

# Hawai`i's Ancient Past: Science and Archaeological History in Paradise

College of Humanities – Humanities Seminars

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## *Course Description*

Many visitors enjoy the beauty, culture, and hospitality of Hawai`i, but beneath lies an intriguing and often untold history of evolution, Polynesian arrivals, and ancient life in these spectacular islands. In **"Hawai`i's Ancient Past"** we will explore recent research from multiple disciplines, including biology, archaeology, ancient DNA, and linguistics, that is telling a new and dramatically different story. Your next visit to the Hawaiian Islands will be greatly informed with new perspectives and a deeper appreciation for these magnificent islands.

We begin this course discussing the natural history of the Hawaiian Islands—their volcanic origin, ecologies, and the evolution of unique plants and animals. Hawai`i is a showcase in island evolution. What extinctions have occurred, and how are Hawai`i's native plants and animals doing today?

We will then trace the origins of the Hawaiians and their Polynesian and Oceanic roots, taking us all the way back to southeast Asia. We will take a critical look at debates about Polynesian seafaring and long-distance voyaging. A flood of recent research, particularly in ancient DNA and linguistics, has transformed our understanding, sometimes in surprising and dramatic ways.

Polynesian colonists discovered the Hawaiian Islands—a pristine setting for evolution in isolation where people had never set foot. What happens when humans bring fire, agricultural plants, domestic animals, and invasive species such as rats? What are the dimensions of human impacts, and how are they different than we have imagined? The Hawaiian Islands were profoundly transformed from early Polynesian times and many changes continue today.

We will consider the growth of population from a few canoe-loads to hundreds of thousands within a few centuries. How did ancient Hawaiians harvest the sea, grow crops, and importantly deal with the challenges of risk. We examine the extent of agriculture across Hawaiian landscapes (sites you can visit today) into the most marginal, challenging areas. How did people adapt in these difficult settings?

Our course turns to the monumental (ritual) architecture such as *heiau* (temples), settlements, and expansive modified cultural landscapes of the Hawaiian Islands. Visitors to Hawai'i rarely appreciate how evidence of ancient times surrounds them--witness to a thriving and complex society. In class we will also share where and how to visit the most spectacular sites and cultural landscapes of the islands.

And finally, what happened in Hawai'i when isolation from beyond Polynesia ended? What were the many consequences of European arrival? Much of this story of ecological and human transformation remains overlooked.

### ***Modality***

Our course will be hybrid: in person and online simultaneously. We will meet in six live/hybrid sessions.

### ***Instructor***

Professor **Terry Hunt** is an internationally renowned anthropologist and archaeologist. He is one of the world's foremost experts on the human and environmental histories of the Pacific Islands, where he has conducted field research for more than four decades, beginning in the Hawaiian Islands. Dr. Hunt has conducted field research in Papua New Guinea, Fiji, Samoa, and syntheses for Polynesia. And over the past 23 years he has focused on Rapa Nui (Easter Island), where he has engaged many students in this work. His current and continuing field research collaboration on Rapa Nui is funded by the National Geographic Society and the National Science Foundation.

Dr. Hunt is a leader in Pacific Island archaeology. He recently published *The Oxford Handbook of Prehistoric Oceania*, co-edited with Ethan Cochrane (2018). Dr. Hunt is also the co-author of *The Statues That Walked: Unraveling the Mystery of Easter Island*, with Carl Lipo, which details Rapa Nui's archaeological history. Their Rapa Nui research was the focus of a National Geographic magazine cover story in July 2012 and a Nova-National Geographic TV documentary that first aired on PBS in November 2012. His work and that of his colleagues continues to receive high profile press coverage.

Dr. Hunt is Professor in the School of Anthropology at the University of Arizona. He previously served as W.A. Franke Dean, W.A. Franke Honors College, here at University of Arizona. Dr. Hunt is W.A. Franke Dean Emeritus. He previously served as Dean of the Clark Honors College, University of Oregon, and taught at University of Hawai'i-Manoa for 25 years. In Hawai'i Dr. Hunt regularly taught courses such as Hawaiian Archaeology, Pacific Island Archaeology, and directed archaeological field schools in the Hawaiian Islands, Fiji, and Rapa Nui.

### *Recommended Reading*

Providing good background is a newly published revised edition of *Feathered Gods and Fishhooks: The archaeology of ancient Hawai'i (Revised Edition)*, Patrick Kirch and Mark McCoy (2023), University of Hawai'i Press.

Participants in the course may wish to read *The Oxford Handbook of Prehistoric Oceania*, Ethan Cochrane and Terry Hunt, editors (2018), Oxford University Press, for a detailed overview of the entire Pacific.

Both books are available for purchase on Amazon. Other recommended weekly readings are available electronically on our course website.

These book sources are recommended for more in-depth study, but certainly not required for the content of the course.

### *Class Schedule and Recommended Readings*

#### **Week 1: The Remarkable Natural History of the Hawaiian Islands**

Recommended Reading:

"The Prehistory of Hawai'i," P. Kirch (2018), In E.E. Cochrane and T.L. Hunt, Editors, *The Oxford Handbook of Oceanic Prehistory*. Oxford University Press, Oxford, pp. 375-395.

#### **Week 2: The Dramatically Changing Story of Hawaiian Origins (Ultimate & Immediate)—ancient DNA, linguistics, and archaeology.**

Recommended Reading:

"The last great migration: Human colonisation of the remote Pacific Islands" (2017), T.L. Hunt, C.P. Lipo, In: N. Boivin, Crassard, R., and Petraglia, M.D., Editors, *Human Dispersal and Species Movement - From Prehistory to the Present* (pp. 194-216), Cambridge University Press, Cambridge.

"An ancient DNA Pacific journey: a case study of collaboration between archaeologists and geneticists" (2020), M. Spriggs, D. Reich, *World Archaeology* <https://www.tandfonline.com/doi/full/10.1080/00438243.2019.1733069>

"Seafaring in Remote Oceania: Traditionalism and beyond in maritime technology and migration," A. Anderson (2018), In E.E. Cochrane and T.L. Hunt, Editors, *The Oxford Handbook of Oceanic Prehistory*. Oxford University Press, Oxford, pp. 473-492.

### **Week 3: Human Impacts on Island Ecosystems**

#### Recommended Reading:

"Tropical islands as paleoecological laboratories: gauging the consequences of human arrival" (1997), D.A. Burney *Human Ecology*, 25, pp. 437-457.

"Avifaunal extinctions, vegetation change, and Polynesian impacts in prehistoric Hawai'i" (2002), Athens, J.S., Tuggle, H.D., Ward, J.V. and Welch, D.J., 2002. *Archaeology in Oceania*, 37(2), pp.5 7-78.

"*Rattus exulans* and the catastrophic disappearance of Hawai'i's native lowland forest" (2009), Athens, J.S., *Biological Invasions*, 11, pp. 1489-1501.

### **Week 4: Population, Resources, and Adapting to Risk (agricultural production & marine exploitation)**

#### Recommended Reading:

"Bet-hedging strategies, agricultural change, and unpredictable environments: Historical development of dryland agriculture in Kona Hawaii" (2004) Allen, M.S., *Journal of Anthropological Archaeology*, 23(2), pp. 196-224.

"Opportunities and constraints for intensive agriculture in the Hawaiian archipelago prior to European contact" (2009) Ladefoged, T.N., Kirch, P.V., Gon III,

S.M., Chadwick, O.A., Hartshorn, A.S. and Vitousek, P.M., *Journal of Archaeological Science*, 36(10), pp. 2374-2383.

"Soils, agriculture, and society in precontact Hawaii" (2004) Vitousek, P.M., Ladefoged, T.N., Kirch, P.V., Hartshorn, A.S., Graves, M.W., Hotchkiss, S.C., Tuljapurkar, S. and Chadwick, O.A., *Science*, 304(5677), pp. 1665-1669.

## **Week 5: Monuments, Settlements, Social Hierarchy, and the Hawaiian Cultural Landscape**

### Recommended Reading:

"Human ecodynamics in the Hawaiian ecosystem, from 1200 to 200 Yr BP. *The Model-Based Archaeology of Socionatural Systems*" (2009) Kirch, P.V., Chadwick, O.A., Tuljapurkar, S., Ladefoged, T., Graves, M., Hotchkiss, S. and Vitousek, P., 2007. School for Advanced Research Press, Santa Fe, pp.121-140.

"A spatiotemporal model of risk and uncertainty for Hawaiian dryland agriculture and its implications for *ahupua'a* community formation" (2017), DiNapoli, R.J. and Morrison, A.E., *Journal of Archaeological Science: Reports*, 15, pp. 109-119.

## **Week 6: Trouble in Paradise: Impacts from the Outside World**

### Recommended Reading:

"Disease and infertility: a new look at the demographic collapse of native populations in the wake of western contact." (1990) Stannard, D.E., *Journal of American Studies*, 24(3), pp. 325-350.

"A new estimate of the Hawaiian population for 1778, the year of first European contact" (2019), Swanson, D. *Huili* 11(2).