

Humid tropics: Ecology, Conservation and Development

Professor Lisa Naughton

Course description: The humid tropics encompass roughly 10% of the earth's surface and are home to 40% of the world's human population. This region is characterized by extraordinary cultural and biological diversity, and a common dependence on agriculture to sustain local and national economies. Within the development process, the humid tropics are undergoing rapid social and environmental change, including extensive deforestation, loss of biodiversity and release of carbon. We begin this course with an overview of the physical environment of the humid tropics. Then we study the complex forces driving deforestation in different realms (Africa, Latin America, SE Asia). Finally, we evaluate the ecological and social viability of dominant strategies for conserving tropical forests, including protected areas, community-based forest management, ecotourism, sustainable use, and conservation concessions.

Course readings: Readings are drawn from several disciplines, including physical geography, political ecology and conservation biology.

Grading will be based on:

First exam (multiple choice, short answer, matching) =	75 points
Second exam (in-class essay) =	75 points
Three writing assignments	150 points
1.. Review of Posey vs. Parker debate, 3-4 pp (50 pts)	
2. 'Eating the tropics' food diary, 1 p. (25 pts)	
3. Conservation case study, 7 pp. (75 pts)	
Class participation	50 points
a. discussions in class (25 pts)	
b. oral presentation of conservation case study (25 pts)	
Total possible = 350 points.	

Note: all readings should be completed before the listed lecture date.

Section I. Introduction

T, Sep. 2 Introduction of course and students. Perceptions of the humid tropical environment

R, Sep. 4 Geography of the humid tropics. Climatic conditions.

Readings:

Forsyth, A. and K. Miyata (1984). Tropical Nature. New York, Charles Scribner's Sons, chap 1.

Trewartha, G. and L. Horn (1980). Tropical humid climates. An Introduction to Climate. New York, McGraw-Hill Book Company: 233-253.

Vandermeer, J. & I. Perfecto Breakfast of Biodiversity, 1995. Oakland, CA, Food First Books. Chap.

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Recommended:

Reading, A. J., R. D. Thompson, et al. (1995). Humid Tropical Environments. Cambridge, MA, Blackwell Publishers, Ltd. pp. 15-20.

Handout: Climate worksheet. Review in class Sep. 9.

Section II. Physical Geography and Subsistence Systems

T, Sep. 9 Types of tropical forests. Forest succession.

Readings:

Whitmore, T. C. (1990). An Introduction to Tropical Rain Forests. Oxford, Clarendon Press: pp. 9-29.

Vandermeer, J. & I. Perfecto Breakfast of Biodiversity, 1995. Oakland, CA, Food First Books. Chap. 2.

Muller, E. 2002. "Making secondary forests visible", ITTO Update. 12/4: pp. 16-18.

Review: Climate worksheet in class.

R, Sep. 11 Biodiversity - Why are the humid tropics so rich in species?

Readings:

Dobson, A. (1996). Conservation and Biodiversity. New York, Scientific American Press. Chap. 1.

Kricher, J. (1989). A Neotropical Companion. Princeton, Princeton University Press: pp. 122-133

Recommended:

Tilman, D. (1999). "Diversity by default" Science. 283:pp. 495-496.

T, Sep. 16 Rain forest soils.

[no assigned readings]

R, Sep. 18 Shifting agriculture.

Vandermeer, J. & I. Perfecto. Breakfast of Biodiversity, 1995. Oakland, CA, Food First Books. Chap. 3.

Handout: Assignment #1. Ecologically Noble Savage. Draft due Sep 30, Final copy due OCT 9

T, Sep. 23 Case study. Indigenous management of neotropical forests. Video: Keepers of the Forest

Readings:

Redford, K. H. (1990). "The ecologically noble savage." Orion Nature Quarterly 9: 24-29.

Diamond, J. (1982). "Man the exterminator." Nature 298(26): 787-789.

Stevens, S. (1997). "Introduction". Conservation through Cultural Survival. S. Stevens, ed. Washington, D.C., Island Press: 1-4.

Posey, D. (1988). Kayapo Indian Natural-Resource Management. People of the Tropical Rain Forest. J. Denslow and C. Padoch. Berkeley, California, University of California Press: 89-90.

Herlihy, P. (1997). Indian Peoples and Lands Today. Central America. A Natural and Cultural History. A. Coates, ed. New Haven, Yale University Press: 218-219. [MAP]

Alcorn, J. B. (1993). "Indigenous peoples and conservation." Conservation Biology 7(2): 424-426.

Recommended:

Agrawal, Arun. (1995). "Dismantling the divide between indigenous and scientific knowledge", Development and Change. 26:413-439.

R, Sep. 25 No class.

T, Sep 30 Wildlife, hunting and rainforests.

Readings:

Whitmore, T. C. (1990). "Rainforest animals" in An Introduction to Tropical Rain Forests. Oxford, Clarendon Press.

Bennett, E. and J. Robinson. 2000. Hunting Wildlife in Tropical Forests. Paper #76, World Bank, Washington, D.C.

Recommended:

Dove, M. 1993, "Responses of the Dayak and bearded pigs to mast fruiting in Kalimantan", in Tropical Forests, People and Food. Paris, Parthenon.

DUE: Draft of Assignment #1. Ecologically Noble Savage debate.

R, Oct. 2 First exam

Section II. Political ecology of deforestation – causes and consequences

T, Oct. 7 Tropical deforestation. Overview.

R, Oct. 9 Mangrove destruction and the shrimp industry

DUE: Final version of Assignment #1. Ecologically Noble Savage debate.

Handout: Assignment #2. Eating the tropics? Due OCT. 7.

T, Oct. 14 Bushmeat crisis in Africa

R, Oct. 16 Deforestation in Amazonia. Gold mining and ranching.

T, Oct. 21 Population growth, urbanization and deforestation in West Africa.

R, Oct. 23 Environmental degradation and violent conflict in central Africa. DISCUSSION.

Section III. Biodiversity conservation strategies

T, Oct. 28 Perspectives on environmental conservation and development.

Defining biodiversity

R, Oct. 30 National parks. Case study. Costa Rica. Video clip.

DUE: One paragraph describing conservation case study.

T, Nov. 4 Community-based conservation. Return to Tambopata -Video from Conservation International.

R, Nov. 6 Extractive reserves and non-timber forest products

DUE: Research proposal outline and annotated reference list.

T, Nov. 11 Natural forest management and the tropical timber trade. Video from USAID.

R, Nov. 13 Biosphere Reserves.

T, Nov. 18 Forest carbon sequestration projects in the Tropics.

R, Nov. 20 Paying for biodiversity: Conservation concessions.

DUE: Polished draft of conservation case study.

T, Nov. 25 Meet in working groups.

T,R,T Dec. 2, 4, 9 Oral presentations of case studies.

R, Dec. 11 Second exam, in class.

DUE: Final version of conservation case study.