## R. Kyle Bocinsky, PhD

## Director of Climate Extension, Montana Climate Office

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### Research Interests

human dimensions of climate change • computational social science • paleo-environments complex systems • plant and animal domestication • Indigenous ecologies • reproducibility

#### Education

#### Washington State University, Pullman, Washington

PhD, Anthropology, December 2014

Dissertation title: Landscape-based Null Models for Archaeological Inference

MA, Anthropology, May 2011

Thesis title: Is a Bird in Hand Really Worth Two in the Bush? Models of Domestication on

the Colorado Plateau

#### University of Notre Dame, Notre Dame, Indiana

BA, Anthropology, May 2008

Thesis title: Rodent Stable Carbon-isotope Ratios as a Measure of Maize Production

### **Employment**

#### University of Montana, Missoula, Montana

January 2021—present Director of Climate Extension, Montana Climate Office Currently manages a >\$2 million research and extension grant portfolio in collaboration with Tribal nations, researchers, and federal and state agencies; builds relationships with users of climate data and information in Montana, including outreach supporting agriculture, forestry, recreation, urban and rural climate resilience planning, and other climate-sensitive issues; develops partnerships with Native nations in Montana in support of their needs as related to climate and drought monitoring and education; conducts independent and collaborative research broadly surrounding topics relating to human-environment relationships in the past, present, and future.

January 2018—January 2021 Research Associate, Montana Climate Office Co-project director and climate science lead for the *Montana Drought & Climate* project, funded by the USDA; developed web dashboards and print newsletters aimed at better communicating climate information to farmers and ranchers in Montana; improved the

drought readiness and resilience of the Montana agricultural industry.

#### Crow Canyon Archaeological Center, Cortez, Colorado

August 2018—January 2021 Director, Research Institute

Managed a roughly >\$600,000 research portfolio funded through grants, endowments, and private donations; helped lead a financial turnaround of the Center and navigate the Covid-19 pandemic; and launched Crow Canyon's postdoctoral fellowship program; developed leadership in non-profit administration, project management, and institutional advancement.

January 2016—December 2016 Director of Sponsored Projects

Developed research collaborations between Crow Canyon archaeologists and external researchers; administered a >\$1 million portfolio of grant-funded research projects; conducted cutting-edge interdisciplinary research on ancient agricultural practices, climate change, and global sustainability.

#### Washington State University, Pullman, Washington

2015 Post-doctoral Researcher, *Synthesized Knowledge of Past Environments*Worked to bring paleoenvironmental data to scientists and the general public; collaborated on the development of web mapping services; integrated environmental data with cultural data to gauge impacts of climate change on humans. Directed by Timothy A Kohler.

Aug 2008–Dec 2014 Research Fellow, Department of Anthropology Agent based modeling with the Village Ecodynamics Project; documented and debugged code and expanded study areas; coordinated data storage and delivery among 4 institutions and 16 researchers. Directed by Timothy A Kohler.

# Experience & Achievements

#### **Grant Achievements**

- Project director or Co-PD for a portfolio of funded projects with budgets ranging from \$35,000 to \$1.5 million.
- Co-PI on Developing and Deploying SKOPE—A resource for Synthesizing Knowledge of Past Environments, funded through a National Science Foundation special competition, Resource Implementations for Data Intensive Research in the Social Behavioral and Economic Sciences (SMA-1347973). Part of a collaborative research grant between Washington State University, Arizona State University, and the University of Illinois at Urbana-Champaign. \$254,189 awarded to WSU/CCAC, \$1,339,658 total.
- Secured \$180,000 in competitive masters and doctoral funding from the National Science Foundation and Washington State University resources, plus full tuition waivers from WSU for the duration of graduate school.
- Secured \$16,800 in research funding from the National Science Foundation in support of travel and materials.

#### Research Collaborations

- Extensive experience collaborating with large, interdisciplinary teams of researchers from academic, public, and private sectors
- Managed and coordinated data acquisition, storage, and delivery between team members using Subversion and Git repositories with local and cloud-based storage
- Authored 30 peer-reviewed research articles published in journals including Science, Nature Communications, Science Advances, and American Antiquity, ten book chapters, five technical reports, and four papers

#### Software Development

- Developer of several packages in *R*, including *FedData* for downloading and processing geospatial and climate data from federated data sources
- Packages are being adopted by academic researchers (at Washington State University and Arizona State University) and in the public sector (Natural Resources Conservation Service); FedData downloaded over 79,000 times since release
- Lead developer in the *Village Ecodynamics Project*—built agent-based geospatial simulations of ancient Pueblo human-environment interaction using the *RePAST* simulation framework (in the Java computer language)

# Computer Expertise

Statistical Packages: R, SAS, Stata

Languages: R, Java, Javascript, Python, C++, Objective C

Applications: ArcGIS, GRASS GIS, QGIS, LoggerNet, MS Office, LATEX Web Frameworks: FastAPI, Flask, Bootstrap, Jekyll, Liquid, Shiny Agent Based Modeling Frameworks: RePAST (J, S), Swarm

Version Control: Git, Subversion

Operating Systems: macOS, Windows, Linux