

A message to the G8 from the world's largest climate modelling project

Even if we were to totally stop emitting greenhouse gases into the atmosphere today, a potentially dangerous level of global warming cannot be ruled out, the *climateprediction.net* project warned the G8 leaders today (Monday 4 July 2005) as its latest results were presented at the Royal Society's Summer Science Exhibition.

This is because there is a delay in the earth's climate system which means that the full effects of the carbon dioxide already in the atmosphere have not yet been seen. Most of the simulations returned to *climateprediction.net* suggest that, even with current greenhouse gas concentrations, the climate of the world will eventually be 1-2.5 degrees centigrade warmer than it would have been in the absence of human influence. Any increases beyond today's concentrations of carbon dioxide will make a greater, and therefore more damaging, rise in temperature more likely.

The *climateprediction.net* project has completed over 100,000 simulations of the Earth's climate, thanks to members of the public donating spare processing time on personal computers.

Dr Myles Allen, who initiated the project 5 years ago said: "Our results show that stabilisation, even at today's greenhouse gas concentrations, may already be an unacceptable risk. Until we know more, we need to plan on bringing levels down again, by eventually phasing out fossil fuel emissions altogether. This goes far beyond anything currently on the table at the G8 summit."

David Stainforth, project Chief Scientist, commented: "The atmosphere and oceans can take decades to adjust to reach new temperatures. Just because today's climate is tolerable doesn't mean today's greenhouse gas levels are safe. Some models indicate a global warming of over 4 degrees centigrade with today's greenhouse gases. The further we let greenhouse gas concentrations rise above today's levels the more likely we are to see an even greater rise in temperature."

Many analyses suggest any warming over 2 degrees centigrade should be considered dangerous. Summer temperatures could rise a lot more over continental North America, according to Stainforth.

First results from the *climateprediction.net* project, based on the initial two thousand simulations returned, were published in the journal *Nature* earlier this year. It is still possible to join *climateprediction.net* if you have a personal computer at home, work or school. Several new experiments will be launched over the coming year.

Notes to editors

1. The exhibit “What might the climate be like in 2053?” is part of the Royal Society’s annual Summer Science Exhibition which takes place at the Royal Society, 6-9 Carlton House Terrace, London SW1Y 5AG. The exhibition features a total of 24 exhibits, is free-of-charge and opens to all during the following times:

Mon 4 July 6.00pm to 9.00pm - note evening opening time
Tues 5 July 10.00am to 4.30pm
Wed 6 July 10.00am to 4.30pm
Thurs 7 July 10.00am to 4.30pm

2. The exhibits are being held at the Royal Society but do not necessarily reflect the views of the Royal Society.

3. Figures can be viewed and downloaded from www.climateprediction.net/press

4. Climateprediction.net is a collaboration between several UK Universities and the Met Office, led by the University of Oxford and funded by the Natural Environment Research Council and the Department of Trade and Industry’s e-Science programme.

5. NERC is one of the UK's seven Research Councils. It uses a budget of about £300 million a year to fund and carry out impartial scientific research in the sciences of the environment. NERC trains the next generation of independent environmental scientists. It is addressing some of the key questions facing mankind such as global warming, renewable energy and sustainable economic development.

6. In the summer of 2004 climateprediction.net dramatically increased its processing power by joining forces with the world’s most powerful computer network, SETI@home, the Search For Extra-Terrestrial Intelligence, based at the University of California in Berkeley. Scientists from Oxford and Berkeley designed new software that allows climateprediction.net to run on the SETI platform called BOINC.

7. The Royal Society is an independent academy promoting the natural and applied sciences. Founded in 1660, the Society has three roles, as the UK academy of science, as a learned Society, and as a funding agency. It responds to individual demand with selection by merit, not by field.

The Society’s objectives are to:

- * strengthen UK science by providing support to excellent individuals
- * fund excellent research to push back the frontiers of knowledge
- * attract and retain the best scientists
- * ensure the UK engages with the best science around the world
- * support science communication and education; and communicate and encourage dialogue with the public
- * provide the best independent advice nationally and internationally
- * promote scholarship and encourage research into the history of science

For further information about the Summer Science Exhibition contact:

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