Cristian Proistosescu

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Appointments and Education

- **University of Illinois at Urbana Champaign** Assistant Professor 2020-present
  Department of Atmospheric Sciences and Department of Geology
- **University of Washington.** 2017-2019
  Joint Institute for the Study of the Atmosphere and Ocean (JISAO).
  Mentors: Kyle Armour, Gerard Roe, David Battisti
- **Harvard University.** Ph.D**.,** Earth and Planetary Sciences 2017
  Adviser: Peter Huybers
- **Princeton University.** B.A., Physics 2009

Awards & Fellowships

- NASA New Investigator (Early Career) Award 2021
- Illinois Gies College of Business - Fellow of the Office of Risk Management & Insurance Research 2020
- JISAO postdoctoral fellowship. University of Washington 2017
- Summer Student Fellowship. Woods Hole Oceanographic Institution 2008
- International Physics Olympiad: Gold Medal and Bronze Medal 2005, 2004

Funding

- DOE - Regional and Global Model Analysis: *Bridging spatio-temporal scales to observationally constrain the cloud feedback pattern effect*. Lead PI. $626,756 ($320,146 to UIUC) 2021-
- NASA New (Early Career) Investigator Award: *Radiative feedbacks associated with ENSO variability and implications for the cloud-feedback pattern effect*. Single PI. $347,627. 2021-
- NSF - Paleo Perspectives on Climate Change (p2c2): *Collaborative research: Fingerprinting forced and unforced variability in Holocene paleoclimate record*. Lead PI. $775,980 ($303,806 to UIUC). 2021-
- NOAA OAR MAPP: *Process-level metrics for evaluating the realism of CMIP6 models' climate sensitivity based on multiple lines of observational evidence*. Co-PI. $71,273. 2020-
- NSF - Paleo Perspectives on Climate Change (p2c2): *Collaborative Research: Quantifying the sea-surface temperature pattern effect for LGM and Pliocene constraints on climate sensitivity*. Co-PI. $81,932. 2020-
- Gies College of Business - Office of Risk Management and Insurance. $20,000. 2020-2021

Publications:

Submitted:

Stout, R.C., Proistosescu, C. , Roe. G.,: Fingerprinting low-frequency Holocene temperature variability in forced and unforced climate models. *Journal of Climate, in review*

Published:

Wills, R. C., Dong, Y., Proistosecu, C., Armour, K. C., & Battisti, D. S. (2022). Systematic Climate Model Biases in the Large-Scale Patterns of Recent Sea-Surface Temperature and Sea-Level Pressure Change. *Geophysical Research Letters*, *49*(17), e2022GL100011

Huybers, P., Liautaud, P., Proistosescu, C., Boulahanis, B., Carbotte, S. M., Katz, R. F., & Langmuir, C. (2022). Influence of late Pleistocene sea-level variations on midocean ridge spacing in faulting simulations and a global analysis of bathymetry. *Proceedings of the National Academy of Sciences*, *119*(28), e2204761119, https://doi.org/10.1073/pnas.2204761119

Dvorak, M.T., Armour, K.C., Frierson, D.M.W., Proistosescu, C., Baker, M.B., & Smith, C.J., (2022). Estimating the timing of geophysical commitment to 1.5 and 2.0 °C of global warming. *Nat. Clim. Chang.* **12**, 547–552 (2022). https://doi.org/10.1038/s41558-022-01372-y

Dong, Y., Armour, K.C., Proistosescu, C., Andrews, T, Battisti, T.S., Forster, P.M., Paynter, D., Smith, C.J., Shiogama, H. (2021): Equilibrium Climate Sensitivity and Transient Climate Response biased low in historical simulations of CMIP6 models. *Geophysical Research Letters 48(24).* https://doi.org/10.1029/2021GL095778

*Albright, A. L., Proistosescu, C., & Huybers, P. (2021). Origins of a relatively tight lower bound on anthropogenic aerosol radiative forcing from Bayesian analysis of historical observations. *Journal of Climate, 34 (21)*. https://doi.org/10.1175/JCLI-D-21-0167.1

Wills, R. C. J., Armour, K. C., Battisti, D. S., Proistosescu, C., & Parsons, L. A. (2021). Slow Modes of Global Temperature Variability and Their Impact on Climate Sensitivity Estimates. *Journal of Climate, 34 (21)*. https://doi.org/10.1175/JCLI-D-20-1013.1

Sherwood, S. C., Webb, M. J., Annan, J. D., Armour, K. C., Forster, P. M., Hargreaves, J. C., Hegerl, G., Klein, S. A., Marvel, K. D., Rohling, E. J., Watanabe, M., Andrews, T., Braconnot, P., Bretherton, C. S., Foster, G. L., Hausfather, Z., Heydt, A. S., Knutti, R., Mauritsen, T., … Zelinka, M. D. (2020). An Assessment of Earth's Climate Sensitivity Using Multiple Lines of Evidence. *Reviews of Geophysics*, *58(4).* https://doi.org/10.1029/2019RG000678

Proistosescu, C., & Wagner, G. (2020). Uncertainties in Climate and Weather Extremes Increase the Cost of Carbon. *One Earth*, *2(6), 515–7.* https://doi.org/10.1016/j.oneear.2020.06.002

*Christian, J. E., Robel, A. A., Proistosescu, C., Roe, G., Koutnik, M., & Christianson, K. (2020). The contrasting response of outlet glaciers to interior and ocean forcing. *The Cryosphere*, *14*(7), 2515–2535. https://doi.org/10.5194/tc-14-2515-2020 (pdf)

Dong, Y., Armour, K. C., Zelinka, M. D., Proistosescu, C., Battisti, D. S., Zhou, C., & Andrews, T. (2020). Intermodel Spread in the Pattern Effect and Its Contribution to Climate Sensitivity in CMIP5 and CMIP6 Models. *Journal of Climate, 33(18), 7755–7775*. https://doi.org/10.1175/JCLI-D-19-1011.1 (pdf)

Parsons, L. A., Brennan, M. K., Wills, R. C. J., & Proistosescu, C. (2020). Magnitudes and Spatial Patterns of Interdecadal Temperature Variability in CMIP6. *Geophysical Research Letters*, *47*(7). https://doi.org/10.1029/2019GL086588(pdf)(supp)

Loeb, N. G., Wang, H., Allan, R. P., Andrews, T., Armour, K., Cole, J. N. S., Dufresne, J., Forster, P., Gettelman, A., Guo, H., Mauritsen, T., Ming, Y., Paynter, D., Proistosescu, C., Stuecker, M. F., Willén, U., & Wyser, K. (2020). New Generation of Climate Models Track Recent Unprecedented Changes in Earth's Radiation Budget Observed by CERES. *Geophysical Research Letters, 47(5).* https://doi.org/10.1029/2019GL086705 (pdf)

Stuecker, M. F., Timmermann, A., Jin, F.-F., Proistosescu, C., Kang, S. M., Kim, D., Yun, K.-S., Chung, E.-S., Chu, J.-E., Bitz, C. M., Armour, K. C., & Hayashi, M. (2020). Strong remote control of future equatorial warming by off-equatorial forcing. *Nature Climate Change*, *10*(2), *124–129*. https://doi.org/10.1038/s41558-019-0667-6 (pdf)(supp)

*Dong, Y., Proistosescu, C., Armour, K. C., & Battisti, D. S. (2019). Attributing Historical and Future Evolution of Radiative Feedbacks to Regional Warming Patterns using a Green's Function Approach: The Preeminence of the Western Pacific. *Journal of Climate, 32(17), 5471–5491*. https://doi.org/10.1175/JCLI-D-18-0843.1 (pdf)

Wills, R. C. J., Battisti, D. S., Proistosescu, C., Thompson, L., Hartmann, D. L., & Armour, K. C. (2019). Ocean Circulation Signatures of North Pacific Decadal Variability. *Geophysical Research Letters*, *46*(3), *1690–1701*. https://doi.org/10.1029/2018GL080716 (pdf) (supp)

Siler, N., Proistosescu, C., & Po-Chedley, S. (2019). Natural Variability Has Slowed the Decline in Western U.S. Snowpack Since the 1980s. *Geophysical Research Letters*, *46*(1), *346–355*. https://doi.org/10.1029/2018GL081080 (pdf) (supp)

Stuecker, M. F., Bitz, C. M., Armour, K. C., Proistosescu, C., Kang, S. M., Xie, S.-P., Kim, D., McGregor, S., Zhang, W., Zhao, S., Cai, W., Dong, Y., & Jin, F.-F. (2018). Polar amplification dominated by local forcing and feedbacks. *Nature Climate Change*, *8*(12), *1076–1081*. https://doi.org/10.1038/s41558-018-0339-y (pdf) (supp) (News and Views)

Po-Chedley, Stephen, P. M., Proistosescu, Cristian, C., Armour, Kyle C., M. S., & Santer, B. D. (2018). Climate constraint reflects forced signal. *Nature*, *563*, *E6–E8*. https://doi.org/10.1038/s41586-018-0640-y (pdf)

Proistosescu, C., Donohoe, A., Armour, K. C., Roe, G. H., Stuecker, M. F., & Bitz, C. M. (2018). Radiative Feedbacks From Stochastic Variability in Surface Temperature and Radiative Imbalance. *Geophysical Research Letters*, *45(10), 5082–5094*. https://doi.org/10.1029/2018GL077678 (pdf) (EOS highlight)

Proistosescu, C., & Huybers, P. J. (2017). Slow climate mode reconciles historical and model-based estimates of climate sensitivity. *Science Advances*, *3(7), e1602821*. https://doi.org/10.1126/sciadv.1602821 (pdf)(supp)

Huybers, P., Langmuir, C., Katz, R. F., Ferguson, D., Proistosescu, C., & Carbotte, S. (2016). Comment on "Sensitivity of seafloor bathymetry to climate-driven fluctuations in mid-ocean ridge magma supply." *Science*, *352*(6292*), 1405–1405*. https://doi.org/10.1126/science.aae0451 (pdf)

Proistosescu, C., Rhines, A., & Huybers, P. (2016). Identification and interpretation of nonnormality in atmospheric time series. *Geophysical Research Letters*, *43(10), 5425–5434*. https://doi.org/10.1002/2016GL068880 (pdf) (supp)

Proistosescu, C., Huybers, P., & Maloof, A. C. (2012). To tune or not to tune: Detecting orbital variability in Oligo-Miocene climate records. *Earth and Planetary Science Letters*, *325–326*, *100–107.* https://doi.org/10.1016/j.epsl.2012.01.022 (pdf)

Invited Presentations

- University of Illinois, Department of Agricultural and Consumer Economics, CREATE seminar, Urbana, IL, 2022
- University of California Los Angeles, Department of Atmospheric and Ocean Sciences Colloquium, Los Angeles, CA, 2022
- University of Chicago, Department of Geophysical Sciences Colloquium, Chicago, IL, 2022
- Florida State University, Department Earth, Ocean & Atmospheric Science Colloquium, Tallahassee, FL, 2021
- Texas A&M University, Atmospheric Sciences Department, College Station, TX, 2021
- National Center for Atmospheric Research, CGD Colloquium, Boulder, CO, 2021
- University of Reading, 2020
- ETH, Zurich, Switzerland, 2019
- Max Plank Institute for Meteorology, Hamburg, Germany, 2019
- Scripps Institute of Oceanography, La Jolla, CA, 2019
- University of Hawai'i, Department of Ocean Sciences Seminar, Honolulu, HI, 2019
- University of Wisconsin, AOS Department Seminar, Madison, WI, 2019
- American Physical Society March Meeting, Boston, MA, 2019
- University of Texas, deFord Lecture Series, Austin, TX, 2019
- University of British Columbia, EAOS Seminar, Vancouver, BC, 2019
- Stanford University, Atmosphere, Ocean, and Climate Dynamics Seminar, Palo Alto, CA 2018
- Lawrence Livermore National Laboratory, Livermore, CA, 2018
- Program on Climate Change Summer Institute, University of Washington, WA, 2018
- National Center for Atmospheric Research , Oceanography Seminar, Boulder, CO, 2018
- Princeton University, GEO/AOS/PEI Seminar, Princeton, NJ, 2018
- University of Washington, Atmospheric Sciences Colloquium, Seattle, WA, 2018
- University of Maryland, Baltimore County, Physics Colloquium, Baltimore, MD, 2018
- American Meteorological Society Annual Meeting, Austin, TX, 2018
- Harvard University, ClimaTea Seminar, Cambridge, MA, 2017
- PAGES CVAS Workshop, Potsdam, Germany, 2017
- University of Chicago, Department of Geophysical Sciences Seminar, Chicago, IL, 2016
- Woods Hole Oceanogr2aphic Institution, Palaeoclimate Seminar, Woods Hole, MA, 2012

Teaching

Primary Instructor:

- ATMS 140: Global and Environmental Change. UIUC, 2020,2022
- ATMS 507: Climate Dynamics. UIUC, 2021.
- GEOl 593 / ATMS 597: Statistical Inference and Machine Learning in Earth Sciences, UIUC, 2021.

Teaching Assistant:

- The Fluid Earth (undergraduate general education). Harvard University, 2014 & 2012
- Environmental Modeling (graduate). Teaching Fellow, Harvard University, 2013

- Statistics for Scientists and Engineers (mixed undergraduate and graduate). Harvard University, 2010
- Earth Surface Processes (mixed undergraduate and graduate). Teaching and Field Assistant, Princeton University, 2009
- Earth's Changing Surface and Climate (freshman seminar). Teaching and Field Assistant, Princeton University, 2008

Guest Lecturer:

- Exploring the Atmospheric Sciences (undergraduate). University of Washington 2018
- Future of Energy (undergraduate). University of Washington, 2018
- Climate and Climate Change (undergraduate). University of Washington, 2018
- JISAO Summer Undergraduate Intern Program. University of Washington, 2018
- Numerical Modelling (graduate). University of Washington, 2017

Service

- Co-organizer: Workshop on Climate Model Evaluation and Uncertainty, hosted by the Institute for Mathematical and Statistical Innovation. Chicago, 2022.
- Co-Chair: US Clivar Workshop on "The Pattern Effect: Coupling of SST Patterns, Radiative Feedbacks, and Climate Sensitivity", Boulder, 2022
- Diversity Equity and Inclusion (DEI) Committee: UIUC Department of Atmospheric Sciences
- Coordinated a workshop on 'Spatio-temporal structure of forced and unforced variability across the Holocene', as part of the PAGES working group on Climate Variability Across Scales (CVAS). University of Washington, 2019
- Session Convener: 'Mechanisms of low-frequency ocean-atmosphere variability and implications for Earth's energy budget'. AGU Fall meeting 2018.
- Session Convener: 'Relating the Internal Variability of Climate Systems and their Forced Responses'. AGU Fall meeting 2018
- Coordinated a workshop on "Using historical change and variability to predict future climate change", based on a grant from University of Washington's Program on Climate Change. University of Washington, 2018
- Organizing Committee: Atmospheric Sciences Departmental Colloquium, University of Washington, 2017-2018
- Organizing committee member and chair of the Palaeoclimate session, Graduate Climate Conference, Woods Hole, MA 2015
- Organizer: ClimaTea journal club, Harvard University 2013-2014
- Journal Reviewer: Journal of Climate; Geophysical Research Letters; Climate Dynamics; JGR Atmospheres; Quaternary Geochronology; International Journal of Geomathematics; Advances in Statistical Climatology, Meteorology and Oceanography (ASCMO); Geosciences Model Development (GMD); Nature Communications

Field Experience

- Juan de Fuca Ridge, R/V Atlantis. Part of the VOICE NSF Frontiers project, 2014
- White Sands, New Mexico. Field Teaching Assistant for Princeton University Advanced Course: Earth Surface Processes, 2009
- Owen's Valley California Field Teaching Assistant for Princeton University Freshman Seminar: Earth's Changing Surface and Climate 2008

- Andros Island, Bahamas: Tidal channel formation on a carbonate platform Field work with Prof. Adam Maloof, Princeton University, 2007

Academic Community Leadership

- Postdoctoral Working Group on preventing Discrimination and Harassment: helped develop contractual protections & workshops on preventing harassment and discrimination for postdocs. University of Washington, 2018 -2019
- Diversity and Inclusion Group (DIG): Atmospheric Sciences Department, University of Washington, 2017 -2019
- Postdoctoral Social Coordinator and Postdoc-Faculty Liaison, Atmospheric Sciences Department University of Washington, 2017-2018

Outreach

- Town hall discussions for ”Earth Week”, at Mihai Eminescu elementary & middle school Pitesti, Romania, 2018
- Interviewed for the Romanian news, answering questions on the Paris Agreement, impacts of climate change, extreme weather events. ProTV, Antena 1 evening news segments, Adevarul Newspaper, 2017-2018
- Participated in a Documentary on aridification of Southern Romania, talking about large scale climatic changes. Antena 1 TV station, Romania, 2017
- Designed and taught a public lecture series on “The Data Behind Climate Science”, aimed at the broader university and local communities. Cambridge, MA, 2015