

Glossary

Scientific Terms

carbon dioxide (CO₂) - A colorless gas formed in fermentation, animal respiration, and combustion of carbon-containing materials including fossil fuels.

chlorofluorocarbons (CFCs) - Also known as Freons, these organic compounds made of carbon, fluorine, and chlorine were used as refrigerants, aerosol-spray propellants, solvents, and foam-blowing agents. Because CFCs contributed to ozone depletion, countries agreed to stop making them as part of the Montreal Protocol.

climate change - Locally, the change to the typical weather in a place over a long period of time including more rain or different temperatures. Globally, the change to the global climate including the global temperature (global warming).

fossil fuels - Non-renewable carbon-containing energy sources formed when temperature and pressure are applied to plant and animal matter buried in the earth. Commonly used fossil fuels include oil, natural gas, and coal.

greenhouse effect - The main causes of global warming, the greenhouse effect refers to the process where solar radiation is retained and converted into heat that warms the surface and lower atmosphere of a planet. An increase in greenhouse gases including carbon dioxide and methane causes this process.

geophysics - The branch of science that deals with the earth's physical properties and processes including atmospheric chemistry, oceanography, meteorology, polar studies, and seismology. Geophysics is used to study many aspects of the earth and its environment including the earth's crust, gravity, earthquakes, mineral and oil mining, and climate change.

ozone - A naturally occurring gas in the atmosphere that shields the earth from a portion of solar radiation that has been linked to human skin cancer and other harmful effects on plants and animals.

Treaties, Laws, and Reports

Changing Climate - A comprehensive 1983 report on the causes, effects, and geopolitical consequences of climate change by the National Academy of Sciences.

Charney report - The 1979 publication by Jule Charney and others, officially titled "Carbon Dioxide and Climate: A Scientific Assessment," which established the greenhouse effect and global warming as settled fact.

Clean Air Act - The 1970 federal law that regulated air emissions including hazardous air pollutants.

Montreal Protocol - The 1987 international treaty that limits the production of ozone depleting substances including chlorofluorocarbons. It is seen as a model for international cooperation on environmental policy.

U.S. Government Agencies and Intergovernmental Agencies

Central Intelligence Agency (CIA) - The federal civilian agency that collects and analyzes foreign intelligence to protect U.S. national security.

Council on Environmental Quality - The division of the Executive Office of the President that interprets environmental regulations and coordinates with other federal agencies on environmental regulations, assessments, and procedures.

Department of Energy - The cabinet-level department that deals with energy, environmental, and nuclear policies and challenges in the United States.

Environmental Protection Agency (EPA) - The independent agency of the United States federal government that conducts federal research and monitoring of the environment and sets and enforces standards to ensure environmental protection.

Intergovernmental Panel on Climate Change (IPCC) - The international body for assessing the science of climate change and its political and economic impact. It was established by the United Nations Environment Program and the World Meteorological Organization in 1988.

National Aeronautic and Space Administration (NASA) - The independent agency of the United States federal government that operates the civilian space program and aeronautics and aerospace research.

NASA's Goddard Institute for Space Studies - A laboratory in the Earth Sciences Division of the National Aeronautics and Space Administration's Goddard Space Flight Center. It became a leading center of atmospheric modeling and climate change by using data collected by satellites and space probes.

National Oceanic and Atmospheric Administration (NOAA) - The federal scientific agency in the Department of Commerce that researches waterways, marine ecosystems, weather, and the atmosphere and provides the government and the public with that information.

Office of Management and Budget (OMB) - The office of the Executive Office of the President that deals with the budget, legislative coordination, regulating policy, and management.

United Nations (UN) - An intergovernmental organization that promotes peace and security, human rights, sustainable development, climate change, and other issues confronting humanity and enables dialogue between member nations.

Non-profits, NGOs, and Trade Groups

American Petroleum Institute (API) - The largest oil and gas trade industry group in the United States.

JASON - An independent scientific advisory group that consults for the United States government on defense science and technology issues.

National Academy of Sciences - An non-profit society of scientists who provide independent scientific and technological advice to the United States government.

World Resources Institute (WRI) - A global research organization that promotes policies and programs that protect the climate, natural resources, and human health.