



TORRO SITE INVESTIGATION SUMMARY REPORT

Straight-line wind damage across northern and eastern England

29 March 2026

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(personal capacity)

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Site Investigation summary:

Cause of damage: Straight-line wind (SLW), associated with shallow convection (3–4km deep) along a surface cold front, with a mesoscale cyclonic circulation developing within the rainband. Damage patterns and debris-throw directions throughout the damage swath show no strong evidence of tornadic damage.

Damage swath: ~100km long, ~25km wide, oriented WNW–ESE, from around Leeds through eastern South Yorkshire and north Lincolnshire toward the coast near Mablethorpe

Time window: First damage between Leeds and Doncaster ~19:40–19:55 UTC; more widespread damage east of Doncaster and south of Scunthorpe over the following ~15 minutes (to ~20:10 UTC); the associated vortex moved offshore near Mablethorpe by ~21:00 UTC.

Damage severity: Damage severity: TORRO does not yet have an established rating scheme for SLW damage, unlike the T-scale for tornadoes. For this report, damage points from the Prosser/Hill transect are classified using a trial scheme devised by the investigators: 0 (no/minimal damage but evidence of wind), 1 (light damage or damage to weak trees), 2 (substantial damage, healthy or large trees snapped/uprooted), and ? (apparent damage of uncertain timing). Agreement should be made as to how SLW damage is classified in future.

Methodology

Damage reports were sent in to TORRO by members of the public. Where useful, follow-up questions were sent to those who had submitted reports, and where possible these were supplemented by appeals to local community groups on Facebook for further information. Reports were mapped, and where available, corroborating evidence such as photographs and video was examined. Two smaller areas were subsequently visited by TORRO site investigators to map further evidence and assess the nature of the damaging winds. Investigators examined damage patterns, damage intensity, and fall directions where possible, and concluded that straight-line winds were the most likely cause of the damage observed. As public reports and the two site investigations followed different, non-systematic sampling strategies rather than a fixed grid across the ~25km-wide corridor, the density of mapped damage points should not be read as a direct indicator of damage intensity across the swath. A substantial amount of damage away from roads, and away from the areas that individual reports or investigators focused on, is likely to have gone unmapped.

Note that British Summer Time (BST) began at 0100 am on Sunday, March 29, 2026.

Key damage indicators

Section numbers refer to areas indicated on the damage map shown in **Figure 1**

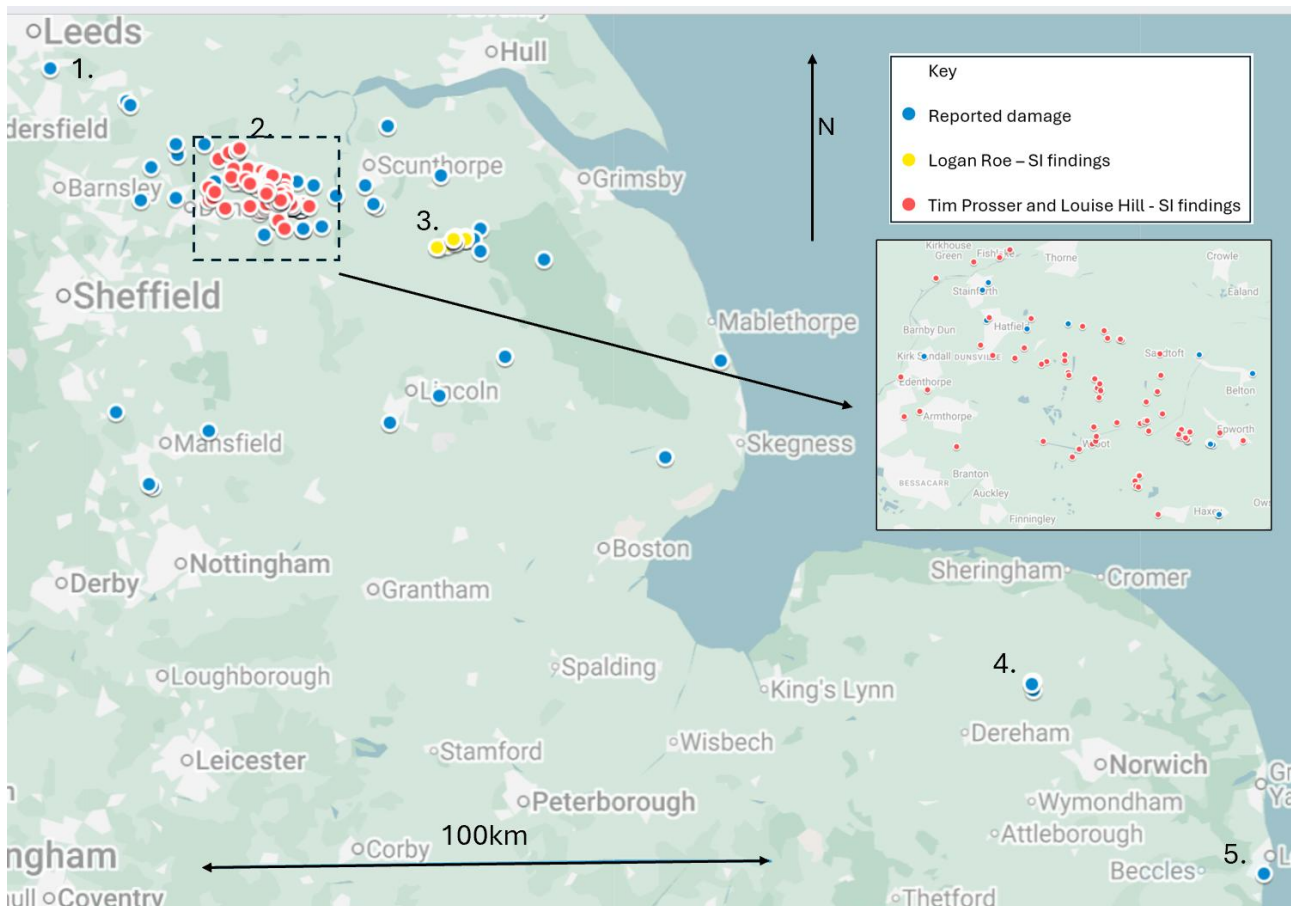


Figure 1: Map of damage reports and site investigation damage findings following 29 March 2026. Map data ©2026 Google

1. Reports from this area were sparse. The earliest reported damage (~19:20 UTC) was plaster pulled from a house at WF17 OBS, Batley by strong winds in an unspecified manner. Two reports came in from Pontefract: one of a shed lifted with bricks in its base (no time recorded), the other of hip tiles and fascia boards torn off (~19:45 UTC). A report from WF4 2EU, Havercroft, described a substation outage and 15 minutes of lost cell coverage but no clear physical damage (20:30 UTC), notably later than the other West Yorkshire reports despite Havercroft's more north-westerly position. The timing is treated with low confidence.

2. Doncaster to Scunthorpe (~19:55–20:10 UTC). This is the area from where the densest concentration of public reports was received. A representative description from one member of the public said:

“It was almost silent, then all of a sudden there was extreme winds and violent torrential winds(sic). You could see the rain being blown in every direction! Lasted about 5/6 minutes and then it was almost silent. A tiny bit of rain afterwards but nothing

heavy. It was very bizarre and out of nowhere, several neighbours have had damage to there (sic) properties and many trees have been blown down."

In Stainforth a large willow fell onto a house (Figure 2). Near Epworth, DN9 1EA low voltage cables along with poles came down, resulting in power disruption. This was not the only area where power supplies were disrupted. Local residents also reported a power line down near the Wroot show ground (Facebook, South Yorkshire/Isle of Axholme community groups, 29 March 2026).

Northern Powergrid's live power cut tracker recorded an unplanned outage centred on DN9 1EF, reported around 20:09 UTC on 29 March, affecting 42 properties (297 customers) across 30 postcode areas (Northern Powergrid, 2026) (Figure 3).

In Haxey (DN9 2LA), at ~2000 UTC, large trees were reported snapped and uprooted, and a French door was forced open despite being locked, though the door itself was undamaged. In Owston Ferry (DN9 1RQ), a member of the public was hit in the knee by a wind-lofted garden umbrella while trying to secure items in the garden; they described the event as "*lasting minutes*." On the outskirts of Hatfield (DN7 6LS), at ~2000 UTC, roof panelling was torn off and fell onto two cars, smashing a sunroof and denting doors.

Humberside Police put out a warning after a number of trees and other items of debris had fallen or been blown into roads following a brief heavy wind spell. Officers dealt with a number of separate incidents relating to this. Roads affected were the A18 at Crowle, A161 at Belton, Idle Bank at Epworth and Burringham Road, Scunthorpe (Doncaster Free Press, 2026)



Figure 2: Large willow fell on to a house in Stainforth. Image: Rob Terrace

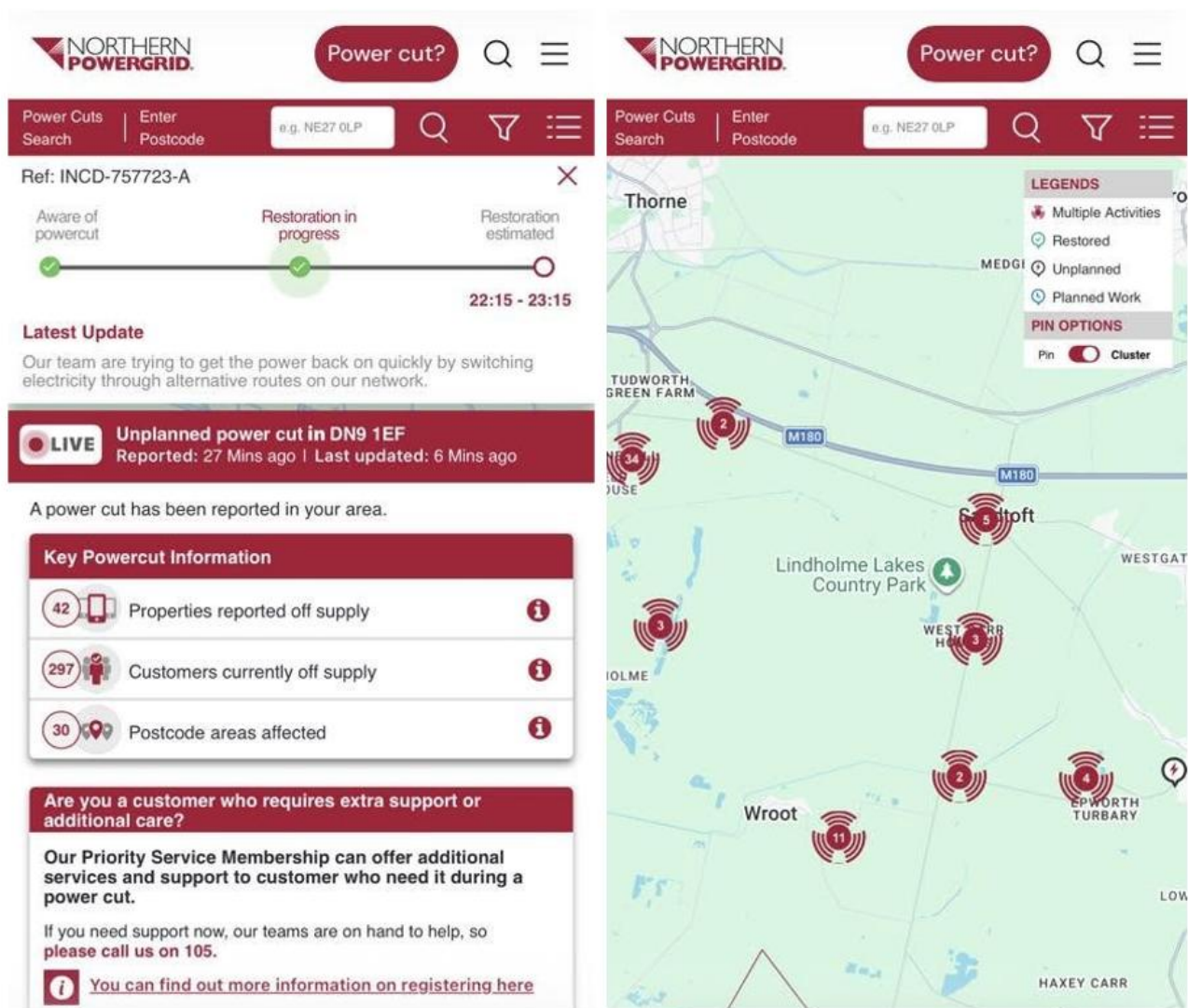


Figure 3: Screenshots from Northern Powergrid on the evening of 29 March. Note that these are in BST. <https://www.northernpowergrid.com/power-cuts>

TORRO site investigators Tim Prosser and Louise Hill subsequently carried out a site investigation on 1 April. Covering a ~15km corridor, they found a small number (6) slightly damaged trees and 59 trees with more substantial damage, many of which had snapped through the trunk or toppled at the roots (**Figure 4**). A further 8 points were recorded as damage of uncertain timing and are not included in the counts above. **Figure 5** shows an example from this category, where one tree's damage was not dated to this event. Of the trees for which a fall direction was determined (16 of 73), bearings were tightly clustered ESE (~90–130°), consistent with straight-line wind damage. In one woodland (53.526, -0.868), seven trees, mostly oaks, had toppled eastwards; all were growing in shallow peat over running sand (loess) and had small root plates. Many of the damaged trees were birch.



Figure 4: Excerpt from panorama shot showing fallen trees at Epworth Turbary. Image: Tim Prosser



Figure 5: Roe Carr Corner, Hatfield Moors. One tree is old damage. Image: Tim Prosser

3. Following damage reports in South Kelsey, including one describing a fence lifted clean from the ground, a comment on social media noted:

"Over night, a lot of trees have fallen all over the A46 (Rasen to Caistor), S. Kelsey to Moortown, Moortown to Caistor and Moortown to Holton Le Moor. The police and I have cleared up what we could but there are a lot of debris on the road." (North & South Kelsey Community Group, Facebook)

Logan Roe undertook a street-level site investigation between Moortown, South Kelsey and Brandy Wharf and supplied the results to TORRO. Most of the damage found consisted of snapped tree branches. However, at 53.4703, -0.4296, a garden wall had toppled (**Figure 6**), and at 53.4734, -0.3985, a tree had snapped.



Figure 6: Collapsed wall in South Kelsey. Image: Logan Roe

The mapped damage found by Roe trends NE, apparently oblique to the line's overall SE motion. This damage pattern is likely an artefact generated by the survey following the main road network through villages, rather than evidence of a genuine sub-track: the limited and inconsistent fall-direction data available does not support a coherent NE-oriented feature.

Two large trees blocked the A15 southbound near Caenby Corner. The HGV driver who reported this incident also reported that the driving conditions were very difficult at the time.

[A BBC article](#) described the winds in Snitterby Carr (**Figure 7**), near Gainsborough where a 40ft conifer was uprooted. The affected member of public said:

“I just didn't want to move because it was actually so frightening for a few seconds.”

The article stated also that Lincolnshire Police logged around 30 fallen-tree reports across the county.



Figure 7: Fallen conifer in Snitterby Carr. Image: BBC News

4. There were isolated reports with little detail from Norfolk and Suffolk. In Reepham (around NR10 4JN) there was an unconfirmed report of a fallen electricity pole, with some power disruption as well as displaced sheet metal roofing. Nearby a tree had fallen blocking a road. On a local Facebook page based in Pakefield, Suffolk (Pakefield weather station) there were many comments about a short wind event – but no substantial damage was mentioned other than to garden furniture

Meteorological summary

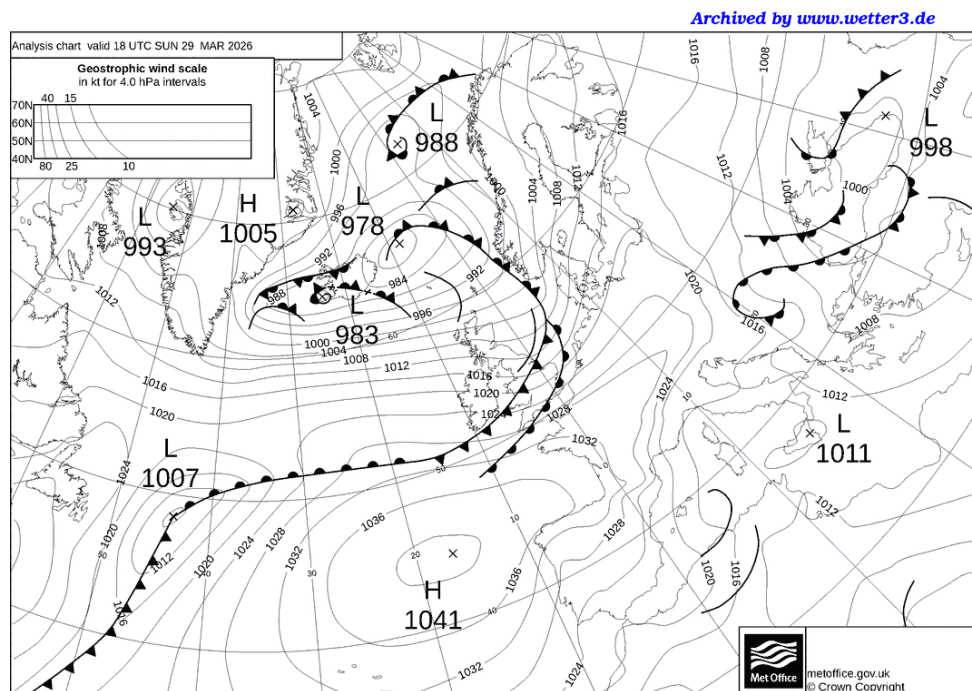


Figure 8: Met Office analysis from 18 UTC 29 March 2026. Original: Crown copyright (2026).

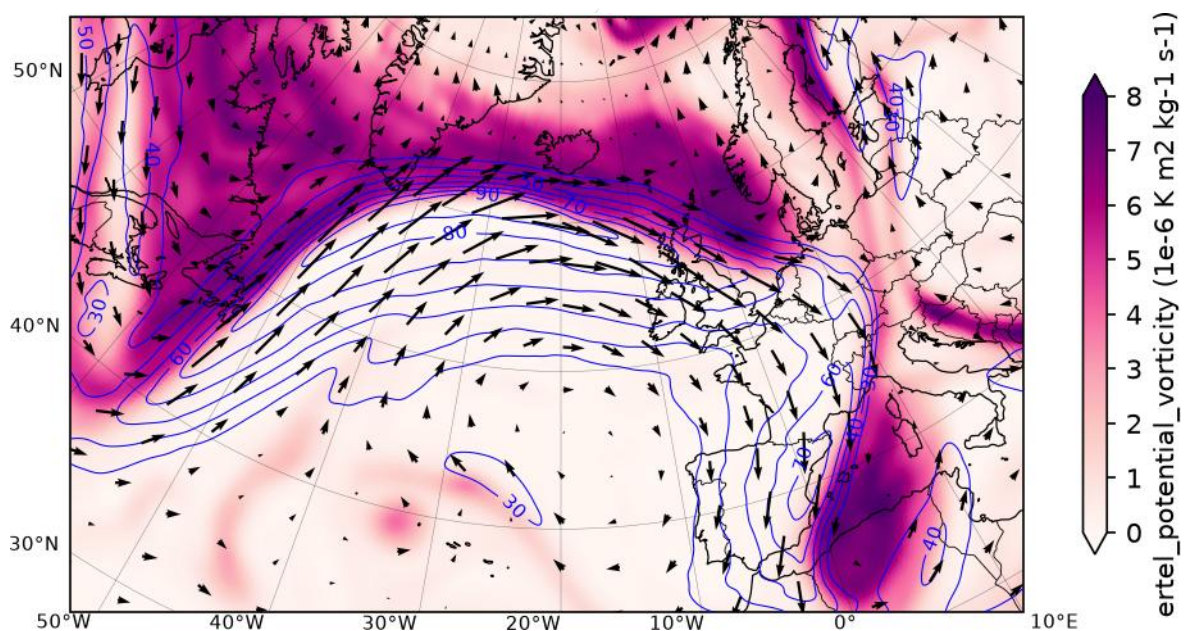


Figure 9: Potential vorticity and wind at 300hPa from the Met Office global model analysis 18 UTC 29 March.

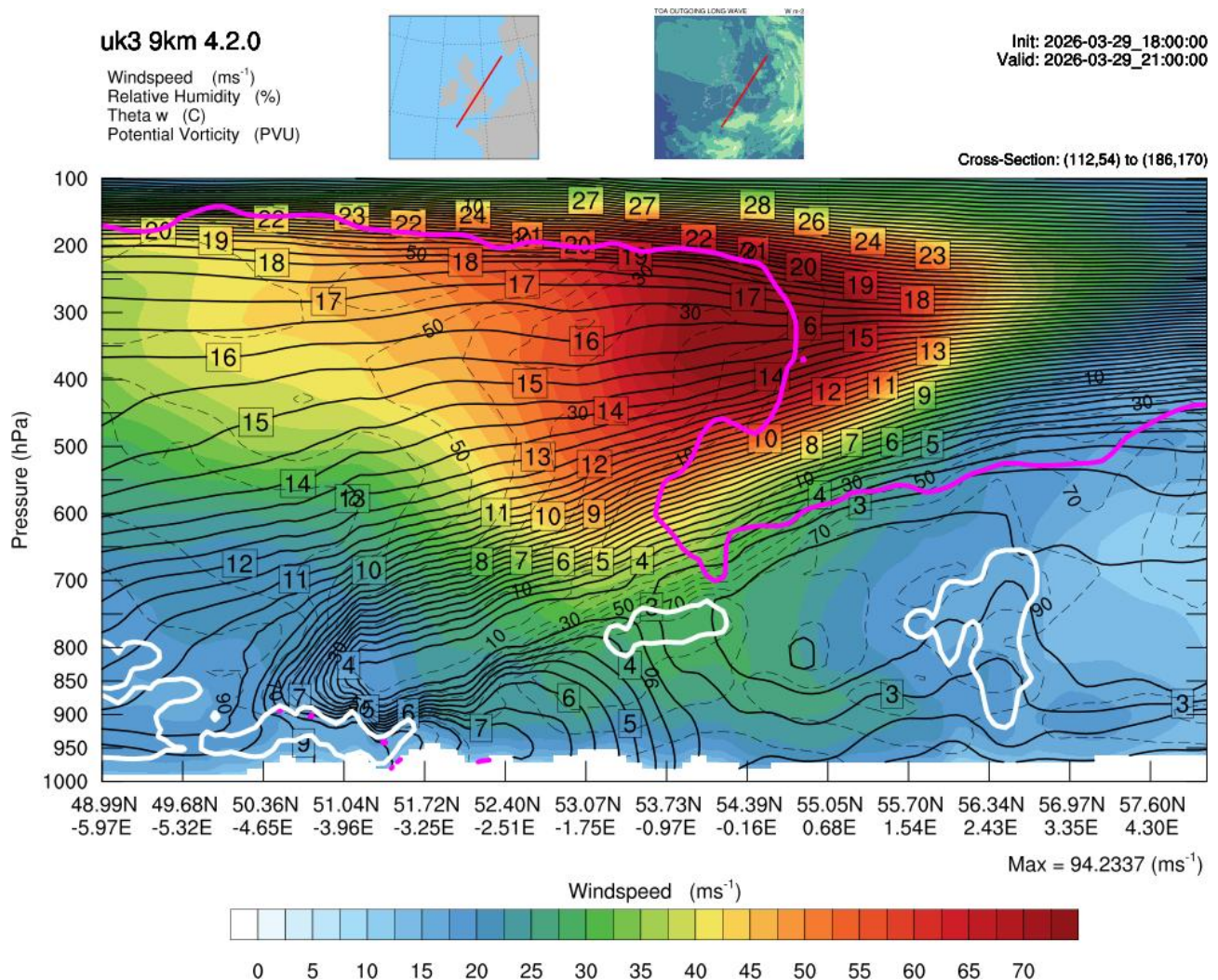


Figure 10: Cross-section from a down-scaled run of the GFS model valid 21 UTC 29 March. The solid magenta contour is the $PV=1.5PVU$ isopleth. Note that very dry air (10% relative humidity, $\theta-w < 4C$) descends to 900hPa) between $\sim 50N$ and $53N$.

Strong zonal flow and baroclinicity was in place across the North Atlantic (Figure 8). The event occurred in the left-exit region of a polar jet streak (Figure 9). A deep tropopause fold was present with high potential vorticity air from the upper-troposphere/lower-stratosphere (UTLS) descending as low as 1km above the surface ($\sim 900\text{hPa}$), see Figure 10. This resulted in a near surface kata-frontal (forward tilted) structure with a Shallow Moist Zone (SMZ). Some further details can be found in Holley *et al.* (Weather in-press, 2026).

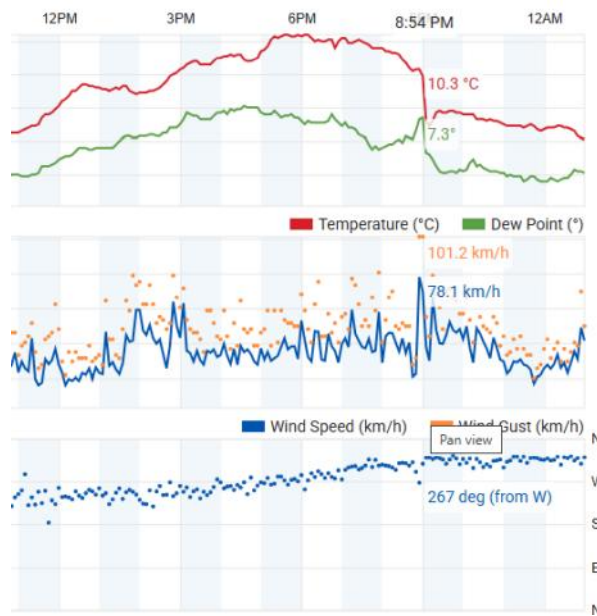


Figure 11: AWS record from Dunscroft near Doncaster, S. Yorks (OS grid ref SE6508) via *Weather Underground*. The time axis appears to be BST (UTC+1).

Good surface observations of the strongest winds are sparse. An automatic weather station in the Doncaster area recorded a gust of 101kph (28ms^{-1} / 63 mph) on a mean wind of 78kph (22ms^{-1} / 49 mph) at about 2050h, see Figure 11. The concurrent temperature drop indicates this occurred on the surface cold front. Interestingly, a sharp pressure rise of 1-2hPa occurred but no precipitation was recorded (not shown). One explanation is that the precipitation in the shallow convective downdraught had evaporated by the time it reached the ground (also see comment 2 below).

Selected radar observations are presented in Holley *et al.* (*Weather* in-press, 2026). Good data is available from the Ingham, Lincs radar which detected the strong winds above the surface where precipitation returned echoes.

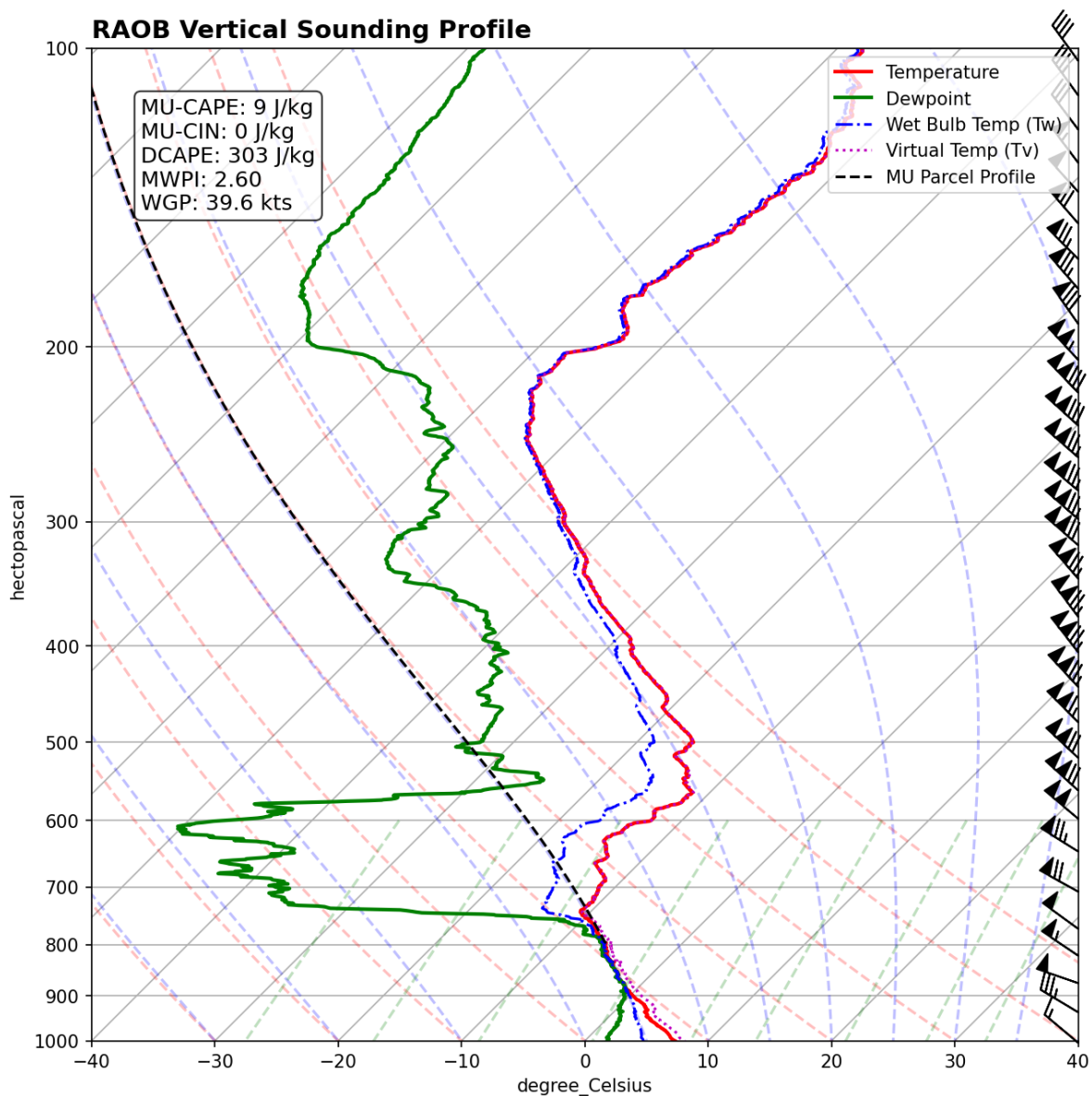


Figure 12: Watnall, Notts RAOB ascent 00 UTC 30 March. Plotted by Ken Pryor (NOAA/NESDIS).

The RAOB ascent from Watnall at 00 UTC, plotted in Figure 12 shows strong from above 900hPa throughout the troposphere and lower stratosphere. There is a slab of very dry air between 800 and 550hPa likely of UTLS origin. The lower tropospheric lapse rate indicates the potential for shallow convection and there is very dry air in the lowest 1-km. METOP-B and METOP-C Infrared Atmospheric Sounding Interferometer (IASI) profiles (not shown) at 2050 and 2124 UTC are also available and also exhibit ‘hourglass’ profiles (K. Pryor, TORRO forum).

Comments

- 1 The relevant forum thread for the event analysis: [TORRO Forum](#) ACCESS RESTRICTED TO TORRO MEMBERS.
- 2 A report was received and investigated from the Rasselbock Backyard Ultra sports event at Sherwood Pines, Nottinghamshire (~20:10 UTC) T, ~45km south of the main damage corridor). Radar imagery analysis (P. Knightley, TORRO forum) found no detectable precipitation near the site at the reported time. However, weak or evaporating precipitation may not be detectable by radar, so this does not establish with certainty that convection was absent.
- 3 Thanks must go to all the members of public who sent in reports to TORRO and also to all the TORRO members who contributed to the discussion and collating reports. Special thanks must go to Jamie McBean for the considerable time he invested helping map the many reports.