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Conference on European Tornadoes and Severe Storms

Development of the European Tornado and Storm Research Organisation (TORRO)

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The Tornado and Storm Research Organisation (TORRO) was formed in 1974 when it was realised that only by means of an organisation specifically set up for the purpose would it be possible to determine realistic spatial, temporal and intensity distributions of UK tornadoes. The Tornado Intensity Scale devised by TORRO's founder, Terence Meaden, played a key part in enabling TORRO to rate the wind speeds of tornadoes (TORRO subsequently rejected the Fujita Scale). TORRO's research is enabling estimates to be made of the statistical return periods of differing intensities of tornadoes so that future tornado risk at any place can be established, especially with regard to the risk posed by very severe tornadoes for major structures. By the 1990s, TORRO's UK databases contained nearly 2000 tornadoes and 500 waterspouts. Its European databases were receiving a rapidly growing number of tornadoes and waterspouts too.

TORRO is developing an improved understanding of the conditions of tornado development, so that, ultimately, forecasting of severe tornadoes (T4+) and large tornado outbreaks would be possible. TORRO issued the first UK 'tornado watch' for 12 November 1991 and this proved to be accurate when three property-damaging tornadoes struck East Anglia.

In 1975, TORRO expanded its activities to include conventional thunderstorm reporting and investigations. In 1982 TORRO incorporated the British thunderstorm data-collection organisation, the Thunderstorm Census Organisation (TCO), founded in 1924. By the 1980s TORRO's network of voluntary thunderstorm observers around the country as well as across the rest of Europe, especially Belgium, the Netherlands and Ireland, had reached 350-400 observers.

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Initially, TORRO's data collection and research focused on tornadoes but soon expanded to include other whirlwinds (waterspouts, land devils), thunderstorms, hailstorms, lightning (including ball lightning) and blizzards/heavy snowfalls. Since 1996, TORRO has provided access to some of its databases (e.g. post-1995 UK and European severe weather events, especially tornadoes and hailstorms) and other information via its internet's site (<http://www.torro.org.uk/>). Building on 25 years of experience, TORRO continues to expand its Europe-wide role in severe weather data-collection and research.