Climate Part II
Climate basics – Projections

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Projections of future climate depend on emissions

- Regional economies, technology slow to spread
- More integrated world
- More integrated & ecologically friendly
- Constant composition commitment
- 20th century

Global surface warming (°C)

Year

Stabilization at 2100 levels
Continental-scale projections of warming
Forecasts vs. projections

What is the relationship between climate change & weather?

Climate is average weather; thus climate change & weather are intertwined. Observations & statistics of changes in weather over time identify climate change.

Common confusion: how can scientists predict climate 50 years from but only predict the weather a few days out. The chaotic nature of weather.

Projecting changes in climate (i.e., long-term average weather) due to changes in atmospheric composition or other factors is a very different and much more manageable issue.

As an analogy, while it is impossible to predict the age at which any particular man will die, we can say with high confidence that the average age of death for men in industrialized countries is about 75.
Weather forecast – 7 days out

**Sausalito CA**

**Point Forecast:** Sausalito CA  
37.83°N 122.48°W (Elev. 184 ft)  
**Forecast Valid:** 10pm PDT Apr 8, 2011 - 5pm PDT Apr 15, 2011

**Forecast at a Glance**

- **Tonight:** Mostly sunny, Hi 59°F, Lo 45°F
- **Saturday:** Mostly sunny, Hi 59°F, Lo 47°F
- **Saturday Night:** Mostly cloudy, Hi 58°F, Lo 49°F
- **Sunday:** Mostly sunny, Hi 59°F, Lo 49°F
- **Sunday Night:** Mostly cloudy, Hi 58°F, Lo 47°F
- **Monday:** Mostly sunny, Hi 60°F, Lo 47°F
- **Monday Night:** Mostly clear, Hi 58°F, Lo 47°F
- **Tuesday:** Mostly sunny, Hi 60°F, Lo 47°F
- **Tuesday Night:** Mostly clear, Hi 60°F, Lo 47°F

**Detailed 7-day Forecast**

- **Tonight:** Party cloudy, with a low around 45. West wind at 5 mph becoming east southeast.
- **Saturday:** Mostly sunny, with a high near 59. Southwest wind 5 to 8 mph becoming west between 18 and 21 mph. Winds could gust as high as 26 mph.
- **Saturday Night:** Party cloudy, with a low around 47. West wind 17 to 20 mph decreasing to between 9 and 12 mph. Winds could gust as high as 24 mph.
- **Sunday:** Party sunny, with a high near 59. West wind between 7 and 10 mph.
- **Sunday Night:** Mostly cloudy, with a low around 49. West southwest wind between 5 and 10 mph.
- **Monday:** Mostly sunny, with a high near 58.
- **Monday Night:** Mostly clear, with a low around 47.
- **Tuesday:** Mostly sunny, with a high near 60.
- **Tuesday Night:** Mostly clear, with a low around 47.
- **Wednesday:** Mostly sunny, with a high near 59.
- **Wednesday Night:** Party cloudy, with a low around 49.
- **Thursday:** Mostly sunny, with a high near 60.
- **Thursday Night:** Party cloudy, with a low around 49.

**Regional Forecast: San Francisco Bay Area/Monterey, CA**

- **Humidity:** 56%
- **Wind Speed:** calm
- **Pressure:** N/A

**Current Conditions**

**SAN FRANCISCO DOWNTOWN**  
Last Update on 08 Apr 20:43 PDT
Outlooks beyond one week are expressed as probabilities of being above or below normal/median, i.e. relative to past 30-year period.

**Temperature**

**Precipitation**
One-month & three-month outlooks are expressed as probability of being in upper or lower tercile of climatological values, i.e. relative to past 30-year period.

Deviations from normal are based largely on ENSO conditions.

Temperature

Precipitation