GEOSCIENCE SKILLS IN NIGERIA

As part of a team from the British Geological Survey, scientists Dan Lapworth and Kate Knights have just finished a two-year programme to train geoscientists in Nigeria.

The trainee geoscientists carried out regional stream sediment surveys, as part of a long-term mapping programme across Nigeria. The sediment analysis will be used to find new, economically valuable mineral deposits in Nigeria. Understanding the natural distribution of elements – the geochemical baseline – will also help monitor the effects of human activities like mining and industrial waste on the environment.

Kate and Dan were part of the Nigerian Geochemical Mapping Technical Assistance Project, which brought together African and European researchers from a range of backgrounds, to share knowledge, develop skills, and foster future collaboration in the fields of geochemistry, hydrogeology, environmental pollution and health.

The project was funded by the World Bank through the Nigerian Ministry of Mines and Steel Development. Working alongside staff from the Nigerian Geological Survey Agency (NGSA), the Nigerian academic community and the Geological Survey of Finland (GTK), Kate and Dan helped develop geoscience skills across the country, including training in geographical information systems, statistics, quality control, data management, laboratory analysis and sampling methodologies.

Most of 2009 was taken up with practical training, which directly involved more than 100 people, and a similar number took part in workshops and training courses in Nigeria and the UK. This work means Nigeria's national geochemical mapping can continue beyond the life of the training programme itself.

'It's great to see that these newly acquired skills are already being used in a number of new projects within the NGSA,' said Dan. 'And importantly, NGSA staff are now transferring their skills to new trainees.'

Early results also show that parts of southwest and central Nigeria have naturally high concentrations of some of these rare earth elements – lanthanum, samarium and neodymium for example – that are important for low carbon technologies like hydrogen storage in the motor industry. Finding accessible deposits of these elements is really important for the future development of these industries and it is hoped that information from airborne geophysical surveys and geochemical mapping in Nigeria will attract the investment to develop a minerals sector in a country where the economy is dominated by the oil industry.