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Definition of "banner clouds" based on time lapse movies

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Abstract. Banner clouds appear on the leeward side of a mountain and resemble a banner or a flag. This article provides a comprehensive definition of "banner clouds". It is based primarily on an extensive collection of time lapse movies, but previous attempts at an explanation of this phenomenon are also taken into account. The following ingredients are considered essential: the cloud must be attached to the mountain but not appear on the windward side; the cloud must originate from condensation of water vapour contained in the air (rather than consist of blowing snow); the cloud must be persistent; and the cloud must not be of convective nature. The definition is illustrated and discussed with the help of still images and time lapse movies taken at Mount Zugspitze in the Bavarian Alps.

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