TORRO ANNUAL REPORT OF TORNADOES AND OTHER WHIRLWINDS IN 2023

Compiled by TORRO TORNADO DIVISION from reports collected or made by TORRO staff and members throughout the year.

The first half of 2023 had very variable weather patterns but the second half was predominantly cyclonic and unsettled. For the year as a whole we have 26 tornadoes on record for the British Isles, which occurred on 20 separate days. These are listed in Table 1 followed by summaries of each one individually. Many of those in the first eight months of the year were weak and uncertain but the autumn months September to December were much more active and included some notably severe damaging tornadoes.

TABLE 1. List of British and Irish tornadoes in 2023 (times are GMT).
TN = tornado, WS = waterspout, upper case = definite, lower case = probable.

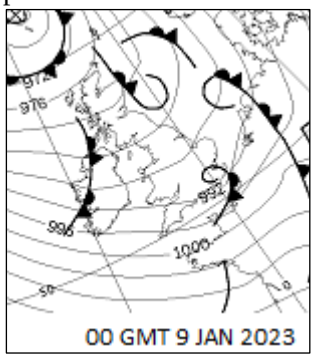
Type	Force[1]	Year	M	D	Time	Place (start)	County
tn	T1/2	2023	1	8	2315	Herstmonceux	East Sussex
tn	T1	2023	1	9	0000	Rhodes Minnis	Kent
TN	-	2023	3	7	pm	Sandness	Shetland Islands
TN	T4	2023	3	13	0620	Tideswell	Derbyshire
tn	T1	2023	3	13	-	Tinkersley	Derbyshire
tn	-	2023	4	22	1210	Ballincollig	Cork
tn	T1	2023	5	11	1131	Horham	Suffolk
tn	T1	2023	6	13	-	Banagher	Offaly
tn	T0	2023	8	25	1405	Kinglassie	Fife
TN	T2	2023	9	17	2230	Littlehampton	West Sussex
ws-tn	T1/2	2023	9	24	evening	Kilkeel	Down
WS-TN	T0	2023	10	27	0700	Douglas Bay	Isle of Man
TN	T4	2023	10	28	1755	Littlehampton	West Sussex
tn	T1	2023	10	28	1800	Northleach	Gloucestershire
TN	T3	2023	10	28	1810	Condicote	Gloucestershire
WS-TN	T0/1	2023	11	1	1453	Corrie	Ayrshire (Arran)
TN	T2/3	2023	11	1	2245	Loders	Dorset
WS-TN	T6	2023	11	1	2355	Jersey	Channel Islands
TN	T2	2023	11	2	0640	Sompting	West Sussex
tn	T2	2023	11	8	0742	Alexandria	Dunbarton
TN	T4	2023	12	10	1234	Leitrim Village	Leitrim
TN	T3	2023	12	12	1345	Wrays	Surrey
TN	T5	2023	12	27	2315	Dukinfield	Cheshire
TN	T2	2023	12	28	0645	Duncormick	Wexford
TN	T2	2023	12	30	1730	Venn Ottery	Devon
TN	T1	2023	12	30	2250	Gosport	Hampshire

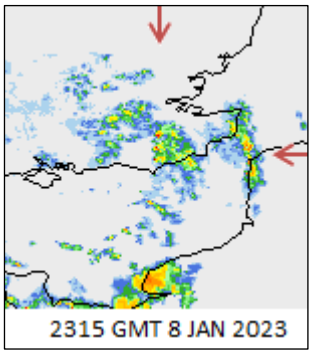
Summaries of British and Irish tornadoes in 2023

1. Sunday 8 January 2023. Herstmonceux, East Sussex.
A deep depression was centred north of Scotland, 959 mb at 1800 GMT, and various minor troughs were circulating round it producing showers and thunderstorms, mainly over sea and windward coasts. One such trough moved east along the English Channel during the evening and was accompanied by wind damage at Herstmonceux at 2315 GMT. This consisted of mostly minor

[1] See Table 4 on page 12 for wind speed equivalents.

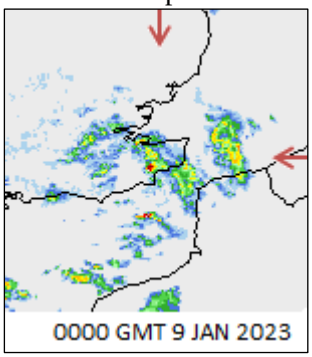
damage to roofs and trees, but more severe in a few places, along a track of 2.3 km (L4) WSW-ENE from Upper House (or Playsters) Farm to Nunningham Farm, TQ620118 to TQ639131; from which a probable mild to moderate tornado of T1/2 was inferred[2].





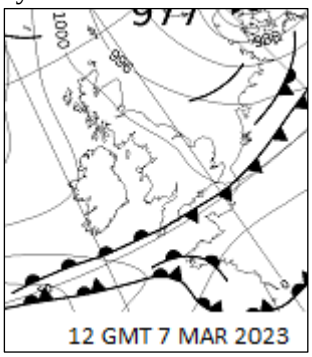
2. Monday 9 January 2023. Rhodes Minnis, Kent.

The same system that produced the Herstmonceux tornado (above) caused further damage to gardens a little later at Rhodes Minnis at 0000 GMT 9 January. A track of 2.4 km (L4) WSW-ENE was identified from Stone Street to Chapel Lane, TR134426 to TR156435, within a width of 20 m (W3), from which a probable mild tornado of T1 was inferred. Hail was reported at the time.



3. Tuesday 7 March 2023. Sandness, Shetland Islands.

A cold northerly airstream covered most of the British Isles giving snow showers in Scotland, especially the north. A sheep farmer out feeding his flock in the snow at Sandness, HU1957, on the northwest coast of Mainland in the afternoon filmed a vortex of swirling snow raised from the ground by an overhead funnel cloud forming a tornado of unknown strength.

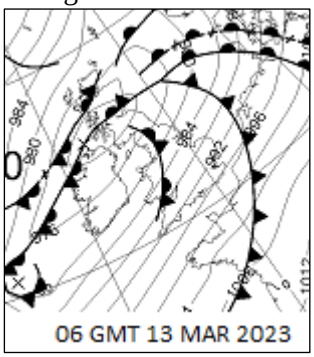


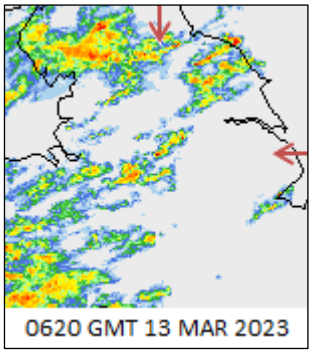
4. Monday 13 March 2023. Tideswell, Derbyshire.

A vigorous depression, 970 mb at 0600 GMT, was moving east over Scotland. Its main fronts cleared England overnight but secondary occlusions giving showers and longer spells of rain followed in the post-frontal southwesterly airstream, one of which was accompanied by significant wind damage up

[2] See Acknowledgements for sources of all illustrations in this document. Intersection of extended arrows on radar charts indicates the position of the tornado at time of chart (subject to any errors in reported times of tornadoes).

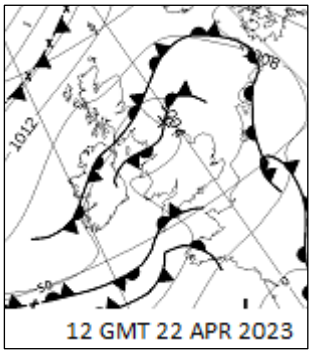
in the Peak District at 0620 GMT. There was evidence of a tornado along a track of 6.5 km (L5) SW-NE from Lane Head at Tideswell to Abney, SK161762 to SK201800; this culminated at Great Hucklow, where major damage to trees and farm buildings and stone walls indicated a severe tornado up to T4 in strength and 100 m (W5/6) wide. Tim Prosser of TORRO was able to confirm details during a visit to the site on 26 March.

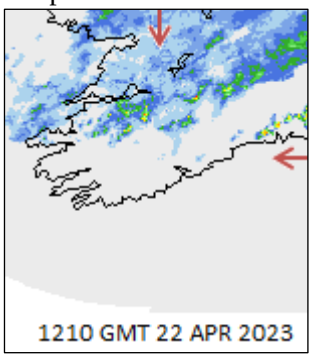




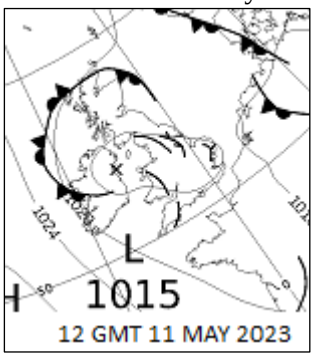
5. Monday 13 March 2023. Tinkersley, Derbyshire.
An independent report was received of a line of damaged trees and slight damage to a bungalow between Rowsley and Tinkersley (near Matlock), SK265655, some 15 km southeast of the Tideswell track, suggestive of a separate probable mild T1 tornado but time of occurrence not known.

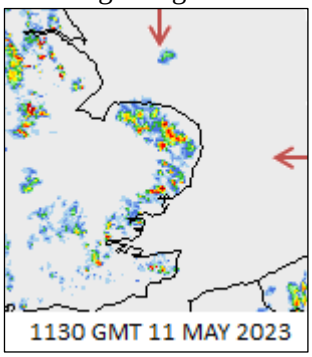
6. Saturday 22 April 2023. Ballincollig, County Cork.
A shallow depression over northern England, 1002 mb at 1200 GMT, resulted in a weak cyclonic circulation over most of the British Isles giving rain or showers in Ireland and a few thunderstorms. At 1210 GMT a funnel cloud was filmed looking north from Ballincollig apparently reaching ground over fields about IW5972 as a probable tornado of unknown strength.



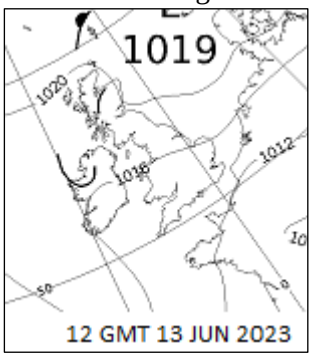


7. Thursday 11 May 2023. Horham, Suffolk.
A shallow filling depression over the Irish Sea, 1015 mb at 1200 GMT, resulted in a weak cyclonic circulation in which convergence zones assisted development of showers and thunderstorms in many areas as well as numerous funnel clouds. At 1131 GMT a security camera at a storage depot on Horham Airfield, TM195725, recorded a sudden very strong wind throwing boxes, crates, and furniture about wildly and knocking a large man off his feet, indicative of a probable mild T1 tornado.

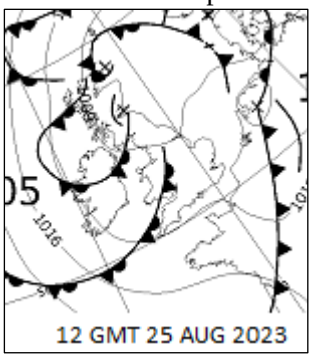


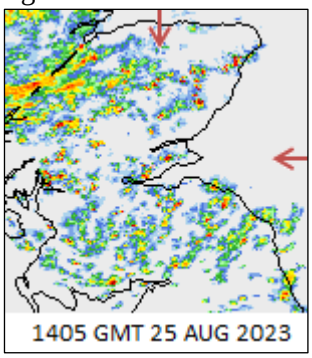


8. Tuesday 13 June 2023. Banagher, Offaly.
A very warm easterly airstream covered the British Isles in which extensive thunderstorms developed in Ireland and northwest Scotland. A security camera recorded a vortex sweeping into a yard and damaging shed roofs at Liffey Mills in Banagher, IN007155, suggesting a probable mild T1 tornado but no time was given. Thunder was reported afterwards.

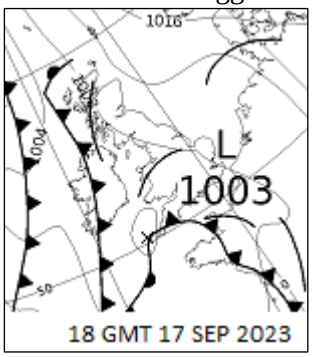


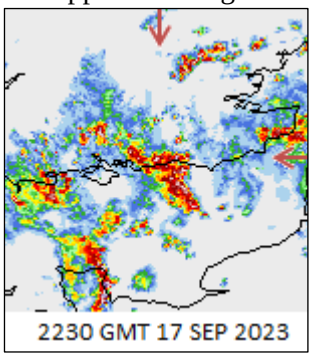
9. Friday 25 August 2023. Kinglassie, Fife.
A shallow depression, 1005 mb at 1200 GMT, was slow-moving over eastern Scotland. Showers and thunderstorms occurred in many areas. A number of observers photographed a long funnel cloud above fields north of Kinglassie, NT232992, at 1405 GMT, at least one of which showed dust being raised to create a probable light T0 tornado.



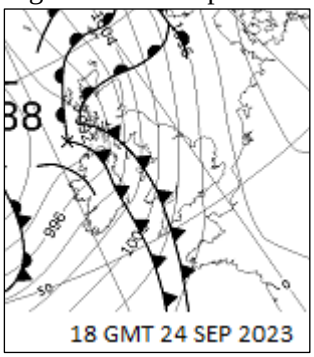


10. Sunday 17 September 2023. Littlehampton, West Sussex.
Troughs moving north from Biscay in a southeasterly airstream brought scattered thunderstorms to southern England during the day, which became widespread in the southeast after nightfall. During one of these storms a tornado was reported to have struck Littlehampton, especially Cherry Croft neighbourhood, at 2230 GMT. TORRO site investigator Sarah Horton surveyed the area on 19 September and returned for further investigations on the 30th. A tornado track of 3.5 km (L4) S-N was found from West Beach to Lyminster, TQ023016 to TQ028051, beyond which the track faded out; damage to trees and buildings and secondary damage to parked motor cars confirmed a moderate tornado of maximum strength T2. Some damage suggested a higher rating but it was felt that special circumstances exaggerated the apparent strength in these parts. Track width was up to 110 m (W6).

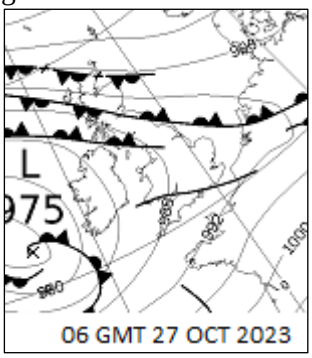


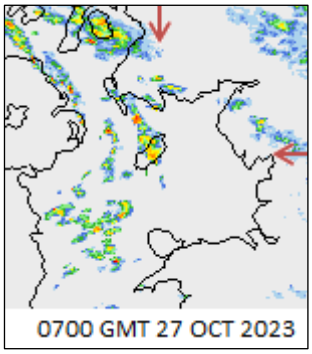


11. Sunday 24 September 2023. Kilkeel, County Down.
A deepening frontal wave, 988 mb at 1800 GMT, passed northeast near northwest Ireland during the day and the second of two active cold fronts cleared the country in the early evening. A press report described damage attributed to a tornado in Leestone Road, IJ327152, in the evening, where a farmer out feeding calves saw bad weather coming in from the sea (i.e. from south) and a tornado heading towards his house. Among other effects it overturned a caravan, removed tiles from a roof, and blew down a stone wall, from which can be inferred a probable mild to moderate tornado of T1/2 that began as a waterspout.

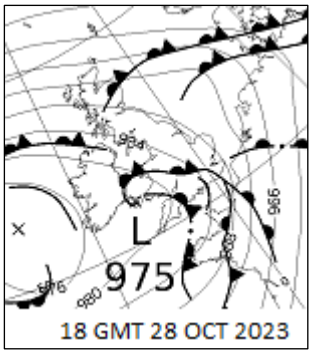


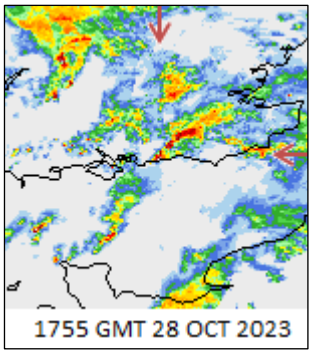
12. Friday 27 October 2023. Douglas, Isle of Man.
A large depression was slow-moving near western Ireland, 975 mb at 0600 GMT, and a cyclonic south or southeasterly airstream covered most of the British Isles giving showers, especially in coastal areas. At 0700 GMT a funnel cloud was filmed raising spray as a waterspout in Douglas Bay at Onchan, SC391772, which then moved onshore (i.e. from south) as a light T0 tornado disturbing garden furniture.





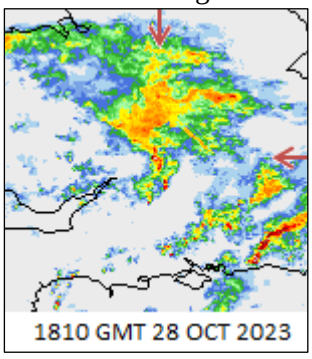
13. Saturday 28 October 2023. Littlehampton, West Sussex.
A large depression remained near western Ireland while a secondary centre, 975 mb at 1800 GMT, moved north into the Irish Sea and its fronts crossed England and Wales. Rain or showers affected most areas and thunderstorms crossed the southeast in the evening on a minor trough just behind the occluding frontal system. For the third time in three years (cf. 24 Oct 2020, 17 Sep 2023) a tornado struck the town of Littlehampton at 1755 GMT in association with one of these storms. TORRO investigators Sarah Horton and Tony Gilbert made separate surveys of the area on 29 October, which defined a track of 3 km (L4) SW-NE from Harbour View to Wick, Hampton Park, TQ021021 to TQ041044, up to 175 m (W6) in width. Serious damage to gardens, walls, and roofs confirmed a severe tornado reaching maximum strength T4 at North Street in Wick. Barn damage was also reported 7 km further on at Lea Farm, TQ078105, but there was insufficient evidence to link this to the main track.



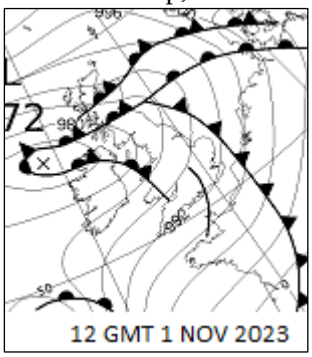


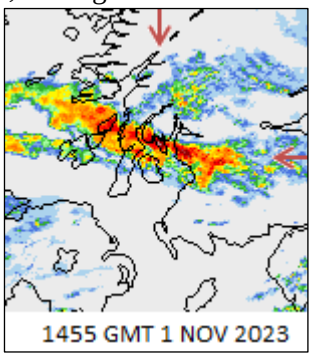
14. Saturday 28 October 2023. Northleach, Gloucestershire.
In response to a report of trees damaged at the crossroads outside Northleach, SP110156, at 1800 GMT Matt Clark and Kay Morrison of TORRO called at the place while returning from the Condicote investigation (see below). They there discovered an area of concentrated tree damage from which a probable mild T1 tornado was inferred. This was in line with the Condicote track but 13 km upwind.

15. Saturday 28 October 2023. Condicote, Gloucestershire.
While the occluded front of the aforesaid secondary low was passing through Gloucestershire in the early evening a tornado was reported at Condicote at 1810 GMT. TORRO investigators Matt Clark and Kay Morrison surveyed the village and neighbourhood on 3 November, and found a definite track of 2.4 km (L3) SSW-NNE from the southwest edge of the village to Hans Brake in the north, SP148278 to SP155301, after which it became ill-defined. Damage to trees, roofs, gardens, etc. indicated a strong tornado up to at least T3 having maximum width of 100 m (W5/6).



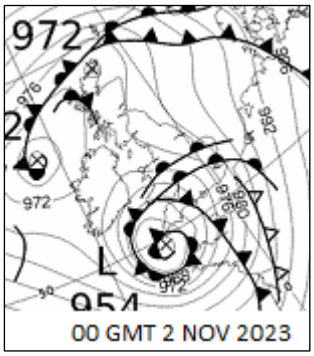
16. Wednesday 1 November 2023. Corrie, Ayrshire (Arran).
A depression was slow-moving near the Hebrides while a new rapidly deepening system was heading for the English Channel from the Atlantic, 954 mb near Land's End by 0000 GMT 2 November. There were showers, locally thundery, in many parts during the day before the new depression brought rain into the south in the evening which was followed later by thunderstorms in the English Channel. As an occlusion associated with the old depression moved north over the Isle of Arran a waterspout was filmed off the coast of Corrie at 1453 GMT, which then hit the shore by the Corrie Hotel Bus Stop, NS025432, as a light to mild tornado of T0/1.

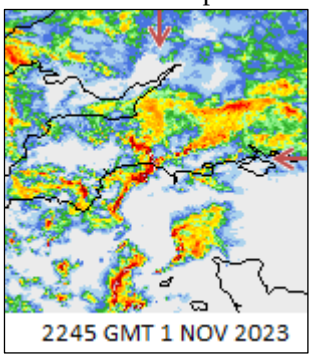




17. Wednesday 1 November 2023. Loders, Dorset.

Just behind the warm front of the approaching depression (see above) a line of thunderstorms developed quickly in the western English Channel and moved into south Dorset in late evening. The cold front became aligned with these storms to produce the Jersey tornado an hour later (see below). Before that, there were reports of a tornado near Bridport at 2245 GMT, and TORRO investigators Matt Clark and Kay Morrison were able to visit the scene on 11 November. They confirmed a tornado track of 2.4 km (L4) S-N through Loders from Innsacre to Waddon Hill, SY495922 to SY496946, where damage to trees and roofs indicated a moderate to strong tornado of T2/3 and width up to 110 m (W6). There was weaker evidence of an extended track of 7.3 km from Burton Bradstock to West Milton but this was too uncertain to be accepted.





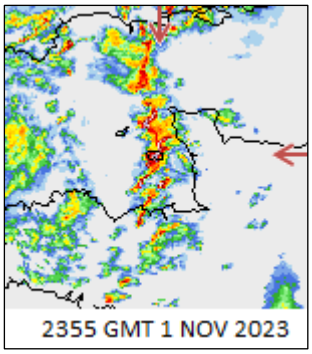
18. Wednesday 1 November 2023. Jersey, Channel Islands.

Reports coming out of Jersey in the early hours of 2 November gave word that a windstorm of extreme strength, even for such an often windswept island as Jersey, had caused great destruction through the eastern part of the island in the middle of the night. It soon became apparent that a tornado of exceptional severity by British standards had struck the island. Arrangements were made for TORRO's tornado investigator Sarah Horton to travel to the island and assess what had happened. This she did during two days of strenuous work on 4 and 5 November assisted by staff from Jersey Meteorological Department. Here follows a summary of her findings.

The warm front of the approaching depression, by now a cyclonic storm, passed over Jersey in the middle evening and was followed by the cold front at midnight 1/2 November. This was accompanied by a band of thunderstorms, during which a tornado struck the south coast of Jersey at St Clement, WV666469, a few minutes before midnight (2355 GMT 1 November), then traversed the island on a SW-NE track of 8 km (L5) coast to coast to Fliquet Bay in the northeast, WV710534[3]. It almost certainly began and ended as a waterspout but lateness of the hour precluded visual observation of this. The whole track from beginning to end was characterised by severe damage to buildings, buildings that would normally withstand winter gales without serious consequences, which confirmed an intense tornado that reached T5 in many places and as high as T6 over at least three widely separated portions of the track, a figure very rarely attained by British tornadoes. It was also unusually wide, up to 550 m (W8) at the start.

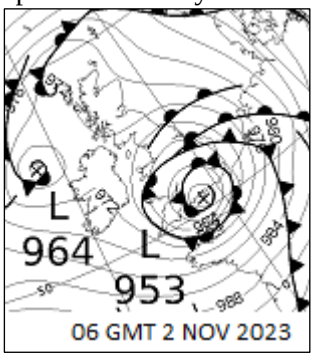
The low centre itself contained severe gales up to storm force 10 but these only arrived on Jersey some hours after the tornado. Large hailstones up to 5 cm across accompanied the thunderstorms but most of the hail reports were a little way west of the tornado track, except near the start.

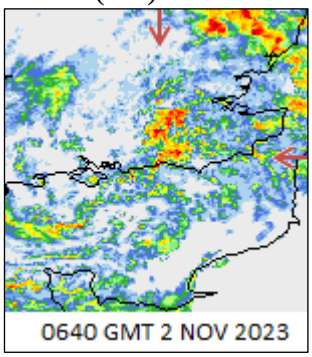
[3] UTM grid references at 3 degrees W are here used for the Channel Islands. Elsewhere we use National Grid or Irish Grid positions.



19. Thursday 2 November 2023. Sompting, West Sussex.

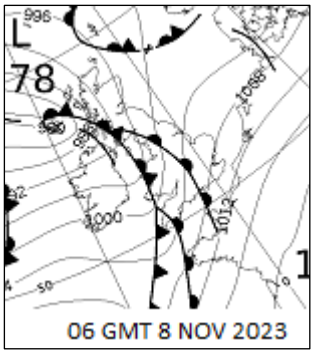
By 0600 GMT 2 November the intense depression referred to above was centred close to the Isle of Wight, 953 mb[4], and the tail end of its occluded front, now well wrapped round the centre, was on the Sussex coast. Showers were widespread over England and Wales and a few thunderstorms occurred in the south. One such storm occasioned reports of a tornado at Sompting at 0640 GMT, which Sarah Horton of TORRO investigated the next day. She found a track of 2.2 km (L4) from Sylvan Road as far as Lancing Ring Nature Reserve on the South Downs, TQ166047 to TQ180064, at which point it became indistinct. Slight or moderate damage to roofs, trees, and walls indicated a moderate tornado up to T2 intensity and width 80 m (W5).

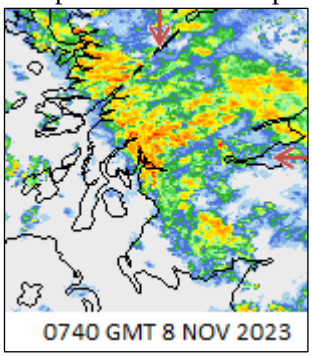




20. Wednesday 8 November 2023. Alexandria, Dunbarton.

An occluding frontal system accompanied by outbreaks of rain moved east over the British Isles associated with a depression passing near the Hebrides, 978 mb at 0600 GMT. During the passage of the occlusion damage occurred to farm buildings at Muirhead's Dairy, Overton Farm, NS384800, at 0740 GMT, from which it was possible to infer a probable moderate tornado of T2.



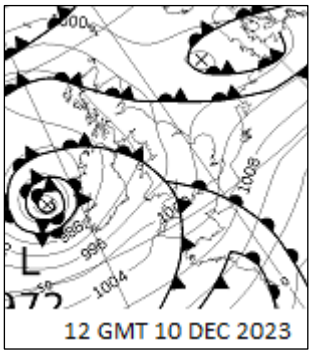


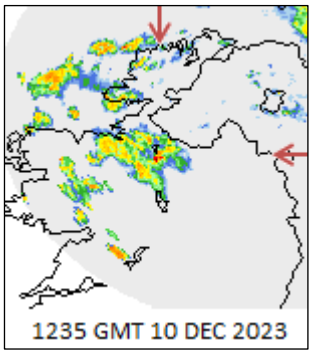
21. Sunday 10 December 2023. Leitrim Village, Leitrim.

A filling depression moved east from the Atlantic to cross Ireland in the afternoon, 979 mb over County Monaghan by 1800 GMT. Between the rain of the occluded front and that near the low centre bands of thundery showers crossed central and northern parts of Ireland. During one such shower at

[4] This was the deepest depression on record for November in the English Channel.

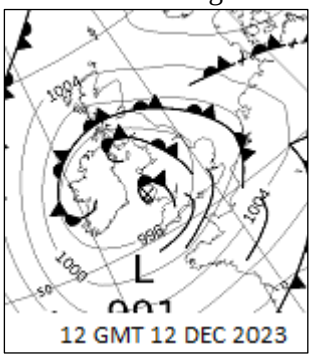
1234 GMT serious damage occurred in Main Street and elsewhere at the village of Leitrim, IG958045, where walls were flattened, trees felled, and a house lost its roof, indicative of a severe T4 tornado; boats in the marina were overturned.

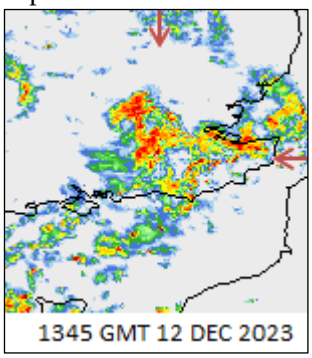




22. Tuesday 12 December 2023. Wrays, Surrey.

A complex depression, 991 mb at 1200 GMT, moved slowly east over Ireland and England surrounded by old fronts and minor troughs giving showers in many places. Thunderstorms accompanied one of these troughs as it crossed southeast England, and a tornado was reported at Wrays at 1345 GMT. TORRO's investigator Sarah Horton visited the scene on 15 December, where she was assisted by a volunteer Simon Collins. They traced a track beginning at Witherow Farm, TQ253444, which was eventually extended as far as Christmas Farm at Salfords, TQ290462, following further investigations by Simon Collins over the following days, giving a length of 4.1 km (L4) WSW-ENE. Much of this was over open country resulting in damage to trees, fences, and outbuildings, but it also passed through an industrial estate, where damage to office buildings confirmed a strong tornado up to T3.

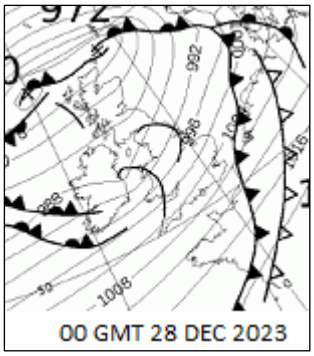


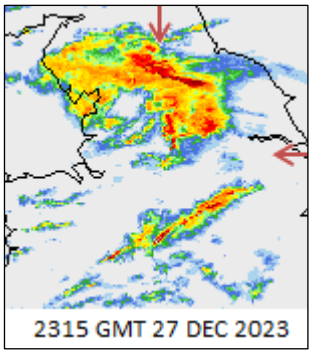


23. Wednesday 27 December 2023. Dukinfield, Cheshire.

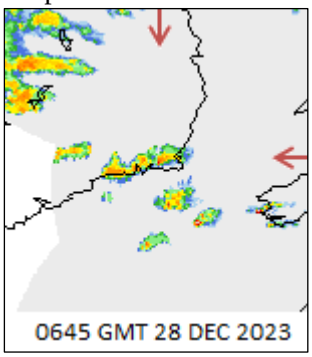
A deep depression passed slowly east near north Scotland, 970 mb at 0000 GMT 28 December, and a vigorous westerly airstream containing minor troughs covered the British Isles. Showers, often thundery and squally, affected many western coastal areas and some spread inland. From 2315 GMT onwards severe damage to houses in the Stalybridge suburb of Manchester indicated the possibility of a tornado, but there were also reports of very strong linear squalls from other places near Irish Sea coasts of north Wales and northwest England.

A preliminary survey was made by Sarah Horton of TORRO on 28 December followed by a more thorough investigation by Kay Morrison of TORRO on 1/2 January and again later, assisted by a volunteer Jon Baylis, which confirmed a tornado track in this area. The start was traced back to Newton Moor at Dukinfield, SJ950966, whence it was followed for 6.7 km (L5) SW-NE through Stalybridge and eventually out to Cowbury Dale at Carrbrook, near Mossley, SD997014; after which it disappeared up onto high moorland of the Peak District beyond human habitation. Serious damage to houses, including a roof completely removed and gable ends blown out, together with very many trees felled or otherwise damaged, indicated a severe tornado of T4 and locally up to T5. In common with the earlier Jersey tornado this one was very wide in parts, up to 600 m (W8).

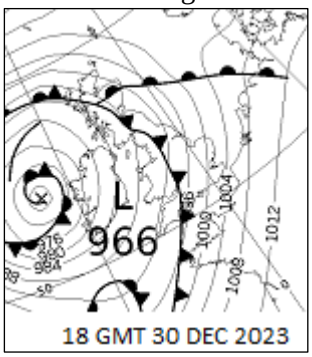


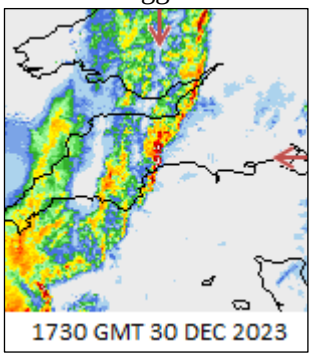


24. Thursday 28 December 2023. Duncormick, County Wexford.
Within the same westerly airstream that produced the Dukinfield tornado above another was reported near Duncormick the next morning. An independent Irish investigator, Alan O'Reilly, visited the site at Woodgraigue, IS914129, on 29 December, where damage to farm buildings confirmed that a moderate tornado of T2 had struck the place at 0645 GMT. The width of damage was 50 m (W5) but the path could not be traced more than 150 m (L0) SW-NE over surrounding farmland.



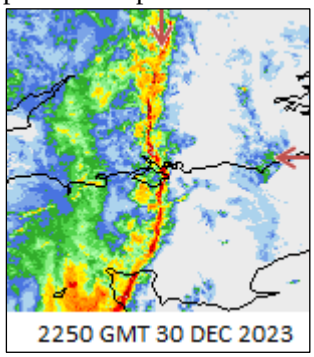
25. Saturday 30 December 2023. Venn Ottery, Devon.
Fronts moved east over the British Isles in association with a deep depression west of Ireland, 966 mb at 1800 GMT. Bands of rain moved east followed by showers in the west later, a few of which were thundery. Peter Kirk of TORRO investigated reports of a tornado as the cold front crossed Devon in the evening at 1730 GMT. From his inspection on 31 December he was able to confirm a tornado track of 2.1 km (L3) SW-NE from Venn Ottery to Tipton St John, SY076909 to SY091924. Slight to moderate damage to trees and roofs suggested a moderate T2 tornado having width of 90 m (W5).





26. Saturday 30 December 2023. Gosport, Hampshire.
As the aforementioned front crossed Hampshire later in the evening another tornado was reported at Gosport at 2250 GMT. TORRO's investigators Sarah Horton and Tony Gilbert surveyed the damage on 31 December and 1 January respectively. They identified a track of 1 km (L3) SSW-NNE from Fareham Road (no. 327) across the Creek to the Golf Course, SU582040 to SU586049, in which mostly minor damage to trees and roofs implied a mild tornado of T1 strength. During the evening the gradient backed slightly across the front as a wave developed, hence the slightly different orientation

of this track compared with the Devon one. Thunderstorms broke out on the front just after it had passed Gosport.



Waterspouts reported in 2023

Apart from four tornadoes that began as waterspouts there were 14 independent waterspouts (WS) that are not known to have reached land. These are listed in Table 2.

TABLE 2. List of British and Irish waterspouts in 2023 (times are GMT).

Type	Year	M	D	Time	Place	County
ws	2023	4	24	1000	Hartland Quay	Devon
WS	2023	5	9	pm	Dublin Bay	Dublin
WS	2023	6	29	am	Holywell Bay	Cornwall
WS	2023	7	6	0750	Lytham St Anne's	Lancashire
WS	2023	7	20	0800	Borth	Cardiganshire
WS+FC	2023	7	20	0800	Herne Bay	Kent
WS[-TN]	2023	7	20	mid-pm	Dungeness	Kent
WS	2023	8	26	0920	Sandown	Isle of Wight
WS	2023	8	26	1120	Aberystwyth	Cardiganshire
WS	2023	8	26	1747	Rhoose	Glamorgan
WS	2023	10	24	1113	Lulworth Cove	Dorset
WS	2023	10	26	1512	Southwold	Suffolk
WS	2023	10	31	1258	St Margaret's Bay	Kent
ws	2023	12	30	2300	Seaview	Isle of Wight

Lesser whirlwinds reported in 2023

Numerous funnel clouds (FC) were reported during the year, mainly in the summer months, but land devils (LD) were rather scarce and largely confined to early summer. Monthly totals of each are shown in Table 3. May 11 was a grand day for funnel clouds when at least 24 were reported.

TABLE 3. Monthly totals of British and Irish funnel clouds and land devils in 2023.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
FC	0	0	4	5	45	24	16	38	13	3	1	0	149
LD	0	0	0	0	6	13	0	2	1	0	0	0	22

Acknowledgements

Synoptic analyses: All are sections of ASXX baratics issued by Meteorological Office HQ at Exeter.
Rainfall radar charts: All are from Meteorological Office radar network as processed by NetWeather.
Photographs (numbering relates to TN sequence as above):
1. Tornado damage at Herstmonceux 8 January 2023. *Nadine West*.
2. Tornado damage at Rhodes Minnis 9 January 2023. *James Hendrick.*
3. Tornado cloud at Sandness 7 March 2023. *Michael Peterson*.
4. Tornado damage at Great Hucklow 13 March 2023. *[Source withheld]*.

6. Tornado cloud at Ballincollig 22 April 2023. *Elaine Pilkinton*.
7. Tornado disturbance at Horham 11 May 2023. *Filing Fortress Co.*
8. Tornado cloud at Banagher 13 June 2023. *Liffey Mills Co*.
9. Tornado cloud at Kinglassie 25 August 2023. *Anon. via BBC.*
10. Tornado damage at Littlehampton 17 September 2023. *Clare Palmer*.
11. Tornado damage at Kilkeel 24 September 2023. *BBC N. Ireland*.
13. Tornado damage at Littlehampton 28 October 2023. *Sarah Horton (TORRO).*
15. Tornado damage at Condicote 28 October 2023. *Matt Clark (TORRO).*
16. Tornado cloud approaching Corrie 1 November 2023. *Gavin McCrae*.
17. Tornado damage at Loders 1 November 2023. *Matt Clark (TORRO).*
18. Tornado damage at Fliquet, Jersey, 1/2 November 2023[5]. *Sarah Horton (TORRO).*
19. Tornado damage at Sompting 2 November 2023. *Sarah Horton (TORRO).*
20. Tornado damage at Alexandria 8 November 2023. *[Source withheld]*.
21. Tornado damage at Leitrim Village 10 December 2023. *Leitrim Observer*.
22. Tornado damage at Wrays 12 December 2023. *Sarah Horton (TORRO).*
23. Tornado damage at Stalybridge 27 December 2023. *Sarah Horton (TORRO).*
24. Tornado damage near Duncormick 28 December 2023. *The Journal (Ireland).*
25. Tornado damage at Venn Ottery 30 December 2023. *Peter Kirk (TORRO).*
26. Tornado damage at Gosport 30 December 2023. *Sarah Horton (TORRO).*

We express gratitude to TORRO staff and others who have given of their time to trudge round streets and through fields and woods making detailed surveys of tornado tracks, which greatly extends our knowledge of individual tornadoes.

TABLE 4. T-strength equivalents in metres per second and knots (rounded).

T	m/s	Knots
T0	17-24	33-47
T1	25-32	49-62
T2	33-41	64-80
T3	42-51	82-99
T4	52-61	101-119
T5	62-72	121-140
T6	73-83	142-161
T7	84-95	163-185
T8	96-107	187-208
T9	108-120	210-233
T10	121 +	235 +

Report compiled February 2024.

[5] Although probably on the ground for less than 10 minutes this tornado appears to have managed to span two calendar days—something very few are known to have done.