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In Earth's systems science, scientists study the interactions between the four major systems on our planet: the geosphere (the core, mantle and crust of Earth), hydrosphere (all water on Earth, whether ice, liquid, or vapor), atmosphere (gasses surrounding Earth), and biosphere (all life on Earth). Information gathered in this field helps scientists find solutions to various environmental problems we face today.

Perhaps one of the most severe matters we have on our hands is global warming. Primarily caused by carbon from power plants, this dramatic, global rise in temperature is a result of gasses in our atmosphere that trap heat using what is known as the greenhouse effect.

Geoscientists study the four "spheres" and the interactions between them to find possible solutions to issues such as global warming. Global warming starts in the atmosphere; however, chain reactions can lead to imbalances in the other Earth systems as well. In the hydrosphere, droughts and floods both have harmful effects on the geosphere. In areas suffering drought, water for irrigation will be scarce, and wildfires will be more common. Rising water levels caused by melting snow and ice caps will cause the coastline to recede and threaten people who live there. Stronger storms will flood wetlands and other habitats for many plants and animals. In this way, the biosphere will be greatly affected. Plants and animals live in a specific climate, and sudden change will not give them enough time to adapt and will lead to the extinction of many species.

Scientists' research will ultimately assist in finding a solution to global warming. We can use this information to persuade the public to conserve energy, or to take necessary precautions against possible consequences. Understanding the connections between Earth's systems is crucial to finding solutions to the problems we have imposed on ourselves.