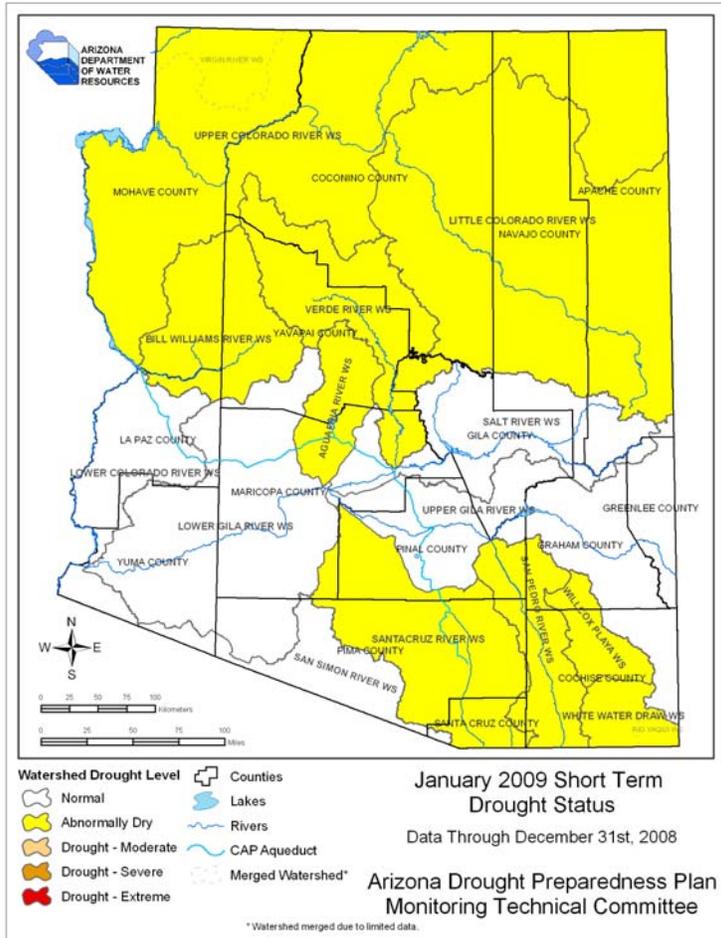


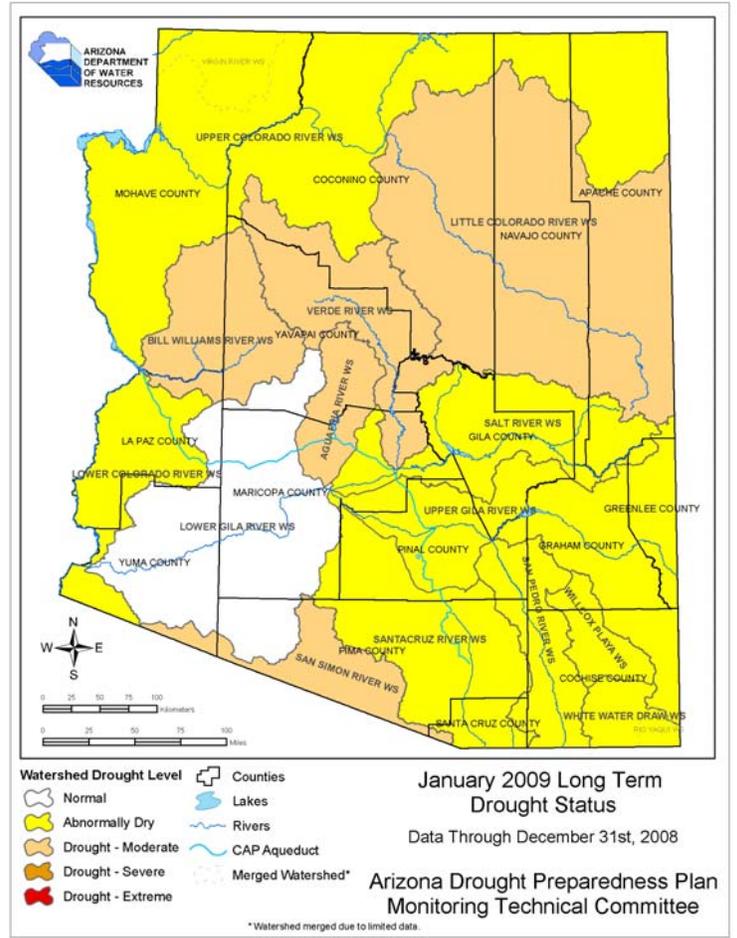
Arizona Drought Monitor Report

January 2009

Short-term Drought Status



Long-term Drought Status



Short-term Update

A persistent storm track across northeastern Arizona over the past two months has brought much needed precipitation to the Little Colorado River watershed, improving it from moderate drought to abnormally dry. This change follows similar improvements in the Agua Fria and Lower Colorado watersheds last month, due to heavy precipitation in November across northern Arizona.

Long-term Update

Long-term drought status showed improvement in three southern Arizona watersheds since September, due to the relatively wet fall season in southern Arizona. Since last January four watersheds have improved as a result of a wetter than average year across most of the state. The long term drought situation is slightly improved, but our normally wet months of February and March are forecast to be drier than average, just as they were last year. In light of the forecast, we do not consider the long-term drought to be over. The Colorado Basin, which provides run-off into Lakes Powell and Mead, is currently forecast to produce near normal run-off, which will help the drought situation, but is not enough to make up for the past several dry years.



Reservoir Storage



Vegetation Health



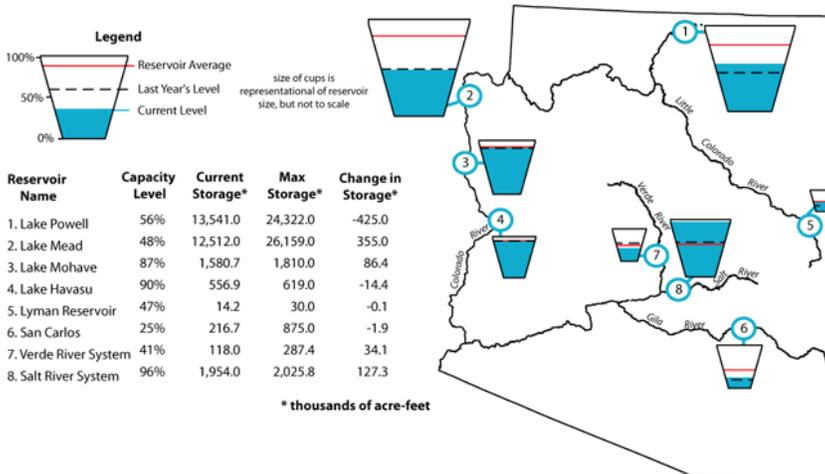
Arizona Reservoir Status

Combined reservoir storage in Lakes Powell and Mead declined by 70,000 acre-feet during December. Storage in the Salt River watershed increased by 6 percent, while storage in the Verde River watershed increased by 12 percent; the combined storage in the Salt-Verde reservoir system increased by approximately 161,000 acre-feet during December.

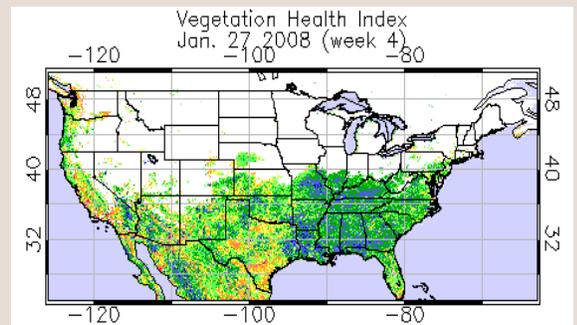
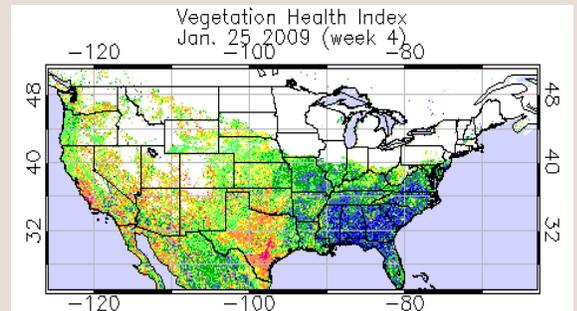
U.S. Senator John McCain met privately with leaders of the Verde River Basin Partnership and Prescott City Council to try to rescue the Verde River basin partnership. The organization organizes studies to increase the accuracy of a U.S. Geological Survey computer model designed to help identify the best locations for municipal wells and groundwater recharge (Camp Verde Bugle, January 2).

Scientists reported further growth of infrastructure-damaging quagga mussels in Lake Mead (Las Vegas Review-Journal, January 13).

Arizona reservoir levels for December 2008 as a percent of capacity. The map depicts the average level and last year's storage for each reservoir, while the table also lists current and maximum storage levels.



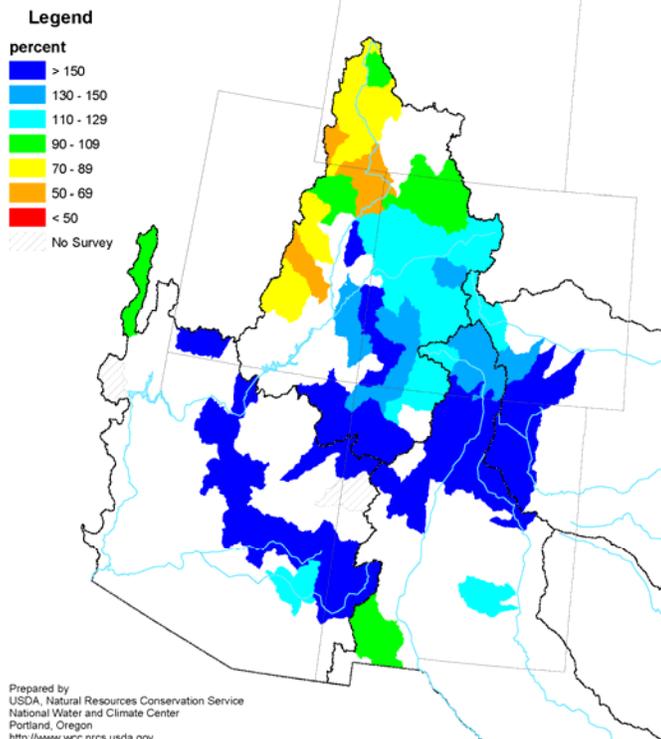
Vegetation health index data from the NOAA Center for Satellite Applications and Research (top figure) shows fair-to-favorable vegetation conditions in south-central Arizona, and some stressed conditions in the northern part of the state. Despite the VHI values for northern Arizona, the Southwest Coordination Center anticipates normal fire potential for the state. Vegetation health is not as robust as one year ago (bottom figure), when most of Arizona received consistently above-average precipitation during December and January. White areas in these figures indicate that snow, ice, or clouds were substantial enough to obscure vegetation for a majority of days during which the satellite images were assembled.



Mountain Precipitation



Arkansas, Colorado and Rio Grande Basin Mountain Snowpack as of January 1, 2009



Mountain Snowpack

As of January 1, basin snowpack levels are well above normal, ranging from 131% to 334% percent of average, with statewide snowpack standing at 248% of average.

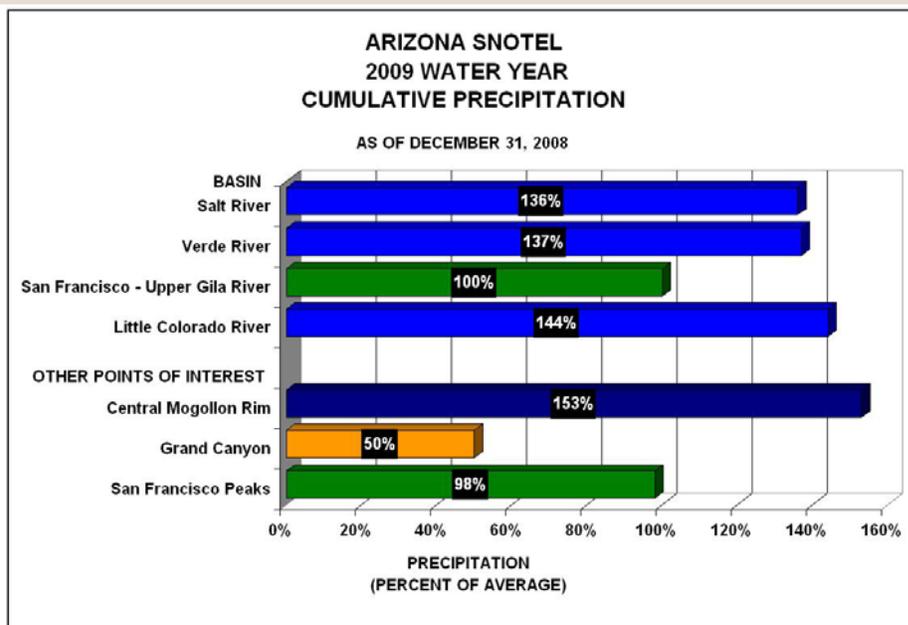
BASIN	Percent of 30-Year Average		Precipitation Oct 1-Dec 31
	Snowpack Levels as of		
	Dec. 1	Jan. 1	
Salt River Basin	---	209%	136%
Verde River Basin	---	334%	137%
San Francisco-Upper Gila River Basin	---	131%	100%
Little Colorado River Basin	---	256%	144%
OTHER POINTS OF INTEREST	---		
Central Mogollon Rim	---	286%	153%
Chuska Mountains	---	265%	--
Grand Canyon	---	196%	50%
San Francisco Peaks	---	195%	98%
ARIZONA STATEWIDE	---	248%	--

Source USDA-NRCS

Mountain Precipitation

Source USDA-NRCS

Monitoring stations show December precipitation was well above normal in Arizona's river basins. Cumulative precipitation for the 2009 water year (beginning Oct. 1) is at or above average in all basins, ranging from 100% of average to 144% of average (see graphic at right).

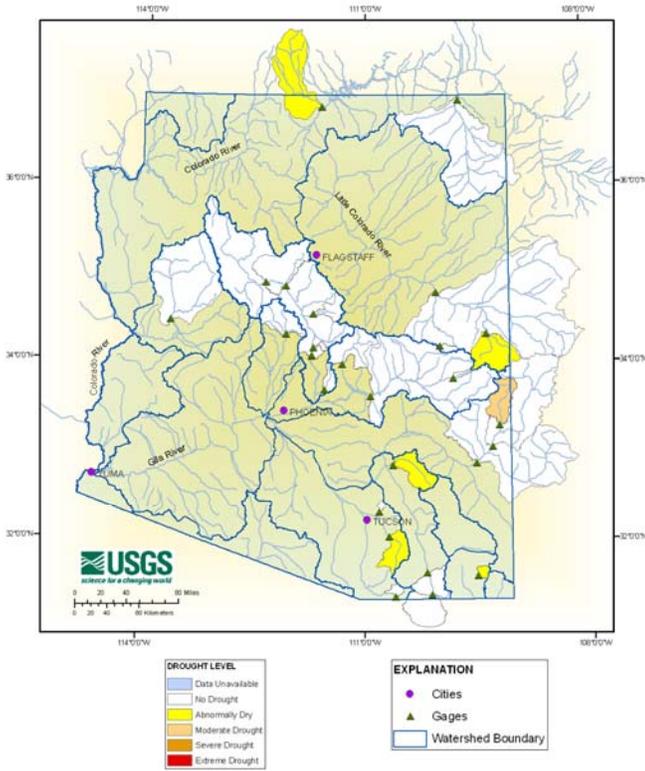


Mountain Streamflow



Drought Levels Based on Monthly Streamflow Discharge

December 2008



December Streamflow

Precipitation during the month of December was significant enough to increase streamflow throughout most of the state to above average. Almost all gaging stations show no drought or abnormally dry conditions; only one streamflow gaging station shows moderate drought conditions. The Tonto Creek gaging station has received 253% of its median flow for December.

Water body	December Run-off in Acre Feet	% of Median
Salt River near Roosevelt	17,954	95%
Tonto Creek above Gun Creek near Roosevelt	5,595	253%
Verde River at Horseshoe Dam	20,045	107%
Combined Inflow to Salt River Project (SRP) reservoir system	43,594	112%
Little Colorado River above Lyman Lake	191	43%
Gila River to San Carlos Reservoir	9,654	51%

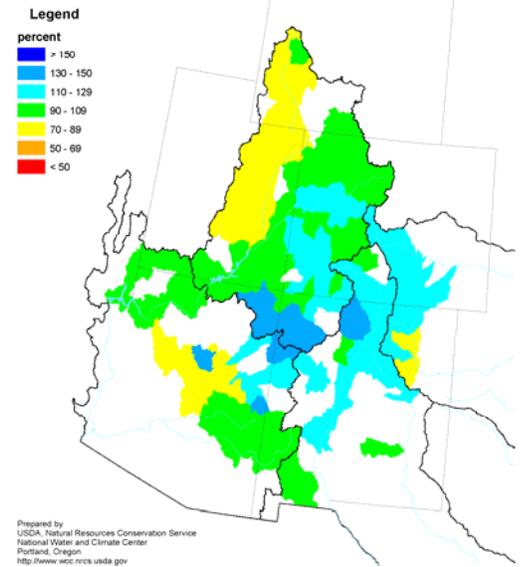
Streamflow Observed at USGS Gauging Stations

Streamflow Forecasts

Despite a heavy early snowpack, the long-range forecast generally calls for normal to below normal streamflow levels for the spring runoff period, primarily due to a poor outlook for precipitation.

Water body	Forecasted Runoff (Acre-Feet)	% of Median
Salt River near Roosevelt	385,000	100%
Tonto Creek	50,000	89%
Verde River at Horseshoe Dam	190,000	86%
San Francisco River at Clifton	74,000	106%
Gila River near Soloman	155,000	94%
San Carlos reservoir inflow	100,000	104%
Little Colorado River above Lyman Lake	Jan-June – 11,000	149%
Little Colorado River at Woodruff	4,500	125%
Colorado River inflow to Lake Powell	Apr-July – 8.0 million	101% of 30-yr. avg.
Virgin River at Littlefield	Apr-July – 78,000	105% of 30-yr. avg.

Arkansas, Colorado and Rio Grande Spring and Summer Streamflow Forecasts as of January 1, 2009



Prepared by
USDA, Natural Resources Conservation Service
National Water and Climate Center
Portland, Oregon
<http://www.wcc.nrcs.usda.gov>

Temperature and Precipitation



December was very wet in the northern two thirds of the state. Precipitation was near average in the southern watersheds, and slightly above average on the upper Gila and San Simon. Precipitation fell on 19 days in December, with snow on 14 of those days, as a series of winter storms moved across the state. The storms dropped temperatures in the state to near or below average everywhere except on the Colorado Plateau.

The 3-month period of October through December has also been wetter than average for the northern half of the state. The upper and lower Gila, San Simon, and San Pedro watersheds had near average precipitation, while the Santa Cruz, Whitewater Draw, and Willcox Playa were drier than average. Temperatures for the three month period were well above average.

The 6-month period precipitation was near or above average across the state, with the Salt, lower Gila and San Simon watersheds above the 86th percentile. Six-month temperatures were up above the 75th percentile except in Gila county, where they were near average.

The 12-month period was wetter than average across northern and much of southern Arizona, with near average precipitation in central Arizona. Only the Santa Cruz, Willcox Playa and Whitewater Draw watersheds were drier than average. The past year has been slightly warmer than average in northern Arizona, and much warmer

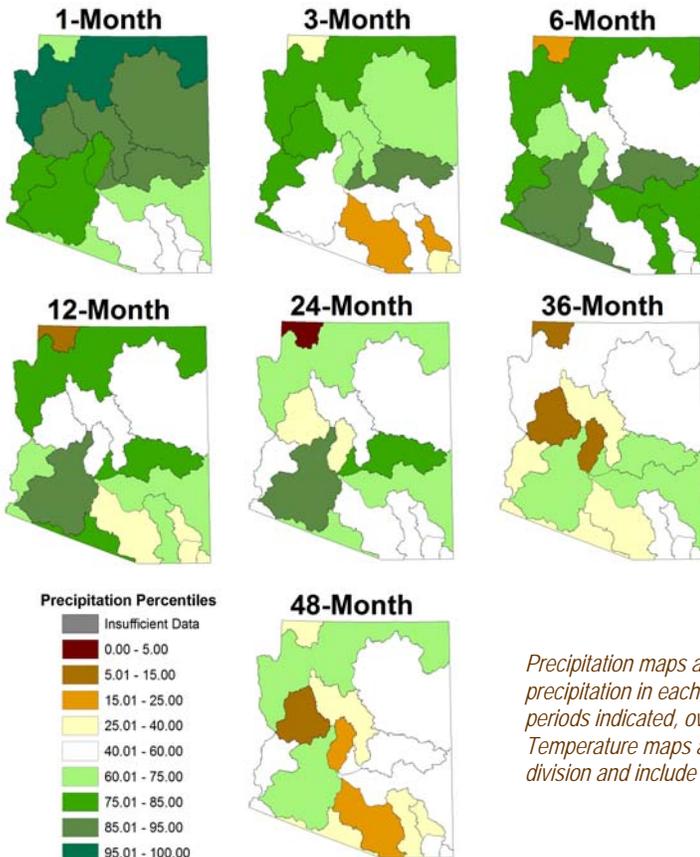
than average in southern Arizona, with near average temperatures in Gila county.

The 24 month period was also wetter than average across northern and south central Arizona. Central and southeastern Arizona have had near average precipitation over the past two years. The Bill Williams and Agua Fria watersheds have been drier than average. Temperatures in the past two years have been well above average in all areas of the state, with the warmest temperatures in Maricopa and Pinal counties.

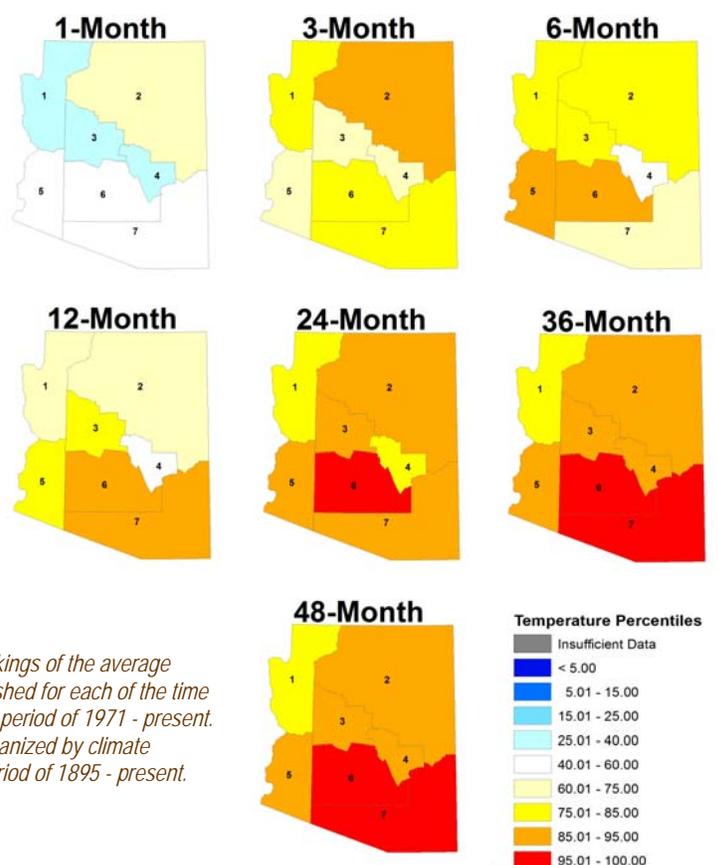
The 36-month period has three watersheds with above average precipitation, five with near normal precipitation, four with slightly below average precipitation, and three very dry watersheds, below the 15th percentile. Temperatures over the three-year period are extremely high with only the northwest climate division below the 80th percentile, and the southern climate divisions above the 97th percentile.

The 48-month period is now the driest period, with eight watersheds below average, five watersheds near average, and only two watersheds with above average precipitation. The four-year temperatures are extremely high, with the southern third of the state above the 99th percentile, and the coolest climate division, Mohave county in the northwest, above the 75th percentile.

Precipitation Percentiles by Watershed



Temperature Percentiles by Climate Division



Precipitation maps are rankings of the average precipitation in each watershed for each of the time periods indicated, over the period of 1971 - present. Temperature maps are organized by climate division and include the period of 1895 - present.

Weather Outlook



Arizona Drought Monitor Report -
Produced by the Arizona State Drought
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Nancy Selover, State Climatologist
Arizona State University

Mike Crimmins, Extension Specialist,
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Extension

Gregg Garfin, University of Arizona –
Institute for the Study of Planet Earth

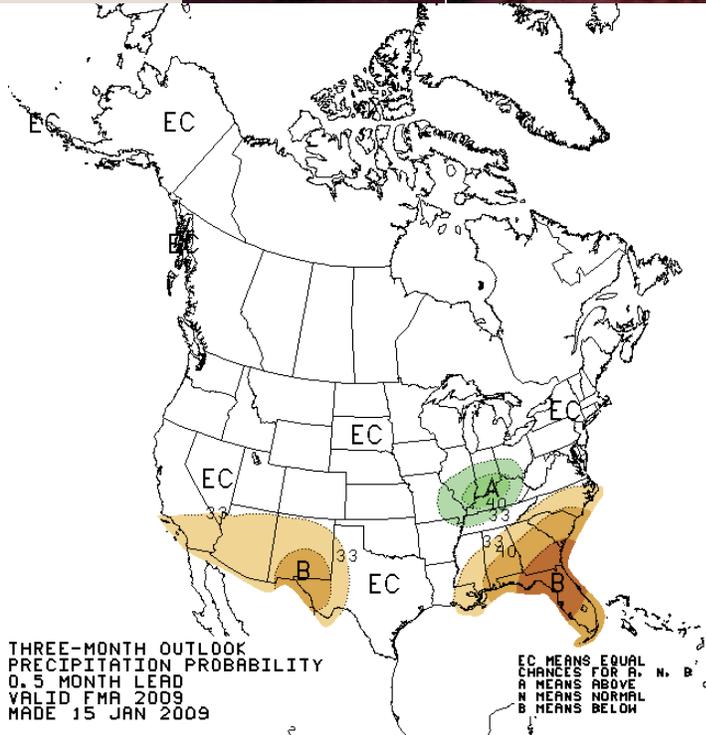
Dino DeSimone, Natural Resources
Conservation Service

Charlie Ester, Salt River Project

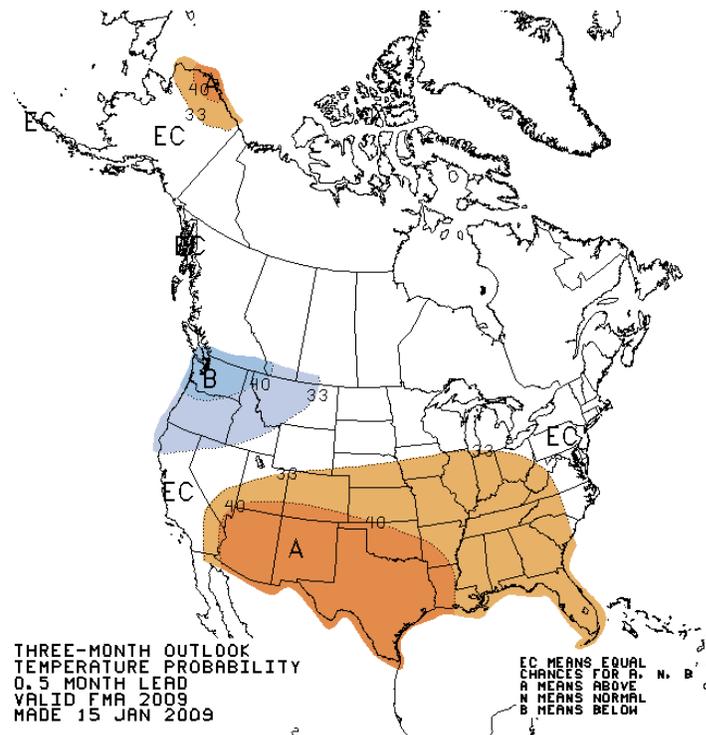
Ron Ridgway, Arizona Division of Emer-
gency Management

Chris Smith, U.S. Geological Survey

Coordinator: Susan Craig, Arizona
Department of Water Resources
Computer Support: Andy Fisher, Arizona
Department of Water Resources



The CPC Precipitation Outlook for February through April 2009 indicates there is some confidence precipitation will be below-average across the state during the 90-day period.



The CPC Temperature Outlook for February through April 2009 indicates moderately high confidence that temperatures will be above-average across the state during the 90-day period.