

# WHY SHOULD WE CARE ABOUT CLIMATE CHANGE?

Our mission at the YPCCC is to advance the science of climate change communication. Using scientific experiments and surveys of the public, we study what people know, feel, think, and do about climate change. The data we collect gives us insight into the underlying psychological, cultural, and political factors that influence different individuals. We use these insights to help leaders, the media, and educators like you better inform the public about climate change.

One of the most valuable tools we have developed is “Global Warming’s Six Americas,” which identifies six distinct groups among the public that view the issue in different ways.



Having different perspectives about global warming is common, but the most important thing that anyone should know about climate change is why it matters. It matters because humans have basic needs, including clean air, fresh water, food, and shelter, which we have developed complex systems to provide. We require that cars capture the pollution that they emit in order to keep our air clean, for example, and we build reservoirs to hold fresh water for cities. We have also built roads, bridges, and tunnels for transportation, and grow specific crops in particular places well-suited for them in terms of temperature and precipitation.

The many systems our societies depend on were built on the assumption that our weather patterns would be fairly stable -- that we would have sunny and cloudy days, wet and dry days, hot and cold days, but that our local climate (the average of all that weather) -- would always come back to “normal.”

**WEATHER: day to day range**

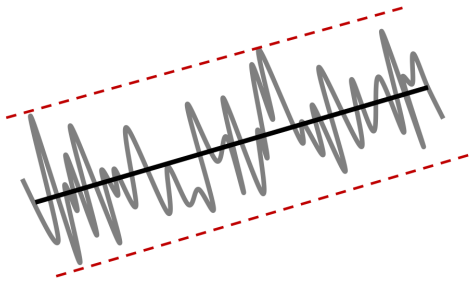
**CLIMATE: long-term average**

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Unfortunately, when we started to learn about the immense power that we could gain by burning fossil fuels (coal, oil, and gas, which come from ancient plants buried deep underground), scientists also discovered a problem about this power. They discovered that when we dig these materials up and burn them, they produce an powerful, invisible, odorless gas, called carbon dioxide. And they also discovered that this gas acts like a blanket around the planet, trapping heat in the atmosphere. In scientific terms, Earth transforms sunlight's visible light energy into infrared light energy, which leaves Earth slowly because it is absorbed by greenhouse gases. When people produce greenhouse gases, energy leaves Earth even more slowly--raising Earth's temperature.

## changing baseline climate



It took over 100 years for enough gases to build up to a level where we would notice it, but unfortunately we are now able to notice it quite strongly. Scientists have taken thousands upon thousands of measurements using thermometers on land, balloons and airplanes in the air, and buoys and other devices in the oceans.

They have determined that our global temperature has risen almost 2 degrees F in the last century, and that most of the extra heat being trapped is going into the oceans, causing them to expand, which increases sea levels along the coast, while causing fish to migrate and sea ice to melt. The increased land temperature is causing glaciers to melt, heat waves and droughts to become more extreme, and it is causing more wildfires to grow out of control.

**Extreme weather is challenging for all of us no matter where we live, but it is also a major problem for all of the systems we have built to provide ourselves with clean air, fresh water, food, and shelter.**

Heat makes asthma and allergies worse, for example, and flooding from storms causes drainage systems to break down, which can lead to toxic spills and pollution of our fresh water. A changing climate is also very stressful for the crops and irrigation systems that we depend on. Some plants also respond directly to higher carbon dioxide levels in the atmosphere by reducing the nutrients that they take up from the soil. There are countless impacts of a changing climate on our infrastructure, food systems, and our everyday lives, which is why a stable climate matters to all of us, no matter where we live.