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Chemistry of Urban and Indoor Atmospheres Pollutants in urban atmospheres, indoor air quality

Urban air chemistry is characterized by measurements of gas and aerosol composition. These measurements are interpreted from a long history for laboratory and theoretical studies integrating chemical processes with reactant (or emissions) sources, meteorology and air surface interaction.

Urban chemistry changes could involve a wide range of constituents, including community chemical reactants—pollutants, toxins, biological species and non-local contaminants.

The principal reactants of concern can be emanations of naturally occurring species and anthropogenic emissions. Natural constituents include soils, both as dust and gas releases, and vegetation exemplified by VOC, sulfur-nitrogen oxide.

Historical and contemporary urban chemistry has depended strongly on anthropogenic emitted reactants, including gases, such as nitrogen oxides, NO_x, sulfur dioxide SO_2 and a range of VOC species.

The most abundant components of urban air pollution in urban areas with high levels of vehicle traffic are airborne particulate matter, nitrogen dioxide, and ozone.

The most common indoor air pollutants include: Carbon Monoxide. Cook stoves and Heaters. Formaldehyde, pesticides and smoking.

The Chemistry of Global Climate Thermal structures revisited and the solar energy balance, IR absorption spectra, greenhouse gases and aerosols, relative importance of greenhouse gases, carbon based fuels and alternative energy supplies

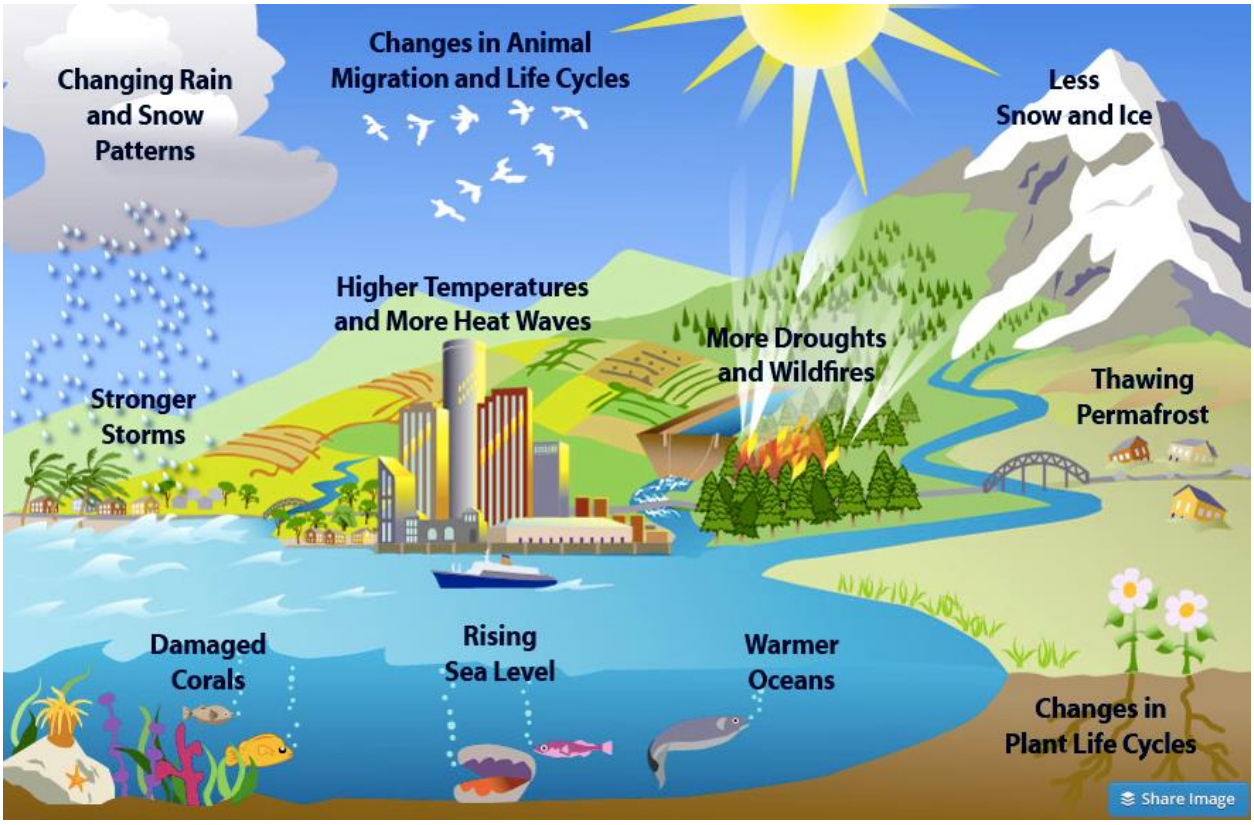
As a renewable source of power, solar energy has an important role in reducing greenhouse gas emissions and mitigating climate change, which is critical to protecting humans, wildlife, and ecosystems. Solar energy can also improve air quality and reduce water use from energy production.

The greenhouse effect helps trap heat from the sun, which keeps the temperature on earth comfortable. But people's activities are increasing the amount of heat-trapping greenhouse gases in the atmosphere, causing the earth to warm up.

As greenhouse gas emissions from human activities increase, they build up in the atmosphere and warm the climate, leading to many other changes around the world—in the atmosphere, on land, and in the oceans.

Global warming

Global warming is the long-term warming of the planet's overall temperature. Though this warming trend has been going on for a long time, its pace has significantly increased in the last hundred years due to the burning of fossil fuels. As the human population has increased, so has the volume of fossil fuels burned.


Changing Rain and Snow Patterns
Changes in Animal Migration and Life Cycles
Less Snow and Ice
Higher Temperatures and More Heat Waves
More Droughts and Wildfires
Thawing Permafrost
Stronger Storms
Damaged Corals
Rising Sea Level
Warmer Oceans
Changes in Plant Life Cycles
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