

# Speaker Abstracts and Biographies

## WeatherLive Conference

### Session 1: Extreme Weather

#### Extreme Weather

Robert K Doe, Tornado and Storm Research Organisation (TORRO), University of Liverpool

**Abstract:** In this talk, Robert will introduce extreme weather phenomena in the United Kingdom and Ireland via the work of The Tornado and Storm Research Organisation (TORRO) (established 1974), what is involved in researching extremes from a community/crowdsourcing perspective and look at the results from extreme weather databases. The talk will be illustrated by a number of significant extreme weather events and key records.

#### Biography:



Robert graduated with a Ph.D. from the University of Portsmouth where he specialised in coastal storm climatology. He is currently an Honorary Research Fellow in the School of Environmental Sciences, at the University of Liverpool. Robert is a Director and Treasurer of The Tornado and Storm Research Organisation (TORRO), a Fellow of The Royal Meteorological Society (FRMetS) and Member of the Royal Institution (MRI). He was Editor-in-Chief of The International Journal of Meteorology (2002–2006) and has published extreme weather research on phenomena including; tornadoes, waterspouts, floods, snowstorms, ball lightning, coastal storms, climate and risk. He is currently working on research using Unmanned Aerial Systems (UASs) to investigate extreme weather impacts.

#### Storm Chasing

Paul Botten and John Finney, Storm Chase Tour Leaders, Weather Holidays

#### Paul Botten Biography:



Paul Botten has been Storm Chasing in Tornado Alley for 15 years. Over these years he has seen and documented 198 Tornadoes across most states.

Paul has chased and photographed the World's Largest and Widest Tornado (El Reno) back on the 31st May 2013. He has also seen 2 EF5 Tornadoes and over 30 EF4's. His favourite State to Chase is in the High Plains of Colorado due to the amazing Supercells you can witness and photograph in that area. Two of his favourite Chase days were the Dodge City Outbreak on the 24th May 2016 when Weather Holidays witnessed 17 Tornadoes from various Supercells on that day. Another day to note would be the Pilger

and Wisner EF4 Tornadoes in Nebraska on the 16th June 2014. That day saw them document and witness four EF4 Tornadoes in a 2-hour time window.

Paul has been the Tour Leader for Weather Holidays since 2007. His very first chase day saw him chase the first ever EF5 Tornado at Greensburg (Kansas). Ever since then he has taken hundreds of customers out to the USA every Spring from Early May to Late June. The tours over the years have grown from just 1 single Tour in 2007 to the 7 offered nowadays, with Canada Chasing also added for 2019 and our Monsoon Lightning Tours to Arizona taking place in August every year.

Weather Holidays now run a dedicated Photography Tour which sees Award Winning Photographer John Finney coming along to teach budding photographers about composition and other tricks and tips on photographing weather.

Together, they have taken quite a few Ex BBC Forecasters across to chase including Michael Fish and Kaddy Lee Preston. Next year will see them take Ex BBC Presenter Jo Farrow on our Canada Trip. Paul has also over the years contributed to countless documentaries which have been shown on ITV, Channel 4 and other Sky Channels and he was also interviewed on Sky News last year about Hurricane Irma.

### John Finney Biography:



Mr. John Finney is a semi-professional award-winning photographer based in the High Peak of Derbyshire.

Over the past 10 years, he has seen his work published in books and magazines around the world, and his work appears in the National Press on a regular basis. He has also been on the winners list of the Landscape Photographer of the Year awards in 2012, 2013, 2014, 2016 and recently the 2018 Landscape Photographer of the Year, where he won the prestigious Classic View category.

John is passionate about his atmospheric landscape and storm photography. John travels to Tornado Alley twice a year where he has captured some of the biggest storms in the USA. He now teaches storm photography for clients on tour with WeatherHolidays.

[www.johnfinneyphotography.com](http://www.johnfinneyphotography.com)

## Session 2: Extreme Conditions

### Work in a Cold Climate

Anna Jones, Science Leader, British Antarctic Survey

**Abstract:** In this talk, Anna will introduce the continent of Antarctica, explaining the extremes of this remote environment, and some of the challenges faced by scientists working there. She will mention briefly the locations that BAS typically works, including stations and field sites. In addition, Anna will describe the new Halley VI research station and the challenges involved in moving this re-locatable base.

### Biographies:



Anna Jones joined BAS in 1992, after completing her PhD at Cambridge University. She is an atmospheric chemist, and has worked on a range of topics, including stratospheric ozone, photochemical production of trace gases from snow, and more recently, measurements of greenhouse gases. Following successful field projects in Antarctica in collaboration at the German research

station, Neumayer, she led on design and build of an atmospheric science laboratory that was then deployed at Halley station, in coastal Antarctica. She is currently Science Leader of BAS's Atmosphere, Ice, and Climate Team.

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### **To Boldly Go... Airborne Measurements of Storms, Fires, Gas Leaks, and Everything in Between** Dr Graeme Nott, Instrument Scientist, FAAM - Facility for Airborne Atmospheric Measurements

**Abstract:** FAAM - the Facility for Airborne Atmospheric Measurements - manages a specially modified BAe 146-301 equipped with instrumentation for a wide range of atmospheric investigations. Flown around the world and the UK, this atmospheric research aircraft is used to investigate a wide range of chemical, microphysical, radiative, and meteorological atmospheric phenomena. This presentation shall concentrate on flights dedicated to unusual, transient, or extreme events.

Plume measurements target very localised events that are strongly dependent on the emission source and current weather. Plumes exhibit significant concentration gradients and so require specialised flight patterns. I shall discuss measurements of methane and smoke plumes using the Elgin gas leak and the Saddleworth Moor fire as examples. Flying through storms presents different challenges; turbulence and icing are common, lightning strikes thankfully less so. Details of UK flights characterising significant storm events off the Scottish coast shall be presented.

#### **Biographies:**



Dr Graeme Nott has been working at FAAM - the Facility for Airborne Atmospheric Measurements - since 2011. He is an instrument scientist specialising in aerosol and cloud microphysical measurements and instrumentation. He has flown on the FAAM BAe 146 atmospheric research aircraft on many measurement campaigns around the world along with numerous flights in the UK. Prior to joining FAAM, he worked on ground-based remote sensing of clouds and airborne aerosols in the Canadian Arctic and Antarctica.

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### **“Eye of the Storm”: Social Sensing of Extreme Weather Events using Social Media**

Michelle Spruce, PhD Student, University of Exeter

**Abstract:** Millions of people around the world use social media (such as Facebook and Twitter) to comment on the events of their day-to-day lives, generating a huge amount of data about what's happening - from blockbuster movies, to general elections, to earthquakes. Learning to read this data ('social sensing') provides us with a rich source of information about how people respond to and are impacted by such events. Natural hazards, like floods, wildfires or extreme weather are a particularly interesting set of phenomena that we can apply 'social sensing' techniques to. We have used data from the social media platform Twitter to examine named storm events in the UK and Ireland during the 2017/18 storm season. Using this data we uncover: which named storms caused the most discussion on Twitter? And is the 'social power' of a storm determined by its name, or by the impacts of the weather experienced?

#### **Biography:**



Michelle started a PhD in Computer Science at the University of Exeter in 2017. Leaving a 12-year career in data analysis to pursue a full-time research degree, she is now combining her skills in data mining with her love of the weather (she used to be a weather forecaster too!). Her current research focus is investigating how social

media data can be used to better understand the social impacts of extreme weather events both in the UK and across the world.