

Brilliant Careers for STEM students in the South West: Met Office

Employees:

Around 2000

Location:

Nationwide/ Exeter (HQ)

Industry:

Weather and climate services

What does the Met Office do?

The Met Office is one of the most advanced weather and climate organisations in the world. For its employees, this means constructing and refining complex models that help us understand and forecast a vast range of weather and climate systems. These predictions are then used by the scientific community for everything from climate policy development to everyday weather forecasts.

The Met Office is also home to an array of specialist divisions doing unique work, such as the London Volcanic Ash Advisory Centre, who monitor for volcanic eruptions and predict the impact of the ash they generate, and the Tactical Decision Aid unit, who support military missions by predicting how weather conditions will interact with combat operations.

Three key questions:

- How do you use a supercomputer to solve complex equations as fast as possible?
- How certain are your model predictions?
- What will the weather be like tomorrow? Why?

Employee profile: Christopher Maynard, Scientific Software Engineer

What does your job involve?

I write mathematical software that solves complex equations to make predictions about the weather. It's important that the software runs as fast as possible, so my work involves working a lot with the Met Office's supercomputer to optimise code.

What did you do before working at the Met Office?

I studied physics at university and then went on to do a PhD at Edinburgh University in quantum field theory, where I met Peter Higgs—who the Higgs boson particle is named after! There, I started working with supercomputers to solve really complex maths problems and work with quantum models of spacetime. I use a lot of the same methods and techniques in my current role at the Met Office.





Employee profile: Dr Freya Garry, Climate Scientist in the UK Climate Resilience Team

What's the biggest challenge in your job?

There's widespread awareness now about climate change. However, we are trying to work out how to make predictions of climate change useful to different sectors such as farming or the energy sector. By combining the model analysis together with social insights into who are likely to be affected, and how vulnerable to climate change they are, we begin to understand climate risk better. However, communicating these complex ideas to a wide range of audiences is very challenging.

How did you get in to your career?

I was a keen maths student at school, but, like many people on the Isle of Man where I lived, I just thought I might end up in the finance sector, especially if I studied maths at university, though it turns out it would have been an ideal subject to study to become a climate scientist too! In fact I ended up studying at the National Oceanography Centre at the University of Southampton where being good at maths was essential to my studies. After a PhD and postdoc in physical oceanography, I joined the Met Office as a climate scientist, looking at future UK climate change and the way it will affect different groups of people in the UK, such as farmers.

