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## On the curious case of the recent decade, mid-spring precipitation deficit in central Europe

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Central Europe has experienced a severe drought almost every April for the last 14 years consecutively, driven by record high temperatures, low flows, high evapotranspiration, and high soil moisture deficit. The dynamic of this recent and recurrent mid-spring dryness is not yet understood. Here we show that the period 2007 – 2020 was characterized by a reduction of ~50% of the usual April rainfall amount over large areas in central Europe. The precipitation deficit and the record high temperatures were triggered by a multiyear recurrent high-pressure system centered over the North Sea and northern Germany and a decline in the temperature gradient between the Arctic region and the mid-latitudes, which diverted the Atlantic storm tracks northward. From a long-term perspective, the precipitation, temperature, and soil moisture anomalies observed over the last 14 years have reached the highest amplitudes over the observational record. This study provides an in-depth analysis of the hydroclimate extremes in central Europe over the last 140 years and their atmospheric drivers, enabling us to increase our dynamical understating of long-term dry periods, which is vital to enhance forecasting and mitigation of such events.