

ATS/CIRA Colloquium

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from the University of Washington

Hosted by Emily Fischer and Jim Hurrell

3 p.m. Thursday, Oct. 13

ATS 101 and Microsoft Teams

**Insights from comparing and contrasting
the climate response to large volcanic eruptions
and rising carbon dioxide**

It has been proposed that the climate response to recent large volcanoes can inform estimates of current and anticipated climate change driven by rising carbon dioxide levels in the atmosphere. Such proposals hinge on the assumption that climate feedbacks are largely the same for volcanic and carbon dioxide forcing. If climate feedbacks were the same, then the climate response to large volcanoes would constrain equilibrium climate sensitivity. But this is not the case in large ensembles of CMIP6, in contrast to assumptions in IPCC AR6. The distinct climate feedbacks and nature of the climate forcings also drive unique meridional temperature responses to the two types of forcings that help explain patterns of historical climate change and have implications for future projections.

Colloquia page: atmos.colostate.edu/colloquia