

Previous Research Experience

My introduction to research came when I began work as a USFS Hotshot. I was responsible for collecting fire weather data, and measuring wind speed, temperature, and relative humidity. I quickly realized the importance of these physical measurements in planning fire suppression tactics and anticipating fire behavior. During my undergraduate work, I studied with Dr. Paul Yancey, a Biologist who selectively includes students in his research. Under his guidance I established a research project on embryonic stem cells, learning how to develop research protocols and interpret results.

Spending my summers working as a USFS Hotshot and Smokejumper, I became increasingly interested in fire science. I won a Thomas J. Watson Fellowship to pursue a year of self-guided research into wildland fire issues. Receiving this prestigious fellowship made it possible for me to investigate questions that I'd been curious about for years, such as: What characterizes fire regimes? How do they differ over biomes? Are fires and fire regimes changing, and if so, why? In order to study these questions, I designed a plan of research that took me to nine countries, including fieldwork in the Afrotropic, Australasia, and the Neotropic.

While this fellowship encouraged independent research, it also allowed me to collaborate with key experts around the world, working closely with many significant figures in fire research and management. I was often invited to eat with their families and sleep at their research stations, and was ultimately able to stretch a year of funding into sixteen months of research. After growing up in Cameroon, it was natural to be interested in West African fire issues, but it was Dr. Kwesi Orgle of Ghana's Ministry of Forestry who helped focus my research interests his country. Through this fellowship, I was able to hone my research development skills and practiced basic research techniques. The senior scientists that I worked with taught me advanced research techniques. Their critiques helped me to further refine my research and analysis skills.

After the publication of my fellowship report (Smith 2004), I accepted a faculty position in Fire at Pasadena City College, where many students come from underprivileged backgrounds. As a Native American, I have a keen interest in teaching and mentoring science students from underserved groups. I was instrumental in introducing English and Math into the science classroom to reinforce core concepts for student success and continue to do so today. Teaching undergraduates developed my ability to speak across disciplines as I worked to increase the accessibility of my subject matter. I quickly learned how to present my material compellingly enough to hold the interest of fifty students during night classes and enjoy putting together exciting multi-media presentations.

During my last year before graduate school, I joined The Nature Conservancy (TNC). Dr. Ayn Shlisky, the Director of TNC's Global Fire Initiative, needed someone to condense a year's research into global fire activity into just sixty days. Over the course of the next two months, I spent thousands of hours processing data on fire regimes worldwide. When I realized that TNC had gathered insufficient data, I designed, personally translated, and distributed survey questionnaires to fire experts in more than 100 countries worldwide. The resulting report was our "Preliminary Global Fire Assessment" (Global Fire Partnership 2005). I learned to assimilate vast quantities of data quickly and honed my ability to produce high-quality work under a tight schedule.

As a Visiting Scholar at UC Berkeley that fall, I designed a process for reviewing

and validating fire regime data, and collaboratively implemented it along with a research team including Dr. Max Moritz. Over the past several years, I've presented our published results at conferences around the world. I was able to learn about advanced research methods from collaborating with these scientists. I discovered that working with an experienced team made it easier to be both effective and efficient. These experiences allowed me to develop my proposed plan for research on land degradation in West Africa with a far more sophisticated understanding of research methodology.

Publications:

- Smith, R. *An International Survey of Wildland Fire: Global Problem, Local Solutions*. Thomas J. Watson Foundation, 2004.
- The Global Fire Partnership: The Nature Conservancy, The International Conservation Union, and the World-Wide Fund for Nature. *Fire, Ecosystems and People: the Preliminary Fire Assessment Executive Summary*. The Nature Conservancy, 2005.
- Smith, R.C., Shlisky, A., Waugh, J., Stephens, S., Moritz, M., and R. Myers. *Fuego Como Edición Global de la Conservación*. Conference proceedings, Primer Taller Internacional sobre Manejo del Fuego, 2006.
- Smith, R., Shlisky, A., Waugh, J., Stephens, S., and Moritz, M.. *Fire as a Global Conservation Issue*" To be published in: Conference proceedings 3rd International Fire Ecology and Management Congress, 2006.
- Shlisky, A., Waugh, J., Stephens, S., Moritz, M., Smith, R. and R. Myers. "*Fire as a Global Conservation Issue: Regional Collaboration Toward Collective Action*". To be published in: Conference proceedings IALE World Congress, 2007.

Presentations:

- "*American Community Fire Prevention*" presented at a regional program meeting of FIREWISE. Victoria, Australia. November 2003.
- "*International Wildland Fire Management*" informal invited presentation to the organizers of the II International Symposium on Fire Economics, Planning and Policy: A Global Vision. Cordoba, Spain. April 2004.
- "*The Global Fire Assessment*" keynote address presented at the 1st Global Fire Initiative Fire Experts' Meeting. Berkeley, California. February 2006.
- "*LANDFIRE and the Global Fire Assessment*" presented at Rapid Assessment Rollout Conference. Memphis, Tennessee. February 2006.
- "*El Gravamen Global del Fuego*" presented at the Primer Taller Internacional sobre Manejo del Fuego. Pinar del Rio, Cuba. April 2006.
- "*The Global Fire Assessment*" presented at the 2nd Global Fire Experts' meeting. Bogor, Indonesia. April 2006.
- "*The Global Fire Assessment*" presented at the 3rd Global Fire Experts' meeting. Santiago, Chile. July 2006.
- "*Fire as a Global Conservation Issue*" To be presented at the 3rd International Fire Ecology and Management Congress. San Diego, California. November 2006.
- "*A Avaliação Global do Fogo*" To be presented at the V International Conference on Forest Fire Research. Coimbra, Portugal. November 2006.
- "*Fire as a Global Conservation Issue: Regional Collaboration Toward Collective Action*" To be presented at the IALE World Congress. The Netherlands. July 2007.