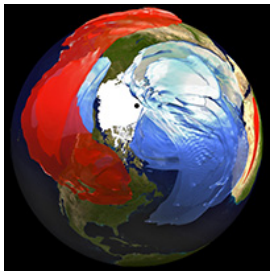

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The dynamics and predictability of sudden stratospheric warmings and their surface impacts

Tuesday, 19 November 2019 09:30 (30 minutes)

Sudden stratospheric warming (SSW) events can have significant impacts on surface weather that can prevail for several weeks. However, not all SSW events have a surface impact, and the timing of this impact can vary strongly between SSW events. Mechanisms both in the lower stratosphere and in the troposphere have been suggested to be responsible for the distinct downward influence of different SSW events. At the same time, despite these often long-lived surface impacts, the timing of SSW events themselves is not predictable beyond deterministic lead times of a few days, and significant differences are found in the predictability of different SSW events. Both tropospheric precursors and stratospheric mechanisms such as resonance have been suggested to lead to SSW events, and are here suggested to impact their predictability. This contribution aims to discuss the link between the predictability of SSW events and their dynamical causes and impacts.

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