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The Earth's Atmosphere and Its Various Layers [By Philip](#)

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We are aware of the fact that without atmosphere, there would not be any life on the earth. The earth's atmosphere is acting as protective cover against deadly radiations and other extra terrestrial activities. The thin envelop of air that surrounds our planet is composed of a mixture of gases, each with its own physical characteristics. Of the different type of gases that make up the entire atmosphere, 78% is nitrogen and 21% is oxygen. The remaining 1% is trace gases, and the most relevant of this is inert gas element, argon.

Now we will take a look into the various layers of the earth's atmosphere. Based on temperature, the earth's atmosphere is divided into four layers. They are troposphere, stratosphere, mesosphere and thermosphere.

Troposphere is the lowest layer of the earth's atmosphere. It extends from the earth's atmosphere about 12 kilometers or 7 miles. The climatic changes we experience on earth depend on the variation of temperature in this layer. In this layer of the atmosphere, the air is well mixed and the temperature decreases with altitude. That means, when warm air rises to form clouds, there occurs a chance for rain falls and heavy winds on the land below. The higher you go into the troposphere, the colder it gets. Troposphere is thinner at the poles and thicker at the equator.

The layer that comes above troposphere is the stratosphere. This layer extends from about 7 to 30 miles above the earth's surface. The ozone layer is found in this region. It is the ozone layer that absorbs most of the harmful ultraviolet radiation from the sun. That is why stratosphere is warmer than troposphere. Some studies show that the ozone layer is depleting over Europe, Asia, North America and Antarctica. The temperature of the stratosphere increases slightly with the altitude, meanwhile the lower portion will maintain a constant temperature. The highest temperature recorded in this layer is nearly 32 degrees Fahrenheit or 0 degrees Celsius.

Mesosphere is the layer immediately above the Stratosphere. This extends from 50 to 53 miles above the earth's surface. This layer above the earth's surface is generally cold and here the temperature decreases with increasing altitude. The temperature at the top of this layer will be about -130 Fahrenheit, or -90 Celsius. In this layer, lot of meteors burn up before entering into the atmosphere. When the meteors get burned up in this layer, they will leave fiery trails in the sky.

The thermosphere is the outer layer of the atmosphere. This layer is separated from the mesosphere by the menopause. It extends from the top of mesosphere to over 640 Kilometers. In this layer, the air will be very thin. So, a small change in the energy can cause great changes in the temperature. On a bright sunny day, the temperature of thermosphere can be up to 1,500 degree Celsius or higher.

Below the thermosphere, there lies the ionosphere. This layer is nearly 80 to 550 kilo meter above the earth's surface. This layer contains the charged particles. When the temperature in this layer increases, the charged molecules will be ionized. In the ionosphere, the temperature increases with the height. However, extreme low pressure in this layer makes a person not to feel that much hot.

It is really interesting to know about the earth's different layers and its unique features. Internet connected with providers like FiOS Internet can give us more information related to the earth and the atmosphere in which we live. Don't you think our atmosphere is getting polluted with the drastic gases we released into it? It is time to protect our atmosphere from harmful chemicals. On a personal level, we can reduce the amount of carbon dioxide released into the atmosphere by driving

less and recycling substances.

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As a freelancer, Ann likes to write about the earth and the various layers in the atmosphere. She is a regular viewer of national geographic channel on her home television. She collects data for her article from television programs and internet powered by a [FiOS Internet](#).

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