Spotlight on careers

Spotlight on careers

Below we spotlight a selection of the different careers that can be followed in meteorology.

Michael Dukes - Forecast/General Manager for MeteoGroup UK

Dr Andrew G Marshall - Climate Scientist at the Met Office - Hadley Centre

Dr. Helen Johnson, Lecturer and Researcher at Oxford University

Penny Tranter: Meteorology Training Manager at the Met Office

Fiona Campbell - Meteorologist at the Carbon Trust

Derek Swannick - Royal Navy Meteorologist

Steff Gaulter - Senior Weather Presenter for Al Jazeera English

Dr. Sylvia Knight, Head of Education Services, Royal Meteorological Society

Prof. Andrew Challinor, Lecturer, Leeds University

Watch a video about the role of Applied Scientist at the Met Office [1]

Michael Dukes

michael dukes Image not of type unknown

What inspired your interest in meteorology?

That's easy - as a child I loved playing in the snow and I started avidly watching the BBC's weather forecasts from as young as six, sitting cross-legged in front of the television, desperately hoping Jack Scott and co. would place one of those metallic snow symbols on top of where I lived. Weather forecasts in those days were very educational and by the time I was ten I knew how to interpret the pressure maps and I would never miss the informative week

ahead 'farming' forecast on Sunday lunchtimes. I grew up in Ilkley and my interest in all things meteorological was fuelled further by some exceptional snowy, cold winters in the late 1970s and early 80s. I remember in my last year at primary school we had to describe what we wanted to do when we 'grew up'. I put weather forecaster. The teacher crossed it out and wrote footballer. I crossed that out and insisted it was indeed weather forecaster! Right the way through secondary school I maintained a passionate interest in meteorology. I had my own mini weather station and kept a daily weather diary. The data from my back garden weather station came in particularly handy for school and was used successfully in 'O' level and 'A' level geography projects.

What job do you do now?

I am Forecast/General Manager for MeteoGroup UK. I've worked for the company since its inception (as PA WeatherCentre) in 1997. My main responsibilities these days are to manage the talented team of forecasters and to make sure the forecasts provide to our clients are of the highest standards. I also work closely with our Meteorological Research & Development team at our sister company, Meteo Consult in the Netherlands. The explosion in the amount and type of weather data available in the last five years means researching and developing new forecast products is one of the most exciting areas of meteorology to be involved in. I also still work lead-forecasting shifts in the winter months. I've always resisted pressure to stop doing these as I'm a firm believer it keeps me in touch with the science of forecasting and helps me in all the other aspects of my job, not to mention the enjoyment it brings.

How did you reach your current job?

After studying Geography at the University of Liverpool I went on to do a MSc. in Applied Meteorology and Climatology at the University of Birmingham. After that, my first job was as a Research Associate at the Climatic Research Unit, University of East Anglia, Norwich. I only stayed for 12 months but it was one of my most enjoyable years and working closely with inspirational climatologists such as Prof. Jean Palutikof and Dr. Clare Goodess was a real privilege. A chance meeting with Philip Eden led me away from climate research and into weather forecasting. Running my own small weather business, I worked closely with Philip Eden for several years in the mid 1990s, absorbing as many of his renowned forecasting skills as I could. In 1997 I joined the newly formed PA WeatherCentre and have had many interesting years watching and helping it grow into MeteoGroup, one of Europe's most significant weather businesses.

Andrew Marshall

marshall

Image not found or type unknown

What inspired your interest in meteorology?

I fondly recall the way in which my father would stroll down the hallway of our Melbourne home during my youth - he would stop for a moment halfway along to tap the barometer a few times and acknowledge the developing local weather conditions before walking on. It should come as no surprise then that I ultimately decided to follow a research career in atmospheric science. It was inevitable really.

How did you reach your current job?

As part of my degree, I completed a project on changes in surface ultraviolet radiation and ozone depletion over Melbourne.

After a two year break travelling abroad I returned to Melbourne to start a PhD on "The Madden-Julian Oscillation: role of air-sea interaction and the MJO-El Niño Southern Oscillation relationship". I was based at the Australian Bureau of Meteorology and took part in field trips to the Northern Territory investigating the start of the Australian summer monsoon. I also gave weather lessons to primary schools all around Melbourne.

I then worked as a post-doc at Monash University looking at the Australian monsoon during the late Quaternary (from 700,000 years ago), which was a new and fascinating area of research for me.

What job do you do now?

I now work at the Met Office in Exeter where I am assessing how the accuracy of weather forecasts for the next season is affected by how well the stratosphere is represented in the computer model of the climate system we use to make forecasts.

In addition to my climate research I have also maintained a strong interest in weather, and can even be heard tapping on a hallway barometer from time-to-time.

Qualifications

PhD in Atmospheric Science from Monash University, Melbourne

BSc(Hons) in Applied Mathematics and Physics from Monash University

Victorian Certificate of Education in English, Latin, Chemistry, Maths and Physics

Helen Johnson

helen johnson

Image not found or type unknown

What inspired your interest in meteorology?

I have always been fascinated by the natural world, and knew I would choose a physical

science degree, but I really wanted it to have an applied, practical aspect to it too. It was the Force 8 gale I experienced while sailing across the North Sea as a trainee on the tall ship Sir Winston Churchill that finally inspired me to study meteorology! My degree provided a solid grounding in basic physics as well as the workings of weather and climate – I loved the theoretical as well as the practical sides of it. Importantly, it also taught me that the ocean plays a crucial and poorly understood role in our climate system, and I've been working on trying to improve that understanding of the ocean ever since.

After 18 fun months working as a research assistant for a physical oceanography professor at Massachusetts Institute of Technology in Boston, USA, I returned to Reading University to do a PhD. I was based in the Meteorology Department, but my work focused on understanding the large-scale circulation of the ocean and how it responds to change. All part of the bigger picture of learning about our climate system! Afterwards I spent two and a half years in Victoria, Canada studying smaller-scale ocean currents, such as the flow through the channels that connect the Atlantic to the Arctic Ocean.

What job do you do now?

I am now a researcher and lecturer at Oxford University where I am funded by the Royal Society to work on ocean circulation and its role in climate. I am particularly interested in the links between the polar oceans and the Atlantic thermohaline circulation, which helps to keep temperatures here in the UK far warmer than the average for our latitude. As well as working with computer models and theory, I spend large chunks of time at sea on research ships and coastguard icebreakers to collect observations of the ocean, in particular the channels of the Canadian Archipelago to the west of Greenland.

Qualifications

PhD in Physical Oceanography from the Department of Meteorology, University of Reading

BSc in Physics and Meterology from the University of Reading

A-levels in Maths, Physics, Chemistry, French and General Studies

Penny Tranter

penny tranter

Image not found or type unknown

What inspired your interest in Meteorology?

Living in southwest Scotland, as I did as a child, you get used to the changeable and at times wild nature of the weather and the sea. I was brought up close to the town of Troon on the Ayrshire coast with a view from our house out to the Firth of Clyde, the Kyles of Bute, Isle of Arran and the Mull of Kintyre. The weather then, as it probably does now as well, always featured quite highly in our daily life, and there is a local saying: If you cannot see the Isle of Arran - it is raining, and if you can see it - it will soon be raining!

My passion for weather though, really took off when the infamous Clyde Valley storm on 14/15 January 1968, caused extensive roof damage to our house and also to many other houses around us. I can still vividly recall the roaring noise of the wind that night, and as a young child, I was very scared! I remember it was a huge talking point the next morning and we watched the TV to see the devastation that had happened across vast swathes of southwest Scotland. And I remember about 20 people were killed and that it badly affected parts of Glasgow, especially the Gorbals area, where residents in the high blocks of flats said they had 'swung like a swing!' This extreme weather event made me curious about how weather worked and the environment, and how weather could be so bad that it could cause destruction and also death.

After a family move to southern England, to Salisbury in my teenage years, this interest intensified, as the weather was very different from western Scotland - and I wanted to know why! I even made a mini-weather station in the garden, including a plastic rain gauge, which I did as part of my Guide Weather badge. I knew in my teenage years that I wanted to become a weather forecaster and I can remember watching Bert Foord and Barbara Edwards on the TV, and starting to learn about the weather maps and the different weather that the different weather patterns gave.

What job do you do now?

Since January 2008, I have been the Meteorology Training Manager at the Met Office College at the Met Office HQ in Exeter. We train all our weather forecasters there, as well as providing other weather training for other roles within the Met Office. We are also increasingly providing weather courses for external customers - varying from Government Departments to the media.

This new job is very exciting and I am currently learning new skills from budgets and procurement to actually running a 2 day training course. It uses many skills that I have already gained: weather forecasting, working to tight deadlines and under pressure, liaising and working with the Met Office's customers and managing a highly skilled team of people. A typical day may include: dealing with a request to price a new training course, resolving student issues, working on our course schedules for 2009 and liaising with the College staff to ensure we are keeping our course content up to date and accurate.

Although I miss all my colleagues at the BBC, I am not missing working shifts!

How did you reach your current job?

I joined the Met Office as a trainee weather forecaster in 1983 after my degree. I gained a good deal of UK weather forecasting experience and knowledge in the following 9 years, from working in different Met Office centres around the country from Glasgow to Southampton, and from Norwich to Plymouth. From 1992-2008 I worked in the BBC Weather Centre as a weather presenter. I regularly broadcasted on TV and radio on BBC 1, BBC 2, BBC 4, News 24, BBC World, BFBS, Radio 2, Radio 4 and Radio 5 Live.

Qualifications

Degree in Environmental Sciences at University of East Anglia (Norwich) majoring in weather and climate

Chartered Meteorologist and a Fellow of the Royal Meteorological Society.

A levels in Maths, Chemistry, Geography.

Fiona Campbell

fiona campbell

Image not found or type unknown

I am a meteorologist with a passion for the environment and love of sailing. I currently work for the Carbon Trust [2] as well as running my own marine meteorology business, Skye Weather Ltd. [3] and working with Skandia Team GBR. Britain is the world's most successful sailing nation & sailing is the UK's most successful sport since the 2004 Athens Olympics!

From 2000-2001 I was a weather forecaster for Onlineweather.com, a newly formed company. I was responsible for compiling, writing and distributing UK wide city, regional, outdoor (mountain, marine and motor sports) & farming forecasts to many clients including MSN, B&Q & the majority of Scottish Newspapers.

In 2001, I became the meteorologist for the GBR Challenge America's Cup Team and the RYA UK Olympic Team Meteorologist. I produce forecasts for all Olympic, European & World regattas, including the 2004 Athens Olympics. The consequences of sailing in the wrong conditions could cost sailing teams many weeks and tens of thousands of pounds. I advise designers about the likely wind and wave conditions the boats will experience, using data from the area as well as computer models. There is a lot of media interest in my work for example from the BBC [4] . I am now a consultant meteorologist for UK sport, providing information not only for the Olympic sailing teams for Beijing 2008 and London 2012, but also on training venues for all sports. I help sailors and their coaches, at all levels, develop their meteorological understanding.

Qualifications

BSc Meteorology, Department of Meteorology, Reading University

Scottish Highers; English, Geography, Maths, Physics, Chemistry

Commander Derek Swannick

commander Derek Swannick

Image not found or type unknown

I was originally inspiredto follow a meteorological career bythe accounts of how the weather, and trying to make the most of it, had playedtheir part in conflicts across the globe throughout history.The opportunities provided by the Royal Navyhave enabled me to apply my qualificationsto forecasting meteorology and oceanographyin contemporary operations all over the world.From the very start of my career,first hand experience of being at seaduring periods of heavy weather, not least the 1987 storm, as well as trying to safely use, and gain advantage for ships, aircraft and submarines from the climate, weather andatmospheric or ocean structures have affirmedfor me the enduring impactof the elements on maritimeand Defence interests.

Early in my career I served in frigates, survey vessels, aircraft carriers and auxiliaries as well as at air stations ashore. I then commanded both the CinC Fleet's Weather and Oceanography Centre at Northwood and the Royal Navy's Hydrographic, Meteorological and Oceanographic Training Group in Plymouth before moving to work in London. I am responsible for the day to day management of the Ministry of Defence programmes to provide hydrographic, meteorological and oceanographic information from both the Meteorological Office and the UK Hydrographic Office. I am also the Royal Navy representative on the RMetS Accreditation Board [5].

Qualifications

Fellow of the Royal Meteorological Society

MA Defence Studies (2002) (King's College London)

Royal Navy's Hydrographic Surveying Course (1996) (IHO Cat B Surveyor)

Royal Navy's Meteorological and Oceanographic Officer's Qualifying Course (1992) (Now recognised as PGDip in Applied Meteorology and Oceanography and fulfilling RMetS requirements for CMet

BSc Applied Physics and Solid State Electronics (Heriot Watt) (1989)

A Levels, Physics, Maths, French, General Studies

Steff Gaulter

steff gaulter

Image not found or type unknown

All four of my grandparents were maths teachers, as was my father, so I suppose it was inevitable that I would end up in a similar field. However, I was always difficult and was the only one of my siblings not to study maths at University.

Instead I studied Natural Science at Cambridge University, specialising in physics. Obviously there's a lot of maths in physics, but I far preferred it, as there was more of a link to the real world. I loved the way that things did as they were told: balls thrown into the air, waves in a ripple tank, and even winds in the atmosphere.

Soon after leaving Cambridge I saw an advert for the Met Office. They were looking for maths and physics graduates to become forecasters. I've never looked back.

The Met Office's forecasting course is very intense, with months spent at a residential college and plenty of on-the-job training before you qualify. I loved it, and was the first person to get a distinction in their final forecasting exam.

Once qualified, the Met Office has a huge variety of careers available to you. With them I worked at RAF bases, commercial centres and also for the BBC. I really enjoyed working in media, being the weather expert; presenters could throw any question at you and you had to know the answer.

After a few years, I joined Sky News, where I also appeared on FiveNews, Virgin Radio, TalkSport and even on Richard and Judy! I've recently changed jobs again and I now live in Qatar, in the Middle East.

I was offered the job of Senior Weather Presenter for Al Jazeera English and for about the first 6 months I was the entire Weather Department! It was a very daunting time, turning up 2 weeks before we launched, redesigning the graphics, researching the forecast for the entire globe, being on-call 24 hours a day and doing all the presenting. But I've always loved a challenge.

Now our weather department has more than one member, I'll get a chance to visit exciting places that I wouldn't consider from the UK: Dubai, Muscat, Kuwait, even the Seychelles and the Maldives aren't far from here.

I certainly wouldn't be where I am today without a physics degree, and please don't ask me where I see myself in 5 year's time. I don't even know what country I'll be in! A career in meteorology can take you anywhere.

Qualifications

Forecaster Training Programme, Met Office

BA Natural Science (Physics), Cambridge University

A Levels: Maths, Further Maths, Physics and Chemistry

Sylvia Knight

sylvia knight

Image not found or type unknown

I enjoyed meteorology (and all aspects of physical geography) a lot at school, as well as being

strong at maths and physics. I was never really sure what I wanted to study but somewhere picked up the information that, if I wanted to end up being a meteorologist, it was probably best to do a physics degree. So, I decided to study Natural Sciences, where I could at least put off specialising until the last year of my degree. In the end, I took physics and geology in my second year, and physics in my third. With a good degree, it was relatively easy to get a funded place at Reading University's Meteorology Department to work towards a Ph.D.

My Ph.D. topic was very theoretical – looking at how very large waves in the atmosphere interact with weather system development. After that, I spent some time using computer models to explore how changes in stratospheric ozone (associated with the growth and predicted recovery of the ozone hole) affect the climate at the Earth's surface. More recently, I worked with the climate*prediction*.net project (http://www.climateprediction.net [6]). I was responsible for the communication side of a project which is wholly reliant on volunteers around the world donating computer time – so I had to make sure that people heard about the project, and then had the opportunity to learn about the project and what the computer models are telling us about the Earth's climate. Part of this involved working with teachers to develop resources for schools.

I now work for the Royal Meteorological Society, and am responsible for their education activities – from primary schools right through to continuing professional development for Chartered Meteorologists.

I was lucky enough to take part on a student field trip, sailing in the Solent. It was the most 'hands on' meteorology I have done, and I particularly enjoyed listening to the shipping forecast and working out what that meant the weather map [7] looked like over the British Isles.

I also, for a brief period of time, helped a colleague who was supporting an attempt on the world altitude record for a manned balloon http://news.bbc.co.uk/1/hi/england/cornwall/3078074.stm [8]

The balloonists needed to know exactly where their balloon would land – it had to be over water, and it had to be within range of the ship that would rescue them, and so needed custom-made forecasts for the trajectory of the balloon.

In 2005 I visited several countries, including Lithuania, Kazakhstan and Russia, to talk about predicting the climate on behalf of the British Council. That was extremely interesting!

Qualifications

Ph.D. in Meteorology from the University of Reading

M.A. in Natural Sciences from the University of Cambridge

A levels in Maths, Physics, Geography and German

Fellow of the Royal Meteorological Society

Andrew Challinor

andy challinor

Image not found or type unknown

I moved from a physics degree to a Ph.D. in forested boundary layers because I wanted to use my skill for a practical purpose. It was a case award with the Forestry Commission, who wanted to know how to forecast wind damage to trees. I had already been introduced to atmospheric physics whilst on an Erasmus year in Spain, and I knew I liked modelling after having modelled galactic hydrogen lines in my final year physics project (we had to model them, as the radio telescope was kaput - even when pointed at the sun we got no signal). From my Ph.D. I moved to Reading University to look at linking weather and climate forecasts with models of crop productivity. My models allowed me to explore the effects of climate variability and long term change on crop growth and development. I was a sort of bridge between agriculture and meteorology, with the ultimate goal of contributing to food security, particularly for people in Tropical areas.

During a period as Lecturer and Reader in climate change modelling at Leeds University, I expanded my areas of research work even more broadly, so that I now work with social scientists, biologists, physicists and climate scientists on a range of projects. The topics covered in these projects include food security; assessing the uncertainties around climate change and its impacts; and examining the links between agriculture, human health and climate. This focus on building and working in research teams was instrumental in the success leading up to my appointment, in January 2011, as Professor of Climate Impacts at Leeds.

Qualifications

Ph.D. in Meteorology and Forest micro-climate from the School of the Environment, the University of Leeds

B.Sc. in Physics (European), The University of Leeds

A levels in Physics, Maths, Economics and Spanish

Julian Mayes

julian mayes

Image not found or type unknown

What inspired your interest in Meteorology?

Indirectly, a wet August afternoon in the Lake District in the mid-1970s. Seeking shelter from the rain in a shop, I - as a rather inquisitive 11 year old - stumbled across a small book entitled 'Enjoy Cumbria's Climate'. I was hooked! It described the variations in weather and climate that can be found across Cumbria. Only later did I realise the significance of the author, one Gordon Manley. In the same holiday I purchased a small rain gauge and started to take readings in the back garden of my parents' house in Cardiff. There was certainly plenty of rain to measure although I can still recall the 17 hours-a-day water cuts made at the end of the 1976 drought.

How did you reach your current job?

Sensing that the Met Office doors were closed to me because of my geography degree, I pursued my research interests, first at Swansea University and then as a lecturer in the Department of Geography and Environmental Science at Roehampton University, straddling the divide between meteorology and geography. Despite my geographical background, I soon found the Royal Met. Soc. to be a congenial learned society. I became Secretary of the Association of British Climatologists, organised a few Society meetings and later edited Weather. In 2004 my career took a new turn - I joined what is now MeteoGroup UK.

What do you do in your current job?

I am Head of Training and a Senior Forecaster at MeteoGroup UK. I train newly recruited weather forecasters and contribute to continuing professional development of existing staff, the latter being an important activity in such a rapidly changing field. So, although you may think I changed career from being an academic to a weather forecaster, it is not really such a big change. I also train our external clients to understand the weather and to make the most of our forecasts. I enjoy this enormously as I get to travel around both the UK and occasionally onto the Continent, trying to see the weather from the non-specialist's point of view and helping them make the most of the weather. Another activity that has followed on from my academic past is an interest in climate change; I currently write a regular climate change blog on www.meteogroup.com [9] . I suppose that the common theme of my rather unusual career path has been an interest in opening the subject up to a wider audience, whether they be readers of Weather or a highway engineer wanting to know when to put salt on the roads.

Qualifications

PhD in regional airflow classification (Swansea University)

BA Geography (Swansea University)

A levels in Maths, Physics, Geography

See also Talking Jobs [10]

An online resource of video interviews exploring people's working lives and careers, including an interview with a meteorologist

---

[2] http://www.carbontrust.co.uk
[3] http://www.skyeweather.com
[4] http://www.bbc.co.uk/weather/features/coast_sea/weatherwiseforsailing1.shtml
[5] https://accsys.rmets.org/../cmet/index.php
[6] http://www.climateprediction.net
[7] http://www.rya.org.uk/NR/rdonlyres/8B4C46FA-6FFB-43A9-AB3A-D867D2BD21D2/0/Met_Maps.pdf
[8] http://news.bbc.co.uk/1/hi/england/cornwall/3078074.stm
[9] http://www.meteogroup.com
[10] http://www.talkingjobs.net/