

Central LOBBY

CLIMATE CHANGE



The oceans offer proof of what's happening to our climate, say **Lord Hunt of Chesterton** and **Baroness Worthington**

GLOBE UK recently brought together some of the UK's leading climate scientists to brief Members of both Houses on the latest evidence of climate change in the Arctic.

The message was clear: climate change is driving rapid transformations in the Arctic, which could have serious consequences across the northern hemisphere.

In 2007 the Inter-Governmental Panel on

Climate Change concluded that the long term warming of the atmosphere and oceans is unequivocal. It attributed this to the effects of greenhouse gases caused by human activities.

Over the last 140 years global surface temperatures have risen by about 0.8°C. Fluctuations in the long term trend of rising temperatures are common and can sometimes last for a period of 10 or more years. These fluctuations are primarily caused by warming of the ocean surface, as happened around 1998, or cooling in the Pacific, as has happened since about 2005. To claim that global warming stopped 16 years ago as "there has been no discernible rise in yearly average of surface global temperatures" between 1997 and 2012 is misleading.

For a proper understanding of what's happening to the global climate, we must look

to the oceans. Over the period 1961 to 2003, global ocean temperature rose by 0.10°C from the surface to a depth of 700m. Thermal expansion of sea water has led to an average sea level rise of about 1/3 cm a year with substantial regional differences influenced by local wind variations. This will be made much worse as polar ice continues to melt.

With leadership from the UK, data collected from satellite radar and laser altimeters suggests annual ice loss in the Arctic of up to 900 cubic km a year since 2004. Data from earlier US satellites shows that annual average Arctic sea ice extent has shrunk by 2.7% a decade, with larger decreases in summer of 7.4% a decade. In 2012 arctic sea ice cover fell to 3.41 million sq km, 50% lower than the 1979-2000 average and setting a record for the lowest summer cover since satellite data collection began. Using these trends and updated climate

