



SAC READY: Regional Planning for Healthy and Resilient Communities

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2012 Weather Records

Preliminary Significant U.S. Weather and Climate Events for 2012

SNOW PACK

3rd smallest winter snow cover extent. Below-average snowpack was observed for much of the West.

WARM

Warmest year on record for the nation. 19 states record warm. The 4th warmest winter, warmest spring, and second warmest summer contributed to 2012 having an average temperature 3.2F above average and 1.0F above the previous record warm year of 1998.

WILDFIRES

Over 9.2 million acres burned nationwide during 2012. CO experienced its most costly fire on record in June. The Whitewater-Baldy fire was the largest on record for NM.

DROUGHT

The 2012 drought peaked in July with over 60% (PDSI) of the nation experiencing drought conditions, comparable to the drought episodes of the 1950s. Corn and soybean crops failed across a large portion of the Great Plains and Midwest. Water levels along the Mississippi approached record lows and slowed commercial shipping.

COLD

Coldest January on record in AK. The monthly average temperature in Bettles was -35.6F. Snowiest winter in Anchorage with 134.5 inches.

FLOOD

Storms caused record flooding in and around Duluth, MN on June 20th with over 8 inches of rainfall observed in 24 hours. Rivers in the area reached their highest levels on record.

TORNADOES

An early season tornado outbreak on March 2-3 in IN, OH, WV, and KY resulted in 42 fatalities. This was the deadliest tornado outbreak of 2012.

HURRICANE ISAAC

Made landfall near the mouth of the Mississippi River in late August with winds of 80 mph. Significant storm surge and flooding rains along the Gulf Coast. 9 fatalities.

POST-TROPICAL CYCLONE SANDY

Made landfall near Atlantic City, NJ with sustained winds of 80 mph in late October. Record storm surge along NJ and NY coasts along with heavy rain and snow. Over 8 million people lost power, 131 fatalities.

STORMS

A straight-line wind storm called a derecho caused significant damage from IN to MD. Over 250,000 customers lost power, including the densely populated Washington, D.C. area.

WET

Florida had its wettest summer on record, partially due to Hurricane Isaac and Tropical Storm Debby. Seasonal precipitation was 140 percent of average.

STORMS

On March 9th a storm system brought severe weather to HI. A rare tornado hit Oahu. Largest hailstone on record for the state in Oahu.

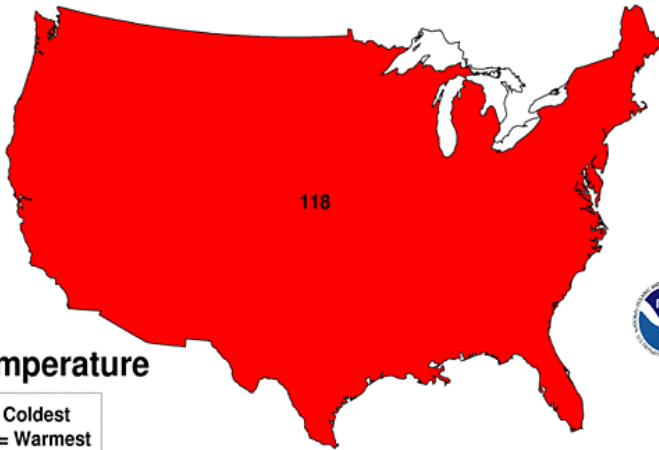


NOAA's
National Climatic Data Center

Breaking records in 2012 and 2013

March 2012 National Rank

National Climatic Data Center/NESDIS/NOAA



Temperature

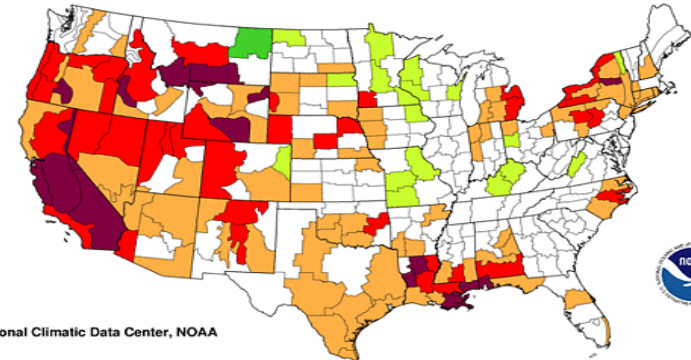
1 = Coldest
118 = Warmest



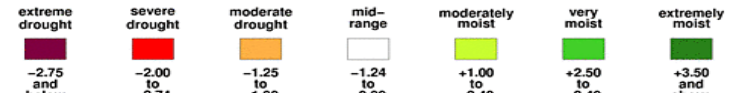
Palmer Z Index

Short-Term Conditions

March 2013

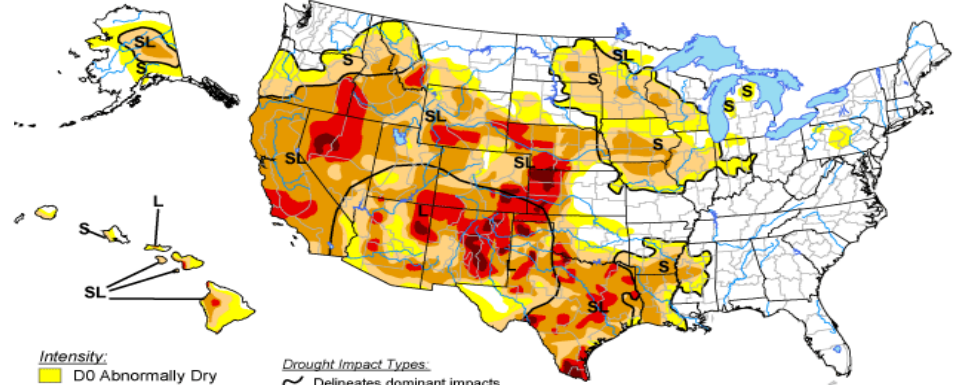


National Climatic Data Center, NOAA



U.S. Drought Monitor

September 3, 2013
Valid 7 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
- S = Short-Term, typically <6 months (e.g. agriculture, grasslands)
- L = Long-Term, typically >6 months (e.g. hydrology, ecology)

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

<http://droughtmonitor.unl.edu/>



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View from Sentinel Dome Tue Jan 03 14:01:49 2012
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Powered by StarDot NetCam XL (Exp. 1/27/2)



Our communities

(Health and Human Impacts)




Key Climate Health Risks in Sacramento Region

- Heat
- Air pollution
- Wildfires (smoke, injuries, displacement)
- Floods/Drought (injuries, displacement)
- Extreme weather
- Water: quality, supply, costs, water borne disease
- Infectious disease, vector borne disease (e.g. West Nile Virus)
- Allergies
- Damage to agriculture, food borne disease, food costs
- Disproportionate harm to vulnerable populations
- Mental health
- Stress on health care systems

Historical Heat Experience vs. Climate and Heat (modeled Cal Adapt)

Extreme Heat incident	Deaths
Philadelphia heat wave, 1993	118
Chicago heat wave, 1995	739
European heat wave, 2003	70,000
California heat wave, 2006	650
Russian heat wave, 2010	11,000-50,000

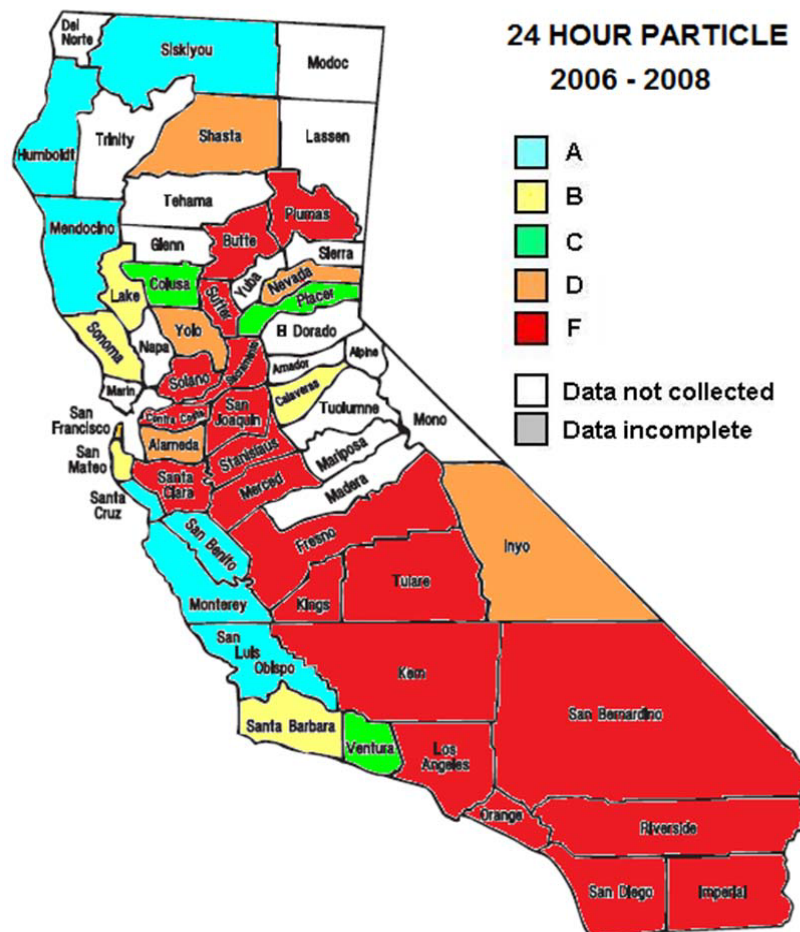
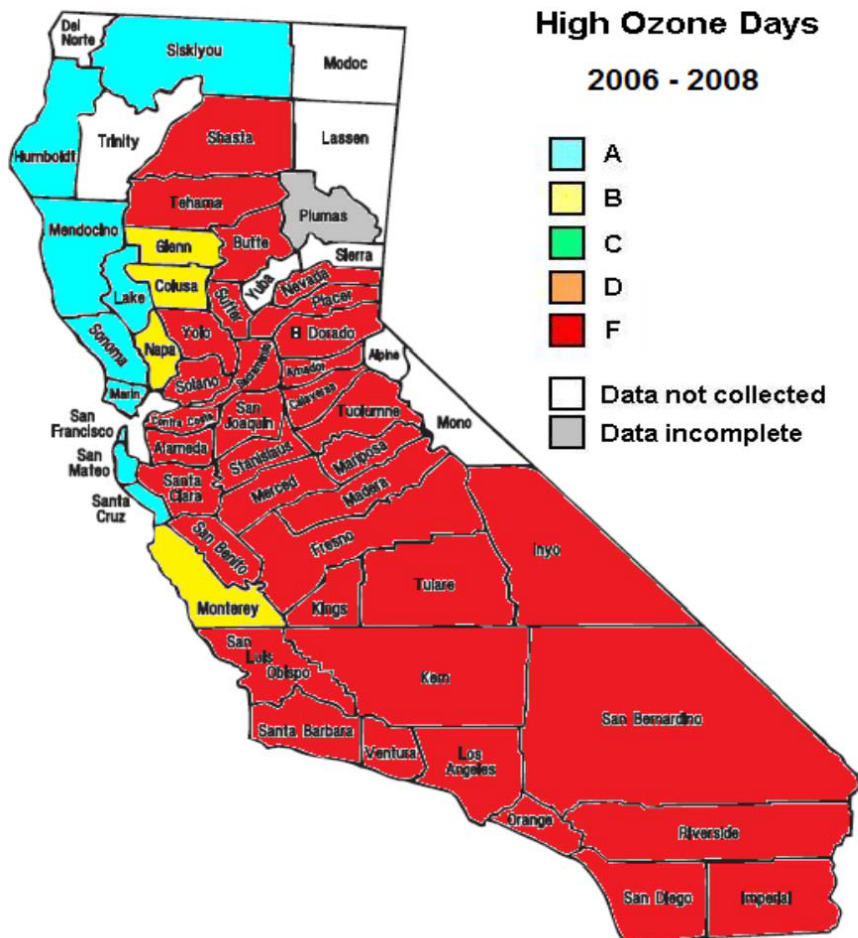
Model Estimated Extreme Heat Days
May 1 to Oct 1 in Selected California Cities*,
2050 and 2099

City	2050	2099
Bakersfield	48	93
El Centro	60	101
Fresno	46	90
Los Angeles	78	110
Redding	35	75
 Sacramento	44	85
San Diego	76	129
San Francisco	39	126
San Jose	71	111
Truckee	41	83

Heat and air pollution

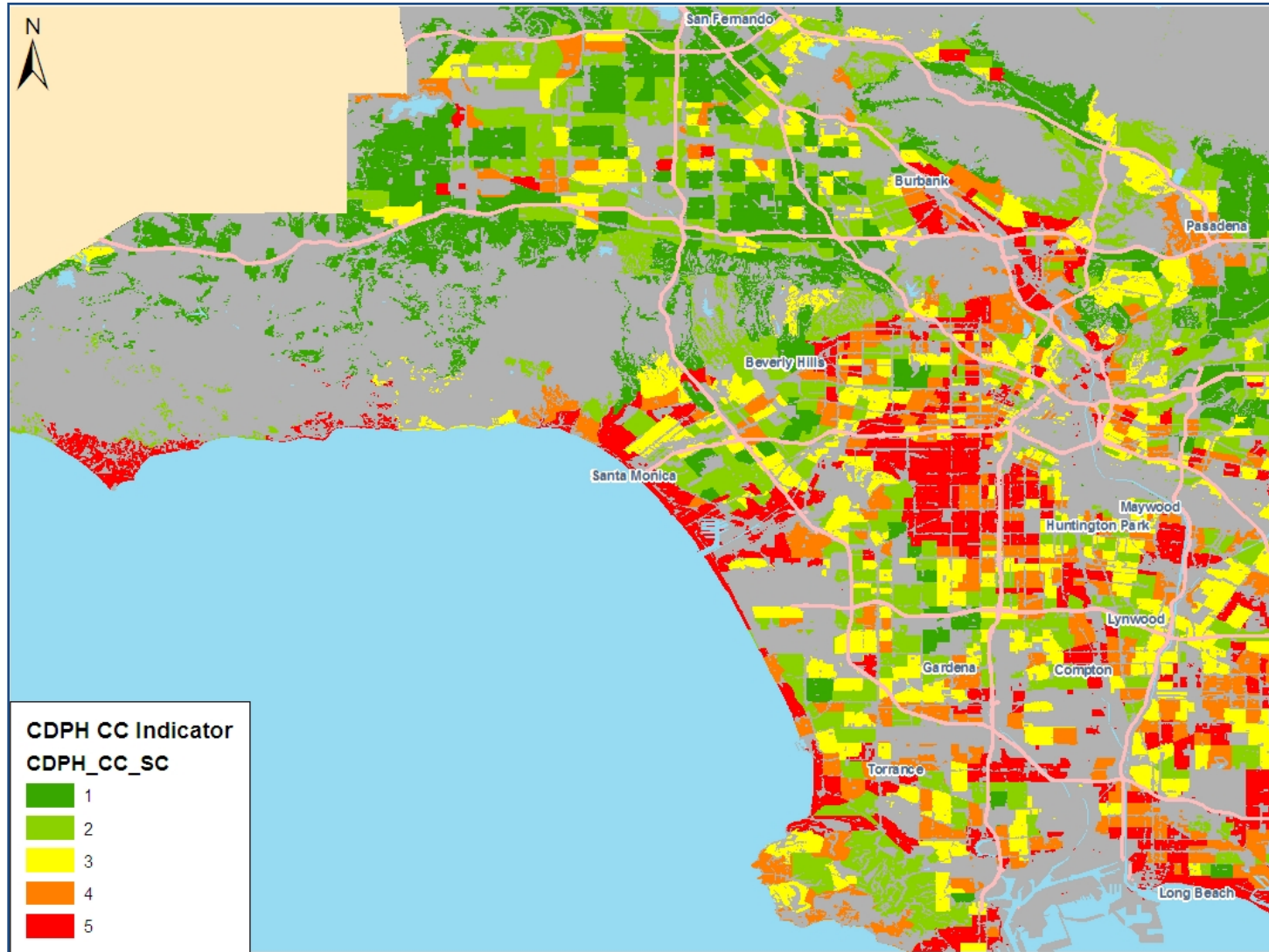
California's unhealthy air quality

(ALA-Calif-State of the Air Report, 2010)



Assessing Vulnerability

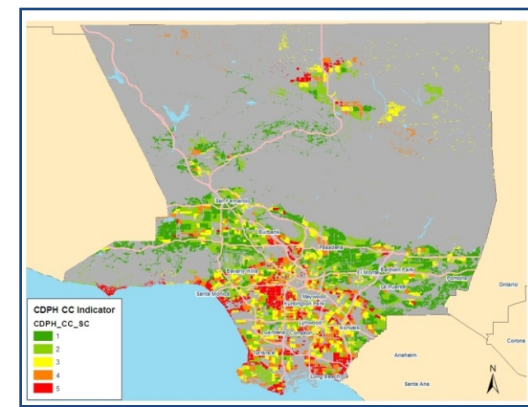
Pilot Study for LA County



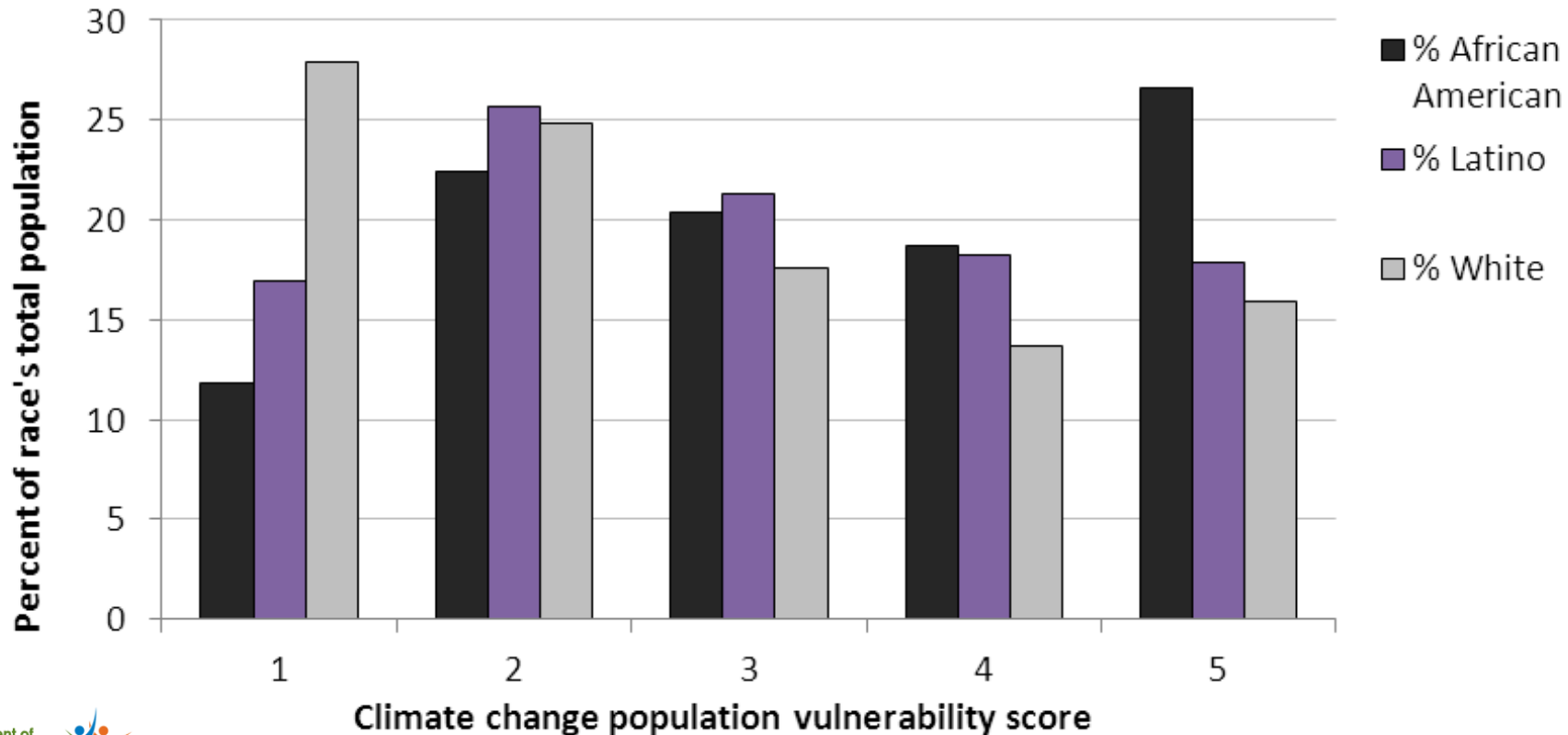
Climate Change Vulnerability Data

Metric	Source
Central air conditioning	CA Energy Commission (2009)
Tree canopy	National Land Cover Database (2001)
Impervious surface	National Land Cover Database (2001)
Public transit routes	SCAG 2011; Fresno COG 2011
Elderly living alone	Census 2000
Household car access	Census 2000
Wildfire risk	CAL FIRE 2003
Flood risk	FEMA (Fresno 2009; LA 2008)
Sea rise inundation	Pacific Institute 2009 (LA only)

46% of African Americans and 36% of Latinos reside in the two highest risk categories compared to 30% of whites



Los Angeles County



Cross Sector Planning: Public Health

- Meet your local Public health department partners
 - Understand community health status today
 - Starting to wrap hands around climate change
 - Looking for co-benefits and ways to integrate into existing work
 - Healthy built environment, chronic disease prevention
 - Public Health emergency preparedness
 - Work with vulnerable populations and health equity
 - Experts in community health education and communication with diverse audiences
 - Partners in *monitoring* changes
 - Works with health care sector, city planners, schools, etc.