Heat waves
Climate change impacts

Climate change influences extreme heat by hotter weather and shifting weather patterns, which makes heat waves more likely to occur, more intense, and longer lasting.

Connection to climate change

HOTTER TEMPS
- Average weather hotter, pushing extremes even more extreme
- More evaporation dries out the land which makes it hotter

SHIFTING WEATHER
- Persistent weather patterns can lead to regions of high pressure where heat can build up to create “heat dome”

EXTREME HEAT
- More days with hot weather
- More frequent heat waves
- Hotter heat waves

Already observed changes

Heat wave season in U.S. has tripled since the 60s to ~70 days per yr

The global land area experiencing 30 extreme heat days per year has doubled since 1998

90% of dozens of studied heat extreme events were found to be more severe or more likely to occur due to climate change

Some heat waves are at least 10x more likely to occur today than a century ago and some would be virtually impossible without human-caused climate change

Anticipated future changes

Heat waves will get more intense, frequent and last longer with every fraction increase in warming; at 2°C may occur 14x as often.

Heat stress, combined effect of temperature and humidity, expected to increase

Impacts to society

Extreme heat can lead to heat exhaustion & worsened air quality. Heat waves further intensify the urban heat island effect, especially for those with less green space & tree coverage.

Extreme heat disproportionately harms outdoor workers, people without homes, those who cannot afford air conditioning, and people with asthma-related health problems, particularly in Black, Latino, and Indigenous communities.

For sources of information, please visit: www.edf.org/climateimpactsources

*Anticipated future changes are for scenarios without climate action

COSTS

A recent study found that 37% of warm-season heat deaths from 1991-2018 can be attributed to climate change