

# Were on-site Operational Meteorologists essential workers during the Spring 2021 lockdown?

Zoe Foister, Defence Operational Meteorologist, UK Met Office  
([zoe.foister@metoffice.gov.uk](mailto:zoe.foister@metoffice.gov.uk)).

Before Vice-Admiral Fitzroy founded the Met Office in 1854, farmers and fisherman relied on weather wisdom and wives' tales to predict the weather. The notion of being able to smell the rain was widely accepted as true but with little grounded theory. With the advancement of technology and numerical weather predictions over the last century, forecasts have become dramatically more precise. In 2020, like the rest of the world, Met Office forecasters experienced a colossal shift in their lives. For some, the coronavirus pandemic brought extra pressure as work suddenly had to be balanced alongside home-schooling; for others, work became the main activity of the day. But for everybody, the government-imposed social distancing rules made business as usual impossible. Overnight, offices were set up in spare bedrooms whilst computer screens and keyboards were borrowed from offices and bought in bulk online.

The country may have ground to a halt, but an entity of its own, the weather continued to sweep pressure systems across the continent. Thursday 23<sup>rd</sup> March saw the U.K. move into its first lockdown and was the beginning of a prolonged period of dry and warm weather. For many it would be almost two weeks before they saw another drop of rain. It was a blessing for forecasters; high pressure lingering over the UK made balancing accurate forecasting with managing a new work routine achievable. But, as the new set up became more familiar, several airfields closed across the country and unwelcome doubts regarding the necessity of some forecasts began to emerge. Real value and ownership are often found whilst forecasting challenging days and identifying and communicating hazardous weather to customers. Even pre-pandemic, continuously forecasting warm, sunny, and cloud-free days could feel underwhelming, but when combined with the sobering realisation that your forecast maybe wasn't being used at all, motivation began to drop. Whilst the glorious weather made the lockdown a touch more

tolerable, it was bittersweet as forecasters were acutely aware that their efforts were somewhat futile. Endless warm days of sunshine meant the need to prepare for extreme, winter like weather was unnecessary, and commuters were no longer interested in whether it rained or snowed; they didn't need to put on a raincoat to move from the kitchen to the study.

Despite the abrupt halt in air traffic movements and closure of several civilian airfields, there was still some flight activity across the UK, requiring operational aviation meteorologists to continue working, deemed essential by the authorities. It was physically impossible to resort to entirely remote working; manual observations were required for those solitary remaining flights and airfields, demanding human presence in all Met Office defence sites throughout the pandemic. Adjustments were quickly made to minimise the head count in offices and thanks to the diversity and compassion of forecasters, space was given to those who needed it, and opportunities arose for those who found themselves with an unwelcome amount of free time.

A large contributor to the ease of remote working was the advancement and development of technology in the twenty-first century. A step ahead of the curve, the Met Office had already transitioned to using personal laptops making navigating the new 'Stay Home' rule simpler. Aside from the challenges of Wi-Fi speed and space, from a practical perspective there were only a few hiccups in the move to remote working. The advancement and accuracy of computer models and forecasting tools assisted greatly in making the forecast process quicker and simpler. For years, remote forecasting had been the norm in civilian offices, now defence forecasters were due their turn. It was bizarre and unfamiliar at first, forecasting for a site no longer outside the window, but the basic principles of forecasting remained the same and over time, confidence was restored.

As lockdowns began to ease in 2021, there was understandable hesitancy towards returning to pre-pandemic office standards of working. The previous year had proven that forecasting could be a remote and flexible service, not to mention the increased anxiety around social contact. Suffice to say, moving to partially remote working was, in theory, a great idea; it would save office space, reduce the Met Office's carbon footprint, and give many employees more time by removing their need to commute. However, although 2020 was a challenging year, the weather during the first lockdown had been glorious. Observation shifts may have been long, but they weren't especially challenging; between phone calls with remote-working colleagues and completing house-keeping tasks, there were very few other enquiries, perhaps a result of reduced personnel on site, or as a result of the weather, but nonetheless the urgency had gone. With the ever-increasing intelligence of computer models and automatic observations, was this aspect of the job completely necessary?

The settled spring brought a period of stillness across the country and throughout the Met Office lulling forecasters into a sense of security. But what if the coronavirus pandemic had emerged a few years earlier? In 2018 the 'Beast from the East' brought a cold wave to Great Britain with cold temperatures and heavy snowfall lasting from late February to early March. Widespread disruption spread across the UK, with several motorways turning to ice rinks and passengers left stranded as railway services were cancelled. A brief resurgence three weeks later brought further commotion, again seeing the closure of several busy roads. Now combine this with a global pandemic; the need for the national ambulance service would be desperate, hundreds of sufferers would be left abandoned without access to main roads and so accurate forecasts with specific timings and details would be imperative. There was unusually high confidence from computer models GloSea5, ECMWF and GEFS and MOGREPS-G during this period several days in advance, but fundamentally it was human analysis and communication that provided the minute but crucial details for the most extreme and hazardous weather.

The uncharacteristically quiet offices at frontline stations early last year was a result of the good weather and coronavirus combined. This spring, with considerably more challenging weather to

monitor, footfall has been heavier and phonelines remarkably busier than in 2020 making office shifts more demanding. However, the desirability of forecasting whilst embedded at a location remains. Levels of staff burnout gradually increased throughout the pandemic due to long hours and lonely shifts; the lack of human contact slowly took its toll. Pilots have now returned to the skies in 2021, demanding more from forecasters during a considerably more tumultuous spring, yet still desks are left unused and untouched in many offices across the country.

The arrival of the new Met Office supercomputer in 2022 promises even more accuracy in forecasts, with the technology becoming ever more efficient at weather and climate change projections. Are operational meteorologists the price of the electronic age? The data will be more accurate but will offer little companionship to a lone forecaster on shift. The once elusive wives' tales have now been verified with scientific discoveries, understanding now the air is filled with ozone during storms, a unique, pungent smelling gas that gives rain its unique scent. These human discoveries are embedded in the new coding and technology, maintaining the need for operational meteorologists. Their contributions enhance the current computer models, and their extrapolation of the resultant data enables them to communicate a tailored and unique forecast to any customer.

This article reflects the opinions of the author and does not express the views of the Met Office or WGCEF.