

JOELLEN L. RUSSELL**PRESENT POSITION**

Thomas R. Brown Distinguished Chair of Integrative Science
 Professor, Departments of Geosciences, Planetary Sciences, Hydrology and Atmospheric Sciences, Mathematics
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CHRONOLOGY OF EDUCATION

- 1999 – Ph.D.** in Oceanography, Scripps Institution of Oceanography, University of California, San Diego.
 Dissertation title: *The Biogeochemistry of Southern Ocean Intermediate and Mode Waters*; Primary Advisor:
 Andrew G. Dickson
- 1993 – A.B.** in Environmental Geoscience, Department of Earth and Planetary Sciences, Harvard University.
 Thesis title: *Applying Geology to Atmospheric Research: Modern Analogs to Archean Paleosols*; Primary
 Advisor: H.D. Holland

CHRONOLOGY OF EMPLOYMENT

- 2019-present – Professor**, Departments of Geosciences, Planetary Sciences/Lunar and Planetary Laboratory,
 Hydrology and Atmospheric Sciences, Mathematics/Program in Applied Mathematics, University of Arizona
- 2012-2019 – Associate Professor**, Departments of Geosciences, Planetary Sciences, Lunar and Planetary
 Laboratory, and Hydrology and Atmospheric Sciences, University of Arizona.
- 2006-2012 – Assistant Professor**, Department of Geoscience, University of Arizona.
- 2002-2006 – Research Scientist**, Program in Atmospheric and Oceanic Sciences, Geosciences Department,
 Princeton University.
- 1999-2002 – Postdoctoral Research Associate**, Joint Institute for the Study of Atmosphere and Ocean,
 Department of Atmospheric Sciences, University of Washington.

PROFESSIONAL ACTIVITIES/AFFILIATIONS

- 2019-present – Chair**, NOAA Science Advisory Board, Climate Working Group
- 2019-present – Faculty Fellow** (Hosted by Honor's Village), University of Arizona
- 2019-present – Executive Committee Member**, Applied Mathematics Graduate Interdisciplinary Program,
 University of Arizona
- 2019-present – Faculty Member**, Program in Applied Mathematics, University of Arizona
- 2018-present – Faculty Member**, Department of Hydrology and Atmospheric Sciences, University of Arizona
- 2018 – Affiliate Member**, Applied Mathematics Graduate Interdisciplinary Program, University of Arizona
- 2018-present – Member**, University of Arizona Data Science Institute
- 2017-present – Member**, NCAR Community Earth System Model Advisory Board (CAB/CESM,
<http://www.cesm.ucar.edu/management/CAB/>)
- 2017-2019 – Chair**, NOAA Climate and Global Change Postdoctoral Fellowship Steering Committee
- 2016-2019 – Faculty Fellow** (Hosted by Student Engagement and Career Development), University of Arizona
- 2016-2019 – Member**, NOAA Science Advisory Board, Climate Working Group
- 2016-present – Associate Editor**, AGU journal, *Paleoceanography and Paleoclimatology*
- 2016 – Associate Department Head (interim)**, Department of Geosciences, University of Arizona
- 2015-2019 – Member**, NOAA Climate and Global Change Postdoctoral Fellowship Steering Committee
- 2014-present – Member**, U.S. Carbon Cycle Science Program's Carbon Cycle Scientific Steering Group (CCSSG)
<https://www.carboncyclescience.us/carbon-cycle-scientific-steering-group-ccssg>)
- 2014-2018 – Member**, CLIVAR/CliC/SCAR Southern Ocean Region Panel (<http://www.clivar.org/organization/southern>)
- 2013 – Visiting Scientist**, NOAA's Geophysical Fluid Dynamics Laboratory, Princeton, NJ
- 2013 – Visiting Fellow**, Princeton University, Princeton, NJ
- 2012-present – Faculty Member**, Department of Planetary Science, Lunar and Planetary Laboratory, University of
 Arizona

- 2012-present – Co-Lead**, International Council for Science (ICSU), Scientific Committee on Antarctic Research Planning Group: Antarctic Climate Change in the 21st Century (AntClim21)
- 2012-2015 – Co-Chair**, Southern Ocean Working Group, co-sponsored by US CLIVAR & OCB (<http://www.usclivar.org/working-groups/southern-ocean>)
- 2010-2014 – Member**, U.S. CLIVAR Office, Process Studies and Model Improvements Panel, (www.usclivar.org)
- 2010-present – Affiliate Member**, Global Change Graduate Interdisciplinary Program, University of Arizona

PROFESSIONAL SOCIETY MEMBERSHIPS

American Geophysical Union; American Meteorological Society

HONORS AND AWARDS

- 2021 – Fulbright U.S. Scholar**, National Institute of Water and Air, Wellington, New Zealand
- 2017-present** Thomas R. Brown Distinguished Chair of Integrative Science
- 2017 – Invited Union Session**, American Geophysical Union 2017 Fall Meeting, The Use of Humor in the Communication of Geophysical Science, New Orleans, LA (<https://youtu.be/4LqOhcJLU4o?t=1h8m>)
- 2015 – Invited Plenary**, Gordon Research Conference: Processes at Interfaces: Bridging Spatial, Temporal and Disciplinary Divides from Micro- to Global Scales, Holderness, NH
- 2014 – 1885 Society Distinguished Scholar Award**, University of Arizona
- 2014 – Invited Keynote**, Hedberg Conference on “Latitudinal Controls on Stratigraphic Models and Sedimentary Concepts”, Banff, Alberta.
- 2012-present** – Member, Gary Comer Foundation “Changelings” group
- 2011-2012 – Distinguished Lecturer**, American Association of Petroleum Geologists
- 2010 – Provost’s General Education Teaching Award**, University of Arizona
- 2009 – Invited Plenary**, ASLO Aquatic Sciences Meeting, Nice, France
- 1989-1993** – Radcliffe National Scholar, Harvard University, Cambridge, MA

PUBLICATIONS/CREATIVE ACTIVITY

In Progress

3. **Russell, J.L.**, Tapping the Deep Carbon Pool: The Potential for Upwelling of Old Pacific Deep Water in the Southern Ocean, *J. Climate* (in preparation)
2. **Russell, J.L.**, P.J. Goodman, R.L. Beadling, T.M. Kamulali, R.E. Marcelain, A.B. Prescott and S. Swierczek, 21st Century Climate Metrics for Coastal Antarctica: Under the Easterlies, *J. Climate*, (in preparation)
1. †Naiman, Z., A.S. Cohen, P.J. Goodman, J.P. Krasting, S.L. Malyshev, **J.L. Russell**, L. Sentman, R.J. Stouffer, and J. Yin: Response of East African climate to global climate changes in a family of Earth System Models, *J. Climate* (in revision)

Published/Accepted/Submitted

58. †Beadling, R.L., **J.L. Russell**, R.J. Stouffer, M. Mazloff, L.D. Talley, P.J. Goodman, J.B. Sallée, H.T. Hewitt, and P. Hyder, Representation of Southern Ocean properties across Coupled Model Intercomparison Project generations: CMIP3 to CMIP6, 2020: *J. Climate*, <https://doi.org/10.1175/JCLI-D-19-0970.1>
58. Zeng, X., R. Atlas, R.J. Birk, F.H. Carr, M.J. Carrier, L. Cucurull, W.H. Hooke, E. Kalnay, R. Murtugudde, D.J. Posselt, **J.L. Russell**, D.P. Tyndall, R.A. Weller, and F. Zhang, 2020: Use of Observing System Simulation Experiments in the U.S.. *Bull. Amer. Meteor. Soc.*, <https://doi.org/10.1175/BAMS-D-19-0155.1>
57. Eyring, V., L. Bock, A. Lauer, M. Righi, M. Schlund, B. Andela, E. Arnone, ... **J.L. Russell**, ... and K. Zimmermann, 2020: ESMValTool (v2.0) – Part 2: an extended set of large-scale diagnostics for quasi-operational and comprehensive evaluation of Earth system models in CMIP6, *Geoscientific Model Development*, <https://doi.org/10.5194/gmd-2019-291>
56. §Bronselaer, B., **J.L. Russell**, M. Winton, N.L. Williams, R.M. Key, J.P. Dunne, R.A. Feely, K.S. Johnson and J.L. Sarmiento, 2020: Importance of wind and meltwater for observed chemical and physical changes in the Southern Ocean, *Nature Geosciences*, **13**, 35-42. <https://doi.org/10.1038/s41561-019-0502-8>
55. Cohen, A., C. Campisano, J.R. Arrowsmith, A. Asrat, A.K. Behrensmeier, A. Deino, C. Feibel, A. Hill, R. Johnson, J. Kingston, H. Lamb, T. Lowenstein, A. Noren, D. Olago, R.B. Owen, R. Potts, K. Reed, R. Renaut,

- F. Schäbitz, J.-J. Tiercelin, M.H. Trauth, J. Wynn, S. Ivory, K. Brady, R. O'Grady, J. Rodysill, J. Githiri, J.L. Russell, V. Foerster, R. Dommair, J.S. Rucina, D. Deocampo, J.M. Russell, A. Billingsley, C. Beck, G. Dorenbeck, L. Dullo, D. Feary, D. Garello, R. Gromig, T. Johnson, A. Junginger, M. Karanja, E. Kimburi, A. Mbuthia, T. McCartney, E. McNulty, V. Muiruri, E. Nambiro, E.W. Negash, D. Njagi, J.N. Wilson, N. Rabideaux, T. Raub, M.J. Sier, P. Smith, J. Urban, M. Warren, M. Yadeta, C. Yost and B. Zinaye, 2019: The Hominin Sites and Paleolakes Drilling Project, in Postprints der Universität Potsdam: Mathematisch-Naturwissenschaftliche Reihe. <https://doi.org/10.25932/publishup-41249>
54. †Beadling, R.L., **J.L. Russell**, R.J. Stouffer, P.J. Goodman and M. Mazloff, 2019: Assessing the quality of Southern Ocean circulation in CMIP5 AOGCM and Earth System Model simulations, *J. Climate*, **32**, 5915-5940, <https://doi.org/10.1175/JCLI-D-19-0263.1>
53. Bracegirdle, T.J., F. Colleoni, N.J. Abram, N. Bertler, D.A. Dixon, M. England, V. Favier, C. Fogwill, J.C. Fyfe, I. Goodwin, H. Goosse, W. Hobbs, J.M. Jones, E.D. Keller, A. Khan, S.J. Phipps, M. Raphael, **J.L. Russell**, L. Sime, E.R. Thomas, M. van den Broeke and I. Wainer, 2019: Back to the Future: Using Long-Term Observational and Paleo-Proxy Reconstructions to Improve Model Projections of Antarctic Climate, *Geosciences*, **9**, 255, <https://doi.org/10.3390/geosciences9060255>
52. Chang, C.-C., G.S. Burr, A.J.T. Jull, **J.L. Russell**, A. Priyadarshi, M. Lin, M. Thiemens and D. Biddulph, 2019: Measurements of ¹²⁹I in the Pacific Ocean at Scripps Pier and Pacific Northwest sites: A search for effects from the 2011 Fukushima Daiichi Nuclear Power Plant accident and Hanford, *Science of the Total Environment*, **869**, 1023-1029, doi: 10.1016/j.scitotenv.2019.06.372
51. Eyring, V., P. Cox, G. Flato, P. Gleckler, G. Abramowitz, P. Caldwell, W. Collins, B. Gier, A. Hall, F. Hoffman, G. Hurtt, A. Jahn, C. Jones, S. Klein, J. Krasting, L. Kwiatkowski, R. Lorenz, E. Maloney, G. Meehl, A. Pendergrass, R. Pincus, A. Ruane, **J.L. Russell**, B. Sanderson, B. Santer, S. Sherwood, I. Simpson, R. Stouffer and M. Williamson, 2019: Taking climate model evaluation to the next level, *Nature Climate Change*, **9**, 102–110, <https://doi.org/10.1038/s41558-018-0355-y>
50. Huntzinger, D.N., A. Chatterjee, D.J.P. Moore, S. Ohrel, T.O. West, B. Poulter, A.P. Walker, J. Dunne, S.R. Cooley, A.M. Michalak, M. Tzortziou, L. Bruhwiler, A. Rosenblatt, Y. Luo, P. J. Marcotullio and **J.L. Russell**, 2018: Chapter 19: Future of the North American carbon cycle. In Second State of the Carbon Cycle Report (SOCCR2): A Sustained Assessment Report [Cavallaro, N., G. Shrestha, R. Birdsey, M.A. Mayes, R.G. Najjar, S.C. Reed, P. Romero-Lankao and Z. Zhu (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 760-809, <https://doi.org/10.7930/SOCCR2.2018.Ch19>
49. Fennel, K., S.R. Alin, L. Barbero, W. Evans, T. Bourgeois, S.R. Cooley, J. Dunne, R.A. Feely, J.M. Hernandez-Ayon, C. Hu, X. Hu, S.E. Lohrenz, F. Muller-Karger, R.G. Najjar, L. Robbins, **J.L. Russell**, E.H. Shadwick, S. Siedlecki, N. Steiner, D. Turk, P. Vlahos and Z.A. Wang, 2018: Chapter 16: Coastal ocean and continental shelves. In Second State of the Carbon Cycle Report (SOCCR2): A Sustained Assessment Report [Cavallaro, N., G. Shrestha, R. Birdsey, M.A. Mayes, R.G. Najjar, S.C. Reed, P. Romero-Lankao and Z. Zhu (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 649-688, <https://doi.org/10.7930/SOCCR2.2018.Ch16>
48. §Bronselaer, B., M. Winton, S.M. Griffies, W.J. Hurlin, K.B. Rodgers, O.V. Sergienko, R.J. Stouffer and **J.L. Russell**, 2018: Change in future climate due to freshwater from Antarctic ice melt, *Nature*, **564**, 53-58. <https://doi.org/10.1038/s41586-018-0712-z>
47. †Beadling, R.L., **J.L. Russell**, R.J. Stouffer and P.J. Goodman, 2018: Evaluation of subtropical North Atlantic ocean circulation in CMIP5 models against the observational array at 26.5°N and its changes under continued warming, *J. Climate*, **31**, 9697–9718, <https://doi.org/10.1175/JCLI-D-17-0845.1>
46. Gray, A.R., K.S. Johnson, S.M. Bushinsky, S.C. Riser, **J.L. Russell**, L.D. Talley, R. Wanninkhof, N.L. Williams and J.L. Sarmiento, 2018: Autonomous Biogeochemical Floats Detect Significant Carbon Dioxide Outgassing in the High-Latitude Southern Ocean, *Geophysical Research Letters*, **45**. <https://doi.org/10.1029/2018GL078013>
45. Khan, A.L., T.J. Bracegirdle and **J.L. Russell**, 2018: Can we crack the climate code of the southern polar region?, *Eos*, **99**, <https://doi.org/10.1029/2018EO100467>
44. ‡Williams, N.L., L.W. Juranek, R.A. Feely, **J.L. Russell**, K.S. Johnson and B. Hales, 2018: Assessment of the carbonate chemistry seasonal cycles in the Southern Ocean from persistent observational platforms, *J. Geophysical Research: Oceans*, **123**, 4833–4852. <https://doi.org/10.1029/2017JC012917>

43. **Russell, J.L.**, 2018: Ocean sensors can track progress on climate goals, *Nature*, **555**, 287.
<https://doi.org/10.1038/d41586-018-03068-w>
42. **Russell, J.L.**, I. Kamenkovich, C. Bitz, R. Ferrari, S.T. Gille, P.J. Goodman, R. Hallberg, K. Khazmutdinova, K. Johnson, I. Marinov, M. Mazloff, J.L. Sarmiento, K. Speer, L.D. Talley, and R. Wanninkhof, 2018: Metrics for the Evaluation of the Southern Ocean in Coupled Climate and Earth System Models, *J. Geophysical Research – Oceans*, **123**, 3120-3143. <https://doi.org/10.1002/2017JC013461>
41. §Bronse laer, B., M. Winton, **J.L. Russell**, C.L. Sabine and S. Khatiwala, 2017: Agreement of CMIP5 simulated and observed ocean anthropogenic CO₂ uptake, *Geophysical Research Letters*, **44**, 12,298–12,305.
<https://doi.org/10.1002/2017GL074435>
40. †Naiman, Z., P.J. Goodman, J.P. Krasting, S.L. Malyshev, **J.L. Russell**, R.J. Stouffer, and A.T. Wittenberg, 2017: Impact of Mountains on Tropical Circulation in Two Earth System Models. *J. Climate*, **30**, 4149–4163,
<https://doi.org/10.1175/JCLI-D-16-0512.1>
39. Campisano, C.J., A.S. Cohen, J.R. Arrowsmith, A. Asrat, A.K. Behrensmeier, E.T. Brown, A.L. Deino, D.M. Deocampo, C.S. Feibel, J.D. Kingston, H.F. Lamb, T.K. Lowenstein, A. Noren, D.O. Olago, R.B. Owen, J.D. Pelletier, R. Potts, K.E. Reed, R.W. Renaut, J.M. Russell, **J.L. Russell**, F. Schäbitz, J.R. Stone, M.H. Trauth and J.G. Wynn, 2017: The Hominin Sites and Paleolakes Drilling Project: High-Resolution Paleoclimate Records from the East African Rift System and Their Implications for Understanding the Environmental Context of Hominin Evolution, *Paleoanthropology*, **2017**, 1-43, doi: 10.4207/PA.2017.ART104
38. ‡Williams, N.L., L.W. Juranek, R.A. Feely, K.S. Johnson, J.L. Sarmiento, L.D. Talley, A.G. Dickson, A.R. Gray, R. Wanninkhof, **J.L. Russell**, S.C. Riser, and Y. Takeshita, 2017: Calculating surface ocean pCO₂ from biogeochemical Argo floats equipped with pH: an uncertainty analysis, *Global Biogeochemical Cycles*, **31**, DOI: 10.1002/2016GB005541
37. †Chang, C.-C., G.S. Burr, A.J.T. Jull, **J.L. Russell**, D. Biddulph, L. White, N.G. Prouty, Y.-G. Chen, C.-C. Shen, W. Zhou and D.D. Lam, 2016: Reconstructing Surface Ocean circulation with ¹²⁹I time series records from corals, *J. Environmental Radioactivity*, **165**, 144-150, <http://dx.doi.org/10.1016/j.jenvrad.2016.09.016>
36. ‡Williams, N.L., L.W. Juranek, K.S. Johnson, R.A. Feely, S.C. Riser, L.D. Talley, **J.L. Russell**, J.L. Sarmiento, and R. Wanninkhof, 2016: Empirical algorithms to estimate water column pH in the Southern Ocean, *Geophys. Res. Lett.*, **43**, doi:10.1002/2016GL068539.
35. Cohen, A., C. Campisano, R. Arrowsmith, A. Asrat, A.K. Behrensmeier, A. Deino, C. Feibel, A. Hill, R. Johnson, J. Kingston, H. Lamb, T. Lowenstein, A. Noren, D. Olago, R.B. Owen, R. Potts, K. Reed, R. Renaut, F. Schäbitz, J.-J. Tiercelin, M. Trauth, J. Wynn, S. Ivory, K. Brady, R. O’Grady, J. Rodysill, J. Githiri, **J.L. Russell**, V. Foerster, R. Dommoin, S. Rucina, D. Deocampo, J.M. Russell, A. Billingsley, C. Beck, G. Dorenbeck, L. Dullo, D. Feary, D. Garello, R. Groming, T. Johnson, A. Junginger, M. Karanja, E. Kimburi, A. Mbuthia, T. McCartney, E. McNulty, V. Muiruri, E. Nambiro, E.W. Negash, D. Njagi, J.N. Wilson, N. Rabideaux, T. Raub, M. Sier, P. Smith, J. Urban, M. Warren, M. Yadeta, C. Yost and B. Zinaye, 2016: The Hominin Sites and Paleolakes Drilling Project: Inferring the Environmental Context of Human Evolution from Eastern African Rift Lake Deposits, *Scientific Drilling*, **21**, 1–16, doi:10.5194/sd-21-1-2016.
34. ‡Williams, N.L., R.A. Feely, C.L. Sabine, A.G. Dickson, J.H. Swift, L.D. Talley and **J.L. Russell**, 2015: Quantifying Anthropogenic Carbon Inventory Changes in the Pacific Sector of the Southern Ocean, *Marine Chemistry*, **174**, 147-160. doi:10.1016/j.marchem.2015.06.015
33. Kapp, P., A. Pullen, J.D. Pelletier, **J.L. Russell**, P.J. Goodman and F. Cai, 2015: From dust to dust: Quaternary wind erosion of the Mu Us Desert and Loess Plateau, China, *Geology*, G36724.1, doi:10.1130/G36724.1
32. Mayewski, P.A., T.J. Bracegirdle, I. Goodwin, D. Schneider, N. Bertler, S. Birkel, A. Carleton, M.H. England, J.-H. Kang, A. Khan, **J.L. Russell**, J. Turner and I. Velicogna, Potential for Southern Hemisphere Climate Surprises, 2015: *Journal of Quaternary Sciences*, **30**, 391-395, doi: 10.1002/jqs.2794
31. Bracegirdle, T.J., N. Bertler, A.M. Carleton, Q. Ding, C.J. Fogwill, J.C. Fyfe, H.H. Hellmer, A.Y. Karpechko, K. Kusahara, E. Larour, P.A. Mayewski, W.N. Meier, L.M. Polvani, **J.L. Russell**, S.L. Stevenson, J. Turner, J.M. van Wessem, W.J. van de Berg, I. Wainer, 2016: A Multi-disciplinary Perspective On Climate Model Evaluation For Antarctica, *Bulletin of the American Meteorological Society*, doi: 10.1175/BAMS-D-15-00108.1
30. Downes, S.M., W. Weijer, N. Jeffery, M. Mazloff and **J.L. Russell**, 2015: Southern Ocean Dynamics and Biogeochemistry in a Changing Climate: Introduction and Overview, *Deep-Sea Research II*, **114**, 1-2,

doi:10.1016/j.dsr2.2015.02.013.

29. †Lora, J.M., J.I. Lunine and **J.L. Russell**, 2015: GCM Simulations of Titan's Middle and Lower Atmosphere and Comparison to Observations, *Icarus*, **250**, 516-528, doi:10.1016/j.icarus.2014.12.030.
28. Carrapa, B., F.S. Mustapha, M. Cosca, G. Gehrels, L.M. Schoenbohm, E.R. Sobel, P.G. DeCelles, **J.L. Russell** and P.J. Goodman, 2014: Multisystem dating of modern river detritus from Tajikistan and China: Implications for crustal evolution and exhumation of the Pamir, *Lithosphere*, **6**, 443-455, doi:10.1130/L360.1.
27. †Lora, J.M., J.I. Lunine, **J.L. Russell** and A.G. Hayes, 2014: Simulations of Titan's Paleoclimate, *Icarus*, **243**, 264-273, doi:10.1016/j.icarus.2014.08.042.
26. †Ivory, S.J. **J.L. Russell** and A.S. Cohen, 2013: In the hot seat: Insolation, ENSO, and vegetation in the African tropics, *Journal of Geophysical Research – Biogeosciences*, **118**, 1347-1358. doi:10.1002/jgrg.20115.
25. Cayan, D., M. Tyree, K. E. Kunkel, C. Castro, A. Gershunov, J. Barsugli, A. J. Ray, J. Overpeck, M. Anderson, **J. Russell**, B. Rajagopalan, I. Rangwala, and P. Duffy, 2013: "Future Climate: Projected Average." In *Assessment of Climate Change in the Southwest United States: A Report Prepared for the National Climate Assessment*, edited by G. Garfin, A. Jardine, R. Merideth, M. Black, and S. LeRoy, 101–125. A report by the Southwest Climate Alliance. Washington, DC: Island Press.
24. †McAfee, S.A, **J.L. Russell** and R.S. Webb, 2012: Influence of bias correction on simulated landcover changes, *Geophysical Research Letters*, **39**, L16702, doi:10.1029/2012GL052808.
23. ‡Blome, M.W., A.S. Cohen, C.A. Tryon, A.S. Brooks and **J.L. Russell**, 2012: The environmental context for the origins of modern human diversity: A synthesis of regional variability in African climate 150,000-30,000 years ago, *Journal of Human Evolution*, **62(5)**, 563-592, doi:10.1016/j.jhevol.2012.01.011.
22. †McAfee, S.A, **J.L. Russell** and P.J. Goodman, 2011: Evaluating IPCC AR4 Cool-Season Precipitation Simulations And Projections For Impacts Assessment Over North America, *Climate Dynamics*, **37**, 2271-2287, DOI: 10.1007/s00382-011-1136-8.
21. †Lora, J., P. Goodman, **J. Russell** and J. Lunine, 2011: Insolation in Titan's Troposphere, *Icarus*, **216**, 116-119, doi:10.1016/j.icarus.2011.08.017.
20. Yin, J., J.T. Overpeck, S.M. Griffies, A. Hu, **J.L. Russell** and R.J. Stouffer, 2011: Different magnitudes of projected subsurface ocean warming around Greenland and Antarctica, *Nature Geoscience*, **4**, 524–528, doi:10.1038/ngeo1189.
19. Kapp, P., J.D. Pelletier, A. Rohrmann, R. Heermance, **J.L. Russell** and L. Ding, 2011: Wind erosion in the Qaidam Basin, Central Asia: Implications for tectonics, paleoclimate and the source of the Loess Plateau, *GSA Today*, **21(4/5)**, 4-10. [doi: 10.1130/GSATG99A.1]
18. Blight, L.K., D.G. Ainley, S.F. Ackley, G. Ballard, T. Ballerini, R.L. Brownell Jr., C.-H. C. Cheng, M. Chiantore, D. Costa, M.C. Coulter, P. Dayton, A.L. Devries, R. Dunbar, S. Earle, J.T. Eastman, S.D. Emslie, C.W. Evans, R.A. Garrott, S. Kim, G. Kooyman, A. Lescroël, M. Lizotte, M. Massaro, S. Olmastroni, P.J. Ponganis, **J.L. Russell**, D.B. Siniff, W.O. Smith Jr., B.S. Stewart, I. Stirling, J. Willis, P. Wilson, E.J. Woehler, 2010: Fishing for Data in the Ross Sea. *Science*, **330 (6009)**, 1316. [DOI:10.1126/science.330.6009.1316]
17. Ainley, D., **J.L. Russell**, S. Jenouvrier, E. Woehler, P. O'B. Lyver, W.R. Fraser, and G.L. Kooyman, 2010: Antarctic Penguin Response to Habitat Changes as Earth's Troposphere Reaches 2°C Above Pre-Industrial Levels. *Ecological Monographs*, **80(1)**, pp. 49–66.
16. Woodhouse, C.A., **J.L. Russell** and E.R. Cook, 2009: Two Modes of North American Drought from Instrumental and Paleoclimatic Data. *J. Climate*, **22(16)**, 4336-4347. <https://doi.org/10.1175/2009JCLI2705.1>
15. †McAfee, S.A. and **J.L. Russell**, 2008: Northern Annular Mode impact on spring climate in the western United States. *Geophys. Res. Lett.*, **35**, L17701, doi:10.1029/2008GL034828.
14. Toggweiler, J.R., and **J.L. Russell**, 2008: Ocean circulation in a warming climate. *Nature*, **451**, 286-288. <https://doi.org/10.1038/nature06590>
13. **Russell, J.L.**, R.J. Souffer, and K.W. Dixon, 2007: Corrigendum. *J. Climate*, **20(16)**, 4287. <https://doi.org/10.1175/JCLI4326.1>
12. deBoer, A.M., D.M. Sigman, J.R. Toggweiler, and **J.L. Russell**, 2007: The effect of global ocean temperature change on deep ocean ventilation. *Paleoceanography*, **22**, PA2210, doi:10.1029/2005PA001242.
11. Gnanadesikan, A., **J.L. Russell**, and F. Zeng, 2007: How does ocean ventilation change under global warming? *Ocean Science*, **3**, 43-53.

10. **Russell, J.L.**, K.W. Dixon, A. Gnanadesikan, R.J. Stouffer, and J.R. Toggweiler, 2006: The Southern Hemisphere Westerlies in a Warming World: Propping Open the Door to the Deep Ocean. *J. Climate*, **19(24)**, 6382-6390. <https://doi.org/10.1175/JCLI3984.1>
9. Stouffer, R.J., **J.L. Russell**, and M.J. Spelman, 2006: Importance of Oceanic Heat Uptake in Transient Climate Change. *Geophys. Res. Lett.*, **33**, L17704, doi:10.1029/2006GL027242.
8. **Russell, J.L.**, R.J. Stouffer, and K.W. Dixon, 2006: Intercomparison of the Southern Ocean Circulations in the IPCC Coupled Model Control Simulations. *J. Climate*, **19(18)**, 4560-4575. <https://doi.org/10.1175/JCLI3869.1>
7. Toggweiler, J.R., **J.L. Russell**, and S.R. Carson, 2006: Midlatitude westerlies, atmospheric CO₂, and climate change during the ice ages. *Paleoceanography*, **21**, PA2005, doi:10.1029/2005PA001154.
6. Gnanadesikan, A., K.W. Dixon, S.M. Griffies, V. Balaji, M. Barreiro, J.A. Beesley, W.F. Cooke, T.L. Delworth, R. Gerdes, M.J. Harrison, I.M. Held, W. Hurlin, H-C. Lee, Z. Liang, G. Nong, R. Pacanowski, A. Rosati, **J.L. Russell**, B.L. Samuels, Q. Song, M.J. Spelman, R.J. Stouffer, C.O. Sweeney, G. Vecchi, M. Winton, A.T. Wittenberg, F. Zeng, R. Zhang, and J.P. Dunne, 2006: GFDL's CM2 Global Coupled Climate Models. Part 2: The baseline ocean simulation. *J. Climate*, **19(5)**, 675-697.
5. Delworth, T.L., A.J. Broccoli, A. Rosati, R.J. Stouffer, V. Balaji, J.A. Beesley, W.F. Cooke, K.W. Dixon, J. Dunne, K.A. Dunne, J.W. Durachta, K.L. Findell, P. Ginoux, A. Gnanadesikan, C.T. Gordon, S.M. Griffies, R. Gudgel, M.J. Harrison, I.M. Held, R.S. Hemler, L.W. Horowitz, S.A. Klein, T.R. Knutson, P.J. Kushner, A.R. Langenhorst, H-C. Lee, S-J. Lin, J. Lu, S.L. Malyshev, P.C.D. Milly, V. Ramaswamy, **J.L. Russell**, E. Shevliakova, M.D. Schwarzkopf, J.J. Sirutis, M.J. Spelman, W.F. Stern, M. Winton, A.T. Wittenberg, B. Wyman, F. Zeng, and R. Zhang, 2006: GFDL's CM2 Global Coupled Climate Models. Part I: Formulation and simulation characteristics. *J. Climate*, **19(5)**, 643-674.
4. Griffies, S.M., A. Gnanadesikan, K.W. Dixon, J.P. Dunne, R. Gerdes, M.J. Harrison, A. Rosati, **J.L. Russell**, B.L. Samuels, M.J. Spelman, M. Winton, and R. Zhang, 2005: Formulation of an Ocean Model for Global Climate Simulations. *Ocean Science*, **1**, 45-79.
3. **Russell, J.L.**, and J.M. Wallace, 2004: Annual carbon dioxide drawdown and the Northern Annular Mode, *Global Biogeochem. Cycles*, **18**, GB1012, doi:10.1029/2003GB002044.
2. ***Russell, J.L.**, and A.G. Dickson, 2003: Variability in oxygen and nutrients in South Pacific Antarctic Intermediate Water, *Global Biogeochem. Cycles*, **17(2)**, 1033, doi:10.1029/2000GB001317.
1. *Hine, A.C., D.A. Feary, M.J. Malone, and the Leg 182 Shipboard Party (M. Andres, C. Betzler, G.R. Brooks, C.A. Brunner, M.D. Fuller, A.E. Holbourn, M. Huuse, A.R. Isern, N.P. James, B.C. Ladner, Q. Li, H. Machiyama, D.J. Mallinson, H. Matsuda, R.M. Mitterer, R.S. Molina, C. Robin, **J.L. Russell**, S. Shafik, J.A. Simo, P.L. Smart, G.H. Spence, F.C. Surlyk, P.K. Swart, and U.G. Wortmann), 1999: Research in the Great Australian Bight Yields Exciting Early Results. *EOS Transactions*, AGU, 80, #44, Nov. 2, 1999, pp. 521, 525-526. <https://doi.org/10.1029/EO080i044p00521-01>

*Publication is based largely on work done as a graduate student

†Publication's first author is a current or former graduate student advisee

‡Publication's first author was a graduate student at the time of publication

§Publication's first author is a current or former post-doctoral advisee

Other Publications: Not Peer-Reviewed

11. Biogeochemical-Argo Planning Group. 2016. The scientific rationale, design and Implementation Plan for a Biogeochemical-Argo float array. Edited by Ken Johnson and Hervé Claustre. doi:10.13155/46601 (Available at: http://biogeochemical-argo.org/cloud/document/science-implementation-plan/BGC-Argo_Science_Implementation_Plan.pdf)
10. Wanninkhof, R., K. Johnson, N. Williams, J. Sarmiento, S. Riser, E. Briggs, S. Bushinsky, B. Carter, A. Dickson, R. Feely, A. Gray, L. Juraneck, R. Key, L. Talley, **J. Russell**, and A. Verdy, 2016: An evaluation of pH and NO₃ sensor data from SOCCOM floats and their utilization to develop ocean inorganic carbon products. SOCCOM Carbon System Working Group white paper, (Available at https://socc.com.princeton.edu/sites/default/files/files/CWG_white_paper_March_13_2016.pdf).
- *9. **Russell, J.**, and I. Kamenkovich (eds), 2015: The Southern Ocean's Role in Climate. *Variations: A joint US CLIVAR & OCB Newsletter*, **13(4)**, 32pp. (Available at:

- http://usclivar.org/sites/default/files/documents/2015/Variations2015Fall_0.pdf).
- *8. **Russell, J.L.**, and I. Kamenkovich, 2015: Biogeochemical metrics for the evaluation of the Southern Ocean in Earth system models. In *Variations: A joint US CLIVAR & OCB Newsletter*, **13(4)**, 26-31. (Available at: http://usclivar.org/sites/default/files/documents/2015/Variations2015Fall_0.pdf).
 - *7. **Russell, J.**, H. Benway, A. Bracco, C. Deutsch, T. Ito, I. Kamenkovich, and M. Patterson, 2015: Ocean's Carbon and Heat Uptake: Uncertainties and Metrics. US CLIVAR Report 2015-3, 33pp. (available at: https://usclivar.org/sites/default/files/documents/2015/SO-OCU-Workshop-Report-final_0.pdf)
 - *6. **Russell, J.**, J. Sarmiento, H. Cullen, R. Hotinski, K. Johnson, S. Riser and L. Talley, 2014: The Southern Ocean Carbon and Climate Observations and Modeling Program (SOCCOM), Ocean Carbon and Biogeochemistry News, 7(2) (available at: http://us-ocb.org/publications/OCB_NEWS_FALL14.pdf)
 - *5. Deutsch C., E. Hofmann, T. Ito, N. Lovenduski, **J. Russell**, J. Sarmiento, W. Smith and P. Strutton, 2010: A U.S. Southern Ocean Carbon, Ecosystems and Biogeochemistry Science Plan: A report of the Southern Ocean Scoping Workshop sponsored by the Ocean Carbon and Biogeochemistry Program and the NSF Office of Polar Programs (available online at: https://www.us-ocb.org/wp-content/uploads/sites/43/2017/01/SOWorkshop_Report_FINAL.pdf)
 - 4. Ainley, D., **J. Russell** and S. Jenouvrier, 2009: 2° is Too Much! Impacts of 2 degrees Celsius global warming on Antarctic Penguins, World Wildlife Fund, 8pp. (available online at: <http://www.wwf.org.au/ArticleDocuments/353/pub-2degrees-is-too-much-2apr09.pdf.aspx>)
 - 3. Tynan, C.T. and **J.L. Russell**, 2008: Icebreaker: Pushing the Boundaries for Whales: Impacts of a 2°C global warming on Southern Ocean whales, World Wildlife Fund, 10pp. (available online at: <http://www.wwf.org.au/ArticleDocuments/353/pub-ice-breaker-20jun08.pdf.aspx>)
 - 2. Tynan, C.T. and **J.L. Russell**, 2008: Assessing the impacts of future 2°C global warming on Southern Ocean cetaceans. International Whaling Commission, Scientific Committee document SC/60/E3 (http://wwf.panda.org/what_we_do/endangered_species/cetaceans/cetaceans/iwc/commission_meetings/2008_santiago_chile/index.cfm, http://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_russell30may08_tynan.pdf)
 - 1. Ainley, D., **J. Russell** and S. Jenouvrier, 2008: The Fate Of Antarctic Penguins When Earth's Tropospheric Temperature Reaches 2°C Above Pre-Industrial Levels, World Wildlife Fund, 35pp. (available online at: http://assets.panda.org/downloads/wwf_climate_penguins_final_1.pdf)

GRANTS AND CONTRACTS (Current, Pending & Completed)

- 24. **03/01/2021-02/29/2024** (Pending) Co-principal Investigator, NSF (EAR) “Collaborative Research: Conservation paleolimnology in the African Tropics: Using ancient sedimentary records to assess the response of aquatic food webs to environmental change”
- 24. **10/01/2020-09/30/2022** (Pending) Co-principal Investigator, NSF (NNA) “Collaborative Research: NNA Track 2: Designing a multiscale physics–indigenous knowledge model to predict Arctic coastal environmental change and its impact over the next century”; \$7,844 (UA Portion)
- 23. **09/01/2020-08/31/2023** Co-Principal Investigator, NSF (EAR) “Collaborative Research: Timing of the Termination in Southernmost South America”; \$31,188 (UA portion); 0.25 summer months; Effort: 2%
- 22. **09/01/2020-08/31/2024** Co-Investigator, NSF (PLR, subaward through Princeton University) “Southern Ocean Carbon and Climate Observations and Modeling II (SOCCOM2)”; \$923,000 (UA, ~\$11M total).
- 21. **03/01/2020-02/28/2021** Principal Investigator, Global Climate Change Foundation “Big Winds, Big Ice”; \$30,000.
- 20. **09/01/2019-08/31/2021** Co-Principal Investigator, UofA Faculty Seed Grant, “Thermal and topographic control on the midlatitude atmospheric circulation”, \$15,000. (Details approximate – need to be finalized ASAP)
- 19. **09/01/2019-08/31/2022** Co-Principal Investigator, NSF (EAR) “Collaborative Research: Reconstructing Holocene Climate Change in the Southern Hemisphere from Southern Alps Mountain Glaciers and Tree Rings”; \$47,244 (UA portion); 0.50 summer months; Effort: 4%
- 18. **07/01/2017-06/30/2024** Partner Investigator, ARC Centre of Excellence for Climate Extremes, \$30,050,000, (see <http://climateextremes.org.au/partner-investigators/>)
- 17. **09/01/2015-08/31/2019** Principal Investigator, EPA – STAR Fellowship Award, “Uncertainty for America's Coast's: The Future Evolution of the Atlantic Meridional Overturning Circulation”, \$51,000.
- 16. **09/30/2014-09/30/2016** Principal Investigator, Amazon Web Services Climate Grant Award, \$15,000 and 4M core-hours.

15. **09/01/2014-08/31/2020** Co-Investigator, NSF (PLR, subaward through Princeton University) “Southern Ocean Carbon and Climate Observations and Modeling (SOCCOM)”;
14. **12/20/2013-06/30/2014** Principal Investigator, University of Arizona, Online Education Project, “Hybrid Course Development for GEOS212: Introduction to Oceanography”;
13. **09/01/2013-08/31/2019** Co-Principal Investigator, NSF (EAR) “FESD Type I: Earth System Dynamics and its Role in Human Evolution in Africa”;
12. **08/15/2013-07/31/16** Principal Investigator, NSF (PLR) “The Southern Ocean in a Warming World: Winds, Carbon and Heat”;
11. **07/01/2013-06/30/2016** Co-Investigator, Arizona Board of Regents, Regents Innovation Fund “A State-wide Research Initiative in Environmental Informatics: Arizona Environmental Grid Infrastructure Service (AEGIS)”;
10. **07/01/2012-06/30/2020** Co-Principal Investigator, Scientific Committee on Antarctic Research (SCAR) “Antarctic Climate Change in the 21st Century (AntClim²¹)”;
9. **09/01/12-08/31/14**, Principal Investigator, NASA – NESSF, “Modeling Titan's Atmospheric Dynamics and their Interaction with Methane”;
8. **06/01/2012-05/31/2015** Principal Investigator, NSF (AGS) “Collaborative Research: P2C2 – Tracking Long-Term Glacial-Interglacial Wind Pattern Variability In Central Asia Using Geochemical Analysis Of Aerosol Derived Detritus”;
7. **09/01/2010-08/31/2013** COSA2, (DeCelles PI, many other co-PIs in Department of Geosciences), ExxonMobil,
6. **01/25/2010-01/30/2010** Junior Faculty Conference Grant, Travel Expenses to 2009 ASLO (Advancing the Science of Limnology and Oceanography) Aquatic Sciences Meeting in Nice, France. \$900.
5. **09/01/2008-08/31/2011** Consultant, NSF Coupled Natural-Human Systems Initiative (NSF 07-598), “Collaborative Research: Urban Vulnerability to Climate Change: A System Dynamics Analysis.”
4. **09/01/2007-08/31/2012** Collaborator, NSF Amazon PIRE, “Partnership for International Research and Education in Amazon-Climate Interactions.”
3. **06/01/2007-05/31/2010** Convergent Orogenic Systems Analysis, (COSA, DeCelles PI, many other co-PIs in Department of Geosciences), ExxonMobil,
2. **05/01/2007-04/30/2012** Principal Investigator, NOAA Office of Global Programs, “A climate process team on Southern Ocean water mass transformation and the carbon cycle.”
1. **07/01/2005-06/30/2008** Principal Investigator, NOAA Office of Global Programs (GC05-146), “Optimal network design to detect spatial patterns and variability of ocean carbon sources and sinks from underway surface CO₂ measurements.”

TEACHING (6918 students total enrollment)

Semester	Course	Title	Enrollment
2020/Spring	HNRS195I	Future Oceans	21
2019/Fall	GEOS212-1	Introduction to Oceanography (w/ P. Goodman)	364
2019/Fall	GEOS212-2	Introduction to Oceanography: Honors	26
2019/Fall	GEOS212-3	Introduction to Oceanography: <i>Hybrid/Online</i> (w/ P. Goodman)	236
2019/Fall	GEOS212-4	Introduction to Oceanography: Honors <i>Hybrid/Online</i>	1
2019/Fall	GEOS397A	Teaching Geosciences	26
2019/Fall	GEOS478/578	Global Change (w/ P. Goodman)	41
2019/Spring	GEOS596H	Climate Hack – Ocean, Atmosphere and Climate Analysis	5
2019/Spring	HNRS195I	Ocean’s Role in Future Climate	19
2018/Fall	GEOS212-1	Introduction to Oceanography	338
2018/Fall	GEOS212-2	Introduction to Oceanography: Honors	19
2018/Fall	GEOS212-3	Introduction to Oceanography: <i>Hybrid/Online</i>	384
2018/Fall	GEOS397A	Teaching Geosciences	19
2018/Fall	GEOS478/578	Global Change (with S. Saleska)	38
2018/Spring	HNRS195I	Ocean’s Role in Future Climate	17
2017/Fall	GEOS212-1	Introduction to Oceanography	540

2017/Fall	GEOS212-2	Introduction to Oceanography: Honors	33
2017/Fall	GEOS212-3	Introduction to Oceanography: <i>Hybrid/Online</i>	291
2017/Fall	GEOS397A	Teaching Geosciences	29
2017/Spring	GEOS596H	Ocean's Role in Climate	5
2016/Fall	GEOS212-1	Introduction to Oceanography	546
2016/Fall	GEOS212-2	Introduction to Oceanography: Honors	29
2016/Fall	GEOS212-3	Introduction to Oceanography: <i>Hybrid/Online</i>	205
2016/Fall	GEOS397A	Teaching Geosciences	26
2016/Spring	GEOG/GEOS547	Global and Regional Climatology (with K. Hirschboeck)	12
2015/Fall	GEOS212-1	Introduction to Oceanography	555
2015/Fall	GEOS212-2	Introduction to Oceanography: Honors	26
2015/Fall	GEOS397A	Teaching Geosciences	26
2015/Spring	GEOS596H	Ocean's Role in Climate: Physical and Chemical Oceanography	11
2014/Fall	GEOS212-1	Introduction to Oceanography	350
2014/Fall	GEOS212-2	Introduction to Oceanography: Honors	26
2014/Fall	GEOS397A	Teaching Geosciences	26
2014/Spring	GEOG/GEOS547	Global and Regional Climatology (with K. Hirschboeck)	12
2013/Fall	GEOS212-1	Introduction to Oceanography	351
2013/Fall	GEOS212-2	Introduction to Oceanography: Honors	24
2013/Fall	GEOS397A	Teaching Geosciences	24
2012/Fall	GEOS396H	Honors Seminar: The Ocean's Role in Climate	3
2012/Fall	GEOS212-1	Introduction to Oceanography	341
2012/Fall	GEOS212-2	Introduction to Oceanography: Honors	35
2012/Fall	GEOS397A	Teaching Geosciences	35
2012/Spring	GEOG/GEOS547	Global and Regional Climatology (with K. Hirschboeck)	12
2011/Fall	GEOS596H	Climate and Tectonics (with B. Carrapa)	9
2011/Fall	GEOS479/579	Introduction to Climate Dynamics (with J. Yin)	7
2011/Fall	GEOS212-1	Introduction to Oceanography	369
2011/Fall	GEOS212-2	Introduction to Oceanography: Honors	23
2011/Fall	GEOS397A	Teaching Geosciences	23
2011/Spring	GEOS596H	Advances in Climate Modeling	7
2010/Spring	GEOS596H	Modes of Climate Variability	8
2009/Fall	GEOS212-1	Introduction to Oceanography (with G. Gehrels)	1054
2009/Fall	GEOS212-2	Introduction to Oceanography: Honors (with G. Gehrels)	15
2009/Fall	GEOS397A	Teaching Geosciences	15
2009/Fall	GEOS342	Evolution of the Earth, Ocean, and Atmosphere (with P. Reiners)	15
2009/Spring	GEOS596H	Advances in Climate Modeling	6
2008/Fall	GEOS212-1	Introduction to Oceanography	359
2008/Fall	GEOS212-2	Introduction to Oceanography: Honors	19
2008/Fall	GEOS397A	Teaching Geosciences	19
2008/Fall	GEOS342	Evolution of the Earth, Ocean, and Atmosphere (with P. Reiners)	14
2008/Spring	GEOS596C	South American Paleoclimate (with J. Quade)	3
2007/Fall	GEOS212	Introduction to Oceanography	379
2007/Fall	GEOS397A	Teaching Geosciences	15
2007/Spring	GEOS596H	Modes of Climate Variability	7
2006/Fall	GEOS212	Introduction to Oceanography (with R. Richardson)	150

Lectures for other courses

Orogenic Systems (S. Beck, GEOS527, UA, Spring 2015)

Earth: Birth to Death (J. Kapp, GEOS170A1, UA, Fall 2014)

Contemporary Earth System Science (Reiners, GEOS195K, UA, Fall 2009)

Global and Regional Climatology (Hirschboeck, GEOG 431/531, UA, Spring 2009, 2010)

The Climate System (Woodhouse, GEOG530, UA, Fall 2008,2009)
 Mesoscale Modeling (Castro, ATM558, UA, Spring 2008)
 Planetary Science (Swindle, PTYS195a, UA, Spring 2008)
 Introductory Oceanography (Neuer, BIO/GLG325, ASU, Spring 2008)
 Climate Change and the New IPCC Report (Brazel, BIO591, ASU, Spring 2008)

Current and Former Postdoctoral Advisees: Benjamin Bronselaer (2016-2019, with co-advisor Dr. Michael Winton, NOAA/GFDL)

Current and Former Graduate Advisees (listed chronologically): Stephanie McAfee (PhD 2009, now an Assistant Professor at U. Nevada – Reno), Alison Drain (MS 2009, now with Boundless Spatial, Inc., St. Louis, MO), Sarah Dasher (MS 2012, now a Test Prep Consultant, Wichita Falls, TX), Sophie Everatt (MS 2012, now at Yoga of Sausalito and with Stewards of the Coast and Redwoods), Juan Lora (PhD 2014, now an Assistant Professor at Yale), Zachary Naiman (PhD 2018), Rebecca Beadling (PhD 2020), Stan Swierczek (PhD, current)

Current and Former Graduate Students (Committee Member, listed chronologically): Toby Ault (PhD 2011), Jessica Conroy (PhD 2011), Adam Csank (PhD 2011), Nick McKay (PhD 2012), Jeremy Weiss (PhD 2012), Sarah Ivory (PhD 2013), Diane Thompson (PhD 2013), Michael Brunke (PhD 2015), April Chiriboga (PhD 2015), Zack Guido (PhD 2015), Ching-Chih (Ginger) Chang (PhD 2016), Sarah Treube (PhD 2016), Paul Goddard (PhD 2017), Stephen (Brewster) Malevich (PhD 2017), Nicollette Mitchell (MS 2017), Cheryl Peyser (PhD 2018), Xianyu Tan (PhD 2018, LPL), Gloria Jimenez (PhD 2018), Connor Nolan (PhD, 2019), Jack Eyre (PhD, current, HAS), Kelly Smith (PhD, current, TLS)

Current and Former Undergraduate Advisees (* indicates UA/NASA Space Grant Fellowships, listed chronologically): *Hannah Zanowski (BS 2011 Math/Physics, now a JISAO Core Postdoctoral Fellow at the University of Washington), *Kiley Yeakel (BS 2012 ChEE, now at The Aerospace Corporation, Washington DC), *Angelica Alvarez (BS/BA 2015 Neuroscience & Cognitive Science, now a postgraduate associate at the Yale School of Medicine), *Jessica Rudd (BS 2014, Geosciences, now with US Army Corps of Engineers, Concord, MA), Hala Alwagdani (BS 2016, now with Aramco), *Jordan Abell (BS 2016 Geosciences, now in PhD program at Columbia/LDEO, Palisades, NY), *John (Jack) Johnson (BS 2017), Clare DeCelles (2017), Brandon Bui (2018-present), Amarjiit Pandde (2018-present), McKenzie Jones (2019-present), Brenna Bourque (2019-present), Olga Alkhimenok (2019-present), Clara Jauregui (2019-present), Caitlin Encinas (2020-present)

SERVICE

National/International:

- 2020 – Co-Convener**, Processes Affecting Air-Sea Exchange and the Biogeochemistry of the Upper Ocean, Session at the Ocean Sciences Meeting, San Diego, CA
- 2019 – Co-Convener**, Integrated Understanding of Global Carbon and Other Biogeochemical Cycles and Their Feedbacks in CMIP6, Session at the AGU Fall Meeting, San Francisco, CA
- 2019 – Panelist**, NOAA’s Climate Connections: Connecting and Applying Climate Science Across NOAA, Silver Spring, MD
- 2019 –Member**, External 5-Yr Review Stakeholder Panel, NOAA Geophysical Fluid Dynamics Laboratory, Princeton, NJ
- 2018 – Co-Convener**, New Frontiers in the Southern Ocean’s Role in Climate: Recent Developments in Physical and Biogeochemical Observations and Modeling, Session at the AGU Fall Meeting, Washington, D.C.
- 2018 – Chair**, NOAA Climate and Global Change Postdoctoral Fellowship Program Review Panel, Washington D.C.
- 2018-present – Chair**, AGU Science for Solutions Award Committee
- 2018 – Co-Convener**, Modeling the Climate System at High Resolution, Session at the Ocean Sciences Meeting, Portland, OR.

- 2017 – Chair, Organizer, #GreatAntarcticClimateHack**, sponsored by SCAR, NSF, SOCCOM, Scripps Institution of Oceanography, La Jolla, CA
- 2017-present – Member**, US-Biogeochemical Argo Subcommittee, sponsored by Ocean Carbon and Biogeochemistry
- 2016 – Co-Convener**, Physical and Biogeochemical Processes in the Southern Ocean: Observations, State Estimation and Modeling, Session at the Ocean Sciences Meeting, New Orleans, LA
- 2014 – Chair**, Workshop Organizing Committee, Ocean’s Carbon and Heat Uptake: Uncertainties and Metrics, sponsored by US CLIVAR and OCB, San Francisco, CA
- 2014 – Co-Convener**, The Southern Ocean and Its Role in the Climate System: Observations and Modeling of Physical and Biogeochemical Processes – 2014 Ocean Sciences Meeting, Honolulu, HI (<http://www.sgmeet.com/osm2014/sessionschedule.asp?SessionID=072>)
- 2013 – Panelist**, GFDL Science Symposium, Princeton, NJ (<http://www.gfdl.noaa.gov/2013-gfdl-science-symposium>)
- 2012 – Co-Convener**, The Southern Ocean and Its Role in the Climate System, Session at the Ocean Sciences Meeting, Salt Lake City, UT
- 2011 – EPA STAR Graduate Fellowship Review Panel**, Washington D.C.
- 2011 – NASA Climate & Biological Response: Research and Applications Review Panel**, Washington D.C.
- 2010 – NSF Arctic System Science Program Review Panel**, Washington D.C.
- 2009 – Co-Convener**, New Frontiers in Southern Ocean Biogeochemistry and Ecosystem Research, Ocean Carbon and Biogeochemistry Scoping Workshop, Princeton, NJ
- 2008 – World Wildlife Fund, Antarctic Climate Change Focal Project: Impacts Of 2°C Global Warming on Southern Ocean Cetaceans** (With Dr. Cynthia Tynan, WHOI): presented to International Whaling Commission 60th Annual Meeting, Santiago, Chile
- 2008 – Early Career Geoscience Faculty: Teaching, Research, and Managing Your Career Workshop**, College of William and Mary, Williamsburg, VA
- 2008 – World Wildlife Fund, Antarctic Climate Change Focal Project: Impacts Of 2°C Global Warming on Antarctic Penguins** (With Dr. David Ainley of H.T. Harvey and Assoc.)
- 2007 – Member**, National Research Council for the **National Academy of Science**, Committee to Review the “U.S. Climate Change Science Program’s Synthesis and Assessment Product 3.2, Climate Projections Based on Emission Scenarios for Long-lived and Short-lived Radiatively Active Gases and Aerosols”.
- 2007 – Member**, National Research Council for the **National Academy of Science**, Review Committee for “Review of the U.S. Climate Change Science Program’s Draft Synthesis and Assessment Product 1.3, Re-analyses of Historical Climate Data and Implications for Attribution”
- 2007 – Ocean Carbon and Biogeochemistry Scoping Workshop on Ocean Acidification Research**, Scripps Institution of Oceanography, La Jolla, CA
- 2006-present – Biospheric Processes Team**, Geophysical Fluid Dynamics Laboratory, National Oceanic and Atmospheric Administration
- 2006 – Amicus brief to the United States Supreme Court** (Massachusetts vs. the EPA)

University of Arizona:

- 2020 – Member**, LPL Director Search Committee
- 2019 – Invited Speaker**, “Leading Change: Donor Event”, sponsored by the University of Arizona Development Program
- 2019 – Member**, University Fellows Award Review Committee: Physical Sciences, Mathematics and Computer Science Review Committee
- 2019 – Member**, Senior Vice-President for Research and Innovation Search Committee
- 2018 – Member**, Dean, College of Medicine Search Committee
- 2018 – Strategic Planning for Research: Climate and the Environment**
- 2018 – Co-Founder**, College of Science: Women in STEM Leadership
- 2016, 2017 – Invited speaker**, “Commencement: Final Office Hours”, University of Arizona
- 2016 – Reviewer**, NSF Science and Technology Center Applications, Office of the Vice President for Research
- 2016 – Member**, Chief Information Officer Search Committee

2015-present – Senator-at-Large, Faculty Senate
2015-present – Member, College of Engineering Faculty Research Council
2015 – Briefing to the National Science Foundation Director (Dr. France Cordova), Tucson, AZ
2014-2015 – Co-Chair, University Cluster Hire Review Committee for “Big Data and Informatics”
2014-present – Faculty Marshal, Commencement
2014 – Briefing to the College of Science Dean's Board of Advisors, Tucson, AZ
2014 – Reviewer, Faculty Small Grants Program, Office of the Vice President for Research
2013 – **Keynote Speaker**, University of Arizona College of Science Honors Winter Convocation
2013-present – Faculty Mentor, American Indian Science and Engineering Society (AISES) Geoscience Outreach Program
2012-2016 – Chair, University of Arizona Research Computing Governance Committee (RCGC)
2012-present – Member, University of Arizona Institute of the Environment Faculty Advisory Committee
2011 – Reviewer, Packard Fellowship Applications, Office of the Vice President for Research
2010-2012 – Faculty Representative (College of Science), Interdisciplinary Studies Degree Committee
2010-2012 – Chairperson, High-Performance Computing (HPC) Technical Refresh Committee
2008-present – Executive Committee member, University of Arizona Climate Dynamics and Hydrometeorology Center
2008 – Reviewer, Faculty Small Grants Program, Office of the Vice Provost for Research
2007-2010 – Member, High-Performance Computing (HPC) Allocation Committee

Reviewer: *Nature, Nature Geosciences, Nature Climate Change, J. Climate, J. Physical Oceanography, Geophysical Research Letters, Proceedings of the National Academy of Sciences, Paleoceanography, J. Geophysical Research, Global Biogeochemical Cycles, Climate Dynamics, Climate Change Letters, Geological Society of America Bulletin*

Review Panels: *NASA, NSF, EPA*

OUTREACH (Invited Presentations)

3/2020 American College of Trial Lawyers 2020 Spring Meeting, Tucson, AZ
 (<https://www.youtube.com/watch?v=K7aykuhkj90>)
 3/2020 Voyager RV Resort, Tucson, AZ
 2/2020 Arizona Public Media, Polar Extremes, Tucson, AZ
 11/2019 Thomas R Brown Foundation, Using Economics to Cool the Climate Crisis, Tucson, AZ
 10/2019 Raytheon Engineering Honors Awards Ceremony, Tucson, AZ, **Keynote**
 10/2019 Doolen Middle School, Tucson, AZ
 9/2019 Arizona Sonora Desert Museum, Tucson, AZ
 6/2019 Arizona Senior Academy, Tucson, AZ
 6/2019 World Ocean Night, Arizona-Sonora Desert Museum, Tucson, AZ
 3/2019 Sonia Kovalevsky Day, Department of Mathematics, University of Arizona, Tucson, AZ, **Keynote**
 3/2019 Applied Math 586B, Department of Mathematics, University of Arizona, Tucson, AZ
 3/2019 Voyager RV Resort, Tucson, AZ
 1/2019 Searching for Certainty, College of Science Lecture Series, University of Arizona, Tucson, AZ
 (<https://uascience.org/lectures/climate-and-the-deep-blue-sea/>)
 10/2018 Canyon Ranch, Tucson, AZ
 10/2018 Arizona Hydrological Society, Tucson, AZ
 9/2018 Osher Lifelong Learning Institute, Tucson, AZ
 5/2018 Canyon Ranch, Tucson AZ
 4/2018 Marine Awareness Conservation Society, University of Arizona, Tucson, AZ
 1/2018 Thomas R Brown Board, Tucson, AZ
 12/2017 Arizona Geological Society, Tucson, AZ
 2/2017 Science Café, Tucson, AZ
 10/2016 Dove Mountain, Tucson, AZ

- 3/2016 Tucson Festival of Books, Science City, Tucson, AZ
 1/2016 Earth Transformed, College of Science Lecture Series, University of Arizona, Tucson, AZ
 (<https://uascience.org/lectures/oceans-role-in-climate-heat-and-carbon-uptake-in-the-anthropocene/>)
 11/2015 Science Saturday Academy, Department of Geosciences, University of Arizona, Tucson, AZ
 11/2015 Greater Tucson Leadership: Environmental Issue Day, University of Arizona, Tucson, AZ
 4/2015 Greater Tucson Leadership: Environmental Issue Day, University of Arizona, Tucson, AZ, **Keynote**
 4/2015 Civil Engineering and Engineering Mechanics Graduate Seminar Series, University of Arizona, Tucson, AZ
 4/2015 Academy Village, Tucson, AZ
 3/2015 Oceans and Deserts 2015: Charting Transdisciplinary Currents in Environment and Culture within the Arts and Sciences, University of Arizona, Tucson, AZ, **Keynote**
 2/2015 Harvard Club of Southern Arizona, Tucson, AZ
 12/2014 Playground Games, Institute of the Environment, University of Arizona, Tucson, AZ
 11/2014 Marine Awareness Conservation Society, University of Arizona, Tucson, AZ
 11/2014 Teacher Symposium, Department of Geosciences, University of Arizona, Tucson, AZ, **Keynote**
 9/2014 Odyssey Storytelling, Tucson, AZ
 5/2014 Pima County Local Drought Impacts Group, Tucson, AZ
 1/2013 Lulu Walker Elementary Science Extravaganza, Tucson, AZ
 9/2012 Science Cafe, Tucson, AZ
 7/2012 Society of American Military Engineers, Tucson, AZ
 2/2012 Sustainability Café, US Arizona Green Building Council, Tucson, AZ
 1/2012 Arizona Climate and Water Resources Alliance Collaborative Workshop on Climate Extremes, Tempe, AZ
 12/2011 Science Café, College of Science, Tucson, AZ
 5/2011 Arizona Project WET Riparian Symposium, University of Arizona, Tucson, AZ, **Keynote**
 11/2010 Earth Sciences Saturday Academy, University of Arizona, Tucson, AZ, **Keynote**
 2/2010 League of Women Voters, Tucson Chapter, Tucson, AZ
 4/2008 Border-Area Climate Change Impacts & Water Sector Adaptation Workshop, California Department of Water Resources, Tucson, AZ
 2/2008 Superstition Vistas Planning Workshop, Phoenix, AZ
 12/2007 Salt River Project, Tempe, AZ
 10/2007 11th Annual Great Divide Workshop, National Weather Service, Great Falls, MT
 7/2007 SGI User Group Annual Meeting, SGIUG 2007, Minneapolis, MN, **Keynote**
 4/2007 Montana Water Center, University of Montana, Bozeman, MT
 12/2006 Tucson Water, Department of the City of Tucson, Tucson, AZ

SCHOLARLY PRESENTATIONS

- 2/2020 2020 Ocean Sciences Meeting, San Diego, CA (poster)
 12/2019 2019 AGU Fall Meeting, San Francisco, CA
 8/2019 Chapman Conference: Understanding Carbon and Climate Feedbacks, San Diego, CA (**Invited Poster**)
 7/2019 27th IUGG General Assembly, Montréal, Canada, **Invited**
 6/2019 AntClim²¹'s Workshop on CMIP6 21st century projections and predictions for Antarctica and the Southern Ocean, British Antarctic Survey, Cambridge, UK, **Invited**
 4/2019 Rosenstiel School of Marine and Atmospheric Science Colloquium, Miami, FL, **Invited**
 4/2019 Flux-anomaly-forced model intercomparison project (FAFMIP) Workshop, University of Reading, Reading, UK, **Invited**
 11/2018 Australian Biogeochemical-Argo Workshop, Institute for Marine and Antarctic Studies, University of Tasmania, Hobart, Australia, **Invited**
 11/2018 NOAA Climate Program Office / Earth System Science & Modeling Workshop and Annual ESSM Council Meeting, Silver Spring, MD, **Invited**
 10/2018 University of Arizona, Hydrology and Atmospheric Sciences Colloquium, Tucson, AZ, **Invited**
 9/2018 Old Dominion University, Department of Ocean, Earth & Atmospheric Sciences, Norfolk, VA, **Invited**
 7/2018 Global Ocean Summit, Qingdao, China, **Invited**

- 6/2018 POLAR 2018 & SCAR Open Science Conference, Davos, Switzerland, **Invited**
- 2/2018 2018 Ocean Sciences Meeting, Portland, OR (poster)
- 1/2018 Hominid Sites and Paleolakes Drilling Project (HSPDP) Annual Meeting, New Brunswick, NJ
- 11/2017 University of Maine, School of Earth and Climate Science, Orono, ME, **Invited**
- 9/2017 Ross Sea Regional Workshop, Shanghai, China, **Invited**
- 8/2017 IAPSO Good Hope For Earth Sciences Joint Assembly, Capetown, South Africa
- 9/2016 CLIVAR Open Science Conference 2016, Qingdao, China, **Invited**
- 8/2016 XXXIV SCAR Biennial Meeting and 2016 Open Science Conference, Kuala Lumpur, Malaysia
- 6/2016 Earth System Science: The Ronald J. Stouffer Symposium, GFDL, Princeton, NJ, **Invited**
- 5/2016 4th International Symposium on the Ocean in a High-CO₂ World, Hobart, Australia
- 4/2016 European Geosciences Union General Assembly 2016, Vienna, Austria, **Invited**
- 4/2016 Sustained Observations for Carbon Cycle Science and Decision Support, Boulder, CO, **Invited**
- 4/2016 National Academy of Sciences, Board on Atmospheric Sciences and Climate Spring 2016 Meeting, Washington, DC, **Invited**
- 3/2016 Modeling a Living Planet, A symposium in honor of Jorge L. Sarmiento, Princeton, NJ, **Invited**
- 2/2016 NOAA OSM Ocean Carbon PI Meeting, New Orleans, LA, **Invited**
- 2/2016 2016 Ocean Sciences Meeting, New Orleans, LA
- 2/2016 Life Sciences Café, School of Life Sciences, Arizona State University, Tempe, AZ, **Invited**
- 2/2016 University of Texas Institute of Geophysics, Austin, TX, **Invited**
- 1/2016 Planning a Global BioGeoChemical-Argo Network Workshop, Villefranche-sur-mer, France, **Invited**
- 11/2015 STEPPE Workshop: Increased precipitation extremes in greenhouse conditions: An integrated paleoclimate and anthropogenic perspective, Boulder, CO, **Invited**
- 11/2015 GFDL Diamond Anniversary Symposium, Princeton, NJ, **Invited**
- 9/2015 CLIVAR/CliC/SCAR Southern Ocean Region Panel, joint with SOOS/WCRP/ESA Workshop on Southern Ocean air-sea fluxes, Frascati, Italy, **Invited**
- 9/2015 GO-SHIP/Argo/IOCCP Conference 2015: Sustained ocean observing for the next decade, Galway, Ireland
- 8/2015 2015 US CLIVAR Summit, Tucson, AZ, **Invited**
- 7/2015 Ocean Carbon and Biogeochemistry Summer Workshop, Woods Hole, MA, **Invited**
- 6/2015 Institute for Marine and Antarctic Studies, University of Tasmania, Australia, Hobart, Australia, **Invited**
- 6/2015 Southern Ocean Observing System Scientific Planning Meeting: Implementing a Southern Ocean Observing System, Hobart, Australia, **Invited**
- 2/2015 Southern Ocean Dynamics and Biogeochemistry Workshop, California Institute of Technology, Pasadena, CA, **Invited**
- 12/2014 AGU Fall Meeting, San Francisco, CA (Poster)
- 12/2014 A Joint US Climate Variability and Predictability (CLIVAR)—Ocean Carbon Biogeochemistry (OCB) Workshop on “Ocean’s Carbon and Heat Uptake: Uncertainties and Metrics”, San Francisco, CA, **Invited**
- 9/2014 Bolin Centre for Climate Research, Stockholm University, Stockholm, Sweden, **Invited**
- 8/2014 XXXIII SCAR Biennial Meeting and 2014 Open Science Conference, Auckland, New Zealand, **Invited**
- 7/2014 Ocean Carbon & Biogeochemistry Summer Science Workshop, Woods Hole, MA, **Invited**
- 7/2014 2014 Pan-CLIVAR Meeting, The Hague, The Netherlands, **Invited**
- 7/2014 2014 US CLIVAR Summit, Denver, CO, **Invited**
- 2/2014 Ocean Sciences Meeting, Honolulu, HI, **Invited**
- 12/2013 AGU Fall Meeting, San Francisco, CA (Poster)
- 9/2013 SCAR Workshop on “Quantification of Antarctic Climate Variability”, Castine, ME, **Invited**
- 7/2013 Ocean Carbon and Biogeochemistry Summer Workshop, Woods Hole, MA, **Invited**
- 4/2013 Rosenstiel School of Marine and Atmospheric Science, Miami, FL, **Invited**
- 2/2013 Atmosphere and Oceanic Sciences, Princeton University, Princeton, NJ, **Invited**
- 2/2013 US Argo Science and Implementation Working Group Meeting, Monterrey, CA, **Invited**
(http://vintage.joss.ucar.edu/us_argo/)
- 1/2013 Winter Breeding Institute, Tucson, AZ, **Invited**
- 12/2012 AGU Fall Meeting, San Francisco, CA, **Invited**
- 10/2012 GeoPRISMS Planning Workshop, Morristown, NJ, **Invited**

- 9/2012 Department of Geosciences Colloquium, University of Arizona, Tucson, AZ, **Invited**
- 5/2012 European Science Foundation, Obergurgl, Austria, **Invited**
- 3/2012 Ross Sea Workshop, San Diego, CA, **Invited**
- 2/2012 Ocean Sciences Meeting, Salt Lake City, UT
- 12/2011 AGU Fall Meeting, San Francisco, CA
- 10/2011 Department of Earth and Environmental Science, University of Pennsylvania, Philadelphia, PA, **Invited**
- 7/2011 Atmospheric and Oceanic Sciences/Cooperative Institute for Climate Science, Princeton University, Princeton, NJ, **Invited**
- 6/2010 Deep Ocean Workshop: Observed and Model-Simulated Property Changes in the Deep Ocean of the Southern Hemisphere, Hobart, Australia, **Invited**
- 2/2010 Ocean Sciences Meeting, Portland, OR, **Invited**
- 11/2009 Greenaccord, VII International Media Forum on the Protection of Nature, Viterbo, Italy, **Invited**
- 9/2009 Department of Geological Sciences, Brigham Young University, Provo, UT, **Invited**
- 7/2009 Global Sustainability Workshop, Santa Fe Institute, Santa Fe, NM, **Invited**
- 5/2009 International Marine Conservation Congress, Washington, DC, **Invited**
- 4/2009 SOLS Seminar Series, School of Life Sciences, Arizona State University, Tempe, AZ, **Invited**
- 2/2009 CLIVAR/CliC/SCAR Southern Ocean Region Implementation Panel 5th Meeting, Sydney Australia, **Invited**
- 2/2009 9th International Conference on Southern Hemisphere Meteorology and Oceanography, Melbourne, Australia, **Invited Keynote**
- 1/2009 ASLO Aquatic Sciences Meeting, Nice, France, **Invited Plenary**
- 12/2008 AGU Fall Meeting, San Francisco, CA
- 8/2008 IDC HPC User Forum, Tucson, AZ, **Invited**
- 5/2008 ExxonMobil, Houston, TX, **Invited**
- 4/2008 Department of Geosciences Colloquium, Tucson, AZ
- 2/2008 Ocean Sciences Meeting, Orlando, FL
- 10/2007 Southern Ocean Physical Oceanography and Cryosphere Linkages (SOPHOCLES) Meeting, Bergen, Norway, **Invited**
- 9/2007 National Weather Service, Great Falls, MT, **Invited**
- 9/2007 Rice University, Houston, TX, **Invited**
- 9/2007 ExxonMobil, Houston, TX, **Invited**
- 7/2007 NOAA Global Carbon Cycle Principal Investigators Meeting, Silver Spring, MD, **Invited**
- 6/2007 NOAA Southern Ocean Climate Process Team Workshop, Princeton, NJ, **Invited**
- 5/2007 Arizona Hydrological Society, Tucson, AZ, **Invited**
- 5/2007 Surface pCO₂ and Ocean Vulnerabilities Workshop, IOC/UNESCO, Paris, France, **Invited**
- 3/2007 Gordon Research Conference, Ventura, CA, **Invited Keynote**
- 10/2006 Geophysical Fluid Dynamics Laboratory, Princeton, NJ, **Invited**
- 9/2006 16th Annual V.M. Goldschmidt Conference, Melbourne, Australia, **Invited**
- 7/2006 Ocean Carbon Biogeochemistry Workgroup, Woods Hole Oceanographic Institution, Woods Hole, MA, **Invited**
- 7/2006 NOAA Office of Climate Observation - Annual System Review, Silver Springs, MD, **Invited**
- 4/2006 Atmospheric Science Seminar, University of Arizona, Tucson, AZ, **Invited**
- 2/2006 Ocean Sciences Meeting, Honolulu, HI