EMS Annual Meeting Abstracts
Vol. 12, EMS2015-633, 2015
15th EMS / 12th ECAM
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Tornadoes in Estonia and Lativa

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In our historical climatology databank we have more than three hundred cases of tornadoes from the period 1745 – 2014 in Estonia and 1795 – 1920 in Latvia. However if to take into account individual cases as it is well known from waterspout series (sometimes more than 10 whirls in one series) the total number is much bigger. But variability of historical descriptions as well as vortex parameters do not allow the same exactness which climatologists are managing with ordinary meteorological elements using the tools of Gaussian statistics. So below we present more limits of tornadoes‘ characteristics in the Baltic region than mean or standard values.
The annual occurrence of tornadoes is quite similar to the frequency of thunderstorms having its maximum in July and August (together 60 % of all cases). The difference in frequency turns out in the winter months, when thunderstorms are extreme events but tornadoes have never happened in December, January and February and have very low probability in October, November, March and April. The good correlation with thunderstorms is evident also in diurnal occurrence with its maximum at 4-6 pm with 45 % of total cases. At night 10 pm – 8 am we can meet tornadoes with a probability of 0,01.
The prevailng direction of thunderclouds creating tornadoes is SW and S (57 %) with other sectors sharing 3-5 % and no cases from NE-sector. The speed of moving thunderclouds has estimated betweem 30 and 70 km/h where higher velocities dominate.
The life-cycle of one vortex has been determined from 1 minute to half an hour. If compared the life-time and moving speed with the measured route on the ground the accordance does not always coincide. We have two cases where highly-qualified persons had measured the route of tornadoes 80 km long. It means that duration of at least one hour as the speed of *Cumulonimbus* cannot be 150 km/h. Another explanation could be that in these cases there have been series of two or three tornadoes. On the other hand, routes more than 30 km have the share of 18 percent.
The width measured on track in forests or estimated on waterspouts is between 20 and 300 meters in 80 % of cases. The biggest one 2000 m could be a squall as well. This parameter is very variable, i.e. the width changes ten-fold.