Nicholas P. McKay

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Research Interests & Expertise

Dr. McKay researches climate dynamics on a range of spatial and temporal scales, ranging from regional to global, and centuries to millions of years. He uses multiple approaches to achieve this, including field and lab work to develop new records of past climate, informatics and machine learning techniques to develop cyberinfrastructure for paleoclimatology, and numerical and statistical approaches to integrate paleoclimate observations and numerical models. The goal of all this is to better understand how and why climate changed in the past, and to use those insights to inform our understanding of future change.

Education

2012 **Doctor of Philosophy**, University of Arizona

Major:	Geosciences
Minor:	Global Change
Advisor:	Dr. Jonathan T. Overpeck
Dissertation:	A multidisciplinary approach to late Quaternary Paleoclimatology with an emphasis on sub-Saharan West Africa and the Last Interglacial period

2007 **Master of Science**, Northern Arizona University, *with distinction*

Major:	Geology
Advisor:	Dr. Darrell S. Kaufman
Thesis:	Late Holocene climate at Hallet and Greyling Lakes, central Chugach Range, south-central Alaska

2005 **Bachelors of Science**, Northern Arizona University, *magna cum laude*

Major:	Geology & Environmental Science
Minor:	Mathematics

Appointments

2021-present **Northern Arizona University**
School of Earth and Sustainability
Affiliate in the School of Informatics, Computing, and Cyber Systems

Associate Professor - (2019 to present)

2021 **GNS Science and Victoria University of Wellington, New Zealand**
Fulbright New Zealand Scholar

2012-2020 **Northern Arizona University**
School of Earth and Sustainability

Assistant Professor - (2014 to 2019)
Assistant Research Professor - (2013 to 2014)
Postdoctoral Scholar - (2012 to 2013)

Peer-reviewed Publications

**Denotes NAU student as lead author*

In Review

63. Konecky, B., **N. P. McKay**, G. Falster, S. Stevenson, M. Fischer, A. Atwood, D. Thompson, M. Jones, K. DeLong, J. Tyler, B. Martrat, E. Thomas, J. Conroy, S. Dee, L. Jonkers, O. Churakova, Z. Kern, T. Opel, T. Porter, H. Sayani, G. Skrzypek, and Iso2k Project Members (In review), Temperature-driven changes in the global water cycle during the Common Era, *Nature*

62. Manety, S., D. Khider, C. Heiser, **N. P. McKay**, J. Emile-Geay, and C. Rouston (In review), Paleorec: A sequential recommender system for the annotation of paleoclimate datasets, *Environmental Data Science*

61. *Broadman, E., D. S. Kaufman, R. S. Anderson, S. Bogle, M. Ford, D. Fortin, A. C. G. Henderson, J. H. Lacey, M. J. Leng, **N. P. McKay**, and S. E. Munoz (In Review), Reconstructing postglacial hydrologic and environmental change in the eastern kenai peninsula lowlands using proxy data and mass balance modeling, *Quaternary Research*

60. *Thomas, J. E., D. S. Kaufman, N. Praet, **N. P. McKay**, M. V. Daele, B. J. Jensen, and M. D. Batist (In Review), A 2300-year record of glacier fluctuations at Skilak and Eklutna lakes, south-central Alaska, *Quaternary Science Reviews*

59. *Arcusa, S. H., **N. P. McKay**, C. *Wiman, S. *Patterson, S. E. Munoz, and M. A. Aquino-López (in Review), New approaches to dating intermittently varved sediment, Columbine lake, Colorado, USA, *Geochronology Discussions*, pp. 1–53

58. Schiefer, E., J. Geck, J. Ostman, **N. P. McKay**, N. Praet, M. Loso, and D. Kaufman (In Review), Fluvial suspended sediment transfer and lacustrine sedimentation of recent flood turbidites in proglacial Eklutna Lake, western Chugach Mountains, Alaska

57. Sun, C., T. Shanahan, P. DiNezio, **N. P. McKay**, and P. Roy (In Review), Spring warming drives past and future shifts in Great Plains storm intensity, *Nature Geoscience*

2021

56. Routson, C. C., D. S. Kaufman, **N. P. McKay**, M. P. Erb, S. H. Arcusa, K. J. Brown, M. E. Kirby, J. P. Marsicek, R. S. Anderson, G. Jiménez-Moreno, et al. (2021), A multiproxy database of western North American Holocene paleoclimate records, *Earth System Science Data*, *13*(4), 1613–1632

55. **McKay, N. P.**, J. Emile-Geay, and D. Khider (2021), geoChronR–an R package to model, analyze, and visualize age-uncertain data, *Geochronology*, *3*(1), 149–169

2020

54. Turney, C. S., R. T. Jones, **N. P. McKay**, E. Van Sebille, Z. A. Thomas, C.-D. Hillenbrand, and C. J. Fogwill (2020a), A global mean sea surface temperature dataset for the Last Interglacial (129–116 ka) and contribution of thermal expansion to sea level change, *Earth System Science Data*, *12*(4), 3341–3356

53. *Arcusa, S. H., **N. P. McKay**, C. M. Carillo, and T. R. Ault (2020b), Dust-drought nexus in the southwestern United States: A proxy-model comparison approach, *Paleoceanography and Paleoclimatology*, *35*(12), e2020PA004,046

2020

52. Konecky, B. L., **N. P. McKay**, O. V. Churakova (Sidorova), L. Comas-Bru, E. P. Dassié, K. L. DeLong, G. M. Falster, M. J. Fischer, M. D. Jones, L. Jonkers, D. S. Kaufman, G. Leduc, S. R. Managave, B. Martrat, T. Opel, A. J. Orsi, J. W. Partin, H. R. Sayani, E. K. Thomas, D. M. Thompson, J. J. Tyler, N. J. Abram, A. R. Atwood, J. L. Conroy, Z. Kern, T. J. Porter, S. L. Stevenson, and L. von Gunten (2020), The Iso2k Database: A global compilation of paleo-δ^{18}O and δ^{2}H records to aid understanding of Common Era climate, *Earth System Science Data*, *12*(3), 2261–2288, doi: 10.5194/essd-2020-5

51. Kjellman, S. E., A. Schomacker, E. K. Thomas, L. Håkansson, S. Duboscq, A. A. Cluett, W. R. Farnsworth, L. Allaart, O. C. Cowling, **N. P. McKay**, et al. (2020), Holocene precipitation seasonality in northern Svalbard: Influence of sea ice and regional ocean surface conditions, *Quaternary Science Reviews*, *240*, 106,388

50. Kaufman, D., **N. P. McKay**, C. Routson, M. Erb, C. Dätwyler, P. Sommer, O. Heiri, and B. Davis (2020a), Holocene global mean surface temperature: A multi-method reconstruction approach, *Scientific data*, *7*(1), 1–13

49. Thomas, Z. A., R. T. Jones, C. S. Turney, N. Golledge, C. Fogwill, C. J. Bradshaw, L. Menviel, **N. P. McKay**, M. Bird, J. Palmer, et al. (2020), Tipping elements and amplified polar warming during the last interglacial, *Quaternary Science Reviews*, *233*, 106,222

48. Turney, C. S., C. J. Fogwill, N. R. Golledge, **N. P. McKay**, E. van Sebille, R. T. Jones, D. Etheridge, M. Rubino, D. P. Thornton, S. M. Davies, et al. (2020b), Early Last Interglacial ocean warming drove substantial ice mass loss from antarctica, *Proceedings of the National Academy of Sciences*, *117*(8), 3996–4006

47. *Thurston, L. L., E. Schiefer, **N. P. McKay**, and D. S. Kaufman (2020), Modelling suspended sediment discharge in a glaciated Arctic catchment–Lake Peters, northeast Brooks Range, Alaska, *Hydrological Processes*, *34*(19), 3910–3927

46. Brierley, C. M., A. Zhao, S. P. Harrison, P. Braconnot, C. J. R. Williams, D. J. R. Thornalley, X. Shi, J.-Y. Peterschmitt, R. Ohgaito, D. S. Kaufman, M. Kageyama, J. C. Hargreaves, M. P. Erb, J. Emile-Geay, R. D'Agostino, D. Chandan, M. Carré, P. J. Bartlein, W. Zheng, Z. Zhang, Q. Zhang, H. Yang, E. M. Volodin, R. A. Tomas, C. Routson, W. R. Peltier, B. Otto-Bliesner, P. A. Morozova, **N. P. McKay**, G. Lohmann, A. N. Legrande, C. Guo, J. Cao, E. Brady, J. D. Annan, and A. Abe-Ouchi (2020), Large-scale features and evaluation of the PMIP4-CMIP6 *midHolocene* simulations, *Climate of the Past*, *16*(5), 1847–1872, doi: 10.5194/cp-16-1847-2020

45. Jonkers, L., O. Cartapanis, M. Langner, **N. P. McKay**, S. Mulitza, A. Strack, and M. Kucera (2020), Integrating palaeoclimate time series with rich metadata for uncertainty modelling: strategy and documentation of the PALMOD 130k marine palaeoclimate data synthesis, *Earth System Science Data*, *12*(2), 1053–1081, doi: 10.5194/essd-12-1053-2020

44. Kaufman, D., **N. P. McKay**, C. Routson, M. Erb, B. Davis, O. Heiri, S. Jaccard, J. Tierney, C. Dätwyler, et al. (2020b), A global database of Holocene paleotemperature records, *Scientific data*, *7*(1), 183

43. *Arcusa, S., **N. P. McKay**, C. Routson, and S. Munoz (2020a), Dust-drought interactions over the last 15,000 years: a network of lake sediment records from the San Juan Mountains, Colorado, *The Holocene*, *30*(4), 559–574

2019

42. *Broadman, E., L. L. Thurston, E. Schiefer, D. Fortin, **N. P. McKay**, J. Geck, M. G. Loso, M. Nolan, S. H. Arcusa, C. W. Benson, R. A. Ellerbroek, M. P. Erb, C. C. Routson, C. Wiman, A. J. Wong, and D. S. Kaufman (2019), An Arctic watershed observatory at Lake Peters, Alaska: weather–glacier–river–lake system data for 2015–2018, *Earth System Science Data*, *11*(4), 1957–1970, doi: 10.5194/essd-11-1957-2019

41. Khider, D., J. Emile-Geay, **N. P. McKay**, Y. Gil, D. Garijo, V. Ratnakar, M. Alonso-Garcia, S. Bertrand, O. Bothe, P. Brewer, et al. (2019), PaCTS 1.0: a crowdsourced reporting standard for paleoclimate data, *Paleoceanography and paleoclimatology*, *34*(10), 1570–1596

40. *Benson, C. W., D. S. Kaufman, **N. P. McKay**, E. Schiefer, and D. Fortin (2019), A 16,000-yr-long sedimentary sequence from Lakes Peters and Schrader (Neruokpuk Lakes), northeastern Brooks Range, Alaska, *Quaternary Research*, pp. 1–17

2019

39. Routson, C. C., S. H. Arcusa, **N. P. McKay**, and J. T. Overpeck (2019a), A 4,500-year-long record of southern Rocky Mountain dust deposition, *Geophysical Research Letters*, *46*(14), 8281–8288

38. PAGES 2k Consortium (2019), Consistent multi-decadal variability in global temperature reconstructions and simulations over the Common Era, *Nature geoscience*, *12*(8), 643–649

37. Fortin, D., N. Praet, **N. P. McKay**, D. S. Kaufman, B. J. Jensen, P. J. Haeussler, C. Buchanan, and M. De Batist (2019), New approach to assessing age uncertainties–the 2300-year varve chronology from Eklutna Lake, Alaska (USA), *Quaternary Science Reviews*, *203*, 90–101

36. Routson, C. C., **N. P. McKay**, D. S. Kaufman, M. P. Erb, H. Goosse, B. N. Shuman, J. R. Rodysill, and T. Ault (2019b), Mid-latitude net precipitation decreased with Arctic warming during the Holocene, *Nature*, *568*(7750), 83

35. Zhu, F., J. Emile-Geay, **N. P. McKay**, G. J. Hakim, D. Khider, T. R. Ault, E. J. Steig, S. Dee, and J. W. Kirchner (2019), Climate models can correctly simulate the continuum of global-average temperature variability, *Proceedings of the National Academy of Sciences*, *116*(18), 8728–8733

34. *Kolus, H. R., D. N. Huntzinger, C. R. Schwalm, J. B. Fisher, **N. P. McKay**, Y. Fang, A. M. Michalak, K. Schaefer, Y. Wei, B. Poulter, J. Mao, N. C. Parazoo, and X. Shi (2019a), Land carbon models underestimate the severity and duration of droughts impact on plant productivity, *Scientific reports*, *9*(1), 2758

2018

33. **McKay, N.P.**, D. S. Kaufman, C. C. Routson, M. P. Erb, and P. D. Zander (2018a), The onset and rate of Holocene Neoglacial cooling in the Arctic, *Geophysical Research Letters*, *45*(22), 12–487

32. Thomas, E., I. Castaneda, **N. P. McKay**, , J. Briner, J. Salacup, K. Nguyen, and A. Schweinsberg (2018), Arctic hydroclimate intensification coincident with hemispheric warming 8,000 years ago, *Geophysical Research Letters*, *45*(19), 10–637

31. Levy, R. H., G. B. Dunbar, M. J. Vandergoes, J. D. Howarth, T. Kingan, A. R. Pyne, G. Brotherston, M. Clarke, B. Dagg, M. Hill, E. Kenton, S. Little, D. Mandeno, C. Moy, P. Muldoon, P. Doyle, C. Raines, P. Rutland, D. Strong, M. Terezow, L. Cochrane, R. Cossu, S. Fitzsimons, F. Florindo, A. L. Forrest, A. R. Gorman, D. S. Kaufman, M. K. Lee, X. Li, P. Lurcock, **N. P. McKay**, F. Nelson, J. Purdie, H. A. Roop, S. G. Schladow, A. Sood, P. Upton, S. L. Walker, and G. S. Wilson (In press), A high-resolution climate record spanning the past 17,000 years recovered from Lake Ohau, South Island, New Zealand, *Scientific Drilling*, doi: 10.5194/sd-6-1-2018

30. Shuman, B. N., C. Routson, **N. P. McKay**, S. Fritz, D. Kaufman, M. E. Kirby, C. Nolan, G. T. Pederson, and J.-M. St-Jacques (2018), Placing the Common Era in a Holocene context: millennial to centennial patterns and trends in the hydroclimate of North America over the past 2000 years, *Climate of the Past*, *14*, 665–686, doi: 10.5194/cp-14-665-2018

29. *Zander, P., D. Kaufman, **N. P. McKay**, S. C. Kuehn, and A. Henderson (2018), Using correlated tephras to refine radiocarbon-based age models, Upper and Lower Whitshed Lakes, south-central Alaska, *Quaternary Geochronology*, *45*, 9–22

2017

28. PAGES 2k Consortium (2nd Author) (2017), A global multiproxy database for temperature reconstructions of the Common Era, *Scientific Data*, *4*, 170,088, doi: 10.1038/sdata.2017.88

27. Schiefer, E., D. Kaufman, **N. P. McKay**, M. Retelle, A. Werner, and S. Roof (2018), Fluvial suspended sediment yields over hours to millennia in the High Arctic at proglacial lake Linnvatnet, Svalbard, *Earth Surface Processes and Landforms*, doi: 10.1002/esp.4264

26. Gil, Y., D. Garijo, V. Ratnakar, D. Khider, J. Emile-Geay, and **N. P. McKay** (2017), A controlled crowdsourcing platform for high-quality ontology development and data annotation, *Proceedings of the 16th International Semantic Web (ISWC) Conference*, pp. 231–246

2016

25. Abram, N. J., H. V. McGregor, J. E. Tierney, M. N. Evans, **N. P. McKay**, D. S. Kaufman, and PAGES 2k Consortium (2016), Early onset of industrial-era warming across the oceans and continents, *Nature*, *536*, 411–418

24. Sejrup, H. P., H. Seppä, **N. P. McKay**, D. S. Kaufman, A. Geirsdottir, A. de Vernal, H. Renssen, K. Husum, A. Jennings, and J. T. Andrews (2016), North Atlantic-Fennoscandian Holocene climate trends and mechanisms, *Quaternary Science Reviews*, *147*, 365–378

23. Briner, J., **N. P. McKay**, Y. Axford, O. Bennike, R. S. Bradley, A. de Vernal, D. Fisher, P. Francus, B. Fréchette, K. Gajewski, A. Jennings, D. S. Kaufman, G. H. Miller, C. Rouston, and B. Wagner (2016), Holocene climate change in Arctic Canada and Greenland, *Quaternary Science Reviews*, *147*, 340–364

22. **McKay, N.P.**, and J. Emile-Geay (2016), Technical note: The Linked Paleo Data framework – a common tongue for paleoclimatology, *Climate of the Past*, *12*, 1093–1100

21. Kaufman, D. S., Y. L. Axford, A. C. Henderson, **N. P. McKay**, W. W. Oswald, C. Saenger, R. S. Anderson, H. L. Bailey, B. Clegg, K. Gajewski, F. S. Hu, M. C. Jones, C. Massa, C. C. Routson, A. Werner, M. J. Wooller, and Z. Yu (2016), Holocene climate changes in eastern Beringia (NW North America) — a systematic review of multi-proxy evidence, *Quaternary Science Reviews*, *147*, 312–339

20. Routson, C. C., C. A. Woodhouse, J. T. Overpeck, J. L. Betancourt, and **N. P. McKay** (2016), Teleconnected ocean forcing of western North American droughts and pluvials during the last millennium, *Quaternary Science Reviews*, *146*, 238–250

19. Shanahan, T. M., K. A. Hughen, J. T. Overpeck, **N. P. McKay**, W. Gosling, J. Peck, J. King, C. Scholz, and C. Heil (2016), Abrupt transitions in tropical savanna-woodland boundaries controlled by climate-fire and CO2 interactions, *Scientific Reports*, *6*, doi: 10.1038/srep29587

18. Solomina, O., R. S. Bradley, V. Jomelli, A. Geirsdottir, D. S. Kaufman, J. Koch, **N. P. McKay**, M. Masiokas, G. Miller, A. Nesje, K. Nicolussi, L. A. Owen, H. Wanner, and G. Wiles (2016), Glacier fluctuations during the past 2000 years, *Quaternary Science Reviews*, *149*, 61–90

2015

17. Bothe, O., M. Evans, L. F. Donado, E. G. Bustamante, J. Gergis, H. G. J. Fidel Gonzalez-Rouco, G. Hegerl, A. Hind, J. Jungclaus, D. Kaufman, F. Lehner, **N. P. McKay**, A. Moberg, C. C. Raible, A. Schurer, F. Shi, J. E. Smerdon, L. von Gunten, S. Wagner, E. Warren, M. Widmann, P. Yiou, and E. Zorita (2015), Continental-scale temperature variability in PMIP3 simulations and PAGES 2k regional temperature reconstructions over the past millennium, *Climate of the Past*, *11*, 1673–1699

16. Wang, J., Emile-Geay, D. Guillot, **N. P. McKay**, and B. Rajaratnam (2015), Fragility of reconstructed temperature patterns over the common era: Implications for model evaluation., *Geophysical Research Letters*, *10.1002/2015GL065265*

15. *Boldt, R., D. Kaufman, **N. P. McKay**, and J. Briner (2015), Holocene summer temperature reconstruction from sedimentary chlorophyll content, with treatment of age uncertainties, Kurupa Lake, Arctic Alaska, *The Holocene*, *10.1177/0959683614565929*, 1–10

14. Shanahan, T., **N. P. McKay**, K. Hughen, J. Overpeck, B. Otto-Bliesner, C. W. Heil, J. King, C. Scholz, and J. Peck (2015), The time-transgressive termination of the African Humid Period, *Nature Geoscience*, *10.1038/ngeo2329*

2014

13. Kaufman, D.S. (contributing author) (2014), A community-driven framework for climate reconstructions, *Eos, Transactions American Geophysical Union*, *95*(40), 361–362, doi: 10.1002/2014EO400001

12. **McKay, N.P.**, and D. Kaufman (2014a), An extended Arctic proxy temperature database for the past 2,000 years, *Scientific Data*, *1*, doi: 10.1038/sdata.2014.26

11. Sundqvist, H. S., D. S. Kaufman, **N. P. McKay**, N. L. Balascio, J. P. Briner, L. C. Cwynar, H. P. Sejrup, H. Seppä, D. A. Subetto, J. T. Andrews, Y. Axford, J. Bakke, H. J. B. Birks, S. J. Brooks, A. de Vernal, A. E. Jennings, F. C. Ljungqvist, K. M. Rühland, C. Saenger, J. P. Smol, and A. E. Viau (2014), Arctic Holocene proxy climate database – new approaches to assessing geochronological accuracy and encoding climate variables, *Climate of the Past*, *10*(4), 1605–1631, doi: 10.5194/cp-10-1605-2014

2013

10. Otto-Bliesner, B. L., N. Rosenbloom, E. J. Stone, **N. P. McKay**, D. J. Lunt, E. C. Brady, and J. T. Overpeck (2013), How warm was the Last Interglacial? New model–data comparisons, *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, *371*(2001), doi: 10.1098/rsta.2013.0097

9. PAGES 2k Consortium (member of writing team) (2013), Continental-scale temperature variability during the last two millennia, *Nature Geoscience*, *6*

8. Shanahan, T. M., **N. P. McKay**, J. T. Overpeck, J. A. Peck, C. Scholz, C. W. Heil Jr., and J. King (2013a), Spatial and temporal variability in sedimentological and geochemical properties of sediments from an anoxic crater lake in West Africa: Implications for paleoenvironmental reconstructions, *Palaeogeography, Palaeoclimatology, Palaeoecology*, *374*, 96–109, doi: 10.1016/j.palaeo.2013.01.008

7. **McKay, N.P.**, D. L. Dettman, R. T. Downs, and J. T. Overpeck (2013a), On the potential of Raman-spectroscopy-based carbonate mass spectrometry, *Journal of Raman Spectroscopy*, *44*(3), 469–474, doi: 10.1002/jrs.4218

2013

6. Shanahan, T. M., J. A. Peck, **N. P. McKay**, C. W. Heil Jr., J. King, S. L. Forman, D. L. Hoffmann, D. A. Richards, J. T. Overpeck, and C. Scholz (2013b), Age models for long lacustrine sediment records using multiple dating approaches - an example from Lake Bosumtwi, Ghana, *Quaternary Geochronology*, *15*, 47–60, doi: 10.1016/j.quageo.2012.12.001

2012

5. Shanahan, T. M., J. W. Beck, J. T. Overpeck, **N. P. McKay**, J. S. Pigati, J. A. Peck, C. A. Scholz, C. W. Heil Jr., and J. King (2012), Late Quaternary sedimentological and climate changes at Lake Bosumtwi Ghana: New constraints from laminae analysis and radiocarbon age modeling, *Palaeogeography, Palaeoclimatology, Palaeoecology*, *361–362*, 49–60, doi: 10.1016/j.palaeo.2012.08.001

2011

4. **McKay, N.P.**, J. Overpeck, and B. Otto-Bliesner (2011a), The role of ocean thermal expansion in Last Interglacial sea level rise, *Geophysical Research Letters*, *38*(14), L14,605, doi: 10.1029/2011GL048280

2009

3. Kaufman, D., D. Schneider, **N. P. McKay**, C. Ammann, R. Bradley, K. Briffa, G. Miller, B. Otto-Bliesner, J. Overpeck, B. Vinther, and A. Lakes (2009), Recent warming reverses long-term Arctic cooling, *Science*, *325*(5945), 1236, doi: 10.1126/science.1173983

2. **McKay, N.P.**, and D. S. Kaufman (2009), Holocene climate and glacier variability at Hallet and Greyling Lakes, Chugach Mountains, south-central Alaska, *Journal of Paleolimnology*, *41*(1), 143–159, doi: 10.1007/s10933-008-9260-0

2008

1. **McKay, N.P.**, D. S. Kaufman, and N. Michelutti (2008), Biogenic silica concentration as a high-resolution, quantitative temperature proxy at Hallet Lake, south-central Alaska, *Geophysical Research Letters*, *35*(5), doi: 10.1029/2007GL032876

Other Publications

2018

8. Emile-Geay, J., D. Khider, **N. P. McKay**., D. Garijo, Y. Gil, and V. Ratnakar (2018), LinkedEarth: supporting paleoclimate data standards and crowd curation, *PAGES News*, *26*, 62–63

7. **McKay, N. P.**, and J. Emile-Geay (2018), Linked PaleoData: A resource for open, reproducible, and efficient paleoclimatology, *PAGES News*, *26*, 71

6. Hakim, G., S. Dee, J. Emile-Geay, **N. P. McKay**, and K. Rehfeld (2018), Accelerating progress in proxy–model synthesis using open standards, *PAGES News*, *26*, 73

2016

5. Emile-Geay, J., and **N. P. McKay** (2016), Paleoclimate data standards, *PAGES News*, *24*(1), 47

2014

4. **McKay, N.P.** (2014a), A novel multiproxy approach: The PAGES North America 2k working group, *PAGES News*, *22*(2), 100

3. Anchukaitis, K., and **N. P. McKay** (2014), Pages2k: Advances in climate field reconstructions, *PAGES News*, *22*(2), 98

2013

2. Kaufman, D., **N. P. McKay**, T. Kiefer, and L. von Gunten (2013), A regional view of climate change, *Global Change Magazine*, *81*, 18–23

1. von Gunten, L., D. Anderson, B. Chase, M. Curran, J. Gergis, E. Gille, W. Gross, S. Hanhijärvi, D. Kaufman, T. Kiefer, **N. P. McKay**, I. Mundo, R. Neukom, M. Sano, A. Shah, J. Tyler, A. Viau, S. Wagner, E. Wahl, and D. Willard (2013), The backbone of pages 2k: data management and archiving, *PAGES News*, *21*(2), 87

Presentations

Only presentations given by myself, or students, are listed. Other coauthored presentations omitted
**Denotes student lead presenter*

2021

61. **McKay, N. P.** (2021a), 2k network data stewardship, *PAGES 2k Network Seminar Series*, [Invited Seminar]
60. **McKay, N. P.** (2021b), The mystery of Holocene temperature evolution, *Cawthron Institute, Nelson, New Zealand*, [Invited Seminar]
59. **McKay, N. P.** (2021c), The mystery of Holocene temperature evolution, *Victoria University of Wellington, Wellington, New Zealand*, [Invited Seminar]
58. **McKay, N. P.** (2021d), The mystery of Holocene temperature evolution, *GNS Science, Lower Hutt, New Zealand*, [Invited Seminar]
57. **McKay, N. P.** (2021e), The mystery of Holocene temperature evolution, *University of Otago, Dunedin, New Zealand*, [Invited Seminar]
56. **McKay, N. P.** (2021f), New tools for quantifying and propagating age uncertainty in varve records, *PAGES Varve Working Group Seminar Series*, [Invited Seminar]

2020

55. *Born, F., S. *Arcusa, **N. P. McKay**, and R. S. Anderson (2020), Regional wildfire inferred from micro-charcoal over past 15,000 years in southern Colorado USA., in *AGU Fall Meeting*, vol. 2020, pp. PP047–0005
54. *Arcusa, S., and **N. P. McKay** (2020), Constraining the role of age uncertainty in event relationships in data-model comparison, in *AGU Fall Meeting*, vol. 2020, pp. PP043–02

2019

53. **McKay, N.P.** (2019a), A new global multiproxy holocene temperature database: a resource for model comparison and evaluation, *AGU Fall Meeting*, *2019*, PP31A–07, [Talk]
52. *Wiman, C., **N. P. McKay**, C. Routson, S. Arcusa, and S. E. Munoz (2019), Late holocene spring snowfall and hydroclimate variability inferred from varved sediments, Columbine Lake, Colorado, *AGU Fall Meeting*, *2019*, PP42B–04, [Talk]
51. *Kolus, H. R., **N. P. McKay**, D. S. Kaufman, and C. Routson (2019b), Is the 4.2 ka event remarkable in the context of Holocene centennial-scale climate variability?, *AGU Fall Meeting*, *2019*, GC11G–1127, [Poster]
50. **McKay, N.P.** (2019b), Climate change and risk, *Fall Meeting of The Casualty Actuaries of the Desert States (CADS), Tempe, Arizona*, [Invited Talk]
49. *Chaffeur, J., S. Arcusa, and **N. P. McKay** (2019), Examining environmental impact from mining using multiple proxies on a sediment core from Clear Lake, Colorado, USA, *GSA Annual Meeting, Phoenix, Arizona*, [Poster]
48. **McKay, N.P.** (2019c), Climate change and risk, *Arizona Capture Insurance Association Meeting, Phoenix, Arizona*, [Invited Talk]
47. **McKay, N.P.** (2019d), Linked paleodata and the climate12k database, *Climate12k workshop, Ste Croix, Switzerland*, [Invited Talk]

2018

46. *Arcusa, S., C. Routson, and **N. P. McKay** (2018a), Temporal variability of dust deposition from Holocene lake sediment records in the San Juan Mountains, CO., *Fall meeting of the American Geophysical Union, Washington, D.C*, [Poster]

45. *Broadman, E., D. S. Kaufman, A. C. Henderson, R. S. Anderson, E. Berg, M. J. Leng, and **N. P. McKay** (2018), Holocene hydroclimatic change in south-central Alaska inferred from $\delta^{18}O_{diatom}$ at Sunken Island Lake, Kenai Peninsula lowlands, *Fall meeting of the American Geophysical Union, Washington, D.C*, [Poster]

44. *Kolus, H., **N. P. McKay**, and D. Kaufman (2018), How prominent was the 8.2 ka event? a global Holocene perspective, *Fall meeting of the American Geophysical Union, Washington, D.C*, [Poster]

43. **McKay, N.P.**, J. Emile-Geay, and D. Khider (2018b), Scientific workflows, reproducibility and uncertainty quantification in the paleogeosciences, *Fall meeting of the American Geophysical Union, Washington, D.C*, [Invited Talk]

42. *Wiman, C., **N. P. McKay**, C. Routson, R. S. Anderson, and S. Arcusa (2018a), Reconstructing late holocene productivity and climate in Columbine Lake, Colorado, *Fall meeting of the American Geophysical Union, Washington, D.C*, [Poster]

41. **McKay, N.P.** (2018), The linked paleo data framework (lipd) - introduction and open discussion, *1st PAGES Webinar - Wednesday 17 October 2018*, [Invited Talk]

40. *Wiman, C., **N. P. McKay**, R. S. Anderson, and C. Routson (2018b), Reconstructing Late Holocene productivity and climate at Columbine Lake, CO through annually laminated sediments, *Rocky Mountain Regional meeting of the Geological Society of America, Flagstaff, AZ*, [Poster]

39. *Arcusa, S., C. Routson, and **N. P. McKay** (2018b), Spatial and temporal variability of dust deposition in the San Juan Mountains, CO, *Dust Impact on Climate and the Environment, Las Cruces, Chile*, [Poster]

2017

38. **McKay, N.P.**, and the PAGES 2k Consortium (2017), Spatial covariability of temperature and hydroclimate as a function of timescale during the Common Era, *AGU Fall Meeting 2017, New Orleans, Louisiana*, [Talk]

37. *Arcusa, S., C. Routson, and **N. P. McKay** (2017), Spatial and temporal variability of dust deposition in the San Juan Mountains, CO: a network of Late Holocene lake sediment records, *Fall meeting of the American Geophysical Union, New Orleans, LA*, [Talk]

36. *Arcusa, S., and **N. P. McKay** (2017), 14,000 year lake sediment dust record from the San Juan Mountains, CO, *Colorado Plateau Biennial Conference, Flagstaff, AZ*, [Talk]

35. **McKay, N.P.**, D. Khider, J. Emile-Geay, D. Garijo, V. Ratnakar, and Y. Gil (2017), Supporting paleoclimate research with Semantic Web technologies and community curation, *Earthcube All Hands Meeting 2017, Seattle WA*, [Poster]

34. **McKay, N.P.** (2017), Linked PaleoData: What is it and what can it do for you?, *PAGES 5th Open Science Meeting, Zaragoza, Spain*, [Talk]

2016

33. **McKay, N.P.** (2016a), On the PAGES2k project, paleoclimate cyberinfrastructure and integrating paleoclimatology and paleoseismology, *Southern California Earthquake Center, SoSAFE Workshop, Palm Springs, CA*, [Invited Talk]
32. **McKay, N.P.** (2016b), A global multiproxy database for temperature reconstructions of the common era, *American Quaternary Association, 24th Biennial Meeting, Santa Fe, NM*, [Invited Talk]
31. **McKay, N.P.** (2016c), The structure of linked paleo data, *PaleoData Standards Workshop, Boulder, CO*, [Invited Talk]
30. **McKay, N.P.**, D. S. Kaufman, P. D. Zander, and C. C. Routson (2016), The timing and amplitude of Holocene Neoglaciation in the Arctic, *Department of Earth Sciences, University of Southern California, Los Angeles, CA*, [Invited Seminar]

2015

29. **McKay, N.P.**, D. S. Kaufman, P. D. Zander, and C. C. Routson (2015a), The timing and amplitude of Holocene Neoglaciation in the Arctic, *AGU Fall Meeting 2015, San Francisco, California*, [Talk]
28. **McKay, N.P.**, J. Emile-Geay, and the PAGES2k Consortium (2015b), A global multiproxy database for temperature reconstructions of the Common Era, *AGU Fall Meeting 2015, San Francisco, California*, [Invited Talk]
27. **McKay, N.P.**, D. S. Kaufman, P. D. Zander, and C. C. Routson (2015c), The timing and amplitude of Holocene Neoglaciation in the Arctic, *Department of Geosciences, University of Arizona, Tucson, Arizona*, [Invited Seminar]
26. **McKay, N.P.** (2015a), Collaborative database building and lessons learned from the pages 2k projects, *Open kickoff meeting of the PAGES working group Global Soil and Sediment Transfers in the Anthropocene, Hamburg, Germany*, [Invited talk]
25. **McKay, N.P.** (2015b), The state (and future) of age modelling, *Proxy System Modeling Workshop, Catalina Island, CA*, [Invited Talk]
24. **McKay, N.P.** (2015c), Geochronr and chronrater, *Cyber for Paleo Webinar Series*, [Invited Talk]

2014

23. **McKay, N.P.** (2014b), Development of the global PAGES 2k temperature database, *PAGES2k AGU 2014 Satellite Meeting*, [Invited Talk]
22. **McKay, N.P.** (2014c), PAGES-Powell North America 2k database, *AGU Fall Meeting 2014, San Francisco, California*, [Poster]
21. **McKay, N.P.**, and D. Kaufman (2014b), The spatial and temporal structure of the onset of Neoglaciation in the Arctic, *PAGES Holocene Workshop, Mt. Hood, OR*, [Invited Talk]
20. **McKay, N.P.** (2014d), The more daunting aspects of the (paleo)data, *SAMSI paleoclimate seminar series*, [Invited Talk]
19. **McKay, N.P.** (2014e), Advances in climate field reconstructions and North America 2k, *LOTRED-SA 3rd International Symposium, Medellin, Columbia*, [Invited Talk]
18. **McKay, N.P.**, D. Kaufman, H. S. S. Sundqvist, and N. L. Balascio (2014), The Arctic Holocene Transitions database and ChronRater: a simple approach to assessing the accuracy of age models from Holocene sediment cores, *Age Models, Chronologies and Databases workshop, Belfast, UK*, [talk]

2013

17. **McKay, N.P.**, and D. Kaufman (2013), North-south contrast in climate change across northwestern North America during the mid-Holocen transition and the possible relation to western Arctic Ocean sea ice., *AGU Fall Meeting 2013, San Francisco, CA*, [Poster]
16. **McKay, N.P.** (2013), Site-level analyses in PAGES2k, *PageS2k-PMIP3 Workshop, Madrid, Spain*, [Invited Talk]
15. **McKay, N.P.**, H. S. Sundqvist, D. S. Kaufman, and N. L. Balascio (2013b), On the power of a well-formed database: A proxy climate database for the mid-Holocene transition in the Arctic, *3rd International Climate Informatics Workshop, Boulder, Colorado*, [Spotlight talk and poster]
14. **McKay, N.P.**, J. T. Overpeck, T. M. Shanahan, E. Brown, J. A. Peck, C. W. Heil, J. W. King, and C. A. Scholz (2013c), A high-resolution record of West African Monsoon variability for the past 530,000 years from Lake Bosumtwi, southern Ghana, *4th PAGES Open Science Meeting, Goa, India*, [talk]
13. **McKay, N.P.**, J. T. Overpeck, T. M. Shanahan, J. A. Peck, C. W. Heil, J. W. King, and C. A. Scholz (2013d), A 12,000-Year-Long, Annually-Resolved Varve Record Spanning the Last Interglacial from Lake Bosumtwi, Southern Ghana, *2nd PAGES Young Scientist's Meeting, Goa, India*, [Poster]

2012

12. **McKay, N.P.**, J. T. Overpeck, T. M. Shanahan, J. A. Peck, C. W. Heil, J. W. King, and C. A. Scholz (2011b), A 12,000-Year-Long, Annually-Resolved Varve Record Spanning the Last Interglacial from Lake Bosumtwi, Southern Ghana, *AGU Fall Meeting 2012, San Francisco, California*, [talk]
11. **McKay, N.P.**, and D. S. Kaufman (2012), Data-model comparison of the Mid-Holocene Transition in the Arctic, *2012 PAGES SynTraCE-21 Workshop, Providence, Rhode Island*, [talk]

2012

10. **McKay, N.P.** (2012), Pleistocene climate variability in tropical West Africa on interannual to orbital timescales, inferred from the Lake Bosumtwi sediment record, *School of Earth Sciences and Environmental Sustainability Seminar Series, Fall 2012, Northern Arizona University, Flagstaff, Arizona*, [talk]

9. **McKay, N.P.**, T. R. Ault, and S. St. George (2012a), Improving access to the global paleoclimate dataset through the development of a virtual paleoclimate laboratory in R (vplR), *2nd International Climate Informatics Workshop, Boulder, Colorado*, [Spotlight talk and poster]

8. **McKay, N.P.**, J. T. Overpeck, T. M. Shanahan, E. T. Brown, J. A. Peck, J. W. King, C. Scholz, and C. W. Heil (2012b), Paleohydrologic changes in tropical West Africa on interannual to orbital timescales over the past 500,000 years, *Colloquium of the French Academy of Science on the African Tropical Forest, Paris, France*, [Invited Talk]

2011

7. **McKay, N.P.**, J. T. Overpeck, T. M. Shanahan, J. A. Peck, J. W. King, C. A. Scholz, and C. W. Heil (2011c), Interannual- to multicentiennial-scale variability in the West African Monsoon during the Eemian, *AGU Fall Meeting 2011, San Francisco, California*, [Poster]

6. **McKay, N.P.**, J. T. Overpeck, and B. Otto-Bliesner (2011d), The role of ocean thermal expansion in Last Interglacial sea level rise, *Geodaze 2011, Tucson, Arizona*, [talk]

5. **McKay, N.P.**, J. T. Overpeck, T. M. Shanahan, J. A. Peck, J. W. King, C. A. Scholz, and C. W. Heil (2011e), An initial comparison of Eemian and Holocene varve structure and variability in the Lake Bosumtwi drill core record, *2nd Workshop of PAGES Varves Working Group, Corpus Christi, Texas*, [talk]

2010

4. **McKay, N.P.**, J. T. Overpeck, E. T. Brown, T. M. Shanahan, J. A. Peck, J. W. King, Scholz, C. A., and C. W. Heil (2010), A scanning-XRF record of Lake Bosumtwi sediments: Implications for West African Monsoon variability over the past 500 kyr, *Geodaze 2010, Tucson, Arizona*, [talk]

2009

3. **McKay, N.P.**, J. T. Overpeck, E. T. Brown, T. M. Shanahan, J. A. Peck, J. W. King, Scholz, C. A., and C. W. Heil (2009), A scanning-XRF record of Lake Bosumtwi sediments: Implications for West African Monsoon variability over the past 500 kyr, *AGU Fall Meeting 2009, San Francisco, California*, [talk]

2007

2. **McKay, N.P.**, and D. S. Kaufman (2007), A biogenic-silica-inferred temperature reconstruction for the past 2 kyr, and Holocene climate fluctuations from Hallet and Greyling Lakes, Chugach Range, south-central Alaska, *International Arctic Workshop, Skaftafell, Iceland*, [talk]

2005

1. **McKay, N.P.**, D. S. Kaufman, and D. E. Anderson (2005), Characterization of climatic influences on modern sedimentation in an arctic lake, Svalbard, Norway, *Northeast regional Geological Society of America Conference, Saratoga Springs, New York*, [talk]

Research Grants & Proposals

Since 2013: A total of eighteen funded projects for $5,119,287 of local (NAU) funding from the National Science Foundation, Belmont Forum, US Geological Survey, New Zealand Ministry of Business, Innovation and Employment and private funding. Overall funding rate of 50%; 86% as Project Lead PI.

2021

Collaborative Research: GCR: Linking preindustrial with modern climate indicators to inform future climate change – [**Investigator**] – *Pending*
- *NSF: Growing Convergent Research*
- Requested funds (local): $1,264,647

Data synthesis and analysis of carbon climate dynamics on millennial timescales: Implications for 21st Century climate – [**Investigator**] – *Pending*
- *NSF: Arctic System Science*
- Requested funds (local): $1,481,022

EarthCube Capabilities: PaleoCube: Enabling Cloud-Based Paleoclimatology– [**NAU Lead Investigator**] – *Funded*
- *NSF: Earthcube*
- Requested funds (local): $105,581

2020

Collaborative Research: EarthCube Data Capabilities: PaleoCube: next-generation paleoscience with EarthCube – [**NAU Lead Investigator**] – *Declined*
- *NSF: Earthcube*
- Requested funds (local): $251,029

Dust cycle monitoring in the 4 corners region – [**NAU Lead Investigator**] – *Funded*
- *Bob and Judi Braudy Foundation*
- Requested funds (local): $80,000

Collaborative Research: AccelNet: LINKEDECOS: A Linked Ecosystem of Open Data Resources and Scientists to Investigate Past Biodiversity Dynamics in Socio-environmental Systems – [**NAU Lead Investigator**] – *Declined*
- *NSF: Accelnet*
- Requested funds (local): $194,296

Monsoon 21k: A global monsoon synthesis and data model comparison – [**Investigator**] – *Funded*
- *NSF: Paleo-perspectives on climate change*
- Requested funds (local): $503,510

A machine readable paleoseismic event database: toward improving long-term earthquake predictability in southern California – [**Investigator**] – *Funded*
- *NSF: Southern California Earthquake Center*
- Requested funds (local): $32,782

Collaborative Research: PReSto: A Paleoclimate Reconstruction Storehouse to Broaden Access and Accelerate Scientific Inference – [**Project Lead Investigator**] – *Funded*
- *NSF: Geoinformatics*
- Requested funds (local): $453,467

Collaborative Research: Patterns and processes of abrupt Arctic warming based on paleoclimate observations and models – [**NAU Lead Investigator**] – *Funded*
- *NSF: ARCSS*
- Requested funds (local): $527,906

2019

EarthCube Data Capabilities: Collaborative Proposal: PaleoWorkBench - enabling next-generation Earth system science – [**NAU Lead Investigator**] – *Declined*
- *NSF: Earthcube*
- Requested funds (local): $247,585

EarthCube Data Capabilities: Collaborative Proposal: Reducing Time-To-Science in the Earth Sciences: Annotations to foster convergence, inclusion, and credit – [**NAU Lead Investigator**] – *Funded*
- *NSF: Earthcube*
- Requested funds (local): $209,116

Collaborative Research: AccelNet: LINKEDECOS: A Linked Ecosystem of Open Data Resources and Scientists to Investigate Past Biodiversity Dynamics in Socio-environmental Systems – [**NAU Lead Investigator**] – *Declined*
- *NSF: Accelnet*
- Requested funds (local): $210,710

MRI: Acquisition of equipment for an integrated gas analysis and labeling radiocarbon system with a focus on Arctic carbon and geochronology – [**Investigator**] – *Funded*
- *NSF: MRI*
- Requested funds (local): $486,652

2018

Collaborative Research: Quantifying Holocene climate variations through data assimilation using proxies and GCM output – [**Investigator**] – *Funded*
- *NSF: Paleo-perspectives on climate change*
- Requested funds (local): $441,947

Abrupt Change in Climate and Ecosystems: Where are the Tipping Points? [**Project Lead Investigator**] – *Funded*
- *Belmont Forum: Science-driven e-Infrastructure Innovation*
- Requested funds (local): $152,451

Collaborative Research: Framework: Software: Community Earth System Informatics: Enabling Convergent Science [**NAU Lead Investigator**] – *Declined*
- *NSF: Cyberinfrastructure for Sustained Scientific Innovation*
- Requested funds (local): $498,835

MRI: Acquisition of automated graphitization equipment for radiocarbon analysis: Arctic carbon, geochronology, and other applications – [**Investigator**] – *Declined*
- *NSF: Major Research Instrumentation*
- Requested funds (local): $411,735

2017

Collaborative Research: Quantifying Holocene climate variations through data assimilation using proxies and GCM output – [**Investigator**] – *Declined*
- *NSF: Paleo-perspectives on climate change*
- Requested funds (local): $443,129

Collaborative Research: Evolution of terrestrial climate and vegetation through the mid-Pleistocene climate transition: A 1.5 Ma record from Stoneman Lake, Arizona– [**Investigator**] – *Declined*
- *NSF: Paleo-perspectives on climate change*
- Requested funds (local): $323,472

Holocene Dustiness in the San Juan Mountains, Colorado – [**Investigator**] – *Declined*
- *NSF: Paleo-perspectives on climate change*
- Requested funds (local): $451,234

Lakes380: past, present, future: Our lakes health: past, present, future - Me hoki whakamuri kia haere whakamua – [**NAU Lead Investigator**] – *Funded*
- *New Zealand Ministry of Business, Innovation and Employment – Endeavour Fund*
- Local funds: $92,418

Collaborative Proposal: EarthCube Integration: THROUGHPUT: Standards and Services for Community Curated Repositories – [**NAU Lead Investigator**] – *Funded at Pilot Level*
- *NSF: Earthcube*
- Local funds (pilot): $69,227

MRI: Acquisition of A Mini Carbon Dating System for Understanding Arctic Carbon and Climate (ACCLIMATE) – [**Investigator**] – *Declined*
- *NSF: Major Research Instrumentation*
- Requested funds (local): $1,982,320

2016

MRI: Acquisition of A Mini Carbon Dating System for Understanding Arctic Carbon and Climate (ACCLIMATE) – [**Investigator**] – *Declined*
- *NSF: Major Research Instrumentation*
- Requested funds (local): $1,971,874

Synthesis of Holocene Proxy Climate Records from Western North America – [**Investigator**] – *Funded*
- *NSF: Paleo-perspectives on climate change*
- Local funds: $481,822 (2019 extension increased to $522,048)

Collaborative Research: Evolution of terrestrial climate and vegetation through the mid-Pleistocene climate transition: A 1.2 Ma record from Stoneman Lake, Arizona – [**Investigator**] – *Declined*
- *NSF: Paleo-perspectives on climate change*
- Requested funds (local): $399,774

Holocene Dustiness in the San Juan Mountains, Colorado – [**Investigator**] – *Declined*
- *NSF: Paleo-perspectives on climate change*
- Requested funds (local): $274,000

The Drought-Dust Nexus in the Four-Corners Region and Impacts on Society – [**Lead Investigator**] – *Funded*
- *Bob and Judi Braudy Foundation*
- Local funds: $139,308

2015 EarthCube IA: Collaborative Proposal: LinkedEarth: Crowdsourcing Data Curation & Standards Development in Paleoclimatology [**NAU Lead Investigator**] – *Funded*
- *NSF: Earthcube: Integrated Activities*
- Local funds: $113,015

EarthCube IA: Collaborative Proposal: Chains of Provenance: Linking geoscientific archives, repositories, and analysis [**Investigator**] – *Declined*
- *NSF: Earthcube: Integrated Activities*
- Requested funds (local): $132,515

Collaborative Research: Evolution of terrestrial climate and vegetation through the mid-Pleistocene climate transition: A 1.2 Ma record from Stoneman Lake, Arizona – [**Investigator**] – *Declined*
- *NSF: Paleo-perspectives on climate change*
- Requested funds (local): $320,589

Holocene Dustiness in the San Juan Mountains, Colorado – [**Investigator**] – *Declined*
- *NSF: Paleo-perspectives on climate change*
- Requested funds (local): $203,595

2014 Collaborative research: Developing a system model of Arctic glacial-lacustrine sedimentation for investigating past and future climate change [**Lead Investigator**] – *Funded*
- *NSF: Arctic System Science*
- Local Funds: $753,203 plus $300,000 logistical support

Collaborative Research: GeoChronR – Open-source Tools for the Analysis, Visualization and Integration of Time-Uncertain Geoscientific Data [**Lead Investigator**] – *Funded*
- *NSF: Geoinformatics*
- Local funds: $369,346

2013 EarthCube Building Blocks: Crowdsourcing Geoscientific Data Curation [**NAU Lead Investigator**] – *Declined*
- *NSF: Earthcube Building Blocks*
- Requested funds (local): $66,179

A broader view of North American climate over the past two millennia: Synthesizing paleoclimate records from diverse archives [**Lead Investigator**] – *Funded*
- *USGS: Powell Center*
- Local funds: $129,737

2012 Collaborative Research: A virtual paleoclimate laboratory to quantify climate reconstruction uncertainty – [**Lead Investigator**] – *Declined*
- *NSF: Paleo-perspectives on climate change*
- Requested funds (local): $473,326

Collaborative Research (RUI): Alaskan and Peruvian Contributions to a Synthesis of Holocene Proxy Climate Records from the Arctic and Eastern Pacific Rim [**Investigator**] – *Declined*
- *NSF: Paleo-perspectives on climate change*
- Requested funds (local): $687,900

Teaching

2019	**Instructor**	Climate Change (ENV 115), Climate Change Methods (ENV 199),Earth and Environmental Data Analysis (EES 680), Northern Arizona University
2018	**Instructor**	Climate Change (ENV 115), Global Climate Change (ENV 595), Earth and Environmental Data Analysis (EES 680), Climate Dynamics (EES 580), Northern Arizona University
2017	**Instructor**	Climate Change (ENV 115), Earth and Environmental Data Analysis (EES 599), Northern Arizona University
2016	**Instructor**	Climate Change (ENV 115), Atmosphere & Hydrosphere (ENV 360), Earth and Environmental Data Analysis (EES 599), Climate Dynamics (EES 599), Paleoclimate Seminar (EES 698), Northern Arizona University
2015	**Instructor**	Climate Change (ENV 115), Climate Dynamics (EES 599), Northern Arizona University
2014	**Instructor**	Climate Change (ENV 115), Paleolakes seminar (EES 698), Northern Arizona University
2013	**Instructor**	Modes of Climate Variability (EES 698), Northern Arizona University

Awards

2021	Fulbright New Zealand Scholar
2018	AGU 2017 Editors Citation for Excellence in Refereeing
2016	Northern Arizona University Research and Creativity Award: "Most Promising New Scholar"
2012	William G. McGinnies Award for Arid Lands Research

Professional Service and Outreach

2021	Leader: ACCEDE and PReSto Projects
	Co-Leader: LinkedEarth
	Data coordinator: iso2k project
2020	Leader: ACCEDE and PReSto Projects
	Co-Leader: LinkedEarth
	Data coordinator: Temperature 12k, iso2k projects
2019	Leader: ACCEDE Project

	Co-Leader: LinkedEarth
	Co-organizer: PaleoHack Hackathon, online
	Data coordinator: Temperature 12k, iso2k projects
2018	Co-Leader: LinkedEarth
	Data coordinator: iso2k project
2017	Leader: PAGES North America 2k working group
	Organizer: 2nd geoChronR workshop, Flagstaff, AZ
	Co-Leader: LinkedEarth
	Data coordinator: Global PAGES 2k Network; iso2k project
2016	Leader: PAGES North America 2k working group
	Organizer: 1st geoChronR workshop, Flagstaff, AZ
	Co-Leader: LinkedEarth
	Data coordinator: Global PAGES 2k Network; iso2k project
2015	Leader: PAGES North America 2k working group
	Data coordinator: Global PAGES 2k Network; iso2k project
	Organizer : PAGES/USGS Powell Center "North America 2k working group meeting", 12-15 October Fort Collins, CO
2014	Leader: PAGES North America 2k working group
	Data coordinator: Global PAGES 2k Network
	Organizer : PAGES/USGS Powell Center "North America 2k working group meeting", 23-26 June Fort Collins, CO
	Organizer : PAGES "North America 2k AGU Breakout meeting", 17 December, San Francisco, CA
	Co-organizer: "PAGES 2k - Advances in Climate Field Reconstruction Workshop", 15-16 April, Woods Hole, MA
	Invited panelist for NOAA Paleoclimate ad-hoc review panel
2013	Climate science Q&A accompanying *Chasing Ice*
2012	Geology display at Knoles Elementary School STEM Night
	Public Lecture – Stories in the mud: What lakes have taught me about past climates. Inaugural McGinnies Lecture, University of Arizona.

Reviewer (Journals)

2021	*Scientific Data, Climate of the Past, Earth-Science Reviews*
2020	*Nature Communications; Geophysical Research Letters; Climate of the Past*
2019	*Nature; Geophysical Research Letters; Climate of the Past*
2018	*Nature; JGR: Biogeoscience; Geophysical Research Letters; Journal of Paleolimnology; Quaternary Science Reviews; Climate of the Past*
2017	*Palaeogeography, Palaeoclimatology, Palaeoecology; Geophysical Research Letters; Climate of the Past*
2016	*Climate of the Past; Geophysical Research Letters*
2015 to 2011	*Science, Geophysical Research Letters, Journal of Paleolimnology, Journal of Geophysical Research: Oceans, Geochemical Transactions*

Media Coverage

Print	Arizona Republic, Arizona Daily Star, BBC News, Green Valley News and Sun, NAU Lumberjack, NAU News, NBC News, and Science Daily
Radio	BBC
Television	Arizona Public Media
New Media	Nature Publishing Group Journal Club, PAGES 2k Google Hangout

Students and Postdocs Supervised

Served as lead advisor

Postdocs	Michael Erb (2017-2019), Allison Cluett (2021-present)
Ph.D. Students	Stéphanie Arcusa (2016-2020), Chris Hancock (2020-Present), Ethan Yackulic (2020-Present), Laura Schley (2021-present), Frank Telles (2021-present)
M.S. Students	Sela Patterson (2019-Present), Charlotte Wiman (2017-2019), Ethan Yackulic (2015-2017),

Served on committee

Ph.D. Students	Ellie Broadman, Stacy Kish, Emily Romano
M.S. Students	Annie Wong, Lindsey Gipson, Rebecca Ellerbroek, Charles Mogen, Chris Benson, Rachel Krueger, Lorna Thurston, Hannah Kolus, Doug Steen, Paul Zander