

# ANT4147/ANG6120C

## ENVIRONMENTAL ARCHAEOLOGY

### Course Information

Fall 2024

T 8:30a - 9:20a | Th 8:30a - 10:25a

TUR B357

**Instructors:** Dr. Daniel Contreras | Dr. Michelle LeFebvre

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**Office Hours:** Dr. Michelle LeFebvre: Fridays 1-3pm; Dr. Daniel Contreras: Mondays 1-3pm

### Course Description

With a focus on the interdisciplinary science of environmental archaeology, this course addresses questions about past human environments. Students will explore diverse methods, data analyses, and theoretical frameworks of environmental archaeology. Themes include sustainability and resilience over the long-term, environmental influences on cultural transformations, and anthropogenic environments.

Archaeology as a discipline, and environmental archaeology in particular, has been a key contributor to scientific recognition that anthropogenic legacies shape modern environments.

Anthropogenic legacies are central to diverse fields of study, including:

- archaeology
- anthropology
- restoration ecology and conservation
- sustainability and resilience

This course will focus on how archaeologists collect and interpret data that can be used to address the questions that those disciplines - and others - ask about human-environment interactions over the long term. That includes, but is not limited to, archaeological approaches to human-environment interactions and socioecological systems, integration of paleoenvironmental data in archaeological interpretation, and use of archaeological data as paleoenvironmental proxy.

Archives	Methods
Coastal and freshwater environments	zooarchaeology
coastal and marine environments	geoarchaeology
arid environments	archaeobotany/paleoethnobotany
boreal and tropical forest environments	chronostratigraphy
etc.	aDNA/eDNA
	isotopic ecological proxies
	etc.

Generating the data involved in any of these approaches requires identifying *archives* and applying *methods*. With that in mind, this course covers a mix of archives and methods summarized in the table below.

## Course Objectives

In completing this course, students will:

- explore the development of Environmental Archaeology as a sub-discipline,
- identify and critically assess current trends in Environmental Archaeology,
- become familiar with types of analyses commonly used in Environmental Archaeology,
- analyze how Environmental Archaeology can contribute to other fields e.g., sustainability studies, conservation and restoration ecology, etc.,
- assess the role of Environmental Archaeology in analyzing and addressing contemporary challenges of biodiversity loss and climate change, and
- develop an understanding of how their research interests or career goals may include or overlap with topics in Environmental Archaeology.

## Course structure

This course is a hybrid of lecture, seminar, and lab, in which one-hour sessions on Tuesdays will be largely devoted to lectures with some discussion, while two-hour sessions on Thursdays will include both seminar and lab components.

## Course Requirements

### Undergraduate Students

#### Seminar

##### Reading Responses 18%

Over the course of the semester, students are expected to contribute 6 reading responses to distributed prompts ~300 - 500 words. Due at the beginning of class and submitted via Canvas each Thursday for the weeks assigned.

##### Participation 11%

All students graduate and undergraduate are expected to be prepared to participate in seminar discussion and demonstrate their engagement with the assigned readings and seminar questions provided by the graduate student leader.

##### Lab Exercises 21%

This course includes three in-class lab exercises.

## Term Project 50%

Angst over what environmental archaeology *is* and what it is *for* was acute twenty years ago Hamilakis 2001; O'Connor 2001. Choosing one of the roles of EA that we consider in class - as contribution to archaeology, anthropology, restoration ecology and conservation, and sustainability – and drawing on at least five sources (at least three of which are *not* from our course readings) – consider whether EA still suffers from existential angst. If so, why? If not, why not?

### Topic 5%

Written description of paper topic (one paragraph) uploaded to Canvas no later than **15 Oct, 5 pm**. You are welcome to consult with the instructors before drafting this!

### Annotated bibliography 10%

Annotated bibliography uploaded to Canvas no later than **29 Oct, 5 pm**. Must include at least 5 sources, at least three of which are NOT included in course readings.

### Presentation 10%

Each student will give a five-minute presentation of their term paper topic, findings, and conclusions. These will be scheduled across November 19 and November 21. Please use this opportunity to share your term paper research as a work-in-progress, including the theme, findings, and interpretations. This will also provide an opportunity for feedback as you move forward completing the term paper.

### Paper 25%

- 11 or 12 point Times New Roman font; standard 1-inch page margins; double spaced; pages numbered
- 1750 word minimum ~7 pages, 2500 word maximum ~10 pages
- References cited not included in total word count
- **19 Nov** is the deadline to submit paper for instructor feedback prior to submitting the final draft. Instructors will provide feedback by November 30th.
- Final papers uploaded to Canvas by **10 Dec, 11:59 pm**. No exceptions.

## Graduate Students

### Seminar

#### Facilitation 25%

Graduate students are expected to lead at least one instructor-assigned Thursday seminar session in the latter part of the semester (10%). **The TUESDAY PRIOR, each student leader will share via Canvas 3 additional readings (9%) with annotations germane to the topic AND 3 seminar questions (6%) for all students to have as a foundation for preparing for seminar discussion on Thursday.** The additional readings and questions are expected to encourage critical thinking, likely including multiple points of consideration e.g., sub-questions, and be substantial enough to form the basis of a seminar discussion. A good approach would be

to connect the questions and expected answers or reactions to broader topics in the class, previous readings and discussion, and research interests shared throughout the semester.

#### Participation 10%

All students – graduate and undergraduate alike – are expected to be prepared to participate in seminar discussion and demonstrate their engagement with the assigned readings and seminar questions provided by the graduate student leader.

#### Lab Exercises 10%

This course includes three in-class lab exercises.

#### Term Project 55%

Advocates of environmental archaeology have argued that it contributes - and has great potential to contribute more - not only to archaeology, but also to anthropology, restoration ecology and conservation, and sustainability. Selecting *one* of these claims, evaluate, through a review of recent literature of a topic of your choosing, how well the *practice* of environmental archaeology lives up to the *promise* of environmental archaeology. In addition to a broad range of recent case studies see below, your review should include at least two papers that make explicit claims for environmental archaeology broadly construed, analyzing why and how those claims are made.

#### Topic 5%

Written (1-2 paragraph) description of paper topic uploaded to Canvas no later than **1 Oct, 5 pm**.

#### Peer Review 10%

In addition to the course assignments, graduate students are expected to conduct peer-review of one other term paper. Draft papers will be turned in to instructors by **28 Nov, 2 pm**; instructors will distribute drafts to graduate students for peer-review. Each graduate student will peer-review one other paper. Instructors will provide a review template to follow. Completed reviews will be submitted back to the instructors by **5 Dec, 2 pm**. These will be graded and shared with the authors.

#### Presentation 10%

Each student will give a five-minute presentation of their term paper topic, findings, and conclusions. These will be scheduled across November 19 and November 21.

#### Paper 20%

- 11 or 12 point Times New Roman font; standard 1-inch page margins; double spaced; pages numbered
- 2500 word minimum ~10 pages, 3500 word maximum ~14 pages
- References cited not included in total word count
- **19 Nov** is the deadline to submit papers for instructor feedback prior to submitting the final draft. Instructors will provide feedback by November 30th.
- Final papers uploaded to Canvas by **10 Dec, 11:59 pm**. No exceptions.

# Writing Policy, Attendance Policy, Class Expectations, and Late Assignments

## University Honesty Policy

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code <https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/> specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

## Writing

Writing assignments will be subject to and in accordance with the student conduct code and academic honesty. Assignments may use Turnitin to assess plagiarism and are subject to [ChatGPT/AI](#) detection. If there is any evidence of violation of the [Student Honor Code](#), the student may receive a grade of zero for the assignment and be reported to [Student Conduct and Conflict Resolution](#) Office.

## Accommodations

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center. Click here to get started with the Disability Resource Center. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

## Grading

Information on current UF grading policies for assigning grade points may be found here: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

## Attendance

Since attendance is fundamental to the learning goals of this course, it is required. Of course, life may sometimes intervene, in which case you are expected to notify the instructor ahead of time or as soon as practical afterwards. More than two absences will already constitute >10% of the course, and you should consult with the instructor about appropriate make-up activity. Excused absences must be consistent with university policies in the [Graduate Catalog](#) and require appropriate documentation. Requirements for class attendance and make-up assignments are consistent with university policies. Additional information can be found in [Attendance Policies](#).

## Late Assignments

No late assignments will be accepted outside of [UF Attendance Policies](#) accompanied by appropriate documentation.

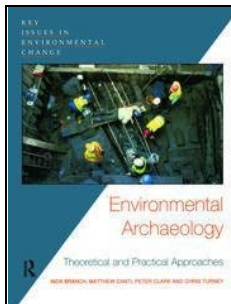
## Evaluations

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

## Course Texts

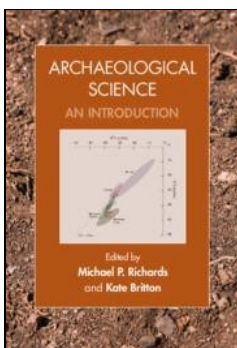


There is one required text, which we will supplement with several articles and book excerpts listed below and available on Canvas.



Branch, N., Canti, M., Clark, P., and Turney, C. 2014.  
*Environmental Archaeology: Theoretical and Practical Approaches*.  
Routledge.

Graduate students are encouraged to also consult:



Richards, Michael P., and Kate Britton editors 2020 *Archaeological Science: An Introduction*. Cambridge University Press, Cambridge.

## Course Schedule

Week	Theme	Date	Readings	Due Dates and other notes
1	Course Intro & Big Picture	22 Aug	* optional for undergraduates	Review class structure and syllabus
2	Lecture: Why/how Environmental Archaeology? History & Scope	27 Aug	<ul style="list-style-type: none"> <li>● Branch et al. Ch.1</li> <li>● Van der Leeuw and Redman 2002</li> <li>● Carleton and Collard 2020</li> <li>● Kirch 2005*</li> </ul>	
	Seminar: Is Environmental Archaeology environmentally determinist? Why does that matter? Theoretical overview	29 Aug	<ul style="list-style-type: none"> <li>● Butzer 1982:Ch.1</li> <li>● Wright 1993</li> <li>● Brumfiel 1992</li> <li>● Steinberg 2002*</li> </ul>	Why and how should we think about the environment when we ask questions about the human past?
3	Lecture: What's in a name? Popular approaches in environmental archaeology	3 Sept	<ul style="list-style-type: none"> <li>● Balée 2006</li> <li>● Fitzhugh et al. 2019</li> <li>● Dotterweich and Schreg 2019</li> <li>● Crabtree and Dunne 2022</li> </ul>	We will review popular approaches in EA, including historical ecology, human ecodynamics, archaeoecology, and archaeonics
	Seminar: Big picture examples and setting the stage for critically assessing the relevance of environmental archaeology	5 Sept	<ul style="list-style-type: none"> <li>● Branch et al. 5.2</li> <li>● Ellis et al. 2021</li> <li>● Rick and Sandweiss 2020</li> </ul>	Please come prepared to think about connecting microscale research issues e.g., data collection to macroscale research relevance e.g., big picture and be ready to share some of your specific interests and/or research goals.
4	Methods I: Geoarchaeology	10 Sept	<ul style="list-style-type: none"> <li>● Branch et al. Ch.2</li> <li>● French 2015:Ch.2</li> <li>● Karkanas 2020</li> </ul>	

		12 Sept	<ul style="list-style-type: none"> <li>• Stein 1987</li> <li>• Frederick 2000</li> <li>• James 2019</li> </ul>	<p>Lab I: landscape-scale geoarchaeology</p> <p><u>Undergraduate reading</u> response due before class</p>
5	Methods II: Zooarchaeology	17 Sept	<ul style="list-style-type: none"> <li>• Branch et al. Ch.3 especially pages 106-150</li> </ul>	How and why do we study archaeological animal specimens?
	Guest seminar and zooarchaeology analysis	19 Sept	<ul style="list-style-type: none"> <li>• Wallis and McFadden 2019</li> </ul>	<p><u>Guest lecture</u> by <a href="#">Neill Wallis</a></p> <p>Class will include Lab II on the use of primary zooarchaeological vertebrate data to interpret subsistence, habitat of harvest, and relationship to climate change at a Woodland period civic ceremonial center on the FL Gulf Coast.</p> <p><u>Undergraduate reading</u> response due before class</p>

6	Methods III: Archaeobotany/Paleoethnobotany/Anthracology/Palynology	24 Sept	<ul style="list-style-type: none"> <li>• Branch et al. Ch.3 especially pages 67-106</li> <li>• D'Andrea 2020</li> </ul>	Guest lecture: TBD
	Isotopes	26 Sept	<ul style="list-style-type: none"> <li>• Britton 2020</li> <li>• Richards 2020</li> </ul>	<p>Guest speaker: <a href="#">John Krigbaum</a> Lecture by Krigbaum followed by instructor-led seminar</p> <p><u>Undergraduate reading</u> response due before class</p>
7	Methods IV: Chronometry	<b>1 Oct</b>	<ul style="list-style-type: none"> <li>• Branch et al. Ch.4</li> <li>• Wood 2015</li> <li>• Blockley 2020</li> <li>• Townsen et al. 2024</li> </ul>	<p>Why does chronology matter, and how can we build accurate and precise chronologies?</p> <p><u>Graduate student</u> term paper topics due to instructors by 5pm</p>
		3 Oct	<ul style="list-style-type: none"> <li>• Contreras 2017</li> <li>• Sandweiss and Quilter 2012</li> <li>• Bayliss 2009*</li> <li>• Bayliss et al. 2007*</li> </ul>	<p>Lab III: Intro to <a href="#">OxCal</a></p> <p><u>Undergraduate reading</u> response due before class</p>



8	Methods V: Paleoclimatology	8 Oct	<ul style="list-style-type: none"> <li>• Davis 2019</li> <li>• Roberts 2014:Ch.2</li> </ul>	Palynology if not already covered in Week 6 / Paleoenvironmental proxies
		10 Oct	<ul style="list-style-type: none"> <li>• Brenner et al. 2003</li> <li>• Medina-Elizalde and Rohling 2012</li> </ul>	<p>Guest Lecture - TBD followed by the whole class discussion. Topics may include paleoclimatology and methods, but also long-term research and community building.</p> <p><u>Undergraduate reading</u> response due before class</p>
9	Methods VI: Archaeological deposits / materials as archives / paleoenvironmental proxies/ taxonomic diversity	<b>15 Oct</b>	<ul style="list-style-type: none"> <li>• Rick et al. 2022</li> <li>• Sandweiss and Kelley 2012</li> </ul> <p>Aldeias et al. 2024</p> <p>Younes et al. 2024</p>	<p>zooarch/archaeobot/isotopes/aDNA</p> <p><u>undergraduate student term paper</u> topics due to instructors by 5 pm</p>

		17 Oct	<ul style="list-style-type: none"> <li>• St. Amand et al. 2020</li> </ul>	<p>Visit to FMNH collections: Environmental Archaeology, South Florida Archaeology, Mammalogy, Ornithology</p> <p><u>Undergraduate reading</u> response due before class</p>
10	Long-term environmental legacies	22 Oct	<ul style="list-style-type: none"> <li>• Boivin et al. 2016</li> <li>• Foster et al. 2003</li> <li>• Marshall et al. 2018</li> </ul>	Guest lecture: <a href="#">Kate Grillo</a>
		24 Oct	<ul style="list-style-type: none"> <li>• Pavlik et al. 2021</li> <li>• Wells et al. 2018</li> <li>• Hayashida 2005</li> <li>• Snitker et al. 2022</li> </ul>	<b>Grad student led seminar</b>
11	Restoration and Conservation	29 Oct	<ul style="list-style-type: none"> <li>• O'Brien 2001</li> <li>• Turner et al. 2020</li> <li>• LeFebvre et al. 2019, 2023, in review</li> </ul>	<p>We will consider these topics broadly macro-scale and then explore more specific engagement at community level interactions and research goal-setting. Case study presentation will focus on vertebrate baselines and biodiversity in The Bahamas and a paleobiology working group.</p> <p><u>undergraduate student</u> annotated bibliographies due to instructors by 5 pm</p>
		31 Oct	<ul style="list-style-type: none"> <li>• Hofman et al. 2015</li> <li>• Rick 2023</li> <li>• Millhauser et al. 2022</li> </ul>	<b>Grad student led seminar</b>

12	Sustainability	4 Nov	<ul style="list-style-type: none"> <li>• Van der Leeuw et al. 2011</li> <li>• Guttman-Bond 2010</li> <li>• Rogers 2024</li> </ul>	
		7 Nov	<ul style="list-style-type: none"> <li>• Silva et al. 2022</li> <li>• Fisher 2020</li> <li>• Jacobson 2022</li> <li>• LeFebvre et al. 2022</li> </ul>	Grad student led seminar
13	Diversity of modes of human-environment interaction	12 Nov	<ul style="list-style-type: none"> <li>• Burke et al. 2021</li> </ul>	
		14 Nov	<ul style="list-style-type: none"> <li>• Boivin and Crowther 2021</li> <li>• Kohler and Rockman 2020*</li> <li>• Nicoll and Zerboni 2020*</li> <li>• Cronon 1996</li> </ul>	Grad student led seminar
14	Student presentations	<b>19 Nov</b>	Students TBD	All student deadline to submit term papers for instructor feedback not graded

15	Student presentations	21 Nov	Students TBD	
	No Class	<b>26, 28 Nov</b>		<u>Graduate student</u> paper drafts due to instructors for dissemination to peer reviewers by 28 Nov, 2 pm
16	EA ethics, environmental justice, food security	3 Dec	<ul style="list-style-type: none"> <li>● Riede et al. 2016</li> <li>● Douglass and Cooper 2020</li> <li>● Logan 2016</li> <li>● Albarella 2018</li> </ul>	We will wrap up class contextualizing environmental archaeology within the context of meeting social challenges and evolving ethics.
17		<b>5 Dec</b>		Completed <u>graduate student</u> peer-reviews due to instructors by 2 pm
18		<b>10 Dec</b>		<u>All student</u> term papers due by 11:59 pm no exceptions outside of official UF policy

## Supplementary Readings

Albarella, U.

2018 Environmental Archaeology: The End of the Road?. In: Pişkin, E., Marciniak, A., Bartkowiak, M. (eds) \*Environmental Archaeology\*. Interdisciplinary Contributions to Archaeology. Springer, Cham.

[https://doi.org/10.1007/978-3-319-75082-8\\_2](https://doi.org/10.1007/978-3-319-75082-8_2)

Aldeias, V, and MC Stahlschmidt

2024 Sediment DNA can revolutionize archaeology-if it is used the right way. *\_Proc Natl Acad Sci U S A\_* 121: e2317042121.

Balée, William

2006 The Research Program of Historical Ecology. *Annual Review of Anthropology* 35:1:75.

DOI:doi:10.1146/annurev.anthro.35.081705.123231.

Balme, Jane, and Alistair Paterson 2006 *\_Archaeology in practice: a student guide to archaeological analyses\_*. Blackwell, Malden, MA.

Bayliss, Alex

2009 Rolling Out Revolution: Using Radiocarbon Dating in Archaeology. *Radiocarbon* 51:1:123–147.

Bayliss, Alex, Christopher Bronk Ramsey, Johannes van der Plicht, and Alasdair Whittle

2007 Bradshaw and Bayes: Towards a Timetable for the Neolithic. *Cambridge Archaeological Journal* 17Supplement S1:1–28. DOI:10.1017/S0959774307000145.

Blockley, Simon

2020 Radiocarbon Dating. In *Archaeological Science: An Introduction*, edited by Kate Britton and Michael P. Richards, pp. 407–423. Cambridge University Press, Cambridge.

Boivin, Nicole, and Alison Crowther

2021 Mobilizing the past to shape a better Anthropocene. *Nature Ecology & Evolution* 53:273–284. DOI:10.1038/s41559-020-01361-4.

Boivin, Nicole L, Melinda A Zeder, Dorian Q Fuller, Alison Crowther, Greger Larson, Jon M Erlandson, Tim Denham, and Michael D Petraglia

2016 Ecological consequences of human niche construction: Examining long-term anthropogenic shaping of global species distributions. *Proceedings of the National Academy of Sciences* 11323:6388–6396.

Brenner, Mark, David A Hodell, Jason H Curtis, Michael F Rosenmeier, Flavio S Anselmetti, and Daniel Ariztegui

2003 Paleolimnological approaches for inferring past climate change in the Maya region: recent advances and methodological limitations. In *The Lowland Maya area three millennia at the human-wildland interface*, edited by Arturo Gómez-Pompa, M.F. Allen, Scott L. Fedick, and J.J. Jiménez-Osorio, pp. 45–75. Haworth Press, Inc., New York.

Britton, Kate

2020 Isotope Analysis for Mobility and Climate Studies. In *Archaeological Science: An Introduction*, edited by Kate Britton and Michael P. Richards, pp. 99–124. Cambridge University Press, Cambridge.

Brumfiel, Elizabeth

1992 Distinguished Lecture in Archaeology: Breaking and Entering the Ecosystem - Gender, Class, and Faction Steal the Show. *American Anthropologist* 94:3:551–568.

Burke, Ariane, Matthew C. Peros, Colin D. Wren, Francesco S. R. Pausata, Julien Riel-Salvatore, Olivier Moine, Anne de Vernal, Masa Kageyama, and Solène Boisard

2021 The archaeology of climate change: The case for cultural diversity. *Proceedings of the National Academy of Sciences* 11830:e2108537118. DOI:10.1073/pnas.2108537118.

- Butzer, Karl W  
1982 *Archaeology as Human Ecology: Method and Theory for a Contextual Approach*. Cambridge University Press, New York.
- Carleton, W. Christopher, and Mark Collard  
2020 Recent major themes and research areas in the study of human-environment interaction in prehistory. *Environmental Archaeology* 251:114–130.
- Contreras, Daniel A.  
2017 Correlation is Not Enough – Building Better Arguments in the Archaeology of Human-Environment Interactions. In *The Archaeology of Human-Environment Interaction: Strategies for Investigating Anthropogenic Landscapes, Dynamic Environments, and Climate Change in the Human Past*, edited by Daniel A. Contreras, pp. 3–22. Routledge, New York.
- Crabtree, Stefani A., and Jennifer A. Dunne  
2022 Towards a science of archaeoecology. *Trends in Ecology & Evolution* 3711:976–984. DOI:10.1016/j.tree.2022.07.010.
- Cronon, William  
1996 The trouble with wilderness: or, getting back to the wrong nature. *Environmental History* 11:7–28.
- D'Andrea, A. Catherine  
2020 Palaeoethnobotany. In *Archaeological Science: An Introduction*, edited by Kate Britton and Michael P. Richards, pp. 276–313. Cambridge University Press, Cambridge.
- Davis, Dylan S.  
2019 Studying human responses to environmental change: Trends and trajectories of archaeological research. *Environmental Archaeology*:1–14.
- Dotterweich, Markus, and Rainer Schreg  
2019 Archaeonics - Geoarchaeological studies in Anthropogenic Dark Earths ADE as an example for future-oriented studies of the past. *Quaternary International* 502. Landforms, sediments, soils and palaeosols as records of present and former environmental conditions and human-environment interactions:309–318. DOI:10.1016/j.quaint.2018.09.026.
- Douglass, Kristina, and Jago Cooper  
2020 Archaeology, environmental justice, and climate change on islands of the Caribbean and southwestern Indian Ocean. *Proceedings of the National Academy of Sciences* 11715:8254–8262. DOI:10.1073/pnas.1914211117.
- Ellis, Erle C, Nicolas Gauthier, Kees Klein Goldewijk, Rebecca Bliege Bird, Nicole Boivin, S Díaz, DQ Fuller, JL Gill, JO Kaplan, N Kingston, H Locke, CNH McMichael, D Ranco, TC Rick, MR Shaw, L Stephens, JC Svenning, and JEM Watson  
2021 People have shaped most of terrestrial nature for at least 12,000 years. *Proceedings of the National Academy of Sciences of the United States of America* 11817:e2023483118.
- Fisher, Chelsea  
2020 Archaeology for sustainable agriculture. *Journal of Archaeological Research* 283:393–441.
- Fitzhugh, Ben, Virginia L. Butler, Kristine M. Bovy, and Michael A. Etnier  
2019 Human ecodynamics: A perspective for the study of long-term change in socioecological systems. *Journal of Archaeological Science: Reports* 23:1077–1094. DOI:10.1016/j.jasrep.2018.03.016.
- Foster, David, Frederick Swanson, John Aber, Ingrid Burke, Nicholas Brokaw, David Tilman, and Alan Knapp  
2003 The importance of land-use legacies to ecology and conservation. *BioScience* 531:77–88.
- Frederick, Charles D  
2000 Evaluating Causality of Landscape Change: Examples from Alluviation. In *Earth Sciences and Archaeology*, edited by Paul Goldberg, Vance T. Holliday, and C. Reid Ferring, pp. 1–22. Academic/Plenum Publishers, New York.

French, Charles

2015 *A Handbook of Geoarchaeological Approaches for Investigating Landscapes and Settlement Sites*. Studying Scientific Archaeology I. Oxbow Books, Oxford.

Guttman-Bond, Erika

2010 Sustainability out of the past: how archaeology can save the planet. *World Archaeology* 423:355–366.

Hamilakis, Yannis

2001 Re-inventing Environmental Archaeology: A comment on “Economic prehistory or environmental archaeology? On gaining a sense of identity.” In *Environmental Archaeology: Meaning and Purpose*, edited by Umberto Albarella, pp. 29–38. Kluwer Academic Publishers, New York.

Hayashida, Frances

2005 Archaeology, Ecological History, and Conservation. *Annual Review of Anthropology* 34:43–65.

Hicks, Michael Townsen, James Humphries, and Joe Slater 2024 ChatGPT is bullshit. *\_Ethics and Information Technology\_* 26:

Hofman, Courtney A., Torben C. Rick, Robert C. Fleischer, and Jesús E. Maldonado

2015 Conservation archaeogenomics: ancient DNA and biodiversity in the Anthropocene. *Trends in Ecology & Evolution* 309:540–549. DOI:10.1016/j.tree.2015.06.008.

Jacobson, Matthew J.

2022 Archaeological evidence for community resilience and sustainability: A bibliometric and quantitative review. *Sustainability* 1424:16591.

James, L Allan

2019 Impacts of pre- vs. postcolonial land use on floodplain sedimentation in temperate North America. *Geomorphology* 331C:59–77.

Karkanas, Panagiotis

2020 Geoarchaeology. In *Archaeological Science: An Introduction*, edited by Kate Britton and Michael P. Richards, pp. 314–332. Cambridge University Press, Cambridge.

Kirch, Patrick V.

2005 Archaeology and Global Change: The Holocene Record. *Annual Review of Environmental Resources* 30:409–440.

Kohler, Timothy A., and Marcy Rockman

2020 The IPCC: A primer for archaeologists. *American Antiquity* 854:627–651.

Larson, G, Dolores R Piperno, Robin G Allaby, M D Purugganan, L Andersson, Manuel Arroyo-Kalin, L Barton, C Climer Vigueira, Tim Denham, K Dobney, A N Doust, P Gepts, M T P Gilbert, Kristen J Gremillion, L Lucas, L Lukens, F B Marshall, K M Olsen, J C Pires, Peter J Richerson, R Rubio de Casas, O I Sanjur, M G Thomas, and Dorian Q Fuller

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# University Policies and Additional Resources

## Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see the [Notification to Students of FERPA Rights](#).

## Health and Wellness

### U Matter, We Care:

If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) or 352 392-1575 so that a team member can reach out to the student.

**Counseling and Wellness Center:** [counseling.ufl.edu/cwc](http://counseling.ufl.edu/cwc), and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

### Sexual Assault Recovery Services SARS

Student Health Care Center, 392-1161.

**University Police Department** at 392-1111 or 9-1-1 for emergencies, or [police.ufl.edu](http://police.ufl.edu).

## Academic Resources

**[E-learning technical support](#)**, 352-392-4357 select option 2 or e-mail to [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu).

**[Career Resource Center](#)**, Reitz Union, 392-1601. Career assistance and counseling.

**[Library Support](#)**, Various ways to receive assistance with respect to using the libraries or finding resources.

**[Teaching Center](#)**, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.

**[Writing Studio](#)**, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.

**[Student Complaints Campus](#)**

**[On-Line Students Complaints](#)**

