



100 Years after Alfred Wegener's Opus on Tornadoes in Europe

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Alfred Wegener (1880–1930) was a leading geophysicist and an Arctic explorer who is mainly remembered today for his contributions to the theory of continental displacement. Less known are his contributions as a pioneering researcher on tornadoes in Europe. This year marks the 100-year anniversary since the publication of his historical catalogue and study of tornadoes and waterspouts in Europe, "Wind- und Wasserhosen in Europa". Wegener's 1917 study is one of the major contributions to tornado research in Europe that continues to be cited today by severe storm researchers.

At the time of Wegener, European scientists and meteorologists were leading the research on tornadoes. This situation changed after 1950, driven by the tornado forecast advances of Miller and Fawbush and the United States surpassed Europe as a result. In this presentation, we show the context of Wegener's research on tornadoes by summarizing the contribution to tornado research by European scientists since Classical Antiquity (e.g., Aristotle; Lamy 1689; Bosovich 1749; Peltier 1840) and by summarizing the main theories on tornado formation (i.e. volcanic theory, downburst theory, electrical theory, waves theory, thermodynamic theory, mechanical theory).

Based on Wegener's correspondence with Wladimir Köppen (1846–1940) during 1915–1916, we are able to piece together for the first time the origin and the main sources for "Wind- und Wasserhosen in Europa". Finally, the main results from Wegener (1917) are analysed in the context of the international research on tornadoes and waterspouts at the beginning of the 20th Century.