

Andrei V Kurbatov

Curriculum Vitae

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Research Interests:

- Impacts of volcanism on Earth's climate system, natural hazards, informatics.

Professional Preparation:

- **State University of New York**, Buffalo, New York USA. November, 2000
 - *Ph.D.*: Geology.
 - *Dissertation*: Geodynamics of Kamchatka Peninsula, Russia.
 - *Concentration*: Paleoseismology & tephrochronology.
 - *Advisor*: Marcus I. Bursik.
- **State University of New York**, Buffalo, New York USA. February, 1997
 - *M.A.*: Geology.
 - *Thesis*: Investigation of the May 18, 1980, Blast Surge Deposit at Mount St. Helens Volcano, USA.
 - *Concentration*: Tephrostratigraphy, volcanology, and physical modeling of the blast surge deposits.
 - *Advisor*: Marcus I. Bursik.
- **Moscow State University**, Moscow, Russia. June, 1989
 - *Diploma*: Geology.
 - *Concentration*: Stratigraphic correlation of Jurassic coral-reef formations of southern Uzbekistan Mesozoic limestones based on paleontological and microfacies analyses.
 - *Advisors*: Nikolai V. Beznosov & Irina A. Mikhailova.

Appointments:

- **Climate Change Institute**, University of Maine, Orono, Maine, USA
 - *Associate Professor* September 1, 2018 — present
 - *Associate Research Professor* July 1, 2013 — August 31, 2018
 - *Assistant Research Professor* October 1, 2006 — June 30, 2013
 - *Research Associate* January 15, 2001 — September 30, 2006
- **School of Earth and Climate Sciences**, University of Maine, Orono, Maine, USA
 - *Associate Professor* September 1, 2018 — present
 - *Associate Research Professor* July 1, 2013 — August 31, 2018

- *Assistant Research Professor* January 1, 2012 — June 30, 2013
- **Department of Geology**, State University of New York, Buffalo, New York USA
 - *Research Assistant* January 1994 — December 2000
- **Texaco E & P Inc.**, NAP-West region, Denver, Colorado USA.
 - *Summer intern* May — August, 1998
- **Institute of Volcanic Geology & Geochemistry**, Kamchatka, Russia
 - *Research Scientist* 1991 — 1993
- **Laboratory of Seismology (OMSP)**, Kamchatka, Russia
 - *Scientific Associate* 1992 — 1993
- **Institute of Volcanology**, Kamchatka, Russia
 - *Research Associate* 1989 — 1991
- **Geological Survey of Uzbekistan**, Tashkent, Uzbekistan
 - *Field Assistant* July – August, 1988
 - *Field Assistant* May – September, 1987

Field Experience:

- **Kangerlussuaq**, Greenland June, 2017
 - Ice coring
- **Tupungatito volcano**, Chile January — February, 2012
 - Ice coring
- Expedition Leader: **Allan Hills**, Antarctica November, 2010 — January, 2011
 - Ice coring and mapping
- **Tupungatito volcano**, Chile February-March, 2010
 - Ice coring
- Expedition Leader: **Allan Hills**, Antarctica November — December, 2009
 - Ice coring and mapping
- **Kangerlussuaq**, Greenland August, 2009
 - Sampling YD boundary
- Expedition Leader: **Kangerlussuaq**, Greenland September, 2008
 - Sampling glacial / interglacial transition
- **Kangerlussuaq**, Greenland July, 2008

- Sampling YD boundary
- **Detroit Plateau**, Antarctic Peninsula November -December, 2007
 - Recovery of 133 meters ice core as part of IPY project with Chile and Brazil
- **Detroit Plateau**, Antarctic Peninsula February, 2007
 - Ice core site selection and snow sampling
- **East Antarctica**, Antarctica November, 2006- January 2007
 - Ice coring for the US-ITASE
- **Mt. Etna**, Italy September, 2006
 - Ice core drilling in the lava cave
- **Cordillera Darwin**, Chile February, 2006
 - Ice core drilling
- **Cordillera Darwin**, Chile March, 2005
 - Ice core site selection
- **Tasman Glacier**, Mt. Cook, New Zealand October, 2004
 - Ice core drilling project
- **Mt. Moulton and Allan Hills**, Antarctica, January, 2004
 - Blue ice area project
- **Tasman Glacier**, Mt. Cook, New Zealand November, 2003
 - Ice core site selection
- **Santorini volcano**, Santorini Is., Greece June, 2002
 - Field excursion
- Expedition Leader: **Vestnik Bay, Vahil**, Kamchatka, Russia August, 1999
 - Tephrochronological dating of shoreline landforms
- **Northern Hispaniola**, Dominican Republic January 21 - 22, 1999
 - Field excursion
- **Karymsky, Avachinsky volcano**, Kamchatka, Russia July - August, 1997
 - Tephrochronological work
- **San Francisco Volcanic Field**, Arizona USA July - August, 1996
 - Erosion monitoring network

- **Mount St. Helens volcano**, Washington USA May - June, 1995
 - Blast surge deposit mapping
- **Avachinsky volcano**, Kamchatka, Russia September, 1994
 - Tephrochronological work
- **Mount St. Helens volcano**, Washington USA May, 1994
 - Field reconnaissance
- **Karaginskiy and Bering Islands**, Russia July - September, 1993
 - Tephrochronological dating of shoreline landforms
- **First International Tsunami expedition**, Kamchatka, Russia July, 1993
 - Mapping tsunami deposits in Ust'-Kamchatsk and Khalaktirka Bay areas
- **Paleotsunami and Paleoearthquakes**, Washington, USA June, 1993
 - Field excursion
- **Kreshenii Ognem Cape**, Kamchatka, Russia September, 1992
 - Dating of seismogenic landslide using tephrochronology
- Expedition Leader: **Ksudach, Avachinskiy Volcanoes**, Kamchatka, Russia July - August, 1991
 - Tephrochronological work
- **Shiveluch volcano, Ossora, Ust' Kamchatsk**, Kamchatka, Russia June - September, 1990
 - Tephrochronological work
- **Kluchevskoi and Bezimianny volcanoes**, Kamchatka, Russia January - March, 1990
 - Monitoring of volcanic activity
- **Ebeco volcano**, Paramushir Island, Russia September, 1989
 - Monitoring of volcanic activity and reconstruction of eruption history
- **Ksudach, Zheltovsky, Avachinsky volcanoes**, Kamchatka, Russia June - August, 1989
 - Tephrochronological work
- **Dinosaur tracks in Central Asia**, Uzbekistan, Turkmenistan, Tadzhikistan September, 1988
 - Field excursion

- **South West Gissar Mountains**, Uzbekistan June - August, 1988
 - Geological mapping
- **Kandalaksha Bay**, White Sea, Russia September, 1987
 - Biology Field Camp
- **South West Gissar Mountains**, Uzbekistan June - August, 1987
 - Stratigraphy and paleontology
- **Scientific Cruise onboard the ‘Feodosija’ ship**, Black Sea, Russia May, 1987
 - Marine Geology Field Camp
- **Geological Mapping**, Moscow Region, Russia June, 1986
 - Field Camp
- **Satino training and research station**, Moscow Region, Russia August, 1985
 - Field Camp
- **Russian platform - Crimea**, Russia, Ukraine June, 1985
 - Geology Field Camp

Teaching

- **ERS 319** Geohazards & Humans Spring 2019, 2020
- **ERS 602** Volcanoes & Climate Fall 2017
- **ERS 602**, Co-teaching with Dr. Paul A. Mayewski. Advances in ice core research Spring 2017
- **ERS 602**, Co-teaching with Dr. Chawathe Data Mining in Earth Sciences Fall, 2016
- **ERS 602**, Volcanoes & Climate Spring, 2014
- **ERS 602**, Atmospheric chemistry Fall, 2011
- **ERS 221**, Geologic Problems I (Independent Study) Fall, 2011
 - Ashley Switter
- **REU**, Research Experience for Undergraduates Summer, 2011
 - Daniel Lesser
- **ERS 602**, Independent study: Selected topics in Geology Fall, 2010
 - Peter Acton
- **Capstone project**, Independent study: Selected topics in Geology Fall, 2010
 - Eileen Carr

- **ERS 602**, Independent study: Selected topics in Geology Fall, 2009
– Kristin Schild
- **INT 500**, Visiting speaker seminar series Fall, 2009
– Invited lecture
- **ERS 602**, Introduction to numerical data analysis Spring, 2009
- **GLY 407** Geological Field Mapping, (UB Field Camp in Colorado, Arizona, Utah) May—June, 2000
– Teaching Assistant
- **GLY 606**, Digital Data Analysis Spring, 1999
– Co-Instructor

Funded Research Projects

- **National Science Foundation (NSF)**
 - **PI, PLR-2032473** **9/15/2020—8/31/2022**
Collaborative Research: Untitled Laser Cutting Technology for Borehole Sampling. \$49,812
 - **PI, PLR-2026333** **4/1/2020—8/31/2021**
Supplement to award Collaborative Research: Tephrochronology of a South Pole ice core. \$37,023.
 - **Co-PI with Karl Kreutz (PI), Dominic Winski and Seth Campbell, AGS-2002483** **5/31/2020 —4/30/2023**, P2C2: Evaluating North Pacific hydroclimate during the Holocene using the Denali ice core archive. \$333,031.
 - **Co-PI, PLR-1745007** **9/15/2018—9/14/2022**
Collaborative research: Snapshots of Early and Mid-Pleistocene Climate and Atmospheric Composition from the Allan Hills Blue Ice Area. \$648,147.
 - **PI, PLR-1848747** **9/1/2018—8/31/2021**
NSF Summer 2019 workshop: Computing Arctic Data: Orono, ME - Spring 2019. \$49,999.
 - **Co-PI, EAR-1727460** **8/1/2017—7/30/2020**
Acquisition of LA-ICP-MS equipment for in situ trace element and isotopic research and training at the University of Maine. \$298,269.
 - **PI, PLR-1543361** **4/1/2016—8/31/2021**
Collaborative Research: Tephrochronology of a South Pole ice core. \$205,000.
 - **Co-PI, PLR-1443306** **9/1/2015—8/31/2018**
Collaborative Research: Window into the World with 40,000-year Glacial Cycles from Climate Records in Million Year-old Ice from the Allan Hills Blue Ice Area. \$168,367.
 - **Co-PI, PLR-1443461** **9/01/2015—8/31/2016**
Collaborative Research: Allan HILLS Englacial Site (AHILLES) Selection. \$35,594.

- **Co-PI, PLR-1417476** **9/1/2014 — 2/28/2017**
Collaborative Research: Collaborative Research: Investigating geochemical signatures in Greenland ice of a possible extraterrestrial impact during the Younger Dryas climate event. \$33,585.
 - **Co-PI, AGS-1401899** **6/1/2014 — 5/31/2017**
Collaborative Research: P2C2–Pleistocene/Holocene Climate Reconstruction from a Pamir High Resolution Deep Ice-Core. \$590,830.
 - **PI, PLR-1203640** **9/1/2012 — 8/31/2015**
ACC–Searching for Abrupt Climate Change Precursors Using Ultra High Resolution Ice Core Analysis. \$797,560.
 - **PI, PLR-1142007** **8/1/2012 — 7/31/2017**
[AntT](#)–Collaborative Research: Developing an Antarctic Tephra Database for Interdisciplinary Paleoclimate Research. \$365,095.
 - **Co-PI, PLR-1042883** **6/15/2011 — 5/31/2015**
[RICE](#)–Roosevelt Island Climate Evolution Project: US Deep Ice Core Glaciochemistry Contribution. \$815,937.
 - **Co-PI, EAR-1027960** **10/01/2010 — 9/30/2013**
[CDI-Type I: CiiWork](#)–An interactive workbench for integration, exploration, and analysis of chronological information. \$451,743.
 - **PI, PLR-0838843** **7/1/2009 — 6/30/2013**
[2MBIA](#)–Collaborative Research: Exploring A 2 Million+ Year Ice Climate Archive–Allan Hills Blue Ice Area. \$407,668.
 - **Co-PI, ANT-0837883** **6/1/2009 — 5/31/2013**
ARRA–Collaborative Research: Antarctic Climate Reconstruction Utilizing the US ITASE ICE Core Array. \$725,700.
 - **Co-PI, ATM-0754644** **8/15/2008 — 8/14/2011**
[AICA](#) Collaborative Research: Asian Ice Core Array–Reconstruction of Past Physical and Chemical Climate over Asia. \$415,336.
 - **Co-PI, ANT-0636740** **7/1/2007 — 6/30/2011**
Collaborative Research: Microparticle/tephra analysis of the [WAIS Divide](#) ice core. \$591,434.
 - **Co-PI, ANT-0636506** **7/1/2007 — 6/30/2010**
Collaborative Proposal: 2000+ Year Detailed, Calibrated Climate Reconstruction from a South Pole Ice Core Set in an Antarctic - Global Scale Context. \$203,858.
 - **Co-PI, ARC-240878** **5/15/2003 — 5/14/2006**
A New [Mt. Logan Ice Core](#) Record - Change in Climate and Chemistry of the Atmosphere for the North Pacific. \$423,407.
 - **Co-PI, ATM-139491** **10/1/2002 — 9/31/2005**
Paleoclimate from Mount Everest Ice Cores. \$397,005.
- **National Oceanographic & Atmospheric Administration (NOAA)**
 - **Co-PI, Office of Global Programs** **9/01/2005 — 8/31/2006**
Abrupt Climate Change, Part II.

- **Co-PI, Office of Global Programs** **9/01/2004 — 8/31/2005**
Abrupt Climate Change, Part I.
- **W.M. Keck Foundation**
 - **Co-PI,** **7/1/2008 — 7/30/2011**
Major Advances in the Field of Climate Change Reconstruction Using Ice Cores
- **The Heinz Endowments**
 - **Co-PI,** **10/25/2011 — 10/25/2013**
Breathe Project & 10 Green

Professional Associations

- **American Geophysical Union** 1994 — present
- **Geographical Society of Russia** 1989 — 1993

Computer Skills

- **Languages:** C, C++, Java, L^AT_EX, Matlab, NCL, Python, R.
- **Applications:** Generic Mapping Tools (GMT), ERDAS Imagine, common database, spreadsheet, and presentation software.
- **Operating Systems:** Linux, Mac OS X, Windows

Languages

- Fluent in Russian and English
- Introductory level of Spanish

Special Training

- The mobile summer institute workshop on evidence based learning organized by Center for Innovation and Teaching (CITL), University of Maine, Orono, ME June 4–8, 2018
- NCL workshop, University of Maine, Orono, ME April 23–25, 2014
- Polar bear safety training for Arctic researchers seminar by Andy McMullen with BearWise Inc., organized by Polar Field Services Inc. April 19 , 2014
- NCL workshop, NCAR, Boulder, CO June, 2013
- Global Positioning System (GPS), UNAVCO November, 2009
- Snowmobile safety training, United States Antarctic Program November, 2009 and 2010
- Ground Penetrating Radar (GPR), CRELL September, 2009
- First Aid training Red Cross June, 2009
- “Crevasse Rescue”, United States Antarctic Program November, 2006
- “Snow School”, United States Antarctic Program January, 2004

- Java Programming, UNIX-SL275, SUN Microsystems June 21 - 26, 1998
- Field Work Safety, Moscow State University August, 1985
- Nuclear, Chemical, Biological and Natural disaster management, Moscow State University 1984 — 1985

Synergistic Activities

- Actively involved in incorporating research results of the Climate Change Institute into development of cyberinfrastructure that will simplify public access to published CCI results and data sets.

p301dx web site: <http://cs.umaine.edu/~chaw/p301/>;

IceReader web site: <http://www.icereader.org>;

10green web site: <http://www.10green.org>.

CCI ice core data: <http://www.icecoredata.org>.

- NSF proposals and panels reviewer 2015–2019.
- Served on the 2015 University of Maine Research Faculty Committee.
- Member of the US Ice core Working Group (ICWG).
- US Coordinator for Polar to Tropical Connections project.

PTC web site: <http://www.polartropical.org>.

- Co-convener:

Earth Cube Tephra workshop Dublin, Ireland, July 27-August 2, 2019

AGU Session V11D Tephra in Ice Cores: Characterization, Transport, and Sources. December, 2011.

IAVCEI 2017 Workshop Best Practices in Tephra Collection, Analysis, and Reporting: Leading Toward Better Tephra Databases, August 19, 2017.

NSF 2019 Computing Arctic Data Workshop . University of Maine, Orono, ME, USA. May 14–16, 2019.

- Organizer of NCL workshop at the University of Maine (April 23-25, 2014).
- Co-organizer of Harold W. Borns Symposium, University of Maine (2009-2012).

See Harold W. Borns Symposium [web site](#)

- Actively participated in high school and UMaine student tours of ice core facilities of Climate Change Institute.
- Featured in “Last Extinction”. Produced by NOVA, PBS airdate: March 31, 2009.

web site <http://www.pbs.org/wgbh/nova/clovis/>.

web site <https://www.youtube.com/watch?v=MGbwzpQUtXk>.

Graduate and Postdoctoral Sponsors

Marcus I. Bursik, State University of New York at Buffalo, NY

Gregory A. Zielinski, Climate Change Institute, University of Maine

Graduate Student Advisees

Nicole Spaulding (Ph.D., September 1, 2009—April 25, 2013).

Donna Kalteyer (M.S., August 2013—December, 2015).

Sarah Wheatley (M.S., June 2015—December, 2018).

Heather Clifford (M.S., June 2016—May, 2019), co-advising with Paul A. Mayewski.

Laura Hartman (M.S., September 2016—December, 2018), co-advised with Alicia Cruz-Uribe.

Heather Clifford (Ph.D., June 2019—expected 2021), co-advising with Paul A. Mayewski.

Lela Gadrani (Ph.D., Jan. 2020—expected 2023), co-advising with Paul A. Mayewski.

Meredith Helmick (M.S., June 2020—expected 2022).

Graduate committee member

Elena Korotkikh (M.S. 2007), Sharon Sneed (Ph.D. 2013), Bess Koffman (Ph.D. 2013), Thomas Beers (M.S. 2014), Skylar Haines (M.S., 2015), Mariusz Potocki (Ph.D., expected 2020), Elena Korotkikh (Ph.D., 2019), Charles Rodda (Ph.D., 2019), Mark Royer (Ph.D., expected 2020), Hanna Brooks (Ph.D., expected 2022).

Undergraduate committee member

Nathan Dunn (Spring 2015).

Meetings and Workshops

- Ice Core Working Group (ICWG) Meeting, online April 2-3, 2020
- Ice Core Working Group (ICWG) Meeting, Seattle, WA Sep. 18, 2019
- South Pole Ice core project (SPICEcore) meeting, Seattle, WA Sep. 17—18, 2019
- The 2019 EarthCube Annual Meeting, Denver, CO June 12—14, 2019
- Historical Ice Core Project, Harvard, MA November 13—15, 2018
- AntT framework: Volcanic layers in Antarctic ice cores: local and distal sources. Lanzhou, China October 21, 2018.
- South Pole Ice core project (SPICEcore) meeting, Seattle, WA Sep. 11—12, 2018
- “The 2018 RiSE Center Teaching Symposium.” Panel participant: “The Role of Big Data in Undergraduate STEM Education”. University of Maine, Orono, ME June 27, 2018

- “Climate & Colonization: The case of North America”. Radcliffe Institute, Harvard, MA Oct. 19-20, 2017
- South Pole Ice core project (SPICEcore) meeting, Seattle, WA Sep. 19—20, 2017
- IAVCEI 2017, Portland, OR August 14—18, 2017
- Historical Ice Core Project, Harvard, MA June 8—9, 2017
- Harold W. Borns symposium, Orono, Maine USA Apr. 13 —-14, 2017
- Historical Ice Core Project, Orono, ME Jan. 4—6, 2017
- South Pole Ice core project (SPICE core) meeting, La Jolla, CA Sep. 18—20, 2016
- Historical Ice Core Project, Harvard, MA Sep. 14—16, 2016
- Harold W. Borns symposium, Orono, ME Apr. 14—15, 2016
- Historical Ice Core Project, Harvard, MA Jan. 19—20, 2016
- Ice Core Working Group (ICWG) Meeting, San Fransisco, CA Dec. 12–13, 2015
- “2,000 Years of European Climate: First Results From The SoHP Historical Ice Core Project”, Harvard, MA Nov. 11, 2015
- 2015 WAIS Divide-SPICE CORE Science Meeting, La Jolla, CA Sept. 22–23, 2015
- Bicentenary of the great Tambora eruption. April 7—10, 2015
International Conference on Volcanoes, Climate, and Society, University of Bern, Switzerland.
- Tephra 2014 Workshop, Portland, OR Aug. 4 —-7, 2014
- IDPO Community Workshop on Ice Coring, UC-Irvine, CA Feb. 26—27, 2014
- South Pole Ice Core Workshop, UC-Irvine, CA Feb. 25 —-26, 2014
- Cyberinfrastructure for Polar sciences, Minneapolis, MN Sept. 10 —-12, 2013
- RICE project workshop, Wellington, New Zealand July 22 —-24, 2013
- Harold W. Borns symposium, Orono, ME Apr. 22 —-23, 2013
- South Pole planning workshop, Boulder, Colorado USA Feb. 21 —-22, 2013
- WAIS cores, La Jolla, CA USA Sept. 10 —-12, 2012
- Harold W. Borns symposium, Orono, ME Apr. 5 —-6, 2012
- Ice Drilling Science Community planning workshop Apr. 15 —-16, 2011
- Harold W. Borns symposium, Orono, ME Apr. 7 — 8, 2011

- **CASA-PTC meeting, Castine, Maine USA** Jun. 14 — 16, 2010
- **Harold W. Borns symposium, Orono, ME** May 6 — 7, 2010
Is tropical tephra present in the WAIS Divide ice core?
- **Harold W. Borns symposium, Orono, ME** May 7 — 8, 2009
Quest for the Oldest Ice on Earth.
- **AICA meting, San Francisco, CA** Dec. 13, 2008
Recovery ice core from Fedchenko glacier, Pamir, Tadjhikistan.
- **ITASE meting, Castine, Maine USA** Sep. 3 — 6, 2008
Update on CASA initiative.
- **Harold W. Borns Symposium, Orono, Maine USA** May 8 — 9, 2008
Update on CASA (Climate of Antarctica and Southern America) initiative.
- **Agassiz Symposium, Orono, Maine USA** May 10 — 11, 2007
Searching for the new Northern Hemisphere climate proxies.
- **Volcanic Flows and Falls, Buffalo, New York USA** May 11 — 12, 2006
Tephra Study in the Siple Dome A Ice Core, Antarctica.
- **WAIS Meeting, Algonkian Meeting Center in Sterling, Virginia USA**
Sep. 28 — Oct. 1, 2005
Can sulfate signatures in ice cores verify the source volcano?
- **Agassiz Symposium, Orono, Maine USA** May 5 — 6, 2005
Siple Dome A tephra at 1261 C.E. and possible link with 1259 event.
- **Siple Dome Principal Investigator Meeting, Reno, NV** Feb. 24, 2004
Volcanic ash records in the Siple Dome Ice Core.
- **Geological survey of Canada, Quaternary discussion group, Ottawa** Oct. 15, 2003
Explosive volcanism recorded in Siple Dome Ice core, Antarctica.
- **ITASE Workshop, Castine, Maine USA** Jun. 1 — 3, 2003
- **Agassiz Symposium, Orono, Maine USA** May 8 — 9, 2003
Volcanic Signals in the SDMA Ice Core, Antarctica.
- **Antarctic Proposal Workshop for New Investigators** Aug. 26 — 27, 2002
NSF, Arlington, Virginia USA.
- **Agassiz Symposium, Orono, Maine USA** May 20 — 21, 2002
Explosive Volcanism Recorded in Siple Dome Ice Core, Antarctica.
- **Siple Dome Science Meeting, Arlington, Virginia USA** Mar. 18 — 19, 2002
- **AGU Chapman Conference: Volcanism and the Earth's Atmosphere**
June, 2002
Santorini, Greece.
- **Volcanic record in the Siple Dome Ice Cores. Science Meeting,** April 19-20, 2001
Biosphere-2, Arizona USA.

Publications

Research Articles

1. Blong, R. J. and A. V. Kurbatov (Apr. 2020). Steps and missteps on the path to a 1665–1668 C.E. date for the VEI 6 eruption of Long Island, Papua New Guinea. *Journal of Volcanology and Geothermal Research* **395**, 106828.
2. Loveluck, C., A. More, N. Spaulding, H. Clifford, M. Handley, L. Hartman, E. Korotkikh, A. Kurbatov, P. Mayewski, S. Sneed, and M. McCormick (Mar. 2020). Alpine ice reveals the yearly political economy of the Angevin Empire, from the death of Thomas Becket to Magna Carta, c. AD 1170–1216. *Antiquity* **94**(374), 473–490.
3. More, A. F., C. P. Loveluck, H. M. Clifford, M. J. Handley, E. V. Korotkikh, A. V. Kurbatov, M. McCormick, and P. A. Mayewski (Sept. 2020). The impact of a six-year climate anomaly on the 'Spanish Flu' Pandemic and WWI. *GeoHealth* **4**, e2020GH000277.
4. Clifford, H., N. Spaulding, A. Kurbatov, A. More, E. Korotkikh, S. Sneed, M. Handley, K. Maasch, C. Loveluck, J. Chaplin, M. McCormick, and P. Mayewski (Nov. 2019). A 2000 Year Saharan Dust Event Record from an Ice Core in the European Alps. *Journal of Geophysical Research - Atmospheres* **124**(23), 12882–12900.
5. Hartman, L. H., A. V. Kurbatov, D. A. Winski, A. M. Uribe, S. M. Davies, N. W. Dunbar, N. A. Iverson, M. Aydin, J. M. Fegyveresi, D. G. Ferris, T. J. Fudge, E. C. Osterberg, G. M. Hargreaves, and M. G. Yates (Oct. 2019). Volcanic glass properties from 1459 C.E. volcanic event in South Pole ice core dismiss Kuwae caldera as a potential source. *Scientific Reports* **9**(1), 14437.
6. Winstrup, M., P. Vallelonga, H. A. Kjær, T. J. Fudge, J. E. Lee, M. H. Riis, R. Edwards, N. A. Bertler, T. Blunier, E. J. Brook, C. Buizert, G. Ciobanu, H. Conway, D. Dahl-Jensen, A. Ellis, B. D. Emanuelsson, E. D. Keller, A. V. Kurbatov, P. A. Mayewski, P. D. Neff, R. Pyne, M. F. Simonsen, A. M. Svensson, A. Tuohy, E. Waddington, and S. Wheatley (Apr. 2019). A 2700-year annual timescale and accumulation history for an ice core from Roosevelt Island, West Antarctica. *Clim. Past Discuss.* **15**, 751–779.
7. Yan, Y., M. L. Bender, E. J. Brook, H. M. Clifford, P. Kemeny, A. V. Kurbatov, S. Mackay, P. A. Mayewski, J. Ng, J. P. Severinghaus, and J. A. Higgins (Oct. 2019). Two-Million-Year-Old Snapshots of Atmospheric Gases from Antarctic Ice. *Nature* **574**, 663–666.
8. Bertler, N. A. et al. (2018a). The Ross Sea Dipole – temperature, snow accumulation and sea ice variability in the Ross Sea region, Antarctica, over the past 2700 years. *Clim. Past* **14**, 193–214.
9. Birkel, S. D., P. A. Mayewski, K. A. Maasch, A. V. Kurbatov, and L. Bradfield (2018). Evidence for a volcanic underpinning of the Atlantic multidecadal oscillation. *npj Clim Atmos Sci* **1**(24).
10. Kehrl, L., H. Conway, N. Holschuh, S. Campbell, A. V. Kurbatov, and N. E. Spaulding (Mar. 2018). Evaluating the Duration and Continuity of Potential Climate Records From the Allan Hills Blue Ice Area, East Antarctica. *Geophysical Research Letters*, GRL57196.
11. Loveluck, C., M. McCormick, N. Spaulding, H. Clifford, M. Handley, L. Hartman, H. Hoffmann, E. Korotkikh, A. V. Kurbatov, A. More, S. Sneed, and P. A. Mayewski (Nov. 2018). Alpine ice-core evidence for the transformation of the European monetary system, AD 640–670. *Antiquity* **92**(366), 1571–1585.
12. More, A. F., N. E. Spaulding, P. Bohleber, M. J. Handley, H. Hoffmann, E. V. Korotkikh, A. V. Kurbatov, C. P. Loveluck, M. Sneed Sharon B. and McCormick, and P. A. Mayewski (2018). The role of historical context in understanding past climate, pollution and health data in trans-disciplinary studies: reply to comment on More et al., 2017. *GeoHealth*.
13. Wolbach, W. S., J. P. Ballard, P. A. Mayewski, A. C. Parnell, N. Cahill, V. Adedeji, T. E. Bunch, G. Domínguez-Vázquez, J. M. Erlandson, R. B. Firestone, T. A. French, G. Howard,

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