

Dr James Bendle

Dr James Bendle, a Reader in Organic Geochemistry from the School of Geography, Earth and Environmental Sciences at the University of Birmingham, describes, in 60 seconds, his research into understanding past Greenhouse climates to help inform predictions for the future.

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My name is James Bendle and I'm a Reader in Organic Geochemistry.

Even if all the recognizable parts of an organism are obliterated after it dies, a few organic molecules, a sort of chemical fingerprint, remain in sediments for millions of years. We extract and analyze these molecular fossils, which bare witness to the types of algae, bacteria and plants which created them in the distant past and the climates in which they lived.

The information they carry includes whether the atmosphere was laden with Greenhouse gases or not, the temperature of the oceans and the land, the frequency of droughts and the strength of monsoons.

Why is this important? Because atmospherically speaking we are heading back through time. We currently have levels of carbon dioxide that have not been seen on Earth for at least three and a half million years and we are heading for levels akin to those of the early Eocene epoch 50 million years ago. When there was little or ice on the planet, sea-levels were much higher and it was so warm that there were palm trees in the Antarctic.

Understanding these past Greenhouse climates will help inform predictions for the future.

[Dr James Bendle's profile \(http://www.birmingham.ac.uk/schools/gees/people/profile.aspx?Referenceld=47394&Name=dr-james-bendle\)](http://www.birmingham.ac.uk/schools/gees/people/profile.aspx?Referenceld=47394&Name=dr-james-bendle)