



## Use of new radar products for nowcasting of severe storms

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In 2016, several severe thunderstorms were observed over Germany causing serious damages. These storms were often linked with strong precipitation. Some of them even occurred with strong rotation (e.g., tornadoes).

Several cases have been analysed with focus on various recently introduced radar products (e.g., VIL/VII and rotation tracks) showing their benefit in nowcasting of convective weather phenomena. While the development and evolution of convection are related to high VIL values, lightning rate, hail occurrence and hail size are related to high VII values. Furthermore, rotation track products which visualise continuing azimuthal shear can be linked to the occurrence of meso-cyclones and tornadoes.

The case studies show that in addition to other approved radar products, such as reflectivity, radial wind velocity and meso-cyclone detection products, the newly introduced radar products help in providing a more reliable and detailed data basis for identifying storm occurrence and analysing storm development. In combination with other observational data, e.g., satellite and lightning data, these products add significant value to the forecaster's nowcasting of severe weather events and issuing of weather warnings.