

Just as **climate** describes the expected weather conditions over months, seasons and years, **climate change** describes changes in the average climate conditions over much longer periods of time, such as decades, centuries or even millennia. Global climate change, or earth-wide changes to temperatures and precipitation, has been happening since long before humans were around. However, scientists have noticed some unusual changes in the global climate over the past 150 years, and these changes are not from natural earth processes. Our global climate is changing largely due to human activities. The burning of fossil fuels, such as coal, oil, and gas, releases high levels of carbon dioxide and other greenhouse gases into the atmosphere.

Greenhouse gases in the atmosphere act like a blanket, trapping heat and energy and causing temperatures to rise. Global warming affects temperatures all over the earth, which in turn alters ocean temperatures, precipitation, wind patterns, and more. The ocean is like the earth's heart, regulating our climate system by pumping heat and moisture around the planet.

When all of these systems are impacted, changes such as sea level height, storm intensity and frequency, glacial melting, decreased snow and ice cover, and changes in ocean temperatures and chemistry are occurring. Here in New Hampshire, annual seasonal temperatures have been increasing throughout the southern part of the state for the past 100 years, and the rate of this change has been increasing over the past 40 years. Scientists look at other indicators of climate change too, including average dates for spring bloom-out, lake ice-out, number of snow-covered days and length of the growing season.

Human activities are having an outsized effect on global climate change and the choices being made today will affect the amount of greenhouse gases in the atmosphere for many years to come. Humans and climate are interconnected, and changing climate conditions will affect human health and safety, agriculture, water supplies, power, transportation, and the natural environment. We can act now to **adapt** to and **mitigate** climate change. **Adaptation** is responding to and preparing for changing climate conditions, and **mitigation** is when changes are made to reduce or eliminate future effects. You can learn more below about ways to reduce emissions, decrease your carbon footprint and make healthy choices for the planet.

Want to find out more about global climate change? Check out [NASA's Climate Kids](https://climatekids.nasa.gov/climate-change-meaning/) website <climatekids.nasa.gov/climate-change-meaning/> for games, activities, and lots of information.

Additional Resources

[Climate Change in New Hampshire: Past, Present and Future](#). A publication of the Sustainability Institute of University of New Hampshire.
<sustainableunh.unh.edu/sites/sustainableunh.unh.edu/files/images/southernnhclimateassessment2014.pdf>

The [United States Environmental Protection Agency](#) (EPA) offers information on what climate change is, why it is happening and what we can do to help. <19january2017snapshot.epa.gov/climatechange/climate-change-basic-information_.html>

[NASA Global Climate Change Vital Signs of the Planet](#) website delivers scientific evidence of climate change and tools and apps that showcase satellite data and visualizations. <climate.nasa.gov/evidence/>

[NASA's Climate Kids](#) website asks and answers big questions, such as What does global climate change mean? What is the big deal with Carbon? What is the greenhouse effect? How do we know the climate is changing? What is happening to the oceans? <climatekids.nasa.gov/climate-change-meaning/>

The [United States Global Change Research Program](#) brings together several federal agencies to discuss climate change, its impacts and response options and provides suggestions of actions that can be taken to prepare for and prevent climate change. <www.globalchange.gov/climate-change>

The [Intergovernmental Panel on Climate Change](#) (IPCC) assesses the scientific, technical and socio-economic information relevant for the understanding of the risk of human-induced climate change. <www.ipcc.ch/>

NASA offers up helpful information regarding the science of climate change in the article, [Climate Change: How do we know?](#) <climate.nasa.gov/evidence/>

The EPA has put together a list of different [Climate Impacts on Human Health](#) caused by climate change, and also compiled the major [effects Climate Change is having on the Northeast](#) <www.globalchange.gov/explore/northeast>) part of the U.S. <www3.epa.gov/climatechange/impacts/health-assessment-orig.html>

Seacoast Science Center Climate Change Position Statement

Seacoast Science Center supports the consensus of the scientific community that the earth's climate is changing at an unprecedented rate as a direct result of the production and emission of atmospheric greenhouse gases caused by human activities. We are committed to advancing conservation of our Blue Planet by raising awareness and understanding of the implications of climate change for our environment and for all living creatures, including ourselves. We are also committed to empowering community members to think critically and act pragmatically in ways that will improve the long-term health of our planet.