

## **Shishi Liu**

Postdoctoral Research Associate

Oak Ridge National Laboratory, Environmental Sciences Division

Phone: (865) 574-9530

Email: [lius2@ornl.gov](mailto:lius2@ornl.gov)

## **Education and Training**

- June, 2011 Ph.D., Geography, University of California, Santa Barbara  
Dissertation: *The Impacts of Soil Moisture on Different Plant Functional Types in California* Committee: Dr. Oliver Chadwick (Chair), Dr. Dar Roberts, and Dr. Chris Still
- 2006 B.E., Remote Sensing and Information Engineering, Wuhan University, China

## **Research and Professional Experience**

- 2011 – present Postdoctoral Research Associate, Environmental Sciences Division
- 2008 – 2011 Graduate Student Researcher, Department of Geography, University of California, Santa Barbara
- 2011 – 2011 Teaching Assistant, Environmental Studies, University of California, Santa Barbara. ES 2 Introduction to Environmental Science
- 2010 – 2010 Teaching Associate (Course Instructor), Department of Geography, University of California, Santa Barbara
- 2006 – 2008 Teaching Assistant, Department of Geography, University of California, Santa Barbara. GEOG 3A Oceans and Atmosphere; GEOG 3B Land, Water, and Life; GEOG 104 Physical Geography of the World's Oceans
- 2008 – Present Assessing Vegetation Responses to Soil Moisture Fluctuations (supported by the Kearney Foundation of Soil Science). Installed soil moisture sensors in thirteen sites in Sedgwick Reserve in Santa Barbara County; analyzed the texture of soil samples; processed and analyzed remotely sensed data and webcam images; analyzed the relationships between soil moisture measurements and vegetation indices, and the relationships between soil moisture and vegetation primary production; employed the Day CENTURY model to simulate soil water content and vegetation primary production.
- 2007 – 2007 Innovative Datasets for Environmental Analysis (supported by the NSF Course Curriculum and Laboratory Instrumentation Program). Deployed soil moisture sensors, electric rain gauges, and web cameras to measure soil water contents at different depths, the amount of precipitation, and the change of phenology in Coal Oil Point and Sedgwick Reserve, Santa Barbara; collected soil samples, built the soil profile, and analyzed the texture of soil samples; assessed the temporal variability of soil moisture.
- 2004 – 2005 Protection of Water Resources in East Lake, Wuhan, China. Measured the spectral characteristics of water in East Lake, Wuhan, using radiometers; quantified chlorophyll *a* and suspended sediment contents by developing regression models.

## **Publications**

1. Liu S., O. Chadwick, D. Roberts, and C. Still. In Review. "Quantifying the Response of Mediterranean-Climat Grassland and Oak Savanna to the Soil Moisture Using Ground-based Data and MODIS Imagery," *Applied and Environmental Soil Science*.

### **Synergistic Activities**

1. 2010 – Oral presentation entitled, “The Influence of Soil Moisture Fluctuations on Primary Production in Mediterranean Oak Savanna, Grassland and Shrubland in California” at the Annual meeting of the American Association of Geographers, Washington, D.C.
2. April 2010 - Laura Dangermond Travel Scholarship, UC Santa Barbara
3. 2009 – Poster presentation entitled, “Monitoring Mediterranean Annual Grassland Response to the Changing Soil Moisture Using Digital Webcam Images” at the Annual Meeting of American Geophysical Union, San Francisco, California
4. December 2009 Laura Dangermond Travel Scholarship, UC Santa Barbara
5. February 2009 – June 2009 Volunteer tutor, Brandon Elementary School, Santa Barbara, California
6. 2008 – Oral presentation entitled, “Modeling Plant-available Soil Moisture at Large Spatial Scales using MODIS Data” at the Annual meeting of the American Association of Geographers, Boston, Massachusetts
7. December 2008 - Laura Dangermond Travel Scholarship, UC Santa Barbara
8. April 2008 - Laura Dangermond Travel Scholarship, UC Santa Barbara
9. September 2006 – June - 2008 Member of Sustainability Committee, Department of Geography, UC, Santa Barbara
10. 2003 – 2005 - Excellent Student Scholarships for three consecutive years, Wuhan University

### **Collaborators**

Dr. Oliver Chadwick, Professor, Department of Geography, University of California, Santa Barbara; Dr. Dar Roberts, Professor, Department of Geography, University of California, Santa Barbara; and Dr. Chris Still, Associate Professor, Department of Geography, University of California, Santa Barbara