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# The occurrence of convective systems with a bow echo in warm season in Poland

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The characteristics of occurrence of convective systems with a bow echo in Poland in the warm season in the years 2007-2014 were presented in the study. Using the identification criteria proposed by Fujita (1878), Burke and Schultz (2004), Klimowski (2000, 2004), and supplemented by Gatzen (2013), the number of bow echo cases in Central Europe in this period was determined. The type of bow echo, mode of bow echo development, and synoptic conditions conducive to its occurrence were defined for selected cases. Ranges of individual bow echo cases allowed to determine the areas of Poland over which powerful convection systems with a bow echo most often moved. The following materials were used to develop this study, i.e. reports on dangerous meteorological phenomena, SYNOP and METAR reports, collective radar maps of the area of Poland showing the distribution of radar echoes on the basis of CMAX and CAPPI products, MSL pressure maps, satellite images, and data from lightning detection systems. In the analysed period 91 cases of bow echo were identified. The areas most exposed to the occurrence of convective systems with a bow echo in the studied period included the northern part of Lubuskie and Wielkopolska provinces, the southern part of West Pomerania province, Łódź province and Silesia province. BECs and BEs were the predominant types of bow echo in the studied period. Bow echoes developed most frequently from a squall line, or from a combination of a few, often weakly organized convective cells.