Synopsis
Landscape and Nature in an Era of Climate Change
Cross-Disciplinary Teaching and Learning Initiative
Spring 2012

Phil Brick, Coordinator

Our discussion group brought together teacher/scholars from all three divisions to explore how the prospect of climate change might be understood as an invitation to creative re-imaginings of nature, landscapes, and human interactions with natural systems. Once released from dominant climate narratives that place singular emphasis on reducing greenhouse gas emissions, how might such re-imaginings open up new metaphors for understanding nature and landscapes, climate activism, and new opportunities for creative human engagements with natural systems?

Conduct of Discussions and Field Trip

We gathered for three initial, two-hour seminar discussions, each organized by a faculty pair from different backgrounds. The first seminar was organized by Professors Brick and Bishop, who assigned readings on geologic and political dimensions of climate change. This was followed by readings assigned by Professors Hutchison and Shea, whose readings explored the idea of change, continuity, and resilience in both natural and cultural settings. Finally, Professors Pribilisky and Crouter organized our final discussion on ecosystem services.

Armed with these conceptual insights, Professors Brick and Bishop organized a two-day field trip to Wallowa County, Oregon to explore how they might play out on the ground. The field trip focused mostly on grassland and forest restoration projects that have the potential to sequester carbon and provide additional ecosystem services and energy, all while addressing community economic and social concerns. The first day we toured grassland sites on the Zumwalt Prairie and several forest sites on the "Divide" outside Joseph, Orgeon. Day Two we spent with Wallowa Resources Executive Director Nils Christoffersen, who took us to a ponderosa pine restoration site and led a tour of the Goebel-Jackson tree farm, each model forest management projects with climate resilience resonance. Finally, we toured a local integrated biomass project, a local effort to produce natural resource jobs from forest restoration projects that had previously just left un-merchantable trees in huge slash piles to burn.

Outcomes and Recommendations

Each participant took away something different from our discussions and field trip. I firmly believe that these kinds of intellectual collaborations should have a common motto: "The purpose of the discussion is the discussion itself." From that, new insights, even epiphanies organically emerge. I will let the attached statements from each participant speak for themselves in this regard.

I think we organized the discussion group quite well. Faculty got to work in small teams to bring all of us up to speed on how each of our disciplines approaches climate change, landscapes, and the resilience of natural and human communities. This was followed by the seminar itself, which all six of us attended.

The field trip proved to be quite a success. Despite initial reservations about camping out in cold weather, it was a marvelous chance to get to know each other in a unique and very informal setting. It's great to get off campus, even at the busiest time of the year. We can highly recommend this to others.

Appendix: Individual Statements of Participants

Kate Shea: Environmental Humanities and Classics

For me this workshop was a great success and not only did I find it intellectually invigorating, I found many of the concepts and approaches introduced by my colleagues immediately applicable to my courses. For instance, learning about ecosystems services caused me to propose some new sets of questions towards Roman strategies for wetlands management, which I was able to incorporate into the Roman villa system unit in my "Landscapes and Cityscapes in Ancient Rome" course. Likewise our discussions of how to tell the story of climate change in a way that will incorporate and mobilize the various stakeholders towards progressive changes in habit and practice has propelled new topics of discussion for my treatment of the poetry and visual language of Augustan era politics. I see many instructive parallels to explore with my students between the strategic crafting of story about climate change and the poetics that played an integral role in accomplishing a rapid shift in world-view and in quelling destructive political behaviors at the end of the Roman Civil Wars, in Vergil's *Aeneid* most notably. The most stunning pedagogical revelation, however, came not from our discussions, but from Ellen Bishop's tour of her forest during our field trip to the Wallowas. As she discussed her approaches for determining the best forest management strategies given the expected changes in climate, it struck me how she was "reading" the forest in much the same way as one reads an ancient work of poetry. Before our trip, my students and I had been reading Vergil's *Georgics* (this work has been a favorite in my courses). In our treatment of the second book on silviculture and viticulture, we explore how Vergil looks to the art of forest management as an *exemplum* for both the art of poetry and the art of politics. My revelation as I watched Ellen "read" her forest was that I needed to replicate that experience for my students so that they can experience these paralleling arts in action and further their understanding of Virgil's engagement with silviculture. While I don't expect to be able to take my students to Ellen's forest in the Wallowas, I now have a mission this summer to find something in Walla Walla that can approximate that experience.

Jan Crouter, Economics

I found the workshop very successful in meeting the CDLI's "creative inquiry" goal. The readings and discussions were incredibly valuable in helping me understand how different disciplines examine changes in landscapes and natural systems, both with respect to climate-related and other anthropogenic causes of those changes, and to effects on people as they struggle to understand their changing relationship to landscapes and natural systems and to adjust to the threat and impact of these changes. The readings and discussions also offered a kind of model of how one might go about teaching a cross-disciplinary class, albeit one with scarily knowledgeable, informed and motivated students. The field trip was even better in this regard. I gained a deeper appreciation of ecological and human processes at work in shrub-steppe and forest ecosystems, thanks to Phil and Ellen, and as a bonus, I also have a deeper appreciation of my colleagues on the trip. Thanks to them, I was well-fed, intellectually engaged, and even entertained.

I plan to adjust my coverage of forests in Econ 477 (Environmental & Natural Resource Economics) to include more specifics about considerations of biodiversity (coverage is pretty generalized and swift right now) and fire risk. We saw several forestlands on the trip: a small forested area owned by Ellen Bishop, and (with Nils Christoffersen of the Walllowa Resources Institute) USFS lands on the Wallowa-Whitman National Forest and the Goebel-Jackson Tree Farm near Enterprise, Oregon). I'd like to expose my students to these very differently managed forestlands, plus industrial forestland, so that they could see, feel and hear the differences. I think I may have to introduce media to my classroom to do it! Second, I hope to increase my participation in the Environmental Studies program when Economics Department staffing permits this. One idea for a course that would fulfill the interdisciplinary requirement for majors in the Environmental Studies program (EnvS 3XX) could be on forestry. I'm imagining a field trip!

Jason Pribilsky, Anthropology

The impetus for my participation in the CDLI "Landscape and Nature in an Era of Climate Change" emerged from two sources. First, my teaching interests, especially in courses such as Medical Anthropology and Cultural Politics of Science, have begun to increasingly include more exploration of issues related to disasters and hazards, as well as environmental and climatological issues linked to development and health. While trained broadly in cultural anthropology and public health, I have a very limited background in environmental sciences and environmental studies and I hoped this group would help fill that gap. Secondly, over the past ten years, I have been witnessing how climate change has emerged as one of central challenges facing the communities of the Andes that I have worked in since 1996. In highland Ecuador, communities struggle with how to predict agriculture futures as distinct rainy season/dry season patterns disappear and overall arid conditions prevail. In the Peruvian high Andean community of Vicos, retreating glaciers have led to decreasing levels in waterways and springs while at the same time carbon

sequestration programs displace pastoral practices as some villagers trade agro-pastoralism for tree farm management. While these issues may not become the direct concerns of my own research, they are the likely focal point for future iterations of the Whitman Ethnographic Field School in the Andes which has always looked at local development issues.

With these "needs" in mind, I found our group's meeting extremely useful for fostering cross-disciplinary exchange. The first sessions on meanings of climate change, past and present helped me address issues of narrative and chronicity that invariably shape people's sense of changing landscapes. Contrasting ancient Roman ideas around seasonal flooding with biology's critical understanding of a concept like landscape "disruption" helped to relativize the kinds of emerging discourses and stories about climate change I am currently hearing take shape in the Andes. The following session, addressing ecosystem services, produced a rigorous discussion on the topic of value and commodification of nature and landscapes. Classical economics was juxtaposed with alternative notions of value and exchange that complicated our discussion of climate change solutions. The capstone event, a fieldtrip to Wallowa County to see first-hand various, and at times conflicting, visions and efforts of how to cope locally with climate challenges was truly excellent. The weekend trip proved invaluable for fostering faculty camaraderie and for the rare opportunity to simply learn what your colleagues do. It was also beneficial to see many of the issues we had been reading about at national and global scales playing out locally.

Finally, it's my opinion that the CDLI model allows you to not only learn what you do not know, but to clarify what you do – and to move you beyond superficial and uncritical thinking. I deepened my knowledge of various issues related to climate change in ways that I would feel confident bringing into the classroom.

Ellen Bishop, Environmental Studies and Geology

For my classes in Environmental Studies, this CDLI provided much insight to incorporation of concepts from some fields which I would never have considered—especially classics, with a view to how previous and foundational Western cultures have responded to climatic and ecologic crises, and anthropology, with views to how indigenous peoples have responded. Creative inquiry for students in my classes may incorporate projects or even field work into specific biological problems related to climate, and a more intensive exploration of the nexus of climate, economics, and biodiversity in forests and grasslands of the PNW and globally. The workshop expanded my horizons about how economists quantify the Commons, and ways (new to me) of quantifying both the economics of climate change, and the values of ecosystem services that may be modified by climate.

The CDLI has led me to consider the following possibilities:

1) New course: Develop and offer Geology / ENVS cross-ccurricular class for environmental majors as well as geology and biology, on climate and its effects on ecosystems and human cultures through time. (ENVS 200- or 100 level) Could include mechanisms of climate change, effects on ecosystms through time (600 million years of climate change), climate response of Pleistocene and earlier humans, responses of classical civilizations to shifts in climate, the Little Ice Age (response to Tambora eruptions) and Year with out Summer (Krakatoa)—as analogues to how societies respond to short-term climate shift, and current evidence for climate change/warming, and how ecosystems and cultures are changing.

This knowledge, especially of the extent and driving mechanisms of past climate changes, is woefully absent among the population in general, and Whitman students in particular. This could also be team-taught with biology to offer a look at effects of climate change on modern ecosystems. And/or economics to examine the economic adaptations of climate change (and what it takes to change our energy systems from carbon to something else….) There should be a Whitman course that addresses climate change and consequences.

2) In my ENVS course I intend to introduce concepts that I have learned in this workshop, including a more robust segment on economics and the environment, tied specifically to climate shifts and how these shifts will be a major player in developed and developing economies. I'll be inviting a (faculty?) speaker who can address specific Environmental/Economic issues. We will also look closely at climate monitoring here, including developing a hands-on, long-term data-gathering/ monitoring project for ENVS students that could occur on campus--recording dates of first flowing of specific campus trees, arrival of neo-tropical migrants in Walla Walla, and other biological factors of climate that each Fall and Spring ENVS 120 class might monitor.

I have already started a climate/environmental "economics" project in my ENVS class that includes determining the economics of planting trees to sequester carbon—and examining the economics of carbon sequestration—It includes consideration of, for example, How might Whitman make (rather than expend) money on this project? This is a project that might also incorporate Environmental economics and biology studies.

We will look more closely at the environmental ethics and challenges of foundational Western cultures, especially Rome, including its relationship with the Tiber River.

Overall, and as a first step, it would be helpful to develop a multi-disciplinary network of faculty who would provide "guest lectures" in each other's classes. This would be a first step in developing a truly interdisciplinary class or sets of classes, and is perhaps more productive than giving the traditional "evening lecture" for the students in these classes.

Delbert Hutchison, Biology

I found the workshop to be precisely the kind of luxurious activity in which liberal arts professors ought to be engages, but for which there is never any time. Each participant brought their own insights and open minds, so that our discussions help me see the concepts through other eyes. This will clearly inform my teaching. At present, I have no plans (or room) to begin teaching a specific course, but what I learned in this workshop will inform my teaching, both the details of the specific topic and the insights I gained on viewing scientific concepts through the eyes of the humanities and social sciences. The concept that most struck me was the social science notion of the narrative and how it serves as a powerful force in intellectual interaction. Don't know why I hadn't framed it thusly, but scientific hypotheses and models are narratives, based on empirical evidence, to be sure, but nonetheless informed by underlying assumptions. That will be more specifically reinforced in my classes. I was also pleasantly surprised by the contributions of Kate Shea to the discussions. I was initially curious as to how a classicist would inform discussions on landscapes and climate change. However, her insights were fundamental; so much of our current philosophy and assumptions are based on classical ideas and practices. Learning how Greeks and Romans viewed their environs was fascinating. Finally, I benefited from close association with colleagues from other areas and enjoyed seeing their perspectives - that will also make me a better teacher of science at a liberal arts college.

Phil Brick, Politics and Climate and Landscapes in a Era of Climate Change CDLI Coordinator

My primary "aha" moment came during our third seminar discussion on ecosystem services. Although I find the idea of placing a monetary value on ecosystem services to be tantamount to a surrender of long-standing ethical orientations toward nature, I must admit to finding the idea of payment for ecosystem services compelling as a way to re-direct scarce resources to rural communities who are managing resources well, not just for their benefit, but for many others they will never meet. Our discussion of ecosystem services, however, put the concept in a much more global perspective than I had previously considered, and one piece in particular (assigned by Jason) demonstrated that, although payment for ecosystem services might seem attractive in theory, isolating a resources such as water requires the disaggregation of complex ecosystems so that commodity can be measured and traded. So in effect, there is no guarantee that the system as a whole would necessarily be any better protected.

I plan to use resources we used in this discussion group immediately, first to help shape our discussion of ecosystem services on Whitman in the Wallowas and Semester in the West, and also in my natural resources policy course, Politics 287.