

GOVERNMENT SECTOR



• **Environmental Protection Agency** has responsibilities for a wide range of licensing, enforcement, monitoring and assessment activities associated with environmental protection.

www.epa.ie



• **Met Éireann** the Irish National Meteorological Service, is the leading provider of weather information and related services for Ireland.

www.met.ie



• **The CHANGE** campaign is Ireland's National Communications and Public Awareness Campaign on Climate Change.

www.change.ie

NGO SECTOR



• **Stop Climate Chaos** is a coalition of civil society organisations campaigning to ensure that Ireland plays its part in preventing runaway climate change.

www.stopclimatechaos.ie



• **Friends of the Earth** campaign for environmental justice and sustainability. In Ireland their priority campaign is climate change.

www.foe.ie

OTHER SECTORS

• **United Nations Framework Convention on Climate Change**, <http://unfccc.int>

• **The Centre for Climate & Air Pollution Studies (C-CAPS)**

NUI Galway

www.nuigalway.ie/c-caps

Some things to think about

Under Kyoto, Ireland was allowed to increase its GHG emissions by 13%, but by 2006 the rise was already twice our agreed limit.

Our atmosphere contains roughly 78.08% nitrogen, 20.95% oxygen, 0.93% argon, 0.038% CO₂ and trace amounts of other gases, with around 1% water vapour.

Among the rich countries of the world Ireland is the 6th most polluting per person.

In the US anyone who travels above an altitude of 80 kilometres is awarded astronaut wings.

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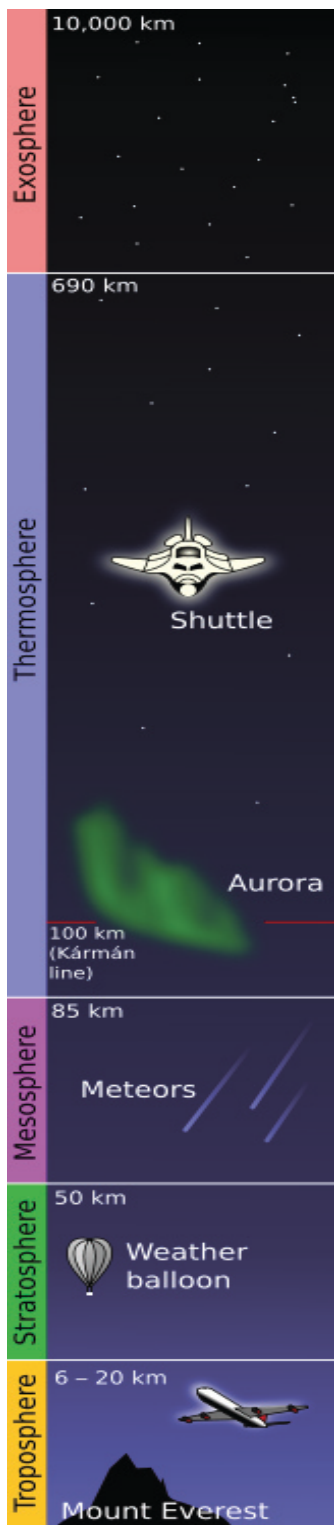
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The Atmosphere and climate change

"It suddenly struck me that the tiny pea, pretty and blue, was the Earth. I put up my thumb and shut one eye, and my thumb blotted out the planet Earth. I didn't feel like a giant. I felt very, very small." - Neil Armstrong



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Earth, the Goldilocks Planet

We live on a unique planet, where the mix of gases that make up our atmosphere is “just right” to sustain life.

Our earth is surrounded by a thin envelope of gases called our atmosphere. This life giving bubble consists of a mixture of gases composed primarily of nitrogen, oxygen, argon, carbon dioxide and water vapour.

The atmosphere varies in density with altitude and temperature, becoming less and less dense as you move away from the earth's surface.

In simple terms there are five different layers from the troposphere at the Earth's surface to the exosphere way out at the edge of space. Most of our weather happens within the troposphere and each of the five layers has specific physical properties that make up our atmosphere. The stratosphere for example contains the ozone layer which protects the Earth from dangerous ultraviolet rays from the sun. The mesosphere burns up millions of meteors every day before they can hit the ground.

The Kármán line is found at about 100 km above the surface of the Earth and is described as the “edge of space” between the Earth's atmosphere and outer space.

Meteorology is the study of the atmosphere focusing on weather processes and forecasting. Met Éireann is the Irish National Meteorological Service and is the main provider of weather information and related services for Ireland.



Ozone - O₃

Ozone makes up a tiny 0.00006% of the atmosphere yet it plays a vital role in maintaining healthy life on this planet. The ozone layer, found in the lower portion of the stratosphere, 15 km to 35 km above Earth's surface absorbs almost 98% the sun's high frequency ultraviolet light, which is very damaging to life on earth. In 1985 the British

Antarctic Survey discovered a “hole” in the ozone layer over the south pole due to declining levels of ozone in the atmosphere. In response to the science, the UN passed the Montreal Protocol on Substances that Deplete the Ozone Layer in 1989 in an effort to halt the release of CFCs and other substances that were causing this serious decline.

Greenhouse Earth

Understanding how our atmosphere works is fundamental to understanding climate change.

The Earth's atmosphere works like an enormous greenhouse that is essential for life on this planet.

The sun warms the earth, and certain greenhouse gases (including carbon dioxide and water vapor) act like the glass of a greenhouse, trapping the heat and keeping the planet's surface

warm enough to support life.

However, since the start of the industrial revolution, human activity has been adding to the natural levels of these gases in the atmosphere strengthening the greenhouse effect and causing significant warming trends in the earth's climate.

