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Two-way coupling between the stratosphere and troposphere is recognized as an important source of subseasonal-to-seasonal (S2S) predictability. Extratropical coupling between the stratosphere and the surface may modulate the tropospheric circulation in predictable ways and/or provide forecast windows of opportunity. S2S forecast models may struggle to represent such coupling processes; drifts in a model's circulation related to model configurations, biases, and parameterizations have the potential to feedback and affect stratosphere-troposphere coupling. This presentation will highlight results from an international SPARC-SNAP (Stratospheric Network for the Assessment of Predictability) community effort to diagnose and characterize biases in stratosphere- troposphere coupling in S2S models. We find that in the Northern Hemisphere, the S2S forecast systems underestimate the strength of observed upward coupling from the troposphere to the stratosphere, while downward coupling is well represented at short lead times but is too weak at long lead times. In the Southern Hemisphere, forecast systems generally overestimate downward coupling strength, despite underestimating radiative persistence in the lower stratosphere.
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