“CA Drought of 2011-14: Brief History and Current Impacts”
Brad Rippey, USDA Meteorologist, Washington, D.C.
A Comparison to 3 Years Ago

No Drought; 11% Abnormally Dry

All in Drought; 82% in D3 to D4
Percentiles and the U.S. Drought Monitor

• Advantages of percentiles:
  – Can be applied to any parameter
  – Can be used for any length of data record
  – Puts drought in historical perspective

• D4, Exceptional Drought:  once per 50 to 100 years
• D3, Extreme Drought:  once per 20 to 50 years
• D2, Severe Drought:  once per 10 to 20 years
• D1, Moderate Drought:  once per 5 to 10 years
• D0, Abnormally Dry:  once per 3 to 5 years
AHPS Water-Year Pct of Normal Pcp
As of: Wednesday, October 01, 2014

Percent of Normal Precipitation
October 1, 2013 – September 30, 2014
California Precipitation
All 36-Month Periods Ending in September

45.88” (-21.44”)
California Average Temperature
All 36-Month Periods Ending in September

California, Average Temperature, 36-Month Period Ending in September

1901-2000
Avg: 57.4°F

59.8°F (+2.4°F)
Daily Sierra Nevada Snowpack (Inches) vs. Normal

Source: California Department of Water Resources
Late-summer and autumn rangeland and pasture conditions were better in 2014, as compared to 2012 and 2013, due to beneficial spring rainfall this year.

Index Weighting: Excellent = 4; Good = 3; Fair = 2; Poor = 1; Very Poor = 0
California Reservoir Storage, Million Acre-Feet, 1977 and 2010-14

Source: California Department of Water Resources

Note: One acre-foot is equal to 325,851 gallons, or the amount of water it takes to cover one acre to a depth of one foot.
California Reservoir Storage, Percent of Normal, 1977 and 2010-14

Source: California Department of Water Resources
California Reservoirs, Recharge and Withdrawal

Million Acre-Feet and Percent of Average

<table>
<thead>
<tr>
<th>Year</th>
<th>Recharge</th>
<th>Withdrawal</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>12.47 (151%)</td>
<td>2011</td>
</tr>
<tr>
<td>2011-12</td>
<td>5.79 (70%)</td>
<td>2012</td>
</tr>
<tr>
<td>2012-13</td>
<td>6.52 (79%)</td>
<td>2013</td>
</tr>
<tr>
<td>2013-14</td>
<td>4.17 (51%)</td>
<td>2014 TBD</td>
</tr>
<tr>
<td>Avg.</td>
<td>8.24</td>
<td>Avg. 8.24</td>
</tr>
</tbody>
</table>

Notes: Recharge and withdrawal values are based on end-of-month statistics, not daily readings. Through Sep. 30, 2014, withdrawal has totaled 6.74 million acre-feet, 92% of average.
## California Agriculture, 2014 v. 2013

[acres unless otherwise noted; as of Oct. 20, 2014]

<table>
<thead>
<tr>
<th>Parameter</th>
<th>2014</th>
<th>2013</th>
<th>Drop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Field Crops Planted</td>
<td>3,580,000</td>
<td>4,009,000</td>
<td>10.7%</td>
</tr>
<tr>
<td>Wheat Harvested</td>
<td>215,000</td>
<td>394,000</td>
<td>45.4%</td>
</tr>
<tr>
<td>Barley Harvested</td>
<td>25,000</td>
<td>42,000</td>
<td>40.5%</td>
</tr>
<tr>
<td>Corn Harvested</td>
<td>110,000</td>
<td>180,000</td>
<td>38.9%</td>
</tr>
<tr>
<td>Oats Harvested</td>
<td>10,000</td>
<td>15,000</td>
<td>33.3%</td>
</tr>
<tr>
<td>Sunflower Harvested</td>
<td>42,400</td>
<td>58,000</td>
<td>26.9%</td>
</tr>
<tr>
<td>Rice Harvested</td>
<td>428,000</td>
<td>561,000</td>
<td>23.7%</td>
</tr>
<tr>
<td>Cotton Harvested</td>
<td>213,000</td>
<td>278,000</td>
<td>23.4%</td>
</tr>
</tbody>
</table>
## California Production, Selected Crops

<table>
<thead>
<tr>
<th>Crop</th>
<th>2013</th>
<th>2014</th>
<th>Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td>35.1*</td>
<td>17.6</td>
<td>50%</td>
</tr>
<tr>
<td>Rice</td>
<td>47.6*</td>
<td>36.4</td>
<td>24%</td>
</tr>
<tr>
<td>Cotton</td>
<td>943*</td>
<td>730</td>
<td>23%</td>
</tr>
<tr>
<td>Hay</td>
<td>1.836 *</td>
<td>1.496</td>
<td>19%</td>
</tr>
</tbody>
</table>

* Respective production units, by crop, are: **corn**, million bushels; **cotton**, thousand 480-pound bales; **rice**, million hundredweight (cwt); and **hay (not including alfalfa)**, million tons.

**Source:** U.S. Crop Production Highlights, October 10, 2014: http://usda.mannlib.cornell.edu/usda/current/CropProd/CropProd-10-10-2014.pdf
California Agricultural Production Statistics, 2012

• The state’s 80,500 farms and ranches received a record $44.7 billion for their output in 2012, up from $43.3 billion in 2011 and $37.9 billion in 2010.

• California is the number one state in cash farm receipts with 11.3 percent of the U.S. total.

• The state accounted for 15 percent of domestic receipts for crops and 7.1 percent of the U.S. revenue for livestock and livestock products.

Source: California Department of Agriculture: http://www.cdfa.ca.gov/Statistics/
California Agricultural Production Statistics, 2012

- Milk: $6.90 billion
- Grapes: $4.45 billion
- Almonds: $4.35 billion
- Nursery plants: $3.54 billion
- Cattle, Calves: $3.30 billion
- Strawberries: $1.94 billion
- Lettuce: $1.45 billion
- Walnuts: $1.35 billion
- Hay: $1.25 billion
- Tomatoes: $1.17 billion

Note: These ten commodities accounted for approximately two-thirds of California’s agricultural cash receipts in 2012.

Source: California Department of Food and Agriculture
“Fast Track” Secretarial Disaster Designation Process

• Streamlines the USDA Secretarial designation process by eliminating steps from the current process;
• A reduced interest rate for emergency loans that effectively lowers the current rate from 3.75 percent to 2.25 percent;
• Preserves the ability of a state governor or Indian Tribal Council to request a Secretarial Disaster Designation;
• Removes the requirement that a request for a disaster designation be initiated only by a state governor or Indian Tribal Council;
• Further streamlines the disaster designation process for severe drought occurrences by utilizing the U.S. Drought Monitor as a tool to automatically trigger disaster areas with no further documentation;
• Does not impose any new requirements on producers or the public.
• In 2012, led to drought disaster declarations in 2,254 primary counties in 39 states.
2012 Secretarial Drought Designations - All Drought

All Drought Disaster Incidents as of 2/13/2013

- State Boundary
- County Boundary
- Tribal Lands
- Primary Counties: 2,254
- Contiguous Counties: 374

USDA Farm Service Agency
Production, Emergencies and Compliance Division
Washington, D.C.
February 13, 2013

1:23,520,203

Alaska 1:68,102,399
Hawaii 1:119,740,053
Puerto Rico 1:5,592,808
2014 Secretarial Drought Designations - All Drought

Secretarial Drought Designations for 2014
Disaster Incidents as of October 22, 2014

- State Boundary
- County Boundary
- Tribal Lands
- Primary Counties: 575
- Contiguous Counties: 190

USDA Farm Service Agency
Production, Emergencies and Compliance Division
Washington, D.C.
October 22, 2014
• U.S. Drought Monitor Usage by FSA

• Agricultural Act of 2014 ("Farm Bill") re-authorizes the Livestock Forage Disaster Program (LFP)
  – Grazing loss because of drought on owned or leased grazing land or pastureland that is physically located in a county experiencing:
    • D2 intensity for at least 8 consecutive weeks during normal grazing period will be eligible to receive an amount equal to 1 monthly payment
    • D3 intensity during the normal grazing period will be eligible to receive an amount equal to 3 monthly payments
    • D3 intensity for at least 4 weeks or a D4 intensity any time during the grazing period will be eligible to receive an amount equal to 4 monthly payments
    • D4 intensity for at least 4 weeks during the normal grazing period will be eligible to receive an amount equal to 5 monthly payments
Retroactive LFP Payouts

The 2014 Farm Bill contains permanent livestock disaster programs including the Livestock Forage Disaster Program, which will help producers in California and other areas recover from the drought. At President Obama’s direction, USDA is making implementation of the disaster programs a top priority and plans to have the programs available for sign up in 60 days. Producers will be able to sign up for the livestock disaster programs for losses not only for 2014 but for losses they experienced in 2012 and 2013. While these livestock programs took over a year to get assistance out the door under the last Farm Bill, USDA has committed to cut that time by more than 80 percent and begin sign-up in April. California alone could potentially receive up to $100 million for 2014 losses and up to $50 million for previous years.
LFP Payouts, 2012-14, U.S. and California

Million Dollars

- 2012: $1,790.8 million
- 2013: $1,014.7 million
- 2014: $509.5 million
California LFP Payouts, 2012-14

Percent of U.S. Total

- 2012: 0.4%
- 2013: 3.0%
- 2014: 9.5%
United States: Milk Cows

Yellow numbers indicate the percent each state contributed to the total national inventory. States not numbered contributed less than 1% to the national total.

Note: Counties shaded in gray contain data that are not published by NASS, and hence were not used in delineating the major and minor agricultural areas. Additional information on these agricultural data can be found at: http://www.agcensus.usda.gov/.

- Major areas combined account for 75% of the total national inventory.
- Major and minor areas combined account for 99% of the total national inventory.
- Major and minor areas and state inventory percentages are derived from NASS 2007 Census of Agriculture data.

Yellow numbers indicate the percent each state contributed to the total national inventory. States not numbered contributed less than 1% to the national total.

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United States: Cattle

Yellow numbers indicate the percent each state contributed to the total national inventory. States not numbered contributed less than 1% to the national total.

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- Major areas combined account for 75% of the total national inventory.
- Major and minor areas combined account for 99% of the total national inventory.
- Major and minor areas and state inventory percentages are derived from NASS 2007 Census of Agriculture data.
United States: Alfalfa Hay

Yellow numbers indicate the percent each state contributed to the total national acreage. States not numbered contributed less than 1% to the national total.

Note: Counties shaded in gray contain data that are not published by NASS, and hence were not used in delineating the major and minor agricultural areas. Additional information on these agricultural data can be found at: http://www.agcensus.usda.gov/

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Yellow numbers indicate the percent each state contributed to the total national acreage. States not numbered contributed less than 1% to the national total.

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Thank you!

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Nov. 2014 Temp Outlook

Nov. 2014 Precip Outlook
• U.S. Drought Monitor Usage by FSA

• Food, Conservation, and Energy Act of 2008 ("Farm Bill") authorizes the Livestock Forage Disaster Program (LFP)
  – Grazing loss because of drought on owned or leased grazing land or pastureland that is physically located in a county experiencing:
    • D2 intensity for at least 8 consecutive weeks during normal grazing period will be eligible to receive an amount equal to 1 monthly payment
    • D3 intensity during the normal grazing period will be eligible to receive an amount equal to 2 monthly payments
    • D3 intensity for at least 4 weeks or a D4 intensity any time during the grazing period will be eligible to receive an amount equal to 3 monthly payments
• 2008 “Farm Bill” Livestock Forage Disaster Program (LFP) Payouts (financial assistance to producers who suffered grazing losses due to drought or fire on or after January 1, 2008, and before October 1, 2011, during the calendar year in which the loss occurs):
  – 2008 calendar year: $165,540,837
  – 2009 calendar year: $  98,739,950
  – 2010 calendar year: $  33,334,458
  – 2011 calendar year: $180,950,088
  – LFP total, 2008-11: $478,565,333