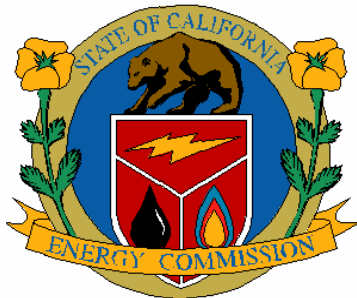


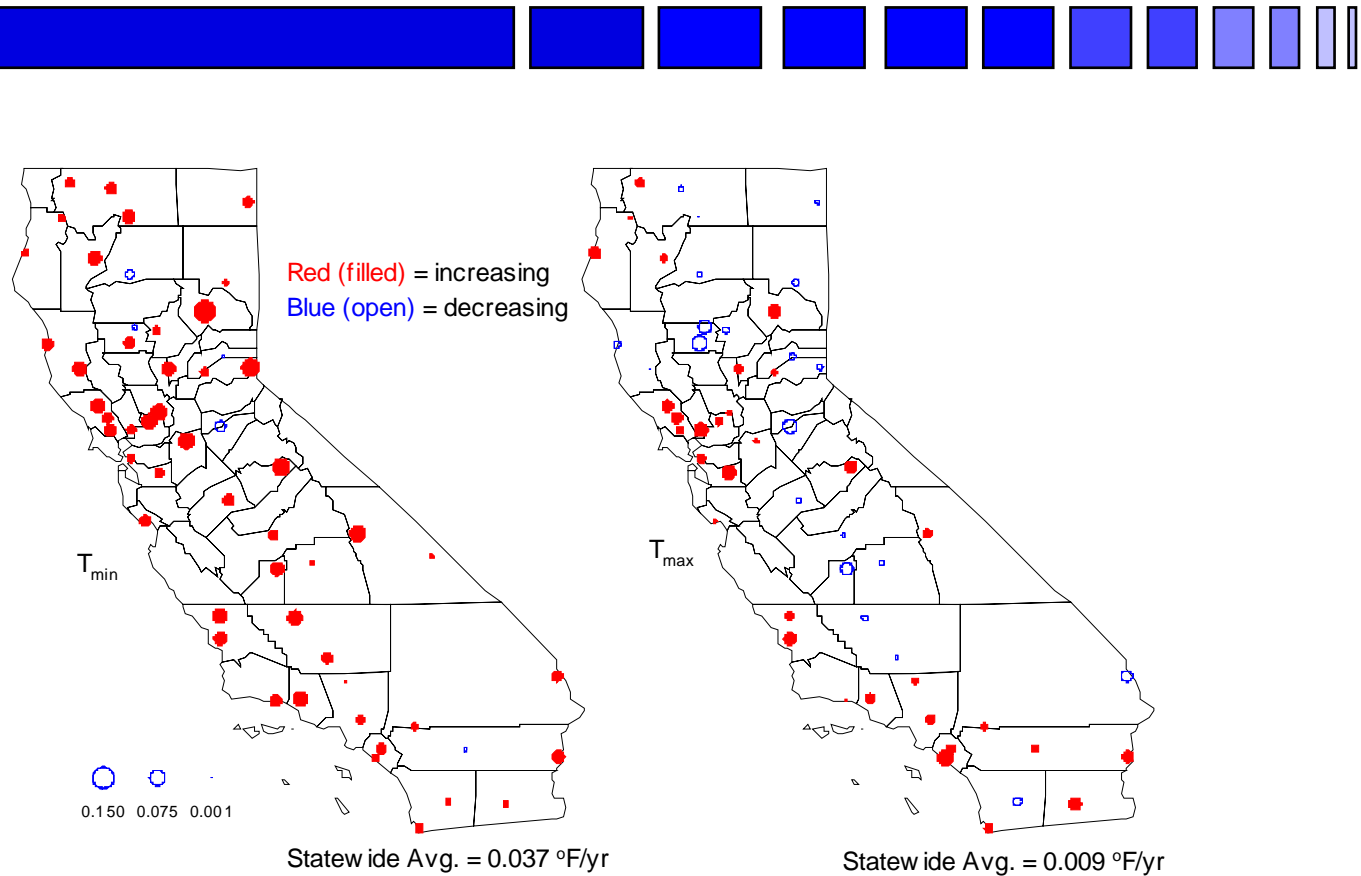


PIER Sponsored Climate Change Research in California: Agriculture

Guido Franco
Public Interest Energy Research (PIER) Program
Sept. 8, 2005

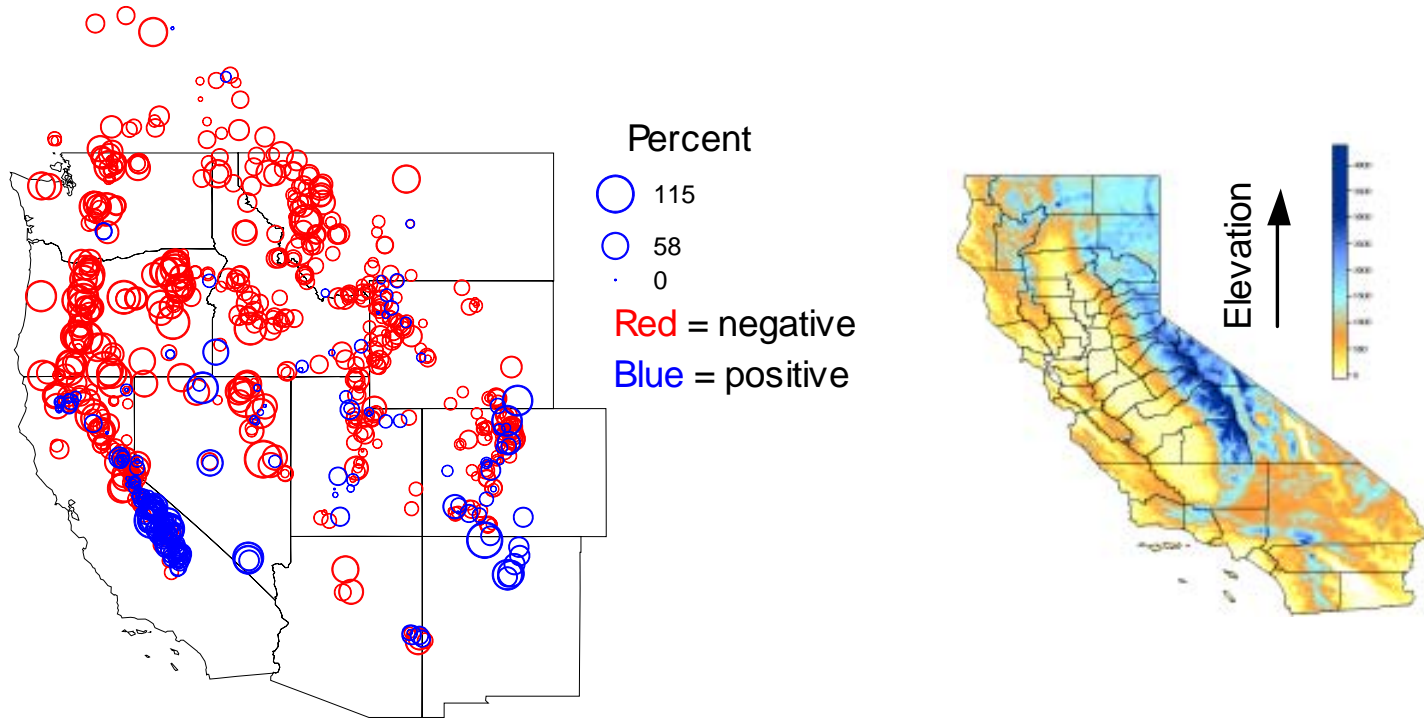


Maximum and Minimum Daily Average Summer Temperature Trends in California



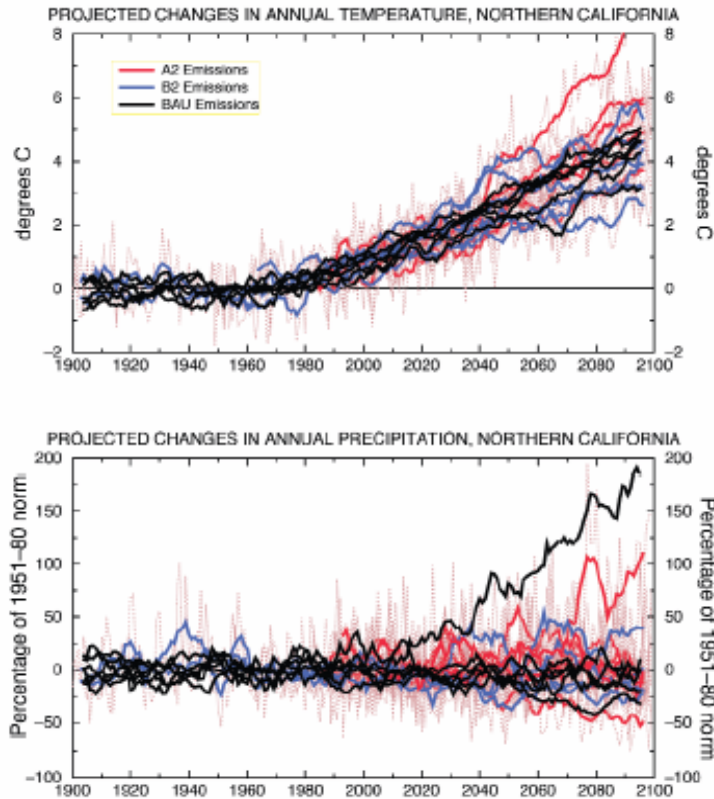
Data Source: U.S Historical Climatology Network

April 1 Snow Level Trends: 1950–1997



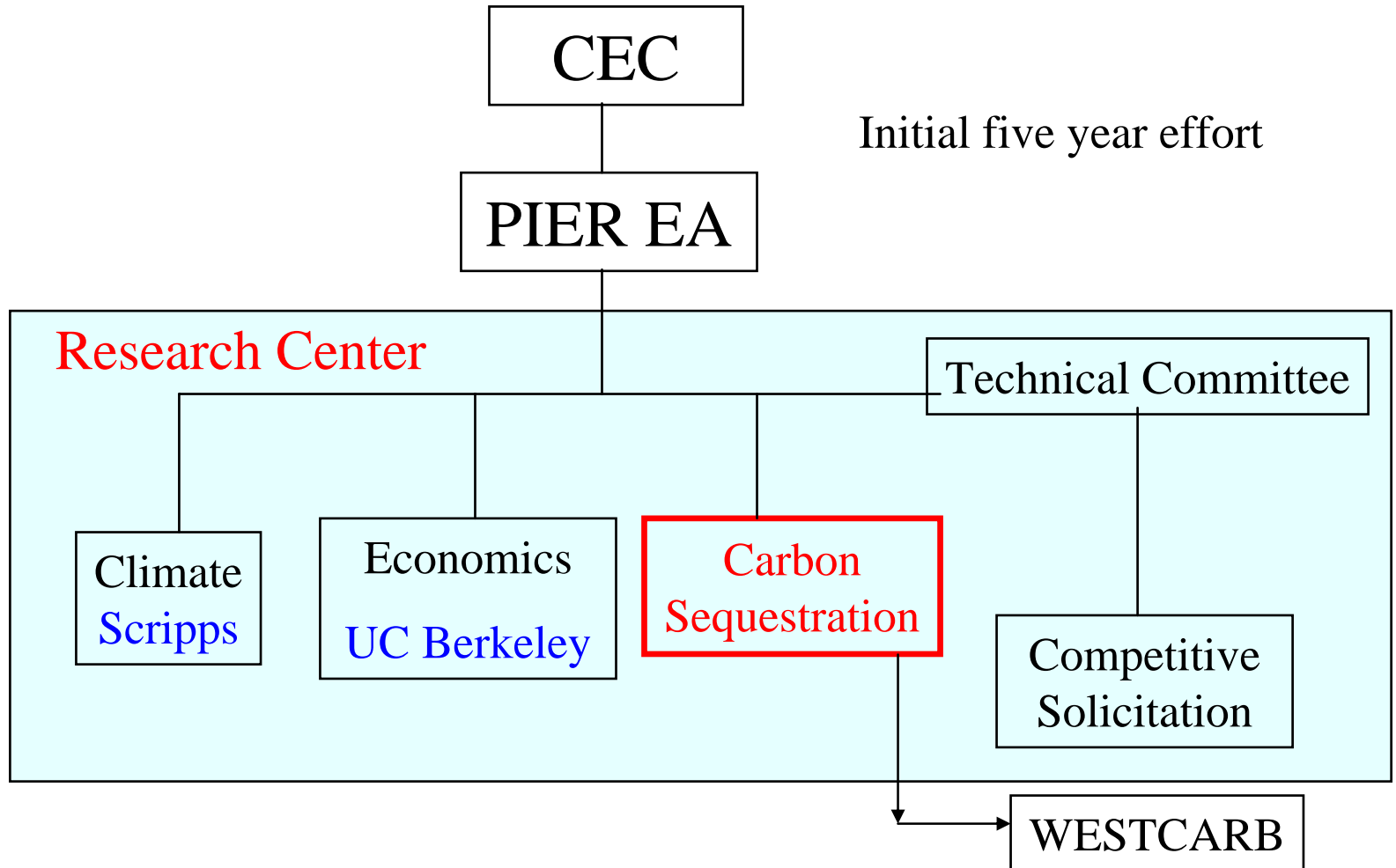
Adapted from Mote et al. 2005

Projected Change in Temperature and Precipitation in Northern California



Source: Dettinger 2005

CA Climate Change Center



Relevant Partners

- California Department of Forestry and Fire Protection
- California Department of Food and Agriculture
- Kearney Foundation
- CA Climate Change Registry, DOE, state agencies in Arizona, Oregon and Washington, and private institutions.

Relevant Research Project

- Potential Impacts of climate change in the agricultural sector (UC Davis and UC Berkeley)
- Carbon Sequestration in Agricultural Soil: a scoping study
- Potential to reduce net greenhouse gas emissions from farming operations (UC Davis)
- Development of a process-based model to estimate GHG emissions from dairy farms

“Policy” Considerations

- An international market is being created to trade GHG emission reduction credits
- At the state level the Governor issued an Executive Order that includes emission reduction goals
- Early reductions registered with the California Action Registry will be “protected.”
- Regional GHG cap-and-trade programs in the United States are being discussed



Thank you!

Guido Franco

Gfranco@energy.state.ca.us

(916) 654 3940

Emissions from the Agricultural Sector (Million Metric Tons CO2 Eq.)



Gas

Source

E

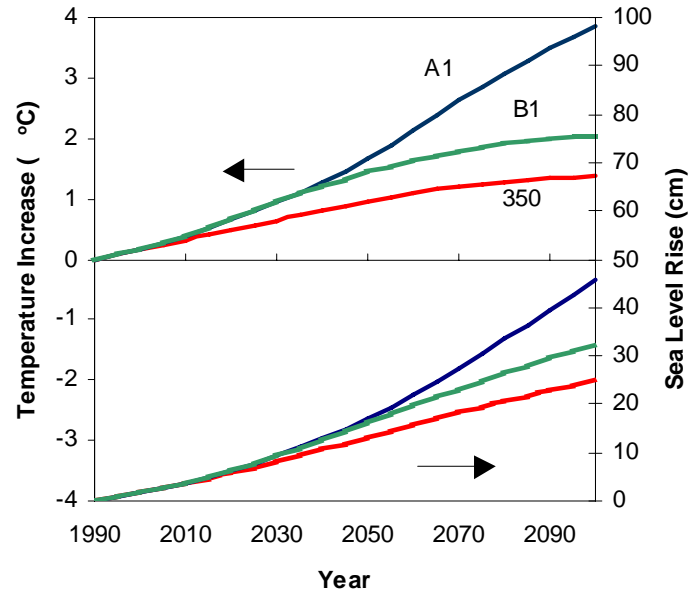
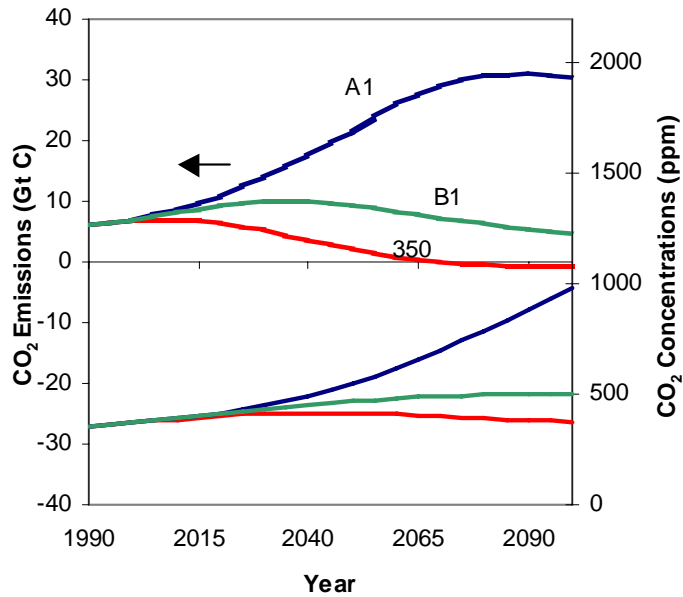
% of net

Methane	Enteric Fermentation	7.08	1.8%
	Manure Management	5.21	1.3%
	Flooded Rice Fields	0.52	0.13%
Nitrous Oxide	Agricultural Soils	14.74	3.7%
	Manure Management	0.71	0.18%

7.1 %

Note: This table does not include CO2 emissions from the combustion of fossil fuels in the ag. sector

Average Global Temperature and Sea Level Rise Under Three Illustrative Emission Scenarios



Estimated changes using the MAGICC model developed by Dr. Tom Wigley (NCAR)