



# GIS in education

How GIS can transform the teaching and learning of geography with examples from the UK and USA



## Speakers

- Jonathan Breckon, Head of Policy & Public Affairs,  
Royal Geographical Society (with IBG)
- Steve Brace, Head of Education & Outdoor Learning  
Royal Geographical Society (with IBG)
- Kate Amis, Geography Ambassadors Programme  
Royal Geographical Society (with IBG)
- Ken Lacey, Assistant Education Manager  
Ordnance Survey, Great Britain
- Dr Steve Guphill, Senior Research Physical Scientist  
United States Geological Survey



# Introduction

- About us
- Geography in English & Welsh schools
- Influencing government on GIS in schools
- The Action Plan for Geography
- What advocacy is achieving for GIS in schools
- Importance of GIS for universities



## Royal Geographical Society (with The Institute of British Geographers)





## Royal Geographical Society (with The Institute of British Geographers)

- o **Research** about our world's environments, cultures and societies
- o **Education** at school, college and university – formal learning
- o **Learning in the real world**– fieldwork & expeditions
- o **Public engagement** with geographical issues
- o **Policy** and advice to government and others
- o **Geographical Collections**. Over 1 million maps and charts

To: 'Advance geographical science'

Through: advice, advocacy, catalysing activities, collections, conferences, debates, exhibitions, facilitation, fieldtrips, grants, lectures, liaison, media articles, networking, online resources, partnerships, professional development, publications, research, programmes, schools workshops, seminars, social events, training.



## Geography in English & Welsh schools

- o **Geography is regarded as an essential subject in the school curriculum**
- o **Compulsory from about age 5 to 14 years – then choice of studying it**
- o 'entitlement' to humanities from age 14 (KS4)
- o **One of the top 10 most popular subjects at A/S level**



## Influencing government GIS in schools

- o **2004 ministerial geography 'focus group' with Secretary of State at the Department for Education and Skills Rt Hon Charles Clarke MP**
  - o cross-cutting themes
  - o curriculum development
  - o fieldwork and outdoor education
  - o network and links
  - o professional development
  - o public engagement
- o 2 years work – now on our 5<sup>th</sup> government schools minister
- o **Launched 30 March 2006 as the 'Action Plan for Geography'**



## The Action Plan for Geography

### **Subject bodies:**

Dr Rita Gardner, Director, Royal Geographical Society (with IBG)  
Dr David Lambert, Chief Executive, Geographical Association

### **Higher Education**

Professor Andrew Goudie, Master, St Cross College, Oxford  
Professor David Rhind, Vice-Chancellor, City University  
Dr Caroline Bressey, Research Fellow at the Department of Geography, University College London.

### **Teachers**

Helen Martin, Deputy Head, Shelley Primary School, Horsham  
David Rayner, Head of Geography, Rainham Mark Grammar School, Medway  
Dr Mike Firth, Head, Meridian Upper School, Royston.

### **Policy / Applied sector**

Dr Martin Frost, Director of Geographical Analyses, National Evaluation of Sure Start  
Vanessa Lawrence, Director General, Ordnance Survey

### **Environment & Sustainable Development / Business sector**

Barnaby Briggs, Head of Social Performance Management Unit, Shell International  
Alasdair Thomas, Director, Birdwing

### **International Development sector**

Dr Gordon Conway, Chief Scientific Adviser, UK Department for International Development

### **Media**

Dr Nick Middleton, writer and presenter Channel 4 series 'Going to Extremes' and 'Surviving Extremes'



## Action Plan in action



## What advocacy is doing for GIS in schools

- Steve and Kate on the Action Plan for Geography
- Director RGS-IBG now formal adviser to government on geography education
- GIS essential part of subject criteria for main exams in England and Wales (2006)
- New secondary curriculum launched last week (11-14 years)



## Importance of GIS for teaching and learning in universities

*'Maps have an important historic role as representations of the world, and geographers should be conversant with their modern forms and dimensions. However, geographers should have a similar depth of understanding of other representational forms, including texts, visual and digital technologies (particularly GIS and remote sensing).'*

*Subject Benchmark for Geography, QAA 2007*



## Conclusion

- o Early appearance in curriculum in 1991 but as a concept rather than technology
- o GIS powerful tool to enhance a geographical education
- o Partnerships across HE, business, charities and government agencies paid dividends
- o Despite central role in real-world geography, GIS still has a long way to go in schools