Environmental pollution •

Pollution

- **Pollution**: is the introduction of contaminants into the natural environment that cause adverse change.[1] Pollution can take the form of chemical substances or energy, such as noise, heat or light. Pollutants, the components of pollution, can be either foreign substances/energies or naturally occurring contaminants. Pollution is often classed as point source or nonpoint source pollution.

Air pollution

- **Air pollution:** the air pollution is atmospheric exposure to chemicals, particulate matter, or biological cause harm to humans and other living organisms, or damages the natural environment. Pollution can take the form of **chemical substances or energy, such as noise, heat or light.**
- **Pollutants:** the components of pollution, can be either foreign substances/energies or naturally occurring contaminants. Pollution is often classed as **point source or nonpoint source pollution.**
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Earth atmosphere layers specification

The Earth's atmosphere :is a layer of a mixture of gases that surrounds the Earth this attracted to it by gravity. And contains 78% nitrogen and 21% oxygen, argon, carbon dioxide and water vapor, hydrogen, helium, and neon.

The atmosphere protects the Earth from ultraviolet absorption and works on moderate temperatures on the planet's surface. Is the atmosphere great water reservoir used to move water around the Earth, with volume up water in the atmosphere of about 12.900 cubic kilometers, mostly in the form of rain falling on the oceans and the seas so that if I fell all atmospheric water simultaneously as it rains would cover the planet to a depth of up to 2.5 cm. Estimated weight of clouds that contain thousands of billions of tons. Air contains a mixture of gases, from Earth's surface to outer space.

Principal layers of atmosphere

In general, air pressure and density decrease with altitude in the atmosphere.

However, temperature has a more complicated profile with altitude, and may
remain relatively constant or even increase with altitude in some regions (see the temperature section, below). Because the general pattern of the temperature/altitude profile is constant and measurable by means of instrumented balloon soundings, the temperature behavior provides a useful metric to distinguish atmospheric layers. In this way, Earth's atmosphere can be divided (called atmospheric stratification) into five main layers. Excluding the exosphere, Earth has four primary layers, which are the troposphere, stratosphere, mesosphere, and thermosphere.

From highest to lowest, the five main layers are:

- Exosphere: 700 to 10,000 km (440 to 6,200 miles)
- Thermosphere: 80 to 700 km (50 to 440 miles)[9]
- Mesosphere: 50 to 80 km (31 to 50 miles)
- Stratosphere: 12 to 50 km (7 to 31 miles)
- Troposphere: 0 to 12 km (0 to 7 miles)

Earth's atmosphere Lower 4 layers of the atmosphere in 3 dimensions as seen diagonally from above the exobase. Layers drawn to scale, objects within the layers are not to scale. Aurora shown here at the bottom of the thermosphere can actually form at any altitude in this atmospheric layer

Nitrogen oxides are removed from the air by rain and fertilise land which can change the species composition of ecosystems.

Smog and haze can reduce the amount of sunlight received by plants to carry out photosynthesis and leads to the production of tropospheric ozone which damages plants. Soil can become infertile and unsuitable for plants. This will affect other organisms in the food web.

Sulfur dioxide and **nitrogen oxides** can cause acid rain which lowers the pH value of soil.

Stratosphere

- The **stratosphere** : is the second major layer of Earth's atmosphere, just above the **troposphere**, and below the **mesosphere**. It is stratified in temperature, with warmer layers higher up and cooler layers farther down. This is in contrast to the troposphere near the Earth's surface, which is cooler higher up and warmer farther down. The border of the troposphere and stratosphere, the tropopause, is marked by where this inversion begins, which in terms of atmospheric thermodynamics is the equilibrium level. At moderate latitudes the stratosphere is situated between about 10–13 km (33,000–43,000 ft; 6.2–8.1 mi) and 50 km (160,000 ft; 31 mi) altitude above the surface, while at the **poles** it starts at about 8 km (26,000 ft; 5.0 mi) altitude, and near the **equator** it may start at altitudes as high as 18 km (59,000 ft; 11 mi).

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