



## Severe weather and citizen science – Chasing the Austrian storm spotter

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Storm chasers are a widely-known leisure group, and self-presentations of U.S. chasers have appeared in *Weatherwise* and popular media. But the social sciences so far evaded them. The only psychological study dealt with 50 U.S. tornado chasing tourists.

In Austria, the non-profit association Skywarn Austria hosts 140 weather enthusiasts, about 80 of them as active voluntary chasers or spotters. About 60 of all active members are currently trained or already licenced within the Trusted Spotter Network TSN, which is a collaboration between the Austrian national weather service ZAMG, the European Severe Storms Laboratory ESSL and Skywarn. Preparing a project on meteorological aesthetics, a questionnaire was distributed to 30 Austrian storm chasers/spotters, to 10 Austrian professional meteorologists and a general population sample of 80 at Austria/Bavaria. The 52 items dealt with weather interest, information, risk, basic knowledge, recording, thematic socialization, social and emotional aspects, observed phenomena, personal preferences, opinions on climate change and environmental protection, and sociodemographic information.

It was found that the trusted spotter sample was 93% male, 50% married, 63% with higher education, 40% had jobs with a technical background, locations were mostly in eastern Austria. 50% take down weather records, 67% run their own weather stations, 30% share station data via internet. Their (overlapping) self-descriptions: 77% are spotters, 47% chasers, 43% friends of nature, 17% phenology-interested. 83% got weather-interested by their own. 60% observe the weather together with others, 45% publish results, mostly via social media. Most fascinating object of interest is heavy thunderstorms which also goes for professionals and the general population.

Basic weather knowledge of the spotters tested by 4 items was excellent against good values of the general population. Asked about personal observation of 16 natural phenomena the spotters' mean 7.0 was near the professionals' (7.8). The general population had 5.5. Spotter risk ratings of 12 severe weather phenomena were similar to the professionals, general population ratings slightly lower. The overlapping general population self-descriptions: 76% friends of nature, 23% spotters (!), and 11% each chaser and phenology-interest. A PANAS self-report score balance of 7 positive versus 4 negative weather-related emotions gave a spotter mean of +1.9 near the general population (+2.1). The professionals had + 2.5. Leisure weather watching is mostly associated with positive emotions and a relaxing activity. „Weather cowboys“ are marginal in Austria.

Correlational statistics showed spotters' weather interest and risk score to be age dependent (more interest, more risk expressed by older people). For the general population, interest and risk score were also related, interest was age-dependent. Gender and age were both linked with the natural phenomena score. Since spotter and lay people characteristics came out unexpectedly similar, it is concluded that organized spotters and chasers are only the tip of the iceberg, and the social phenomenon of public (severe) weather interest is of bigger shape and remains largely unknown.