Close Window

THE UNIVERSITY OF ARIZONA
TUCSON ARIZONA

Faculty Employment Application

Human Resources
888 N. Euclid Ave. #114 * P.O. Box 210158
Tucson, Arizona * 85721-0158

(520) 621-3662 Telephone
(520) 621-8299 TDD (8-5 M-F)

Job Number:	Job Title:	Date:
44727	**Assistant or Associate Professor**	**Mar 16 2010 10:03PM**

Personal Information

Last Name:	First Name:	Middle Name:	Email Address:		
Still	**Christopher**		**still@icess.ucsb.edu**		
Address:	City:	State:	Zip Code:	International Postal Code:	Country:
1121 Chino Street #3	**Santa Barbara**	**CA**	**93101**		**United State of America**
Home Phone:	Cell / Other Phone:		Contact Number:		
1-805-450-3070	**1-805-450-3070**		**1-805-893-5501**		

References

Name:	Institution/Organization	Address	Title:	Phone:	Email Address:
Dr. Stephen H. Schneider	**Stanford University**	**Department of Biological Sciences Yang & Yamazaki Environment & Energy Building - MC 4205 473 Via Ortega Stanford University Stanford, CA 94305**	**Professor**	**1-650-725-9978**	**shs@stanford.edu**
Dr. Joseph A. Berry	**Carnegie Institution for Science**	**Department of Global Ecology 260 Panama Street Stanford, CA 94305-4150**	**Faculty**	**1-650-462-1047**	**jberry@globalecology.stanford.edu**
Dr. Todd E. Dawson	**University of California, Berkeley**	**Department of Integrative Biology 3060 Valley Life Sciences University of California Berkeley CA 94720-3140**	**Professor**	**1-510-642-6090**	**tdawson@berkeley.edu**

Other Information

Are you legally authorized to work in the U.S.?

Yes

What is your current employment status with the University of Arizona?

Not a University of Arizona employee

If you are a current employee enter your Employee Identification Number (EID) in the space to the right. If you never worked for the University, worked as a student, or terminated your employment prior to July of 2001 enter N/A. Note: Please do not enter hyphens in the EID field. Your 9-digit EID number (Ex: 120001234) may be found by logging into the Employee Link website. Your EID number is located in the "Current Employment" tab. You may also find your EID number on your pay stub. Note: Your Employee ID number is NOT your Social Security Number.

N/A

Supplemental Questions

Where did you first learn about this position?

Other (Enter name below)

Enter the specific name of any referral source, or the code printed on the business card you received from The University of Arizona career fair booth:

Dr. Russell Monson

Have you ever been convicted of or plea bargained to a misdemeanor offense?

No

If yes, you must provide criminal conviction information and dates: (*You are responsible for knowing if traffic violations or other citations received were classified as a misdemeanor*).

Have you ever been convicted of or plea bargained to a felony offense?

No

If yes, you must provide criminal conviction information and dates: (*You are responsible for knowing if traffic violations or other citations received were classified as a felony*).

By indicating 'Yes' below, I affirm that my responses above are true, complete and accurate. I understand that if I accept a job offer, I will be asked to give my written consent for the University of Arizona to conduct a check of my criminal conviction history, motor vehicle record, educational credentials and work history.

I further understand that a 'yes' response will not automatically disqualify me from consideration. However, falsifying, misrepresenting, or omitting criminal conviction information on any application document will likely result in a withdrawal of any job offer and termination of any subsequent employment with the University.

Yes, I affirm that my responses above are true, accurate and complete to the best of my knowledge.

Can you perform the essential functions (job duties) of this position with or without accommodation?

Yes

What is your current employment status with The University of Arizona?

Not a University of Arizona employee

If you have never worked for the University or terminated your employment prior to July 2001, please enter N/A in the space to the right. If you are a current, former, or retired UA employee and were issued an EmplID please enter your number in the space to the right. Your EmplID can be found by logging in to UAccess Employee and viewing your paycheck. Please do not enter hyphens in the EmplID field. Note: Your EmplID is not your Social Security Number.

N/A

Agreement

I certify the statements made by me in this application are true and complete to the best of my knowledge and belief and are made in good faith. I understand that any false statement made herein will void this application and any actions based upon it, and I agree to

revise this application should any of the information change. I understand that this application and all attachments are the property of The University of Arizona. I authorize The University of Arizona or any of its agents to make reference checks relating to my employment and I also authorize all prior employers to provide full details concerning my past employment. I authorize the University of Arizona to request and obtain records to determine the accuracy of my responses. I understand that employment in certain positions may be conditional upon a background verification including but not limited to criminal records. I certify that I am or will be legally authorized to work in the United States at the time of hire.

BY SIGNING BELOW, I certify that I have read and agree with these statements.

Christopher Still		
Applicant's Name	Applicant's Signature	Date

Close Window

U N IVERS I T Y O F CALI FORN I A S a n t a Ba r b a r a
BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO SANTA BARBARA • SANTA CRUZ
DEPARTMENT OF GEOGRAPHY
UC SANTA BARBARA
Santa Barbara, CA 93106-4060
http://www.geog.ucsb.edu/~cstill
Phone: (805) 893-5501; Fax: (805) 893-2578
16 March 2010
Search Committee
Forests in the Earth System
Laboratory of Tree-Ring Research
University of Arizona
Dear Search Committee:
I am writing to apply for the associate professor position in *Forests in the Earth System* at the University of Arizona. I am an associate professor in the Department of Geography at UC Santa Barbara. While my time at UCSB has been productive and satisfying, I am excited to apply for this position, as it matches my current and future research and teaching interests in coastal environments and climate change. I am eager to join a top-notch program like the Laboratory of Tree-Ring Research and the new School of Earth and Environmental Sciences, and initiate a research program centered upon forested ecosystems in Arizona and elsewhere.

My research is focused on coastal forest ecosystems, tropical montane cloud forests, C_4 grassland ecology, biogeography and evolution, and the impact of climate change on biological systems. I seek out and enjoy interdisciplinary collaborations to answer scientific questions, and I am very interested in questions and approaches that explicitly interface ecology and environmental science with a range of disciplines including geography, engineering, and social science. I feel this approach is well suited to the interdisciplinary research and teaching emphasis of the University of Arizona. I am particularly excited by the commitment of the University of Arizona to advancing environmental change science.

I enjoy teaching courses that range from undergraduate survey classes to upper-division undergraduate specialty courses to graduate courses and seminars. I would be excited to offer courses at the University of Arizona in the general areas of global forest ecology and biogeography, coastal forests ecosystem processes, environmental measurements, and isotopic applications in environmental science. These courses would exploit the rich diversity of forest ecosystems found in Arizona and the American West, and fully utilize campus resources across the University of Arizona.

Please see the enclosed statement for a fuller description of my research and teaching goals and activities. I believe my interests and future career directions are complementary to the research and teaching needs of this position. I have uploaded my curriculum vitae and contact information for three referees. Thank you for considering my application, and I look forward to your reply.

Sincerely,
Christopher Still

Research Statement Christopher Still

Current Research Activities

I am an environmental scientist with a primary research focus on environmental science and ecology and broad research interests in cognate sciences like biogeography, ecophysiology, biogeochemistry, and earth system science. In my research, I combine measurement and modeling approaches to study terrestrial ecosystems with a focus on their physiology and biogeography, particularly coastal and island ecosystems. I like to address scientific questions that are highly interdisciplinary in nature, ranging from fundamental ecological questions to studies of the impacts of human activities on biodiversity and ecosystem processes.

I have a long-standing scientific interest in forested ecosystems that experience frequent cloud cover and fog immersion throughout the annual cycle. These ecosystems typically harbor a disproportionate amount of plant and animal diversity, presumably as a result of the unusual physical environment created by clouds; many of these species are endemics or seasonal migrants. While I was in graduate school, with one of my Ph.D. advisers I investigated the possible impact of global climate change on tropical montane cloud forests. These cloud forests occur on ridges or mountaintops that are frequently inundated by orographic clouds, and they experience high rates of deforestation. Our work suggested that cloud forests may be critically endangered by shifts in cloud formation heights under various climate change scenarios (Still et al., *Nature*, 1999). There is evidence that the cycles of cloud formation are already changing at one of the best-studied cloud forests in Monteverde, Costa Rica. This forest has experienced an increase in the number of days with no measurable cloud deposition during the wintertime dry season, and scientists have documented animal extinctions in association with the recent cloud changes, which seem to be driven by large-scale climate warming. I was involved in research suggesting that climate warming may be enhancing chytrid fungus infections that have killed many frog populations throughout the Neotropics (Pounds et al., *Nature*, 2006).

My primary field research program investigates the distribution and function of ecosystems along the California coast and offshore islands, an area which is home to a large number of relict and endemic plant and animal species, including many conifers. One of my central research objectives is to understand how and why coastal regions harbor high levels of plant species diversity and endemism. A key aspect of this objective has been to understand how the low-level stratus clouds and fog that are common to coastal regions influence ecosystem-level processes (like carbon and water cycling) and species' range distributions. To understand how fog and stratus clouds influence ecosystem-level processes of a Bishop pine (*Pinus muricata*) forest in

Channel Islands National Park off the Santa Barbara coast, my group and I are combining research approaches from ecosystem ecology, biogeography, isotope hydrology, remote sensing, and dendrochronology. Work by one of my former Ph.D. students combined a variety of biological and physical measurements across this forest to better understand how climate variations and drought stress interact to drive the local-scale distribution and survival of this species that is endemic to the California and Baja coastlines (Fischer, Still, and Williams, *J. Biogeography*, 2009). This work found an important role for fog drip and cloud shading in mitigating summertime and interannual drought stress that would otherwise lead to greatly enhanced mortality for this forest. A key aspect of this work was to utilize satellite datasets to map coastal cloudcover patterns across Santa Cruz Island. We have extended these geospatial analyses by coupling webcam image analysis with satellite cloud products to better understand the spatiotemporal variations of coastal stratus clouds and fog (Bradley et al., accepted). One of my current Ph.D. students is studying climatic and environmental controls on coastal forest mortality patterns by collecting a wide variety of data from across this forest on plant stress, leaflevel gas exchange, soil moisture and soil properties, and plant mortality and demography. She is also studying how epiphytic lichen species influence and are influenced by fog immersion, and how lichens may affect nutrient inputs to these ecosystems from rain and fog drip.

Another former Ph.D. student of mine collected and analyzed tree-ring records from this species and from another rare coastal endemic pine in Channel Islands National Park (Torrey pine – *Pinus torreyana*) to study how winter rain and summer fog influence interannual growth variations of these species. This work demonstrated, for the first time, an important role for summer fog and stratus clouds in interannual tree growth variations (Williams, Still, Fischer, and Leavitt, *Oecologia,* 2008). This student has also used airport cloud ceiling height data as a proxy for coastal low clouds and fog to extend our measurement record back many decades. This work has also explored atmospheric and oceanic data to better understand the large-scale oceanatmosphere interactions that determine spatial and temporal coastal cloud patterns and how they might change with climate warming expected in coming decades.

Recently, we have extended our research to include measurements of tree sapflow, soil respiration, and microbial ecology, along with measurements of ^{14}C in soil respiration to partition it into its component autotrophic and heterotrophic components. The goal of this new work is to understand how coastal forest carbon and water cycling vary throughout the year, specifically, to evaluate how numerous ‘fog drip rains’ in the summer months affect tree photosynthesis, soil carbon cycling, and microbial biomass dynamics and heterotrophic respiration. Initial results suggest that many small fog drip events throughout the rainless summer extend tree growth by several months, and that both summertime microbial biomass and heterotrophic respiration are maintained at levels comparable to those achieved during the winter rainy season. This finding stands in sharp contrast to other semi-arid ecosystems that experience a dry season shutdown in ecosystem metabolic activity, and it enhances our understanding of how summer fog somewhat replaces summer rain and maintains key coastal ecosystem processes through the dry season.

Another central scientific focus of my research is the ecology and biogeography of grassland and savanna ecosystems dominated by C_4 grass species. Grasses are one of the most ecologically successful plant types on earth. Grasslands and savannas cover some ~30% of earth's ice-free surface, and grasses provide much of the staple food for humanity. The photosynthetic pathway composition (C_3/C_4 fraction) of grasses is a fundamental physiological and biogeographical distinction in tropical and subtropical savannas and grasslands, as well as in temperate grasslands such as those in the North American Great Plains and South American Pampas. Of the ~11,000 grass species on earth, some ~4,500 use the C_4 photosynthetic pathway, and the remainder use the C_3 pathway. Although they account for less than 2% of all vascular plant species, C4 grasses are estimated to cover some 19 million km_2 and to account for 20-25% of terrestrial productivity. C_4 plants are functionally different from C_3 plants in several important respects, including their carbon and water cycling and partitioning of surface radiation, and global change is likely to alter the distribution and abundance of C_4 vegetation over the coming decades. Further, climatic variations, biomass burning, and land use change heavily impact C_4-dominated ecosystems around the world. My group's research on C_4 vegetation ranges from field measurements at ecosystem scales to the use of satellite data and terrestrial biosphere models at larger spatial scales to quantify the cover, biomass, and interannual productivity of C_4 vegetation (Still et al., *Global Biogeochemical Cycles*, 2003). This work will help us better understand spatial and temporal variations of C_4 carbon fluxes in the context of the global carbon cycle. An offshoot of this project is a new collaboration with avian biologists who use the stable isotopic composition of bird feathers to constrain the migration and movement of birds at large spatial scales. The C_3/C_4 distribution is the main control on terrestrial $_{13}C$ distributions (Still and Powell, 2009), and we have applied our C_3/C_4 maps to help constrain the winter habitat of African songbirds that migrate to Europe (Powell et al., in prep.).

This larger-scale work has been complemented by ecological studies of C_3 and C_4 grasses in tallgrass prairies of the North American Great Plains (Still *et al.* 2003; Riley *et al.* 2003) and in the Hawaiian Islands. The research in Hawaii is geared to understanding how plant traits like photosynthetic pathway influence ecological success and distributions. A paper by Edwards and Still (*Ecology Letters*, 2008) demonstrated the importance of analyzing C_3 and C_4 grass distributions in a phylogenetic framework to tease apart the contributions of evolutionary history versus photosynthetic pathway in determining ecological success. Subsequent work has utilized ecological niche modeling to better understand the environmental preferences of numerous C_3 and C_4 grass species, and to test the hypothesis that the key ecological aspect of the C_4 pathway is to enhance competitive advantage under low water availability, rather than at high temperature as is traditionally thought (Still and Edwards, in preparation).

A final ongoing project of mine is a collaboration to better understand variations in the $_{18}O/_{16}O$ composition of atmospheric CO_2 ($™_{18}O$-CO_2), in particular the linkages between the carbon and water cycles in terrestrial ecosystems. Because variations in $™_{18}O$-CO_2 are largely determined by terrestrial photosynthetic and respiratory CO_2 fluxes exchanging oxygen atoms with soil water and leaf water, $™_{18}O$-CO_2 uniquely traces interactions between the water cycle and carbon cycle at multiple spatial scales. I have worked to help develop an isotope-enabled land surface model, ISOLSM, for modeling

ecosystem-atmosphere fluxes of ™$_{18}$O in CO_2 and H_2O (Riley et al. 2002, *Global Biogeochemical Cycles*). I recently applied ISOLSM in the southern Great Plains to better understand the effects of varying cloud cover and diffuse radiation on ecosystem-atmosphere exchanges of $_{18}$O-CO_2 from contrasting ecosystems (Still et al., *J. Geophys. Research Biogeosciences*, 2009). This work showed that increasing cloud cover can enhance canopy photosynthesis in deciduous forests with high leaf area; in contrast, we showed that increasing cloud cover reduces photosynthesis in C_4 grasslands that are almost always light limited. I am excited to continue working to understand how ecological processes and plant functional types influence local and global-scale CO_2 and ™$_{18}$O-CO_2 variations (e.g., see Edwards, Still, and Donoghue, *Trends in Ecology and Evolution*, 2007).

Future Research Directions

The exchange of energy and matter among coastal forests, oceans, and the atmosphere strongly influences the productivity and functioning of both terrestrial and marine ecosystems.

Understanding interactions among the land, ocean, and atmosphere advances both our understanding of Earth system processes and our ability to predict changes driven by both local and global environmental changes. I would be very excited to extend the research that my group and I have conducted in California to other coastal forests in North and South America, as this would span a tremendous range of climates, species diversity, productivity, and human impacts.

Specifically, I would like to develop a research program focused on the influence of fog and clouds on ecological processes, ecosystem health, biogeochemistry, and biogeography. Clouds can exert a wide range of influences on terrestrial ecosystem processes like carbon and water cycling. They fundamentally change the physical environment in ways that can enhance or reduce ecosystem carbon uptake and water loss, and very likely impact ecosystem structure and 5 distributions and the diversity of animals in those ecosystems. In coastal California, I have been most interested in how fog influences ecosystem carbon and water cycling during the time of year when rainfall is absent. For example, at our field sites on Santa Cruz Island, we are measuring the isotopic composition of fog water, rain water, soil water, and tree xylem water to quantify the proportion of water in the xylem stream derived from fog water relative to rain water. Because fog droplets are isotopically enriched relative to rainfall and snow, this difference can be applied as a tracer to help assess how such fog-borne water and possibly pollutant delivery affect ecosystem health and biogeochemistry in other coastal forested ecosystems. Coastal forests have been largely overlooked in many respects, such as their response to climate change and their role in regional carbon and water cycling. For this and other work, I can envision developing linkages other faculty in the Laboratory of Tree-Ring Research (LTRR), and from other departments in the School of Earth and Environmental Sciences.

I recently initiated a project at the Rocky Mountain Biological Laboratory (RMBL) in central Colorado to quantify the contribution of winter versus summer precipitation to plant functional

types in this area (aspen trees, conifers, shrubs, grasses, and forbs), and to assess how climate impacts tree growth in this area. I am particularly interested in how the carbon and water cycling of the dominant tree species, which are widely distributed in western North America, differ from one another due to species differences, and how those influence ecosystem processes. As part of this work, I am a co-Investigator on a newly funded NSF Major Research Instrumentation grant to establish a network of weather stations and environmental sensors in the Gunnison River basin and the valley surrounding RMBL. As part of this grant, I have installed sapflow sensors in several tree species to measure water uptake and relate these to the isotopic measurements.

Along with my current postdoctoral scholar, I have also installed soil CO_2 probes underneath the conifer and aspen tree canopies to link soil respiration to plant and soil activity and variations in snowfall and rainfall dynamics. I would be very interested to collaborate with faculty from the LTRR and across the School of Earth and Environmental Sciences at the University of Arizona, to better understand the ecology and biogeography of these montane forests and to develop and deploy next-generation environmental sensors to measure ecosystem processes and function.
As part of my research, I strive to include undergraduate students in my lab group's research activities. It is bracing to be around undergraduates who have little research experience and watch them grapple with real-world scientific questions. This exposes them to many aspects of research, including experimental design, hypothesis testing, and field and lab work. I would vigorously continue this effort at the University of Arizona, and in my teaching statement I describe in more detail how I would involve undergraduate students in my research programs.

Teaching Statement Christopher Still

Educational Interests and Accomplishments

In my classes at UCSB, I have tried to couple an intimate teaching environment with the infusion of active research activity in the education process. In particular, one of my key priorities as an educator at UCSB has been to get students to experience for themselves the ecological and environmental phenomena that are described in my lectures. To this end, I have worked to create laboratory and discussion sections in several of my lecture classes that emphasize students making and interpreting their own environmental measurements. Related to this, I was co-PI on a recent National Science Foundation (NSF) Course, Curriculum, and Laboratory Improvement grant that funded an ambitious effort to monitor the environment along dramatic climate and topographical gradients in the Santa Barbara region. As part of this project, we are making real-time climate, phenology, and soil moisture data, along with web-cam images, available to students from each weather station within the network (***http://geog.ucsb.edu/ideas/***).
All of the stations are within Natural Reserves of the University of California. The overarching goal of this effort is to have students analyze real environmental data that they can relate to from personal experience, rather than just memorize an idealized graph in a textbook.

In my time at UCSB, I have enjoyed developing and teaching classes ranging from small, upper-division field (*Field Methods in Geography*) and lecture courses (*Biogeography*) to large, lower-division earth system science courses (*Introductory Physical Geography*). I have also offered several graduate courses, both co-convened with other faculty members (e.g., *Global Warming and the Carbon Cycle; Environmental Measurements;* and *Carbon, Climate, and Society*) and offered independently (*Ecosystem Physiology*). I am offering a graduate seminar on ecological niche and species distribution modeling in Winter 2010. Students have rated all of these courses and my teaching ability very favorably (evaluations are available upon request).

I am impressed by the excellence and diversity of academic offerings across the LTRR and the departments within the School of Earth and Environmental Sciences at the University of Arizona (UA). I would be excited to complement these offerings with a variety of courses. For a course in *Global Forest Ecology and Biogeography*, I would emphasize the historical knowledge of forest ecosystems and integrate recent advances in our understanding of forest structure and function through such technological advances as satellite remote sensing, geospatial modeling, and eddy covariance. Other research approaches that I would include in such a class include species distribution/ecological niche modeling, which exploits the rich diversity of large-scale environmental datasets available for studying tree species distributions at unprecedented spatial scales. I would also focus on interactions between forests and the global carbon cycle and climate system. Lectures on carbon cycle-climate fundamentals would be supplemented with inclass discussions of current research articles and occasional guest lectures by other campus faculty or visiting scientists. For class homework, I would emphasize 'back-of-the-envelope' calculations that help students grasp the relevant concepts. For term projects, I would have students develop simplified computer models that integrate the concepts discussed in the course.
I would be excited to develop a lower-division course in *Coastal Forest Ecosystem Processes* that would introduce students to the fundamental concepts of this field with a focus on coastal forest environments. The course would center on the biological and physical components of an ecosystem and how they interact with one another to determine ecosystem properties and processes. This would include descriptions of the fundamental functions of elemental cycling, mass and energy exchanges with soils and atmospheres, and trophic interactions. Land-ocean interactions would be highlighted and as much as possible I would integrate remote sensing products and newly available environmental measurements.
Another course I would be excited to develop at UA might be entitled, *Ecological and Environmental Measurements*. This course would introduce undergraduates to a diversity of ecological and environmental measurements, focusing on atmospheric phenomena like air and water temperature, relative humidity, net radiation, and forest ecosystem properties like soil temperature, soil moisture, and plant phenology. Students would also learn how a variety of sensors work and how to install them on portable micrometeorological towers, including webcams. Students could also participate in the placement of portable micrometeorological

towers within research forests and natural areas. This might include GIS exercises that optimize tower placement to sample atmospheric, oceanic, and ecosystem properties in coastal settings.

A possible graduate course would focus on *Isotopic Applications in Ecology and Environmental Science*. I believe such a course would interest a wide array of graduate students in the School of Earth and Environmental Sciences, as the use of isotopic tracers in ecology and environmental science is increasingly widespread and important. Lectures on isotopic science fundamentals would be supplemented with in-class discussions of current research articles and occasional guest lectures by other campus faculty or visiting scientists. For class homework, I would emphasize 'back-of-the-envelope' calculations that help students grasp relevant isotope ecology concepts. Ideally, such a lecture course would be linked with field sample collections and analysis in a stable isotope laboratory. This would allow students to use isotopic tracers develop and test hypotheses about their study organism or ecosystem.

A key focus of mine at the University of Arizona would be to expand and enhance the undergraduate research experiences. I believe that this would help satisfy student demand and desire for more practical research experience, particularly in the junior and senior years.

However, I would also ensure that UA undergraduates would be exposed to a research experience in their 1st or 2nd year. I have found that most undergraduates at UCSB only explore research opportunities in their junior or senior year as they try to maximize their undergraduate experience; at that point, they cannot accomplish as much as if they had started at a lower level.

Professional Service and Outreach

In my time at UCSB, I have served on a variety of Geography department committees, ranging from the curriculum committee to the graduate committee. I have also served on multiple departmental faculty search committees (and chaired one of them). Since I achieved tenure, I have served on several university-wide committees, including the Natural Reserve System (NRS) and Graduate Council committees, the latter of which is focused on evaluating and regulating the large variety of graduate programs and cross-departmental Ph.D. emphases at UCSB. This service has been an enriching experience. I have particularly enjoyed my role in governance of UCSB's Natural Reserves. I believe the NRS is a crown jewel of the UC system, and its importance for environmental and ecological research and education purposes cannot be overstated. I would be very excited to play a key role in the governance and development of any similar natural reserves and field stations associated with the University of Arizona. I also serve on the Board of Trustees of the Rocky Mountain Biological Laboratory (RMBL) in Gothic, Colorado. One of my primary activities as a Trustee has been to lead the committee that reformed the Education Program Master Plan for the RMBL. For this project, in collaboration with RMBL's Executive Director, we redesigned the summer Education Program to be an integrated coursework and research experience. We replaced the traditional

coursework program (with courses in *Field Ecology* and *Field Botany*) with a new model that slots undergraduates into tracks based on their background and prior research experience. This transformation more tightly integrates the Education Program with the research conducted by Lab scientists. The tracks differ in how much independent research is expected of the students and, correspondingly,
how much time they spend in a classroom setting versus in the field collecting their own data. As a Board member, I have also helped to spearhead several initiatives to make RMBL's operations more sustainable.

Beyond the academic environment, I believe strongly in community education, since the public funds almost all of my research. For this outreach, I will take advantage of the numerous opportunities afforded by community centers, museums, and local school districts in the Tucson
area to communicate the results of my group's work. I frequently present my lab's research to local groups in Santa Barbara, with an emphasis on how climate change may affect temperature,
rainfall, and fog patterns and local ecosystems and agriculture. Through the efforts of the Union of Concerned Scientists, I have participated in climate change impacts discussions with legislators at the California state capitol in Sacramento. I greatly enjoyed this experience and look forward to future opportunities to discuss climate and energy policy with legislators and other stakeholders at local, state, and national levels.

At a professional service level, I have
worked vigorously within the Biogeosciences section of the American Geophysical Union
(AGU). This section integrates the ecological sciences with physical science disciplines such as
atmospheric science and hydrology. I have organized several special sessions within Biogeosciences at the annual Fall AGU meetings, including sessions on isotopic tracers in the
earth system, carbon storage in terrestrial ecosystems, and ecological, hydrological, and chemical
aspects of fog and cloud water. I also served as co-chair of Biogeosciences for the Fall meeting
program committee in 2005-2006, where I helped to organize all of the Biogeosciences sessions
within the annual meeting. I believe that such professional service is critical, especially as such
scientific societies increasingly interface with policymakers on critical issues related to energy,
climate, and environmental policy. Finally, in the last two years I have co-organized two large
local conferences on *The Physics of Climate Change* (at the Kavli Institute for Theoretical
Physics at UCSB) and on spatial aspects and applications of isotopic distributions called *Isoscapes* (in Santa Barbara).

Christopher Jason Still
Department of Geography
University of California, Santa Barbara
Santa Barbara, CA 93106-4060
Tel.: 1-805-893-5501; Fax: 1-805-893-2578
E-mail: still@icess.ucsb.edu; Webpage: http://www.geog.ucsb.edu/~cstill

Professional Preparation

Colorado State University B.S. Biochemistry (Cum Laude, Honors) 1993
Stanford University Ph.D. Biological Sciences 2000

Appointments

July 2007-present: ***Associate professor*** in the Geography Department, UC Santa Barbara
July 2003-present: ***Principal investigator***, Institute for Computational Earth System Science, UCSB
July 2003-June 2007: ***Assistant professor*** in the Geography Department, UC Santa Barbara
September 2002-July 2003: ***Scientific visitor*** at the National Center for Atmospheric Research, Climate and Global Dynamics Division, Terrestrial Sciences Section, Boulder, CO.
Ecosystem-atmosphere carbon cycle modeling; ecosystem applications of $^{13}CO_2$ lasers; global inversion modeling of terrestrial ecosystem processes from atmospheric tracers.
September 2000-September 2002: Alexander Hollaender Distinguished ***Postdoctoral fellow***, at the Berkeley Atmospheric Sciences Center, University of California, Berkeley, CA
Research on the use of atmospheric CO_2 and satellite data to infer large-scale ecosystem functioning using inverse methods; developing an isotope-enabled ecosystem model (ISOLSM) to simulate the ^{18}O composition of CO_2 and H_2O ecosystem-atmosphere exchanges; researching $\otimes^{17}O$-CO_2 as a new tracer of global terrestrial gross primary productivity
September 1994-August 2000: ***Graduate researcher***, Stanford University Department of Biological
Sciences and Carnegie Institution of Washington, Department of Plant Biology, Stanford, CA
Research on the potential impacts of climate change on tropical montane cloud forests; on the role of C_4 vegetation in the global carbon cycle; and on the contribution of C_3 and C_4 plants to photosynthesis and respiration in a tallgrass prairie ecosystem.

Workshops and Trainings

1998 NATO Advanced Study Institute on Numerical Modeling of the Global Atmosphere
1997 Inaugural Biosphere-Atmosphere Stable Isotope Network workshop, Snowbird, Utah
1997 NATO Advanced Study Institute on Soils and Global Change, Toulouse, France
1996 Terrestrial Ecosystems and the Atmosphere Colloquium, National Center for Atmospheric Research
1996 Inaugural Stable Isotopes in Ecology Training Course, University of Utah
1995 Summer School on Complex Systems Science, Santa Fe Institute

Fellowships and Awards

2004 NASA New Investigator Program Career Award
2004 University of California Regents' Junior Faculty Fellowship
2003 Andrew W. Mellon Foundation New Faculty Award
2000-2002 DOE Alexander Hollaender Distinguished Postdoctoral Fellowship
1996-1999 EPA STAR Graduate Environmental Education Fellowship

Christopher Still Curriculum Vitae

Research and Teaching Interests

Ecosystem ecology and physiology, global ecology, biogeography, biosphere-atmosphere interactions,
earth system science, ecophysiology, sustainability science, ecological climatology, global change

biology, isotope biogeochemistry and hydrology, carbon cycle science, cloud-ecosystem dynamics,
inverse modeling of the carbon cycle, carbon-climate dynamics, C_4 plants, environmental geography

Research Activities

Publications in Chronological Order (my students and postdoctoral scholars denoted with an asterisk)

1999

Still, C.J., Foster, P.N. and S.H. Schneider. Simulating the effects of climate change on tropical montane
cloud forests. *Nature* **398**, 608-610 (1999).

2002

Randerson, J.T., **Still, C.J.**, Ballé, J.J., Fung, I.Y., Doney, S.C., Tans, P.P., White, J.W.C., Suits, N.S.,
and A.S. Denning. The ^{13}C discrimination of arctic and boreal biome net CO_2 exchange inferred from
remote atmospheric measurements and a biosphere-atmosphere model. *Global Biogeochemical*
Cycles 16(3), 1028, (2002).

Randerson, J.T., Collatz, G.J., Fessenden, J.E., Munoz, A.D., **Still, C.J.**, Berry, J.A., Fung, I.Y., Suits,
N.S., and A. S. Denning. A possible global covariance between terrestrial gross primary production
and ^{13}C discrimination: Consequences for the atmospheric ^{13}C budget and its response to ENSO.
Global Biogeochemical Cycles, 16(4), 1136, (2002).

Riley, W.J., **Still, C.J.**, Torn, M.S., and J.A. Berry. A mechanistic model of $H_2{}^{18}O$ and $C^{18}OO$ fluxes
between ecosystems and the atmosphere: Model description and sensitivity analyses. *Global Biogeochemical Cycles,* **16(4)**, 1095, (2002).

Saleska, S.R., Shaw, M.R., Fischer, M.L., Dunne, J.L., **Still, C.J.**, Holman, M.L., and J. Harte. Plant
community composition mediates both large transient decline and predicted long-term recovery of
soil carbon under climate warming. *Global Biogeochemical Cycles,* 16(4), 1055 (2002).

Ribas-Carbo, M., **Still, C.J.** and J.A. Berry. An automated system for simultaneous analysis of $^{™13}C$, $^{™18}O$,
and CO_2 concentration in small air samples. *Rapid Communications in Mass Spectrometry* **V16(N5)**,
339-345 (2002).

2003

Still, C.J., Berry, J.A., Ribas-Carbo, M. and B.R. Helliker. The contribution of C_3 and C_4 plants to the
carbon cycle of a tallgrass prairie: An isotopic approach. *Oecologia* **136**, 347-359 (2003).

Still, C.J., Berry, J.A., Collatz, G.J. and R.S. DeFries. The global distribution of C_3 and C_4 vegetation:
carbon cycle implications. *Global Biogeochemical Cycles* **17(1)**, 1006, (2003).

Riley, W.J., **Still, C.J.**, Helliker, B.R., Ribas-Carbo, M., and J.A. Berry. 2003. ^{18}O composition of CO_2
and H_2O ecosystem pools and fluxes: Simulations and comparisons to measurements. *Global Change*

Biology **9**, 1567-1581 (2003).
Pataki, D.E., Ehleringer, J.R., Flanagan, L.B., Yakir, D., Bowling, D.R., **Still, C.J.**, Buchmann, N., and
J.A. Berry. The application and interpretation of Keeling plots in terrestrial carbon cycle research.
Global Biogeochemical Cycles 17,1022, (2003).
2004
Loik, M.E., **Still, C.J.**, Huxman, T.E., and J. Harte. In situ photosynthetic freezing tolerance for plants
exposed to a global warming manipulation in the Rocky Mountains, Colorado, USA. *New Phytologist*, 162, 331-341 (2004).
Still, C.J., Randerson, J.T. and I.Y. Fung. Large-scale plant light-use efficiency inferred from the seasonal cycle of atmospheric CO_2. *Global Change Biology*, **10(8),** 1240-1252 (2004).

Christopher Still Curriculum Vitae

Publications in Chronological Order **(**my students and postdoctoral scholars denoted with an asterisk)

2005
Still, C.J., Riley, W.J., Helliker, B.R. and J.A. Berry. Simulation of ecosystem $C_{18}OO$ isotope fluxes in a
tallgrass prairie: biological and physical controls. In *Stable Isotopes and Biosphere-Atmosphere Interactions* (Eds. Flanagan, L.B., Ehleringer, J.R. & D.E. Pataki). Elsevier-Academic Press, Physiological Ecology Series (2005).
Still, C.J., Randerson, J.T., and I.Y. Fung. Erratum: Large-scale plant light-use efficiency inferred from
the seasonal cycle of atmospheric CO_2. *Global Change Biology* 11(10), 1866-1866 (2005).
Randerson, J.T., van der Werf, G.R., Collatz, G.J., Giglio, L., **Still, C.J.**, Kasibhatla, P., Miller, J.B.,
White, J.W.C., DeFries R.S., and E.S. Kasischke. Fire emissions from C-3 and C-4 vegetation and
their influence on interannual variability of atmospheric CO_2 and delta(CO2)-C-13. *Global Biogeochemical Cycles* 19 (2), GB2019 (2005).
Suits N.S., Denning, A.S., Berry, J.A., **Still, C.J.**, Kaduk, J., Miller, J.B., and I.T. Baker. Simulation of
carbon isotope discrimination of the terrestrial biosphere. *Global Biogeochemical Cycles* 19 (1), GB1017 (2005).
Hoag, K.J., **Still, C.J.**, Fung, I.Y., and K.A. Boering. Triple oxygen isotope composition of tropospheric
carbon dioxide as a tracer of terrestrial gross carbon fluxes. *Geophysical Research Letters* 32 (2),
L02802 (2005).
Barth, M., and 22 others including **C.J. Still**. Coupling between land ecosystems and the atmospheric
hydrologic cycle through biogenic aerosol pathways. *Bulletin of the American Meteorological Society*
1738-1742 (2005).
2006
Randerson, J.T., Masiello, C.A., **Still, C.J.,** Rahn, T., Poorter, H., and C.B. Field. Is carbon within the
global terrestrial biosphere becoming more oxidized? Implications for trends in atmospheric O2. *Global Change Biology* 12 (2): 260-271 (2006).

Pounds, J.A., Consuegra, J.A., Fogden, M.P.L., Foster, P.N., Masters, K.L., Puschendorf, R., Ron, S.R.,
Sánchez-Azofeifa, G.A., **Still**, **C.J.** and B.E. Young. Widespread amphibian extinctions from epidemic disease driven by global warming. *Nature* 439, 161-167 (2006).

2007

Edwards*, E.J., **Still, C.J.,** and M.J. Donoghue. The relevance of phylogeny to studies of global change**.**
Trends in Ecology and Evolution 22 (5), 243-249 (2007).
Fischer*, D.T. and **C.J. Still.** Evaluating patterns of fog water deposition and isotopic composition on the
California Channel Islands. *Water Resources Research* 43, W04420, doi:10.1029/2006WR005124
(2007).
Pounds, J.A., Consuegra, J.A., Fogden, M.P.L., Foster, P.N., Masters, K.L., Puschendorf, R., Ron, S.R.,
Sánchez-Azofeifa, G.A., **Still**, **C.J.** and B.E. Young. Global warming and amphibian losses. *Nature*
447, E5-E6 doi:10.1038/nature05942, (2007).

2008

Edwards*, E.J. and **C.J. Still.** Climate, phylogeny, and the ecological distribution of C_4 grasses. *Ecology*
Letters 11, 266–276 doi: 10.1111/j.1461-0248.2007.01144.x (2008).
McDowell, N., and 13 others including **C.J. Still**. Measuring and modeling the stable isotope composition
of biosphere-atmosphere CO_2 exchange: where are we and where are we going? *EOS* 89(10), 94-95,
(4 March 2008).
Williams*, A.P., **Still, C.J.**, Fischer*, D.T., and S.W. Leavitt. The influence of summertime fog and
overcast clouds on the growth of a coastal Californian pine: a tree-ring study. *Oecologia*
doi: 10.1007/s00442-008-1025-y (2008).

Christopher Still Curriculum Vitae

Publications in Chronological Order **(**my students and postdoctoral scholars denoted with an asterisk)

2008 (continued)

Eckmann*, T.C., Roberts, D.A., and **C.J. Still**. Using multiple endmember spectral mixture analysis to
retrieve subpixel fire properties from MODIS. *Remote Sensing of the Environment.* 112(10), 3773-
3783 doi:10.1016/j.rse.2008.05.008 (2008).

2009

Bowen, G.J., West, J.B., Ehleringer, J.R., Hobson, K., Hoogewerff, J, Kendall, C., Lai, C-T., Miller, C.C.,
Noone, D.C., Schwarcz, H., **Still, C.J.**, and B.H. Vaughn. Isotopic records of spatial Earth systems
processes. *EOS* 90 (13), 109-110, 31 March 2009 (cover article).
Still, C.J., Riley, W.J., Biraud, S.C., Noone, D.C., Buenning, N.H., Randerson J.T., Torn, M.S., Welker,
J., White, J.W.C., Vachon, R., Farquhar, G.D., and J.A. Berry. The influence of clouds and diffuse

radiation on ecosystem-atmosphere CO_2 and $CO_{18}O$ exchanges. *Journal of Geophysical Research-*
Biogeosciences 114, G01018, doi:10.1029/2007JG000675 (2009).
Fischer*, D.T., Williams*, A.P. and **C.J. Still.** Significance of summer overcast and fog to drought
stress and ecological functioning of coastal California endemic species. *J. Biogeography* doi:10.1111/j.1365-2699.2008.02025.x. (2009).
Eckmann*, T.C., Roberts, D.A., and **C.J. Still**. Measuring subpixel fire sizes and temperatures from
ASTER using multiple endmember spectral mixture analysis. *Intl. J. Remote Sensing* (2009).
Friend, A.D., Behrenfeld, M.J., Geider, R.J., and **C.J. Still**. Photosynthesis in global-scale models.
PHOTOSYNTHESIS IN SILICO: Understanding complexity from molecules to ecosystems (Eds. Laisk, A., Nedbal, L. and Govindjee). Springer (Dordrecht, The Netherlands) (2010).

2010

Still, C.J. and Powell*, R.L. Continental-scale distributions of plant stable carbon isotopes. *Isoscapes:*
Understanding movement, pattern, and process on Earth through isotope mapping (Eds. West, J.B.,
Bowen, G.J., Dawson, T.E., and K. Tu). Springer (Dordrecht, The Netherlands) (2010).
Vaughn, B.H., Evans, C.U., White, J.W.C., **Still, C.J.**, Masarie, K.A., and J. Turnbull. Global network
measurements of atmospheric trace gas isotopes. *Isoscapes: Understanding movement, pattern, and*
process on Earth through isotope mapping (Eds. West, J.B., Bowen, G.J., Dawson, T.E., and K. Tu).
Springer (Dordrecht, The Netherlands) (2010).
Bradley, E., **Still, C.J.**, and D.A. Roberts. Design of an image analysis website for phenological and
meteorological monitoring. *Environmental Modelling and Software* (in press).
Edwards*, E.J., *et al.* The evolutionary origins of C_4 grasslands. *Science* (in press).

Manuscripts in revision or in review

Bradley, E.S., Toomey*, M.P., **Still, C.J.**, and D.A. Roberts. Multi-scale sensor fusion via online interface: Integrating GOES, MODIS, and webcam imagery for environmental monitoring. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing* (accepted, in revision).
Eckmann*, T.C., **C.J. Still,** Roberts, D.A., and J. Michaelsen. Variations in subpixel fire properties with
season and land cover in southern Africa. *Earth Interactions* (accepted, in revision).
Roberts, D.A., Bradley, E., Roth, K., Eckmann*, T.C, and **C.J. Still,** Linking physical geography education and research through the development of a micrometeorological network. *Journal of Geoscience Education* (in review).
Williams*, A.P., Allen, C.D., Millar, C.I., Swetnam, T.W., Michaelsen, J., **Still, C.J.**, and S.W. Leavitt
Forest responses to increasing aridity and warmth in the southwestern United States: adapting to
change. *Proceedings of the National Academy of Sciences USA* (in review).
Torn, M., Biraud, S., **Still, C.J.**, Riley, W.J., and J.A. Berry. Seasonal and inter-annual variability in $\delta_{13}C$
of net ecosystem carbon exchanges from 2002-2009 in the U.S. Southern Great Plains. *Tellus B:*

Special Issue for the 8th International CO_2 Conference ICDC8 (in review).

Christopher Still Curriculum Vitae

Selected Research Grant Support, 2003-present

Still, C.J. (co-PI): NOAA Climate and Global Change (2003-2007), $424,458.
'Linking the $CO_{18}O$ budget to global change processes'
Still, C.J. (PI): Andrew Mellon Foundation, Conservation and Environment (2003-2007), $325,000
'Fog in the California Channel Islands: Ecosystem inputs and consequences'
Still, C.J. (PI): NASA Office of Earth System Science, New Investigator Progam (2004-2008), $350,267.
'C_4 photosynthesis and the carbon cycle: An integrated plan of research and education'
Still, C.J. (co-PI): University of California, Office of the President (2005-2006), $112,500.
'Measuring and modeling the isotopic composition of biosphere-atmosphere CO_2 exchanges'
Still, C.J. (PI): UC Santa Barbara Academic Senate (2005-2007), $15,000
'Assessing changes in the hydrologic cycle and water usage by vegetation in the Colorado Rockies'
Still, C.J. (PI): UC Santa Barbara Sustainability Initiative (2007-2008), $10,884
'Children of the corn: learning how we are what we eat (and drink)'
Still, C.J. (co-PI): NSF Course, Curriculum, Laboratory Improvement (2007-2008), $149,998.
'Innovative use of environmental measurements in undergraduate geographic education'
Still, C.J. (PI): Kearney Foundation of Soil Science (2008-2010), $240,000.
'Fog drip drives summertime soil respiration in California's coastal conifer forests'
Still, C.J. (co-PI): NSF Division of Biological Infrastructure - Major Research Instrumentation (2008-
2011), $473,800. 'MRI: Acquisition of a Distributed Environmental Sensor Network by the Rocky Mountain Biological Laboratory'
Still, C.J. (PI): Kearney Foundation of Soil Science (2010-2011), $90,000.
'Understanding the impact of soil moisture on tree mortality at multiple spatial and temporal scales in
a California coastal pine forest'

Selected Conference Abstracts/Proceedings and Invited Seminar Presentations, 2003-present

(my students and postdoctoral scholars are denoted with an asterisk)

2003

Still, C.J. Oxygen-18 in atmospheric CO_2: A window on terrestrial and stratospheric processes, Climate and Global Dynamics Seminar /National Center for Atmospheric Research Boulder, CO
Still, C.J. Trends in oxygen-18 in atmospheric CO_2: Carbon or water cycle variations?, NOAA/CMDL
Carbon Cycle Seminar Series
Still, C.J. Oxygen-18 in atmospheric CO_2: Linkage between the global cycles of carbon and water,
Department of Geography Colloquium, UC Santa Barbara
Still, C.J., and D.S. Schimel. Terrestrial productivity and carbon storage: Research issues and tools, *Eos*
Trans. AGU, Fall Meet. Suppl.

2004

Fischer*, D.T., Still, C.J., and A.P. Williams*. Examining influence of fog and stratus clouds on Bishop
pine water budgets, Channel Islands, CA. *Eos Trans. AGU*, 85(47), Fall Meet. Suppl.
Fischer*, D.T., Still, C.J., and A.P. Williams*. Assessing the influence of fog on Bishop Pine water

budgets on Santa Cruz Island. Poster*, Ecological Society of America Annual Meeting*. Portland, OR.
Still, C.J., Williams*, A.P. Foster, P.N. and J.A. Pounds. Orographic cloudwater inputs to a tropical highland cloud forest in Monteverde, Costa Rica. *Poster Presentation, Ecological Society of America Annual Meeting*. Portland, OR.
Noone, D., C. Still, W. Riley, L. Welp and J Randerson. Isotopic diagnosis of processes governing interannual variability of $CO_{18}O$ fluxes in the tropics. *Eos Trans. AGU, 85 Jt. Assem. Suppl*., Abstract B41B-02

Christopher Still Curriculum Vitae

Selected Conference Abstracts/Proceedings and Invited Seminar Presentations, 2003-present

(my students and postdoctoral scholars are denoted with an asterisk)

2005

Fischer*, D.T. and C.J. Still. A new passive fog collector design for measuring fog water inputs and isotopic composition in harsh and remote environments. *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract B11A-1008**.**
Williams*, A.P., Still, C.J., Fischer* D.T., and S.W. Leavitt. Fog and vegetation on the California Channel Islands: A tree-ring and satellite analysis. *Eos Trans. AGU*, 86(52), Fall Meet. Suppl.
Still, C.J., *et al.* The impact of clouds on ecosystem-atmosphere $CO_{18}O$ exchanges in the U.S. Great Plains. *Eos Trans. AGU*, 86(52), Fall Meet. Suppl.
Still, C.J., Fischer* D.T., Williams*, A.P. Fog in the California Channel Islands: Ecosystem inputs and consequences. Department of Ecology and Evolutionary Biology Seminar Series, UC Irvine.

2006

Fischer*, D.T., Still, C.J., and A.P. Williams*. Hydrologic effects and biogeographic impacts of coastal fog, Channel Islands, California. *Eos Trans. AGU*, 87(52), Fall Meet. Suppl.
Fischer*, D.T., Still, C.J., and A.P. Williams*. Sensitivity of coastal vegetation to changes in fog and cloud cover, Channel Islands, CA. *Ecological Society of America Annual Meeting*. Memphis, TN.
Williams*, A.P., Still, C.J., Fischer* D.T., and S.W. Leavitt. Teasing foggy memories out of pines on the California Channel Islands using tree-ring and stable isotope approaches. *Eos Trans. AGU*, 87(52), Fall Meet. Suppl.
Still, C.J. *et al.* What controls the ™$_{18}O$ of atmospheric CO_2? *Eos Trans. AGU*, 87(52), Fall Meet. Suppl.

2007

Fischer*, D.T., Still, C.J., and A.P. Williams*. Hydrologic effects and biogeographic impacts of coastal fog, Channel Islands, California. *Association of American Geographers Annual Meeting.* San Francisco, CA.
Williams*, A.P., Still, C.J., Fischer*, D.T., and S.W. Leavitt. Using tree-ring width data from over 1000 sites to predict how American forests will respond to climate change. *AGU Fall Meeting 2007.*

2008

Still, C.J., Edwards*, E.J., Powell*, R.L., Fung, I.Y., and J.A. Berry. Biogeography and biogeochemistry
of C_4 vegetation. UC Irvine Department of Earth System Science Seminar Series

Still, C.J., Fischer*, D.T., and A.P. Williams. Clouds, forests, and climate change. Rubenstein School of
Environment and Natural Resources Seminar Series, University of Vermont.

Still, C.J., Powell*, R.L., Edwards*, E.J., Miller, J.B., and A. Ballantyne. Continental-scale distributions
of plant carbon-13. *Isoscapes 2008 Spatial Isotope Mapping Conference*, Santa Barbara, CA.

Still, C.J., West, J.B., Ehleringer, J.R., Edwards*, E.J., and R.L. Powell*. Continental-scale distributions
of plant stable isotopes. *The 6th International Conference on Applications of Stable Isotope Techniques to Ecological Studies*, Honolulu, HI

Still, C.J., Edwards*, E.J., Powell*, R.L., Miller, J.B., and J.A. Berry. Biogeography and biogeochemistry
of C_4 vegetation: studies at regional and global scales. School of Biological Sciences Seminar Series,
Washington State University

Still, C.J., Edwards*, E.J., Powell*, R.L., Miller, J.B., and J.A. Berry. Biogeography and biogeochemistry
of C_4 vegetation: studies at regional and global scales. Department of Earth Science Speaker's Club,
UC Santa Barbara

Still, C.J. and A.P. Williams*. Growth dynamics and differential usage of summer versus winter precipitation by trees in central Colorado. *AGU Fall Meeting 2008.*

Christopher Still Curriculum Vitae

Educational Activities

Courses taught at University of California, Santa Barbara - Department of Geography

Undergraduate Courses:

Geography 3A (*Introduction to Physical Geography: Oceanic and Atmospheric Processes*) – 2003-2006 – 150+ student lower-division lecture course with discussion section that provides an introduction to earth system science and physical geography. Topics covered include reasons for
seasons, solar radiation, energy balance, greenhouse effect, atmospheric structure and composition, atmospheric pressure and circulation, low and high-pressure systems, weather patterns, atmospheric pollution, stratospheric ozone chemistry, and climate change.

Geography 167/Environmental Studies 167 (*Biogeography: The Study of Plant and Animal Distributions*) – 2003-2010 – 40-80 student upper-division lecture course with discussion section that introduces the synthetic discipline of biogeography. Topics covered include ecology, earth system history, climatology, plate tectonics, paleoecology, evolution, endemism, disturbance, island biogeography, climate change biology, and global environmental change.

Geography 149/Environmental Studies 111 (*California's Channel Islands*) – 2007, 2009, 2010 – 200+ student upper-division lecture course that covers topics in climatology, geology, ecology, oceanography, anthropology, island biogeography, and land use and resource management issues
relevant to the California Channel Islands.

Geography 168 (*Field Studies in Biogeography*) – 2008 – 19-student upper-division course covering essential field methods in ecology, biogeography, soil science, and biometeorology.

INT 94JS (Freshman Seminar, 'A Walk in the Woods') – 2006-2010 - an all-day hike to introduce the Santa Ynez mountains to 1st-year undergraduates at UCSB, specifically to have

students appreciate the biodiversity, landscapes, and outdoor opportunities in their own backyard.
Graduate Courses:
Geography 253 (*Global Warming: Causes and Consequences* - co-taught with C. Gautier)- 2004-
graduate course on the science of climate change, clouds, and carbon-climate feedbacks.
Geography 288 (*Environmental Measurements* – co-taught with D. Roberts) – 2007 -
graduate course on environmental sensing and data collection, including weather station deployment using GIS, sensor installation and calibration, and basic environmental data analysis
Geography 288CS (*Ecosystem Physiology*) – 2008 - graduate course on and biosphereatmosphere
interactions, including students projects analyzing satellite and eddy flux datasets
Geography 288CH (*Carbon, Climate and Society Physiology* – co-taught with H. Eakin) –2008 - graduate course on interactions and feedbacks among human activity, the global carbon cycle and
climate change, with a focus on anthropogenic alterations of the carbon cycle through such activities as such as fossil fuel emissions and land use/land cover changes
Geography 288CS (*Ecological Niche and Species Distribution Modeling*) – 2010 – graduate course on the theoretical and practical aspects of ecological niche/species distribution modeling
Course development funding from the UCSB Council on Research and Instructional Resources
Received $25,000 to develop new courses, including a field course (Geography 168) based around a
new NSF-funded network of weather stations and environmental sensors
Graduate students supervised at UCSB
Doug Fischer (Ph.D. 2007); Ted Eckmann (M.A. 2006; Ph.D. 2009); Alton Park Williams (M.A. 2007;
Ph.D. 2009); Sara Baguskas (Ph.D. student, in progress); Served on >5 M.A. and >12 Ph.D. committees
Postdoctoral scholars supervised at UCSB
Erika Edwards (postdoctoral scholar 2005-2007; currently an assistant professor at Brown University)
Rebecca Powell (postdoctoral scholar 2006-2007; currently an assistant professor at Denver University)
Mariah Carbone (postdoctoral scholar 2008-present - NOAA Climate and Global Change Fellow)
Stephanie Pau (NCEAS postdoctoral scholar 2010-present –partial supervision)

Professional and Institutional Activity and Service
Manuscript Reviewer
Nature, Proceedings of the National Academy of Sciences, Ecological Applications, Global Biogeochemical Cycles, Tellus, Climatic Change, Quaternary Science Reviews, Global Change Biology, Journal of Geophysical Research-Atmospheres, Oecologia, Journal of Experimental Botany,
Agricultural and Forest Meteorology, Journal of Climate, Geophysical Research Letters, Water Resources Research, Journal of Geophysical Research-Biogeosciences, Ecology, Biogeosciences,
Journal of Biogeography, Environmental and Experimental Botany
Proposal Reviewer

National Science Foundation: Ecosystems; Atmospheric Science; Geography and Regional Science;
Environment & Structural Systems Cluster; Biological Databases & Informatics

Professional Societies

Member: American Geophysical Union (AGU), Ecological Society of America (ESA)
Co-convener: *Special session* on "Isotopes in Biogeochemistry and Global Change" for new Biogeosciences section of the AGU Fall 1998 meeting San Francisco, CA.
Special session on "Terrestrial Productivity and Carbon Storage: Research Issues and Tools" for Biogeosciences section of the AGU Fall 2003 meeting, San Francisco, CA
Special session on "Cloud Water and Fog: Hydrology, Ecology, and Chemistry" for Biogeosciences section of the AGU Fall 2006 meeting, San Francisco, California
Co-chair: *Program Committee,* Biogeosciences Section, AGU Fall meetings in 2005-2006
Nominee: *Secretary* for Biogeosciences Section of the AGU (2007)

UC Santa Barbara

Faculty participant:
UCSB College Honors Program to provide outstanding undergraduate students an enhanced educational experience outside of the classroom.
UCSB Freshman Seminar Program to provide members of the freshman class with intimate exposure
to research opportunities at UCSB.
UCSB Undergraduate Research and Creative Activities to provide outstanding undergraduates with
guidance in developing and conducting their own independent research project
Department Committee member:
Faculty search committees: Land Use/Land Cover Change (2003); Terrestrial Processes (chair, 2006);
Climate Science (2007); Land Use/Land Cover Change (2007)
Curriculum (2007-present); *Development* (2006-2007); *Sustainability (2007-2009); Graduate (2009)*
University-wide Committee member:
UC Natural Reserve System (2006-present); Graduate Council (2007-present)

Rocky Mountain Biological Laboratory

Member**,** Board of Trustees (2007-present); Head of Education Committee (2007-2009)

Union of Concerned Scientists

Volunteer scientist, Session to brief California state legislators on potential climate change impacts on
the state's water systems, agriculture, and public health (State capitol, Sacramento, 2006)

Dissertations Initiative for the Advancement of Climate Change Research (DISCCRS)

Mentor**,** DISCCRS IV Symposium to develop a climate research network for recent Ph.D. graduates
spanning the spectrum of natural and social science fields relevant to climate change impacts