



# Fast Facts About Climate Change

## 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.
- In general, the **greenhouse effect is a good thing**. Without greenhouse gases, the temperature on Earth would be too cold to support life. With too many, it would heat up beyond survivable levels. Earth is sometimes called the **Goldilocks Planet** because it is "**just right**."
- Since **1958**, the **amount of carbon dioxide** in the atmosphere has been measured from an observatory on **Mauna Loa**, a volcano in Hawaii.
- The pre-industrial concentration of carbon dioxide in the atmosphere was **280 parts per million (ppm)**. As of March 2009, it has reached **387 ppm**.
- Today, the amount of carbon dioxide is **higher than at any time in the last 650,000 years**. And the Earth's average temperature is **increasing faster than ever before**.
- The Intergovernmental Panel on Climate Change projects that temperatures will rise **3.2 - 7.2 degrees Fahrenheit in the 21st century**. Dramatically reducing levels of global warming pollution may keep the rise in the lower part of this range.

## Contributing to Climate Change



- The United States releases **more carbon dioxide than any other country**, though it is home to just **five percent** of the world's population. If everyone in the world lived the way people do in the U.S., it would take **five Earths** to provide enough resources for everyone!
- The **amount of carbon dioxide** emitted by the average family in the United States breaks down this way:
- **One half** from heating and cooling the house
- **One quarter** from transportation
- **One quarter** from using electricity
- Burning **one gallon** of gasoline puts **19 pounds** of carbon dioxide into the atmosphere.

## Effects on People, Wildlife and the Planet

- Average **sea level** is expected to rise **7 - 23 inches** before the end of this century - and perhaps as much as 31 inches (if, as some models predict, the rate of ice melting from Greenland and Antarctica increases).
- All but 100 of **1,100 glaciers** researched are **receding** (more ice melts in summer than re-forms the next winter).
- The current pace of global average temperature rise puts approximately **20 to 30 percent of plant and animal species** at increased risk of extinction.
- **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.
- Coral reefs are as important to marine wildlife as rainforests are to land-based wildlife. Rising seawater temperatures threaten their survival. The world **lost about 16% of all coral reefs in 1998**, the **second hottest year on record**.