

■ The year in review

NERC-funded scientists deliver world-leading environmental research, helping us predict changes to our environment, use natural resources sustainably, improve people's quality of life and find solutions to some of the world's biggest challenges.

NERC has made significant progress in delivering its strategy, *Next Generation Science for Planet Earth*, now in its second year of the five-year plan. The appointment of theme leaders responsible for each of the seven scientific themes has been well received by the community and is proving very successful in highlighting funding priorities to support our strategy.

It has also been an excellent year in terms of scientific achievements. For example, evidence was presented that severe drought in the Amazon in 2005 turned the region from a carbon dioxide sink to a source – a swing equivalent to Europe and Japan's combined annual CO₂ emissions.

This sensitivity is a major concern, not least because some climate models predict that parts of the Amazon will dry out this century. Another example is Arctic sea-ice extent, which reached a record low in autumn 2007. Research using satellite data has led scientists to estimate that sea-ice thickness in the following winter was nearly 19 per cent thinner in some areas compared with the previous five winters. Many more highlights of our research are presented in the report.

The quality of our research is fundamentally important. In 2008-09, we commissioned independent experts to look at how NERC-funded research papers rank internationally in terms of citations. Their analysis shows that across all our funding mechanisms – be it blue skies research, strategic research or research by fellows – NERC-funded research is extremely highly cited.

The report also shows why NERC is such an attractive partner for national and international collaboration. This year, we have launched the Joint Climate

Research Programme with the Met Office, including a shared investment in super computing; signed, at ministerial level, a polar research agreement to develop closer ties between the UK and Canada; and developed an international environmental research funders' workshop with the National Science Foundation, our US counterpart.

NERC's international collaboration, and indeed all UK research, is made possible by the essential national capabilities that our investment provides: our facilities, data and expertise. These are largely managed by NERC-supported centres.

The Government has called for a debate in the research community about focusing research on areas where the UK has competitive advantage. In partnership, the Research Councils have developed six focused research programmes, in areas that are hugely important to our society – Energy, Living with Environmental Change (LWEC), Ageing, Digital Economy, Security and Nanoscience. NERC leads for the Research Councils on the LWEC programme, but we also contribute to most of the other programmes.

LWEC is a partnership of 20 organisations spanning research councils, government and delivery agencies. In June 2009, LWEC announced 18 new research programmes representing a total investment of more than £100 million, of which NERC plans to contribute £30 million. This initiative, and others detailed in this report, show the environmental research community can respond rapidly to changing priorities and help boost the UK economy.

The green economy is high on the public agenda, and NERC is working with partners to develop a major role for

the UK. By providing the environmental research and expertise that will underpin new sectors, like renewable energy and carbon capture and storage, we will help UK businesses seize the opportunities in new green markets.

NERC invests in training to support the next generation of environmental scientists, helping sustain the research base and meet the changing needs of employers. This year we have started a skills review alongside the Environment Research Funders' Forum to look at the research skills needed to address the challenges facing the UK economy. This review will highlight new areas which NERC will support through masters and PhD studentships.

Investment in the way NERC is organised has continued to make our research facilities better and more efficient. We made excellent progress with the re-structuring of the Centre for Ecology & Hydrology (CEH). New laboratories and office space are either completed or being built at CEH Edinburgh and Wallingford, and we are close to opening a new building – the William Smith Building – at the British Geological Survey in Keyworth.

These combined achievements show NERC's success this year, and the vital contribution our environmental research can make to people's lives and to the global economy at a time of major environmental, economic and social challenge.

Alan Thorpe, *Chief Executive*
Ed Wallis, *Chairman*
24 June 2009