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## Atmospheric excitation of the annual wobble over the 21<sup>st</sup>-century from CMIP6 predictions under different scenarios

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The annual wobble is the second distinct feature of polar motion after the Chandler wobble. It is a seasonally forced oscillation driven mainly by significant pressure differences between boreal winter and summer over Siberia. In this study, we investigate the future evolution of the annual wobble amplitude from 21<sup>st</sup>-century model projections of atmospheric pressure and wind velocities. The model variables are provided within the Coupled Model Intercomparison Project Phase 6 (CMIP6) for different scenarios that simulate possible future anthropogenic drivers of climate change. We use the simulations of 11 models for five such scenarios, which range from very mild to quite extreme future climate changes. The 21<sup>st</sup>-century simulations span 85 years, from 2015 to 2100. Our analysis focuses on the temporal evolution of the amplitude of the annual oscillation in equatorial atmospheric angular momentum functions. More intense scenarios involving more substantial global warming show an increase in the magnitude of the annual wobble towards the end of the century. More extreme annual pressure anomalies over the North Asian landmass probably cause the rising amplitudes.