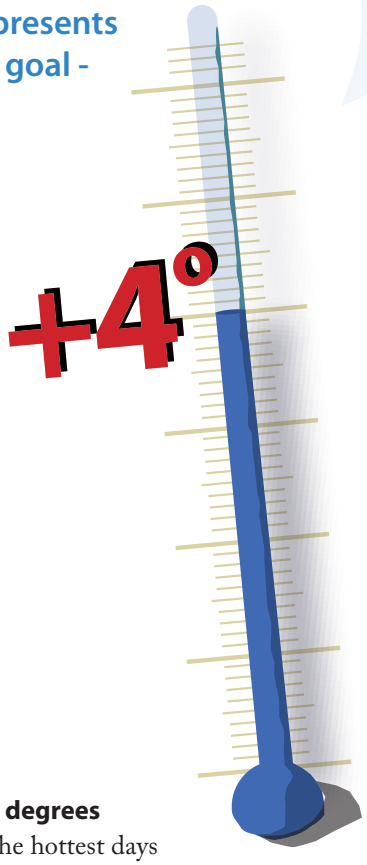
Welcome to the world at +4° C

A new map published by the British government presents the likely effects of global warming above the +2° goal - a future that seems impossible to cope with.



"We cannot cope with a +4 degrees world," said David Miliband, UK secretary of state, as the British government recently published a map showing the likely effects of a failure to cut greenhouse gas emissions and keep global warming below 2°C. The map has been developed by one of the world's leading climate research institutes, the Hadley Centre.

The map projects the temperatures between 2060 and 2100 if present rates of warming are not slowed. Even more pronounced than earlier projections, it shows the big regional differences in climate change. Since the sea warms more slowly than land areas, average global land temperature will rise by 5.5°C, while temperatures in high northern latitudes will increase by ten degrees or more. Likely effects of such extreme temperature change are – among other things – permafrost collapse over vast areas and massive melt-down of the Greenland ice-sheet.

A +4 degrees world is not science fiction or a nightmare scenario. At present emission trends it may be reality before the end of this century, according to Richard Betts at the Climate impacts research team at Hadley Centre.

"Two degrees is already gone as a target," said Chris West, director of the UK Climate Impacts programme at a conference on the four degrees scenario, hosted by the University of Oxford earlier this autumn.

"Reaching four degrees by 2060 is a plausible, worst-case scenario. By 2100, 5.5 degrees is possible," Richard Betts said at the conference.

The planet has warmed 0.74 degrees over the past 100 years. The present rate of warming is 0.16°C per decade, according to the UN's Intergovernmental Panel on Climate Change (IPCC). As previously reported in Acid News (see 2/09 p. 9) global carbon dioxide emissions are presently increasing at an ever faster rate. Over the last decade emissions have exceeded those of IPCC's most fossil-intensive scenario, projecting a mean temperature increase of up to 6.4°C by the end of this century.

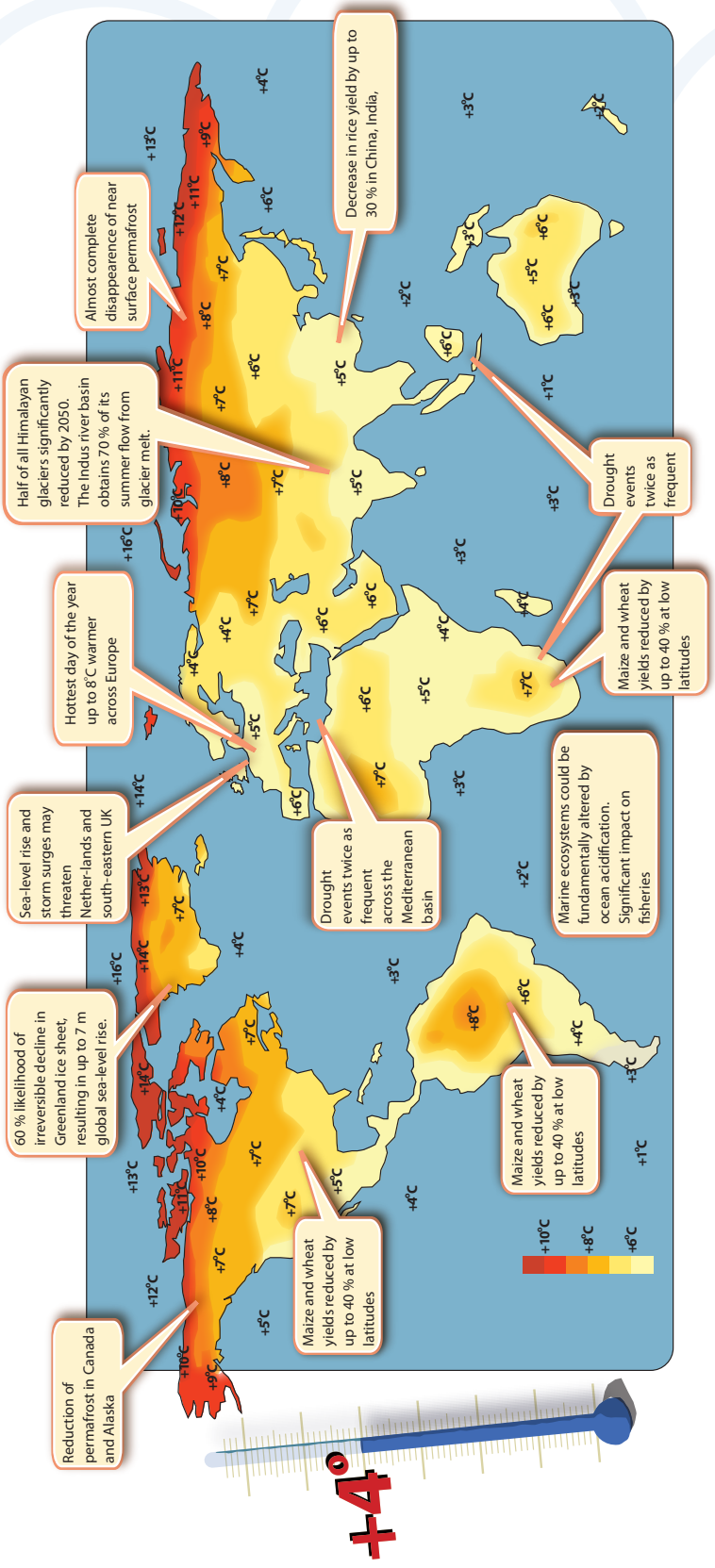
In a +4 degrees world the hottest days will be up to 12 degrees warmer than today in some regions, making them more or less uninhabitable. Other likely or possible consequences pointed out at the Oxford conference were:

- one to two billion people will not have access to fresh water because of major shifts in rainfall patterns.
- up to 15 per cent of existing or potential cropland will become too dry and too hot for food production. Africa will lose 40 per cent.
- flooding will affect at least 500 million people.
- the ability of the oceans to absorb carbon could be reduced. Presently, about half of the anthropogenic carbon emissions are soaked up this way. In a +4 degrees world ocean absorption could be reduced to one third, which would speed up warming further.

Sources:

What an average temperature rise of 4°C would really mean for the planet. The Independent, 23 October 2009.

Leahy, S: Four degrees of devastation. IPS, 9 October 2009.



The figure is based on the map published by the UK Government this October, showing the effects of a global mean temperature increase of four degrees. Temperature patterns are simplified. The boxes give a few examples of the information on consequences provided in the interactive map.

Check it out at: www.actoncopenhagen.decc.gov.uk/content/en/embeds/flash/4-degrees-large-map-final.

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