

# Geographical Techniques

Alison Cook, British Antarctic Survey



## Profile

Alison joined the British Antarctic Survey in 2000 and now works as a Geographic Data Analyst for BAS.

## University degree

BSc Geography at St Andrews University

## Curriculum links

Antarctica is an excellent case study for understanding changing physical processes. The continent's role as a 'natural laboratory' has become increasingly important in an era of rapid climate change and maps are a vital part of furthering our understanding of the planet.

KS3: GIS and map work  
GCSE: Extreme Environments  
A Level: AQA Cold Environments  
Edexcel Climate change

## Mapping Antarctica

Antarctica is among the most poorly mapped places on Earth. So how is the British Antarctic Survey's mapping team expanding our knowledge of the world's last great wilderness, and what can mapping teach us about how the continent is changing?

Find out more at

[http://www.antarctica.ac.uk/about\\_antarctica/geography/mapping.php](http://www.antarctica.ac.uk/about_antarctica/geography/mapping.php)

## How did you get involved in mapping?

I studied Geography at St Andrews University, where I particularly enjoyed learning about the physical processes that form glaciated landscapes. During my degree I took a module on GIS, and when I finished I thought that this might offer me a good chance of a geography-related career, so I studied for a Masters in GIS at Edinburgh University. My MSc research project was about mapping the volume change of a glacier in Iceland using photogrammetry and GIS, which was where I learned the skills I now use in my job.

## What skills do you use in your work?

Much of Antarctica hasn't been mapped in detail before, so if there's a need for a new map, we begin by going to take aerial photographs of the area and taking GPS survey points on the ground. This information is then used to form a photogrammetry project to record height data, and then ArcGIS is used for the feature collection and map compilation stages. Our outputs vary enormously, from topographic maps with ortho-photo backdrops through to small-scale published maps. We also analyse geographic data to produce scientific outputs, such as glacier front changes over time.

## How do you think geography has helped you?

I certainly wouldn't be doing what I'm doing now if I hadn't studied geography. It has enabled me to not only learn a lot about the landscape, but to see the importance in mapping and understanding it.

## What do you enjoy about geography?

Geography is a type of exploration, where you have the chance to understand how the landscape was formed and how it is changing. It encompasses important issues such as climate change and the impacts this is having on the environment. I enjoy mapping regions that have been visited rarely, if ever, before, and the challenges that this presents!

Read more about Alison's career at

[http://www.antarctica.ac.uk/employment/profiles/profile\\_alison\\_mapping.php](http://www.antarctica.ac.uk/employment/profiles/profile_alison_mapping.php)