



UCLA Institute of the Environment and Sustainability

Landscape Conservation in Southern California: Challenges, but Exciting Collaborative Opportunities

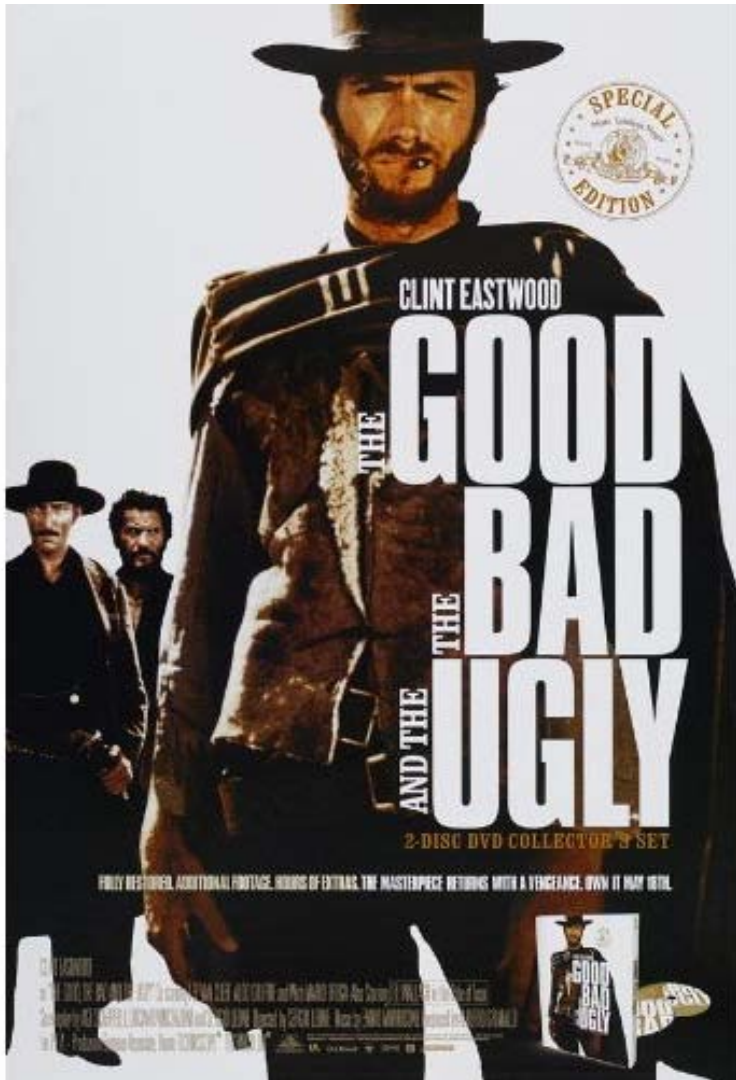
Glen M MacDonald
IoES UCLA



California Landscape Conservation Cooperative



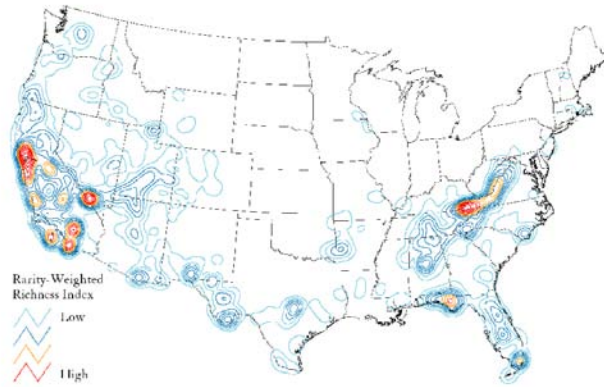
www.environment.ucla.edu



The Good, The Bad, The Ugly

The Bad

Hot Spots of Rarity and Richness

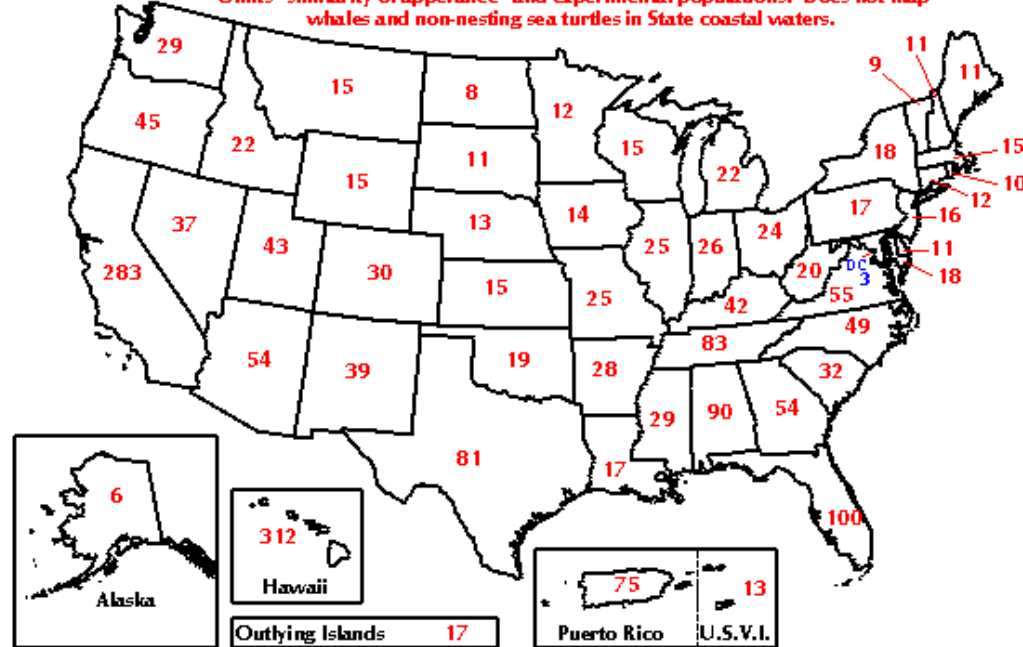


Source: Precious Heritage (2000) © TNC, ABI

6-9

Listed Species Range By State/Territory as of Sun May 18 23:30:04 MDT 2003

Omits "similarity of appearance" and experimental populations. Does not map whales and non-nesting sea turtles in State coastal waters.



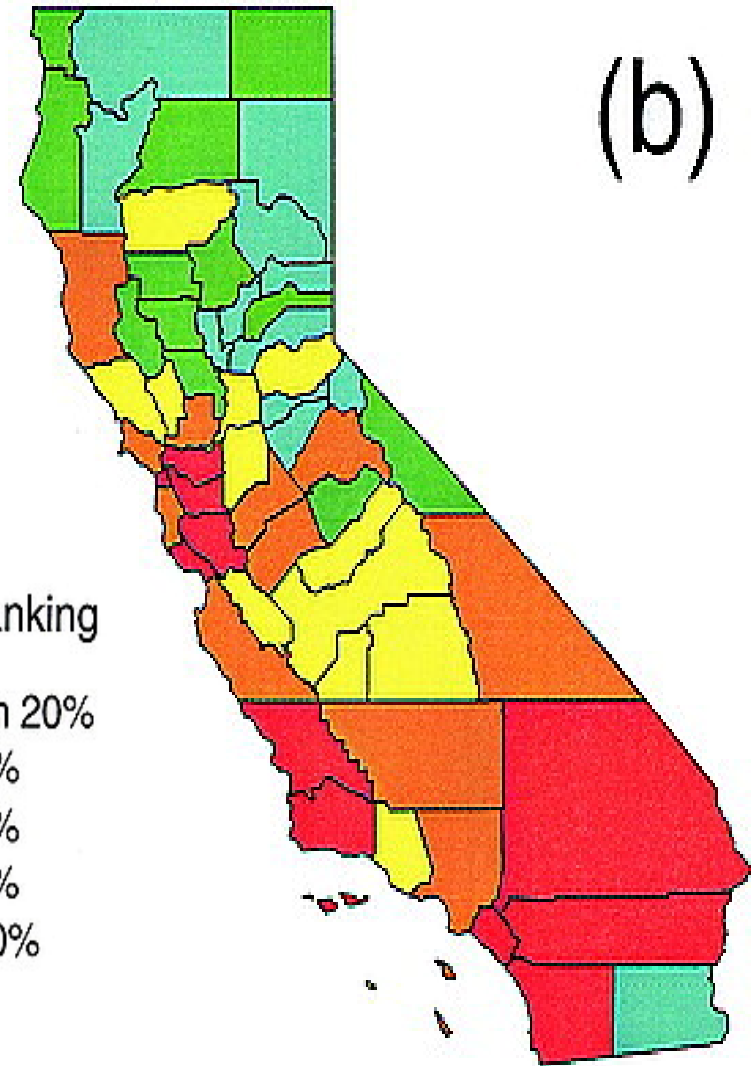
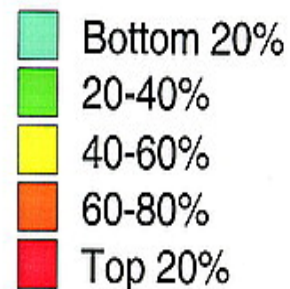
Species is 1263. Numbers are not additive, a species often occurs in multiple states.



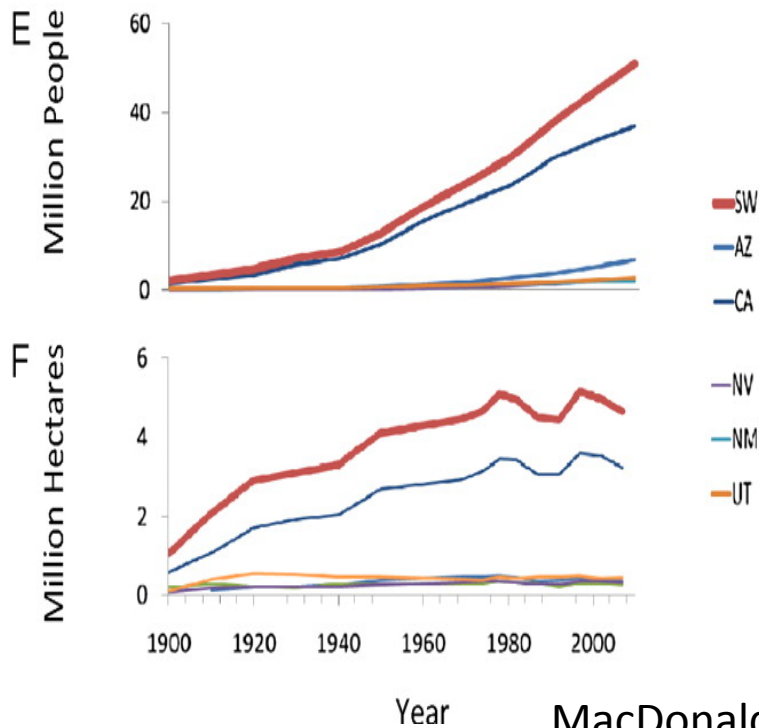
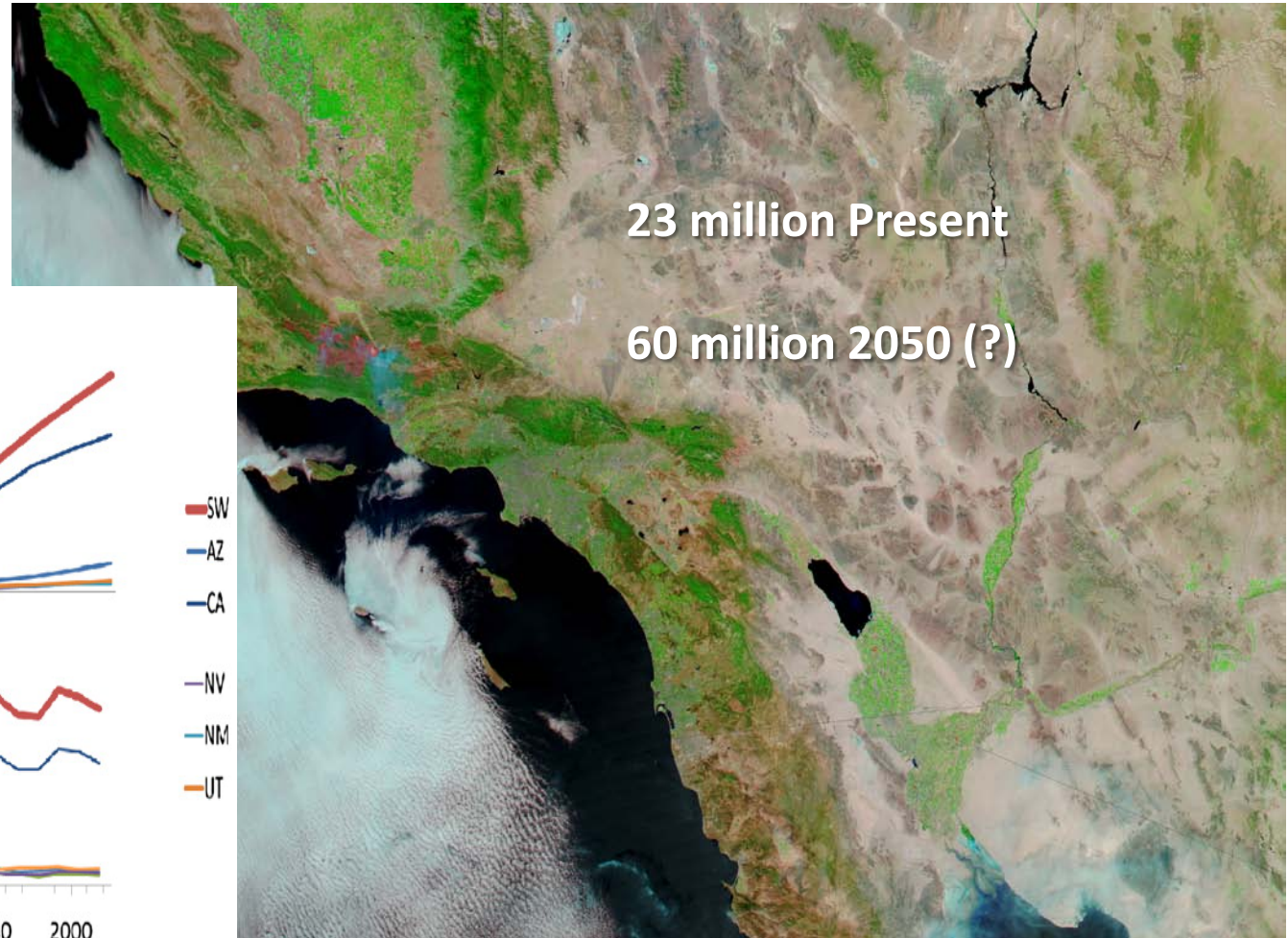
Relative county plant species listed as threatened or endangered in each county.

(b)

County ranking



Dobson et al. 2001. SYNOPTIC TINKERING: INTEGRATING STRATEGIES FOR LARGE-SCALE CONSERVATION. Ecological Applications 11:1019–1026.

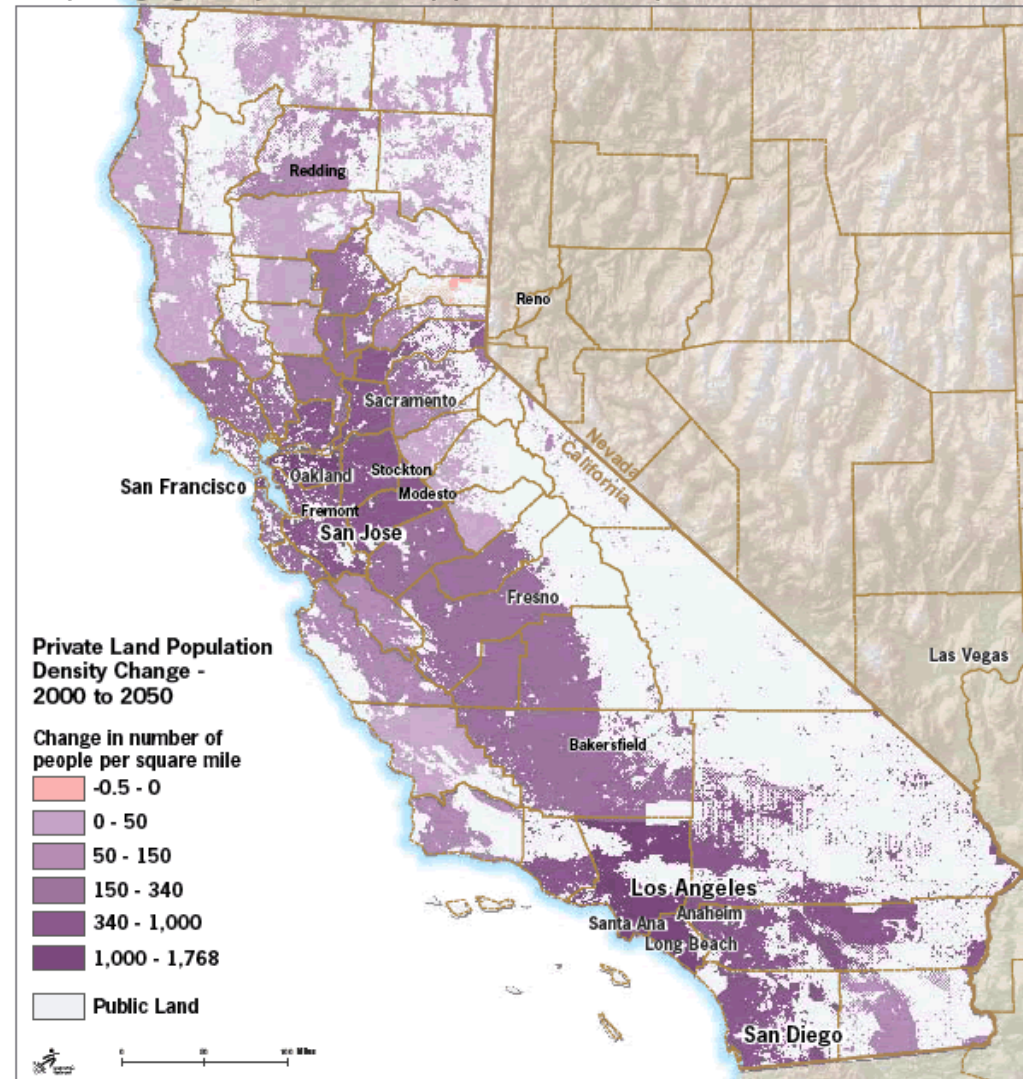


MacDonald 2010

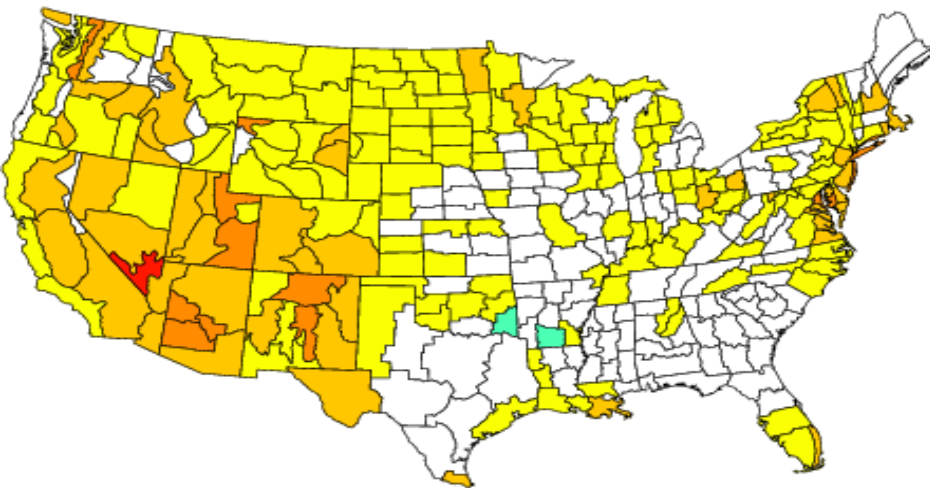
MODIS, NASA



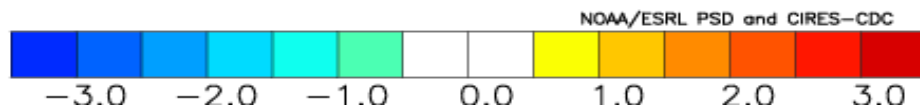
The sprawling region: Projected increase in population densities on private land, 2000-2050



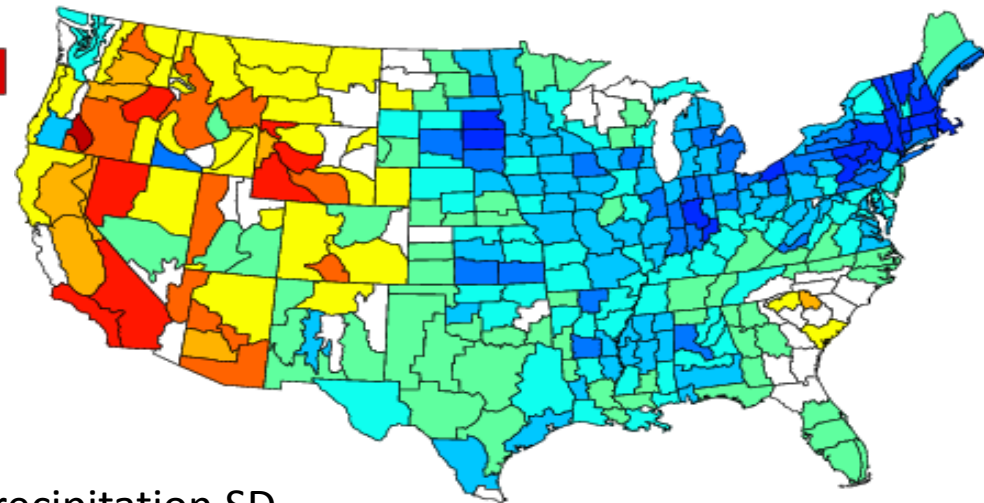
Source: CA Department of Finance, 2007. www.dof.ca.gov/Research/Research.php



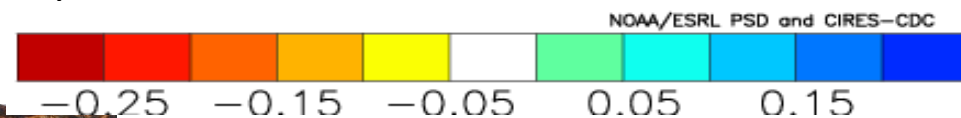
2001-2009



Temperature SD



Precipitation SD

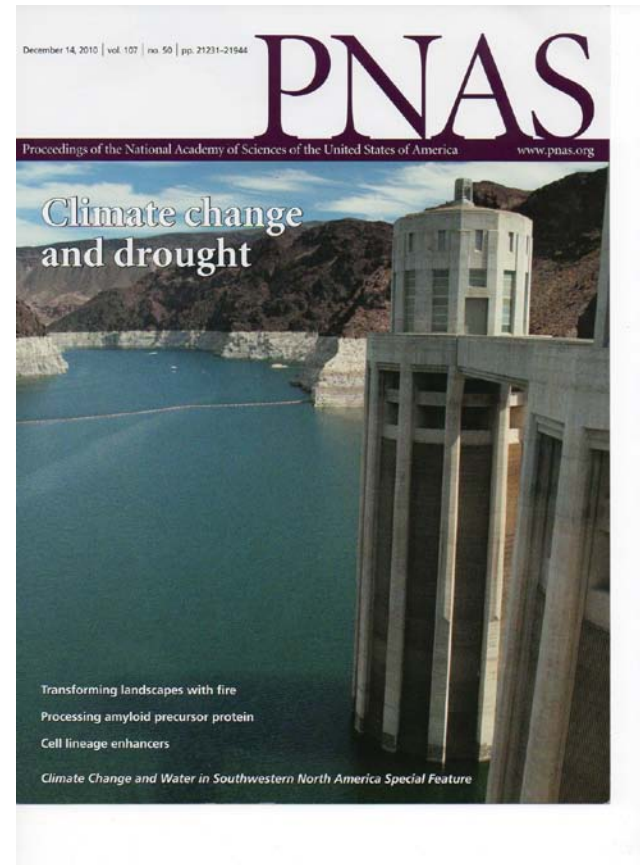
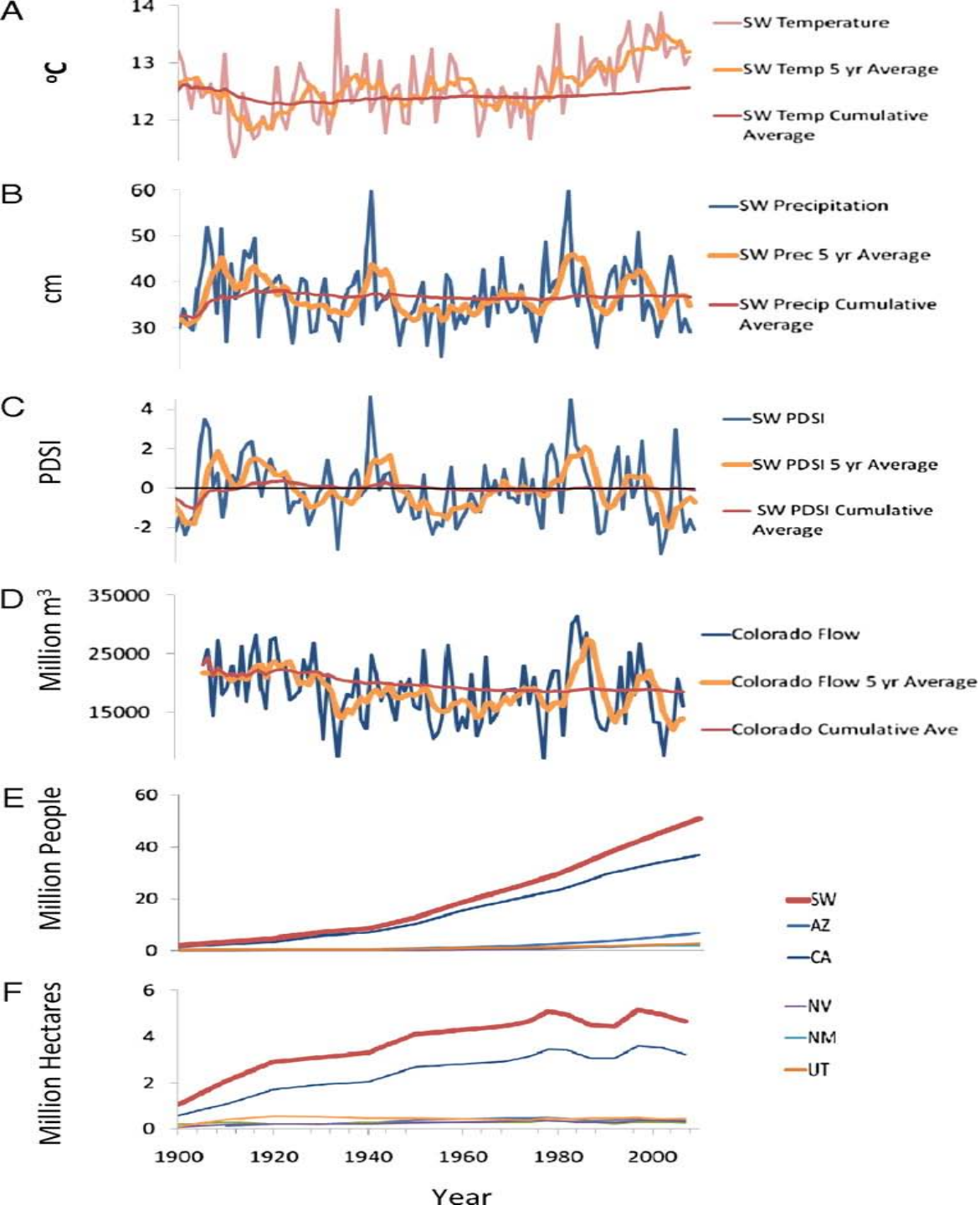


MacDonald, 2010, PNAS

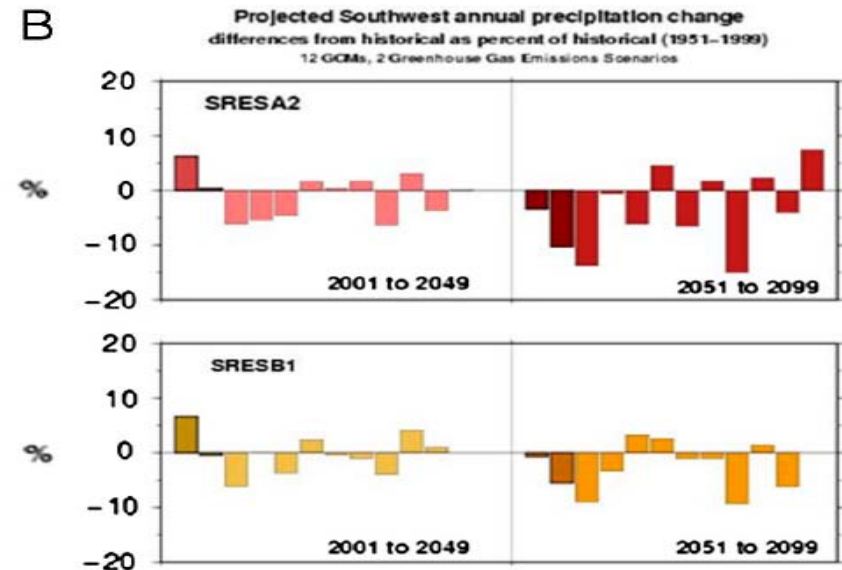
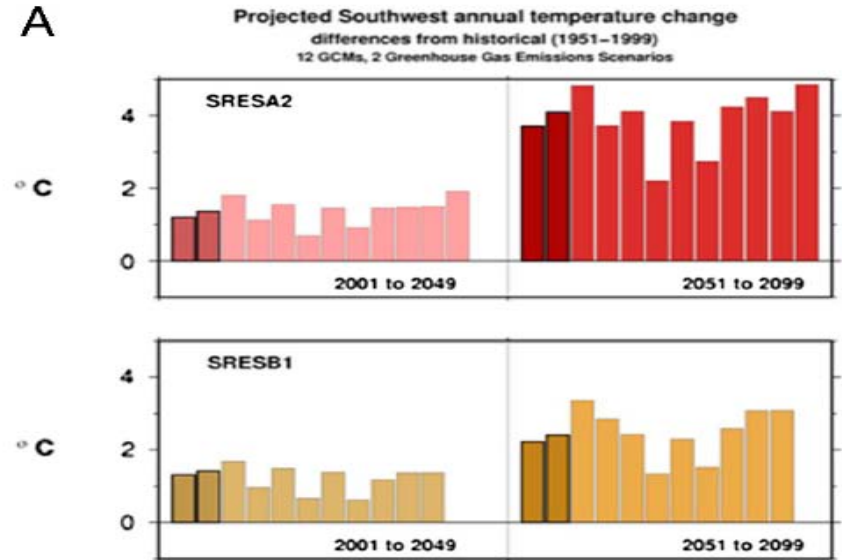
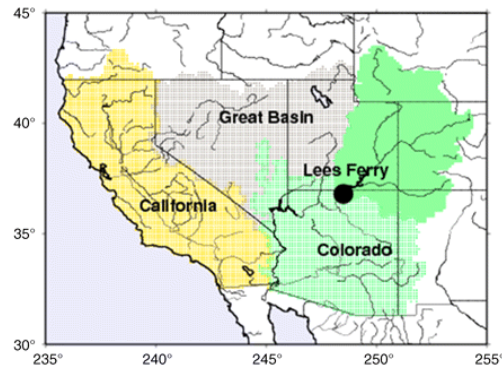
20 Largest California Wildland Fires (By *Acreage Burned)

FIRE NAME/CAUSE	DATE	COUNTY	ACRES	STRUCTURES	DEATHS
1 CEDAR (HUMAN)	October 2003	SAN DIEGO	273,246	2,820	15
2 ZACA (HUMAN)	July 2007	SANTA BARBARA	240,207	1	0
3 BEAR WALLOW		SISKIYOU	192,038		
4 MATILJA (UNDETERMINED)	September 1932	VENTURA	220,000	0	0
5 WITCH (POWERLINES)	October 2007	SAN DIEGO	197,990	1,650	2
6 MARBLE CONE (LIGHTNING)	July 1977	MONTEREY	177,866	0	0
7 LAGUNA (POWERLINES)	September 1970	SAN DIEGO	175,425	382	5
8 BASIN COMPLEX (LIGHTNING)	June 2008	MONTEREY	162,818	58	0
9 DAY FIRE (HUMAN)	September 2006	VENTURA	162,702	11	0
10 MCNALLY (HUMAN)	July 2002	TULARE	150,696	17	0
11 STANISLAUS COMPLEX (LIGHTNING)	August 1987	TUOLUMNE	145,980	28	1
12 STATION FIRE (UNDER INVESTIGATION)	August 2009	LOS ANGELES	144,743	91	2
13 BIG BAR COMPLEX (LIGHTNING)	August 1999	TRINITY	140,948	0	0
14 CAMPBELL COMPLEX (POWERLINES)	August 1990	TEHAMA	125,892	27	0
15 WHEELER (ARSON)	July 1985	VENTURA	118,000	26	0
16 SIMI (UNDER INVESTIGATION)	October 2003	VENTURA	108,204	300	0
17 HWY. 58 (VEHICLE)	August 1996	SAN LUIS OBISPO	106,668	13	0
18 IRON ALPS COMPLEX (LIGHTNING)	June 2008	TRINITY	105,805	2	10
19 CLAMPITT (POWERLINES)	September 1970	LOS ANGELES	105,212	86	4
20 BAR COMPLEX (LIGHTNING)	July 2006	TRINITY	100,414	0	0

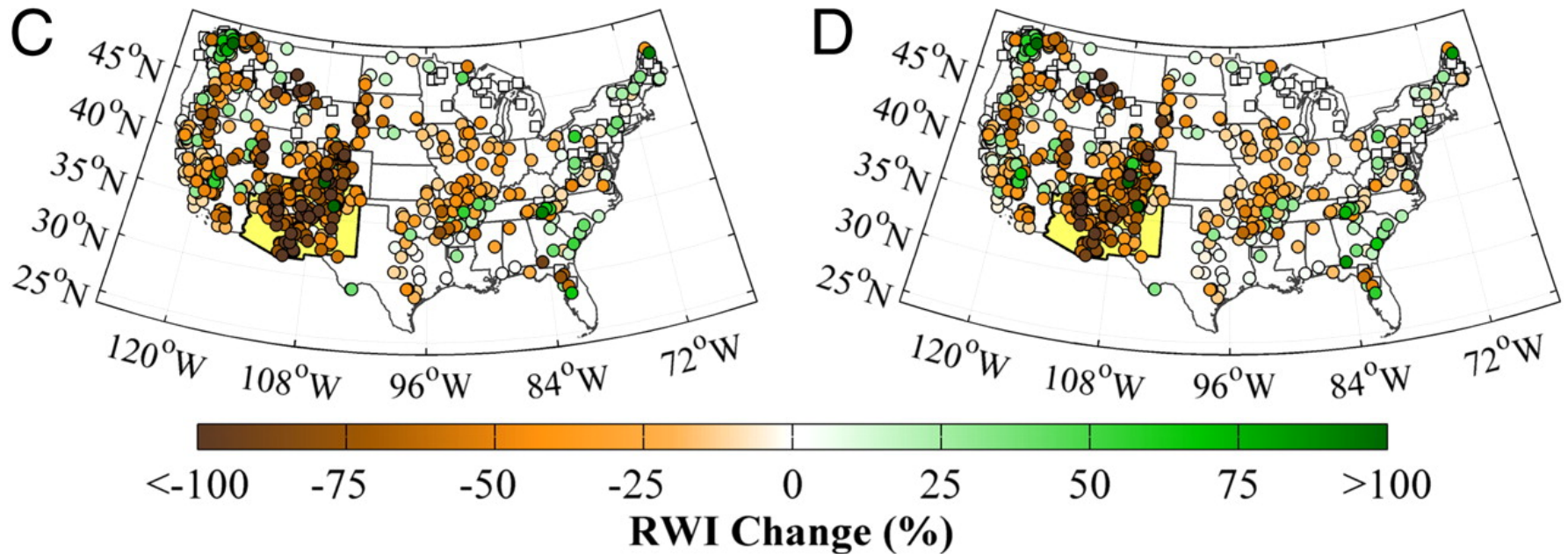




MacDonald 2010, PNAS

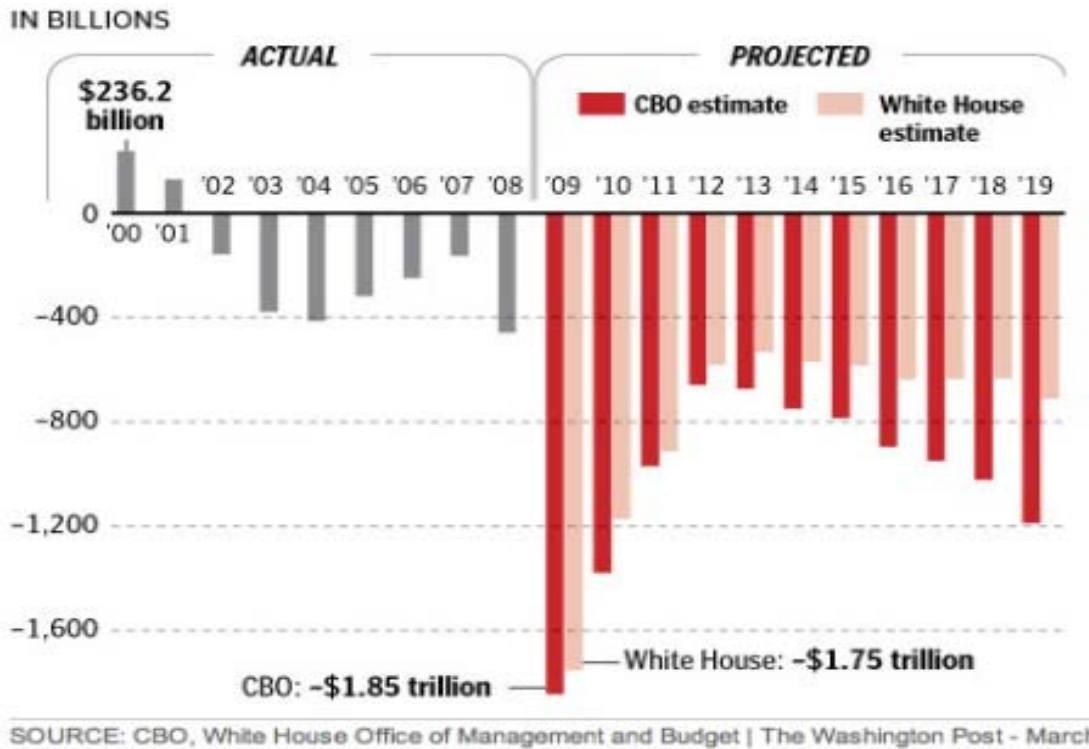


Cayan et al 2010 PNAS

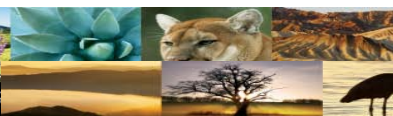
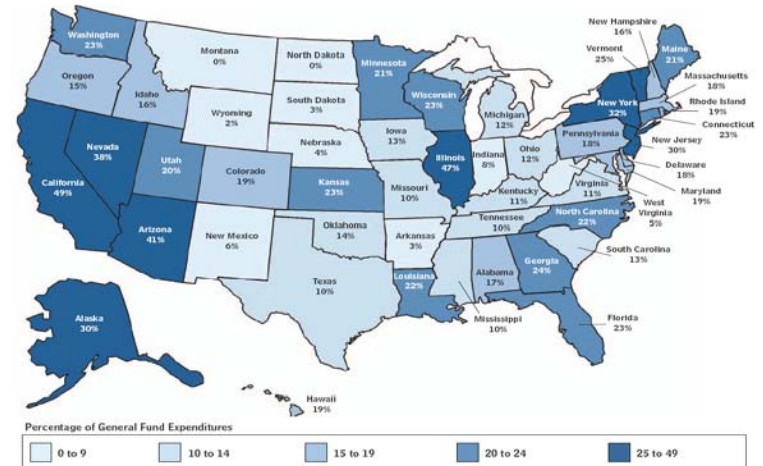


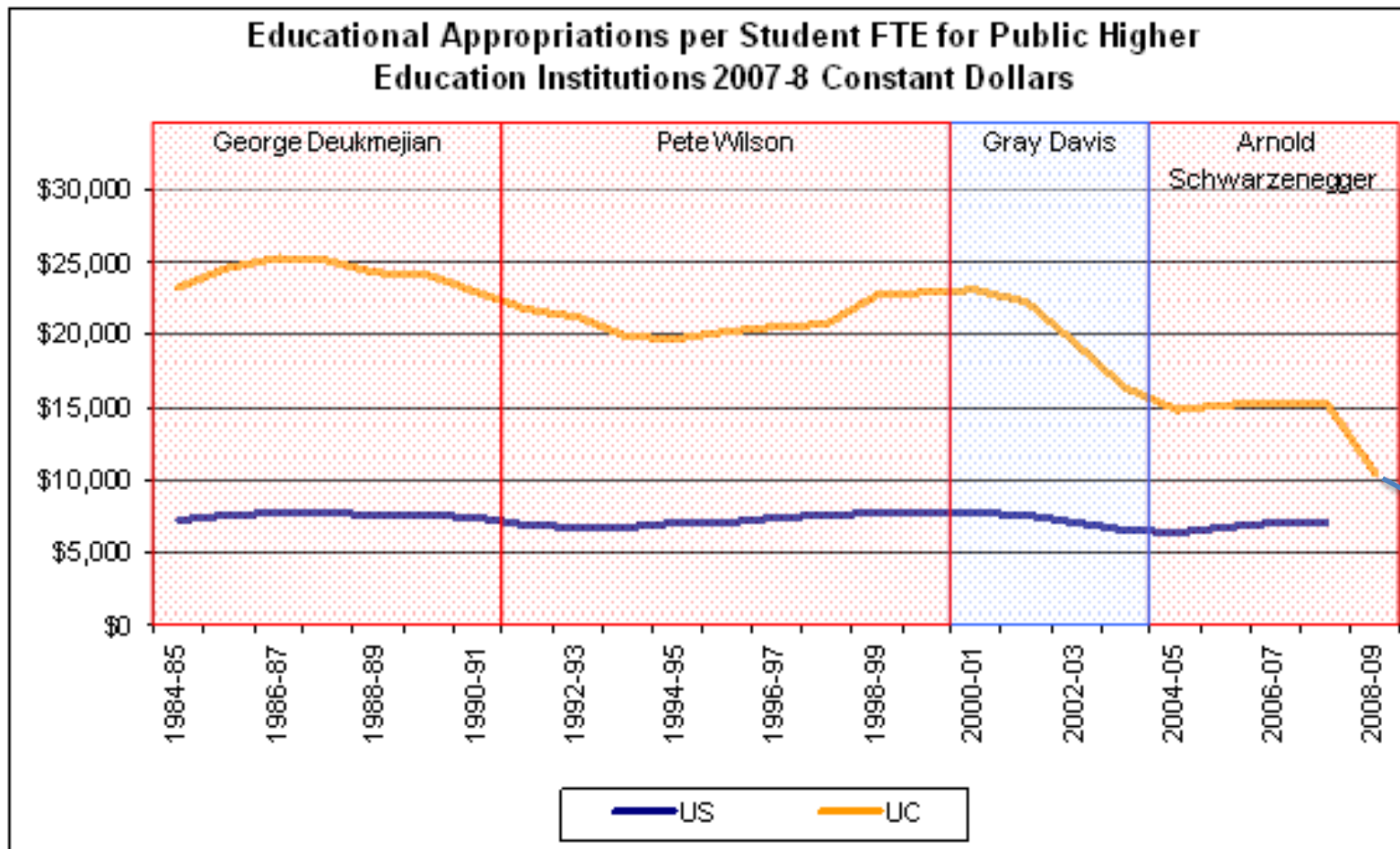
Williams et al 2010, PNAS

The Ugly



State Budget Gaps, Fiscal Year 2010



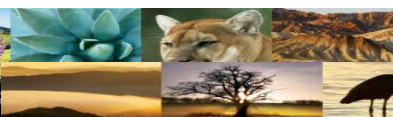


\$7,210 in 2011



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UCLA La Kretz Center for Conservation Science



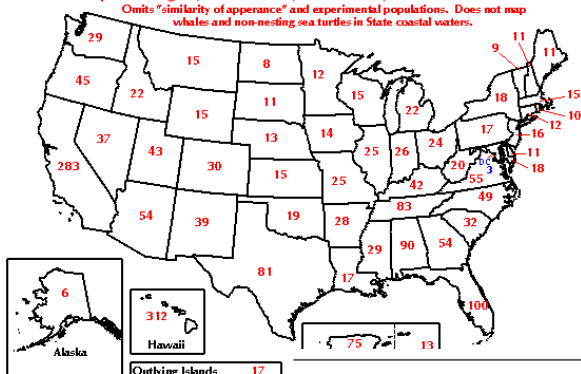
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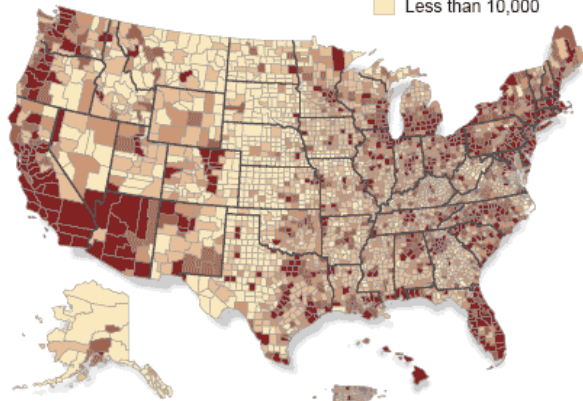


Total U.S. Species is 1263. Numbers are not add.

Population growth in the West and South

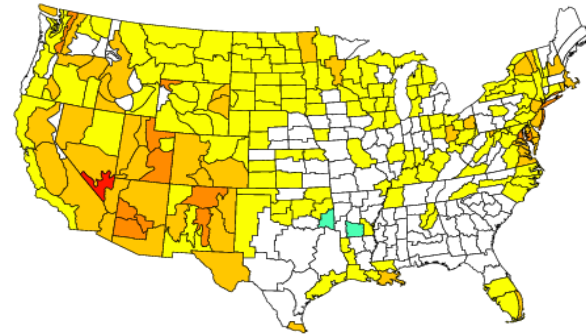
Many Americans are moving West and South, according to the Census Bureau's annual population estimates.

Population size, July 1, 2005

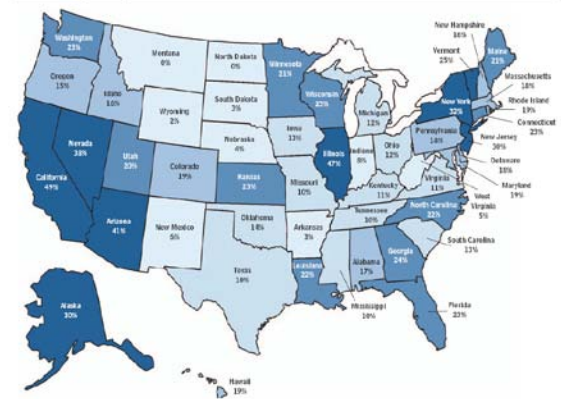


SOURCE: Census Bureau

AP



State Budget Gaps, Fiscal Year 2010

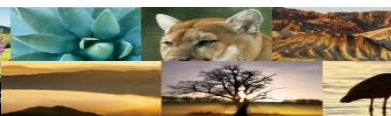


Percentage of General Fund Expenditures



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The Good...

Bobby McFerrin



California Landscape Conservation Cooperative



It's all about cooperatives



...And the Potential of Resource\$



By Campus



SCRIPPS INSTITUTE OF
OCEANOGRAPHY
GLOBAL DISCOVERIES FOR TOMORROW'S WORLD
California Climate Change Center

UNIVERSITY OF CALIFORNIA
UCRIVERSIDE
Center for Conservation Biology

UC DAVIS
JOHN MUIR INSTITUTE
OF THE ENVIRONMENT

Donald Bren
School of Environmental Science
UNIVERSITY OF CALIFORNIA, SANTA BARBARA

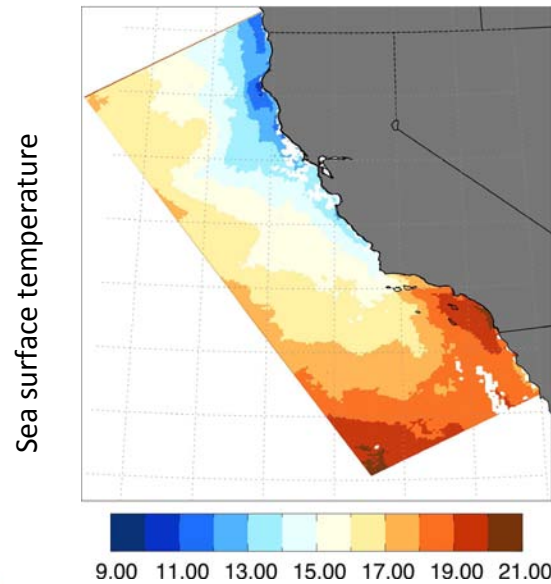




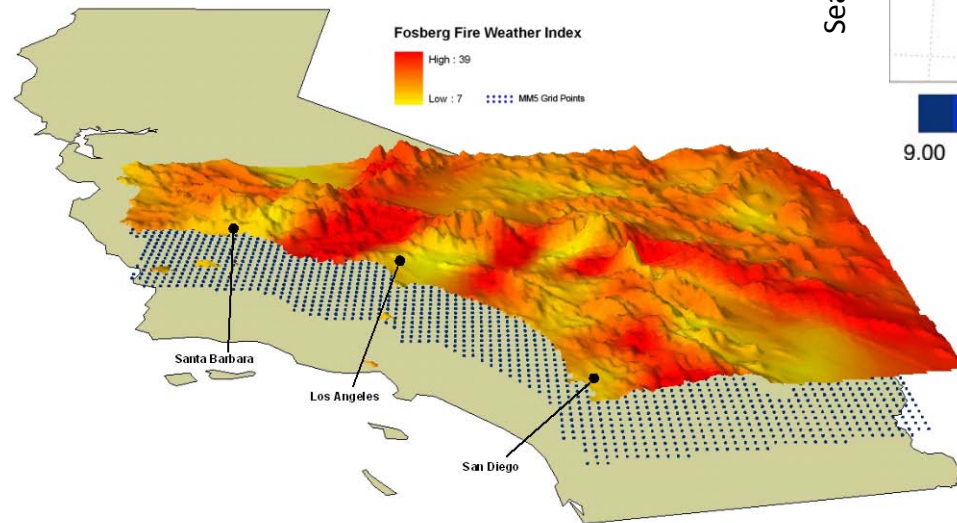
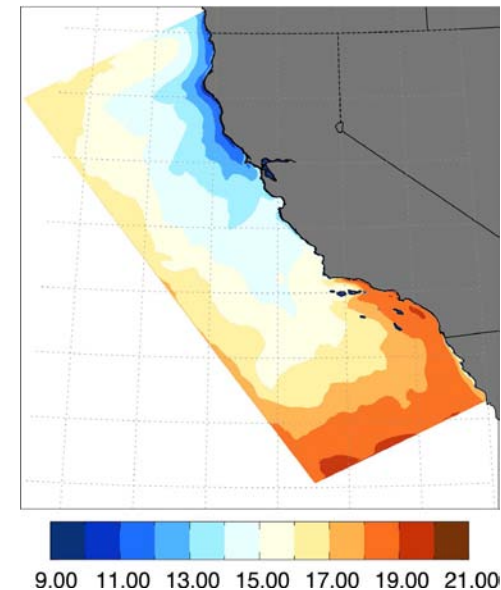
La Kretz Founding - 2009

UCLA Regional Climate Model

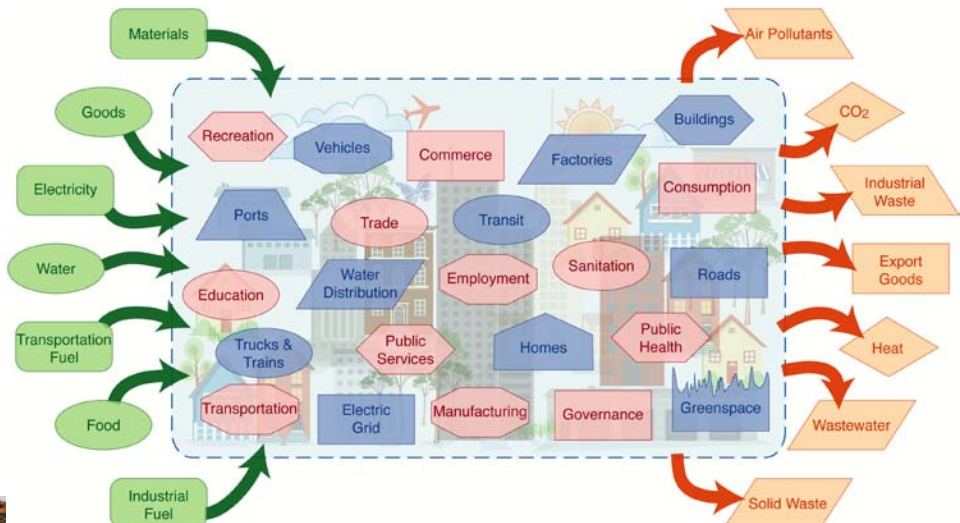
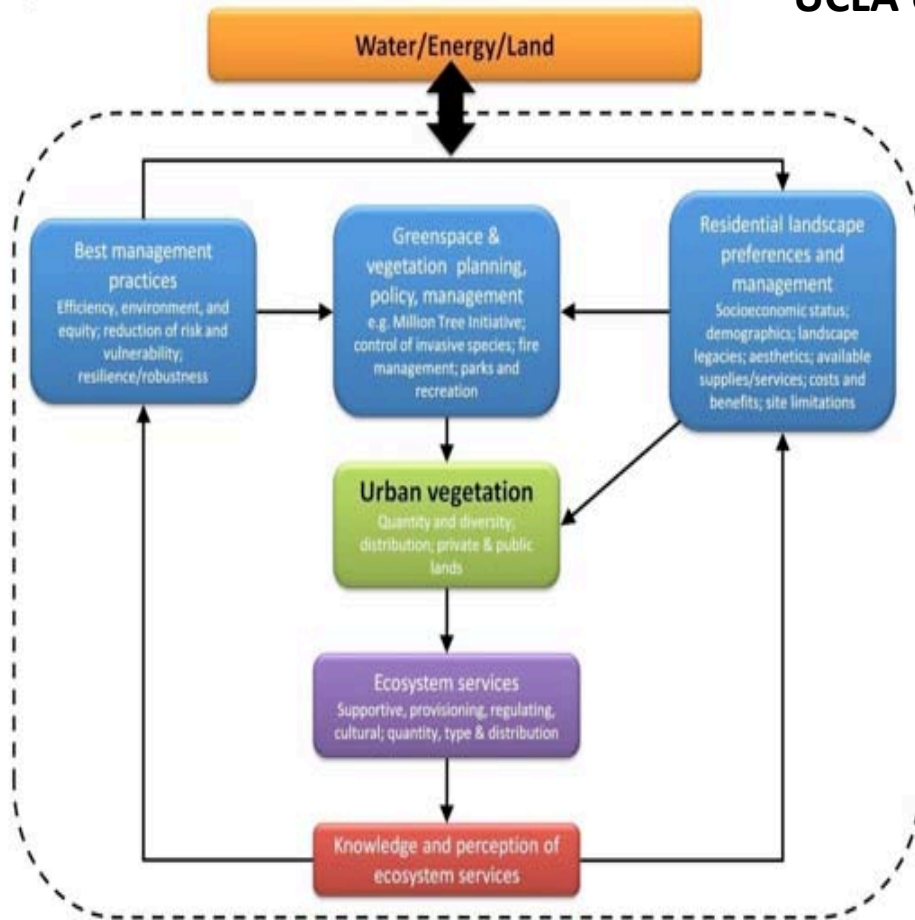
Observed by MODIS satellite



Simulated by coupled model

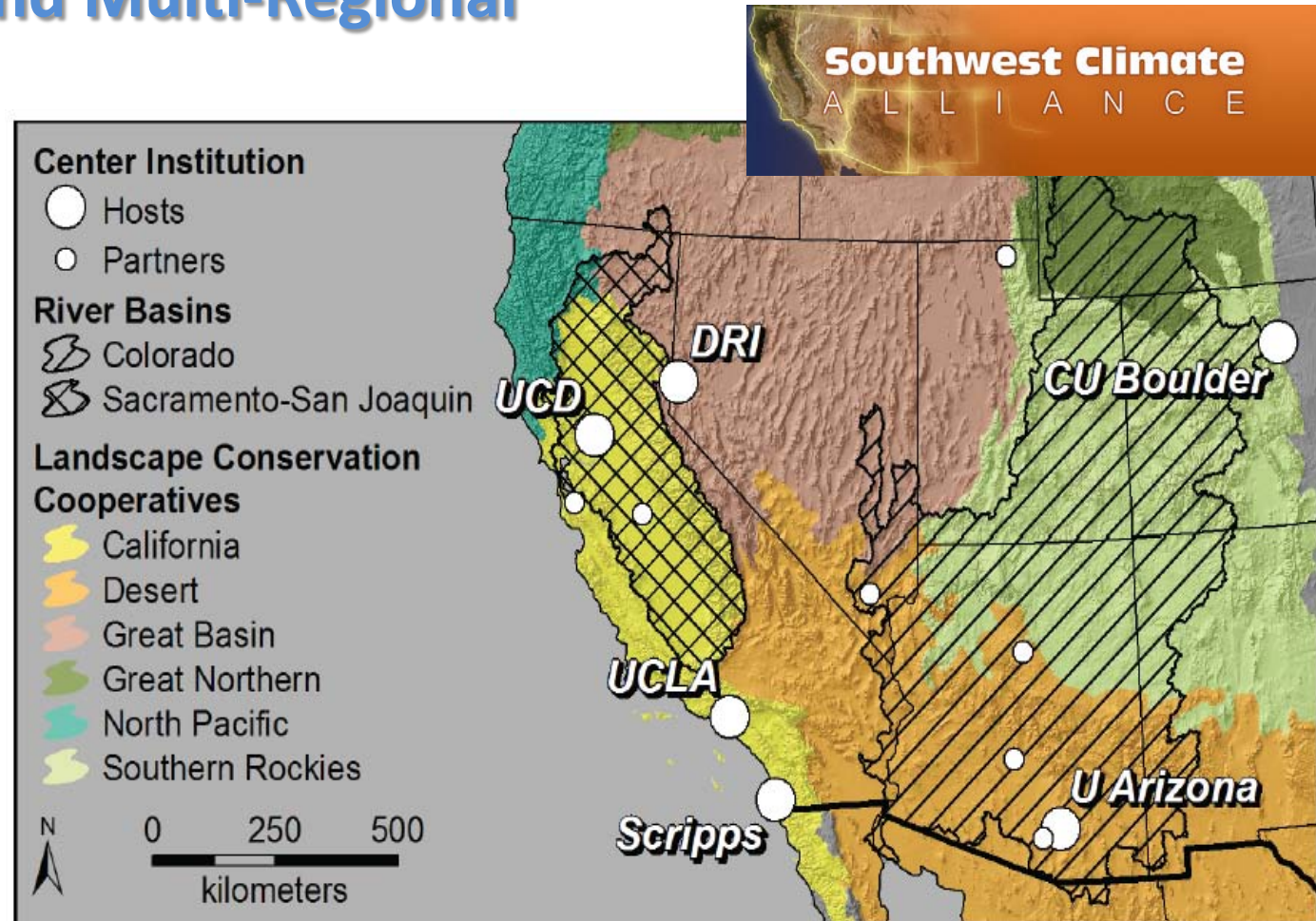


UCLA ULTRA X, LARC and PIERS



Multi-Campus and Multi-Regional

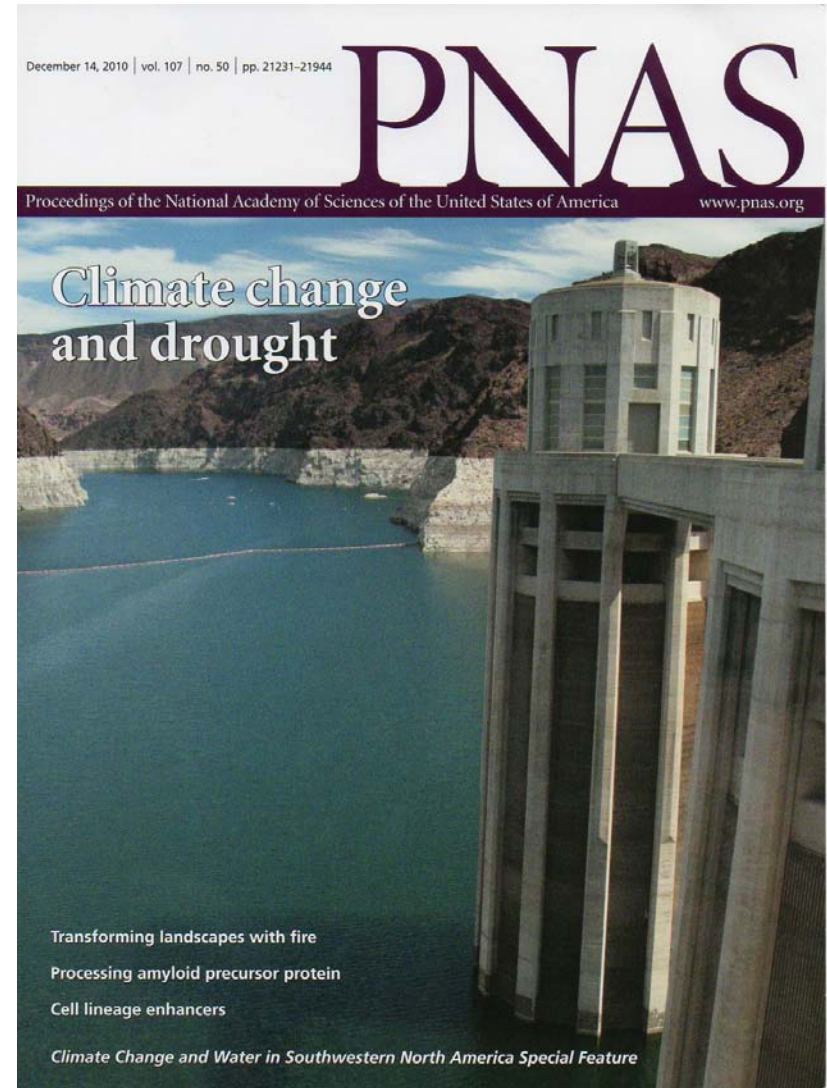
"The consortium...brings a wide range of scientific and impact assessment capabilities to the Southwest Climate Center because it includes institutions located in and familiar with the incredible diversity of ecosystems and human settlements that characterize the U.S. Southwest" Secretary of the Interior Ken Salazar, October 20, 2010



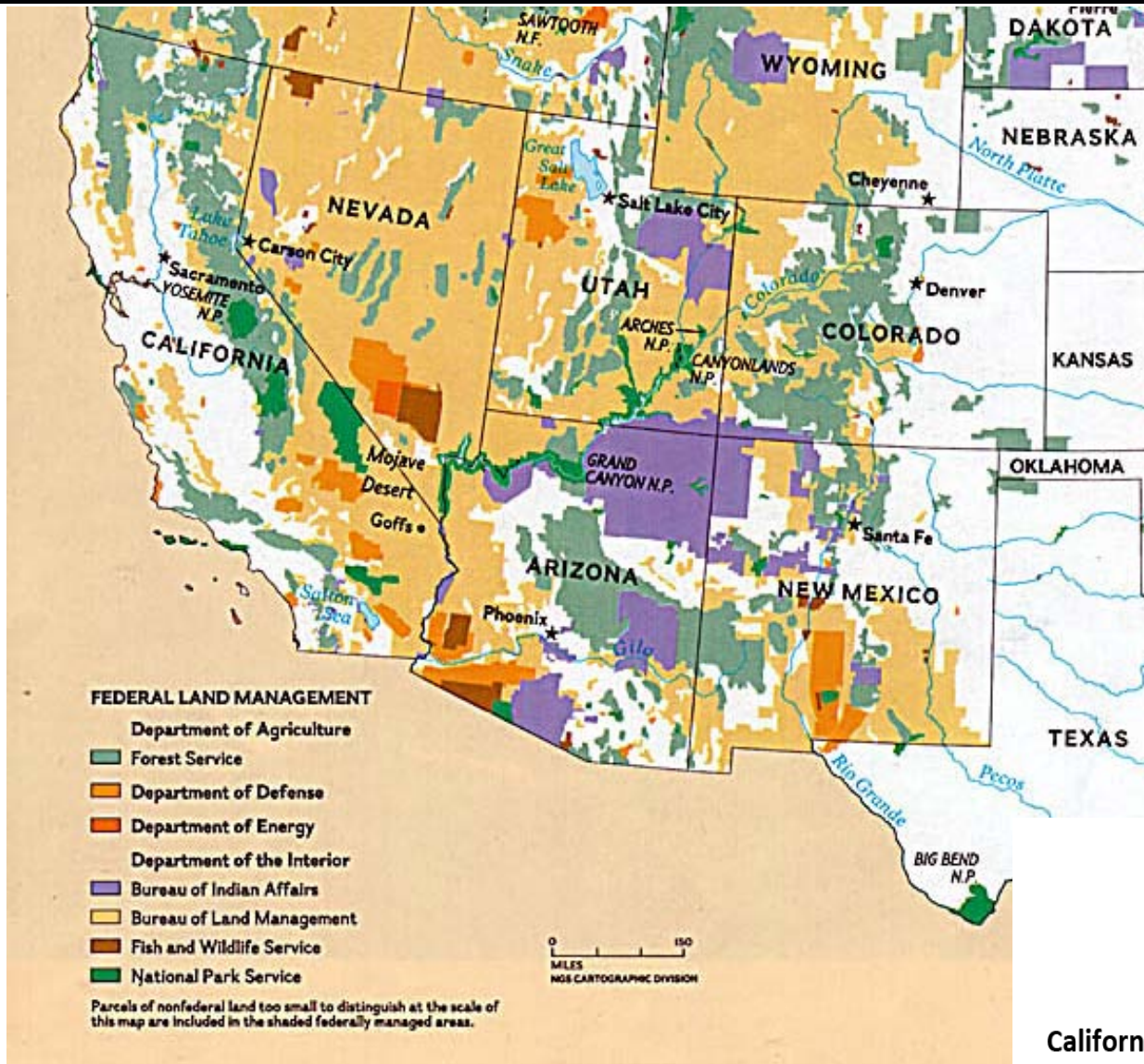
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USGS
USFS

www.pnas.org/content/107/50.toc







THANKS!



California Landscape Conservation Cooperative

