

INFORMATION FOR STUDENTS INTERESTED IN GRADUATE STUDY from Prof. David D. Breshears at the Terrestrial Ecology Lab THE UNIVERSITY OF ARIZONA

Graduate school as an exciting time of professional development that enables many people to clarify a vision, develop needed skills and start on the road toward professional leadership. Graduate education is a challenging experience for almost all who pursue it and involves an active mentoring relationship. A substantial investment is required on both the part of the student as well as the mentor and therefore it is important to carefully evaluate potential matches. If you are interested in graduate study at the Terrestrial Ecology Lab, you should begin by evaluating more about our research program.

1. REVIEW OUR WEB SITE TO LEARN ABOUT OUR FOCUS, PERSONNEL, AND RECENT RESEARCH AND ACCOMPLISHMENTS.

The primary affiliation for me and for most of my graduate students is the School of Natural Resources, which has a general program in Renewable Natural Resources, as well as more specific programs in Watershed Resources and Rangeland and Forest Management. I also have a joint appointment in the Department of Ecology and Evolutionary Biology and could potentially serve as an advisor for students in that academic unit as well. In addition, I participate in the Graduate Degree Interdisciplinary Study Program in Minor Global Change. More information about each of these is available on the web site. You should evaluate the different programs and consider which options are most in align with your interests. Current openings are generally posted on the web site. Evaluate these to see if you are eligible and if they match your interests. There may be pending potential opportunities in addition to those posted on the web associated with proposals currently in review.

2. READ SEVERAL RECENT PUBLICATIONS TO LEARN MORE ABOUT THE TYPES OF RESEARCH WE ARE SPECIFICALLY INVOLVED WITH.

The following four papers provide a good overview of much of our research, all of which are available on the web site (<http://www.cals.arizona.edu/srn/research/wr/breshears/>) under "Publications":

The Grassland-Forest Continuum: Understanding how different amounts of tree cover influence abiotic properties and ecosystem dynamics for dryland ecosystems including grasslands, shrublands, savannas, woodlands, and forests.

Breshears. 2006. The grassland-forest continuum: trends in ecosystem properties for woody plant mosaics? *Frontiers in Ecology and the Environment* 4: 96-104.

Ecological and Hydrological Interactions (Ecohydrology): Evaluating how terrestrial vegetation is influenced by and influences components of the water budget at a variety of spatial and temporal scales.

Newman et al. 2006. Ecohydrology of water-limited environments: a scientific vision. *Water Resources Research* 42: W06302.

Wind and Water Erosion: Evaluating how wind and water erosion compare and interact in dryland ecosystems, where both processes can be important but have rarely been compared directly.

Breshears et al. 2003. Wind and water erosion and transport in semi-arid shrubland, grassland, and forest ecosystems: quantifying dominance of horizontal wind-driven transport. *Earth Surface Processes and Landforms* 28: 1189-1209.

Climate Change and Abrupt Vegetation Change in Response to Drought: Assessing and enabling improved prediction of how drought, which is projected to increase in intensity and frequency with climate change, can trigger vegetation and ecosystem changes such as large-scale tree mortality and erosion.

Breshears et al. 2005. Regional vegetation die-off in response to global-change-type drought. *Proceedings of the National Academy of Sciences USA* 102: 15144-15148.

3. CONTACT THE APPROPRIATE ACADEMIC COORDINATOR TO LEARN MORE ABOUT THE PROGRAM IN GENERAL

Cheryl Craddock at ccraddoc@email.arizona.edu for the School of Natural Resources. Consider corresponding with Terrestrial Ecology Lab members to find out about their current research. Contact information is listed on the web site.

4. IF YOU ARE STILL INTERESTED AFTER COMPLETING THE ABOVE, SEND ME AN EMAIL (daveb@email.arizona.edu) THAT INCLUDES:

- Some information about your background and professional interests
 - Your current resume or CV
 - Contact phone number and times that you would be available for a call within the next 2 weeks (potential overseas applicants can first follow-up with additional email communication).
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I hope that this background preparation will help us have a focused conversation to help determine if and how your interest and experience matches current opportunities at the Terrestrial Ecology Lab. I am very excited about the growing, excellent research team we are developing and am enthused about talking with interested potential graduate students.