

# PRESS RELEASE

31<sup>st</sup> May 2018

## Scientists tracking the 'life signature' of Britain

**The British Geological Survey has just released a new interactive web tool that maps out the geographical variation in the isotope signatures of Britain. This map, which includes strontium, oxygen and sulphur data, enables the determination of the provenance of food and drink or archaeological remains.**

The fruit and vegetables we eat contain signatures or patterns depending on the type of ground in which they were grown. Britain has a very diverse but well-understood range of rock types, all with particular signatures, and so it is possible to match the composition of food to the geology on which it would have grown. This exciting method of analysing food can help us understand more about the provenance of the food on our plate or the grapes in our wine.

These signatures can also be passed on to humans when they eat the food, and are preserved in teeth as we grow from child to adult. By applying the same theory to archaeological remains, scientists can analyse the signatures in our ancestors' teeth to begin to understand where they may have lived. For instance, the analysis may result in identifying that someone spent their childhood eating food from the eastern, coastal regions of Britain, or from granite highlands.

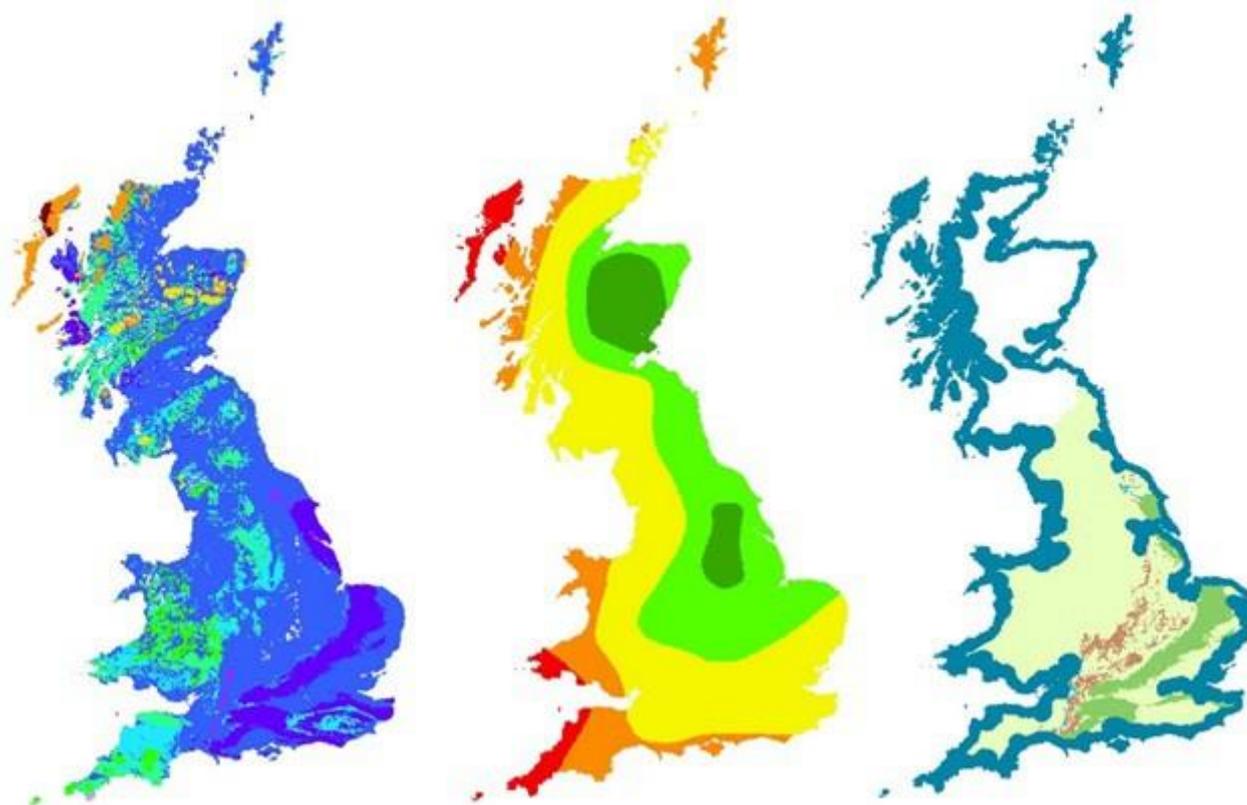


Figure showing the base maps for strontium, oxygen and sulphur isotope distribution in the biosphere across Great Britain.



The Biosphere Isotopes Domains Map (GBV1), which is available via an interactive website, presents layers of information including strontium (Sr), oxygen (O) and sulphur (S) isotope compositions. These data can be viewed as an individual map layer, or together to determine the provenance of your fruit and veg. Using the different layers on the map it is possible to define a number of factors that characterise a geographical location. For example, it is possible to identify sparkling white wine that comes from grapes grown on the Chalk Downs near the sea.

Another major use for the website is in archaeology. Elements ingested during childhood often have their 'fingerprint' preserved in the teeth of our ancestors. Following analysis of the teeth, users can input their data and the website will produce a map (that can be downloaded) showing the areas in Britain that best match the measurement. This could narrow down the geographical location much in the same way that the game 'Guess Who' identifies your opponent's character.

The aim is to continue to develop this map, and add information as it becomes available to further improve the precision of the website.

**\*Ends\***

**For further details or to arrange media interviews please contact:**

Clive Mitchell, British Geological Survey Press Office, Keyworth, Nottingham, NG12 5GG

Office +44 (0)115 936 3257 Mobile: + 44 (0)7815 537 439

Email: [cjmi@bgs.ac.uk](mailto:cjmi@bgs.ac.uk) Twitter @CliveBGS

**Notes for Editors**

The following is available for interview:

- Professor Jane Evans, Research Scientist, British Geological Survey

Additional info: [www.bgs.ac.uk/products/geochemistry/BiosphereIsotopeDomainsGB.html](http://www.bgs.ac.uk/products/geochemistry/BiosphereIsotopeDomainsGB.html)

**The British Geological Survey**

The British Geological Survey (BGS), a component body of the Natural Environment Research Council (NERC), is the nation's principal supplier of objective, impartial and up-to-date geological expertise and information for decision making for governmental, commercial and individual users. The BGS maintains and develops the nation's understanding of its geology to improve policy making, enhance national wealth and reduce risk. It also collaborates with the national and international scientific community in carrying out research in strategic areas, including energy and natural resources, our vulnerability to environmental change and hazards, and our general knowledge of the Earth system. More about the BGS can be found at [www.bgs.ac.uk](http://www.bgs.ac.uk).

**The Natural Environment Research Council**

The Natural Environment Research Council (NERC) is the UK's main agency for funding and managing world-class research, training and knowledge exchange in the environmental sciences. It coordinates some of the world's most exciting research projects, tackling major issues such as climate change, food security, environmental influences on human health, the genetic make-up of life on earth, and much more. NERC receives around £300 million a year from the government's science budget, which it uses to fund research and training in universities and its own research centres. [www.nerc.ac.uk](http://www.nerc.ac.uk)