



Natural Resources Conservation Service  
P.O. Box 2890  
Washington, D.C. 20013

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**Weekly Report - Snowpack / Drought Monitor Update**

**Date: 15 December 2011**

## **SNOTEL SNOWPACK AND PRECIPITATION SUMMARY**

**Snow:** [Snow Water-Equivalent](#): The SWE has generally decreased by one bin category over the northernmost Northern Tier States of the West. An increase by one category has occurred over the Southwest as a split flow in the jet stream once again moved weather systems into central Canada and the Southern Tier States (Fig. 1). However, the [7-Day Snow Depth Change](#) ending this morning shows generally 1 foot increase in snowpack over the Southwest and Southern Rockies. Slight losses are noted over the Cascades and Northern Rockies. This pattern is in direct contrast to typical La Niña moisture patterns (Fig. 1a).

**Temperature:** [SNOTEL](#) and ACIS 7-day temperature anomaly shows a mixed pattern of temperature departures. Generally, temperatures fell within  $\pm 5^{\circ}\text{F}$  of the typical value for this time of year (Fig. 2). However, the [ACIS](#) 7-day average temperature anomalies show the greatest positive temperature departures over northern High Plains ( $>+9^{\circ}\text{F}$ ) and the greatest negative departures over eastern Washington and Oregon and central New Mexico ( $<-9^{\circ}\text{F}$ ) (Fig. 2a).

**Precipitation:** [ACIS](#) 7-day average precipitation amounts for the period ending yesterday shows the greatest amounts and only precipitation over the Southwest (Fig. 3). This is also reflected as a large percent of normal (Fig. 3a). With the start of the [2012 Water-Year](#) that began on 1 October 2011, the seasonal moisture has favored the Southwest while the Great Basin and Cascades have seen significant deficits (Fig. 3b).

**Weekly Weather Summary:** High pressure then dominated the weather for most of the contiguous 48 states. By Monday, moisture had moved northward out of the Gulf of Mexico and, when combined with a low-pressure moving across the southern Rockies, brought beneficial rains (generally less than 2.0 inches) to the southwest and southern Great Plains.

**The Southwest:** An active southern storm track brought significant rains and some snows (0.5 – 1.8 inches) to Arizona, New Mexico and Colorado. Some improvement was indicated across New Mexico in response to the more than 1.0 inch of precipitation at Reserve 1W HCN site in southwest Catron County). Additionally, rains totaling 1.5 inches in the Silver City region (central Grant County), more than 1.0 inch across Sierra County, and over 1.0 inch at Hatchita HCN site (southern tip of Grant County) guided the depiction. Some improvements were made across southeast Arizona, although the improvements there were more measured as the impacts to water supplies are still quite dramatic.

Across the Upper Colorado River Basin, some minor improvements were made to the drought depiction as a reflection of the recent precipitation. The San Juan Mountains in the UCRB and the Sangre de Cristos and Wet Mountains (east of the Continental Divide) have received enough beneficial moisture to ease much of the dry conditions from last year. As of December 11, 90 percent of the USGS stream gages in the UCRB recorded normal (25–75 percentile) or above-normal 7-day average stream flows.

## Weekly Snowpack and Drought Monitor Update Report

**The West:** A continued dry pattern has prompted the expansion of D0 (abnormal dryness) across northern California, Oregon and Nevada. Standardized Precipitation Index (SPI) values for time periods longer than 3 months are only beginning to catch on to this trend as much of the dryness has been over time periods less than 90-days. A blend of SPI values constructed Tuesday is showing dryness across the region depicted. Rainfall across northern California and Central Nevada has been at or below 50 percent of normal for at least 60 days. Prior snowpack helped to mitigate the impact on reservoir storage levels (Shasta Lake is still at 112 percent of average) but most lakes (as monitored and displayed on the California Department of Water Resources web site) are below 100% capacity and show declining absolute storage amounts. Author: Matthew Rosencrans, NOAA/NWS/NCEP/Climate Prediction Center

***A comprehensive narrative describing drought conditions for the nation can be found at the end of this document.***

### Drought Impacts Definitions

The possible impacts associated with **D4 (H, A)** drought include widespread crop/pasture losses and shortages of water in reservoirs, streams, and wells creating water emergencies. The possible impacts associated with **D3 (H, A)** drought include major crop/pasture losses and widespread water shortages or restrictions. Possible impacts from **D2 (H, A)** drought are focused on water shortages common and water restrictions imposed and crop or pasture losses likely. The possible impacts associated with **D1 (H, A)** drought are focused on water shortages developing in streams, reservoirs, or wells, and some damage to crops and pastures (Figs. 4 through 4b).

### Soil Moisture

Soil moisture (Figs. 5a and 5b), is simulated by the [VIC macroscale hydrologic model](#). The detailed, physically-based VIC model is driven by observed daily precipitation and temperature maxima and minima from approximately 2130 stations, selected for reporting reliably in real-time and for having records of longer than 45 years (and various other criteria). Another good resource can be found at: <http://www.emc.ncep.noaa.gov/mmb/nldas/drought/>.

### Soil Climate Analysis Network (SCAN)

Figure 6 provides supplemental data on soil conditions (moisture and temperatures at various depths from 2 inches to 80 inches. For more information about SCAN see ([brochure](#)).

### U.S. Historical Streamflow

This map, (Fig. 7) shows the 7-day average streamflow conditions in hydrologic units of the United States and Puerto Rico for the day of year. The colors represent 7-day average streamflow percentiles based on historical streamflow for the day of the year. Thus, the map shows conditions adjusted for this time of the year. Only stations having at least 30 years of record are used. Sub-regions shaded gray indicate that insufficient data were available to compute a reliable 7-day average streamflow value. During winter months, this situation frequently arises due to ice effects. The data used to produce this map are provisional and have not been reviewed or edited. They may be subject to significant change.

### **State Activities**

State government drought activities can be tracked at the following URL: <http://drought.unl.edu/mitigate/mitigate.htm>. NRCS SS/WSF State Office personnel are

## Weekly Snowpack and Drought Monitor Update Report

participating in state drought committee meetings and providing the committees and media with appropriate SS/WSF information - <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>. Additional information describing the products available from the Drought Monitor can be found at the following URL: <http://drought.unl.edu/dm/> and <http://www.drought.gov>.

### **For More Information**

The National Water and Climate Center Homepage provide the latest available snowpack and water supply information. Please visit us at <http://www.wcc.nrcs.usda.gov>. This document is available from the following location on the NWCC homepage - <http://www.wcc.nrcs.usda.gov/water/drought/wdr.pl>. Reports from 2007 are available on-line while ones from 2001-2006 can be acquired upon request.

This report uses data and products provided by the Interagency Drought Monitor Consortium members and the National Interagency Fire Center.

/s/

Douglas Lawrence

Deputy Chief, Soil Survey and Resource Assessment

# Weekly Snowpack and Drought Monitor Update Report

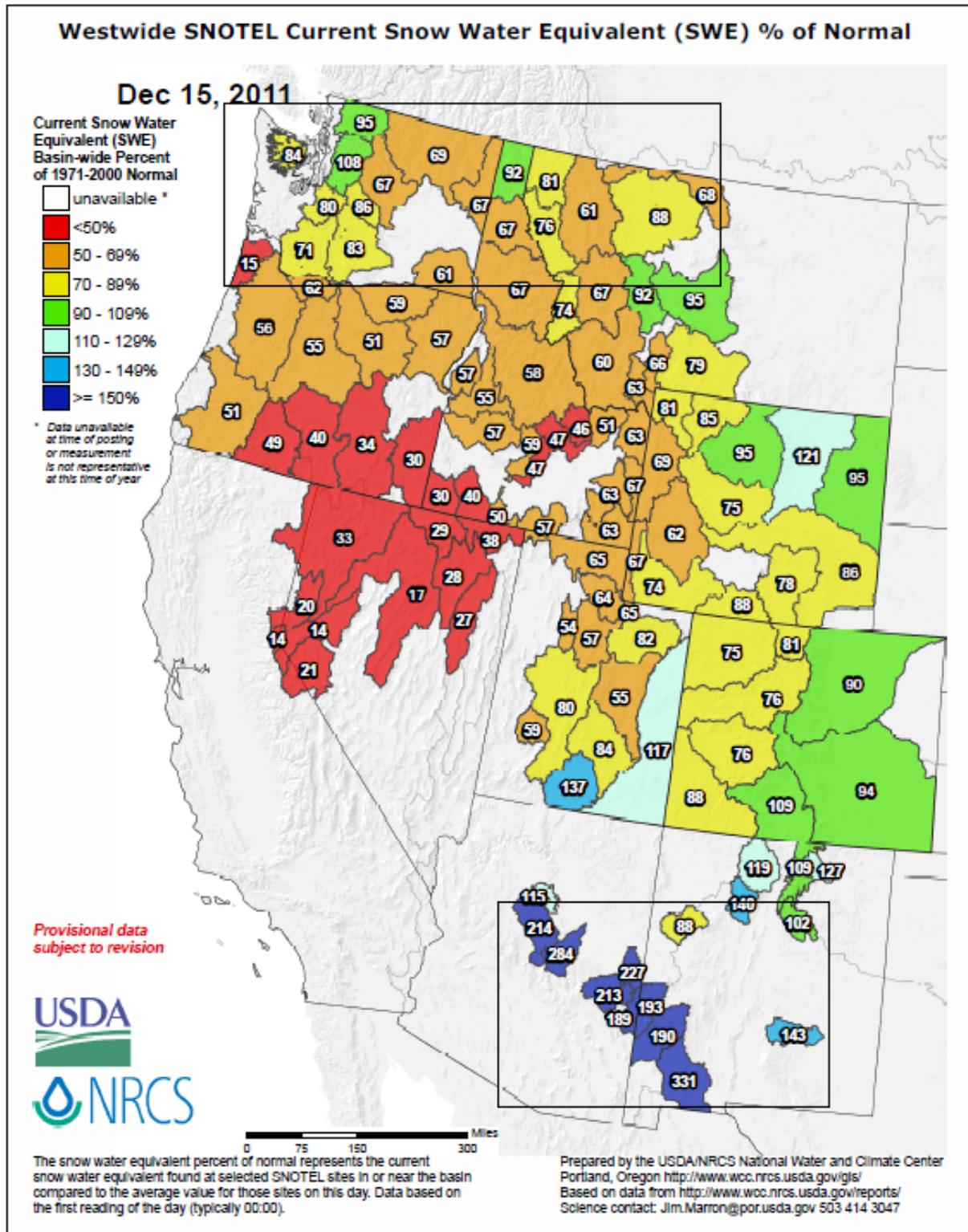


Fig. 1: **Snow Water-Equivalent**: The northern box reflects SWE that has generally decreased by one bin category. The box over the Southwest showed an increase by one category this week as a split flow in the jet stream has once again moved weather systems into Canada and the Southern Tier States.

# Weekly Snowpack and Drought Monitor Update Report

## SNOTEL 7-Day Snow Depth Change (Inches)

Dec 15, 2011

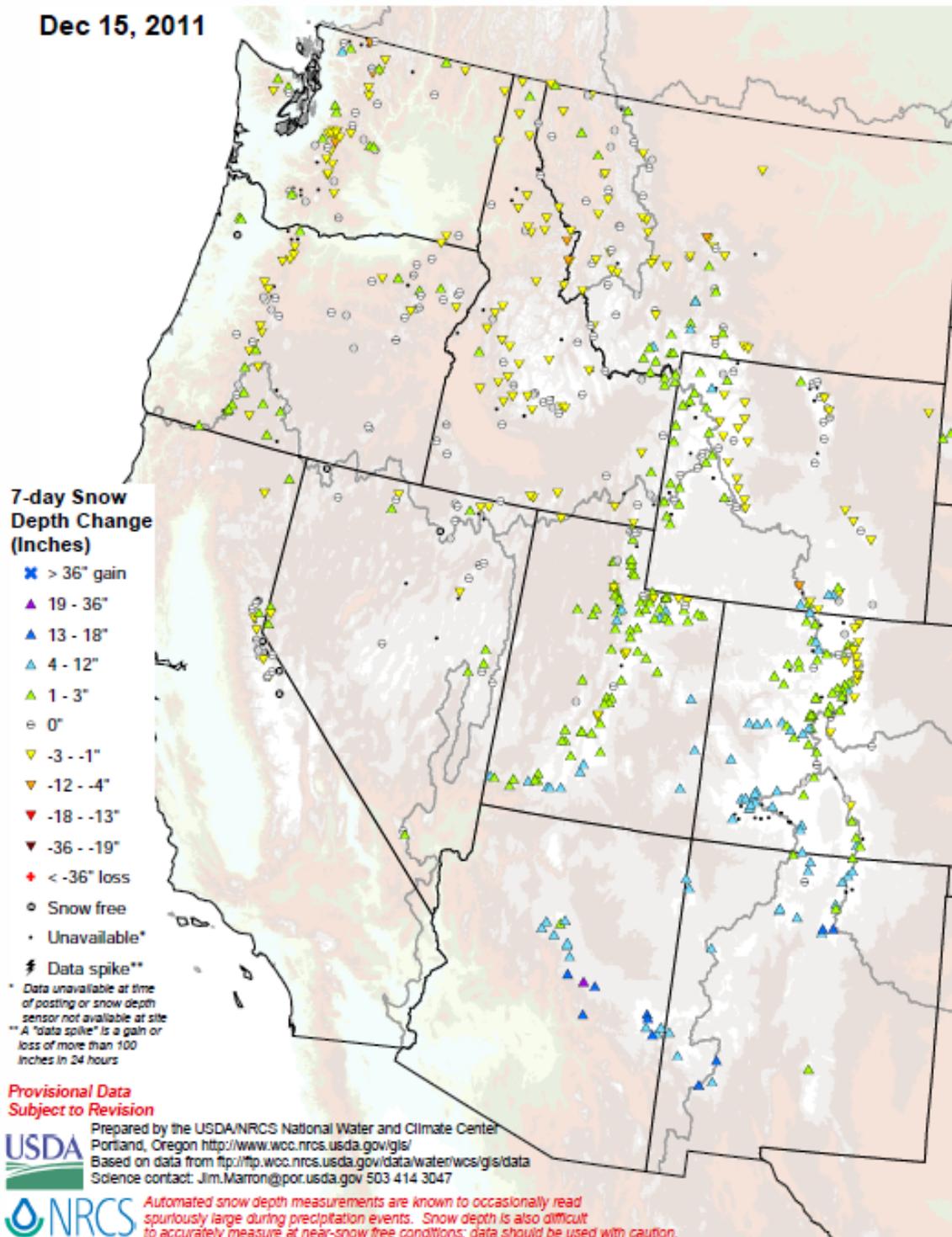


Fig. 1a: 7-Day Snow Depth Change ending this morning shows generally 1 foot increase in snowpack the Southwest and Southern Rockies. Slight losses are noted over the Cascades and Northern Rockies. This pattern is in direct contrast to typical La Niña moisture patterns.

# Weekly Snowpack and Drought Monitor Update Report

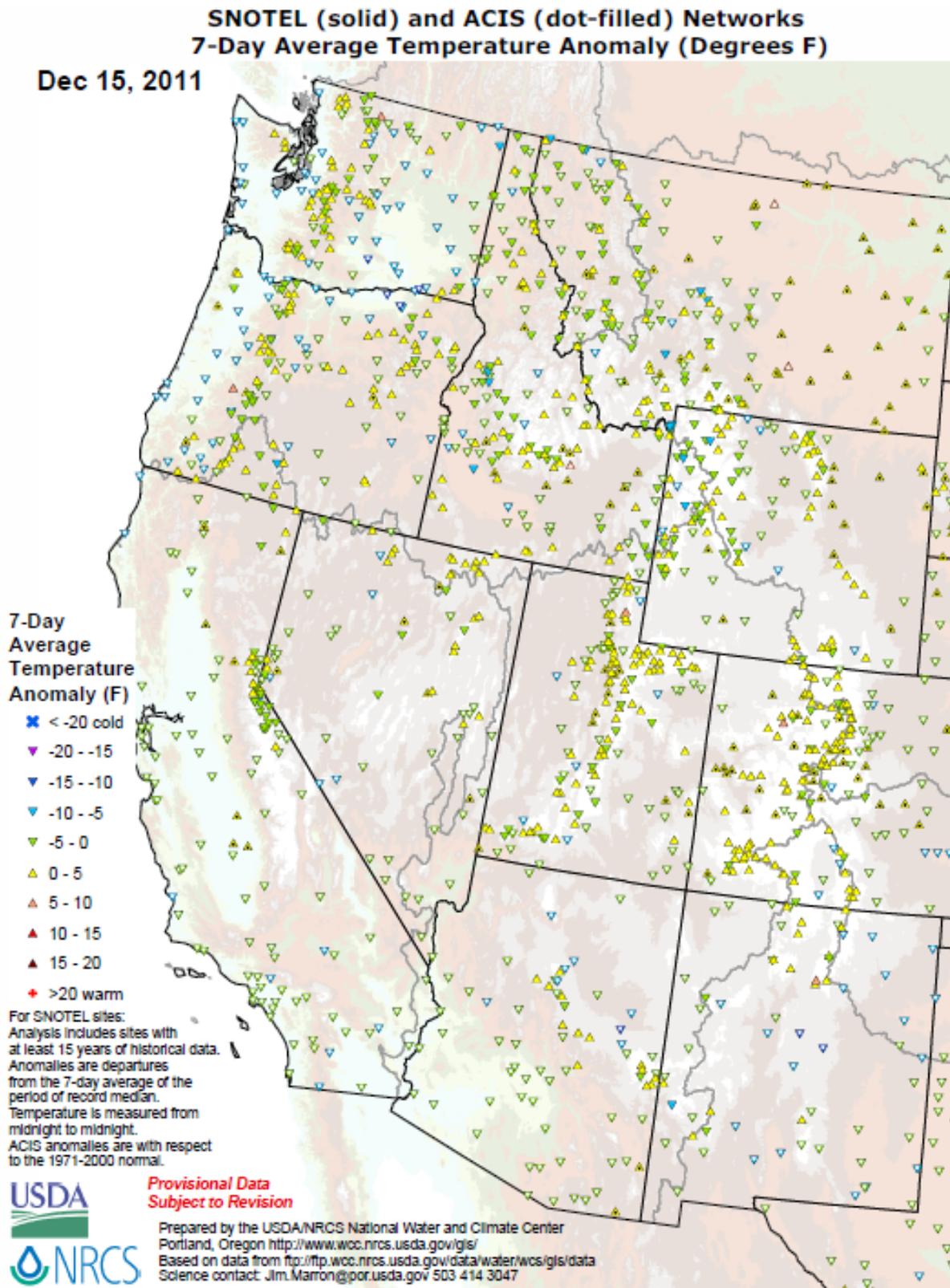
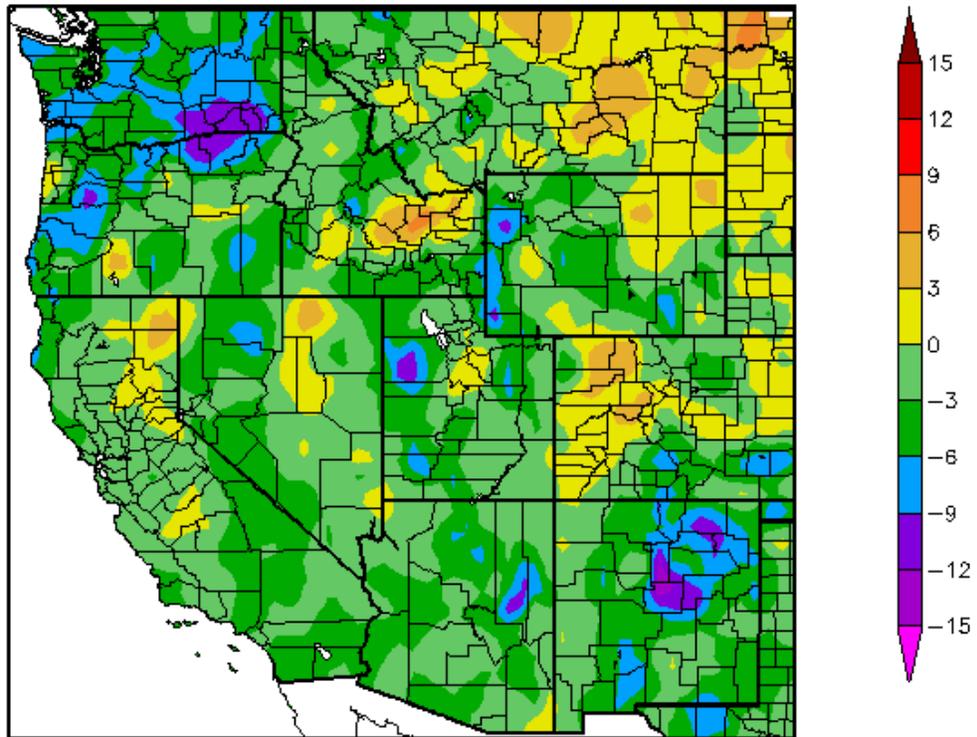


Fig. 2: [SNOTEL](#) and ACIS 7-day temperature anomaly shows a mixed pattern of temperature departures. Generally, temperatures fell within  $\pm 5^{\circ}\text{F}$  of the typical value for this time of year.

Weekly Snowpack and Drought Monitor Update Report

Departure from Normal Temperature (F)  
12/8/2011 – 12/14/2011



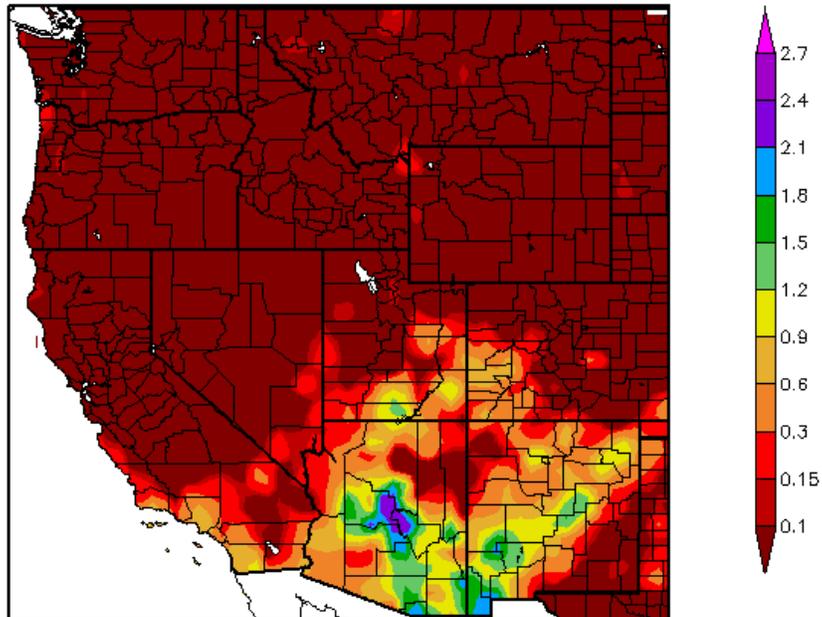
Generated 12/15/2011 at HPRCC using provisional data.

Regional Climate Centers

**Fig. 2a:** [ACIS](#) 7-day average temperature anomalies show the greatest positive temperature departures over northern High Plains (>+9°F) and the greatest negative departures over eastern Washington and Oregon and central New Mexico (<-9°F).

## Weekly Snowpack and Drought Monitor Update Report

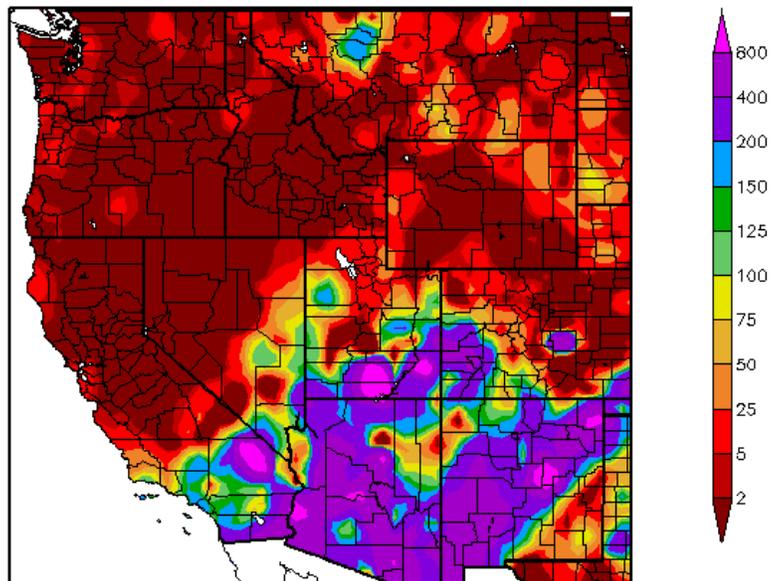
Precipitation (in)  
12/8/2011 – 12/14/2011



Generated 12/15/2011 at HPRCC using provisional data.

Regional Climate Centers

Percent of Normal Precipitation (%)  
12/8/2011 – 12/14/2011



Generated 12/15/2011 at HPRCC using provisional data.

Regional Climate Centers

**Fig. 3 and 3a:** [ACIS](#) 7-day average precipitation amounts for the period ending yesterday shows the greatest amounts and only precipitation over the Southwest (Fig. 3). This is also reflected as a large percent of normal (Fig 3a).

Weekly Snowpack and Drought Monitor Update Report

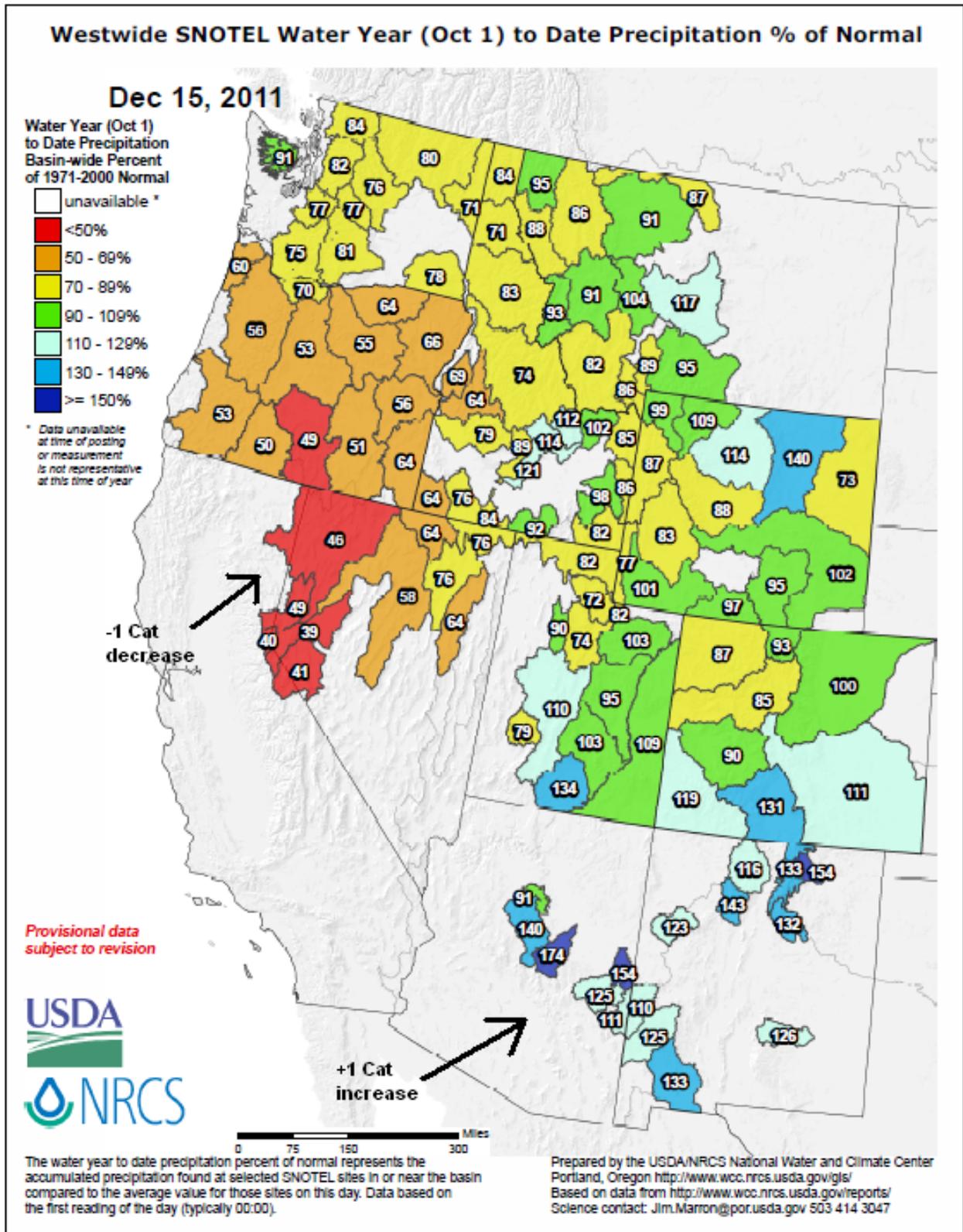


Fig 3b: With the start of the [2012 Water-Year](#) that began on 1 October 2011, the seasonal moisture has favored the Southwest while the Great Basin and Cascades have seen significant deficits.

# U.S. Drought Monitor

December 13, 2011

Valid 7 a.m. EST

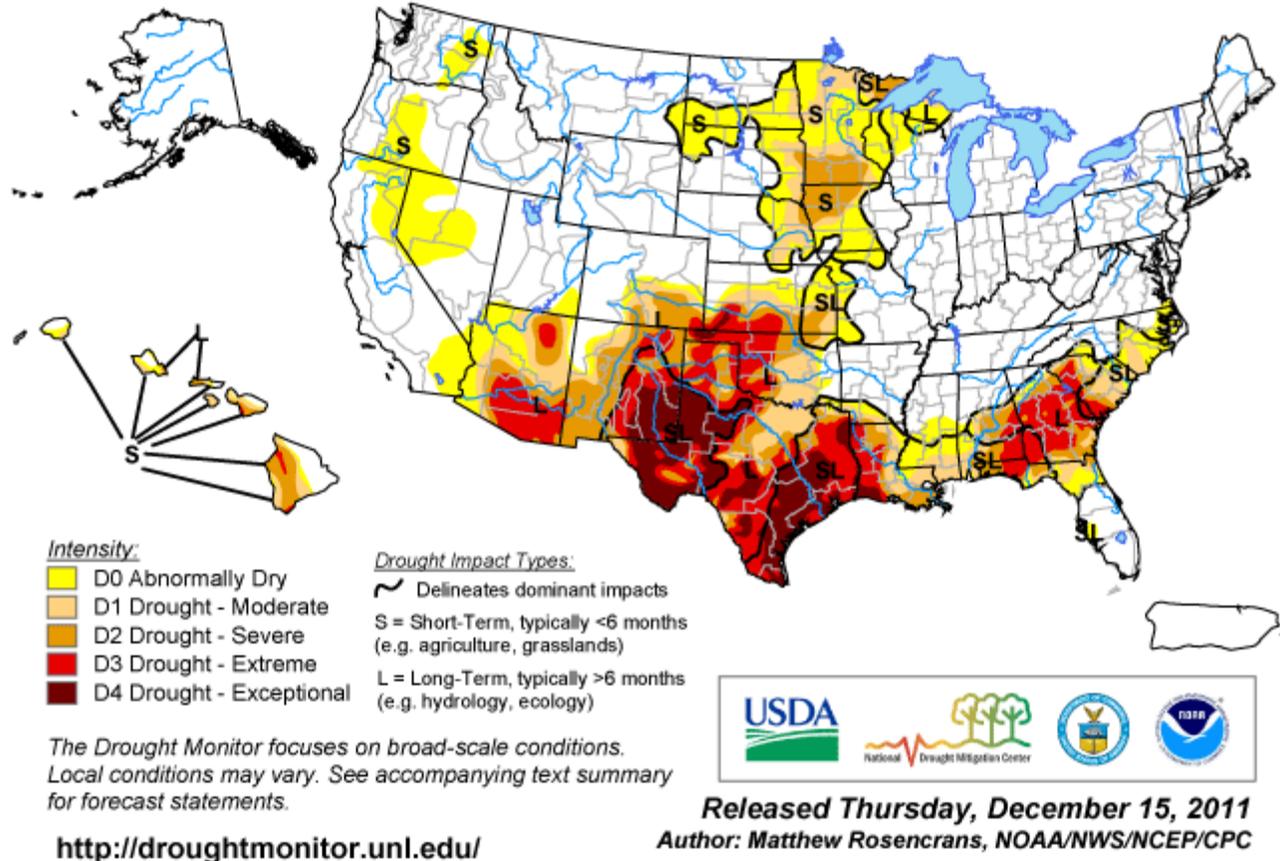


Fig. 4: Current [Drought Monitor](#) weekly summary. The exceptional D4 levels of drought are found over New Mexico, Texas, Oklahoma, extreme SW Kansas, and western Louisiana. For more drought news see: [Drought Impact Reporter](#).

## Agriculture

### [Drought concerns next year's planters](#)

Dec 3, Iowa. July through November was an extremely dry stretch for Iowa, leaving soil moisture low. The soil is anticipated to freeze within the next week or so, meaning that moisture won't be able to penetrate the soil until next spring. They'll need rain quickly between the spring thaw and planting for a good crop.

### [Ranchers worry about possible hay shortage](#)

Dec 7, Nebraska. Extraordinary drought in the southern US led many farmers to sell hay to ranchers at an enormous profit, but there is concern that hay supplies in Nebraska are a little tight.

### [Drought taking financial toil on Mo. Agriculture](#)

Dec 9, Missouri. Drought may have lowered the value of Missouri's soybean crop by \$300 million.

### [Texas drought leaves heartbreaking toll of abandoned horses](#)

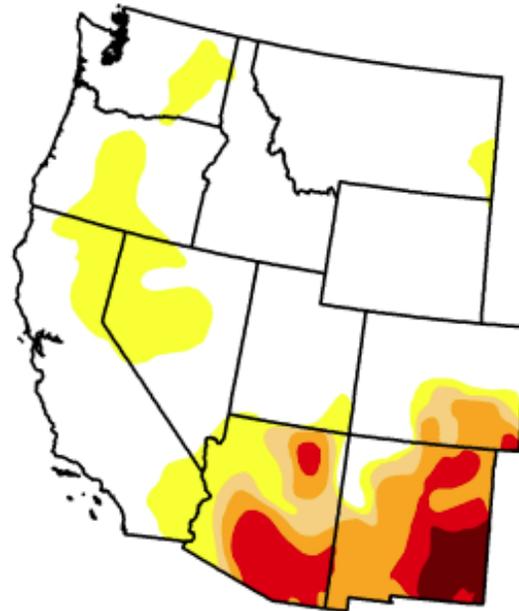
Dec 3, Texas. Thousands of horses and donkeys continue to be abandoned across Texas as the scarcity and high cost of hay has made it difficult to care for the animals, according to a horse specialist with Texas A&M University.

# U.S. Drought Monitor

## West

December 13, 2011  
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	66.66	33.34	18.06	14.36	6.96	1.85
Last Week (12/06/2011 map)	70.25	29.75	18.13	14.57	9.02	1.94
3 Months Ago (09/13/2011 map)	69.61	30.39	19.84	15.58	10.00	4.13
Start of Calendar Year (12/28/2010 map)	73.26	26.74	11.98	0.89	0.00	0.00
Start of Water Year (09/27/2011 map)	66.72	33.28	19.04	14.99	9.30	3.81
One Year Ago (12/07/2010 map)	64.91	35.09	6.39	0.87	0.00	0.00



Intensity:

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

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



Released Thursday, December 15, 2011

Matthew Rosencrans, NOAA/NWS/NCEP/Climate Prediction Center

<http://droughtmonitor.unl.edu>

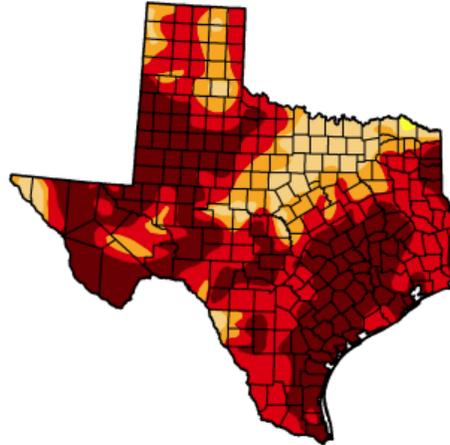
Fig. 4a: Drought Monitor for the [Western States](#) with statistics over various time periods. Regionally there was a slight improvement in D3 drought condition this week.

Weekly Snowpack and Drought Monitor Update Report

**U.S. Drought Monitor**  
Texas

December 13, 2011  
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	99.83	90.20	76.41	41.29
Last Week (12/06/2011 map)	0.00	100.00	99.83	90.33	76.55	43.29
3 Months Ago (09/13/2011 map)	0.00	100.00	100.00	99.17	96.75	87.83
Start of Calendar Year (12/28/2010 map)	7.89	92.11	69.43	37.46	9.59	0.00
Start of Water Year (09/27/2011 map)	0.00	100.00	100.00	99.16	96.65	85.75
One Year Ago (12/07/2010 map)	14.93	85.07	53.16	26.48	3.80	0.00



Intensity:

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

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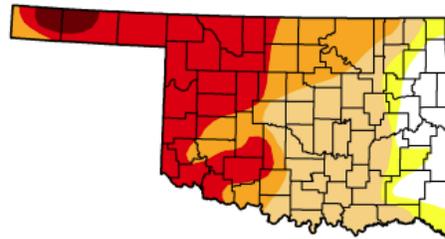
<http://droughtmonitor.unl.edu>

Fig. 4b(1): Currently, ~41% of [Texas](#) is experiencing “Exceptional” D4 drought. 76% of the state is in D3 and D4 drought! Overall, this represents a 2% improvement in D4 this week.

**U.S. Drought Monitor**  
Oklahoma

December 13, 2011  
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	12.56	87.44	80.27	50.88	32.08	2.11
Last Week (12/06/2011 map)	12.56	87.44	80.27	50.88	32.08	2.11
3 Months Ago (09/13/2011 map)	0.00	100.00	100.00	100.00	92.59	68.93
Start of Calendar Year (12/28/2010 map)	13.82	86.18	47.90	1.50	0.00	0.00
Start of Water Year (09/27/2011 map)	0.00	100.00	100.00	100.00	78.97	66.42
One Year Ago (12/07/2010 map)	18.68	81.33	4.98	0.00	0.00	0.00



Intensity:

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

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<http://droughtmonitor.unl.edu>

Fig. 4b(2): Currently, over 2% of [Oklahoma](#) is experiencing “Exceptional” D4 drought. Over 32% of the state is in D3 and D4 drought! This week saw no change.

Weekly Snowpack and Drought Monitor Update Report

# U.S. Drought Monitor

## New Mexico

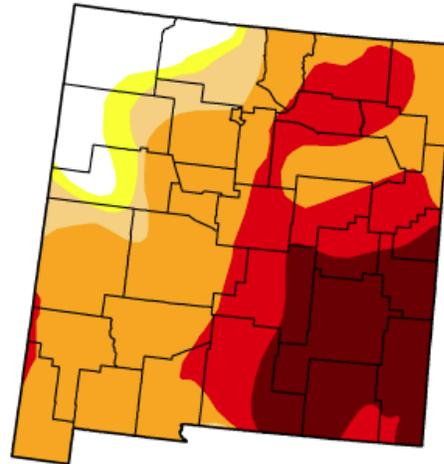
December 13, 2011  
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	8.63	91.37	87.83	81.59	39.47	17.93
Last Week (12/06/2011 map)	8.33	91.67	87.88	81.60	58.70	18.39
3 Months Ago (09/13/2011 map)	0.00	100.00	100.00	89.33	72.20	38.22
Start of Calendar Year (12/28/2010 map)	6.16	93.84	40.40	0.00	0.00	0.00
Start of Water Year (09/27/2011 map)	0.00	100.00	96.40	88.99	69.61	35.13
One Year Ago (12/07/2010 map)	41.12	58.88	8.07	0.00	0.00	0.00

Intensity:

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



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

<http://droughtmonitor.unl.edu>



Released Thursday, December 15, 2011

Matthew Rosencrans, NOAA/NWS/NCEP/Climate Prediction Center

Fig. 4b(3): Currently, ~18% of [New Mexico](#) is experiencing “Exceptional” D4 drought. Nearly 38% of the [state](#) is in D3 and D4 drought. [Overall](#), this represents a 20% improvement in D3 this week.

# U.S. Drought Monitor

## Louisiana

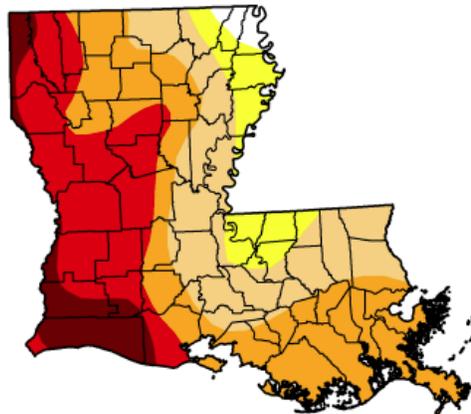
December 13, 2011  
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	1.43	98.57	90.37	64.80	32.55	7.86
Last Week (12/06/2011 map)	1.71	98.29	90.37	64.80	32.55	7.86
3 Months Ago (09/13/2011 map)	45.37	54.63	44.43	35.94	27.14	16.37
Start of Calendar Year (12/28/2010 map)	0.00	100.00	87.22	59.72	40.99	0.00
Start of Water Year (09/27/2011 map)	45.37	54.63	44.43	35.94	27.14	16.37
One Year Ago (12/07/2010 map)	11.05	88.95	68.26	51.27	17.93	0.00

Intensity:

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



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

<http://droughtmonitor.unl.edu>



Released Thursday, December 15, 2011

Matthew Rosencrans, NOAA/NWS/NCEP/Climate Prediction Center

Fig. 4b(4): Currently, ~8% of [Louisiana](#) is experiencing “Exceptional” D4 drought. Over 32% of the state is in D3 and D4 drought. [Overall](#), this represents no change the week.

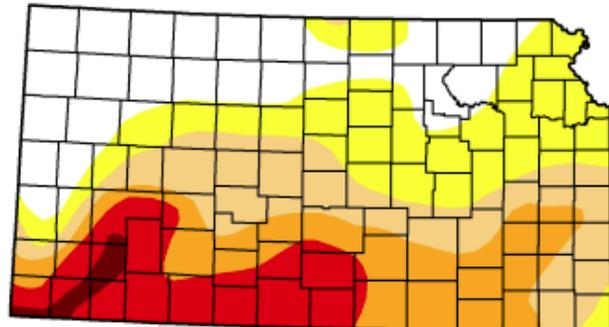
# U.S. Drought Monitor

## Kansas

December 13, 2011  
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	26.32	73.68	50.09	30.70	14.34	1.47
Last Week (12/06/2011 map)	26.32	73.68	50.09	30.70	14.34	1.47
3 Months Ago (09/13/2011 map)	19.89	80.11	63.29	49.90	32.26	17.63
Start of Calendar Year (12/28/2010 map)	17.82	82.18	43.85	3.48	0.00	0.00
Start of Water Year (09/27/2011 map)	16.39	83.61	66.03	48.78	28.54	17.63
One Year Ago (12/07/2010 map)	52.66	47.35	20.06	0.00	0.00	0.00



**Intensity:**

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

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



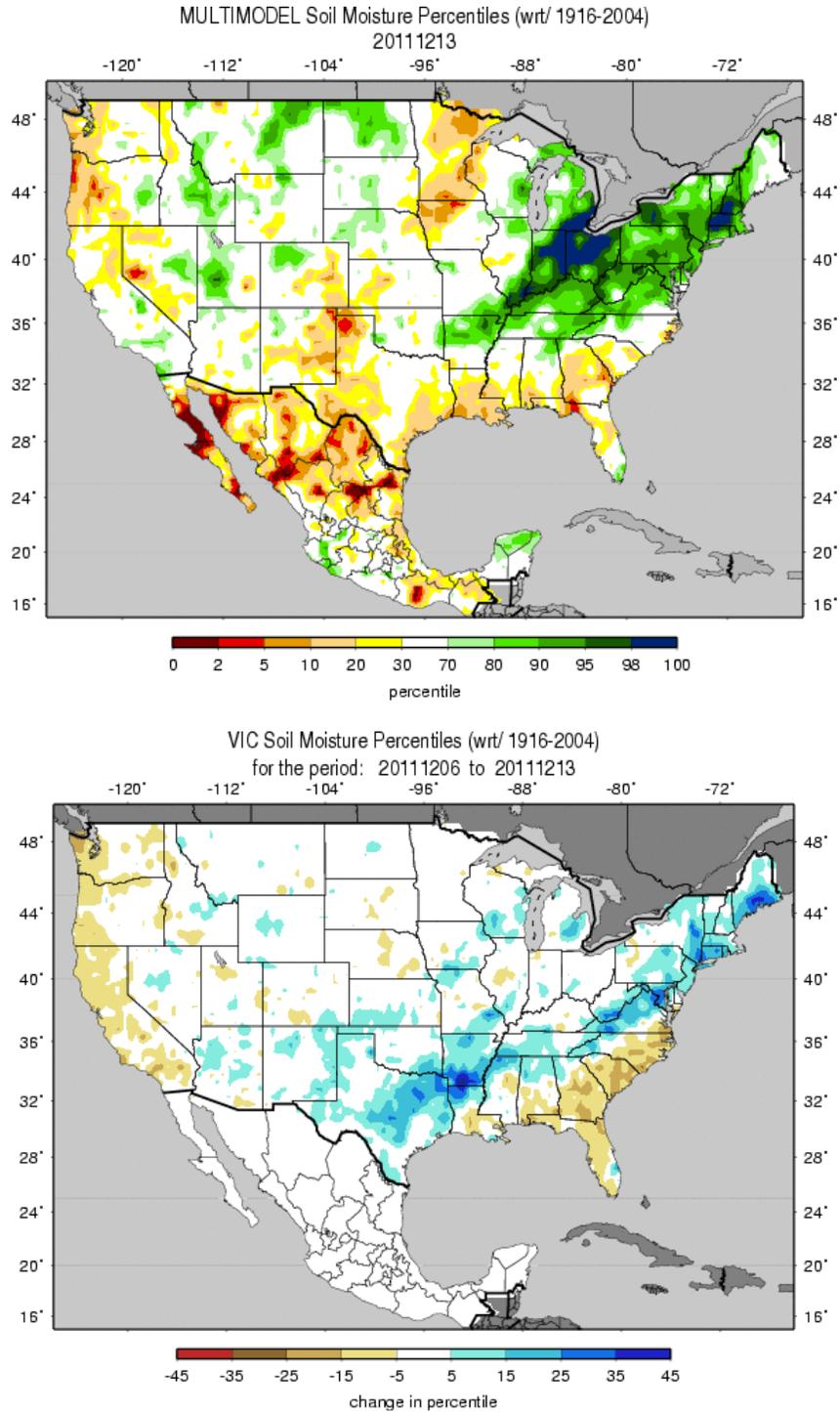
Released Thursday, December 15, 2011

Matthew Rosencrans, NOAA/NWS/NCEP/Climate Prediction Center

<http://droughtmonitor.unl.edu>

Fig. 4b(5): Currently, ~1.5% of Kansas is experiencing “Exceptional” D4 drought and 14% of the state is in D3 and D4 drought. Overall, this represents no change this week.

## Weekly Snowpack and Drought Monitor Update Report



**Figs. 5a and 5b: Soil Moisture ranking in [percentile](#) as of 13 December (top) shows a wet Ohio Valley to New England pattern. Dryness is noted over Minnesota, Oregon, northern Texas, and northern Florida. [During the week](#), moisture increased in a narrow band from central Texas to Maine (bottom). Drying occurred over the Southeastern States and West Coast.**

# Weekly Snowpack and Drought Monitor Update Report

## Soil Climate Analysis Network (SCAN)

Station (2042) MONTH=2011-11-15 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision  
Thu Dec 15 08:11:47 PST 2011

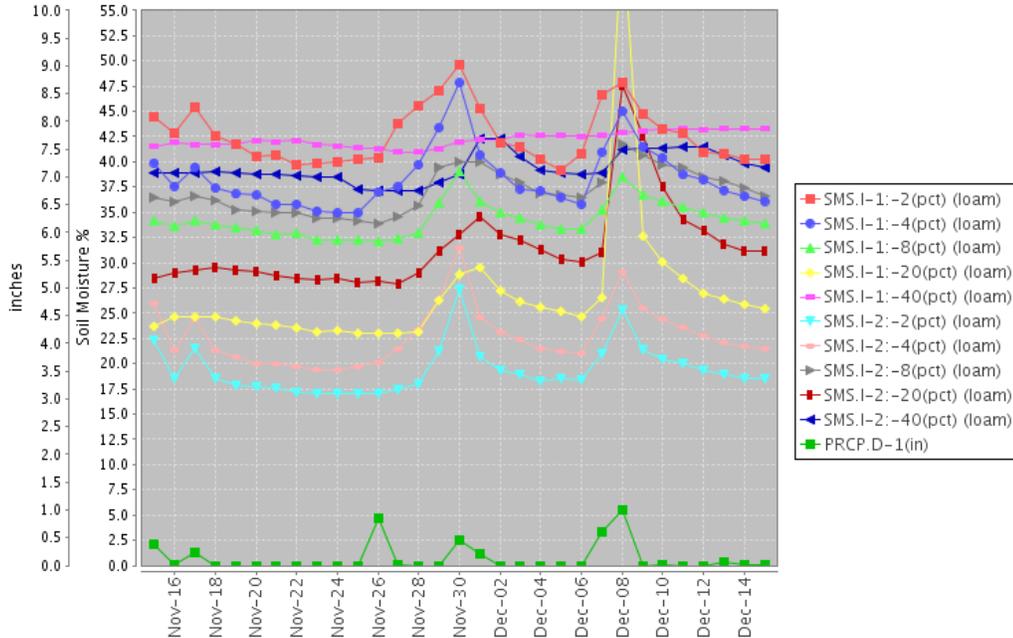


Fig. 6a: This NRCS resource shows a site over [southern Vermont](#) with rapid responses in soil moisture to recent precipitation events.

Station (2038) MONTH=2011-11-15 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision  
Thu Dec 15 08:14:04 PST 2011

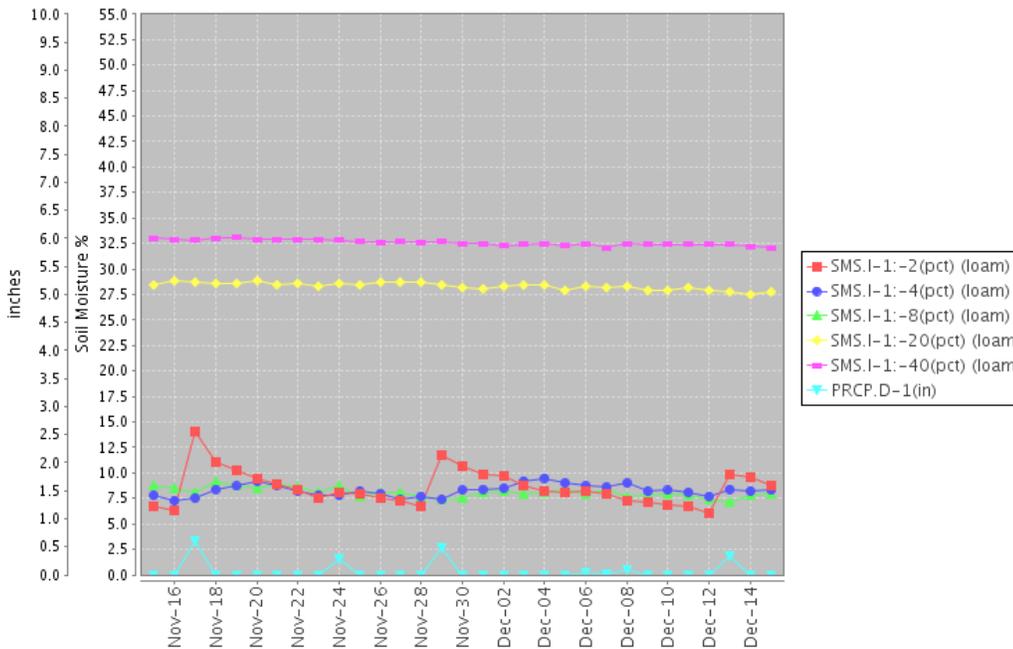
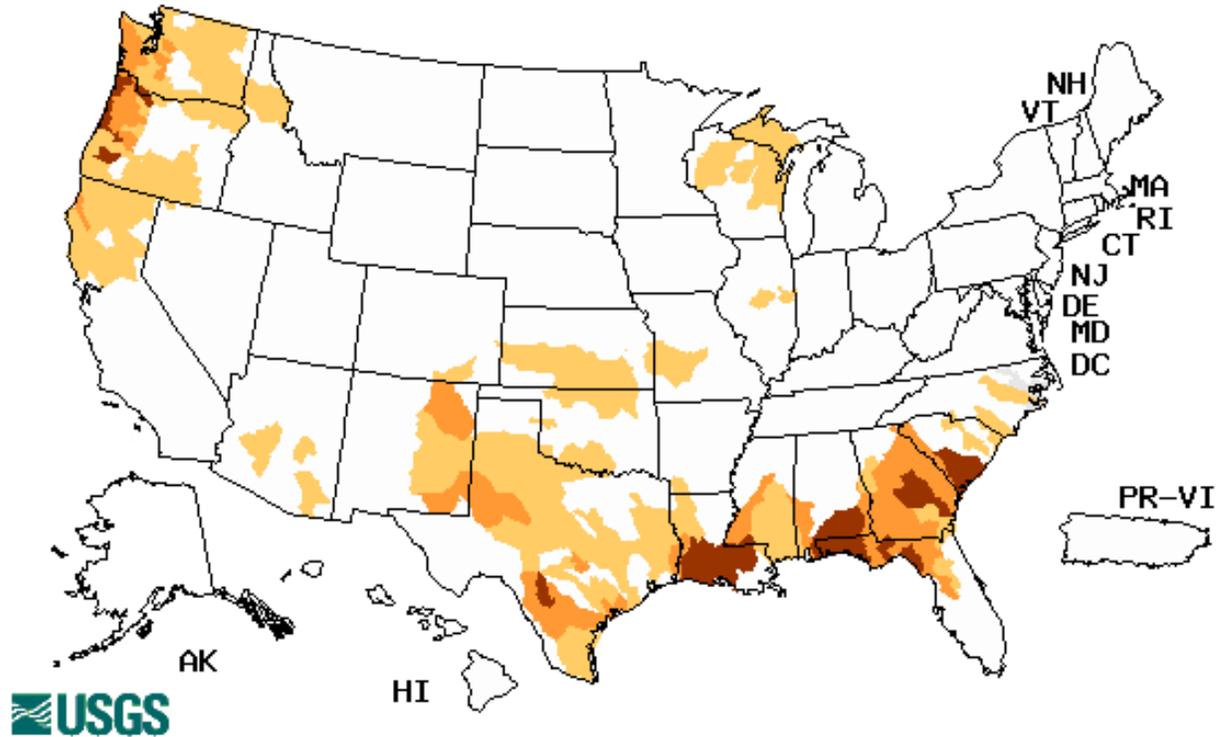


Fig. 6b: This SCAN station is located in [southern South Carolina](#) shows low moisture values near the surface.

# Weekly Snowpack and Drought Monitor Update Report

Wednesday, December 14, 2011



Explanation - Percentile classes				
Low	<=5	6-9	10-24	Insufficient data for a hydrologic region
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

Fig. 7: Map of below normal 7-day average [streamflow](#) compared to historical streamflow for the day of year. Severe conditions exist in southern Texas, southern Louisiana, northern Florida, southern Alabama, central Georgia, southern South Carolina, and western Oregon.

## Weekly Snowpack and Drought Monitor Update Report

### National Drought Summary -- December 13, 2011

*The discussion in the Looking Ahead section is simply a description of what the official national guidance from the National Weather Service (NWS) National Centers for Environmental Prediction is depicting for current areas of dryness and drought. The NWS forecast products utilized include the HPC 5-day QPF and 5-day Mean Temperature progs, the 6-10 Day Outlooks of Temperature and Precipitation Probability, and the 8-14 Day Outlooks of Temperature and Precipitation Probability, valid as of late Wednesday afternoon of the USDM release week. The NWS forecast web page used for this section is:*

<http://www.cpc.ncep.noaa.gov/products/forecasts/>.

**Weekly Weather Summary:** As the week commenced, a strong storm system produce significant rains (1-5.5 inches) and localized unseasonable snows from the Appalachians to the northeast. In the wake of that storm system, a weak cold front moved southward and eastward, exiting the east coast by Saturday. High pressure then dominated the weather for most of the contiguous 48 states. By Monday, moisture had moved northward out of the Gulf of Mexico and, when combined with a low-pressure moving across the southern Rockies, brought beneficial rains (generally less than 2.0 inches) to the southwest and southern Great Plains.

**Southeast:** Across the southern Appalachians, rainfall (0.5 – 3.5 inches) associated with a low pressure system early during the week alleviated some of the drought conditions. Some abnormal dryness (D0) and moderate drought (D1) were removed from northern Georgia and North Carolina (only D0 removed from North Carolina). Streamflows and reservoir levels across western North Carolina have recovered from earlier this year. Further south, across north Florida, a band of rain (2.0-5.0 inches) fell Sunday night, leading to a one category improvement for Liberty, Gadsden, Leon, and Jefferson Counties. Small portions of southern Georgia also received some beneficial rains. Eastern portions of the Mid-Atlantic missed out on the rains, so D0 was expanded across northeastern North Carolina and southeastern Virginia.

Across Alabama, streamflow values from near I-20 to the border with Tennessee are near normal. Counties further south, near Florida, still show significantly low streamflows. Rains from the storm system were mainly confined north of the state, skipping the Gulf Coast. The area around Talladega, Clay and Randolph Counties has been especially dry. Accordingly, moderate drought was shifted north to include most of Talladega, Clay and Randolph counties. Long-term precipitation (180-day) deficits show below average precipitation for most of the state, south of I-20 with some locations reporting deficits of more than 12 inches, so the depiction of severe drought was modified to include Northern Baldwin and Escambia counties.

**Southwest and Southern Great Plains:** Some light but beneficial rains (generally less than 1.0 inch) fell across central Texas with more substantial amount (1.0 – 2.9 inches) falling across southern Texas. Accordingly, the depiction of exceptional drought (D4) was modified to remove much of Duval, Webb, and Starr counties, retaining extreme drought (D3) designations. According to the Weather Forecast Office in Brownsville, the higher relative humidity values during the past week and daily cloud cover aided the recovery by minimizing evaporation. Across Maverick and western Dimmit counties, rainfall also prompted a slight improvement to moderate drought (D2) from extreme drought conditions. The area near Victoria, TX missed out on the rains, and is experiencing its driest year on record. The year-to-date total precipitation (according to ACIS) in the Victoria area is 12.10 inches, nearly 3.5 inches drier than the previous driest year on record (1956).

## Weekly Snowpack and Drought Monitor Update Report

An active southern storm track brought significant rains and some snows (0.5 – 1.8 inches) to Arizona, New Mexico and Colorado. Some improvement was indicated across New Mexico in response to the more than 1.0 inch of precipitation at Reserve 1W HCN site in southwest Catron County). Additionally, rains totaling 1.5 inches in the Silver City region (central Grant County), more than 1.0 inch across Sierra County, and over 1.0 inch at Hatchita HCN site (southern tip of Grant County) guided the depiction. Some improvements were made across southeast Arizona, although the improvements there were more measured as the impacts to water supplies are still quite dramatic.

Across the Upper Colorado River Basin, some minor improvements were made to the drought depiction as a reflection of the recent precipitation. The San Juan Mountains in the UCRB and the Sangre de Cristos and Wet Mountains (east of the Continental Divide) have received enough beneficial moisture to ease much of the dry conditions from last year. As of December 11, 90 percent of the USGS stream gages in the UCRB recorded normal (25–75 percentile) or above-normal 7-day average streamflows.

**West:** A continued dry pattern has prompted the expansion of D0 (abnormal dryness) across northern California, Oregon and Nevada. Standardized Precipitation Index (SPI) values for time periods longer than 3 months are only beginning to catch on to this trend as much of the dryness has been over time periods less than 90-days. A blend of SPI values constructed Tuesday is showing dryness across the region depicted. Rainfall across northern California and Central Nevada has been at or below 50 percent of normal for at least 60 days. Prior snowpack helped to mitigate the impact on reservoir storage levels (Shasta Lake is still at 112 percent of average) but most lakes (as monitored and displayed on the California Department of Water Resources web site) are below 100% capacity and show declining absolute storage amounts.

**Hawaii:** Across Kauai, some rains did fall but had little impact. Lihue Airport only has 0.61 inches so far in December, a significant departure from a normal amount of 1.95 inches. Improvement is indicated across the northern portions of the Big Island with precipitation (0.5 – 5.4 inches) helping to ease the drought. The FSA indicated that ranchers have received some much needed rainfall from Waimea to Kawaihae to Upolu Pt. Leeward areas remained as depicted last week with drought continuing.

**Looking Ahead:** During the ensuing 5 days (December 15-19), a cold front is expected to move across the eastern third of the country and a weak low-pressure center is forecast to form along the front. Rains are expected to spread from the western Gulf Coastal states to the Mid-Atlantic. An area of high pressure is expected to settle over the lower Mississippi river valley during the weekend. High pressure across the west is likely to keep wind speeds elevated across the Great Basin and southwest, potentially increasing evaporation across Nevada and California. Another cold front is forecast to move across the northeast with a low-pressure center developing across the western gulf coast early next week.

The Climate Prediction Center (CPC) 6-10 day precipitation forecasts indicate enhanced probabilities for above-average precipitation across the southeast and Alaska. The anticipated pattern would likely support drier than average conditions from Oregon to New Mexico to the middle Mississippi River Valley during the period from December 20-24.

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### Dryness Categories

## Weekly Snowpack and Drought Monitor Update Report

D0 ... Abnormally Dry ... used for areas showing dryness but not yet in drought, or for areas recovering from drought.

### **Drought Intensity Categories**

D1 ... Moderate Drought

D2 ... Severe Drought

D3 ... Extreme Drought

D4 ... Exceptional Drought

### **Drought or Dryness Types**

S ... Short-Term, typically <6 months (e.g. agricultural, grasslands)

L ... Long-Term, typically >6 months (e.g. hydrology, ecology)

*Updated December 14, 2011*