

NATIONAL WILDLIFE FEDERATION



FAST FACTS ON CLIMATE CHANGE

Scientific evidence concludes global warming and climate change are happening now. There is overwhelming scientific agreement on human-caused global warming. More than 97% of publishing scientists and a synthesis of peer reviewed studies confirm this scientific fact. Virtually all national and international science academies and societies have issued statements or assessments affirming human's role in recent climate change. This includes the academies of science from 80 countries. No scientific body in the U.S. or internationally formally dissents from this consensus.

THE SCIENCE OF CLIMATE CHANGE

- **Greenhouse gases**, including **carbon dioxide, methane and water vapor**, trap heat in the Earth's atmosphere and warm the planet. <https://www.epa.gov/ghgemissions/overview-greenhouse-gases>
- The greenhouse effect is an increase in the average temperature of the Earth. Without greenhouse gases, the temperature on Earth would be too cold to support life. With too many greenhouse gases, it would heat up beyond survivable levels. <http://www.oar.noaa.gov/k12/html/greenhouse2.html>
- Since **1958**, the **amount of carbon dioxide** in the atmosphere has been measured from an observatory on **Mauna Loa**, a volcano in Hawaii. <http://earthobservatory.nasa.gov/IOTD/view.php?id=43182>
- The pre-industrial concentration of carbon dioxide in the atmosphere was **280 parts per million** (ppm). As of December 2016, **404.93 ppm**.
- The amount of carbon dioxide is higher than at any time in the last 800,000 years. And the Earth's average temperature is increasing at a concerning rate. <http://earthobservatory.nasa.gov/Features/GlobalWarming/page3.php>
- The Intergovernmental Panel on Climate Change projects that global temperatures are expected to be within the range of **0.5°F to 8.6°F by 2100**, with a likely increase of at least 2.7°F, in the 21st century. <http://ipcc.ch/> and <https://www.epa.gov/climate-change-science/future-climate-change>

CONTRIBUTING TO CLIMATE CHANGE

- The United States is the **second largest contributor to CO₂** in our atmosphere, though it is home to just **4.4 percent** of the world's population. If everyone in the world lived the way people do in the U.S., it would take **four Earths** to provide enough resources for everyone <http://www.worldatlas.com/>, <http://www.census.gov/popclock/> and <http://www.popsci.com/environment>
- The **amount of carbon dioxide** emitted per capita in the United States is 16.4 metric tons (almost 40 pounds per person). <http://databank.worldbank.org/data>
- Burning **one gallon** of gasoline puts **19.64 pounds** of carbon dioxide into the atmosphere. <http://www.eia.gov/tools/>



EFFECTS ON PEOPLE, WILDLIFE AND THE PLANET

- Average **sea level** is expected to rise **1 - 6 feet** before the end of this century. <https://sealevel.nasa.gov/understanding-sea-level/projections/empirical-projections>
- In 1910 Glacier National Park was home to more an estimated **150 glaciers**. That number has now **shrunk to 25** as of December 2016. This national park is expected to eventually lose all its glaciers. This is only one example of glacial melt that is occurring all over the world. <https://www.nps.gov/glac/learn/education/glaciers.htm>
- The current pace of global average temperature rise puts approximately **25 to 35 percent of plant and animal species** at increased risk of extinction. <http://www.nwf.org/Wildlife-In-A-Warming-World.aspx>
- **Rain forest destruction** contributes to climate change. That's because trees store carbon dioxide as they grow. Clearing and burning forests **releases large amounts of carbon dioxide** into the atmosphere. <http://www.nationalgeographic.com/environment/global-warming/deforestation/> and <http://www.colorado.edu/>
- The world's coral reefs are in the midst of a global mass die off. As of 2015, coral bleaching is **impacted 40% of the world's coral reefs**, killing over 4,630 square miles of reefs. <http://www.nature.com/articles/srep38402> and <http://www.noanews.noaa.gov/>

RELATED LINKS:

- <http://climate.nasa.gov/> NASA: Global Climate Change
- <http://www.oar.noaa.gov/k12/html/greenhouse2.html>
- <http://www.census.gov/popclock/>
- <https://www3.epa.gov/climatechange/science/future.html#lce>
- <http://ipcc.ch/>
- <http://nca2014.globalchange.gov/report/our-changing-climate/future-climate-change#intro-section-2>
- <http://www.nwf.org/News-and-Magazines/Media-Center/Reports/Archive/2013/01-30-13-Wildlife-In-A-Warming-World.aspx>
- <https://www.newscientist.com/article/dn28310-global-coral-bleaching-event-what-you-need-to-know>
- <http://environment.nationalgeographic.com/environment/global-warming/big-thaw/#page=1>
- <https://sealevel.nasa.gov/understanding-sea-level/projections/empirical-projections>
- <http://phys.org/news/2013-07-species-extinction.html>

For more information about National Wildlife Federation's Climate Education programs, ClimateClassroom.org and Climateclassroomkids.org please contact Carey Stanton at stantonc@nwf.org.