**Dust Devils: Structural Features, Dynamics and Climate Impact**

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**Abstract:** According to modern concepts, the main natural sources of dust in the atmosphere are dust storms and associated dust devils—rotating columns of rising dust. The impact of dust and aerosols on climate change in the past, present and future is one of the poorly understood and, at the same time, one of the fundamental elements needed for weather and climate forecasting. The purpose of this review is to describe and summarise the results of the study of dust devils in the Earth’s atmosphere. Special attention is given to the description of the 3D structures, the external flows and atmospheric gradients of temperature that lead to the generation and maintenance of the dust devils. Keywords: dust devils; vortices