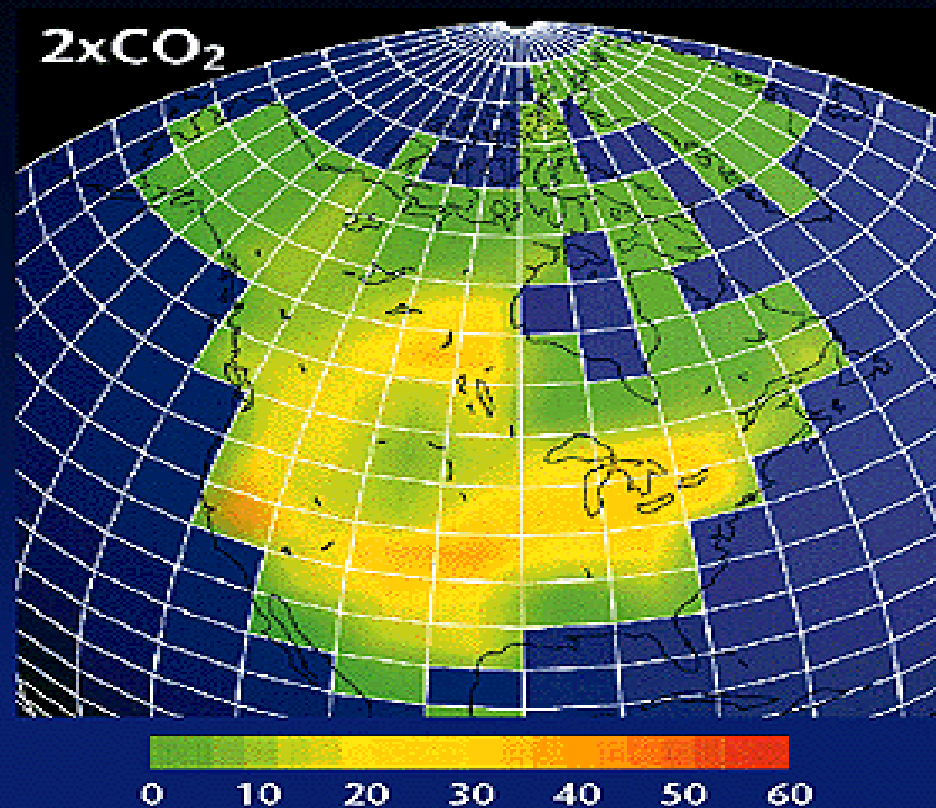


# Projected Future U.S. Soil Moisture Patterns

Percent Reduction in June-August  
Soil Moisture



# Increasing drought previously reduced soil stability



# Changing drought frequencies will shift wildfire distributions





# Increasing Spring Flooding



**Hurricane frequencies and intensities and sea levels will shift**



**Storminess and storm intensity  
is increasing**



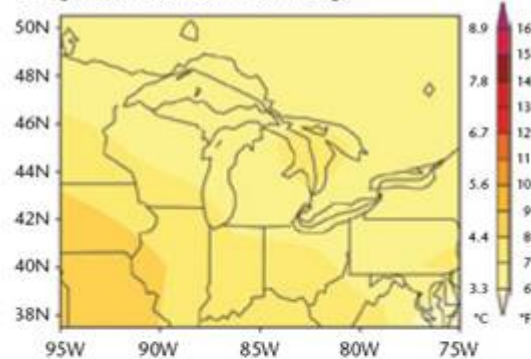


# Early spring moisture may increase

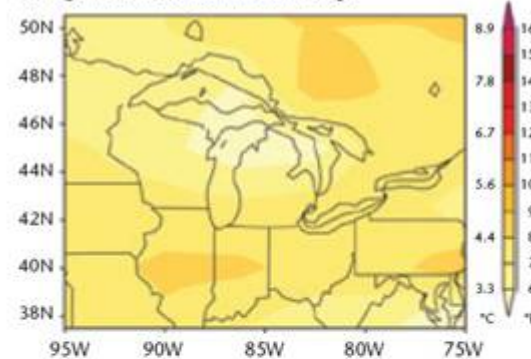


# Future Warming in the Great Lakes Region

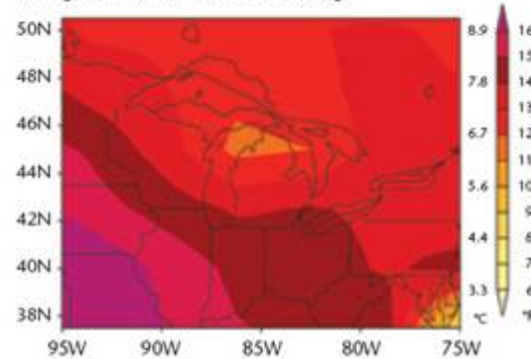
2070–2099 Summer (JJA) Temperature for Low Emissions  
Change Relative to 1961–1990 Average



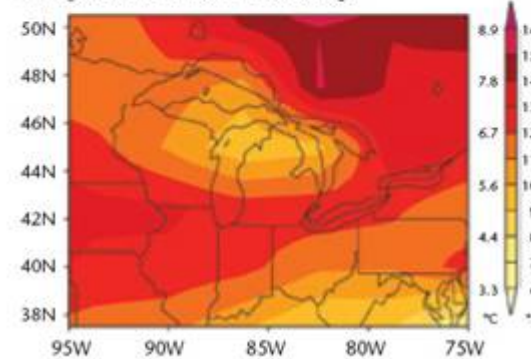
2070–2099 Winter (DJF) Temperature for Low Emissions  
Change Relative to 1961–1990 Average



2070–2099 Summer (JJA) Temperature for High Emissions  
Change Relative to 1961–1990 Average



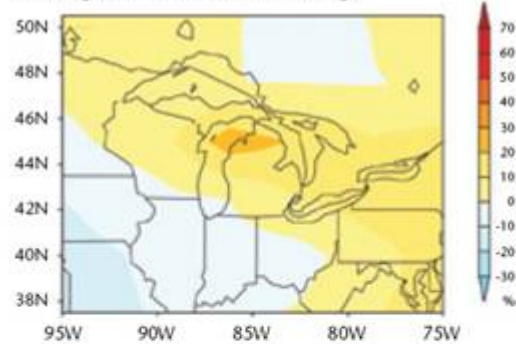
2070–2099 Winter (DJF) Temperature for High Emissions  
Change Relative to 1961–1990 Average



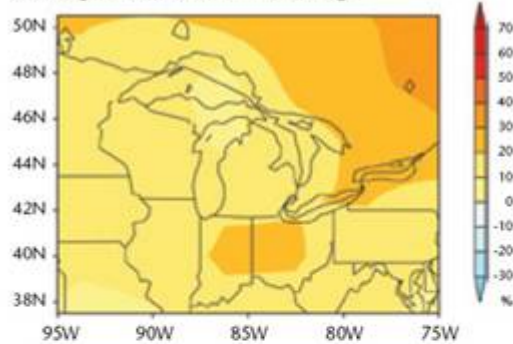


# Future rainfall amounts in the Great Lakes Region

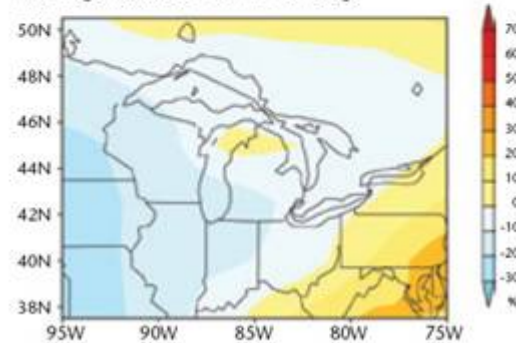
2070–2099 Summer (JJA) Precipitation for Low Emissions  
% Change Relative to 1961–1990 Average



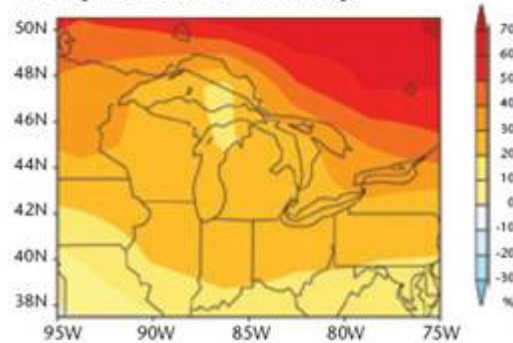
2070–2099 Winter (DJF) Precipitation for Low Emissions  
% Change Relative to 1961–1990 Average



2070–2099 Summer (JJA) Precipitation for High Emissions  
% Change Relative to 1961–1990 Average

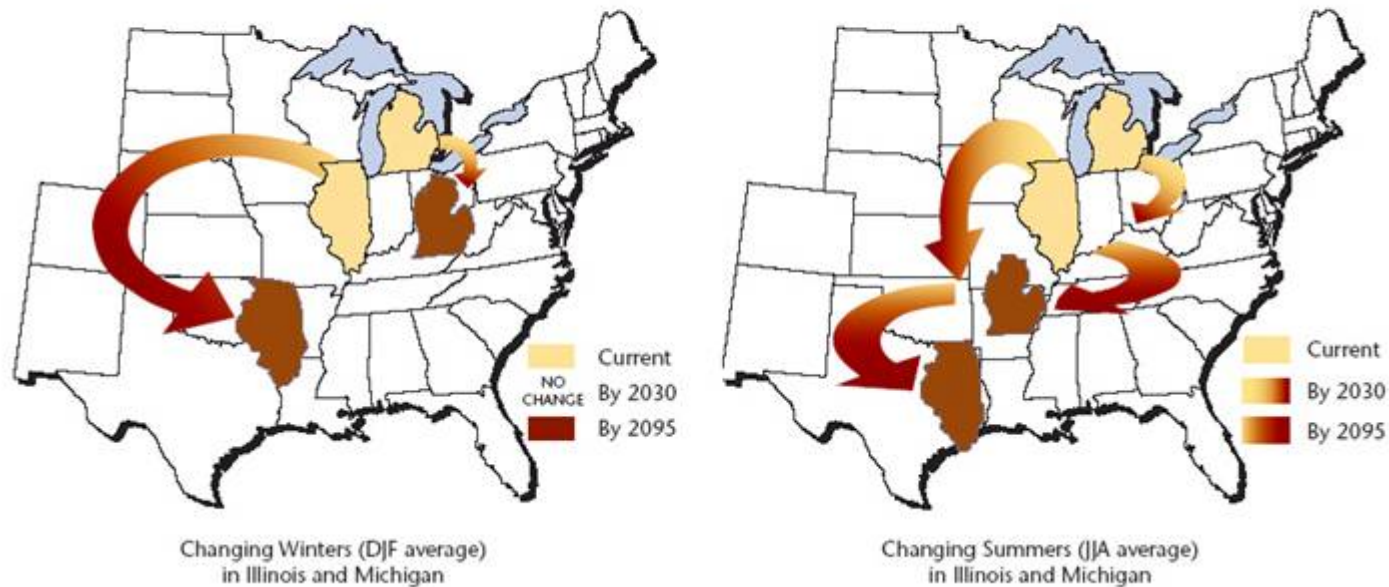


2070–2099 Winter (DJF) Precipitation for High Emissions  
% Change Relative to 1961–1990 Average

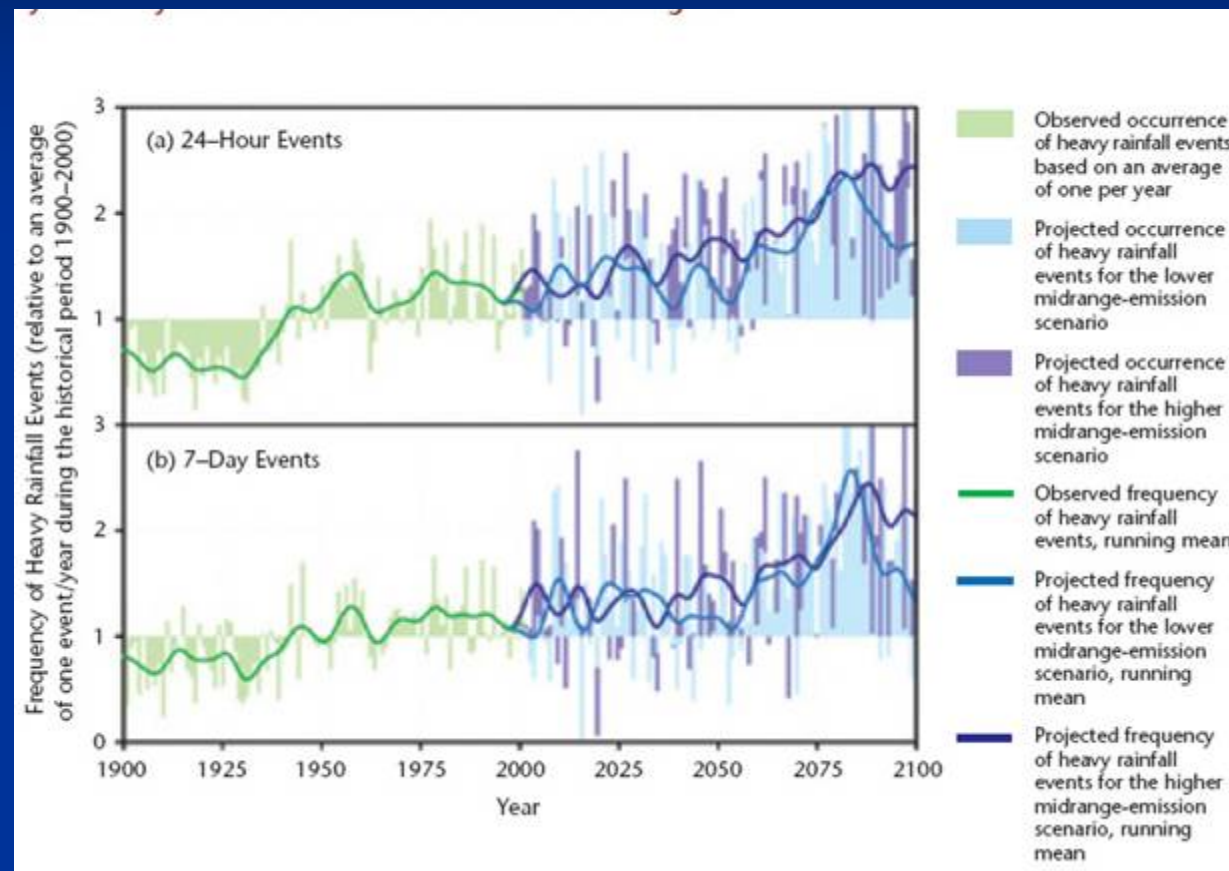


# Future climates can be understood in terms of today's geography

FIGURE 16  
Migrating Climate: Changing Winters and Summers in Illinois and Michigan  
from page 19



# Frequency of heavy rainfall events in the Great Lakes Region is increasing





# Wildfowl populations decline



# Fish populations undergo stress

## Lake Michigan Fish Kill

*from page 23*



Photo Credit: John J. Magnuson

# Wetter springs, drier summers



Precipitation Shifts Signal Trouble for Farmers

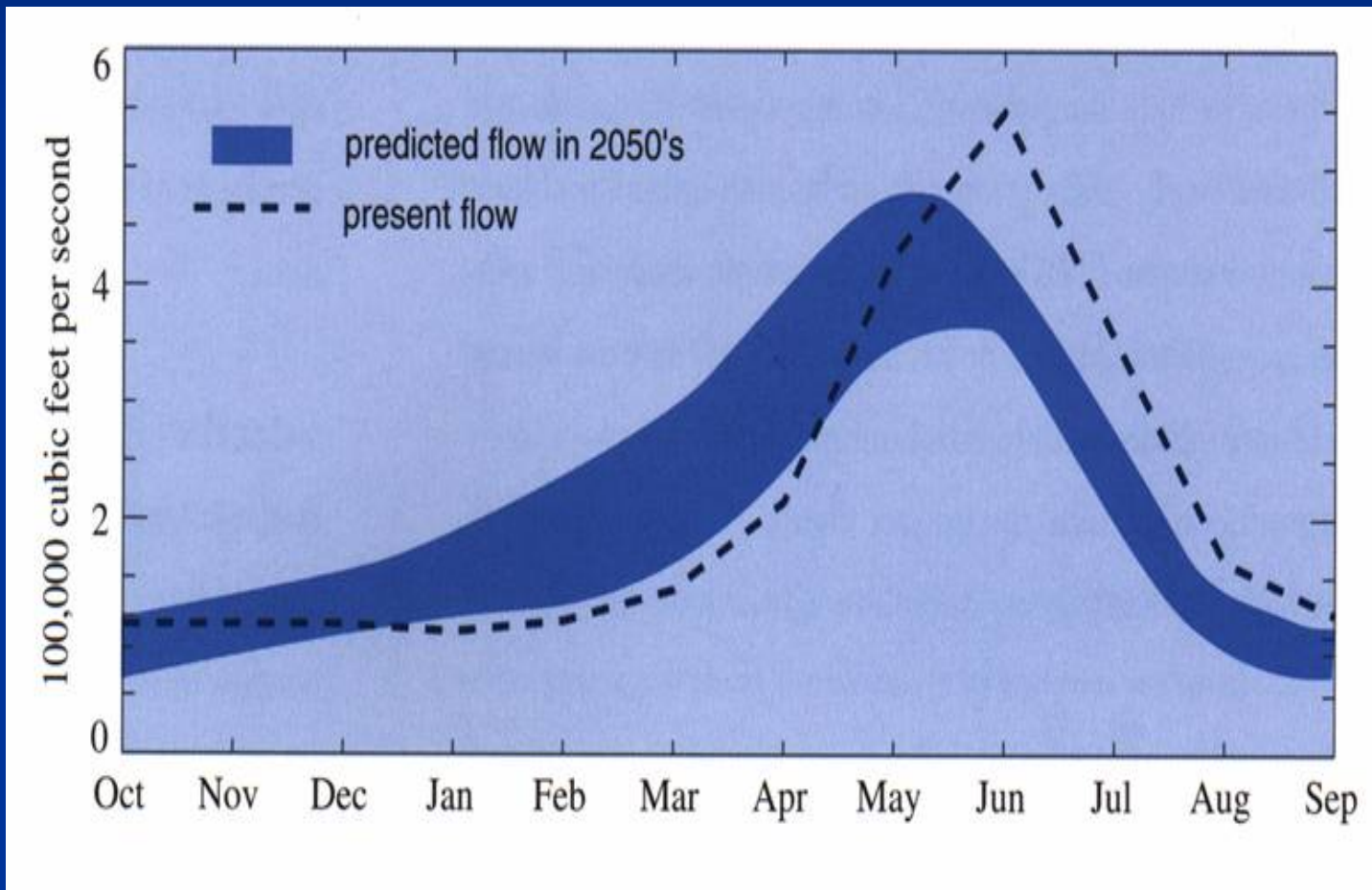


# Great Lakes water levels decline

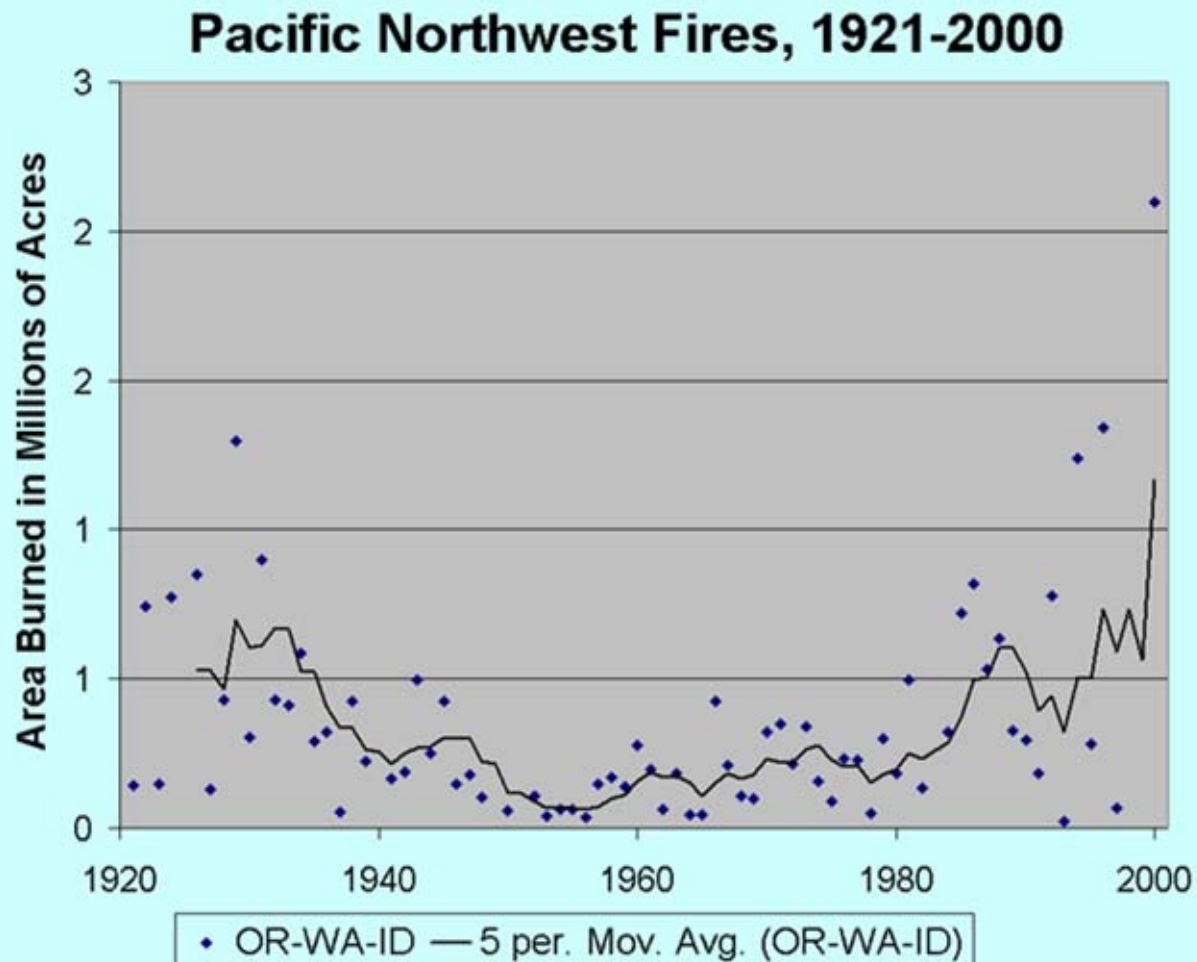
Water Changes Affect Hydropower



# Climate Changes Projected for the Pacific Northwest: Available Water



# Historic Changes in Wildfires

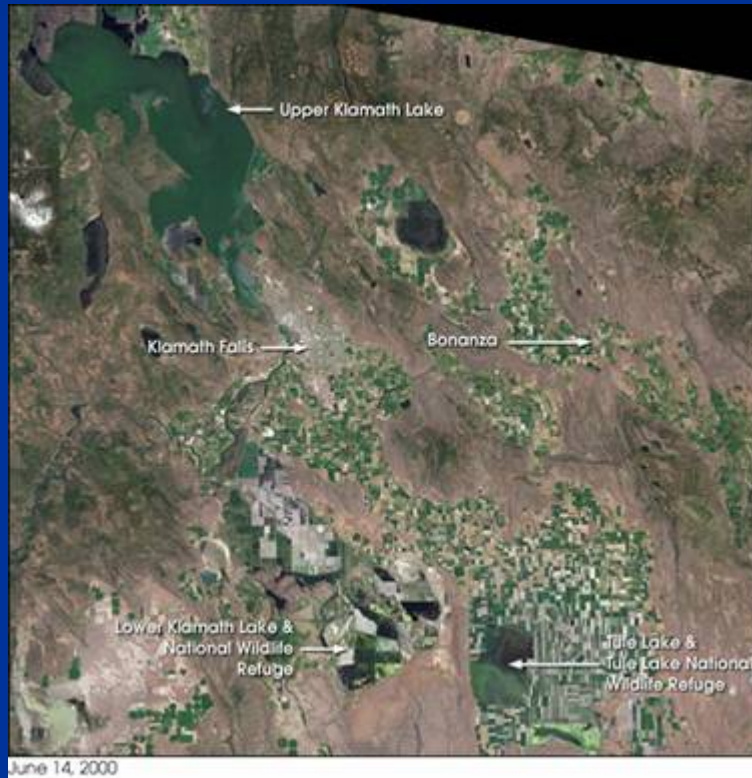




# Pacific Northwest: Changing Salmon Populations



# Pacific Northwest: Declining Surface Water for Irrigated Farming





# Pacific Northwest: Declining Water for Summer Power





# Assessments used here

## Confronting Climate Change in the Great Lakes Region

Impacts on Our Communities and Ecosystems



## PREPARING FOR A CHANGING CLIMATE

*The Potential Consequences  
of Climate Variability and Change*

### Great Lakes Overview

*A Report of the  
Great Lakes Regional  
Assessment Group*

*For the  
U.S. Global Change  
Research Program*

October 2000

## IMPACTS OF CLIMATE VARIABILITY AND CHANGE

Pacific Northwest

*A Report of the Pacific  
Northwest Regional  
Assessment Group  
For the  
U.S. Global Change  
Research Program*

November 1999