

# Nicolas E. Gauthier

June, 2018

Arizona State University  
Center for Social Dynamics and Complexity  
School of Human Evolution and Social Change  
[Nicolas.Gauthier@asu.edu](mailto:Nicolas.Gauthier@asu.edu)

## RESEARCH INTERESTS

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Geoarchaeology, human ecology, paleoclimate modeling, social-ecological systems, network theory, land use and land cover change

## EDUCATION

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- Current*    **Ph.D.** in Anthropology, **Arizona State University**  
Committee: C. Michael Barton (chair), John M. Anderies, Matthew Peeples
- 2015    **M.A.** in Anthropology, **Arizona State University**  
Advisor: C. Michael Barton  
M.A. Paper: "The spatial pattern of climate change during the spread of farming into the Aegean"
- 2013    **B.A.** in Archaeology, **Boston University**  
Advisor: Christopher H. Roosevelt  
Thesis: "Modeling agropastoral landscapes in the Marmara Lake Basin, western Turkey"

## ACADEMIC EMPLOYMENT

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- Current*    |    **Graduate Research Associate**, Arizona State University.  
Employed under NSF-supported "**CNH**: The emergence of coupled natural and human landscapes in the western Mediterranean."
- 2013-2015    |    **Graduate Research Associate**, Arizona State University.  
Employed under NSF-supported "Collaborative research **EaSM2**: Linking human and Earth System models to assess regional impacts and adaptation in urban systems and their hinterlands."

## PEER-REVIEWED PUBLICATIONS

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- 2018    Barton, C. M., E. Tortosa, O. Puchol, J. Riel-Salvatore, **N. Gauthier**, M. Conesa, G. Pothier-Bouchard. "Risk and resilience in the Late Glacial: A case study from the western Mediterranean," **Quaternary Science Reviews**, 184. 68-84.
- 2016    **Gauthier, N.** "The spatial pattern of climate change during the spread of farming into the Aegean," **Journal of Archaeological Science**, 75. 1-9.
- 2012    **Gauthier, N.** "Pax Seleuciana: Archaeological approaches to ethnicity in the Hellenistic east," **Vexillum** 2 (2012). [www.vexillumjournal.org](http://www.vexillumjournal.org).

## CONFERENCE PRESENTATIONS

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- 2018 | **Gauthier, N.** “Agent-based modeling of anthropogenic land cover change: A case study from Roman North Africa.” Paper presented at the **NCAR Land Model, Biogeochemistry, and Social Dimensions Working Group** joint meetings, Boulder.
- Gauthier, N.** “Agricultural niche construction in Roman North Africa: Simulating irrigation and deforestation on a desert margin.” Poster presented at the **83rd Annual Meeting of the Society for American Archaeology**, Washington, D.C.
- Gauthier, N.** “Forum: the nuts and bolts of agent-based modelling for archaeological science.” Invited discussant at the **83rd Annual Meeting of the Society for American Archaeology**, Washington, D.C.
- Barton, C. M., I. Ullah, **N. Gauthier**, N. Miller, G. Snitker, I. Esteban, J. Bernabeu Auban, A. Heimsath. “Digital Proxies for Validating Models of Past Socio-Ecological Systems in the Mediterranean Landscape Dynamics Project.” Invited paper to be presented at the **24th Annual Meeting of the European Association of Archaeologists**, Barcelona.
- 2017 | **Gauthier, N.** “Parametric uncertainty in a simple model of a social-ecological network.” Invited symposium paper presented at the **2017 Computer Applications and Quantitative Methods in Archaeology** international conference, Atlanta.
- Bergin, S., S. Pardo Gordo, C. M. Barton, J. Bernabeu Auban and **N. Gauthier**. “Testing social and ecological drivers for the initial spread of agriculture on the Iberian Peninsula.” Invited paper presented at the **82nd Annual Meeting of the Society for American Archaeology**, Vancouver.
- Gauthier, N.** and M. Peeples. “Drought variability and the robustness of agrarian social networks.” Poster presented at the **82nd Annual Meeting of the Society for American Archaeology**, Vancouver.
- Ullah, I., **N. Gauthier**, N. Miller, G. Snitker. “Connecting the human and the natural: Coupled human-earth systems models and the digital proxy record.” Poster presented at the **Community Surface Dynamics Modeling System Annual Meeting**, Boulder.
- Gauthier N.** “Placing people in the environment: Coupling agent-based land-use and earth system models.” Invited symposium paper presented at the **CoMSES Net Virtual Conference**.

- 2016 | Barton, C. M., E. Tortosa, O. Puchol, J. Riel-Salvatore, **N. Gauthier**, M. Conesa, and G. Pothier-Bouchard. "Risk and Resilience in the Late Glacial: a Case Study from the Western Mediterranean." Keynote presentation at **MEDINES - Late Glacial to Early Holocene Socio-ecological responses to climatic instability within the Mediterranean Basin**, Tarragona.
- Gauthier, N.** "Agricultural risk management in Mediterranean environments: a computational modeling approach." Invited symposium paper presented at the **81st Annual Meeting of the Society for American Archaeology**, Orlando.
- 2015 | **Gauthier, N.** "Creating high resolution climate reconstructions from statistically downscaled palaeoclimate simulations." Paper presented at the **21st Annual Meeting of the European Association of Archaeologists**, Glasgow.
- Gauthier, N.**, C. Luke, and C. Roosevelt. "Extreme Weather Events and 10,000 Years of Land-Use Change in the Gediz River Valley." Invited symposium poster presented at the **80th Annual Meeting of the Society for American Archaeology**, San Francisco.
- 2014 | Luke, C., C. Roosevelt, **N. Gauthier**, K. Egerer. "Water and People in the Marmara Lake Basin (Middle Gediz), Western Turkey." Paper presented at **Quick-LakeH 2014 - An International Workshop on Lakes and Human Interactions**, Ankara.
- 2013 | **Gauthier, N.** and E. Wallace. "Image Analysis, GIS, and the Microstratigraphy of Occupation Deposits from Tell es-Sweyhat, Syria." Paper presented at the **2013 Annual Meeting of the American Schools of Oriental Research**, Baltimore.
- Gauthier, N.** "Quantifying the Spatial Variability of Archaeological Sediments in Thin Section." Paper presented at the **78th Annual Meeting of the Society for American Archaeology**, Honolulu.
- 2012 | **Gauthier, N.** "Modeling Past Environmental Change and Agropastoral Land Use in the Marmara Lake Basin, Western Turkey." Poster presented at the **Boston University 15th Annual Undergraduate Research Symposium**, Boston.

## GRANTS, FELLOWSHIPS, AND PRIZES

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- 2018 | **Collaborative Research Grant.** A. Wissler, Co-PI. ASU Center for Bioarchaeological Research. \$4,850
- Travel Grant.** ASU Graduate and Professional Student Association. \$950.
- 2017 | **Graduate Visitor Fellowship.** National Center for Atmospheric Research, Advanced Study Program. \$6,750.
- Graduate College Travel Award.** ASU Graduate College. \$200.
- Travel Grant.** ASU Graduate and Professional Student Association. \$950.
- Bursary.** Computer Applications in Archaeology Conference. \$295.
- 2016 | **Group Travel Grant.** ASU Graduate and Professional Student Association. \$630.
- 2015 | **Reynold Ruppé Prize in Archaeology** for best paper in archaeology by a graduate student at ASU. ASU School of Human Evolution and Social Change. \$250.
- Travel Grant.** ASU Graduate and Professional Student Association. \$950.
- 2013 | **Conference Travel Grant.** ASU School of Human Evolution and Social Change Research Committee. \$250.
- Graduate Research Associate Fellowship.** ASU. \$18,000/yr w/tuition waiver.
- Conference Participation Travel Award.** Boston University Undergraduate Research Opportunities Program. \$350.
- Quantifying the Spatial Variability of Archaeological Sediments in Thin Section.  
**Student Research Award, Renewal.** Boston University Undergraduate Research Opportunities Program. \$1,600.

2012 | Quantifying the Spatial Variability of Archaeological Sediments in Thin Section. **Student Research Award.** Boston University Undergraduate Research Opportunities Program. \$1,200.

**Platt Fellowship.** American Schools of Oriental Research. \$1,000.

Mapping Responses to Climate Change in Bronze Age Lydia. **CAS Summer Research Scholar.** Boston University. Undergraduate Research Opportunities Program. \$4,000.

2009-13 | **Dean's Scholarship.** Boston University. \$30,000/yr.

## FIELDWORK

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2016 | **Bova Marina Archaeological Project.** Calabria, Italy. Pedestrian survey, architectural recording, geodatabase management.

2016 | **Eastern Cibola Archaeological Project.** New Mexico, USA. Pedestrian survey, ceramic analysis.

2014 - 15 | **Kaymakçı Archaeological Project.** Manisa Province, Turkey. Stratigraphic excavation, flotation, soil-chemistry sampling, 3-d photography of excavation areas.

2014 | **US-Mexico Border Water and Environmental Sustainability Training Program.** Sonora, Mexico. Field spectrometry, micro UAV and balloon aerial photography, electrical resistivity survey, seismic refraction survey.

2012 - 14 | **Central Lydia Archaeological Survey.** Manisa Province, Turkey. Pedestrian survey, electrical resistivity survey, 3-d scanning and photogrammetry of ceramics and lithics.

## TEACHING EXPERIENCE

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2018 | **Project Instructor.** "Winter School: Agent-Based Modeling of Social-Ecological Systems." ASU Global Biosocial Complexity Initiative.

## COMPUTER SKILLS

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Technical: Agent-based modeling, climate modeling, GIS, remote sensing/image analysis, photogrammetry.

Software: AgiSoft Photoscan, ArcGIS, Blender, CESM, GRASS GIS, ImageJ, L<sup>A</sup>T<sub>E</sub>X, NetLogo, NextEngine Scanstudio, R, SQL, Unix.

## WORKSHOPS AND TUTORIALS

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| 2018 | <b>Functionally Assembled Terrestrial Ecosystem Simulator Tutorial.</b> National Center for Atmospheric Research.                                    |
| 2017 | <b>Last Millennium Reanalysis Workshop and Hackathon.</b> National Oceanic and Atmospheric Administration, National Center for Atmospheric Research. |
| 2016 | <b>Community Earth System Model Tutorial.</b> National Center for Atmospheric Research.  |

## SERVICE AND PROFESSIONAL AFFILIATIONS

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| Reviewer: | Advances in Archaeological Practice, Journal of Archaeological Science, Journal of Field Archaeology, Network for Computational Modeling in Social and Ecological Sciences, ASU GPSA Travel Program. |
| Member:   | Society for American Archaeology, American Schools of Oriental Research, European Association of Archaeologists.   |