IPCC Working Group II
March 2014

Summary of findings
North America Chapter

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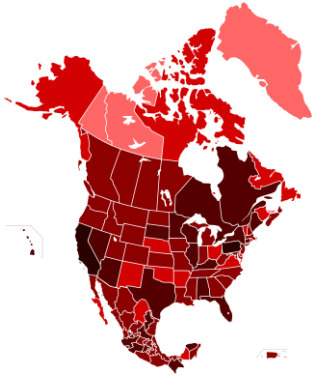
The North America Chapter provides a synthesis of the climate impacts and adaptation research for Canada, the United States and Mexico.



This is the first time IPCC has included Mexico in North American.

Impacts in the far North continue to be assessed in the Polar Regions Chapter.

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Key findings

1. North America's climate has changed and some societally-relevant changes have been attributed to anthropogenic causes (*very high confidence*). Recent climate changes and individual extreme events demonstrate both impacts of climate-related stresses and vulnerabilities of exposed systems (*very high confidence*).

2. Many climate stresses that carry risk – particularly related to severe heat, heavy precipitation and declining snowpack – will increase in frequency and/or severity in North America in the next decades (*very high confidence*).

3. North American ecosystems are under increasing stress from rising temperatures, CO_2 concentrations, and sea-levels, and are particularly vulnerable to climate extremes (*very high confidence*).

Key findings

4. Water resources are already stressed in many parts of North America due to non-climate change anthropogenic forces, and are expected to become further stressed due to climate change (*high confidence*).

5. Effects of temperature and climate variability on yields of major crops have been observed (*high confidence*). Projected increases in temperature, reductions in precipitation in some regions, and increased frequency of extreme events would result in net productivity declines in major North American crops by the end of the 21st Century without adaptation, although the rate of decline varies by model and scenario, and some regions, particularly in the north, may benefit (*very high confidence*).

6. Human health impacts from extreme climate events have been observed, although climate change-related trends and attribution have not been confirmed to-date.

Key findings

7. Observed impacts on livelihoods, economic activities, infrastructure and access to services in North American urban and rural settlements have been attributed to sea level rise, changes in temperature and precipitation, and occurrences of such extreme events as heat waves, droughts and storms (high confidence).

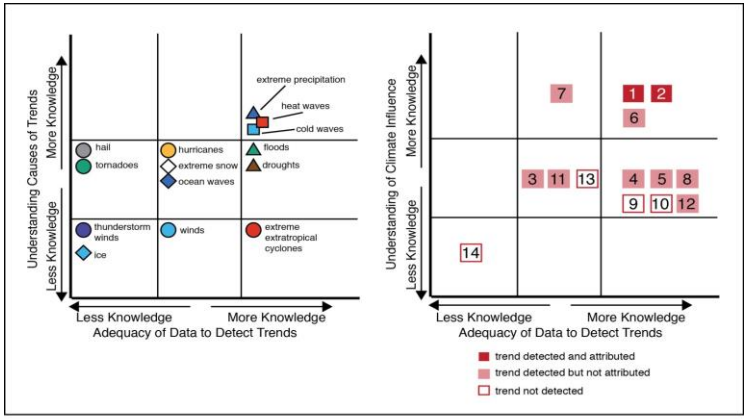
8. Much of North American infrastructure is currently vulnerable to extreme weather events and, unless investments are made to strengthen them, would be more vulnerable to climate change (*medium confidence*).

9. Most sectors of the North American economy have been affected by and have responded to extreme weather, including hurricanes, flooding, and intense rainfall (*high confidence*).

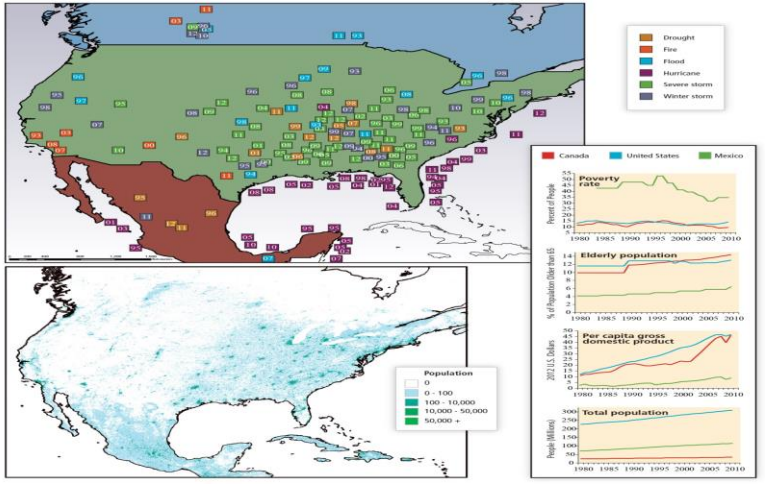
Key findings

10. Adaptation – including through technological innovation, institutional strengthening, economic diversification, and infrastructure design – can help to reduce risks in the current climate, and to manage future risks in the face of climate change (medium confidence).

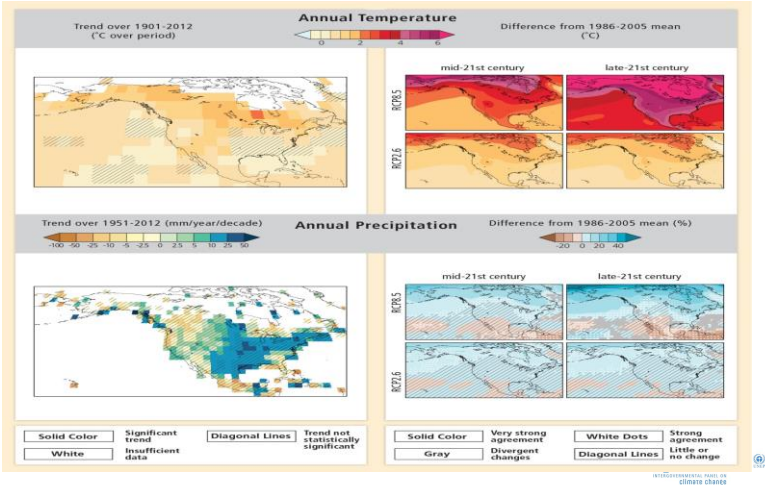
Detection and attribution of impacts



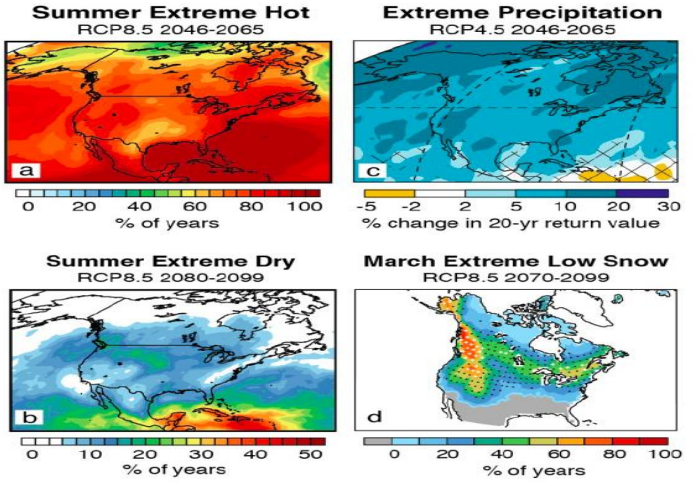
Extreme events illustrate vulnerability



Observed and projected change in climate



Temperature and precipitation trends



Key risks and potential for adaptation