# INSENSITIVITY OF GLOBAL TEMPERATURE RESPONSE TO THE MAGNITUDE OF VOLCANIC ERUPTIONS

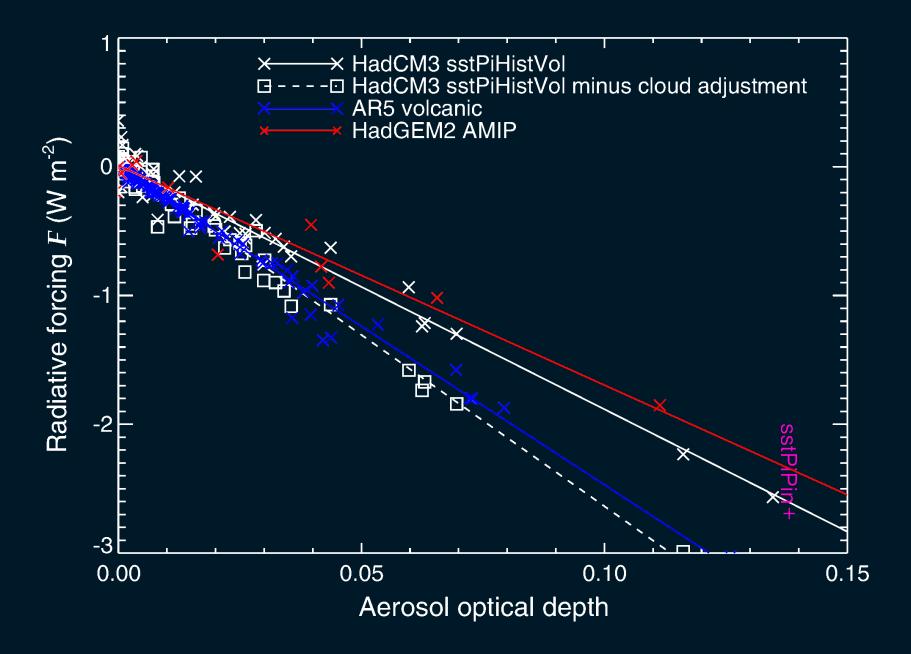
In EGU session "Understanding volcano-climate impacts and the stratospheric aerosol layer"



**UiT** The Arctic University of Norway

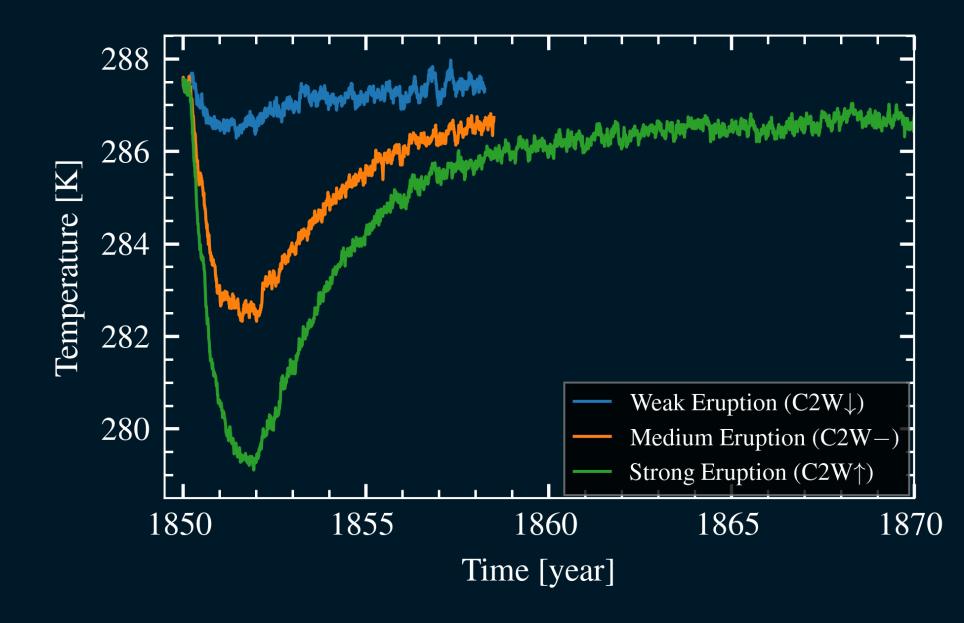


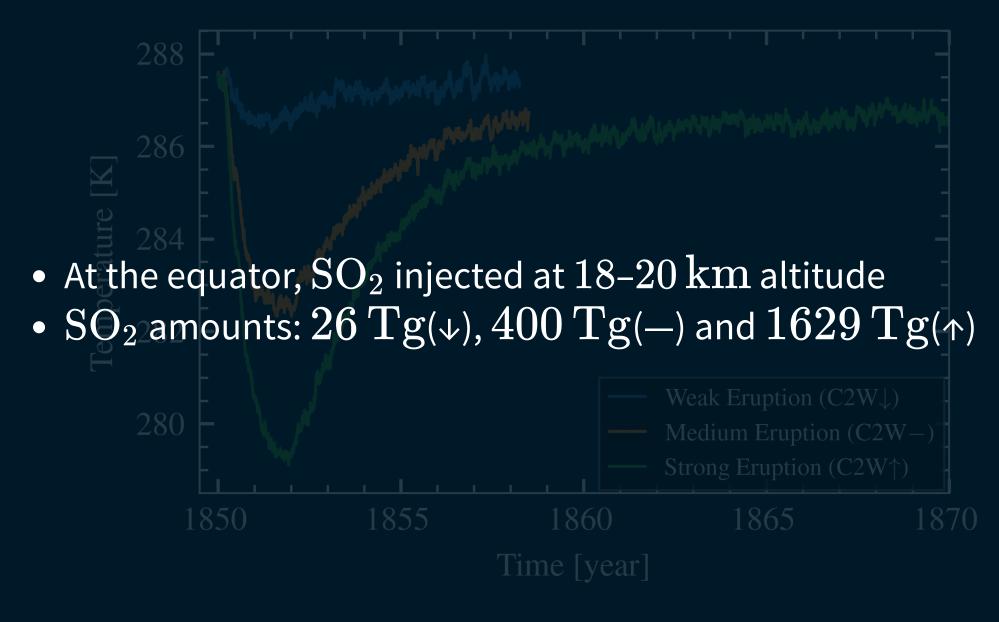


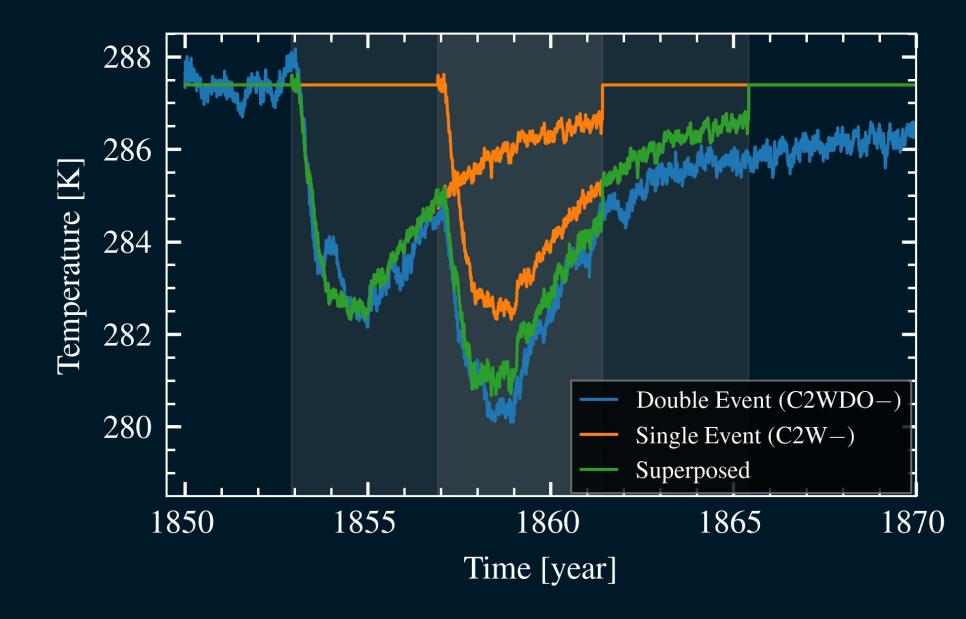


# **SIMULATIONS**

- CESM2 (Community Earth System Model, version 2.1.3)
- WACCM6 atmosphere
- Dynamic ocean and constant sea-surface conditions (AOGCM & AGCM)

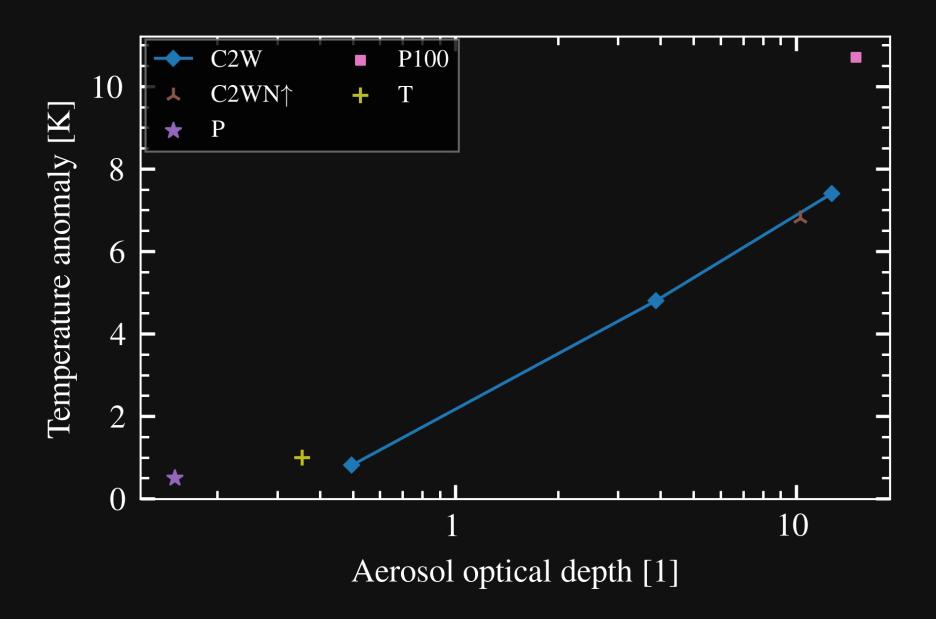


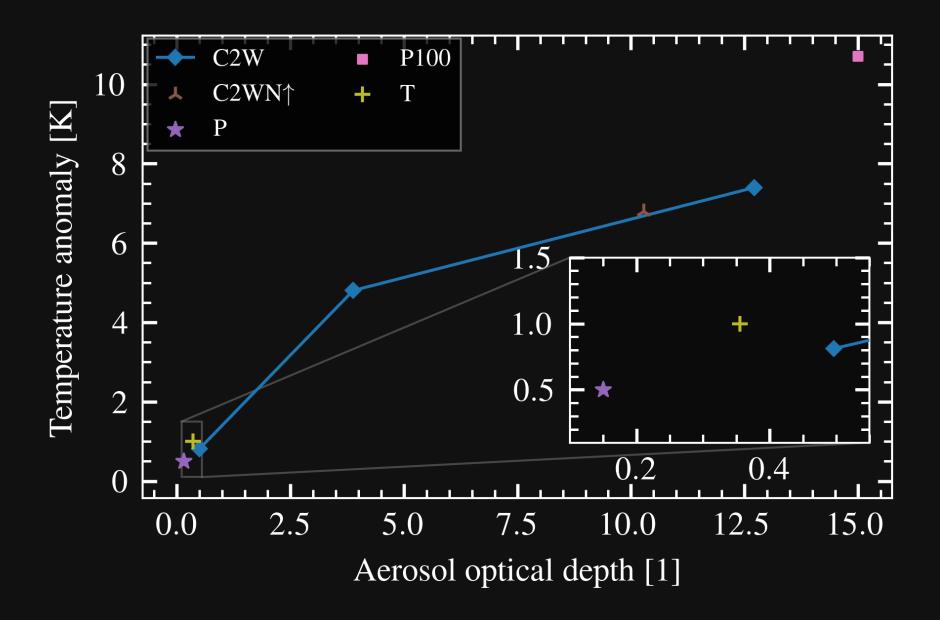


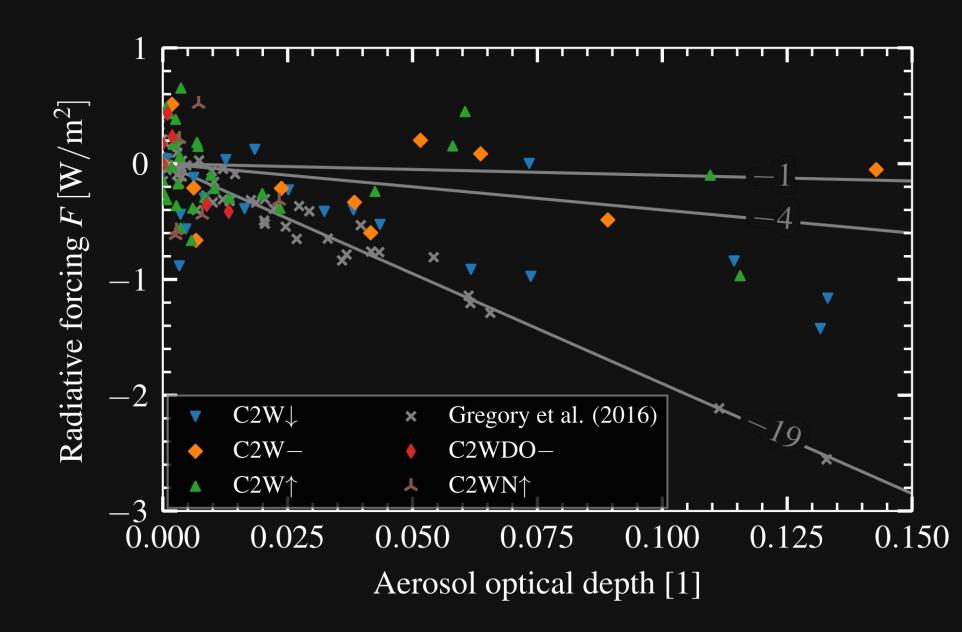


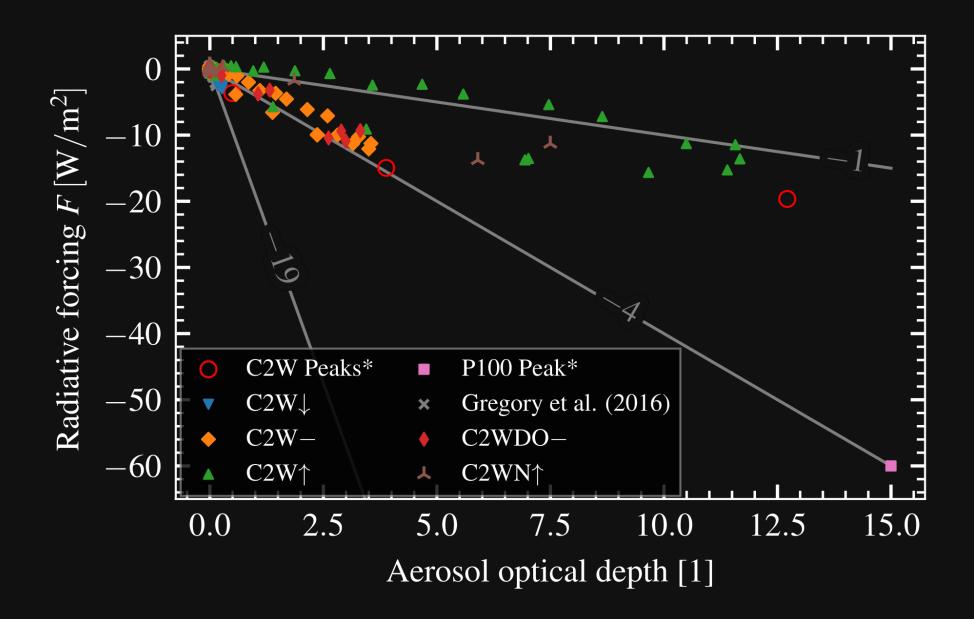
### Legend description for the forthcoming figures.

Short Name	Long Name
C2W	CESM2(WACCM6)
C2WN↑	CESM2(WACCM6), high latitude, north
C2WDO—	CESM2(WACCM6), double and overlapping
Р	Pinatubo
P100	Pinatubo times 100
Т	Tambora









## LINKS

FIXME: for now, I'm using an old slide as an example.

Update the links!

The slides can be viewed both with (html, pdf) and without (html, pdf) speaker notes.

Link and QR code to the conference abstract information:



# REFERENCES

- Gregory, J. M., T. Andrews, P. Good, T. Mauritsen, and P. M. Forster. 2016. "Small Global-Mean Cooling Due to Volcanic Radiative Forcing." *Climate Dynamics* 47 (12): 3979–91. https://doi.org/10.1007/s00382-016-3055-1.
- Hansen, James, Reto Ruedy, J. Glascoe, and Makiko Sato. 1999. "GISS Analysis of Surface Temperature Change." *Journal of Geophysical Research: Atmospheres* 104 (D24): 30997–1022. https://doi.org/10.1029/1999JD900835.
- Jones, Gareth S., Jonathan M. Gregory, Peter A. Stott, Simon F. B. Tett, and Robert B. Thorpe. 2005. "An AOGCM simulation of the climate response to a volcanic super-eruption." *Climate Dynamics* 25 (7): 725–38. https://doi.org/10.1007/s00382-005-0066-8.
- Raible, Christoph C., Stefan Brönnimann, Renate Auchmann, Philip Brohan,
  Thomas L. Frölicher, Hans-F. Graf, Phil Jones, et al. 2016. "Tambora 1815 as a Test
  Case for High Impact Volcanic Eruptions: Earth System Effects." WIREs Climate
  Change 7 (4): 569–89. https://doi.org/10.1002/wcc.407.

- Sukhodolov, T., J.-X. Sheng, A. Feinberg, B.-P. Luo, T. Peter, L. Revell, A. Stenke, D. K. Weisenstein, and E. Rozanov. 2018. "Stratospheric Aerosol Evolution After Pinatubo Simulated with a Coupled Size-Resolved Aerosol-Chemistry-Climate Model, SOCOL-AERv1.0." Geoscientific Model Development 11 (7): 2633–47. https://doi.org/10.5194/gmd-11-2633-2018.
- Toohey, M., and M. Sigl. 2017. "Volcanic Stratospheric Sulfur Injections and Aerosol Optical Depth from 500 BCE to 1900 CE." *Earth System Science Data* 9 (2): 809–31. https://doi.org/10.5194/essd-9-809-2017.

