

Kendrick Taylor

Overview

I am a Research Professor with the Desert Research Institute, which is part of the Nevada System of Higher Education. Most of my work has focused on understanding the causes of climate change. I have been involved with ice core paleoclimate studies since 1981 and have worked on every United States deep ice coring project during that time.

I am the Chief Scientist for the U.S. National Science Foundation funded WAIS Divide ice coring project in Antarctica. This project is studying how past changes in the concentration of Greenhouse gases in the atmosphere changed the climate, and how the West Antarctic ice sheet responded to a previous period with a warmer climate that is similar to the climate we are likely to experience. As Chief Scientist I have been selected by my peers and tasked by the National Science Foundation to organize and lead the science, drilling, core archival, and field operations. I am also the primary spokesperson for the project. This requires understanding the work done in 27 university laboratories and the drilling and logistics issues. A critical aspect is to develop a sense of community and shared commitment by the staff in the different organizations working on the project.

I have been a public spokesperson for issues related to climate change, with numerous media interviews including national print, radio and television. I strive to educate the public in terms which are appropriate and relevant to the audience.

I also work on more traditional hydrology projects including the water clarity of alpine lakes and rural water development in Oman and Ghana.

Education

Ph.D., Hydrogeology/Hydrology, University of Nevada, Reno (1986)

M.S., Geophysics, University of Wisconsin, Madison (1982)

B.S., Geophysics, Colorado School of Mines, Golden (1979)

Professional Experience

1986 to Present

After obtaining my Ph.D., I stayed at the Desert Research Institute. I have an unusual position in that I have to raise 100% of my salary by obtaining funding for research that I initiate. I do not have teaching responsibilities. This suits me well as I have more flexibility to pursue my research interests, which always include significant field programs.

2004 to Present

I am the Chief Scientist for the WAIS Divide Ice Core Project, which is improving the ability to predict future changes in climate and sea level. This project is funded by the U.S. National Science Foundation and includes 27 research labs. It is investigating the role of greenhouse gases in past climate changes, and how the amount of ice in Antarctica changed in response to a previous warmer climate.

The ice core is collected from a location in West Antarctica that was selected because it is the best place on the planet to recover a record of how the concentration of atmospheric greenhouse gases has changed during the last 100,000 years. As the Chief Scientist I am the link between the science, logistics and funding organizations, and tasked with getting the most science with the resources that are available. The project web site is <http://waisdivide.unh.edu>. I

also make electrical measurements on the ice that are used to identify the annual layers in the ice and determine how old the ice is.

Another project is teaching the staff of World Vision, a non-governmental relief organization how to use geophysical methods to locate favorable locations for shallow water wells. The shallow wells are used to replace the contaminated surface water sources that are used in many rural areas in Ghana, Mali and Niger. This project requires adapting advanced geophysical methods for use by World Vision's staff.

I have been a guest speaker for Linblad/National geographic trips to Antarctic in 2012 and 2014. This allows me to share my passion for Antarctica and knowledge of climate change issues with the ship's guests.

2004

At the request of the U.S. National Science Foundation, I organized the International Partners in Ice Core Science, which is now an international effort among 23 nations to coordinate and facilitate international deep ice coring projects. This latest meeting in 2012 was attended by 350 delegates from more than twenty nations.

2000 to 2004

Investigated the cause of decreasing water clarity at Lake Tahoe, Nevada. This involved development of a water quality measurement system with real time analyses and display functions that were operated on a small boat in stormy weather conditions.

1995 to 2000

Served as the Chief Scientist for the Siple Dome ice core project and made electrical measurements of the core. My role in this project was the same as it currently is for the WAIS Divide ice core project. This project was oriented at studying how the ice sheet will respond to a warmer climate.

1989 to 1995

I was a scientist on several deep ice core projects including the Greenland GISP2 project, and the Antarctic Taylor Dome project.

I led groundwater exploration programs in Oman, and Ghana. These efforts taught local organizations how to use geophysical methods to locate favorable locations for shallow domestic water wells. In 2014 I built a simplified transient electromagnetic instrument and trained World Vision how to use it.

Outreach Activities

The results of scientific research are meaningless if they are not presented to the public and policy makers in an accessible form. I feel strongly that scientists have an obligation to educate the public about their findings and how their work is conducted. Listed below are nationally distributed outreach activities related to my research. Local activities are not listed.

Nation Television

Discovery Channel Canada, Daily Planet, Ice Core, April 21, 2011.

NOVA; Secrets Beneath the Ice, 2010. <http://www.pbs.org/wgbh/nova/warnings>

Natural History New Zealand; Katabatic, 2000.
http://www.nhnz.tv/view_program_catalog/progID/168/page/14

NOVA, Warnings from the Ice; 1998. <http://www.pbs.org/wgbh/nova/warnings/>

National Press

Wall Street Journal; Mining for Cold Hard Facts, May 29, 2010, Front page.

American Scientist; Rapid Climate Change, 1999. *American Scientist*, July-August, 1999, p 320-327.

Time; Antarctica; Warnings from the Ice, April 14, 1997, page 55-59.

I produced a 20 minute video on my work at WAIS Divide because of my frustration with the content of commercial productions. Although the production standards of my video are not suitable for commercial distribution, it has been used by many education organizations and won awards at small film festivals in 2010. The video, "Climate Change: How Do We Know?" is at <http://www.waisdivide.unh.edu/multimedia/video.shtml>.

Polar Field Experience

As a graduate student

1981-1982: Dome C, Antarctica and South Pole

1982: Dye-3, Greenland

1983-1984: Ice Stream B, Antarctica

As a Principle Investigator

(A Principle Investigator is responsible for his own science program.)

1989: Summit, Greenland

1990: Summit, Greenland

1991: Summit, Greenland

1992: Summit, Greenland

1993: Summit, Greenland

As Chief Scientist

(The Chief Scientist is responsible for all science activities and personnel, coordination of the science and logistics, and is the local representative of the National Science Foundation.)

1995-1996: Siple Dome, Antarctica

1996-1997: Siple Dome, Antarctica and the Dry Valleys, Antarctica

1997-1998: Siple Dome, Antarctica

1998-1999: Siple Dome, Antarctica

2005: Summit, Greenland

2005-2006: WAIS Divide, Antarctica

2007-2008: WAIS Divide, Antarctica

2008-2009: WAIS Divide, Antarctica

2009-2010: WAIS Divide, Antarctica

2010-2011: WAIS Divide, Antarctica

Awards

Dandini Medal (1999): This award is made to a DRI scientist who has developed an international reputation for the contributions they have made to their field of science.

Mackay School of Mines, Alumni of the Year (1997): This award is made to an alumnus of the Mackay School of mines who has achieved a high level of distinction in their field.

Reviewing Activities

I have reviewed proposal and articles for the National Oceanographic and Atmospheric Administration, the National Science Foundation, the U.S. Geological Survey, Nature, Science, the Journal of Geophysical Research, The Journal of Glaciology, Groundwater, Water Resources Research, Geophysics, Nature Geoscience, Climate of the Past, and The Holocene. I have served on NOAA and NSF proposal review panels.

Teaching

I have taught graduate courses on *Hydrogeophysics* and *Introduction to Hydrogeology* at the University of Nevada, Reno.

Research Grants

Except where noted Taylor is the only Investigator on these projects. Only major grants are listed.

Subsurface Geophysical Methods for Hazardous Waste Site Investigation

Grantor: Environmental Protection Agency

Grant amount: \$1,600,000 Competition: National peer review

Start date: 3/89 End date: 4/92

The geophysics portion of this EPA-funded cooperative agreement (\$800,000) was written by Taylor. The project developed strategies for using borehole geophysical methods to locate groundwater contamination and characterize the hydraulic properties of the subsurface. (Co P.I. with Steve Wheatcraft)

Surface Geophysical Instrumentation

Grantor: Department of Defense

Grant amount: \$104,000 Competition: National peer review

Start date: 10/88 End date: 9/89

This equipment grant was used to upgrade DRI's geophysical instrumentation.

Application of Transient Electromagnetics to Groundwater Investigations

Grantor: U.S. Geological Survey and Washoe County, Nevada

Grant amount: \$49,000 Competition: State request for proposals

Start date: 6/89 End date: 5/90

This project used transient electromagnetic methods for groundwater exploration in Washoe County, Nevada.

Electrical Conductivity Measurements on the GISP2 Core

Grantor: National Science Foundation

Grant amount: \$527,000 Competition: National peer review

Start date: 3/90 End date: 8/94

Electrical properties of the GISP2 Greenland ice core were measured leading to the development of a climate record extending 100,000 years into the past. This research resulted in the discovery that major changes in climate frequently occurred in less than a decade.

Electrical Measurements on the Taylor Dome Core

Grantor: National Science Foundation

Grant amount: \$74,000 Competition: National peer review

Start date: 9/92 End date: 2/95

The electrical properties of ice cores from Antarctica were measured providing a climate record extending 150,000 years into the past and demonstrating the regional response of climate changes in Antarctica.

Interpretation of the GISP2 Record

Grantor: National Science Foundation

Grant amount: \$210,000 Competition: National peer review

Start date: 8/94 End date: 7/98

This project involved the interpretation of the 100,000 year climate record developed from the GISP2 ice core and showed that results reported by other researchers could not be replicated.

Recovery and Science Coordination of an Ice Core at Siple Dome, Antarctica

Grantor: National Science Foundation

Grant amount: \$707,000 Competition: National peer review

Start date: 6/96 End date: 5/03

The grant supported the coordination of all science and logistical activities related to the recovery and interpretation of a 1,000 meter Antarctic ice core.

Electrical and Optical Measurements on the Siple Dome Ice Core

Grantor: National Science Foundation

Grant amount: \$341,000 Competition: National peer review

Start date: 3/96 End date: 2/04

Paleoclimate records from a 1,000m Antarctic ice core were measured and interpreted. The records showed abrupt climate changes have occurred in Antarctica

Selection of Favorable Shallow Water Well Locations in Ghana

Grantor: Conrad N. Hilton Foundation

Grant amount: \$711,000 Competition: Private request for proposal

Start date: 6/95 End date: 10/97

This project developed remote sensing and surface geophysics methods to select favorable locations for water wells in fractured terrain, and trained staff from a local aid agency to independently utilize the method.

Investigation of the Cause of Near Shore Clarity Loss at Lake Tahoe

Grantors: Tahoe Regional Planning Agency, Nevada State Lands, California Water Quality Control Board, United States Geological Survey

Grant amount: \$425,000 Competition: California and Nevada competition

Start date: 6/99 End date: 5/04

This has a series of 5 interrelated contracts investigating the Tahoe basin.

Preparations for Collection of a Deep Ice Core West Antarctica

Grantor: National Science Foundation

Grant amount: \$215,000 Competition: National Competition

Start date: 3/03 End date: 3/07

Optical Imaging of Ice Cores

Grantor: National Science Foundation

Grant amount: \$332,000 Competition: National Competition

Start date: 6/03 End date: 6/06

CoPi with Ken McGwire and Richard Alley

Development of a Plan for Multinational Ice Coring Projects

Grantor: National Science Foundation

Grant amount: \$50,000 Competition: Invited Solicitation

Start date: 11/03 End date: 7/04

NSF EPSCoR Project to Develop Nevada's Research Infrastructure

Grantor: National Science Foundation

Grant amount: \$13,500,000 Competition: National Competition

Start Date: 5/05 End Date:5/08

This project is developing Nevada's research infrastructure in the field of vadose zone transport, cognitive information processing and environmental sensors. (Co P.I. with Denis Lindle)

Science Coordination of the WAIS Divide Ice Core

Grantor: National Science Foundation

Grant amount: \$1,934,000 Competition: National Competition

Start date: 8/05 End date: 6/10

This project established the Science Coordination Office for the WAIS Divide ice core which is responsible for coordinating the activities of the approximately 15 science groups and the logistics and drilling support teams.

Electrical Measurements on the WAIS Divide Ice Core

Grantor: National Science Foundation

Grant amount: \$987,000 Competition: National Competition

Start date: 6/05 End date: 6/10

This project is making electrical measurements on the WAIS Divide ice core that are used to develop the time scale for the climate information recorded by the core.

Science Coordination of the WAIS Divide Ice Core

Grantor: National Science Foundation

Grant amount: **\$332,000** Competition: National Competition

Start date: 6/10 End date: 6/14

This project established the Science Coordination Office for the WAIS Divide ice core which is responsible for coordinating the activities of the approximately 27 science groups and the logistics and drilling support teams.

Electrical Measurements on the WAIS Divide Ice Core, 2

Grantor: National Science Foundation

Grant amount: \$100,000 Competition: National Competition

Start date: 6/10 End date: 6/14

This project is making electrical measurements on the WAIS Divide ice core that are used to develop the time scale for the climate information recorded by the core.

Peer Reviewed Publications

Taylor, K.C., A. Mazzella, and J. Hess, 1989. Field evaluation of a slim hole borehole induction tool. *Ground Water Monitoring Review*, 9(1):100-104.

Taylor, K.C. and F. Molz, 1990. Determination of hydraulic conductivity and porosity logs in wells with a disturbed annulus. *Journal of Contaminant Hydrology*, 5:317-332.

Taylor, K.C., S.W. Wheatcraft, J. Hess, J. Hayworth, and F. Molz, 1990. Evaluation of methods for determining the vertical distribution of hydraulic conductivity. *Ground Water*, 28(2):88-98.

Taylor, K.C., J. Hess, and A. Mazzella, 1990. Comparison of methods to determine the vertical stratification of pore fluid. *Ground Water Monitoring Review*, 10:91-94.

Taylor, K.C., R. Bochicchio, and M. Widmer, 1990. A Transient Electromagnetic Survey to Define Hydrogeology. A Case History. *Geoexploration*, Elsevier Science Publishers, B.V., Amsterdam, Netherlands, Vol. 27, pp. 43-54.

Palais, J.M., K. Taylor, P.A. Mayewski, and P. Grootes, 1991. Volcanic ash from the 1362 A.D. O'Refajokull eruption (Iceland) in the Greenland ice sheet. *Geophysical Research Letters*, 18(7):1241-1244.

Taylor, K., M. Widmer and M. Chesley, 1992. Use of transient electromagnetics to define local hydrogeology in an arid alluvial environment. *Geophysics*, 57(2):343-352.

Taylor, K., M. Rose, and G. Lamorey, 1992. Relationship of solar activity and climatic oscillations on the Colorado plateau. *Journal of Geophysical Research*, 97(D14):15,803-15,811.

Taylor, K., R. Alley, J. Fiacco, P. Grootes, G. Lamorey, P. Mayewski, and M.J. Spencer, 1992. Ice-core dating and chemistry by direct-current electrical conductivity. *Journal of Glaciology*, 38(130):325-332.

Taylor, K.C., C.U. Hammer, R.B. Alley, H.B. Clausen, D. Dahl-Jensen, A.J. Gow, N.S. Gundestrup, J. Klipfstuhl, J.C. Moore, and E.D. Waddington, 1993. Electrical conductivity measurements from the GISP2 and GRIP Greenland ice cores. *Nature*, 366:549-552.

Mayewski, P., L.D. Meeker, S. Whitlow, M.S. Twickler, M.C. Morrison, R.B. Alley, P. Bloomfield, and K. Taylor, 1993. The atmosphere during the Younger Dryas. **Science**, 261:195-197.

Taylor, K.C., G.W. Lamorey, G.A. Doyle, R.B. Alley, P.M. Grootes, P.A. Mayewski, J.W.C. White, and L.K. Barlow, 1993. The 'flickering switch' of late Pleistocene climate change. *Nature*, 361:432-436.

Alley, R.B., D.A. Meese, C.A. Shuman, A.J. Gow, K.C. Taylor, P.M. Grootes, J.W.C. White, M. Ram, E.D. Waddington, P.A. Mayewski, and G.A. Zielinski, 1993. Abrupt increase in Greenland snow accumulation at the end of the Younger Dryas event. **Nature**, 362:527-529.

Meese, D.A., A.J. Gow, P. Grootes, P.A. Mayewski, M. Ram, M. Stuiver, K.C. Taylor, E.D. Waddington, and G.A. Zielinski, 1994. The accumulation record from the GISP2 core as an indicator of climate change throughout the Holocene. **Science**, 266:1680-1682.

Mayewski, P.A., M. Wumkes, J. Klinck, M.S. Twickler, J.S. Putscher, K.C. Taylor, A.J. Gow, E.D. Waddington, R.B. Alley, J.E. Gibb, P.M. Grootes, D.A. Meese, M. Ram, M. Whalen, and A.T. Wilson, 1994. Record drilling depth struck in Greenland. *EOS*, 75(10):113.

Mayewski, P.A., L.D. Meeker, S. Whitlow, M.S. Twickler, M.C. Morrison, P. Bloomfield, G.C. Bond, R.B. Alley, A.J. Gow, P.M. Grootes, D.A. Meese, M. Ram, K.C. Taylor, and W. Wumkes, 1994. Changes in atmospheric circulation and ocean ice cover over the north Atlantic during the last 41K years. **Science**, 263:1747-1751.

Mayewski, P.A., B. Lyons, G. Zielinski, M. Twickler, S. Whitlow, J. Dibb, P. Grootes, K. Taylor, P. Whung, L. Fosberry, C. Wake, and K. Welch, 1994. An ice core based, late Holocene history for the transantarctic mountains, Antarctica. *Antarctic Research Series*, 67:33-45.

Chylek, P., B. Johnson, P.A. Damiano, K.C. Taylor, and P. Clement, 1995. Biomass burning record and black carbon in the GISP2 ice core. *Geophysical Research Letters*, 22(2):89-92.

Zielinski, G.A., M.S. Germani, G. Larsen, M.G.L. Baillie, S. Whitlow, M.S. Twickler, and K. Taylor, 1995. Evidence of the Eldgj (Iceland) eruption in the GISP2 Greenland ice core: Relationship to eruption processes and climatic conditions in the tenth century. *The Holocene*, 5(2):129-140.

Taylor, K.C., R.B. Alley, G.W. Lamorey and P. Mayewski, 1995. Electrical conductivity measurements on the GISP2 core. *Arctic Research of the United States*, 9:27-29.

Taylor, K.C., P.A. Mayewski, M.S. Twickler, and S.I. Whitlow, 1996. Biomass burning recorded in the GISP2 ice core: A record from eastern Canada? *The Holocene*, 6(1):1-6.

Zielinski, G.A., P.A. Mayewski, L.D. Meeker, S. Whitlow, M.S. Twickler, and K. Taylor, 1996. Potential atmospheric impact of the Toba mega-eruption ~71,000 years ago. *Geophysical Research Letters*, 23(8):837-840.

Mayewski, P.A., M.S. Twickler, S.I. Whitlow, L.D. Meeker, Q. Yang, J. Thomas, K. Kreutz, P.M. Grootes, D.L. Morse, E.J. Steig, E.D. Waddington, E.S. Saltzman, P.Y. Whung, and K.C. Taylor, 1996. Climate change during the last deglaciation in Antarctica. **Science**, 272(5268):1636.

Yang, Q., P.A. Mayewski, G.A. Zielinski, M. Twickler, and K.C. Taylor, 1996. Depletion of atmospheric nitrate and chloride as a consequence of the Toba volcanic eruption. *Geophysical Research Letters*, 23(18):2513-2516.

Zielinski, G.A., P.A. Mayewski, L.D. Meeker, K. Granvold, M.S. Germani, S. Whitlow, M.S. Twickler, and K. Taylor, 1996. Volcanic aerosol records and tephrochronology of the Summit, Greenland, ice cores. *Journal of Geophysical Research*, 102:26,625-26,641.

Alley, R.B., P.A. Mayewski, T. Sowers, M. Stuiver, K.C. Taylor, and P.U. Clark, 1997. Holocene climate; a prominent, widespread event 8,200 years ago. *Geology*, 25(6):483-486.

Taylor K.C., R. B. Alley, G. W. Lamorey, and P. M. Mayweski, 1997. Electrical measurements on the GISP2 core. *Journal of Geophysical Research*, 102:26,511-26,519.

Taylor, K.C., P.A. Mayewski, R.B. Alley, E.J. Brook, A.J. Gow, P.M. Grootes, D.A. Meese, E.S. Saltzman, J.P. Severinghaus, M.S. Twickler, J.W.C. White, S. Whitlow, and G.A. Zielinski, 1997. The Holocene/Younger Dryas transition recorded at Summit, Greenland. **Science**, 278:825-827.

Alley, R.B., C.A. Shuman, D.A. Meese, A.J. Gow, K.C. Taylor, K. M. Cuffey, J.J. Fitzpatrick, P.M. Grootes, G.A. Zielinski, M. Ram, G. Spinelli, and B. Elder, 1998. Visual-stratigraphic dating of the GISP2 ice core: Basis, reproducibility and application. *Journal of Geophysical Research*, 102:26,367-26,383.

Messe D.A., A.J. Gow, R.B. Alley, G.A. Zielinski, P.M. Grootes, M. Ram, K.C. Taylor, P.A. Mayewski, and J.F. Bolzan, 1998. The GISP2 depth-age scale: Methods and results. *Journal of Geophysical Research*, 102, 26,411-26,425.

Smith, H.J., M. Wahlen, D. Mastroianni, K. Taylor, and P.M. Mayewski, 1998. The CO₂ concentration of air trapped in GISP2 formed during periods of rapid climate change. *Journal of Geophysical Research*, 102:26,577-26,583.

Thorsteinsson, T., E.D. Waddington, K.C. Taylor, R.B. Alley, and D.D. Blankenship, 1999. Strain rate enhancement at Dye 3, Greenland. *Journal of Glaciology*, 45:150, 338.

Taylor, K.C., T.B. Minor, M.M. Chesley, and K. Matanawi, 1998. Cost effectiveness of well site selection methods in a fractured aquifer. *Ground Water*, 37:24,271-275.

Taylor, K.C., Rapid Climate Change, 1999. *American Scientist*, July-August, 320-327.

McConnell J.R., G.W. Lamorey, S. W. Lambert, K.C. Taylor, 2002, Continuous Ice-Core Chemical Analyses Using Inductively Coupled Plasma Mass Spectrometry. *Environ. Sci. Technol.*, 36 (1), pp 7-11, DOI: 10.1021/es011088z.

Hawley, R.L., E.D. Waddington, R.B. Alley, K.C. Taylor. Annual layers in polar firn detected by borehole optical stratigraphy. *Geophysical Research Letters* 30(15), 1788, doi:10.1029/2003GL017675, 2003.

Hawley, R.L., E.D. Waddington, R.B. Alley, G.W. Lamorey, G.W., K.C. Taylor, 2004, Vertical-strain measurements in firn at Siple Dome, Antarctica *J. of Glaciology*, Volume 50, Number 170, June 2004, pp. 447-452(6).

Taylor, K.C., J.W.C. White, J.P. Severinghaus, E.J. Brook, P.A. Mayewski, R.B. Alley, E.J. Steig, M.K. Spencer, E. Meyerson, D.A. Meese, G.W. Lamorey, A. Grachev, A.J. Gow and B.A. Barnett, 2004, Abrupt late glacial climate change in the Pacific sector of Antarctica. *Quaternary Science Reviews*, v23 p7-17.

Anh J., M. Wahlen, B. Deck, E. Brook, P. Mayewski, K. Taylor, J. White, 2004, A record of atmospheric CO₂ during the last 40,000 years from the Siple Dome, Antarctica ice core, *JGR v 109 d13305*, p 1-8.

Taylor K.C., Richard Alley, 2004, Two dimensional electrical stratigraphy of the Siple Dome ice core. *Journal of Glaciology*, v 50 no 169 p231-235.

Taylor, K.C, 2004, Dating the Siple Dome Ice core by manual and computer interpretation of annual layering. *Journal of Glaciology v 50 no 170 p 453-461.*

Waddington, E.D., Conway, H, Steig, EJ, Alley, R.B., Brook, E.J., Taylor, K.C., White, J.W.C., 2005, Decoding the dipstick: Thickness of Siple Dome, West Antarctica, at the Last Glacial Maximum, *Geology*, v33:4, p:281-284.

Brook E., White, J.W.C., Schilla A., Bender M., Barnett B., Severinghaus J., Taylor K.C., Alley R., Steig E.J., 2005, Timing of millennial-scale climate change at Siple Dome, West Antarctica, during the last glacial period. *QSR v 24*, 1333-1343.

Kurbatov, A. V., G. A. Zielinski, N. W. Dunbar, P. A. Mayewski, E. A. Meyerson, S. B. Sneed, K. C. Taylor. 2006, A 12,000 year record of explosive volcanism in the Siple Dome Ice Core, West Antarctica, *J. Geophys. Res.*, 111, D12307, doi:10.1029/2005JD006072.

McGwire, K.C., J.R. McConnell, R.B. Alley, J.R. Banta, G.M. Hargreaves, and K.C. Taylor, 2008, Dating Annual Layers of a Shallow Antarctic Ice Core with an Optical Scanner, *Journal of Glaciology*, 54(188):831-838.

Banta, J. R., J. R. McConnell, M. M. Frey, R. C. Bales, and K. Taylor (2008), Spatial and temporal variability in snow accumulation at the West Antarctic Ice Sheet Divide over recent centuries, *J. Geophys. Res.*, 113, D23102, doi:10.1029/2008JD010235.

Ahn, J., Headly, M., Wahlen, M., Brook, E.J., Mayewski, P.A., and Taylor, K.C., 2008, CO₂ diffusion in polar ice: observations from naturally formed CO₂ spikes in the Siple Dome (Antarctica) ice core, *Journal of Glaciology*, 54, 685-695.

McGwire, K.C., Hargreaves G.M., Alley R.B., Popp T.J., David B. Reusch D.B., Matthew K. Spencer M.K., Taylor, K.C., 2008, An integrated system for optical imaging of ice cores, *Cold Regions Science and Technology V53*, I2, p216-228.

Severinghaus P., R. Beaudette, M.A. Headly, K.C. Taylor, E.J. Brook, 2009, Oxygen-18 of O₂ Records the Impact of Abrupt Climate Change on the Terrestrial, *Science*, Vol. 324 no. 5933 pp. 1431-1434, DOI: 10.1126/science.116947.

Shanafield M.A., R.B. Susfalk, K.C. Taylor, 2010, Spatial and temporal patterns of near shore clarity in Lake Tahoe from fine resolution turbidity measurements, *Lake and Reservoir Management*, v26, n3, pp179-184.

Steig, E. J., White, J. W., Kuettel, M., Ding, Q., Hoffmann, G., Schneider, D. P., ... & Taylor, K. (2010, December). The isotope records from WAIS Divide and US ITASE: climate in West Antarctica over the past two millennia. In *AGU Fall Meeting Abstracts* (Vol. 1, p. 01).

Bisiaux, M. M., Edwards, R., McConnell, J. R., Curran, M. A., Van Ommen, T. D., Smith, A. M., ... & Taylor, K. (2011). Large scale changes in 20th century black carbon deposition to Antarctica. *Atmospheric Chemistry and Physics Discussions*, 11(10), 27815-27831.

Fegyveresi, J. M., Alley, R. B., Spencer, M. K., Fitzpatrick, J. J., Steig, E. J., White, J. W. C., ... & Taylor, K. C. (2011). Late-Holocene climate evolution at the WAIS Divide site, West Antarctica: bubble number-density estimates. *Journal of Glaciology*, 57(204), 629-638.

McGwire, K. C., Taylor, K. C., Banta, J. R., & McConnell, J. R. (2011). Identifying annual peaks in dielectric profiles with a selection curve. *Journal of Glaciology*, 57(204), 763-769.

- Mitchell, L. E., Brook, E. J., Sowers, T., McConnell, J. R., & Taylor, K. (2011). Multidecadal variability of atmospheric methane, 1000–1800 CE. *Journal of Geophysical Research: Biogeosciences*, 116(G2).
- Ahn, J., Brook, E. J., Mitchell, L., Rosen, J., McConnell, J. R., Taylor, K., Rubino, M. (2012). Atmospheric CO₂ over the last 1000 years: A high-resolution record from the West Antarctic Ice Sheet (WAIS) Divide ice core. *Global Biogeochemical Cycles*, 26(2).
- Bisiaux, M. M., Edwards, R., McConnell, J. R., Curran, M. A. J., Van Ommen, T. D., Smith, A. M., Taylor, K. (2012). Changes in black carbon deposition to Antarctica from two high-resolution ice core records, 1850–2000 AD. *Atmospheric Chemistry and Physics*, 12(9), 4107-4115.
- Orsi, A. J., Cornuelle, B. D., & Severinghaus, J. P. (2012). Little Ice Age cold interval in West Antarctica: evidence from borehole temperature at the West Antarctic ice sheet (WAIS) Divide. *Geophysical Research Letters*, 39(9).
- Sapart, C. J., Monteil, G., Prokopiou, M., Van de Wal, R. S. W., Kaplan, J. O., Sperlich, P., Taylor K.C.; Röckmann, T. (2012). Natural and anthropogenic variations in methane sources during the past two millennia. *Nature*, 490(7418), 85-88.
- WAIS Divide Project Members. (2013). Onset of deglacial warming in West Antarctica driven by local orbital forcing. *Nature*, 500(7463), 440-444.
- Fudge, T. J.; Waddington, E. D.; Conway, H.; Lundin, J. M. D.; Taylor, K. (2014). Interpolation methods for Antarctic ice-core timescales: application to Byrd, Siple Dome and Law Dome ice cores. *Climate of the Past Discussions*, 10, 65-104.
- Sneed, S. B.; Mayewski, P. A.; Sayre, W. G.; Handley, M. J.; Kurbatov, A. K.; Taylor, K. C.; Bohleber, P.; Wagenbach, D.; Erhardt, T.; Spaulding N. E.; (2014). New LA-ICP-MS cryocell and calibration technique for sub-millimeter analysis of ice cores. Accepted in *Journal of Glaciology*.
- Souney, J. M.; Taylor, K.C. et al.; (2014). Core handling and processing for the WAIS Divide ice-core project. *Annals of Glaciology*, 55(68) doi: 10.3189/2014AoG68A008
- Marcott, S., Bauska, T., Buizert, C., Steig, E., Rosen, J., Cuffey, K., Fudge, T., Severinghaus, J., Ahn, J., Kalk, M., McConnell, J. R., Sowers, T., Taylor, K. C., White, J., Brook, E., 2014: Centennial-scale changes in the global carbon cycle during the last deglaciation, *Nature*, 514(7525), 616-619, doi:10.1038/nature13799.
- WAIS-Divide Project Members, et al. (2014). Precise interhemispheric phasing of abrupt climate change. Accepted by *Nature*.
- Buizert C.; Cuffey, K. M.; Severinghaus, J. P.; Baggenstos D., Fudge, T.J.; Steig, E. J.; Markle, B. J.; Winstrup, M.; Rhodes, R. H.; Brook, E. J.; Sowers, T. A.; Clow, G.D.; Cheng, H.; Edwards, R. L.; Sigl, M.; McConnell, J. R.; Taylor K.C. (2014). The WAIS-Divide deep ice core WD2014 chronology: 2. Methane synchronization (68-31 ka BP) and the gas age-ice age difference. Accepted by *Climate of the Past*.

Contact Information

Address: Professor Kendrick Taylor
Division of Hydrological Sciences
Desert Research Institute
University and Community College System of Nevada
2215 Raggio Parkway
Reno, NV 89512

Email: Kendrick@dri.edu

Phone: 775.219.7493

Fax: 775.673.7363