

Status of the European Severe Weather Database (ESWD) after one year of operational work

N. Dotzek (1), A. Friedrich (2), D. B. Giaiotti (3), P. Groenemeijer (4), F. Martin (5), F. Stel (3), O Svabik (6), J. Teittinen (7)

(1) DLR, Germany (nikolai.dotzek@dlr.de), (2) DWD, Germany, (3) ARPA FVG – OSMER, Italy, (4) , Karlsruhe University, Germany, (5) INM, Spain, (6) ZAMG-W, Austria, (7) FMI, Finland

The main goal of the ESWD database (www.eswd.eu) is to collect and store detailed and quality-controlled information on severe weather events (e.g. flash floods, hail, straight-line winds, tornadoes) over Europe using a homogeneous data format and a web-based user-interface where both collaborating national weather services (NMHS) and the public can contribute and retrieve observations. The initiation of the ESWD has been strongly motivated by the fact that many convective severe weather events are controlled by small-scale atmospheric variability. As a result, the severe weather is typically experienced across a cluster of small affected areas. Because of their size, individual areas often escape the meshes of existing operational monitoring networks, but the entire cluster of events frequently covers multiple European countries. When dealing with severe weather events, researchers and forecasters want to know when and where these events have taken place on a European scale to evaluate their numerical and conceptual models or theories, and to verify their forecasts and warnings. The only way to obtain a robust and homogeneous climatology of severe local storms in Europe is to carry out a systematic collection of observations of severe atmospheric phenomena or of the damage they caused. After two years of test operations, 2006 is the first year with an operational ESWD service, and three NMHSs are collaborating: DWD, INM and ZAMG. Currently, the following categories of severe weather are included in the ESWD: Straight-line winds, tornadoes, large hail, heavy precipitation, funnel clouds, gustnadoes, and lesser whirlwinds. Extending both the number of collaborating NMHSs and the list of covered phenomena are further ESWD objectives. Our presentation will review the experience gained during the first year of operational ESWD availability. Important aspects and strengths of the ESWD database are: 1) Quality-control: On first submission, reports are assigned quality-control level QC0. Only after later verification can the QC-level be raised (up to QC2). In countries where the NMHS cooperates with the ESWD, quality-control is done by the NMHS. For other countries, or for the public reports, the ESWD host ESSL (www.essl.org) performs quality-control. 2) Public accessibility: Via the ESWD web portal (www.eswd.eu), the public can submit reports to the ESWD. These are stored in a directory separate from the NMHS reports. This public accessibility enables and encourages contributions from volunteer storm spotter networks like Skywarn or indi-

viduals who can report current or historic severe weather reports. Involving the public helps to raise completeness of the ESWD.