

Climate Change and Kansas

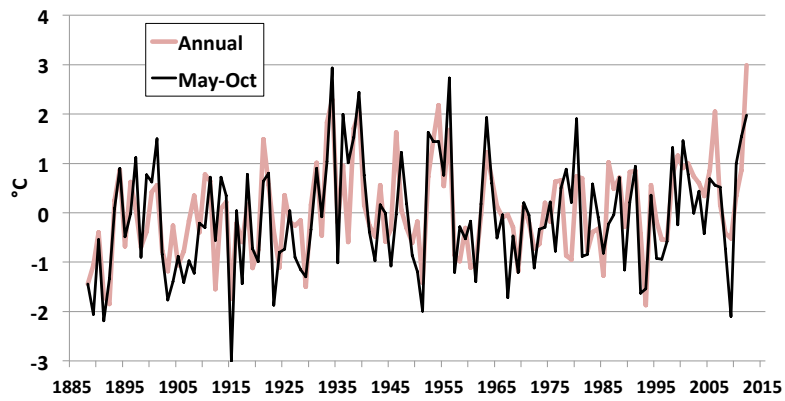
John R. Christy

Alabama State Climatologist

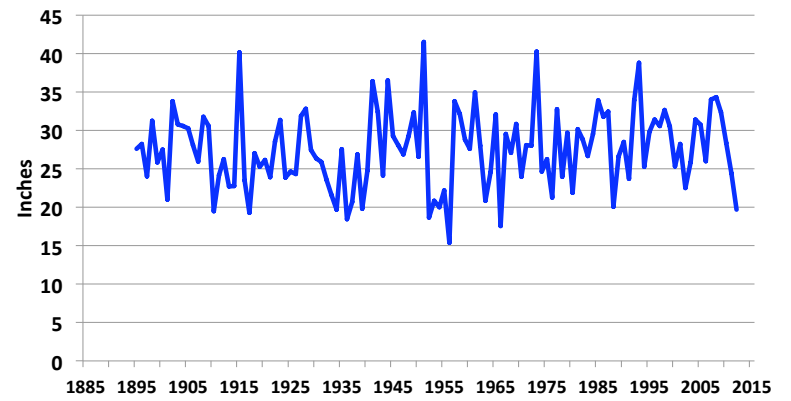
The University of Alabama in Huntsville

Is the Climate of Kansas Changing?

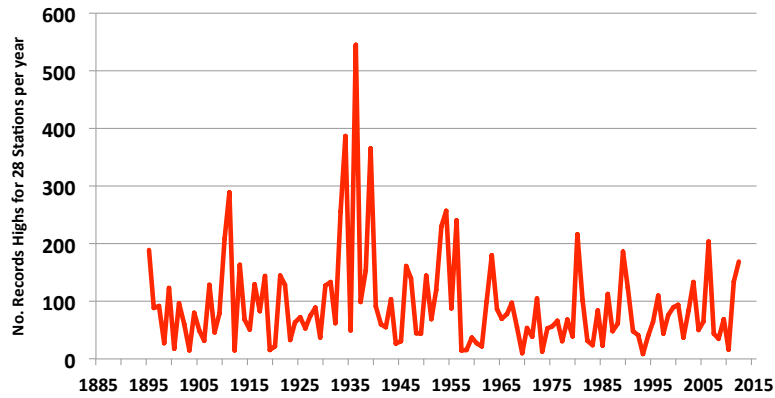
Kansas Temperature Departures from Average 1888-2012
TMax USHCNv2.5 pop. Density < 42 per 3x3 km



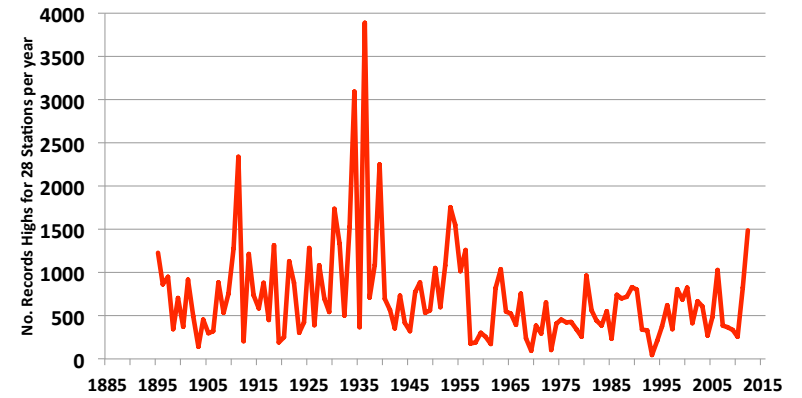
Kansas Annual Precipitation Total 1895-2012
NCDC/NOAA Divisional Data



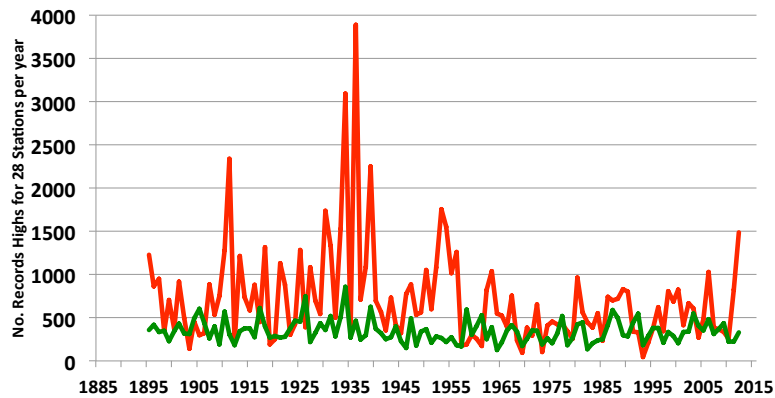
**Kansas No. Record Hi Daily Temperatures standing as of 2012
USHCN Daily Data for 28 Kansas stations with 80+ years**



AR-IL-IN-IA-KS-MO-NE-OK No. Record Hi Daily Temperatures standing as of 2012 USHCN Daily Data for 229 stations with 80+ years

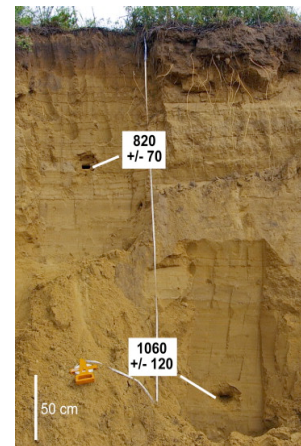


AR-IL-IN-IA-KS-MO-NE-OK and CA-OR-WA No. Record Hi Daily Temperatures as of 2012 229 Cen. US and 111 West Coast stations

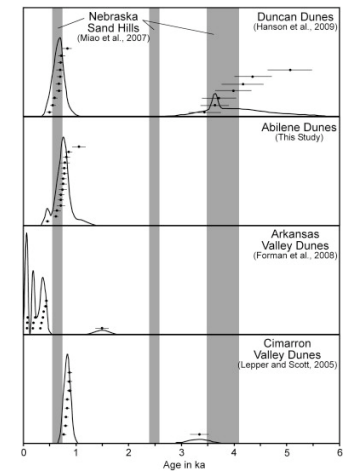


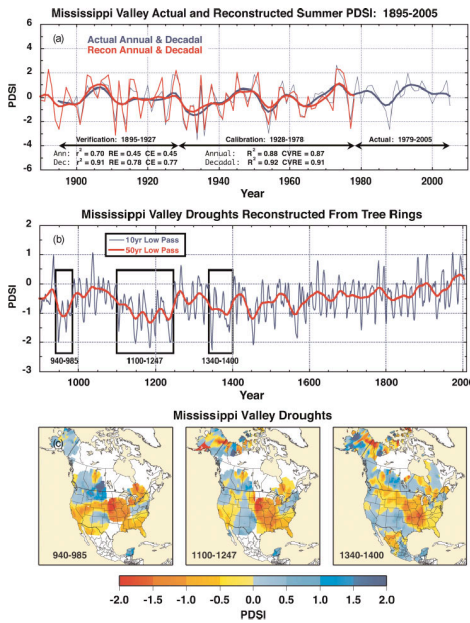
Western Plains – always near to dune reactivation

Dune ecology was active 900 – 1500 A.D. in Western Plains



Aeoleon sand (Megadroughts – Great Plains Hanson et al. 2010)
As recent as 1880 (Johnson and Halfen 2011)





Mid-West Mega Droughts:
Present era is unusually moist

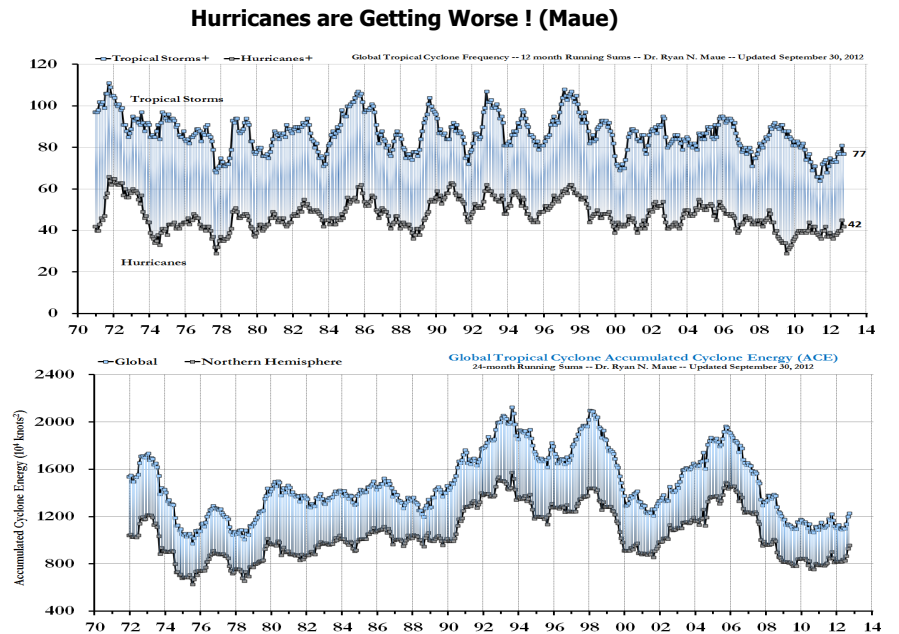
Cook et al. 2009
J. Quart. Sci.

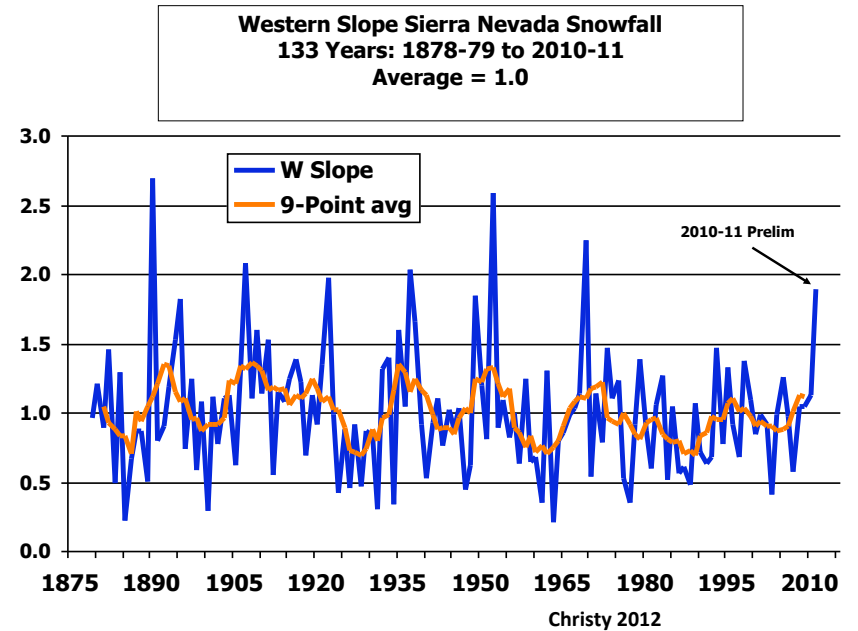
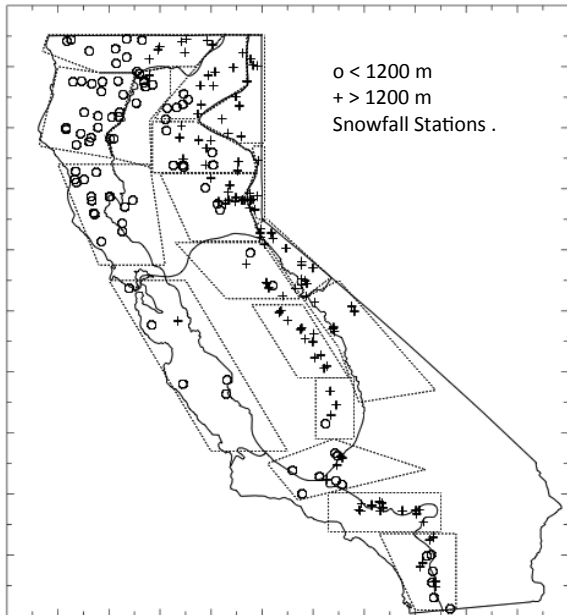
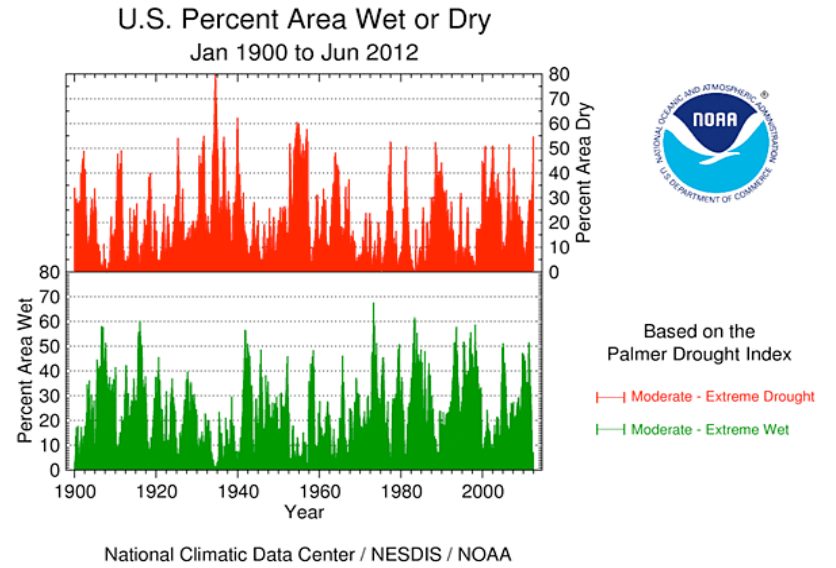
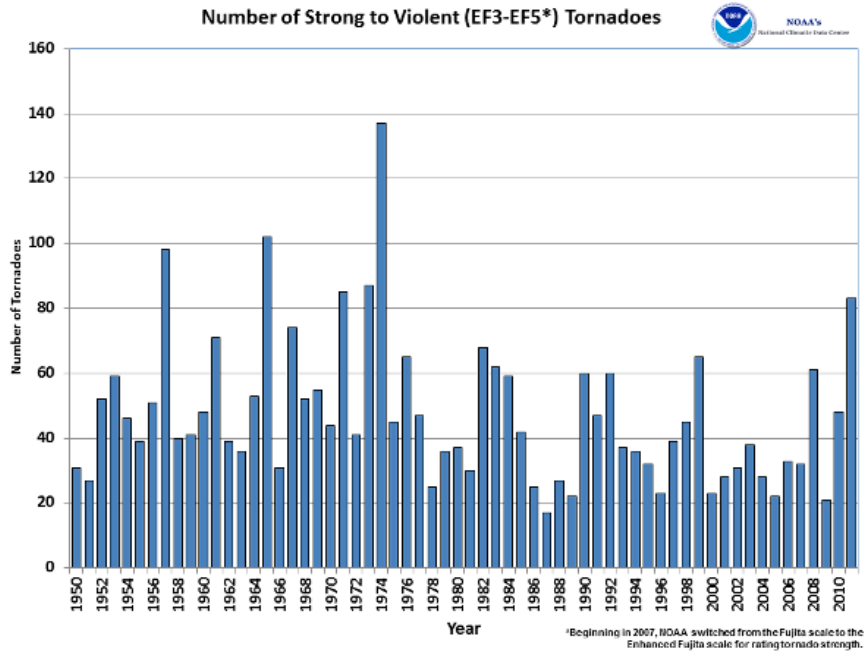
Figure 8. Mississippi Valley drought as reconstructed from tree rings in the new Living Blended Drought Atlas. The upper graph shows the mean actual vs. mean estimated drought over the area shown in Fig. 5(b). The middle graph shows the mean reconstruction from AD 900 to 2005 with three megadrought periods indicated. The lower graph shows the maps of PDSI for the three megadrought periods. See the text for details.

Is the Climate of Kansas Changing?

The evidence shows Kansas has a highly variable climate that is presently within the historical range

Are Extreme Events Getting Worse?





What is drawing so much attention to climate change?

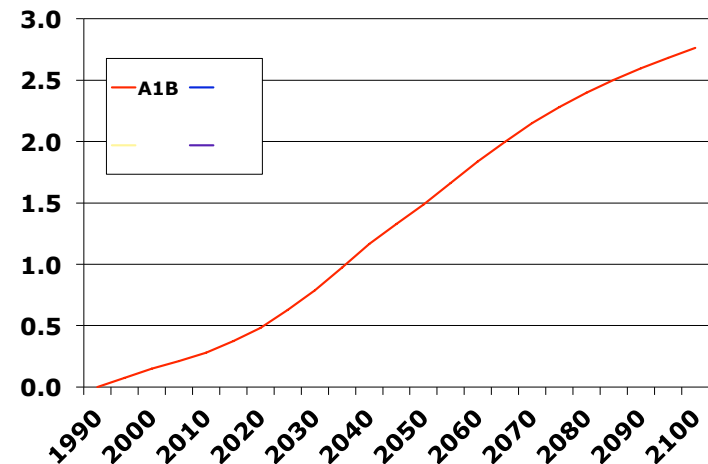
Evidence shows the models on which the alarm is based are overly sensitive to greenhouse gases

What did California do?

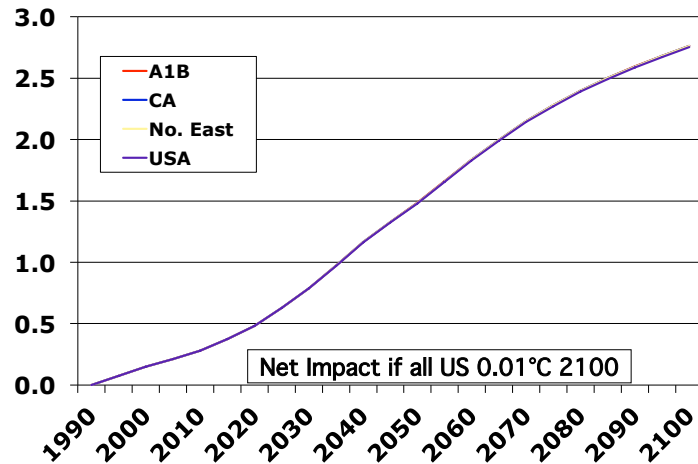
- **Force a limit on emissions of Light Duty Vehicles**
- **California AB 1493 seeks to reduce tail-pipe emissions of CO2 by 26% by 2016**
- **11 NE States adopted AB 1493**
- **Trial in Federal Court (Burlington VT) to address the engineering, legal and climate issues of AB 1493, April-May 2007**

What Impacts do Regulations Have on Climate?

California AB 1493 Climate Model Projection



California AB 1493 26% CO2 reduction LDV 2016



Judge William Sessions III Ruling 12 Sept 2007

AB 1493 is legal

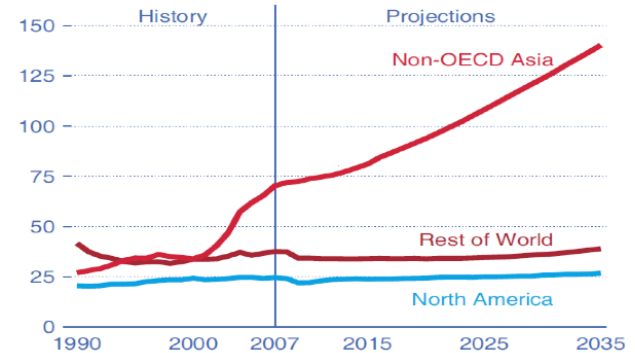
Pg 46

“Plaintiffs’ expert Dr. Christy estimated that implementing the regulations across the entire United States would reduce global temperature by about 1/100th (.01) of a degree by 2100. Hansen did not contradict that testimony.”

The temperature impact on global temperatures if the *entire world* adopted AB 1493 is an **undetectable 0.03°C**.

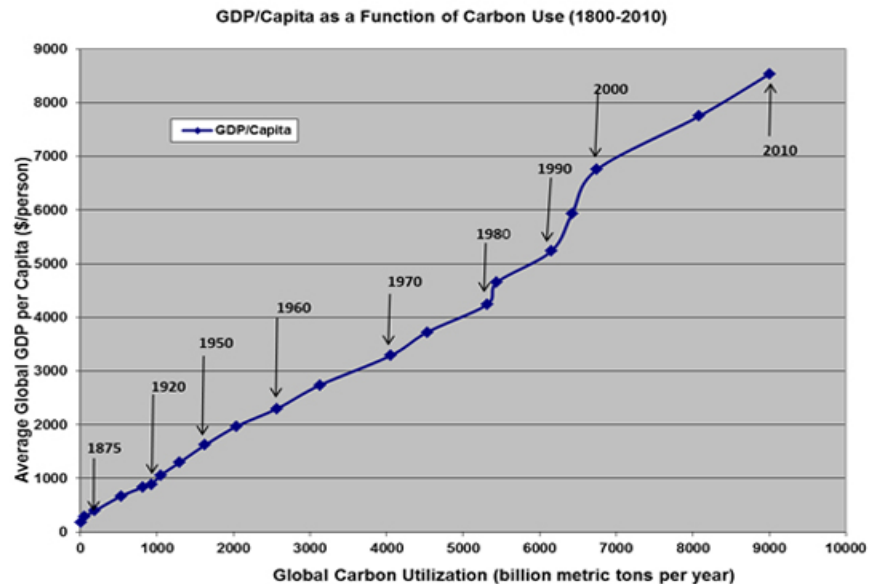
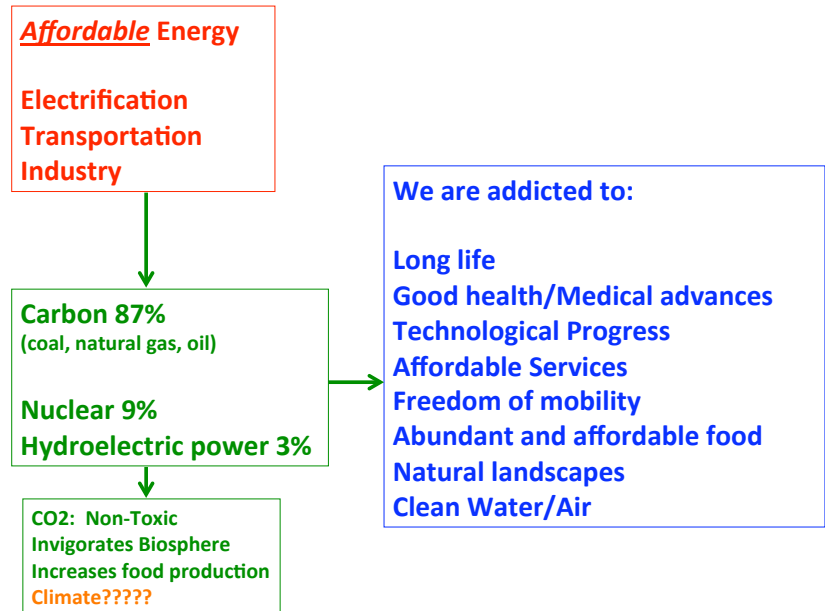
Latest sensitivity results suggest the impact is even smaller.

Figure 5. World coal consumption by region, 1990-2035 (quadrillion Btu)



What Impacts do Regulations Have on Climate?

Proposed regulations will have no measureable or attributable influence on whatever the climate does



Robert Zurbin, NRO, 28 Jan 2013

Will the most significant impact of “climate change” to Kansans, and all Americans, not come from changes in the weather, but from changes in policy that will drive up energy prices, and thus the price of everything, creating artificial markets in high-cost energy resources at tax payer expense?