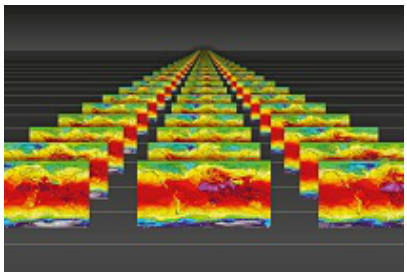

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# The role of stratosphere-troposphere coupling in sub-seasonal to seasonal prediction using the S2S database

*Tuesday, 2 April 2019 14:45 (30 minutes)*

A major source of sub-seasonal predictability for the mid-latitudes during boreal winter and spring and austral spring is variability of the stratospheric polar vortex. While a number of studies have now demonstrated that surface predictability is enhanced during both sudden stratospheric warming (SSW) and strong vortex events, there has been little comparison of model performance beyond a small number of case studies of individual extreme events. The S2S database represents a step change in the availability of data to interrogate and understand sub-seasonal skill in the stratosphere and links to surface predictability. The Stratospheric Network for the Assessment of Predictability is a joint project between WCRP/SPARC and the S2S project which brings together a small community of scientists interested in working on this problem. In this talk, analysis from a recent, first inter-comparison of stratospheric predictability and stratosphere-troposphere coupling in the S2S models will be presented. Analysis of a wide variety of dynamical events will be considered, including SSW and strong vortex events, the spring time final stratospheric warming and coupling linked to reflection of planetary-waves. Finally, the extent to which the ability to capture these processes leads to enhanced tropospheric forecast skill will be discussed.

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