

THE HUMAN ROLE IN ENVIRONMENTAL CHANGE

TuTh 3:00-4:15 P.M.
Webster 103

Biol/Geog 410
Spring 2007

Instructor: Mark Merlin, Professor, Botany Program, Graduate Faculty, Geography Department, and Evolution, Ecology and Conservation Biology Program (EECB); Office Hours: TuTh 4:30-5:30 or by appointment; ph. 956-6038, merlin@hawaii.edu
Graduate Teaching Assistant: Ricardo Gonzalez, Geography Department; Office Hours: by appointment; ph. 956-8465, ricardog@hawaii.edu

Texts: 1. Roberts, N. 1998. *The Holocene: an environmental history*. London: Blackwell.
2. Ponting C. 1991. *A green history of the world*. New York: Penguin Books.
3. Redman. C. 1999. *Human impact on ancient environments*. Arizona: Univ. of Arizona Press.
4. Diamond, J. 1999. *Guns, germs, and steel: the fates of human societies*. New York: W. Norton & Co.

Course Evaluation: Mid-Term Examination	= 20%
Class Participation: Attendance, Questions & Answers	= 10%
Student Research Paper: Written and Oral Presentation	= 35%
Final Examination (cumulative)	= 35%

This course presents an historical perspective of the role of *Homo sapiens* in changing the face of the earth. Lessons learned from past and present ecological modification by humans can help us better adapt to our future on earth

Topics and Readings

1/9 - Course objectives & requirements. Environmental impact theme in geography & rise of ecological perspectives.

1/11 – Rapa Nui: The “microcosm” example of human impact on Easter Island.

Readings Ponting, 1-7, Redman 3-14

1/16 - The significance of the Holocene and reconstruction of Holocene environments. Dating and modeling the past.

Readings Roberts 1-5, Ponting 1-17, Redman 15-51

1/18 - The Pleistocene Prelude (>11, 500 Cal. years before the present): Ice Age Environments. The rise of Hominids.

Readings Roberts 55-67, Ponting 18-36, Diamond 13-52

1/23 - The end of the Pleistocene (16,000-11,500 B.P.). Human ecology at the beginning of the Holocene. Megafaunal extinctions.

Readings Roberts 68-86, Ponting 18-36, Redman 53-80, Diamond 13 -52

1/25 - Early Holocene adaptations, the changing physical environment. Forest return and ecology of Mesolithic Eurasia.

Readings Roberts 87-111, Ponting 18-36

1/30 - Early Holocene adaptations in the tropics. Climatic changes in the early Holocene.

Readings Roberts 112-126, Ponting 18-36

2/1 - The origins of farming. Archaeological and speculative theory regarding the development of agriculture.

Readings Roberts 127-141, Ponting 37-67, Redman 81-126, Diamond 85-175

2/6 - Role of environmental change in early agricultural development and the ecological impact of early agriculture I.

Readings Roberts, 142-158, Ponting 37-87, Redman 81-126, Diamond 176-192

2/8 - Role of environmental change in early agricultural development and the ecological impact of early agriculture II.

Readings Roberts 142-158, Ponting 37-87, Redman 81-194, Diamond 176-192 and 322-333

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2/13 – Cultural evolution and changes in the natural environment between 5,000 and 500 years before the present.

Readings Roberts 159-178, Ponting 37- 116, Redman 127-219, Diamond 322-333 and 354-402

2/15 - Early human impact in the Mediterranean ecosystems & Expansion at the Periphery.

Readings Roberts 179-191, Redman 127-219

2/20 - Case study of the Prehistoric human impact in the British Isles: ancient English, Welsh, Scottish, & Irish Landscapes.

Readings Roberts 192-206, Redman 127-219

2/22 – Early human impact in the British Isles: ancient English, Welsh, Scottish & Irish landscapes, part II.

Readings Roberts 192-206, Redman 127-219.

2/27 - Case study of the Canary Islands in the Atlantic Ocean: Pre-contact and Post-contact histories.

Readings Ponting 141-239, class handout.

3/1 – MID-TERM EXAMINATION

3/6 - Expansion of the range of human settlement into the Pacific realms. Prehistoric human adaptation and environmental alterations in tropical Pacific island ecosystems.

Readings Roberts 179-186, Diamond 53-66, 295-321, and 334-353.

3/8 – Impact of Pleistocene gatherers and hunters on the ecosystems of Near and Remote Oceania: Extinctions of birds and other vertebrates in pre-contact Polynesia.

Readings class handout

3/13 – Pre-contact impact of farming in selected areas of Melanesia, Micronesia and Polynesia – Part I.

Readings class handout

3/15 – Pre-contact impact of farming in selected areas of Melanesia, Micronesia and Polynesia – Part II.

Readings class handout

3/20 - Pre-contact impact of humans in the New World: examples from Peru – Part I.

Readings Diamond 67-82, class handout.

3/22 - Pre-contact impact of humans in the New World: examples from Peru – Part II.

Readings class handout.

[3/27 & 3/29 Spring Break Holidays]

4/3 - Human environmental impact in modern times (500-0 years before the present), Part I. Climate Change – The Inconvenient truth?

Readings Roberts 207-252, Ponting 117-407, Redman 195-219, Diamond 193-293 and 403-440

4/5, 4/10, 4/12, 4/17, 4/19, 4/24, 4/26, 5/1, - **Presentations of Student Research Papers.**

FINAL EXAMINATION , Thursday, May 11th – 2:15 – 4:15 P.M.