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## The Western Tibetan Vortex as an emergent feature of near-surface temperature variations

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Glaciers are growing in a part of High Mountain Asia (HMA), contrary to the demise of glaciers worldwide. A proposed explanation for this behaviour is the decreasing strength of the "Western Tibetan Vortex" (WTV), a circular motion of air in the troposphere around northwestern High Mountain Asia, which is proposed to drive near-surface temperatures. Here, we show that the WTV is the change of wind field resulting from changes in near-surface temperature, and that it is not unique to northwestern HMA, but is generally applicable to large parts of the globe. Instead, we argue that net radiation is likely the main driver of near-surface temperatures in Western HMA in summer and autumn, and that the WTV is the response of the atmosphere to changes in temperature. The decreasing strength of the WTV, as seen during summer in the 20th century, is thus likely the result of changing net radiation, and not the main driver of cooling itself. We do argue that the WTV is a useful concept to understand large scale climate variability in the region, and that such an approach could yield important insights in other mid-latitude regions as well.