



The future of geoscience

UK geoscience is in crisis, and it's up to all of us to act, say geologists at the University of Hull

The geology programmes at Hull have grown rapidly since their establishment in 2013, led by a dynamic, collegial and gender-balanced team of academics. But, like many across the country, we are under threat.

Student enrolment is falling dramatically, and the subject is suffering a perception problem due to its association with traditional extractive industries and lack of diversity. The failure of central lobbying to ensure that geoscience remained prominent and valued in the school curriculum leaves us all with a major challenge. Geology degrees are relatively expensive, requiring essential fieldwork and laboratory training, and the collapse in student recruitment now threatens their viability.

Societal challenges

It is ironic that this is occurring at a time when the world needs skilled geoscientists more than ever. The great societal challenges of the 21st century, and many of the UN Sustainable Development Goals, are related to Earth science: increasing vulnerability to geological hazards; increasing need for renewable energy and the capture of anthropogenic carbon, increasing demand for rare minerals and metals to support modern technology; increasing need to sustainably manage water resources as our climate changes. Furthermore, the geological past can provide the only analogues available for understanding the present and future impacts of climate change.

Heads in the sandstone

With its long tradition of excellence in geology, the UK should be at the forefront of addressing these emerging challenges. Doing so would simultaneously emphasise geology's relevance, improve its image, and hopefully boost its recruitment. However, many in positions of power seem to be sticking their heads in the sandstone, whilst other countries recognise the value of investing in training the geoscientists of the future.

The provision of geology teaching in schools has declined dramatically in recent years (see Boatright et al., *Geoscientist* 29 (8), 2019). If they aren't already, university geology departments are going to have to find ways to recruit more students who haven't had prior exposure to the subject. Despite the great work they do, school and college geology teachers have limited time, resources and power to bring about systemic change. To do so requires a focal point, an influential and progressive organisation to speak truth to power, around which the geoscience community can rally.

Next steps

The first step must be for geology educators at all levels to join with learned societies, employers, and other institutions to promote a new vision of geoscience for future generations. This includes creating engaging, up-to-date, open-access resources and communicating to school and college pupils, in STEM and other subjects, that geology is a viable and environmentally responsible option.

We need academics, professionals, postgraduates, undergraduates and passionate non-professionals to work with schools, particularly in previously neglected areas. We need greater diversity in our subject, representative of the different social classes, genders, and ethnic backgrounds of the modern UK. Perhaps most importantly, we need to advocate the vital role of geoscience in tackling the climate crisis to fundamentally change the public perception of our discipline.

Geology may be rooted in the past, but its greatest value lies in the future. We must work together as a community to find new ways to develop and resource this crucial effort. If we do not, an educational crisis will become an existential one.

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Image: Student fieldwork in Almeria, University of Hull.