Analysis of the 18 July 2005 tornadic supercell over the Lake Geneva region

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On the afternoon of July 18th 2005, a particularly intense supercell thunderstorm struck the Lake Geneva region. The storm initiated just southwest of Lyon, France and tracked over 300 km towards the northeast before losing its supercell characteristics in the central Alpine foothills around the town of Interlaken. During its 3-hour lifespan, the storm's forward translation averaged 90-100 km/h. At the height of its severity, this supercell was responsible for hail the size of golf balls, wind gusts up to 160 km/h and two confirmed tornadoes. Miraculously, nobody was killed nor seriously injured. However, the material losses were considerable including ravaged vineyards, damage to buildings and vehicles and sections of forests completely destroyed. Synoptic conditions leading up to the event were rather well anticipated already a few days ahead of time and severe thunderstorm warnings were issued as the event unfolded. Forecasters were rather well equipped to handle the event but nowcasting visualization techniques within the office at the time did not allow for a sufficiently fine storm scale analysis. With the arrival of new satellite/radar visualization software and the NinJo graphical user interface, forecasters should be able to better anticipate the severe phenomena associated with such storms in the future.