

# Tracking Climate Change And Its Impacts

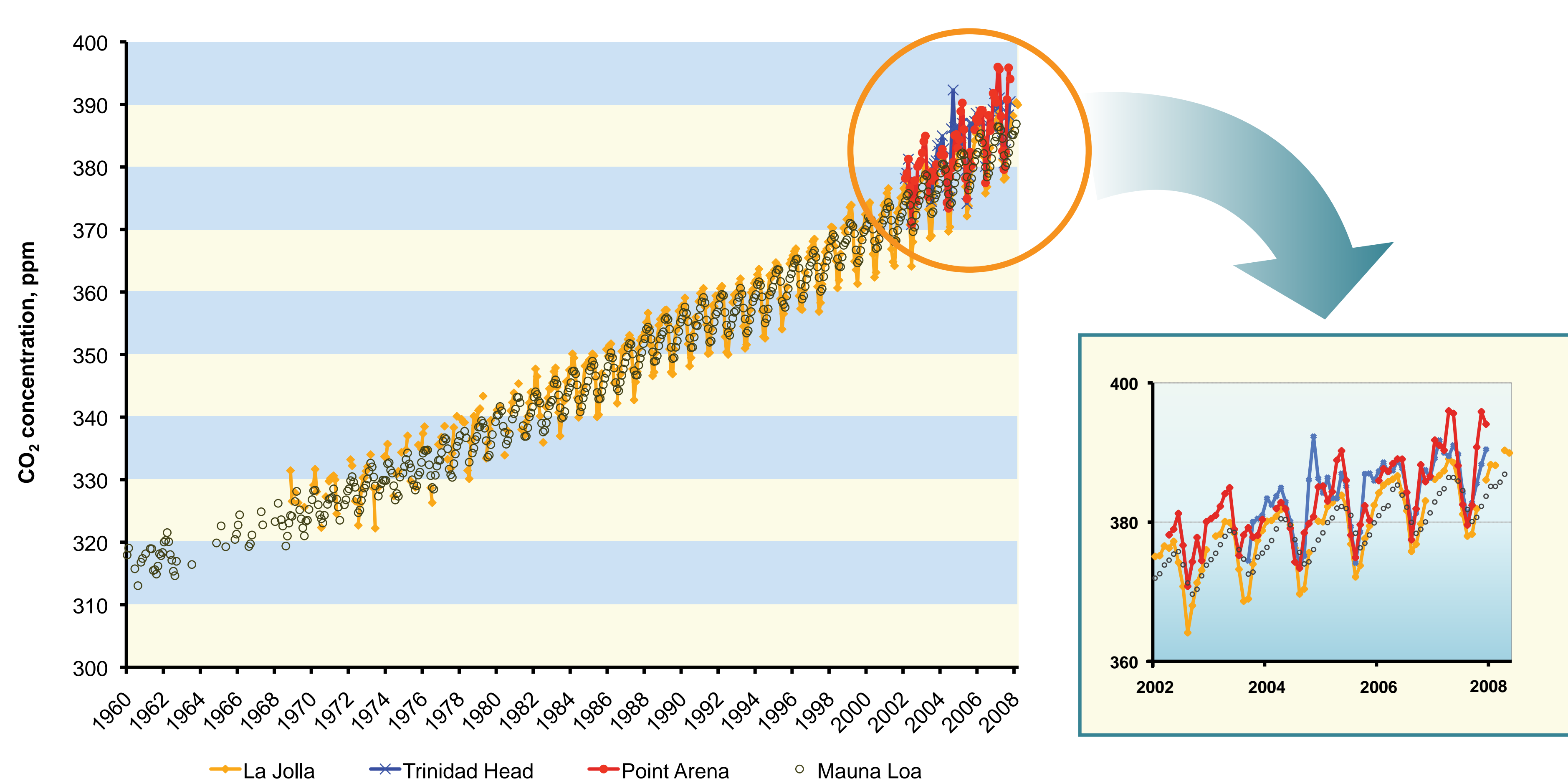
## INDICATORS OF CLIMATE CHANGE IN CALIFORNIA

California is a pioneer in efforts to track and reduce greenhouse gas emissions and to support climate change research. This wealth of scientific research and environmental monitoring are the source of indicators that help tell the story of the impacts on many of our natural systems.

Climate scientists attribute most of the warming to increasing levels of greenhouse gases in the atmosphere. These gases warm the Earth's surface by trapping heat. Water vapor, methane, nitrous oxide, halocarbons, ozone, and carbon dioxide (CO<sub>2</sub>) are examples of greenhouse gases.

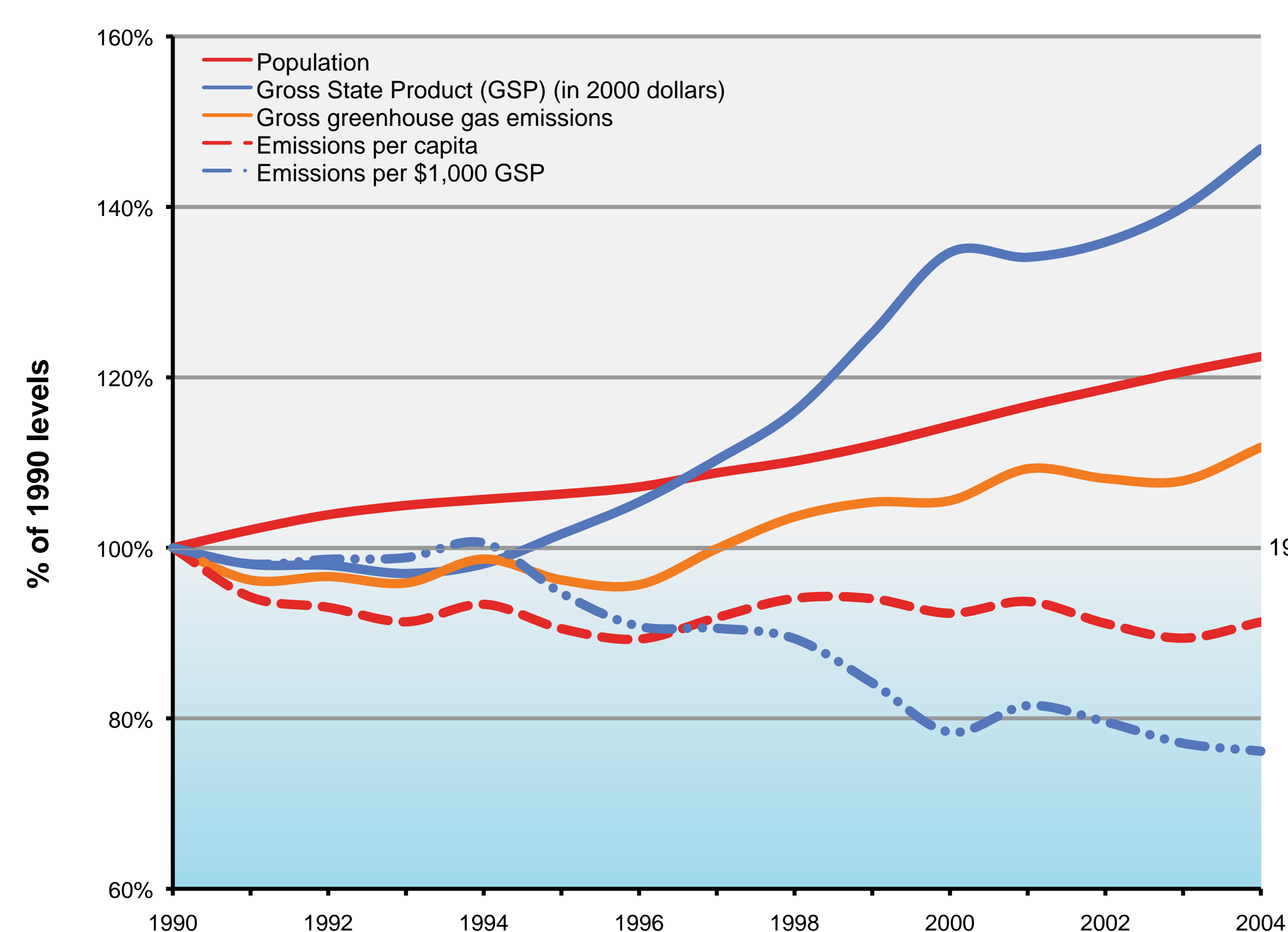
Carbon dioxide from the combustion of fossil fuels accounts for most of the greenhouse gas emissions associated with human activities. Atmospheric concentrations of carbon dioxide, as measured in coastal areas of the state, have been increasing.

Monthly Average Atmospheric Carbon Dioxide Concentrations



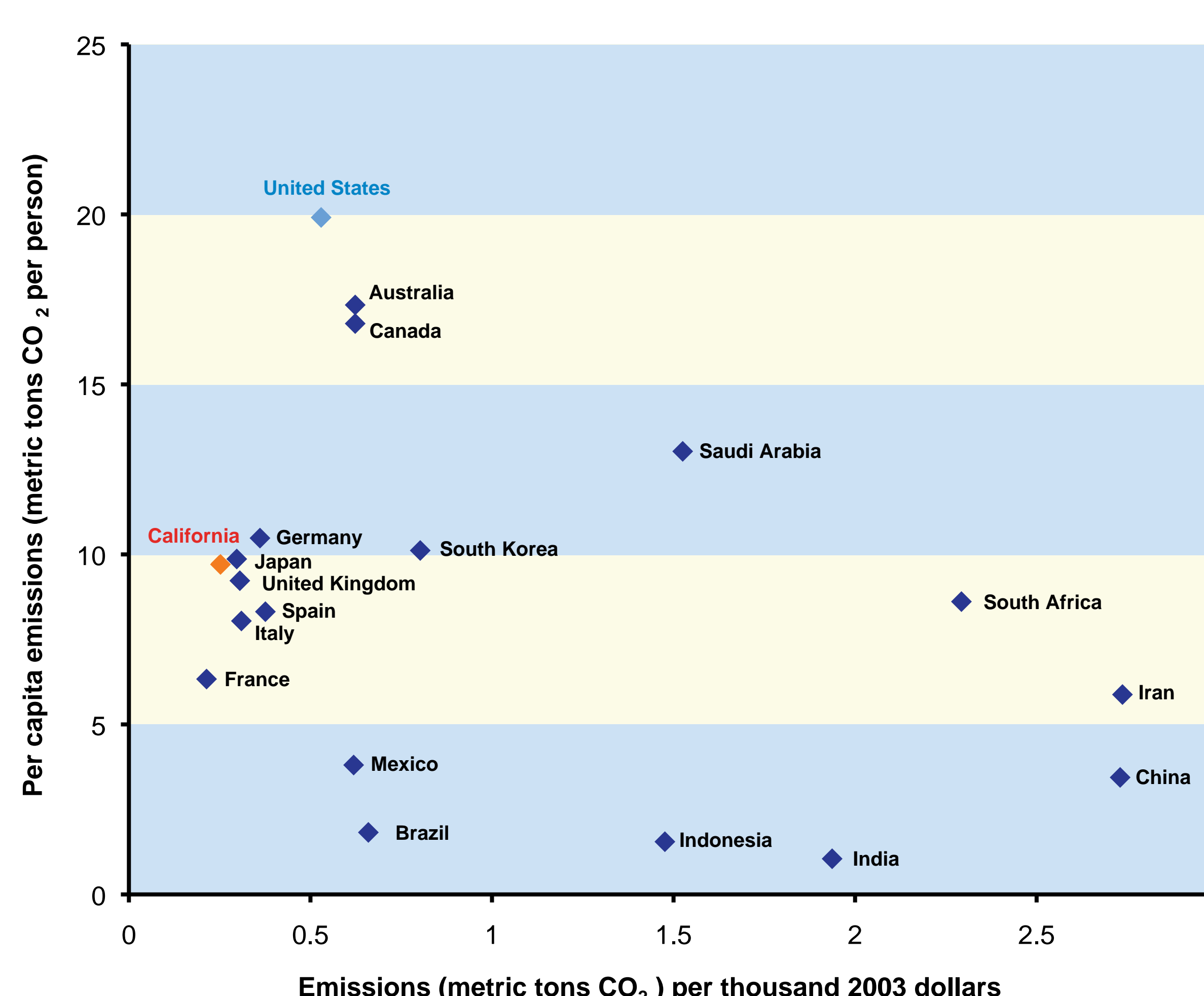
Source: National Oceanic and Atmospheric Administration, 2008

Trends in California Population, Economy and Greenhouse Gas Emissions, (Relative to 1990)



Source: Air Resources Board, 2008

CO<sub>2</sub> Emissions: A Comparison



Sources: World Resources Institute, 2007; U.S. Census Bureau, 2007; United Nations, 2007; Bureau of Economic Analysis, 2007; and California Department of Finance, 2007

California emissions of greenhouse gases have increased by about 10 percent between 1990 and 2004. Over the same period, our population increased by 27 percent and our economy by 47 percent. Despite these increases, emissions per person and per unit of the economic output have both declined. California emits much less carbon dioxide per person than the rest of the United States. Among the leading industrialized nations, the state is second only to France in having the lowest emissions per \$1,000 of economic output.

