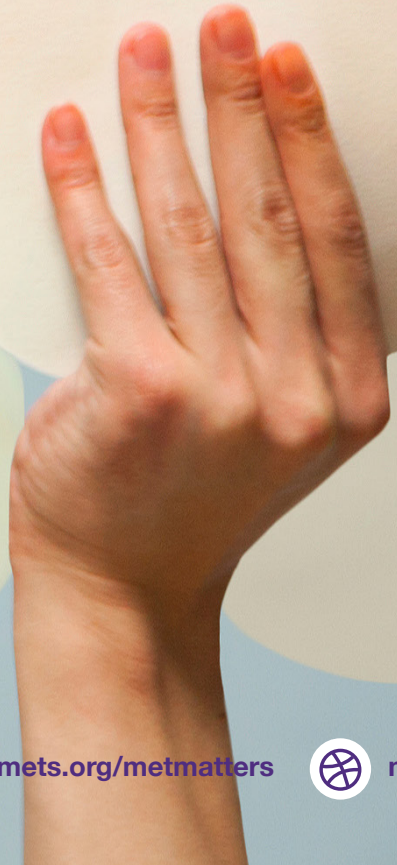
MetLink
Royal Meteorological Society

CAREERS IN WEATHER AND CLIMATE



Engage
Enthuse
Educate
Empower

rmets.org rmets.org/metmatters metlink.org

WHAT IS A **CAREER IN METEOROLOGY?**

Meteorology includes the study of weather, climate and climate change. By studying meteorology, you can discover how our weather and climate work.

Weather has an impact on many things including ecosystems, health, travel, energy and food production. There are news stories about weather events almost every day - floods, droughts, storms, hurricanes, tornadoes, and melting ice. The weather affects all of us, individually, as a community and through our career and leisure activities.

The changing climate will have an ever-increasing impact on our lives through changes to our weather and weather worldwide. As almost every profession adapts to a differing environment, understanding the climate system is becoming fundamental to an increasing number of organisations.

Underpinning our understanding of all of this is meteorology - the study of weather and climate.

WHAT QUALIFICATIONS **DO YOU NEED?**

Most meteorologists have a strong background in physics and maths, preferably to a degree level. Degrees involving a significant proportion of meteorology are offered at BSc or MSc level by several UK universities. Many also offer PhD opportunities. Some jobs are also suitable for people with qualifications in geography, computing, environmental science and related subjects.

There is also an ever-increasing variety of jobs related to climate change adaptation and prevention available to those with a wide range of backgrounds and qualifications.

The Royal Meteorological Society provides ongoing support to all its members from students through to Fellows (FRMetS). The Society awards two professional accreditations to recognise excellence in people and in organisations and their continuing professional development – Registered Meteorologist (RMet) and Chartered Meteorologist (CMet).

Professional forecaster training is provided by the Royal Navy's Flagship Officer Sea Training group and the Met Office College. Vocational qualifications in observing, forecasting and broadcasting are available for those already employed in meteorological professions.

Find lots more about courses and employers on our website metlink.org

UNIVERSITY **DEGREE COURSES**

To become a leading research or applied scientist, a good degree from a university is essential.

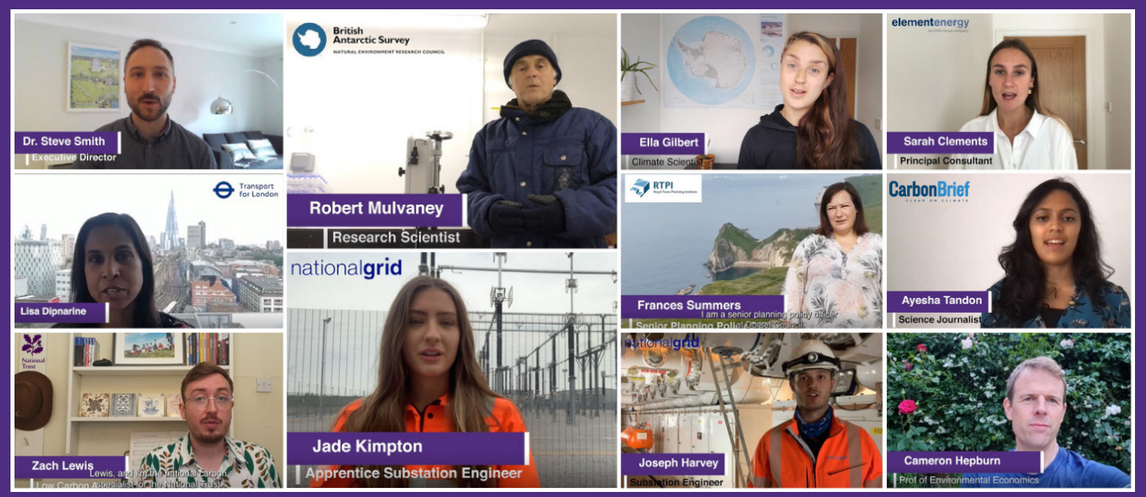
A degree in meteorology, physics or maths could help you start your career in weather and climate.

Many people enter the profession with degrees in associated subjects, including computing, environmental studies, physical geography and electronics.

Find a list of meteorology related courses on **rmets.org/courses**

CAREERS IN **CLIMATE CHANGE**

Explore some of the many careers in climate change that you can do with qualifications in STEM subjects



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CAREER **PROFILES**

Kirsty McCabe, FRMetS

Weather Producer and Presenter at Sky News

"It's almost magical watching the sun rise and seeing places come to life."

What does your job involve?

Producing and presenting live and recorded UK and international weather broadcasts on TV, radio and digital platforms.

How did you get to where you are in terms of qualifications and experience?

Not all weather presenters are meteorologists, but it definitely helps and you can usually spot those who are. A strong science background with a focus on maths and physics was essential when I applied to join the Met Office as a broadcast meteorologist (I have a BSc Hons in Geophysics from the University of Edinburgh). I spent a year at the Met Office College doing the FFTP, with on-the-job training at the BBC Weather Centre and RAF bases. The presenting side is something that comes with practice; live television is not for the faint-hearted!

Why is your job important?

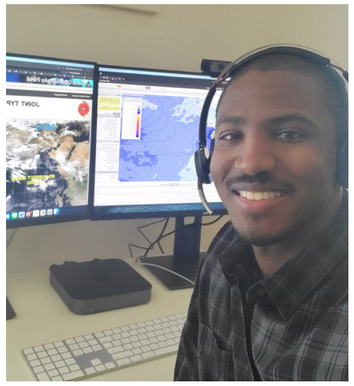
It's my job to translate meteorological jargon into an interesting and engaging weather story, so that people know what the weather will be like, how it will affect them, and are aware of any risks from adverse conditions.

What has been your best day at work so far?

I've had lots of brilliant days and have been lucky enough to have presented the weather from different locations all over the UK. It's almost magical watching the sun rise and seeing places come to life. I've even helped a few celebrities to do the weather which is always fun, Kylie Minogue was so lovely.

Your best advice for someone wanting to do something similar:

Brace yourself for unsociable hours. Most weather presenting jobs involve very early starts or night shifts, and you'll probably work weekends and Christmas.



Ray Jefferson, RMet

Marine Router, Fleetweather

"Stay patient. It's not always easy, whether at the university level, training, or even normal day to day business."

What does your job involve?

My responsibility is to provide optimal ship routing (both the most efficient and safest routes) to our clients as well as provide them with daily weather forecasts along their route, adjusting their route as necessary to avoid poor weather conditions or adverse seakeeping conditions (Heavy swell or adverse current).

How did you get to where you are in terms of qualifications and experience?

The only prerequisite for Fleetweather (FW) when I joined the team was a Bachelors Degree in Meteorology, which I acquired from Rutgers University. FW has its own rigorous in-house training program, including numerous UCAR COMET modules, a Shipping Industry focused learning management system, and multiple FW original learning tools.

Why is your job important?

We ensure that clients are provided with the route that enables vessels to move at the highest efficiency while also ensuring the crew's safety and other lives aboard each vessel.

What has been your best day at work so far?

It's difficult to pick a single day in particular, however one of the most satisfying scenarios occurs when a tropical system threatens a busy shipping traffic area. It's hard to call these days the "best" days, as they can prove to be very challenging. Once we have provided all necessary clients with proper routing adjustments, it is satisfying to see vessels on our computer systems clear a path for the incoming system and knowing that everyone is safe and that you had a big hand in making that so.

Your best advice for someone wanting to do something similar:

Stay patient. It's not always easy, whether at the university level, training, or even normal day to day business. There will always be challenges and setbacks, even failures. Make sure to take away the lessons from every mistake and keep pressing toward the goal. Patience and persistence will see you through.

Jack Farr

Wintering Antarctic Atmospheric Scientist, British Antarctic Survey

"Having now arrived at two separate Antarctic stations there's no easy way to describe how exciting it feels..."

What does your job involve?

My job involves observing the atmosphere day to day, recording what's happening, and maintaining the automatic meteorological and ozone instruments on station.

How did you get to where you are in terms of qualifications and experience?

For my first time working in the Antarctic, I had just finished my undergraduate degree in Meteorology and Oceanography and had only a little experience with fieldwork and forecasting. Now for my second time down, I have my added Antarctic experience which has allowed me to fill in for the meteorologist at another station that needed filling in at the last minute.

Why is your job important?

Antarctica is an extremely sparsely observed part of the world. What happens here can affect people around the globe, most famously with the discovery and continued observation of the hole in the Ozone layer above Antarctica.

What has been your best day at work so far?

Undoubtedly the best day at work is the first day you arrive on station. Having now arrived at two separate Antarctic stations, there's no easy way to describe how exciting it feels to step foot on the ground and look around knowing that the frozen landscape around you will be your home for the upcoming future.

Your best advice for someone wanting to do something similar:

Working in the Antarctic is both extremely challenging and immensely rewarding. The biggest key factor in doing well is a passion for meteorology. One aspect about living at the bottom of the world is that you never know when unusual skills can come in useful, so I would recommend taking any and every opportunity to get involved in trying new things.

Rebecca Jones, RMet

VP Weather & Climate, BP

"My best days at work are when I can make the people around me realise the importance of a weather forecast"

What does your job involve?

Analysing global weather forecasts and atmospheric drivers in order to create my own view of the forecast and communicating this to a broad audience.

How did you get to where you are in terms of qualifications and experience?

My A-levels were in Maths, Physics and Geography (and an AS-Level in Music!).

I have a BSc in Geography and an MSc in Applied Meteorology.

After university I worked as a weather forecaster on a 24/7 rota covering all kinds of meteorological applications.

And since then, I have worked in energy meteorology for bp, for 10 years now.

Why is your job important?

Our meteorologists are specialists in their field who can be called upon to inform all parts of the business for a myriad of reasons; from giving critical safety information around hurricanes to offshore operations to driving high stakes trading decisions following extreme cold temperature forecasts.

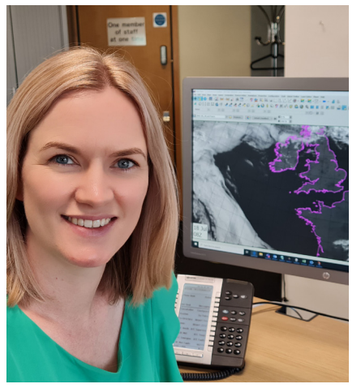
What has been your best day at work so far?

My best days at work are when I can make the people around me realise the importance of a weather forecast and as a result get excited about the impact of weather on our business, as it can be a real tangible impact. Increasingly this conversation is moving into climate science as well which is really exciting for me!

Your best advice for someone wanting to do something similar:

Don't specialise too soon and get as much diverse experience as you can.

CAREER **PROFILES**



Joanna Chambers, RMet

Senior Forecaster, Government of Jersey

"We talk to a huge range of people, and it is the most rewarding part of the job."

What does your job involve?

Monitoring the weather and providing essential weather predictions based on the most up to date information.

How did you get to where you are in terms of qualifications and experience?

I have worked at Jersey Met for 20 years. I started as a Meteorological Observer in 2001 and completed my degree in environmental science and maths and an NVQ in Observing. I was promoted to trainee forecaster in October 2009 and travelled to Exeter to complete my forecaster training at the Met Office College. I completed my forecasting NVQ in 2012 and worked my way up the ranks to become a Senior Forecaster in 2015.

Why is your job important?

We provide essential weather information that allows individuals and businesses to plan their activities and workload and allows aviation and marine to operate safely.

What has been your best day so far?

I have enjoyed working during big events like the air shows where I have had the opportunity to brief pilots from a range of different aircraft or during some interesting weather like snow, which is rare in Jersey. The best days tend to be when I have helped someone who has been affected by the weather. Whether that is someone whose flights have been affected by fog and I have provided information that has allowed them to change their flights to a time when the fog has lifted or someone needing to travel by boat but gets anxious, so I've helped them plan the best day to travel. We talk to a huge range of people, and it is the most rewarding part of the job. It also helps counteract the days when the forecast doesn't go quite so well, which is also part and parcel of the nature of weather forecasting.

Your best advice for someone wanting to do something similar:

Look to spending some time visiting a local Met department or observing station to see the work they do.

Hannah Mallinson

Science Engagement Manager, Royal Meteorological Society (RMetS)

"Embrace new experiences as there is always something to learn and don't be afraid to ask questions."

What does your job involve?

I provide scientific support in the development and delivery of Society projects (across events, publishing, informal education, partnerships, and comms), which promote the understanding of weather and climate science to a variety of audiences.

How did you get to where you are in terms of qualifications and experience?

At A-Level I studied Maths, Chemistry and Geography, before then studying BSc Geography at undergraduate level. With climate change and weather embedded in many modules, this confirmed my interest in meteorology and so I subsequently did a MSc in Applied Meteorology. After graduating, I worked as a Marine Weather Forecaster for a private company and this equipped me with a multitude of skills essential for my current role, including communicating complex information to a range of stakeholders with differing knowledge bases.

Why is your job important?

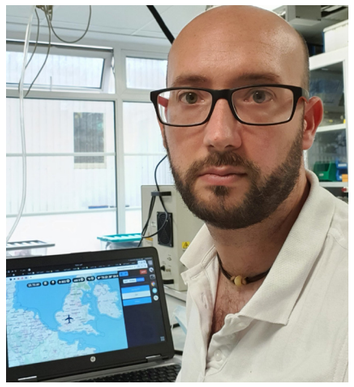
Weather and climate affect our everyday lives and through engaging and educating others about meteorology we empower individuals to make informed choices now and in the future.

What has been your best day so far?

I love my job and so it's hard to pick one best day, but attending COP26 in Glasgow for two weeks where I observed official negotiations and engaged the public with weather and climate was a highlight. Another best day was when I received a copy of the weather photography book that I had worked on for over a year with the Natural History Museum.

Your best advice for someone wanting to do something similar:

A broad understanding of weather and climate is crucial to a role like this as no two projects are the same, so get as much subject experience as you can and be willing to learn or refresh your knowledge daily. Excellent communication skills are also essential and the ability to translate complex information for a variety of audiences, so jump at any opportunities that offer you the chance to practice this. Embrace new experiences as there is always something to learn and don't be afraid to ask questions (nobody knows everything)!



Dave Sproson

Atmospheric Data Scientist, Facility for Airborne Atmospheric Measurements (via NCAS/ University of Leeds)

"A particularly good day recently was when we flew up and down Loch Linnhe in the Scottish Highlands."

What does your job involve?

I process and analyse data gathered on an atmospheric research aircraft and develop and maintain the aircraft's data systems.

How did you get to where you are in terms of qualifications and experience?

I studied mathematics at university and went on to do a PhD in oceanography and meteorology. I then worked as a research scientist at universities in the UK and Sweden, where my work focussed on the interaction between the atmosphere and the ocean. After this, I worked for a private weather forecasting company, where I managed the weather and ocean models, before moving to FAAM in 2018.

Why is your job important?

The measurements we make help scientists to better understand the atmosphere and our changing climate.

What has been your best day at work so far?

It's hard to pin it down to a single day. A particularly good day recently was when we flew up and down Loch Linnhe in the Scottish Highlands. The views were spectacular, and we hopefully did some really useful science.

Your best advice for someone wanting to do something similar:

I think you can't go too far wrong studying numerate subjects such as maths, physics, or computer science. It's also good to find your own projects that you enjoy working on outside of an academic setting – a lot of the skills I use at work I've learnt while just building things for fun. My single best piece of advice would always be to find something that you're interested in and enjoy doing and see where that leads you when you pursue it!

Joanne Coles, FRMetS

National Flood Forecasting Duty Manager, Environment Agency

"The best thing is knowing that I play a part in helping people to stay safe"

What does your job involve?

I gather meteorological and hydrological information from scientists across England to provide a national flood forecasting summary.

How did you get to where you are in terms of qualifications and experience?

I studied Geography, Maths and French at A-Level and have always loved learning about and exploring the world around me. I went on to study Geography (BSc Hons) at the University of Hull, learning about hydrology, geomorphology, and remote sensing. Next, I went to the University of Birmingham to study MSc Applied Meteorology and Climatology, which involved learning about physics, atmospheric dynamics, maths, and practical weather forecasting. Throughout my university career, I looked for work experience to gain an understanding of a true working environment. Whilst travelling in Asia and Australia, I was lucky enough to secure work experience at a private weather company in Sydney which helped me land a meteorologist role in London on my return to the UK.

I joined the Environment Agency (EA) in 2005 as a flood forecaster, and since then, I have had a variety of roles in Flood and Coastal Risk Management. I have also continued my learning journey, becoming a Chartered Scientist, Fellow of the Royal Meteorological Society and Member of the Chartered Institute of Water and Environmental Management (CIWEM).

Why is your job important?

The flood forecast information that we provide helps the government, emergency responders and the public prepare for and stay safe during a flood.

What has been your best day at work so far?

I love everything about my job; every day is different, but the best thing is knowing that I play a part in helping people to stay safe. I am a STEM Learning Ambassador and enjoy supporting children and young people in their exploration of science and the environment.

Your best advice for someone wanting to do something similar:

Be curious, passionate, and enthusiastic. Don't be afraid to ask questions, persevere and look for opportunities; you never know where they may lead.

MetLink
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