Welcome to the first edition of the biannual Public Weather Service Newsletter. We’re aiming to raise awareness of the largely behind the scenes work that goes on in the Met Office in assessing the UK’s weather, the differing levels of forecasts that are issued, how potentially severe weather is assessed through the National Severe Weather Warning Service (NSWWS), and how the forecasts and warnings are communicated to different users.
The Public Weather Service (PWS)

As the UK’s national meteorological service, the Met Office provides a range of weather information under the Public Weather Service (PWS). The PWS is funded by the UK Government, currently to the tune of £115m, and is managed by the independent Public Weather Service Customer Group (PWSCG), which provides independent advice and recommendations to government based on the service to the public provided by the Met Office.

The PWS includes a wide range of activities, from scientific research on weather and climate, to fulfilling the UK’s international meteorological commitments and operating an effective weather observing network, including weather satellite subscriptions.

The PWS also provides weather services such as day to day site specific forecasts on the Met Office website, and the National Severe Weather Warning Service (NSWWS), which helps the public and emergency responders to prepare for severe weather.

The role of the Met Office Civil Contingencies Advisors

The Met Office provides a number of services that help authorities prepare for, and respond to emergencies that are either caused by, or are influenced by the weather. These include severe weather warnings, plume dispersion predictions and tidal alerts.

Advice on the interpretation and impact of the weather during an emergency is available from a team of Met Office Civil Contingencies Advisors. From an original team of four Advisors when the role was created in 2005, there is now a network of fifteen regionally based Advisors working across all parts of the UK.

Weather blog – October 2014 to February 2015

Autumn 2014 (the months of September, October and November) was the third warmest autumn on record across the UK, with only 2006 and 2011 being warmer, and the record dry September was offset by unsettled, wet weather during October and November.

2014 was the warmest year for the whole UK in records back to 1910, with Northern Ireland being the only nation/region not to record its warmest year. This means that the eight warmest years since 1910 have all occurred since 2002. It was also a notably wet year, and was the 4th wettest in the UK series from 1910.

January 2015 was a month of contrasts, with the mild first half and cold second half means that January had fairly average temperatures. Temperatures over parts of southern England exceeded 16 C on 9th January, with the -13.7 C recorded at Loch Glascarnoch on the 19th; this was lower than any temperature recorded during 2014.

February’s weather was fairly uneventful, and the monthly statistics tend to bear that out. Overall, temperatures for February were a little below average, and rainfall totals were also generally slightly below average, with notably drier & sunnier than average conditions in northeast England and eastern Scotland.

The winter months of December, January and February were fairly average for temperatures and rainfall, but it was the UK’s sunniest winter in records dating to 1929. This was in stark contrast to the winter of 2013/14, which was the wettest on record.

Did you know?

The Met Office is one of the 185 members of the World Meteorological Organisation (WMO), a specialised agency of the United Nations.

Did you know?

Met Office Civil Contingencies Advisors support the WMO’s Development Programme activities in Africa and the South Pacific, to help the forecasting and warning of severe weather events, helping to save lives and livelihoods.
Verifying the National Severe Weather Warning Service (NSWWS)

The NSWWS is one of the flagship services of the Met Office, as it provides vital information to enable our users to make decisions and take actions to protect the things that they hold dear from the impacts of severe weather.

Any Amber or Red warnings issued under the NSWWS are assessed using a subjective verification process, which involves collecting information about the weather event and the impacts that it caused. The process is overseen by the PWSCG, who also have to agree the marking for each warning.

Warnings are assessed using a graded marking system which considers the impact levels, areas affected and validity times of each warning and any discussions that took place with partner emergency response agencies. It also looks at the period of notice given, for example how far in advance was the warning issued, the wording of the warning and any lessons to be learned for future events. Each warning is given a rating from very poor to excellent guidance.

Verification – October 2014 to February 2015

During the autumn and early part of winter the emphasis of warnings was very much on wind and rain and eleven amber warnings were verified in this period.

Three amber warnings for rain in November were assessed as providing good guidance in various parts of the UK. One for wind across parts of southwest England and west Wales was assessed as providing poor guidance – issued too late and for a slightly misplaced area relative to the impacts. Rain was also unexpectedly heavy on the morning of 7th November in Pembrokeshire and the absence of a warning was deemed to be very poor guidance...a rare event indeed!

All incidents of poor or very poor guidance are referred to our guidance unit for further investigations as to why they occurred. On this occasion, high resolution computer models had failed to pick up the short period intensity of the rain around breakfast time on 7th November in West Wales, and the level of impact only became clear to ourselves and partner agencies after the weather had cleared.

As the winter progressed, the emphasis of warnings moved more towards snow, ice and wind. Further stormy episodes occurred in both December and particularly January (see the NSWWS case study below). Amber warnings were required for snow on two occasions – for central Scotland on 13/14th January and for much of Scotland, Northern Ireland and northwest England on 28th/29th January. All of the amber warnings issued in January were assessed as providing good or excellent guidance.

Thankfully, and unlike winter 13/14, the weather improved countrywide during February – resulting in an unusually quiet but very welcome end to the main part of winter.

Finally, subjective verification targets are set and rigorously monitored by the PWSCG. The current target is a rolling two year target to achieve greater than 70% of amber/red warnings to provide Good or Excellent Guidance. We’re pleased to say that at the time of writing the actual score is closer to 80%, with our current score for very poor guidance or ‘missed’ events currently below 10%.

Did you know?

The Met Office became the first national meteorological service in the world to introduce impact based weather warnings in 2009.
NSWWS Case Study —
Amber Warning of Wind across north and northwest Scotland on Friday 9th January 2015

After monitoring the weather for a number of days, Met Office forecasters started to highlight the potential of disruption from very strong winds affecting northern parts of the UK on Friday 9th January. On Tuesday 6th, a Yellow Alert for Wind (based upon an assessment of a low likelihood of medium impacts occurring) was issued for northern Scotland, the Western and Northern Isles. On the same day, the Advisors in Scotland discussed with each of the four Highlands & Islands local authority emergency planning contacts to ensure that informed decisions were made through the week with regard to impact levels.

On Thursday 8th, and with an increasing likelihood of medium impacts occurring, the Yellow Alert was upgraded to an Amber Warning (medium likelihood of medium impact). The wording of the warning stated “Gusts of 80 to 90 mph are likely quite widely with a risk of gusts of over 100 mph in places, with these strongest gusts most likely along coasts in the far north”.

The strongest winds arrived in the Western Isles and northwest Scotland during the early hours of the Friday morning, and were relatively short lived, lasting around 4 hours, with isolated gusts of 113mph recorded at Stornoway and 110mph at Loch Glascarnoch. Ten of thousands of properties within the Amber area were without power for a time, with some structural damage reported and disruption to ferries and island flights. The discussions with local contacts in the lead up to the winds, showed the benefits of consultation, with pre-emptive actions taken to ensure public safety, for example, closing schools and nurseries for the day.

Public Weather Service Customer Group meetings will also be held in Scotland, Wales and Northern Ireland this summer to hear the views of responders in those areas on the Public Weather Service, and how it is meeting their needs, and the views of those organisations and communities that they represent.

Look ahead
In late Spring and early Summer, the Public Weather Service Customer Group has asked the Met Office to review elements of the NSWWS with emergency responders. Ten workshops are being held throughout the UK this summer, with the focus on reviewing how the current NSWWS is being used, whether the impact levels are correct, and how impacts and challenges for rural areas should be incorporated into the impact table.