

FACULTY DEPARTMENT or
NAME PROGRAM SUSTAINABILITY/ENVIRONMENTAL RESEARCH UPDATE (December 2017)

Brandt, Keri Sociology and Human

Colby, Chad	Art and Design	Land-use issues must be considered a preeminent theme in contemporary arts and sciences, and it's where my work is situated. Beyond the tradition of a framed, aesthetic landscape, I do work that explores the mutual shaping of land and people, sort of a creative cartographic process. My artistic practice vacillates from mixed-media works on paper to oil paintings to site-specific installations. Thematically, my work shows an ongoing fascination with systems and structures that have developed in relationship to our shifting landscape. When the land is used as a resource, or when we strive to make sense of natural phenomena, we rely on systems of visual interpretation. For instance, processes such as geological mapping, predictive meteorology, and stress dynamics in architecture – all of which strive to visualize the chaotic and invisible. This has led to my current interest in Ergodic Theory, or the study of long-term average behavior of dynamic systems.
Dorr, Betty	Psychology	<i>Contaminated mines or minds</i> : Work on a book chapter on the Gold King Mine spill. Brian L. Burke, Alane Brown, Betty Carter Dorr, & Megan C. Wrona (in prep). Contaminated mines or minds: The psychological reaction to the Animas River spill in McCormick, P. & Clark, B. (Eds.) Gold metal waters: The Animas River Basin and the Gold King mine spill of 2015. University Press of Colorado: Boulder, Colorado.
Dott, Cynthia	Biology	My students and I work on river systems in the four corners region, investigating the interactions between surface hydrology, groundwater, floods and other forms of disturbance, and their impacts on floodplain habitats and species composition. We've worked with Dr. Gary Gianniny and his students in Geosciences to investigate how regulated flows on the Dolores River impact cottonwood survival and recruitment. In this work we also collaborate with Colorado Parks and Wildlife scientists, researchers from The Nature Conservancy, and the Dolores River stakeholders group to apply scientific findings to questions of flow management. We also work on other rivers in the region – like the Animas and the San Juan - to investigate questions surrounding the invasion of exotic species like Russian olive, the nature of sediment movement in river systems with dams, and the impacts of habitat changes on wildlife species including bird diversity and aquatic insect composition. In the face of the Gold King Mine spill in the Animas River, one of my students collaborated with Dr. Callie Cole in Chemistry to study the extent of heavy metal uptake by willows growing on the river bank as a means of understanding the possible extent of heavy metal pollution in the Animas Valley system.

Hilimire,
Kathy

Environmental
Studies

1) *Farmer Conservation Adoption*: In my work on farmers and conservation adoption, I analyze how farmers define environmental problems and solutions, along with why farmers choose to adopt conservation practices. I assess variables such as environmental awareness and attitudes, social networks, and economic self-interest. My recent work in this area has examined how western farmers respond to drought and define water conservation. Upcoming work will examine why farmers participate in agroforestry in Colombia.

2) *Food Systems Curriculum Development*: Demand among students for food systems curricula is on the rise, particularly coursework that integrates the politics, culture, and history of food with an ecological understanding of crops and livestock. My research shows that interdisciplinary, experience-based, and student-centered curricula effectively support student learning of food systems. In particular, programs that emphasize engagement with complex case studies of real-life food systems challenges are highly effective.

<http://kathyhilimire.weebly.com/research.html>

Korb, Julie

Biologerams htrs.se5(f)0.7()Ndr2d

Mycoremediation Progress: From Laboratory Culture to Field Application: Research collaboration with Hollie Wall. The goal of this research project was to assess the efficacy of herbicide adapted fungal strains in degrading pyridine carboxylic chemical residues in soil. Pyridine carboxylic herbicide contaminated soils are a national concern, as agriculturalists have reported damaged farm and garden crops in the southwestern U.S. and across the United States. Fungi are well documented degraders of organic chemicals, however the utilization of this knowledge has been described as an 'untapped potential' given the relative dearth of research based field tested applications (Harms et al. 2011). The initial

Shuler, Phil

Biology

