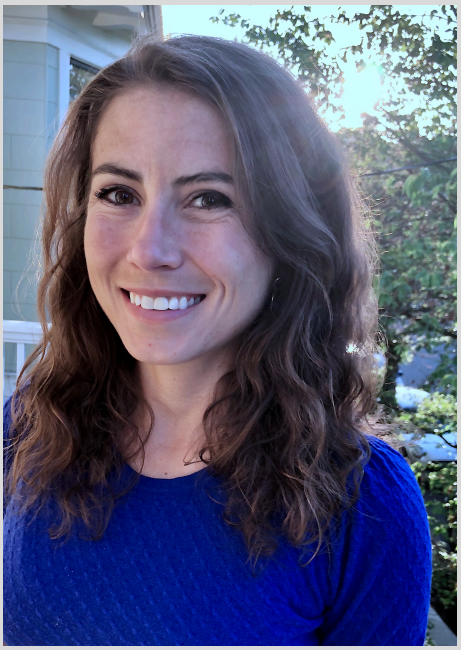
Welcome!

Please join us for the next ATOC Colloquium on **Friday, February 19th**, from **11:00 AM–12:00 PM**. This week's colloquium features **Dr. Sara Sanchez (ATOC)**. A link to join the colloquium via Zoom is provided beneath the abstract below.

Reconstructing the ENSO response to the Mystery and Tambora eruptions with coral based data assimilation

Scientific understanding of low-frequency tropical Pacific variability suffers from short observational records, sparse proxy networks, and bias in model simulations. Here, we combine the strengths of proxies and models through coral-based paleoclimate data assimilation. We combine coral archives (δ18O, Sr/Ca) with the dynamics, spatial teleconnections, and intervariable relationships of the CMIP5/PMIP3 Past1000 experiments using the Last Millennium Reanalysis data assimilation framework. This analysis creates skillful reconstructions of tropical Pacific temperatures over the observational era. However, during the period of intense volcanism in the early 19th century, southwestern Pacific corals produce Nino 3.4 reconstructions that are at odds with reconstructions suggested from other proxies. We systematically evaluate the source of this discrepancy. We find that following major volcanic eruptions, the southwestern Pacific corals locally record more persistent cold anomalies than found in the Past1000 experiments and that canonical ENSO teleconnections to the southwest Pacific strongly control the reconstruction response.



Zoom link:
https://cuboulder.zoom.us/j/92037180471

Password: ATOC

About the ATOC Colloquium

The Department of Atmospheric and Oceanic Sciences (ATOC) Colloquium is typically held **every other Friday** from **11:00 AM–Noon**. Colloquia alternate between the following formats: (A) Full-length talk by a faculty member or invited speaker, (B) Three conference-length talks by graduate students. If you would like to nominate a speaker (including self), please email the ATOC Colloquium Committee Chair, Prof. Andrew Winters (andrew.c.winters@colorado.edu). Please visit www.colorado.edu/atoc/colloquium for further details.