Weston Craig McCool

Curriculum Vitae

Department of Anthropology University of Utah 260 S. Central Campus Drive Salt Lake City, UT 84112

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Appointments

2023-2024	Research Group and the Dept. of Anthropology, University of Utah.
2021-2023	Postdoctoral Fellow, National Science Foundation SBE SPRF program. Sponsoring Scientist: Dr. Brian Codding. Affiliated institution: Dept. of Anthropology, University of Utah.
2020-2021	Postdoctoral Researcher, Dept. of Anthropology, University of California at Santa

Barbara. Sponsoring Scientist: Dr. Douglas J. Kennett.

Education

Ph.D. Anthropology, University of California at Santa Barbara, 2020

M.A. Anthropology, University of California at Santa Barbara, 2015

M.A. Anthropology, University of Utah, 2013

B.S. Anthropology, University of Utah, 2009

Research Expertise

Environmental archaeology Quantitative methods Bioarchaeology Geospatial modeling Climate change Isotope modeling Conflict Big data

Inequality North American Southwest Settlement patterns and demography Peruvian Andes

Mesoamerica Health and diet

Publications

In-Press Vernon, Kenneth B., Weston C. McCool, Peter J. Yaworsky, Jerry Spangler, Brian F. Codding. The Fremont Frontier: Living at the Margins of Maize Farming. American Antiquity.

- McCool, Weston C., Brian F. Codding. U.S. homicide rates increase when resources are scarce and unequally distributed. Evolutionary Human Sciences. doi:10.1017/ehs.2023.31
- Arkush, Elizabeth, Weston C. McCool, Ryan Smith. The Late Intermediate period in the south-central highlands: Key problems in timing. In: Leveraging Radiocarbon in the Central Andes: From Chronologies to Research Agendas (Eds., Contreras, D., Marsh, E., Rademaker, K.), Quaternary International. doi.org/10.1016/j.quaint.2023.10.002.
- Yaworsky, Peter M., Kenneth B. Vernon, **Weston C. McCool**, Brian F. Codding. Land use patterns of the west Tavaputs Plateau driven by population expansion and contraction during the Formative Period. In: The Dynamic Influences of Climate Change on Prehistoric Lifeways in the Americas (Eds., Wilson, K.M., McCool, W.C.), *Quaternary International*. doi.org/10.1016/j.quaint.2023.12.003.
- McCool, Weston C. Migration, settlement, and warfare in the Nasca highlands of Peru. In: *Papers is Memory of Bradley J. Parker* (Eds., Kennedy, J., Mullins, P.). Sidestone Press.
- Wilson, Kurt M., Weston C. McCool, Joan Brenner Coltrain. Climatic influences on subsistence intensification along the coasts of the prehispanic Central Andes. Special Issue: The Dynamic Influences of Climate Change on Prehistoric Lifeways in the Americas (Eds., Wilson, K.M., McCool, W.C.). Quaternary International. doi.org/10.1016/j.quaint.2023.07.002.
- McCool, Weston C., Amy S. Anderson, Alexis J. Baide, Brian F. Codding. Population pressure and agricultural intensification mediate climatological drivers of chronic childhood stress in the ancient central Andes. Special Issue: The Dynamic Influences of Climate Change on Prehistoric Lifeways in the Americas (Eds., Wilson, K.M., McCool, W.C.). Quaternary International. doi.org/10.1016/j.quaint.2023.06.003.
- Macfarlan, Shane J., Ryan Schacht, **Weston C. McCool**, Connor A. Davis, Anahi D. Yerman, Francisco Javier Higuera Landeros, Maximo Amador Amador. **Decision-making under climate shocks and economic insecurity: Ranching in rural Baja California Sur, Mexico**. Special Issue: Dispatches from the Field. *Evolution and Human Behavior*. doi.org/10.1016/j.evolhumbehav.2023.07.001.
- Wilson, Kurt M., Weston C. McCool. The Environmental Null: Documenting the changing influence of physical and social environments on prehistoric Andean diets. In: Foodways of the Ancient Andes: Transforming Diet, Cuisine, and Society (Eds., Alfonso-Durruty, M.P., Blom, D.E.). University of Arizona Press.
- McCool, Weston C., Kurt M. Wilson, Kenneth B. Vernon. Ecological constraints on violence avoidance tactics: An explanation for high rates of lethal and

- **sublethal violence in the Prehispanic Andean highlands**. Environmental Archaeology doi.org/10.1080/14614103.2022.2137652.
- Kennett, Douglas J., Marilyn Masson, Carlos Peraza Lope, Stanley Serafin, Richard George, Thomas Spencer, Julie Hoggarth, Brendan J. Culleton, Thomas Harper, Keith M. Prufer, Susan Milbrath, Stanley Russell, Eunice Uc González, **Weston C. McCool**, Valorie V. Aquino, Jason H. Curtis, Victor Polyak, Norbert Marwan, Mingua Zhang, Andrew Mason, Gideon Henderson, Gerald H. Haug, Mark Brenner, Yemane Asmerom, James U.L. Baldini, Sebastian F. M. Breitenbach, David A. Hodell. **Drought induced civil conflict among the Maya**. *Nature Communications* 13: 3911.
- 2022 McCool, Weston C., Kenneth B. Vernon, Peter M. Yaworsky, Brian F. Codding. Subsistence strategy mediates ecological drivers of human violence. *PLoS One* 17(5): e0268257.
- McCool, Weston C., Brian F. Codding, Kenneth B. Vernon, Peter M. Yaworsky, Kurt M. Wilson, Norbert Marwan, Douglas J. Kennett. Climate change induced population pressure drives high rates of lethal violence in the Prehispanic central Andes. Proceedings of the National Academy of the Sciences 119(17): e2117556119.
- Wilson, Kurt M., Weston C. McCool, Daniel A. Contreras, Simon C. Brewer, Joan Brenner Coltrain, Nicole Zamora-Wilson, Ashlyn M. Huggard, Percy J. Schryver, Roxanne F. Lois Lamson, Brian F. Codding. Climate and demography drive 7000 years of dietary change in the Central Andes. Nature Scientific Reports 12(1): 1-16.
- McCool, Weston C., Amy S. Anderson, Douglas J. Kennett. Using a multimethod life history approach to navigate the osteological paradox: A case study from Prehispanic Nasca, Peru. American Journal of Biological Anthropology 175(4): 816-833.
- McCool, Weston C., Joan Brenner-Coltrain, Aldo Accinelli, Douglas J. Kennett. The character of conflict: A bioarchaeological study of violence in the Nasca highlands of Peru during the Late Intermediate Period (950 1450 C.E.).

 American Journal of Biological Anthropology 174(4): 614-630.
- Fernandes, Daniel F., et al., **Weston C. McCool**, and David Reich. **A Genetic history of the pre-contact Caribbean**. *Nature 590*: 103-110.
- 2020 McCool, Weston C., Daniel C. McCool. We must either protect him or destroy him. In: Vision and Place: John Wesley Powell and reimagining the Colorado River Basin (Eds., Robison, J., McCool, D.C., Minckley, T.). University of California Press.
- McCool, Weston C., Aldo Accinelli, Joan Brenner-Coltrain. Patrones osteológicos de guerra endémica en la Sierra de Nasca durante el Intermedio Tardío (1000-

- **1450 d.C.)**. In: *Actas del VI Congreso Nacional de Arqueología*. Lima, Perú: Ministerio de Cultura.
- McCool, Weston C., Peter J. Yaworsky. Fight or Flight: Assessing Fremont territoriality in Nine Mile Canyon, Utah. Special Issue: Territorial Behavior and Ecology (Eds., Codding, B.F., Whitaker, A.R., Stevens, N.E.). Quaternary International 518: 111-121.
- McCool, Weston C., Joan Brenner-Coltrain. A potential oxygen isotope signature of maize beer consumption: An experimental pilot study. Journal of Ethnoarchaeology 10(1): 56-67.
- McCool, Weston C. Coping with Conflict: Defensive strategies and chronic warfare in the Prehispanic Nasca region. Latin American Antiquity 28(3): 373-393.
- Parker, Bradley J., Weston C. McCool. Indices of household maize beer production in the Andes: An ethnoarchaeological investigation. Journal of Anthropological Research 71(3): 359-400.

In Progress

- In-Review Noe, Sarah J., Weston C. McCool, Kurt M. Wilson. The political and subsistence economic roles of camelid agropastoralism over 2000 years of Andean history. Target Journal: *Plos One*.
- In-Prep McCool, Weston C., Kenneth B. Vernon, Ishmael D'Angelo Medina, Joan Brenner Coltrain, Kurt M. Wilson, Brian F. Codding. Socio-climatological drivers of violent conflict in the pre-contact Bears Ears National Monument, Utah. Target journal: PNAS.
- In-Prep McCool, Weston C., Kurt M. Wilson, Brian F. Codding. Climate stability and low scalar stress predict peaceful interactions over 7,000 years of Andean deep history. Target journal: Nature Climate Change.
- In-Prep Hoggarth, Julia A., Claire E. Ebert, Weston C. McCool, Jaime J. Awe, Brendan J. Culleton, Michael Holton Price, Carolyn Freiwald, John P. Walden, Rafael A. Guerra, Christophe Helmke, Rodney Sturdivant, Matthew Looper, Pete Akers, Sebastian F.M. Breitenbach, Kirsten Green-Mink, and Douglas J. Kennett. Climate and Cycles of Collapse and Regeneration in the Central Maya Lowlands. Target journal: Proceedings of the National Academy of the Sciences.
- In-Prep McCool, Weston C., Brian F. Codding. Human violence indirectly modifies ecosystems by influencing economic landscape engineering in the pre-contact Southwest. Target Journal: Environmental Archaeology.

Technical reports

Bruce M. Pavlik, Lisbeth A. Louderback, Brian F. Codding, Kenneth Blake Vernon, Heidi M. Simper, Weston C. McCool, and Stefania Wilks. Archaeo-ecosystems of the four corners: Ethnobotanical surveys of Puebloan sites, San Juan County, Utah, project year 3. Report submitted to the Bureau of Land Management, Monticello, UT.

Science Communication

- The combination of poverty and inequality predict homicide rates in the United States, by Eric Dolan. https://www.psypost.org/2024/01/the-combination-of-poverty-and-inequality-predict-homicide-rates-in-the-united-states-220682
- Homicide rates in the United States increase when resources are scarce and unequally distributed, by Weston McCool. Cambridge Core Blog. https://www.cambridge.org/core/blog/2023/12/21/homicide-rates-in-the-united-states-increase-when-resources-are-scarce-and-unequally-distributed/
- Violence of abundance, by Jim Logan. The Current. https://www.news.ucsb.edu/2022/020634/violence-abundance
- Climate change induced refugee crisis, chronic war, in ancient Peru, by Lisa Potter. *The U.* https://attheu.utah.edu/facultystaff/climate-change-nasca-highlands/
- Violenza sociale e conflitto: figli soltanto dei cambiamenti climatici?, By Sofia Belardinelli. Universita DiPadova. https://ilbolive.unipd.it/it/news/violenza-sociale-conflitto-figli-soltanto
- Climate drove 7000 years of dietary changes, by Lisa Potter. *The U.* https://attheu.utah.edu/facultystaff/climate-drove-dietary-changes/
- Google maps for time travelers, By David Malakoff. *American Archaeology Magazine*, 25(2). Magazine article about McCool and Yaworsky 2019.
- 2021 **A history of violence**, By Jim Logan. *The Current*. https://www.news.ucsb.edu/2021/020225/history-violence

Field and Lab Experience

- 2024-2025 Postdoctoral Researcher: Restoring Indigenous Socio-Environmental Systems in the Bear River Basin (NSF DISES). PI: Dr. Brian Codding.
- 2023-present: PI: Climate Change and Community Resilience in the Ancient Southwest Project (NSF SAR *in-prep*, NSF HNDS-R *in-prep*).
- 2021-present PI: Climate and Conflict in the Ancient Southwest Project (NSF SPRF).

2020-2021	Postdoctoral Researcher. Kennett Biogeochemistry Lab, Anthropology
	Department, UCSB.
2018-present	PI: Nasca Highlands Life History Project (NSF DDRIG).
2018-present	PI: Nasca Highlands Warfare Project (NSF DDRIG).
2017-present	Collaborator: Fremont Agriculture and Risk Project (Dr. Peter Yaworsky) (NSF
	DDRIG).
2014-2017	PI: The Upper Southern Nasca Region Hillforts Project.
2017	Training program in osteological methods. Forensic Anthropology Center,
	University of Tennessee, Knoxville.
2015-2016	PI: The Upper Southern Nasca Region Hillforts Project.
2014	Crew member for the Yamobamba Project. Supervisor: Patricia Chirinos.
2014	GIS database editor, Central California Information Center. Supervisor: Dr. Lynn
	Gamble.
2013	Co-PI: Household Maize Beer Production in the Andes: An Ethnoarchaeological
	Investigation.
2013	Field-technician for the Wari Road Survey Project. Supervisor: Matt Edwards,
	PhD.

Grants and Awards Received

2024 in-prep	PI: National Science Foundation (SAR): "An Archaeological investigation of the
	resiliency of coupled human-environmental systems in Grand Staircase Escalante
	National Monument." \$277,144.

- 2024 in-rev. Co-PI: National Science Foundation (HNDS-R): "Leveraging Long-Term Community Networks to Understand the Adaptive Capacity and Resilience of Small-Scale Farmers to Climate Change." \$737,114.
- Research Incentive Seed Grant. "Isotopes, Salvage Archaeology and Complexity: Exploring the Human-Environment Interactions of Non-Elite People During the Rise and Fall of Complex Civilizations in Northern Peru." \$10,000. PIs: Dr. Weston McCool, Dr. Kurt Wilson, Dr. Joan Brenner Coltrain.
- 2023 2024-2025 Postdoc: National Science Foundation (DISES): "Restoring Indigenous Socio-Environmental Systems (RISES) in the Bear River Basin." \$600,000. PI: Dr. Brian Codding.
- PI: National Science Foundation (SPRF-FR) Social Behavioral and Economic Postdoctoral Research Fellowship (# 2104456): "Evaluating the Climatological, Political, and Demographic Drivers of Conflict: An Archaeological Case Study." \$138,000.
- The Brian Fagan Fund: \$500.

2019	Co-PI: National Science Foundation (DDRIG) Doctoral Dissertation Research Improvement Grant (# 1934521): "Evaluating the impacts of warfare on a Late Intermediate period population in the southern Nasca region." \$20,000.
2019	Broom Graduate Student Research and Travel Grant: \$1,850.
2019	Department of Anthropology Graduate Student Research Grant: \$1,800.
2018	Charles J. Erasmus Fund: \$1,175.
2018	Department of Anthropology Graduate Student Research Grant: \$800.
2017	Charles J. Erasmus Fund: \$1,000.
2017	Department of Anthropology Graduate Student Research Grant: \$1,021.
2016	Humanities and Social Sciences Research Grant: \$3,000.
2016	Department of Anthropology Graduate Student Research Grant: \$1,000.
2015	Department of Anthropology Graduate Student Research Grant: \$4,300.
2013	Co-PI: University of Utah Research Committee grant: \$5,000.

Federal Research Grants

Bureau of Land Management, "Archaeological Survey of Cottonwood Wash, San Rafael Desert, Emery County, Utah." Cooperative Agreement L20AC00267, Grant Number 13090284. Brian F. Codding (PI), Jerry D. Spangler (Co-PI), Kate E. Magargal and **Weston C. McCool** (Senior Personnel), Kenneth B. Vernon, Kasey Cole, Kurt M. Wilson, and Ishmael Medina (graduate researchers) (12/1/20-6/30/22; \$18,698).

Internal Fellowships

2019	One-quarter fellowship from the dean's discretionary block grant for 2019-2020: \$7,425 (Fall Quarter)
2018	UCSB Anthropology Graduate Fellowship: \$6,425 (Fall Quarter)
2017	UCSB Anthropology Graduate Fellowship: \$6,425 (Winter Quarter)

Teaching

Teaching Experience

Teaching Associate

- Global Changes and Society (SUST 6000), Spring 2024. University of Utah
- Human Osteology (ANTH 180B), Spring 2019. University of California, Santa Barbara
- Human Evolution (ANTH 121), Winter 2018. University of California, Santa Barbara
- Human Evolution (ANTH 121), Spring 2017. University of California, Santa Barbara
- Human Evolution (ANTH 121), Spring 2016. University of California, Santa Barbara

Teaching Assistant

Introduction to Biological Anthropology (ANTH 5), University of California, Santa Barbara

- Spring 2020 (head TA)
- Winter 2020 (head TA)
- Fall 2017
- Fall 2016
- Fall 2015
- Fall 201

Intro to Biocultural Anthropology (ANTH 7), University of California, Santa Barbara

• Winter 2014

Introduction to Cultural Anthropology (ANTH 2), University of California, Santa Barbara

- Winter 2016
- Winter 2019
- Spring 2014
- Fall 2013

Introduction to Archaeology (ANTH 3), University of California, Santa Barbara

• Spring 2015

Introduction to World Prehistory, University of Utah

- Spring 2013
- Fall 2012

Teaching Interests

Introduction to Archaeology, Environmental Archaeology, Latin American Archaeology, North American Archaeology, Southwestern Archaeology, World Prehistory, Human Evolution, Quantitative Analysis, Geospatial Analysis, Introduction to R, Bioarchaeology, Osteology, Climate Change and Human History, Ancient Health, The Archaeology of Conflict.

Conference Presentations

- Hugh Radde and **Weston C. McCool**. SAA organized session: Domestication, Exploitation, And Reverence: Studies in Zooarchaeology Part I. Shellfish Variability and Its Role in the Adaptation to Fishing Economies on the California Channel Islands.
- 2023 Kenneth B. Vernon, **Weston C. McCool**, and Brian F. Codding. SAA organized session: Behavioral ecology and Archaeology. The Ecology of Agglomeration and the Rise of Chaco Greathouses.
- Weston C. McCool. SAA organized session: Behavioral ecology and Archaeology.

- Leveraging Behavioral Ecology to Understand the Relationship between Resource Availability and Human Violence
- 2022 Richard George, **Weston C. McCool**, Douglas J. Kennett, SAA organized session: Archaeology with altitude: Papers in honor of Mark Aldenderfer. Presentation: Modeling climate-population-conflict relationships in the Maya and Nasca regions.
- 2022 Elizabeth Arkush, **Weston C. McCool**, Ryan Smith, SAA organized session: Leveraging radiocarbon in the central Andes: From chronologies to research agendas. Presentation: The Late Intermediate period in the south-central Highlands: Key problems in timing.
- 2022 Kenneth B. Vernon, Jerry Spangler, Brian F. Codding, **Weston C. McCool**, Peter M. Yaworsky, SAA organized session: The influence of climate change on diet, demography, and climate. Presentation: Resilience to climate change among Farmers in the Basin-Plateau region.
- Kurt M. Wilson, Brian F. Codding, **Weston C. McCool**, Daniel Contreras, Joan Brenner Coltrain, SAA organized session: The influence of climate change on diet, demography, and climate. Presentation: Climate change drives 7,000 years of dietary variation in the central Andes.
- Weston C. McCool, Brian F. Codding, Kenneth, B. Vernon, Kurt M. Wilson, Peter M. Yaworsky, Norbert Marwan, Douglas J. Kennett, SAA organized session: The influence of climate change on diet, demography, and climate. Presentation: Divergent climactic and demographic stressors predict high rates of morbidity in the Prehispanic central Andes.
- Weston C. McCool and Kurt M. Wilson, Co-Chair of SAA organized session: The influence of climate change on diet, demography, and conflict.
- Beth Scaffidi and **Weston C. McCool**. EAA organized session: Earth, water and fire: approaching living habitat and community landscape management. Presentation: Violence-related trauma and social conflict at pre-Hispanic Andean cities vs. the outlands: insights from bioarchaeological big data.
- Weston C. McCool, Amy Anderson, Joan Brenner-Coltrain, and Douglas J. Kennett. Recent archaeological research in Nasca, invited talk: Patterns and Process: mapping out conflict, complexity, diet, disease, and demography in the Nasca highlands during the Late Intermediate period (1000 1450 C.E.).
- Weston C. McCool and Kate Magargal, Co-chair of SAA organized session: Life is risky: human behavioral ecology approaches to variable outcomes.
- Weston C. McCool. SAA organized session: Life is Risky: human behavioral ecology approaches to variable outcomes. Presentation: Examining trade-offs between food

- acquisition and violence avoidance: population-level effects and variability in risk-preference.
- Weston C. McCool. Sesquicentennial of the Colorado River Exploration Expedition Conference. Presentation: The deep history of the Colorado River Basin.
- Weston C. McCool. SAA annual conference. Poster: Inferring the Character of Conflict using Victim Profiles and Trauma Distributions: A case study from the Late Intermediate period Nasca highlands.
- Weston C. McCool. SAA organized session: Comparative perspective on warfare. Paper: Regional defensive strategies and chronic warfare in the Nasca highlands.
- Weston C. McCool. SAA annual conference. Poster: Coping with Conflict: Defensive strategies and chronic warfare in the Prehispanic Nasca region.
- Weston C. McCool, 2017. UCSB Anthropology Graduate Colloquium. Coping with Conflict: Defensive strategies and chronic warfare in the Prehispanic Nasca region.
- Weston C. McCool. Institute of Andean Studies annual conference. Poster: Optimizing defense: Assessing the relationship between fortification investment and settlement accessibility.
- Weston C. McCool and Peter M. Yaworsky. California Workshop on Evolutionary Social Sciences. Poster: Fremont defensive strategies in Nine Mile Canyon, Utah.
- 2016 Peter M. Yaworsky and **Weston C. McCool**. Utah Professional Archaeological Council Annual Conference. Poster: Functionality of Fremont tower structures in Nine Mile Canyon, Utah.
- Weston C. McCool. SAA annual conference. Poster: A potential oxygen isotope signature of maize beer consumption: An experimental pilot study.
- Weston C. McCool. SAA annual conference. Paper: Household maize beer production in the Andes: An ethnoarchaeological investigation.
- 2014 Matthew Edwards and **Weston C. McCool**. Institute of Andean Studies Annual Meeting. Poster: Wari and Inca roads of the Pampas Galeras.
- Weston C. McCool and Bradley J. Parker. University of Utah History Conference. Paper: Alcohol and Society: An ethnoarchaeological investigation.

Service and Invited Talks

Anthropology Department Colloquium Series coordinator, University of Utah, 2023-2024.

Society for American Archaeology Program committee volunteer, 2022, 2023.

Undergraduate intern coordinator, Kennett Biogeochemistry Isotope Lab, Dept. of Anthropology, University of California, Santa Barbara, 2019-2020.

Anthropology Department Colloquium Coordinator, University of California, Santa Barbara, 2013-2016.

Social Chair, Dept. of Anthropology, University of California, Santa Barbara, 2016.

Volunteer, graduate student preview weekend, Dept. of Anthropology, University of California, Santa Barbara, multiple years.

Invited Speaker: Global Change and Sustainability Center, University of Utah: Can short-term adaptive strategies reduce long-term societal resilience? A cautionary tale from the ancient Andes. August 2023.

Invited Speaker: Crow Canyon Archaeological Center: Exploring Fremont territoriality and resource defense in Nine Mile Canyon, Utah. April 2023.

Invited Speaker: University of New Mexico, Center for Stable Isotopes Brown Bag Series: Leveraging radiocarbon datasets to evaluate the relationships between climate change, population pressure, conflict, and health. December 2022.

Invited Speaker: University of Utah Anthropology Colloquium Speaker Series: The relationship between resource availability and human violence: An evolutionary perspective. September 2021.

Invited Discussant: 15th Biennial Conference of Science and Management for the Colorado Plateau and Southwest Region: John Wesley Powell and reimagining the Colorado River Basin: Sesquicentennial perspectives: Native American Panel. November 2020.

Expert Witness Work – Native American Voting Rights Cases

- 2023 Expert Witness: *Turtle Mountain Band of Chippewa Indians v. Jaeger* U.S. District Court for the District of North Dakota, Eastern Division.
- 2023 Expert Witness: *Navajo Nation Human Rights Commission v. San Juan County, New Mexico* The U.S. District Court, District of New Mexico.
- 2023 Expert Witness: *Winnebago Tribe of Nebraska, et al. v. Thurston County, et al.* U.S. District Court for the District of Nebraska.

References

<u>Dr. Brian Codding</u>, Professor, Department of Anthropology, University of Utah. brian.codding@anthro.utah.edu

<u>Dr. Douglas Kennett</u>, Professor, Department of Anthropology, University of California, Santa Barbara. kennett@anth.ucsb.edu

<u>Dr. Amber VanDerwarker</u>, Professor, Department of Anthropology, University of California, Santa Barbara. vanderwarker@anth.ucsb.edu.