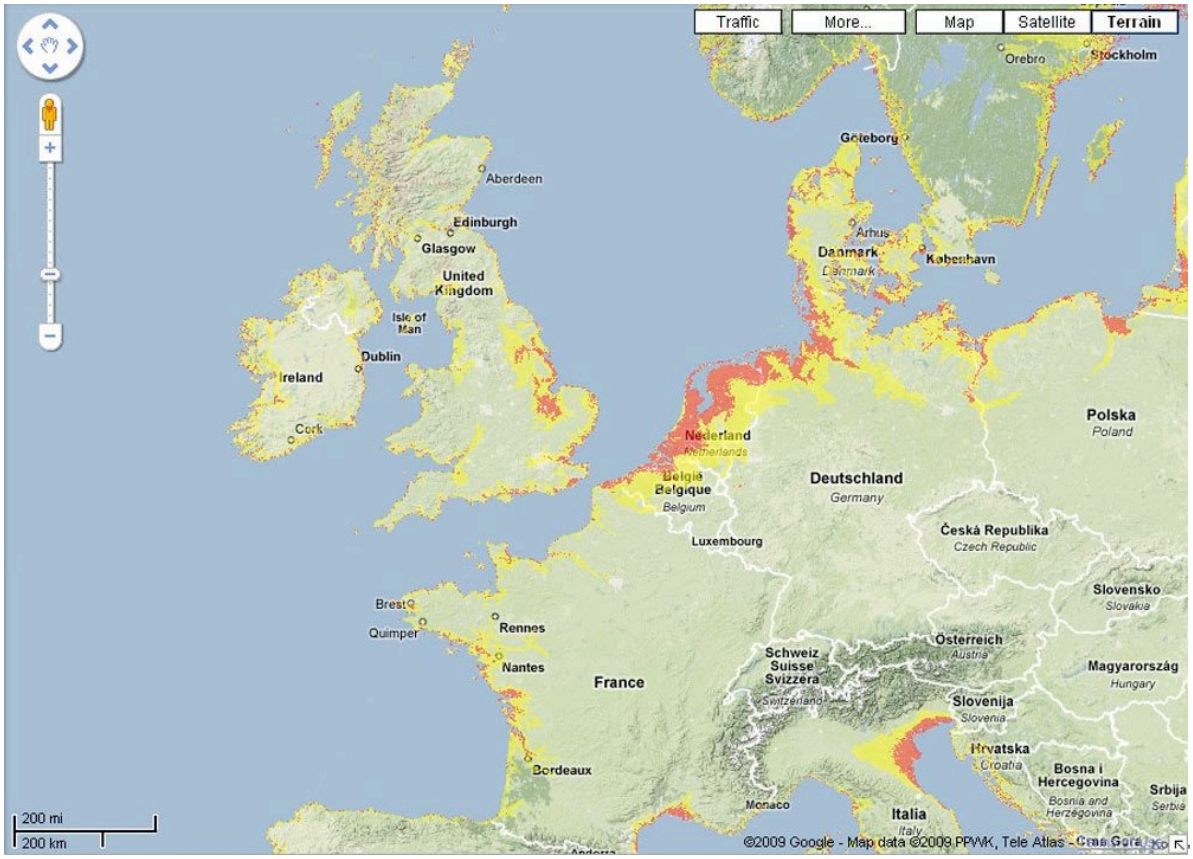

Earth's coastlines after sea-level rise, 4000 AD

* 18:00 21 June 2009 by Catherine Brahic
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Even if we could freeze-frame the atmosphere as it is today, sea levels would still rise by 25 metres, says the latest study into the effects of climate change on melting ice sheets.

Eelco Rohling of the UK National Oceanography Centre at the University of Southampton and colleagues reconstructed sea level fluctuations over the last 520,000 years and compared this to global climate and carbon dioxide levels data for the same period. They found a tight coupling between carbon dioxide and sea level rise.

Based on this relationship, the team calculated that if the amount of carbon dioxide in the atmosphere were fixed at current levels, temperature rises over the next couple of millennia would eventually drive sea levels up by 25 metres.

The team emphasise that the rise would not happen overnight or even over the next century. Two studies published last year suggested that there is a limit to how fast the water can rise. According to one, sea-levels could rise by approximately 1.3 metres by 2100. The other set the upper limit at 2 metres.

For an idea of what the European, Eastern US and Caribbean coastlines would look like with 2 metres (red) and 25 metres (yellow) sea level rise, have a look at the maps to the right.

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