



Tom - Research and teaching technician, Geography department

## Tom's revealing the secrets of climate change with mud from around the world

As a field technician, Tom travelled around the world extracting sediment from remote places: "I worked in Iceland, Patagonia, the South Pacific; drilling into lake, ocean, floodplain, and bog sediment - which is challenging, especially when you have to carry the extracts out on your back!"

While Tom loved the travel, he wanted to be involved in the analysis. Fast-forward two and a half years, and Tom is a teaching and research technician in the Geography Department at The University of Manchester. By looking at metre long sediment cores from up to 30 metres deep in the ground, he has a snapshot of the earth over two millennia or more: "The stuff at the bottom is the oldest and stuff at the top is the newest. It's like a 2-foot long time-machine!" This 'time-machine' can show Tom the changes in chemistry from 20,000 years ago, and sometimes more.

To analyse the chemistry, Tom uses a special non-destructive x-ray machine, alongside other laboratory equipment. Changes in chemistry can be caused by the climate at the time the sediment was deposited.

Ultimately, his work is helping us to find ways to save the planet from climate-change. "We help researchers to reconstruct past environmental change, so we can better understand and predict future climate behaviour; we monitor environmental pollution to measure the scale of the problem and develop a strategy. We teach students a scientific way to problem-solve which will hopefully lead to them arguing for evidence-based improvements to environmental policy.

2003  
1st technical job in a photographic laboratory

2005  
Completed A levels in Geography, English, Economics and History

2009  
Completed an undergraduate degree in Geography at The University of Manchester

2014  
Became a Field Technician at the University of Southampton

2015  
Completed a PHD in Physical Geography at The University of Southampton

2016  
Became a Teaching & Research Technician in the Geography department at the University of Manchester

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