



New Hampshire's Climate: PAST AND FUTURE CHANGES

Earth's climate has varied throughout time and it will continue to change. However, according to a 2011 research report from the University of New Hampshire, the rate of change has increased over the last four decades, with New England getting warmer and wetter.

TEMPERATURES

WHAT HAVE WE SEEN SINCE 1970?

- Annual and seasonal temperatures have warmed by almost 2°F
- Lake ice-out dates are occurring earlier

WHAT CAN WE EXPECT?

- Warmer winters: 25-50 fewer days per year below 32°F
- Hotter summers: 30-70 days per year above 90°F (compared to about 10 per year during the period 1970-1999)



CLIMATE ON THE MOVE

Changing Summers
 in New Hampshire

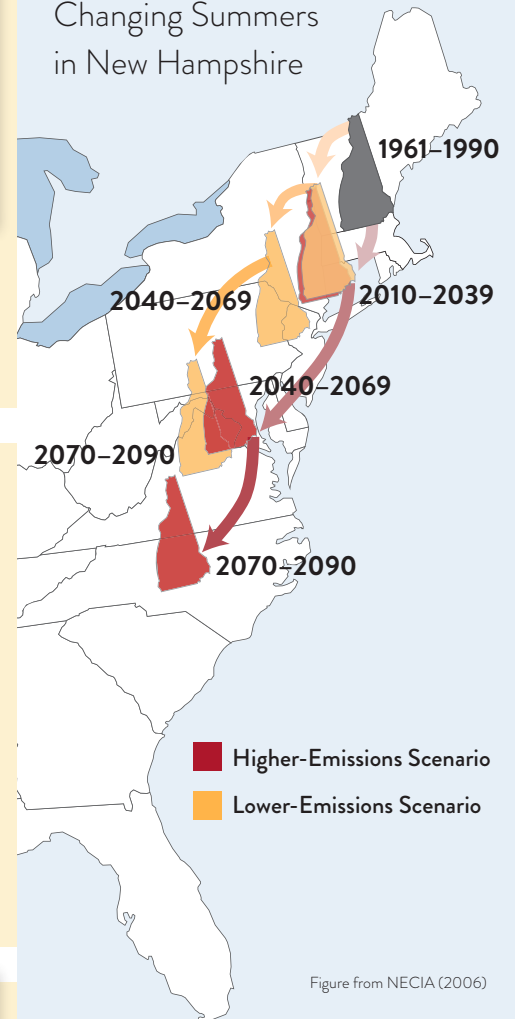


Figure from NECIA (2006)

Yellow arrows track what summers are projected to feel like under a lower emissions scenario, while red arrows track projections for a higher emissions scenario. For example, under the higher emission scenario, by late this century residents of New Hampshire would experience a summer climate more like what occurs today in North Carolina.

SEA-LEVEL RISE

WHAT HAVE WE SEEN SINCE 1970?

- Sea level in Portsmouth has risen almost six inches since 1926

WHAT CAN WE EXPECT?

- Sea level will continue to rise an additional two to six feet by 2100
- Increased extent of coastal flooding and storm surge



RAIN AND SNOWFALL

WHAT HAVE WE SEEN SINCE 1970?

- Annual precipitation has increased 5-20%
- The frequency and magnitude of extreme precipitation events has increased.

WHAT CAN WE EXPECT?

- Less snow and more rain
- More frequent and severe flooding
- More precipitation (annual average will increase by 12-17%) and more extreme precipitation events.



How could projected changes in climate affect the places where we live, work, and play?

Seacoast community members provided the following responses to this question during a recent workshop on the past, present, and future climate of coastal New Hampshire.

Their ideas fell into three major categories:

OUR COMMUNITIES

- Reduced heating and increased cooling costs
- Greater stress on routine and emergency services
- Expansion in diseases from ticks and mosquitos
- Increased summer heat resulting in discomfort and heat stroke
- Increased ozone pollution
- Changes in tourism economy
- Property loss leading to tax revenue loss
- Impacts on coastal historical resources and culture
- Increased need for community preparedness and planning
- Increased stress on the most vulnerable populations

OUR NATURAL PLACES

- Species loss and change
- Increased invasive species and insects
- Changes in agriculture, such as longer growing seasons and increases in weeds and pests
- Changes to rivers and aquatic habitats
- Changes in migration and ecological patterns
- Loss of pollinators
- Changes in wildlife habitat
- Forest impacts, such as loss of maple syrup and change in tree species

OUR WATER

- Changes to seasonal recreation
- Greater flooding
- Damages to infrastructure
- Risks to drinking water supply
- Greater drought and fire risk
- Changes in groundwater flow to wetlands and rivers
- Less frozen conditions resulting in greater groundwater recharge



Satellite image of coastal New Hampshire.

Learn more about New Hampshire's changing climate

These reports describe trends of the past century and likely changes in New Hampshire's climate over the next century. They can help residents and communities plan and prepare for changing climate conditions.

Climate Change in the Piscataqua/Great Bay Region: Past, Present, and Future (2011).

Scan QR code or go to carbonsolutionsne.org/resources/reports/pdf/greatbayreport_online.pdf



Trends in Extreme Precipitation Events for the Northeastern United States, 1948-2007. (2010) carbonsolutionsne.org/resources/ne_climate_reports/pdf/2010_NortheastExtremePrecip.pdf

Climate Change in the US Northeast. A Report of the Northeast Climate Impacts Assessment (NECIA) (2006) northeastclimateimpacts.org

Key resources for community members and journalists on climate adaptation in coastal New Hampshire are available through the NH Coastal Adaptation Workgroup (email Steve.Miller@wildlife.nh.gov), nh.stormsmart.org and nh-journalists.stormsmart.org.

