



The Nitrogen Cycle and the Anthropocene

^{14}N 14.00307 99.63%	^{15}N 15.0001 0.37%
Stable	Stable

A one day workshop (keynote speakers plus posters) on issues around the nitrogen isotope cycle and the Anthropocene.

There are several types of temporal record (ice cores, sediments, tree rings) which show a reduction in $^{15}\text{N}/^{14}\text{N}$ ratios during the 'Anthropocene', a period in which there has been a substantial increase in the amount of reactive nitrogen in the earth's nitrogen cycle. These changes are thought to be mainly due to the industrial synthesis and application of fertilizers, other changes in farming, and the combustion of fossil fuels. However, there does not seem to be any general agreement on the mechanism/s which cause this change in $^{15}\text{N}/^{14}\text{N}$ ratios, or indeed whether the changes in different records are related.

The workshop will therefore aim to promote discussion around: ^{15}N depletion in organic matter in recent lake sediments; the lag between ^{15}N in recent ice cores and lake sediments; recent ^{15}N changes in modern plants/trees and soils; changing sources of N in glaciers and ice cores; and on how changes in source inputs to the atmosphere, and/or changes in its chemistry processes during the past few hundred years might have resulted in a decrease in $^{15}\text{N}/^{14}\text{N}$ of deposited N?

Key note presentations:

- [Jan Zalasiewicz](#) (University of Leicester): Stratigraphy of the Anthropocene: an overview.
- [Jan Kaiser](#) (University of East Anglia): Isotopic evidence of sources and chemical processing of nitrogen in the atmosphere.
- [Eric Wolff](#) (University of Cambridge): Ice core signals of a changing nitrogen cycle.
- [Tim Heaton](#) (British Geological Survey): Sediment, soil and plant records of changes in $^{15}\text{N}/^{14}\text{N}$ ratios during the Anthropocene.

The meeting will be held at the British Geological Survey in Keyworth on Wednesday 29th October 2014. Contact [Melanie Leng](mailto:mjl@bgs.ac.uk) (mjl@bgs.ac.uk) for more information or register an interest in attending.