

## Global Warming

Earth needs the greenhouse effect to keep the planet warm enough to sustain life. However, a greenhouse effect that spirals out of control could change Earth's climate dramatically, leading to **global warming**. Current scientific models predict that Earth's average temperature will increase by 4 to 8 degrees Fahrenheit (2.2 to 4.4 degrees Celsius) within the next one hundred years. They also predict that Earth's oceans will rise during that time as polar ice caps melt. Sea levels could be twenty-seven inches (seventy centimeters) higher by 2080. Changes this dramatic could lead to flooding in coastal communities, an increase in the number of tropical storms (such as hurricanes) that occur every year, and to droughts in some regions.

Not all scientists agree that human activities are leading to global warming. Some think natural factors may be more important. They do agree, however, that whatever the cause, Earth's climate is warming. Scientists from many countries are currently working together to study climate changes. Because Earth's climate is changing so rapidly, scientists today have an unusual opportunity to learn more about climate and to make plans and suggestions for the future.

## Glossary

**air mass:** A body of air, extending for many miles, that has the same temperature and humidity, more or less, from one end of the mass to the other.

**air pressure:** Force that is exerted on air by the weight of the air above and around it.

**condensation:** The process by which water vapor turns from a gas back into a liquid.

**convection current:** Air movement caused when heat moves to another area, such as when heat rises.

**Coriolis effect:** The effect that Earth's rotation on its axis has on large bodies of water and air that are moving. The Coriolis effect deflects water and air to the east in the Northern Hemisphere and to the west in the Southern Hemisphere.

**dew point:** The temperature at which water vapor will condense.

**evaporation:** The process by which water turns from a liquid into a vapor.

**global warming:** A gradual increase in Earth's average temperature over a period of years.

**greenhouse effect:** The way in which particles suspended in Earth's atmosphere can trap incoming solar radiation and prevent it from being reflected back into space.

**humidity:** The amount of water vapor that is present in the air.