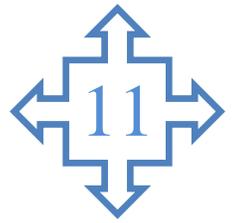


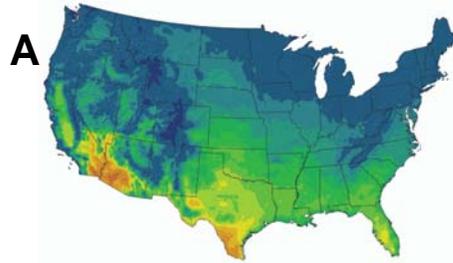
Thinking About Climate Change

Number of Days above 90°F

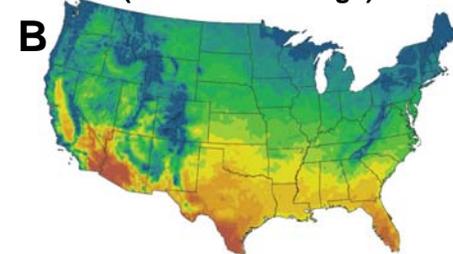


One way to look at changes that are occurring with our climate is to investigate the changes in the frequency of hot (number of days over 90°F) or cold days (below freezing) during the year to look for long term trends. Scientists have studied meteorology records across the United States and have created a map that shows on average the number of days that the temperature reached above 90°F from 1961 through 1979 (Map A). This information was used in computer models to predict possible changes based on two emission scenarios, one, with a low CO₂ emissions and another with high CO₂ emissions data set and constructed two maps (B&C) to show how this current scenario might change by the end of the century. Maps B & C show the results of the model run.

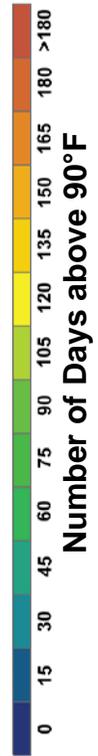
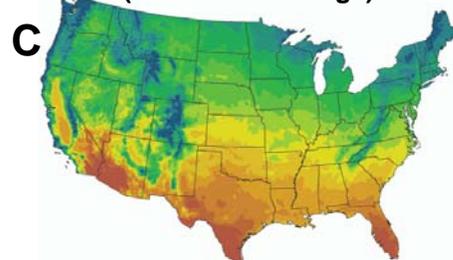
Recent Past -- (1961-1979 Average)



Projected **Lower Emissions Scenario** (2080-2099 average)



Projected **Higher Emissions Scenario** (2080-2099 average)



Number of Days above 90°F

Thinking About Climate Change: Number of Days above 90°F

1. In the recent past (Map A), which states averaged the most days above 90 °F? _____
2. In the recent past (Map A), which states had an average of zero days above 90 °F? _____
3. How does the number of days above 90 °F change between the recent past to the projected future (Maps B & C)? _____

4. If either the low emissions scenario or the high emissions scenario comes to pass, what impact will this have on everyday living?

5. What is the overall trend that you see in the two projected number of days over 90°F? Does this trend occur in all states? Why or why not?

Source: *Global Climate Change Impacts in the U.S.*, 2009, page 34.



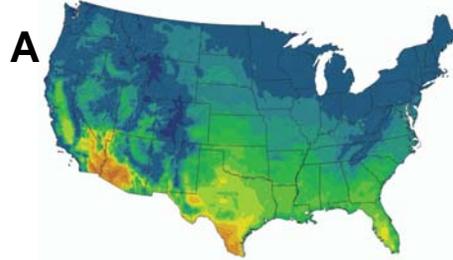
Thinking About Climate Change

Number of Days above 90°F

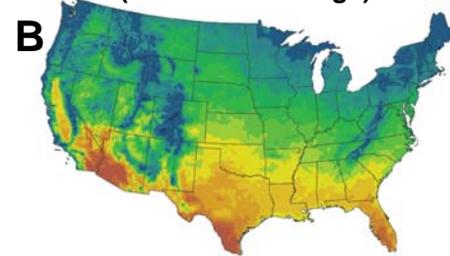


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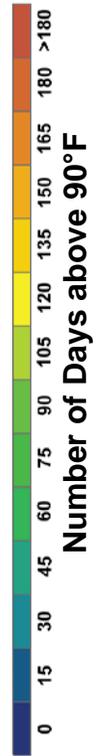
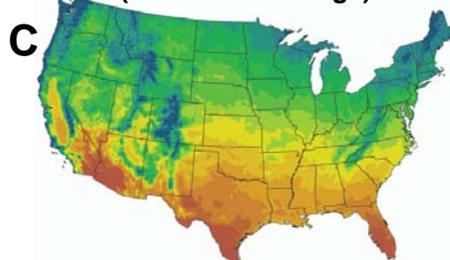
Recent Past -- (1961-1979 Average)



Projected **Lower Emissions Scenario** (2080-2099 average)



Projected **Higher Emissions Scenario** (2080-2099 average)



Number of Days above 90°F

Thinking About Climate Change: Number of Days above 90°F

1. In the recent past (Map A), which states averaged the most days above 90°F? **California, Texas and Florida and Nevada.**
2. In the recent past, which states had an average of zero days above 90°F? **Colorado, Wyoming, Montana, Idaho, Utah, New Mexico.**
3. How does the number of days above 90°F change between the recent past to the projected future (Maps B & C)? **The area represented by orange and yellow expands as over time and more so in the higher emissions scenario. All the other areas of the country show a shift to more days above 90°F.**
4. If either the low emissions scenario or the high emissions scenario comes to pass, what impact will this have on everyday living? **Many homes in the northern portions of our country do not have air conditioning since they experience cooler conditions even in the summer. These homeowners will probably need to install air conditioning. There may be more heat illnesses experienced by those without air conditioning or who spend time outside (work or play). Plants adapted to cooler conditions will not thrive. Changes in weather and precipitation patterns may occur. Homes will need to be insulated better. Pressure on water resources will increase and would need to be more carefully monitored to ensure enough drinking water. Ranges of plants and animals will move northward and could compete with animals already in that range. There may be an advantage for invasive species to expand their ranges.**
5. What is the overall trend that you see in the two projected number of days over 90°F? Does this trend occur in all states? Why or why not? **The trend is generally towards an increase in number of days over 90°F.**

Source: *Global Climate Change Impacts in the U.S.*, 2009, page 34.