaa.gov/oa/climate/monitoring/drought/nadm/index.html>**

**U.S. Drought Monitor:
<http://drought.unl.edu/dm/monitor.html>**

**NIDIS:
<http://drought.gov/>**



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