

Climate Change in California

The background of the slide is a dramatic landscape. The top half shows a dark, stormy sky with heavy, dark clouds. A bright light source, possibly the sun or moon, is visible on the horizon, creating a strong lens flare and illuminating the scene from the right. The bottom half shows a dark, choppy sea. The overall color palette is dominated by dark blues, greys, and blacks, with a bright white/yellow light source on the right.

January 19, 2006

Overview

- Background
- Emission Reduction Strategies
- Cap and Trade
- Scenario Analysis
- Overarching Recommendations
- Next Steps

Executive Order Established Statewide GHG Targets

By 2010, Reduce to 2000 Emission Levels*

By 2020, Reduce to 1990 Emission Levels**

By 2050, Reduce to 80% Below 1990 Levels

* Equals 59 Million Tons Emission Reductions, 11% Below BAU

** Equals 145 Million Tons Emission Reductions, 25% Below BAU



Climate Action Team

- CalEPA Secretary Chairs the Team
- BT&H, CDFA, Resources, PUC, ARB, CIWMB, and CEC are Represented

Climate Action Team Report

- Action Oriented
 - Emission Reduction Strategies
 - Cap and Trade
 - Scenario Analysis
 - Environmental Justice Considerations
- Economic Analysis Draft Released
- Provides Direction for the Next Two Years

The background features a dark, moody landscape. The sky is filled with heavy, dark clouds, with a bright light source on the horizon creating a strong lens flare and illuminating the scene from the right. The foreground is a dark, textured surface, possibly water or a wet ground, reflecting the light. A thin white line runs diagonally across the image, separating the sky from the foreground.

Emission Reduction Strategies

Cornerstone Strategies Underway

□ Motor Vehicle Regulations

- Transportation is the Largest Source of Emissions in the State
- Reduce Emissions by 30 Percent by 2016

□ Efficiency Measures

- Despite Growing Energy Demands, Cal Per Capita Energy Use Has Remained Flat For 30 Years

□ Renewable Portfolio Standard

- Gov Schwarzenegger Accelerated RPS To 20% By 2010 And Is Committed To 33% By 2020

CAT Recommended Strategies

- The CAT Recommends a Broad Range of Strategies including:
 - HFC Reductions
 - Forest Management
 - Water Use Efficiency
 - Appliance and Building Efficiency, Including LSEs and Municipal Utilities
 - Smart Land Use
 - Conservation Tillage

Based on Best Available
Information to Date,
Implementation of These
Strategies will Achieve the
Governor's Targets

A dramatic seascape at sunset or sunrise. The sky is filled with dark, heavy clouds, with a bright light source on the right side creating a strong glow and illuminating a large, white, curved sail that dominates the right half of the frame. The sea is dark blue with visible ripples. In the distance, a low mountain range is visible on the horizon. The overall mood is atmospheric and somewhat somber.

Cap and Trade

Cap and Trade Benefits

- ❑ Emission Reductions Are Achieved At Least Cost
- ❑ The Cap Can Be Lowered Over Time
- ❑ Flexible Regarding How Best To Reduce Emissions
- ❑ Allows For Technological Innovation.
- ❑ Can Be Coordinated With Programs In Other Jurisdictions

Cap and Trade Challenges

- ❑ Leakage: Unilateral Adoption May Cause Activity To Shift To Neighboring States To Avoid The Cap; Emissions May Decline In California, Only To Increase In Neighboring States
- ❑ Not All Sources Can Be Covered In A Cap And Trade Program
- ❑ Emission Trading May Lead To Environmental Justice Concerns

Going Forward on Cap and Trade

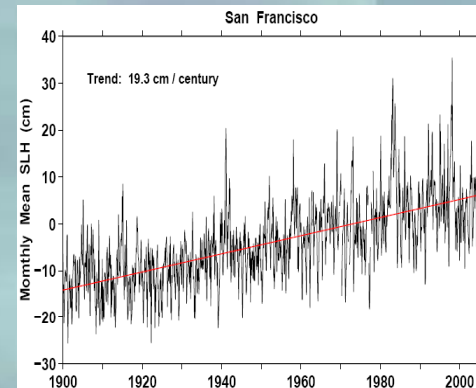
- ❑ Cap And Trade Can Be Integral To California's Strategy For Reducing Emissions
- ❑ A National Approach To Capping Emissions Within An International Framework Would Be Most Effective
- ❑ In The Absence Of National Action, California Can Lead By Example By Developing A Cap And Trade Program As A Model For National Action



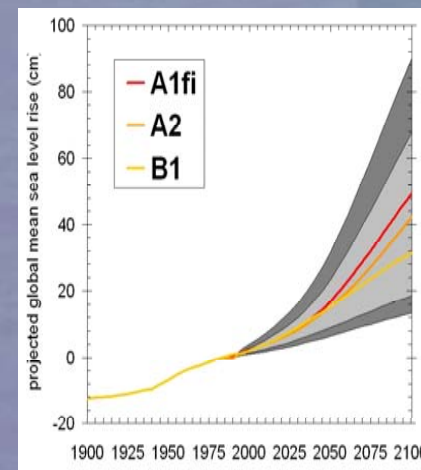
Scenario Analysis

Coastal Sea Level

- Projections For The 2070-2099 Period
 - 5 To 24 Inches (B1)
 - 7 To 30 Inches (A2)
 - 8 To 35 Inches (A1fi)



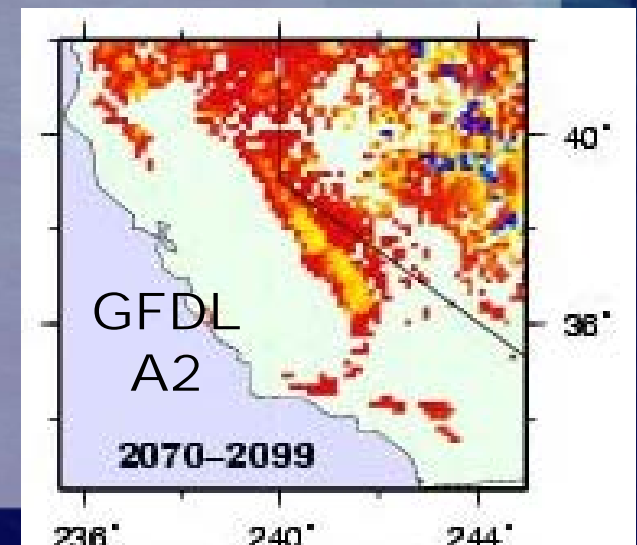
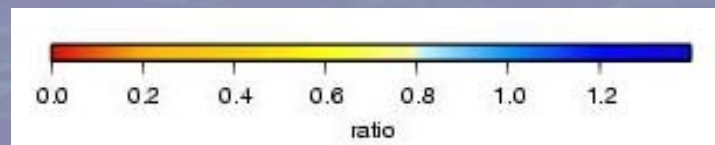
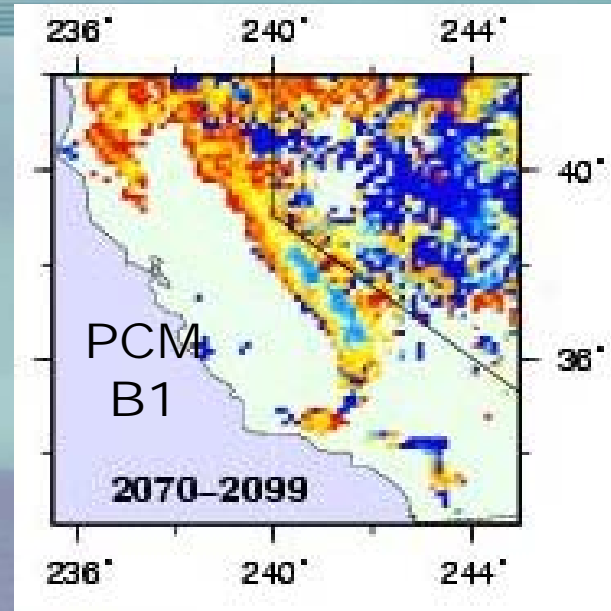
Observed Changes



Projections of global mean sea level rise

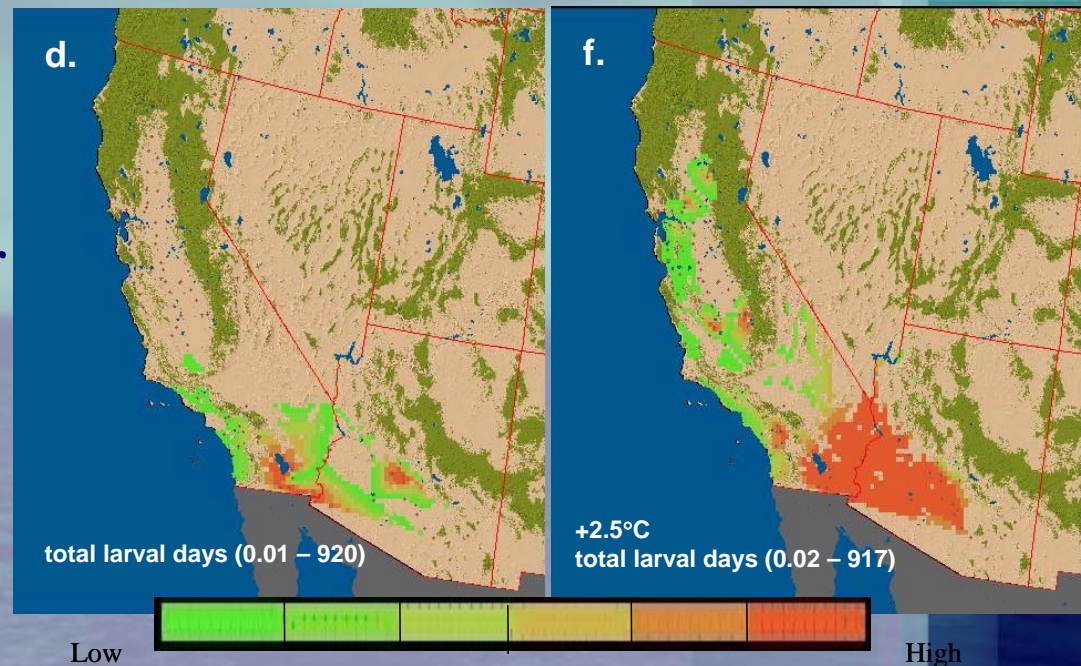
Water Resources

- ❑ Declining Snow Pack Will Aggravate The Already Overstretched Water Resources In The State
- ❑ Potential Up To 90 Percent Reductions Of April 1st Snow Levels



Agriculture

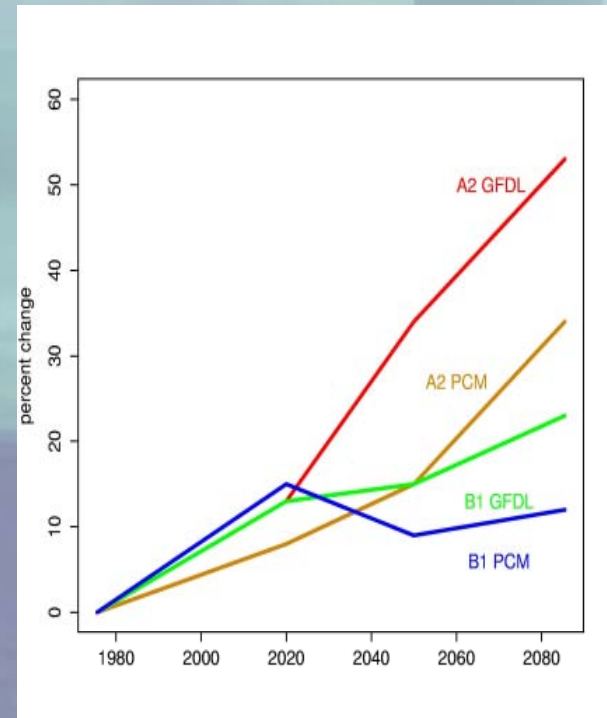
- ❑ Many Species Of Fruit Trees May Not Grow In The State Due The Lack Of Needed Winter Chill Hours
- ❑ Some Pests Such As The Cotton/Pink Bollworm (Pbw) Will Increase Their Ranges



The effect of total seasonal pest PBW larval densities (larval days) under current weather (d) and with 2.5 degrees C (f) increase in daily temperature

Forest and Natural Landscapes

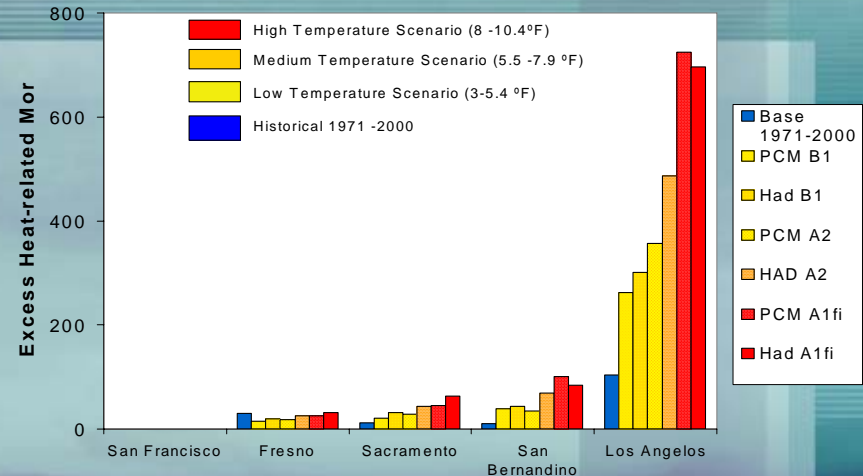
- ❑ Changes In Vegetation Patterns Will Occur
- ❑ The Alpine And Subalpine Ecosystems Are Most Susceptible
- ❑ Increases In The Number Of Large Fires Almost By 35% By Mid-century And 55% By The End Of This Century Under The A2 Scenario
- ❑ Fire Impacts Are Less Severe Under The B1 Scenario (Lower Global Emissions)



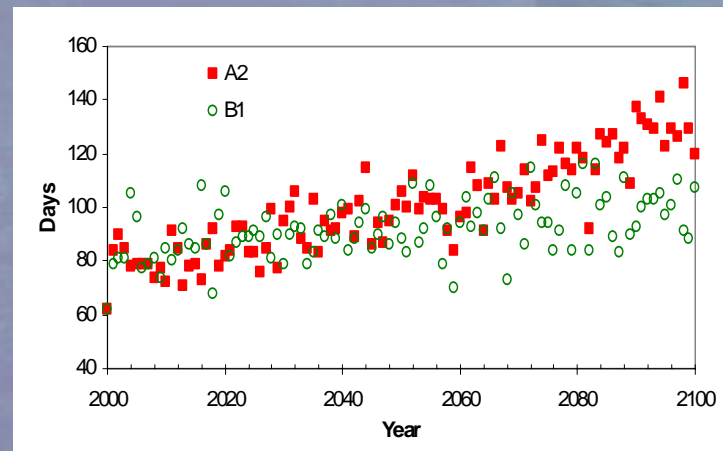
Percent change in the expected minimum Number of large fires per year in California

Public Health

- ❑ Increased Of Heat-related Mortality
- ❑ It Will Be More Difficult To Comply With Ambient Air Quality Standards For Ozone



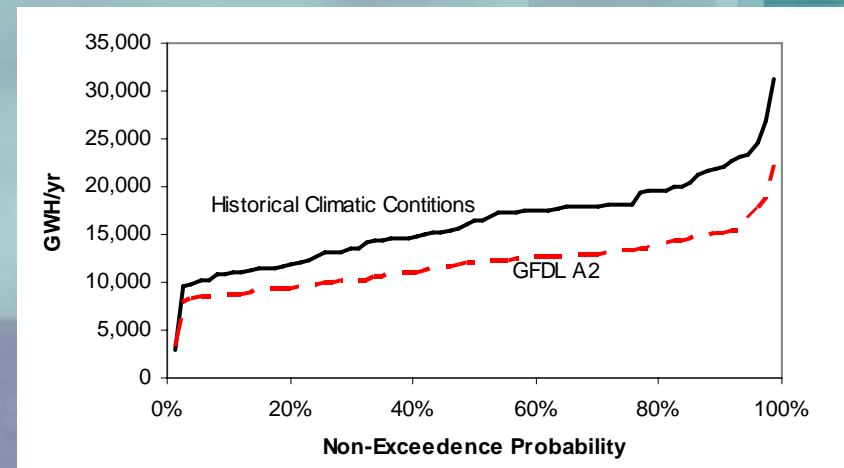
Projected annual heat-related mortality for 2070-2099 and historic mortality for 1971-2000



Projected days with meteorology conducive to exceedances Of the 1-hour state ambient air quality standard for ozone

Electricity

- Annual Hydropower Generation Will Decrease If Climate Change Reduces Precipitation Levels
- Electricity Demand Will Increase With Temperature From 3 To 20 % By The End Of This Century





Overarching Recommendations

Mandatory Emission Reporting

- ❑ Essential for Accounting and Tracking of Emission Reductions
- ❑ Track Progress Toward Meeting Governor's Targets
- ❑ Lay Foundation for Cap and Trade Program

Transportation Public Goods Charge

- ❑ Transportation is the Largest Source of Emissions in CA
- ❑ 2005 IEPR Includes a Public Goods Charge “to establish a secure long-term source of funding for a broad transportation program.”
- ❑ Petroleum Uniquely Excluded at Present
- ❑ Funding Needed for Transportation Strategies
- ❑ Benefit to Public from Reduced Dependence on Petroleum and Economic and Environmental Consequences of Petroleum Dependence

Coordinated Investment Strategy

- ❑ State Investment Programs Reflect The Commitment And Recognize The Benefits Of A Low-carbon Footprint
- ❑ Provide Incentives For Industry To Develop Emission Reduction Technologies
- ❑ University Efforts To Train The Technicians Of The Future Would Also Be Encouraged
- ❑ Support The Growth Of California Businesses

Early Action Credit To California Businesses

- ❑ A Number Of California Businesses Are Supportive Of The Governor's Targets
- ❑ These Companies Have Registered Emissions & Reductions With California Climate Action Registry
- ❑ Ensure That Proactive Companies Are Not Penalized
- ❑ California's Companies Must Be Able To Participate In Joint Actions Leading To A National And International Cooperative Effort

Next Steps

- Two Additional Public Meetings In January
 - Jan 23 in Sacramento
 - Jan 24 in LA
- Release Report to Governor and Legislature mid February