Climate Change Fast Facts

Despite the cooling effect of La Nina, 2020 tied for the hottest year on record, capping the planet's hottest decade on record according to the European Union’s Copernicus Climate Change Service. The NOAA (National Oceanic and Atmospheric Administration) reported a record-breaking 22 climate disasters the U.S. costing more than $1 billion each in 2020. The climate disaster 1980-2019 average is 6.6 per year; the 2015-2019 average is 13.8 per year.

What causes climate change?

The Greenhouse effect.

The purpose of a greenhouse is to trap the sun's heat so the plants inside stay warm. If you have ever gotten into a car on a sunny day, you are familiar with this effect. Similarly, the atmospheric greenhouse effect keeps our planet warm enough for life with greenhouse gases such as carbon dioxide (CO2) playing a similar role to the glass in a greenhouse.

Human Impacts.

This graph shows the parallel increases in carbon dioxide in the atmosphere, global temperature, and sea level rise. For the past 400,000 years, CO2 has been less than 300 ppm, (CO2 is reported in parts per million (ppm), or how many parts of carbon dioxide there are in one million parts of air.) In the last 50 years it has increased to 400 ppm with a corresponding rise in global temperature and sea level.
How is climate change already affecting the earth?

19 of the 20 hottest years ever have occurred since 2001. A study by the National Climate Assessment (globalchange.gov) reports that the world is warming, global sea level is rising, and extreme weather events are becoming more frequent and more severe. These changes have already resulted in a wide range of impacts across every region of the country and many sectors of the economy. Here are a few of the report’s sobering highlights:

Climate change is happening now and it’s primarily a result of human activity. The U.S. average temperature increased by over 2°F, and most of this increase has occurred since 1970. Temperatures are projected to rise another 2°F to 4°F in most areas of the U.S. over the next few decades. The atmospheric concentrations of carbon dioxide, methane, and nitrous oxide have increased to levels unprecedented in at least the last 800,000 years.

Extreme weather is becoming more severe and frequent, and includes heat waves, cold snaps, extreme rain and snow precipitation, long periods of drought and flooding, and high winds. The capacity of ecosystems like forests, barrier beaches, and wetlands to buffer the impacts of extreme weather-related events is being overwhelmed. Arctic summer sea ice is receding faster than previously projected and is expected to virtually disappear before mid-century. Extreme heat, sea level rise, and heavy downpours are affecting infrastructure like roads, rail lines, airports, port facilities, energy infrastructure, and military bases.

Food and water supplies are at risk. Climate disruptions to agriculture have been increasing and are projected to become more severe over this century, a trend that threatens to diminish the security of America’s food supply. Surface and groundwater supplies in some regions are already stressed, and water quality is diminishing in many areas, in part due to increasing soil erosion and pollution washing into waterways during heavy rainfalls.

Oceans are at risk. The ocean absorbs about a quarter of human-caused emissions of carbon dioxide annually, thereby changing seawater chemistry and making seawater more acidic. More acidic waters create repercussions along the marine food chain, such as making it more difficult for shells and coral reefs to form. Recent research indicates that 75% of the world’s coral reefs are threatened. Pathogens thrive in warming seas, and this has been linked to significant increases in sea life disease and death, which in turn impacts the human populations that depend on them.

Find more on climate education on the NOAA website: climate.gov/teaching/essential-principles-climate-literacy/essential-principles-climate-literacy

Fires in California

Photo: Christopher Michael

2020 Hottest September on record globally

Photo: Yale Climate Connections

Together we can protect the climate and our future.
What You Can Do

It can feel overwhelming to learn about climate change and the scientific predictions about the changes we're facing this century. But it's important to remember the wide range of possible scenarios. So much depends on how proactive we are in responding to the climate crisis. Faith communities play a critical role in sounding the alarm and providing positive models for climate action.

Most people who study solutions to climate change agree that, given the political will to make it happen, it is possible to slow the increase of atmospheric CO2. Although this will has recently been lacking in the federal government, state and local governments have been leading the way. Our local and state leaders are in a good position to implement climate-protecting legislation, and faith-based organizations like Interfaith Power & Light must encourage this leadership.

The transition to renewable energy is already underway. 100% clean electricity is possible by 2035. Over 170 cities, 11 counties, and 8 states, Puerto Rico, and Washington D.C. have made a commitment to transitioning to 100% renewable energy. Portland, Oregon has further vowed to meet all energy needs, including transportation, heating and cooling, and electricity, with 100% renewable energy by 2050.

Faith communities can play a big role in influencing our elected officials, from the local to federal level, to create resolutions and laws to change our energy future to the use of renewable energy instead of fossil fuels. Send postcards and emails, make phone calls, attend public meetings, and show your elected officials your faithful commitment to creating strong, resilient, and fossil fuel free communities. Visit InterfaithPowerandLight.org for more ways you can take action.

What is one thing you can do today?

- Educate yourself on the issues
- Write a letter or make a phone call to your representatives
- Use social media to talk about the issues and tag your representatives
- Write a letter to the editor or an op-ed to your local paper about climate change and the need to act
- Host an online screening of a movie about climate change and discuss what you can do together
- Hold your member of Congress accountable
- Thank your members of Congress if they support climate change legislation
- Set up a virtual meeting with your representatives to talk about climate change

Midwest Derecho record 140 mph wind

Record breaking 5 hurricanes hit Louisiana

Photo: Christian Science Monitor

Photo: The Guardian

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Educate

Learn about and educate others on the climate crisis and the solutions. Climate change is a justice issue. The worst impacts of climate change are felt by those who are least responsible, often communities of color and low-income communities. All of the major faith traditions call their believers to care for their neighbor and for the earth, our common home. We have a moral obligation to act swiftly to address the urgency of global warming.

The severity of the climate crisis tomorrow depends on what we do today. The solution is to transition to a 100 percent clean electricity grid and then power our homes, buildings and transportation with clean energy instead of fossil fuels like oil or gas. A winning carbon-free combination many congregations and individuals are pursuing is geothermal plus solar. Many congregations are also installing electric car charging stations for their staff, members, and neighbors.

Role model success

People of faith across the U.S are answering the moral call to care for the climate in their congregations and their own homes. Start or join a green team or stewardship effort in your own faith community and inspire members to reduce their carbon footprint and work for climate justice.

Interfaith Power & Light's Cool Congregations program provides resources to help you get started at coolcongregations.org

- A Start Up kit for your green team
- Carbon footprint calculators for your house of worship and members' homes
- An annual Challenge with cash prizes
- A Certification program for congregations
- Success stories to inspire you to action
- Webinars with experts

Speak out

Contacting your elected officials is a very important way to respond to climate change. They listen to their constituents who take the time to contact them. As people of faith our voice carries even more weight because we are leaders in our communities and we have the ability to address the moral values of responding to the climate crisis with solutions based in equity and justice.

Let them know how climate change is affecting your community and call on them to act boldly to reduce the impacts. Remind them there is a moral call to heal the climate.

IPL offers opportunities for climate advocacy such as supporting Clean Cars standards and incentives for clean energy such as wind and solar. Visit the Take Action page at interfaithpowerandlight.org for more information.

Connect with your state IPL to get involved at the local level. Find your state IPL at interfaithpowerandlight.org/about/state/