Surface/Subsurface Hydrological Modeller
UKRI – NERC – BGS
Keyworth, Nottingham
£30,357 to £32,997 per annum (depending on qualifications and experience)
Full Time – 37 hours a week (a range of flexible working options may be available)
4 Year Fixed Term Appointment

About us

The British Geological Survey (BGS) is an applied geoscience research centre that is housed in UK Research and Innovation (UKRI) and affiliated to the Natural Environment Research Council (NERC). It is a world leading geological survey that provides a core science mission to inform government of science related to the subsurface and its interfaces and also undertakes applied research for solutions to earth and environmental processes, both in the UK and globally. It is funded directly by UKRI as well as through research grants and via private sector contracts.

BGS has an annual budget of approximately £60 million and employs 650 people. It has two main sites, a head office in Keyworth near Nottingham and the Lyell Centre, which is a joint collaboration with Heriot Watt University in Edinburgh. BGS works with more than 150 private sector organisations as well as having close links with 40 universities and sponsors approximately 100 PhD students each year.

We have an opportunity for a talented and motivated Surface/Subsurface Hydrological Modeller to join our Groundwater Directorate based at the BGS Headquarters in Keyworth in Nottingham.

About the role

The Groundwater Science Directorate has a reputation for research excellence in modelling hydrological and groundwater flow and transport processes within integrated environmental systems, in collaboration with leading university departments and a variety of industrial partners. We are seeking a talented modeller, with an interest in integrated hydrological and groundwater modelling, and the ability to develop and apply scientific modelling code to environmental problems.

The successful candidate will principally work on two major new projects:

(i) *Community Water Management for a Liveable London (CAMELLIA)*, funded by the Natural Environment Research Council through their Regional Impact from Science of the Environment programme. This 5-year project, led by Imperial College London, working in collaboration with researchers from University College London, the University of Oxford, and the BGS, and multiple stakeholder partners, aims to support water management within London by enabling the collaborative application of hydrological models and systems tools. Specifically, the role will support the development and application of a community urban hydrological model for London, integrating surface water, groundwater and infrastructure interactions, and its use within a system dynamics framework developed by our research partners.

(ii) Hydro-JULES, a 5-year cross-NERC Centre and BGS project to develop a new generation of terrestrial hydrological models linked to the Joint UK Land Environment

Simulator (JULES), in collaboration with national and international organisations, universities and institutes working on the development of the JULES model and an associated model integration framework. Specifically, the role will be to improve the representation and parameterisation of groundwater processes in JULES and the Hydro-JULES framework, and its application at a range of space and time-scales.

The appointee may also be required to make contributions to a range of other interdisciplinary projects in the Groundwater Science Directorate. The work will be mostly UK based but there may also be opportunities to work overseas for short periods of time.

About you

You should be educated to 2:1 or above in a relevant degree and have either a MSc and three years' experience, or a PhD in a related environmental modelling discipline. In addition, you should have the following knowledge/skills/experience:

- Good knowledge of hydrological and hydrogeological processes and their representation in mathematical models.
- The ability to develop and modify hydrological/groundwater modelling software using one or more scientific programming languages. The ability to code in C++ and/or Fortran is desirable.
- Experience in the application of numerical models to simulate the terrestrial water cycle.
- Excellent communication skills, both oral and written. The post involves team working and collaboration with external partners, therefore you should be able to work effectively with others and have good time management skills.

What we offer

A generous benefits package is also offered, including a very competitive pension scheme, 30 days annual leave plus bank holidays and access to flexi-time.

Please note that any internal BGS staff applying for this post would, if successful, be appointed to new UKRI Terms and Conditions and pay.

How to Apply

Applicants are required to include a cover letter outlining their suitability for this role. We would stress the importance of this paperwork in our selection process. **A well thought through application addressing the advertised essential and desirable criteria for the post will be considered far more favourably than a generic covering letter and CV.**

Applications are being handled by UK Shared Business Services, to apply please visit our job board at http://www.topcareer.jobs/Vacancy/irc249474_9469.aspx

Applicants who are unable to apply online should contact us by telephone on +44 (0)1793 867000.

Closing date for receipt of applications is **28 June 2019.** Interviews will be held mid-to end of July 2019.

BGS provides a range of flexible working options including flexible working patterns, compressed hours and home working so if you have a need for flexibility, please raise this in

the recruitment process when your needs, balanced with the requirements of the role, will be fully considered*.*

UKRI values diversity and welcomes applications from all sections of the community. People with disabilities and those from ethnic minorities are currently under-represented and their applications are particularly welcome. There is a guaranteed Interview scheme for suitable candidates with disabilities.

The British Geological Survey is an Investors in People organisation and has achieved Bronze status for Athena SWAN – a scheme that recognises an organisation's commitment and progress in developing a diverse and inclusive workforce.

	Specific Skills Criteria	
	Essential	*Desirable*
QUALIFICATIONS	• Educated to 2:1 and either have a PhD in a subject related to the post, or a MSc and three years' subsequent relevant experience. • Completion of maths modules as part of undergraduate or postgraduate degree demonstrating capability in mathematical methods / analysis.	• Full driving licence.
EXPERIENCE	• Experience in the application of numerical models to simulate the terrestrial water cycle at a range of spatial and temporal scales.	• Track record of publishing in peer-reviewed journals. • Experience of the simulation of the effects of green-infrastructure on catchment hydrology and/or land-surface modelling. • Experience of working on stakeholder focussed problems.
KNOWLEDGE	• Broad and detailed knowledge of hydrological and hydrogeological	• Knowledge of, or experience of working

	processes and their representation in mathematical models. • Knowledge of hydrological / groundwater / land-surface modelling codes.	within, the UK water industry. • Knowledge of global-scale hydrological modelling.
SKILLS AND ABILITIES	• Ability to develop and modify hydrological/groundwater modelling software using one or more scientific programming languages. • Effective written communication skills. • Excellent oral communication skills and an ability to present science clearly to non-scientists. • Ability to work effectively both independently and as part of a team. • Ability to prioritise work and manage time effectively.	• Capability to program in C++ and Fortran. • Experience in quantifying uncertainty in environmental models
PERSONAL QUALITIES	• Approachable. • Willingness to travel off-site / occasionally abroad • Alignment to BGS Core values	
MOTIVATION	• Displays an enthusiasm for hydrological and groundwater science and a desire to develop in their role. • Demonstrates curiosity and a drive to resolve scientific problems • Demonstrates an interest in the work of BGS and NERC	