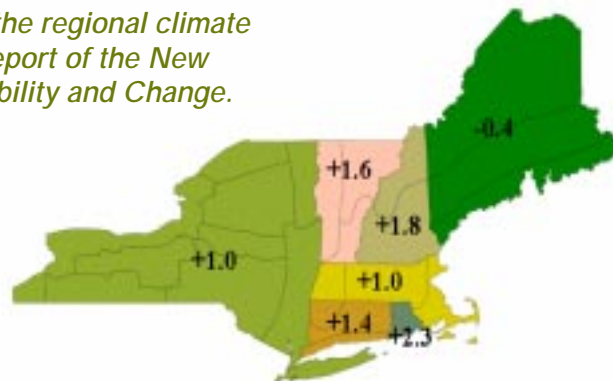


## How Will the New England Region be Affected by Climate Change?

*Records of regional temperatures and rainfall show that the regional climate has warmed since 1895, according to the August 2001 report of the New England Regional Assessment of Potential Climate Variability and Change.*

Overall, New England and upstate New York have warmed by 0.7° F, yet some states (RI, NH) have warmed by two to three times the regional average. One state (ME) has cooled. Warming in winter months has been greater than summertime warming. The milder winters, earlier maple sap flows, earlier dates for ice melting on lakes, and reduced snowfall recently experienced across the New England region are all likely responses to this increase in temperature.

Human activities are affecting climate. There is now strong scientific evidence and consensus that much of the global warming experienced in the last half of the 20th century is attributable to human factors.

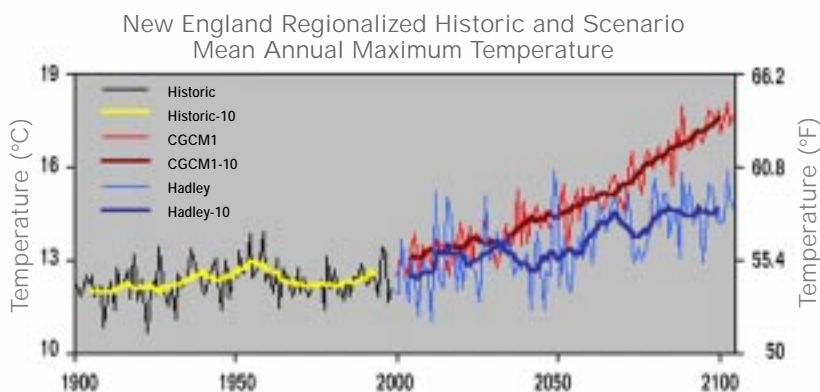


Temperature changes\* in the region between 1895 and 1999 indicate that regional climate in general is warming. The opposite historic temperature patterns in Maine and New Hampshire may be due to differing land use practices or proximity to the ocean.

\*The temperature values above are area weighted.

► Significant warming of 6-10° F projected over the next century. Two respected climate models project significant warming and an increase in precipitation for the New England Region. The Hadley Model projects a warming of 6° F in annual minimum temperatures and a 30% increase in precipitation for the region, while the Canadian Model projects a 10° F warming in minimum temperatures and a 10% precipitation increase over the next century. Either temperature increase would be greater than any climatic variation experienced in the region in the past 10,000 years. If either scenario occurs, the climate of the New England Region will be profoundly different than the climate of today.

*If 6° F are added to Boston's 30-year (1961-1990) average temperature, the resulting temperature is approximately the 30-year average for Richmond, VA. If 10° F are added to Boston's 30-year average, the 30-year average for Atlanta, GA is the result.*



► Regional air quality will worsen. If the climate becomes hotter and wetter, and automobile and power plant emissions remain the same or increase, regional air quality and acid rain problems will become worse in the future. Hotter temperatures increase the formation of smog and sulfate haze, and water vapor combines with compounds from automobile exhaust and power plant emissions to produce acid rain.

► Risks to human health will significantly increase. Not only will our health be affected by increased levels of air pollution, but warmer winters can facilitate the expansion of Lyme disease-carrying tick populations and other disease vectors in the region.

► The New England natural environment will be altered. New England forests are already under stress. Warm temperatures allow insects and tree diseases to flourish and permit the introduction of exotic plant species. Potential droughts or flooding projected by models will have profound impacts on regional water availability and quality, and warming coastal waters will cause species shifts and toxic algal blooms. Sea-level rise could become a significant problem for low-lying coastal regions, affecting human infrastructure, beaches and coastal wetlands.

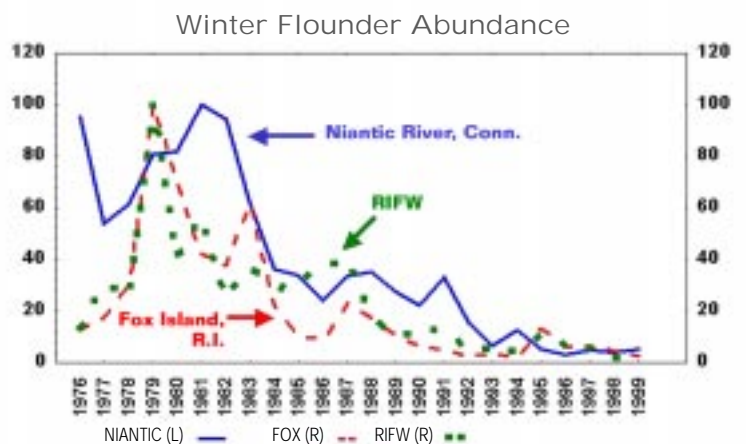
► The impacts of climate change on the regional economy will vary and be significant. An assessment of some of the major regional industries shows that economic impacts are likely to be greatest on the human health sector, moderate on tourism and least severe on the natural resources sector due to the resiliency of the forest industry to projected changes.



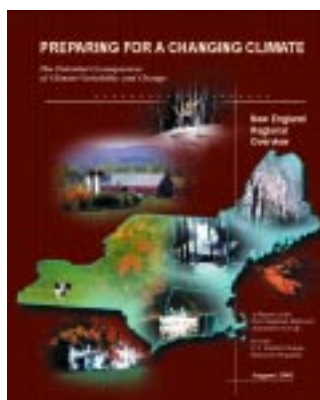
Maple syrup producers in the region are concerned about the regional decline in sugar maple health as syrup production shifts from New England to Quebec.

## What can we do? Win-Win Strategies

New England decision and policy makers have several options to reduce or eliminate potentially adverse impacts while offering other benefits, such as cleaner air and a stronger regional economy. These actions include promoting the use of forests to absorb and store carbon dioxide, reducing regional air pollution by reducing emissions from automobiles and power plants, developing highly efficient energy sources, and investing in “green technologies.”



Winter flounder has experienced an obvious decline over the past 25 years, which can be mainly attributed to a combination of fishing pressure and warmer water temperatures.



Learn more about the results of the New England Regional Assessment and strategies for reducing potentially adverse impacts by reading **Preparing for a Changing Climate: The Potential Consequences of Climate Variability and Change**. This report was prepared for the U.S. Global Change Research Program and is the product of a four-year effort to characterize the impacts of climate change on the New England Region. Over 300 stakeholders, representing a broad range of interests, participated in the NERA effort. Copies may be obtained by contacting Faith Sheridan at [faith.sheridan@unh.edu](mailto:faith.sheridan@unh.edu) or at 603-862-1792. The report is also available online at [www.necci.sr.unh.edu](http://www.necci.sr.unh.edu).