

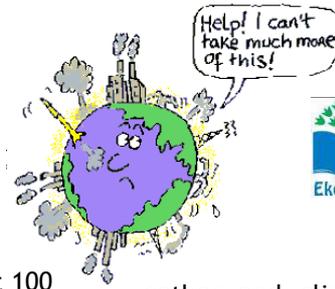
# The Time is Now

Climate Change Newsletter

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Issue 2



## climate change: what it is



Earth has warmed by about 0.8°C over the past 100 years. But why? And how? Well, scientists are not exactly sure. The Earth could be getting warmer on its own, but many of the world's leading climate scientists think that things people do are helping to make the Earth warmer.

### Greenhouse Effect, Climate Change, and Global Warming

**Greenhouse Effect:** The greenhouse effect is the rise in temperature that the Earth experiences because certain gases in the atmosphere (water vapor, carbon dioxide, nitrous oxide, and methane, for example) trap energy from the sun. Without these gases, heat would escape back into space and Earth's average temperature would be about -19 °C. Because of how they keep our world warm, these gases are referred to as greenhouse gases. Scientists are sure about the greenhouse effect. They know that greenhouse gases make the Earth warmer by trapping energy in the atmosphere.

**Climate Change:** Long-term alteration in global weather patterns, especially increases in temperature and storm activity, regarded as a potential consequence of the greenhouse effect.

**Global Warming:** Global warming refers to an average increase in the Earth's temperature, which in turn causes changes in climate. A warmer Earth may lead to changes in rainfall patterns, a rise in sea level, and a wide range of impacts on plants, wildlife and humans. When scientists talk about the issue of climate change, their concern is about global warming caused by human activities.

**Global Warming vs Climate Change:** While the meanings of climate change and global warming are, to all intents and purposes in most cases, interchangeable, Oxfam generally prefers the term 'climate change' over global warming. This is because the effects of global warming do not automatically manifest themselves locally in weather events that might be termed 'warming' (i.e. rising temperatures). While millions of poor people are experiencing more intense drought, millions more are suffering from other extreme

weather and climatic events, such as floods, hurricanes and rising sea levels.

## the ozone layer

The ozone layer is a layer of ozone found in the Earth's stratosphere. It absorbs, between, 93% - 99% of the sun's high frequency ultraviolet light, which is potentially damaging to life on Earth.

In 1985, 3 British scientists discovered a massive depletion of ozone over the continent of Antarctica, dubbing it the "ozone hole". Although this is another problem concerning our atmosphere, contrary to what is believed by several people: the ozone 'hole' is not the cause of further global warming.

In 1987, the countries agreed on the Montreal Protocol on Substances that deplete the Ozone Layer. The protocol stipulated that the production and consumption of these substances, such as chlorofluorocarbons CFCs were to be phased out by 2000. This effort meant that the depletion of the ozone layer was slowed down and even reversed. Although the "ozone hole" has now become a vast area of 24 million square kilometres, scientists agree that the repairing of the 'hole' is increasing by 1% per decade. Although this may seem like a small success, it shows us that when people around the world put their heads together and come up with a solution, things do actually get better.

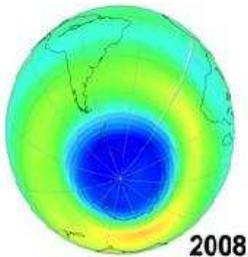
The 'hole' in the ozone layer is now steadily closing, but chances are that it could aggravate warming in the southern hemisphere, warns a new study. The Antarctic ozone 'hole' was once regarded as one of the biggest environmental threats, but the discovery of a previously undiscovered feedback shows that it has instead helped to shield this region from carbon-induced warming over two decades.



### One thing I can do...

Advise your local council about Earth Hour and how your village can take part by turning the lights off on 27 March at 20:30

[www.earthhour.org](http://www.earthhour.org)



2008

The ozone 'hole' over Antarctica in 2008

*The Antarctic ozone hole was once regarded as one of the biggest environmental threats, but the discovery of a previously undiscovered feedback shows that it has instead helped to shield this region from carbon-induced warming over two decades.*



High-speed winds in the area beneath the hole have led to the formation of brighter summertime clouds, which reflect more of the sun's powerful rays.

These clouds have acted like a mirror to the sun's rays, reflecting the sun's heat away from the surface to the extent that warming from rising carbon emissions has effectively been cancelled out in this region during the summertime," said Ken Carslaw, professor at the University of Leeds, who co-authored the research.

If, as seems likely, these winds die down, rising carbon dioxide emissions could then cause the warming of the southern hemisphere to accelerate, which would have an impact on future climate predictions," he added.

### **Ironic!**

Solving a problem and be faced by another problem is the situation we have here. As the saying goes, though, "two wrongs don't make a right".

The problems we face today are caused by humans. The Antarctic ozone 'hole' was caused by humans and fixed by humans. We can reverse global warming.

## **how is climate change effecting us locally**

In summer 2009, the Maltese waters have been plagued by an increase in jellyfish including sightings of the Portuguese man-of-war, an infamous creature that is rarely seen in the region but has an excruciating (and occasionally fatal) sting. Locals and tourists complained about this new phenomenon, although few have a clear explanation of the cause.

Scientists meanwhile have firmer ideas on what might lie behind the jellyfish invasion. Warmer seas and a drier climate - as a result of climate change - work to the jellyfish's advantage, since nearly all jellyfish breed better and faster in warmer waters. Researchers have also suggested that a reduction in rainfall in temperate zones is making it easier for jellyfish to approach the beaches as rain runoff from land usually decreases the salinity of coastal waters, forming a natural barrier that keeps jellyfish from coming close to shore.

In spite of the jellyfish, climate change is still not perceived as a major threat by the general public. The public are more concerned with illegal immigration, the rate of utility tariffs, and other political issues. This does not change the fact that Malta is highly vulnerable to a changing climate as rising sea levels are threatening to submerge parts of the islands. Malta will also be affected by climate change through shifts in crop suitability.

The government, politicians, NGOs and the press in Malta, are all starting to create awareness on global warming, and urging the public to apply green practices in their everyday lives. The government has also introduced environmental campaigns in primary schools to encourage young students to preserve the environment, and pass the message on to their families and friends.

Every journey begins with a single step and Malta is definitely on the right track, although a lot more is yet to be done. Hopefully, the jellyfish phenomenon could serve as a wake-up call for us locally, because sometimes, it's only when reality hits home that people truly decide to take action.

In Malta a number of schools are part of the EkoSkola programme which is being co-ordinated by Nature Trust (Malta) representing FEE (Malta). EkoSkola aims at mobilizing the whole school to empower students to adopt an active role in environmental decision-making and action in their school and in their community. Schools that have successfully achieved this goal are awarded a Green Flag - a prestigious eco-label testifying the school's commitment to fostering sustainable lifestyles.

### **Related links**

<http://www.earthhour.org>

<http://ozonewatch.gsfc.nasa.gov>

<http://www.theozonehole.com/ozoneholehistory.htm>

[http://www.scienceagogo.com/news/2010028220025data\\_trunc\\_sys.shtml](http://www.scienceagogo.com/news/2010028220025data_trunc_sys.shtml)

<http://epa.gov/climatechange/kids/>

<http://www.teachclimatechange.org.uk/>