

# Shell London Lecture Series - Geology in the Age of Man

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Geological Society of London

## Impacts and Adaptation to Sea-Level Rise

SPEAKER: *Robert Nicholls (University of Southampton)*



Coastal areas constitute important habitats, and they contain a large and growing proportion of population and economic activity, including economic centres such as London, New York, Tokyo, Shanghai, Mumbai, and Lagos. Sea-level rise is a long-term threat to these areas. Global-mean sea levels rose 17 cm through the twentieth century due to global warming; they are likely to rise more rapidly due to the same cause through the twenty-first century when a rise of more than 1 m is possible. In some locations, local (or relative) sea-level rise may be exacerbated by subsidence, especially due to ground fluid withdrawal from, and drainage of, susceptible soils. Relative sea-level rise has a range of potential impacts, including higher extreme sea levels (and flooding), coastal erosion, salinization of surface and ground waters, and degradation of coastal habitats such as wetlands. In the worst case, large land areas could be lost and millions of people could be displaced by sea-level rise. Appropriate responses include mitigation of climate (a global response) and subsidence (a local response) and/or adaptation (also a local response). A combination of these strategies appears to be the most appropriate response to sea-level rise. Adaptation responses can be characterized as (1) protect, (2) accommodate, or (3) retreat. While these adaptation responses could reduce impacts significantly, they will need to be consistent with responses to all coastal hazards, as well as with wider societal and development objectives; hence, an integrated coastal management philosophy is required. In some developed countries, including England and the Netherlands, proactive adaptation plans are already being formulated. Coastal cities worldwide will be a major focus for adaptation efforts because of their concentrations of people and assets. Developing countries will pose adaptation challenges, especially in deltaic areas and small islands, which are the most vulnerable settings.

Date: *Wednesday 18th April 2012*

Timings: *This lecture will be given at 3pm and 6pm on this day (with tea/coffee served for half an hour before each), so please let us know, when applying for tickets, which talk you would like to attend.*

Venue: *The Geological Society of London, Burlington House*

Entry to this lecture is free to all, but by ticket only. Please call at reception (to your right) or contact the Society by post, phone, fax or email (see below).



For further information, please contact:  
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## 2012 Programme

18 January	<b>Earthquakes and tsunamis in the modern world</b>	<i>James Jackson, University of Cambridge</i>
15 February	<b>Rocks and climate change: How we can stop pulling the carbon trigger</b>	<i>Bryan Lovell, GSL President</i>
28 March	<b>Life at the edge: Sinking deltas</b>	<i>James Syvitski, University of Colorado</i>
18 April	<b>Impacts and Adaptation to Sea-Level Rise</b>	<i>Robert Nicholls, University of Southampton</i>
9 May	<b>Unconventional gas</b>	<i>Melvyn Giles, Shell</i>
27 June	<b>Sustainability of groundwater in a changing world</b>	<i>Paul Younger, University of Newcastle</i>
26 September	<b>Volcanoes and man</b>	<i>Sue Loughlin, British Geological Survey</i>
10 October	<b>Pollutants and human health in the age of man</b>	<i>Jane Plant, Imperial College London</i>
14 November	<b>Geological aspects of renewable energy</b>	<i>Bruce Levell, Shell</i>
19 December	<b>Incoming: Learning to love the meteorite</b>	<i>Ted Nield, GSL</i>



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