

WALTER: A Model for Wildfire Alternatives

Barron J. Orr, Assistant Professor & Geospatial Extension Specialist , Associate Director, Arizona Space Grant Consortium, Office of Arid Lands Studies -- Arizona Remote Sensing Center, University Of Arizona, 1955 E. 6th St - Suite 205A, Tucson AZ 85719, TEL: 520-626-8063, FAX: 520-621-3816, EMAIL: barron@ag.arizona.edu

ABSTRACT

Wildfire Alternatives (WALTER) is an EPA STAR Grant initiative that seeks to improve our understanding of the consequences of interactions between wildfire, climate and society. WALTER has set out to maximize advances in geospatial analytical, as well as web delivery technology to provide access to the underlying interdisciplinary research, the resulting model, and educational materials.

Wildfire in the United States is both extensive and costly. Between 1994 and 2001, an average of 4.67 million acres have succumbed to wildfire, costing \$610 million per year to suppress. While immediate conditions—fuel availability and moisture, temperature, precipitation, relative humidity, wind—tend to drive both the number and extent of wildfires, climate factors and human activity are precursors of regional fire activity at a variety of temporal and spatial scales. Between 1969 and 1999 the Intermountain West gained nearly 9 million people and more than 7 million jobs, doubling its population and tripling its employment. The urban-wildland interface has expanded as well, presenting serious challenges to land managers in climatologically fire-prone environments where long-term fire suppression policies and urbanization have exacerbated the problem. The ability to integrate climate and human influences on wildland fire regimes in order to quantify the fire sensitivity (the probability/risk of fire) and the vulnerability to fire impacts at various spatio-temporal scales is necessary to effectively meet these land management challenges. An EPA STAR Grant funded initiative called "Wildfire Alternatives" (WALTER) has set out to maximize advances in geospatial analytical, as well as web delivery technology, to improve our understanding of and provide access to applied research on the relationship between wildfire, climate, and society (Grant #R-82873201-0). In order to make WALTER basic research and model development useful to stakeholders we have invested in the transition from validation to application. Our method for delivering research results, operational tools, and educational materials is through a web service (<http://walter.arizona.edu>) designed specifically to be relevant to a variety of user constituencies who want to learn more about the relationship of climate and human dimension to wildfire in the Southwest.