

**Project Title:**

Landowner Response to State-Sponsored Wildland Fire Mitigation Policy  
and Programs in the Southern Black Belt

**Announcement for Proposals and Task Statement:**

2005-3-- Task 2 Evaluating the Effectiveness of State and Local Laws,  
Policies, and Incentives on Wildland Fire Hazard Abatement Efforts

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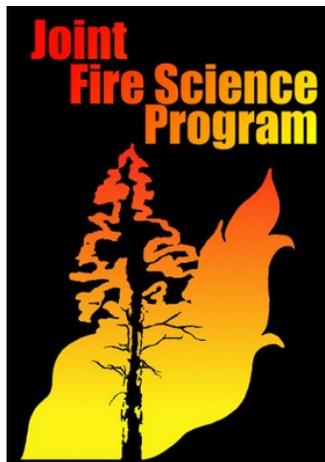
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## Abstract

This project addresses Task 2 of the Joint Fire Sciences 2005-3 research program involving citizen knowledge and awareness of state-sponsored wildland fire mitigation programs. The first objective focuses on non-industrial, private forestland owners in selected counties across five states (Alabama, Florida, Georgia, Mississippi, South Carolina) in the Southern Black Belt region. Objective one assesses private landowner awareness and responsiveness to state-level wildland fire mitigation policies and incentives in selected rural, Black Belt counties. Employing logistic regression analyses, we found that African American landowners were more aware than white landowners of wildland fire mitigation programs; but less likely than whites to use such information; and less likely to engage in “other” actions to reduce wildland fire threats to their property. In terms of constraints, African Americans who did not request mitigation information were more likely than whites who did not request information to say they did not do so because they did not know the information was available. However, blacks were less likely to say lack of trust prevented them from requesting information.

Our second objective assesses the association between biophysical wildland fire risk and social vulnerability for census block groups (CBGs) in the five states. Further, we examine the spatial relationship between highly fire prone areas, which also rank high in social vulnerability (“hot spots”), and the prevalence of wildland fire mitigation programs in these communities. To examine this objective, we use Exploratory Spatial Data Analysis (ESDA) to look at the spatial associations between a wildland fire susceptibility index (WFSI) and an index measuring social vulnerability (SOCEP). Of particular interest are CBGs with *both* high WFSI and SOCEP (hot spots), as these communities may be at greater risk from wildland fire devastation, given that lower socioeconomic-status communities are less able to mitigate or recover from natural disasters.

We found no support for our hypothesis that wildland fire risk and social vulnerability are positively correlated for the five-state region. However, we did find partial support for the hypothesis that WFSI and SOCEP are correlated within individual states (South Carolina); and further support for our hypothesis relating to the prevalence of wildland fire mitigation programs on the ground. Mapping of wildland fire mitigation programs (Firewise Communities and Community Wildfire Protection Plans—CWPPs) showed a relative lack of these programs in CBGs with hot spot classifications for Florida, Georgia, and Mississippi.

## **Background and Purpose**

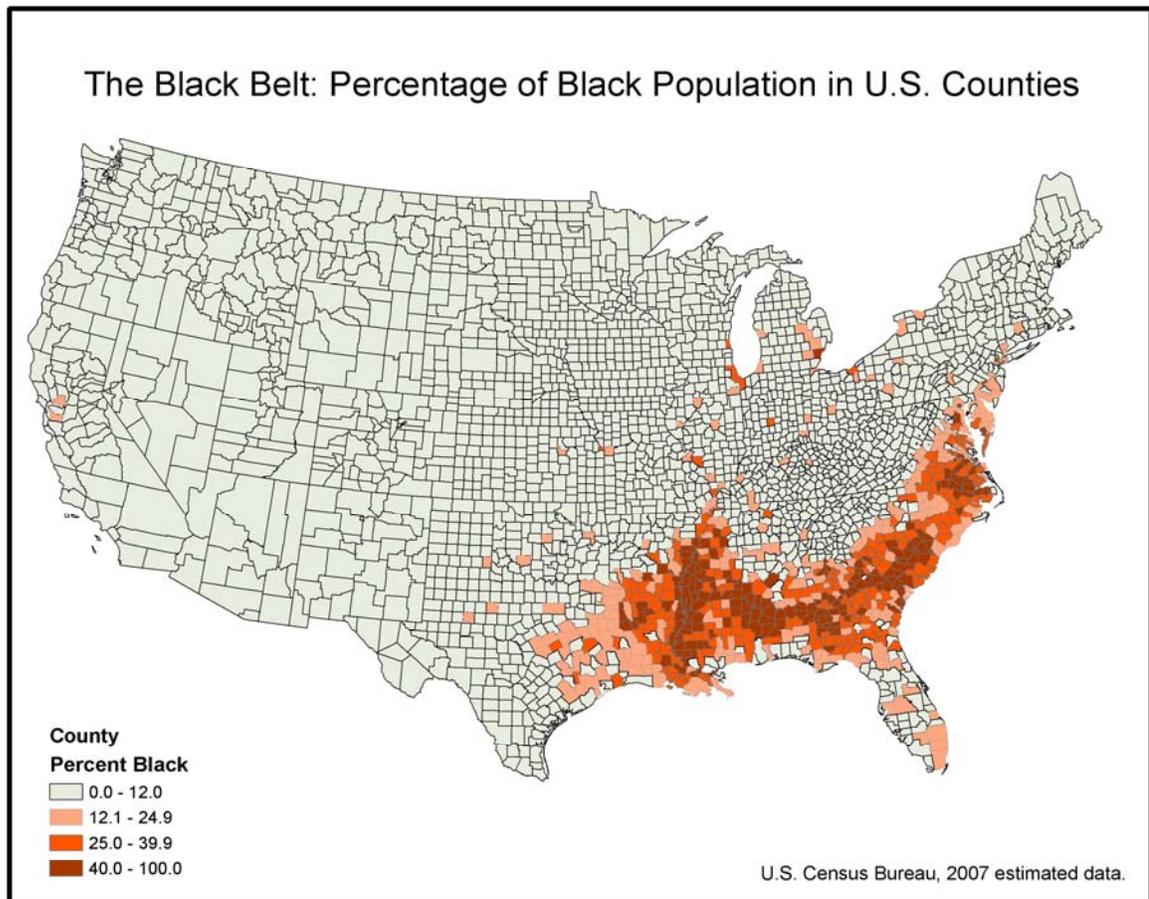
This project addresses Task 2 of the Joint Fire Sciences 2005-3 research program involving citizen knowledge and awareness of state-sponsored wildland fire mitigation programs. The first objective centers on African American and white non-industrial, private forestland owners (NIPFs) in selected counties across five states (Alabama, Florida, Georgia, Mississippi, South Carolina) in the rural Black Belt. Addressing this objective, we compare African American and white landowner awareness and responsiveness to state-level wildland fire mitigation policies and programs in rural, Black Belt counties. See table 2 in Appendix A for a list of mitigation programs for each state. We also examine the following: landowner experience and perception of wildland fire occurrence and other natural disturbances; landowner receipt and of use information about wildland fire mitigation policies and procedures; whether respondents request mitigation information and reasons why respondent might not request information; landowner sources of information about mitigation; preferred sources of information; landowner actions taken to reduce wildland fire hazards; landowner preferences for state remediation of wildland fire threat; and 9) landowner interest in and awareness of biomass.

Objective two focuses more broadly on communities rather than individual landowners. This objective looks at the association between biophysical wildland fire risk and social vulnerability (percent African American, percent below poverty, percent with less than a high school education, percent mobile home residence, and percent renters) for each census block group (CBG) in the states listed above. With this objective, we also examine the spatial

relationship between “hot spots” (highly fire prone areas that also score high in social vulnerability) and wildland fire mitigation programs in these communities.

This broader investigation is warranted given that the overarching aim of this study is to assess the “effectiveness of state and local laws, policies, and incentives on wildland fire hazard abatement efforts.” We would argue that the efficacy of wildland fire mitigation programs can be gauged by how well such programs are distributed across communities with varying socioeconomic profiles. Racial comparisons of mitigation policy and program awareness in the rural Black Belt and spatial demarcation of hot spots across the five-state region are important because of continuing social well-being gaps between African Americans and whites in the region. According to Gibbs (2003), the poverty rate for Black Belt African Americans is three times the rate of white, Black Belt dwellers; also, white poverty is lower in the Black Belt compared to other rural areas of the country. More generally, research shows predominantly African American communities tend to have fewer environmental goods and services than white communities, and blacks are more likely than whites to cite lack of information about environmental resources as a reason for not engaging with these resources (Taylor, Floyd, Whitt-Glover, and Brooks, 2007; Taylor, 2000).

By definition, the Southern Black Belt refers to counties with African American populations at least equal to the national average (Allen-Smith, Wimberley, and Morris, 2000). (figure 1). In addition to demography, Webster and Bowman (2008) include economic, social, and political characteristics of the region. Womack (2007, p.42) writes of the region: “By most definitions, the Black Belt is America’s third world....The relationship between this region and poverty is unmistakable, with 280 of the 444 persistent poverty counties being located there.”



**Figure 1: Percentage of Black Population in U.S. Counties**

### **Study Description and Location**

**Objective 1:** To examine knowledge and awareness of state-sponsored wildland fire mitigation programs by race, we first contacted forestry agencies in Alabama, Florida, Georgia, Mississippi, and South Carolina to ascertain what type of wildland fire education program the agency sponsored. Information about various federal, state, and interagency fire education programs is also available online at the respective state forestry agency websites and collectively at [www.forestencyclopedia.com](http://www.forestencyclopedia.com). In pulling together information about mitigation programs, we referenced these databases in addition to the direct contacts to state forestry offices.

Next, we administered a mail survey to landowners in counties listed in Table 1, Appendix A. Again, the survey contained questions relating to: 1) landowner awareness of state-level wildland fire hazard mitigation programs and policy; 2) landowner experience and

perception of wildland fire occurrence and other natural disturbances; 3) landowner receipt and of use information about wildland fire mitigation policies and procedures; 4) whether respondents request mitigation information and reasons why respondent might not request information; 5) landowner sources of information about mitigation; 6) preferred sources of information; 7) landowner actions taken to reduce wildland fire hazards; 8) landowner preferences for state remediation of wildland fire threat; and 9) landowner interest in and awareness of biomass.

Data on landownership characteristics were also solicited. This includes amount of acreage owned; management objectives; whether land is classified as heir's property; percentage of annual household income generated from land; whether respondents have a management plan for their land; and whether respondents live on or personally manage their land. Demographic data on forestland owner age, race, gender, education, and income level were also collected. In developing questions for the survey, we consulted state foresters in each of the five states. We restricted the sample to landowners with ten acres or more of privately held land.

We collected data for Objective one with mail, telephone, and face-to-face surveys. The first mail survey was administered by Texas A&M University from June to September 2007. It was distributed to a randomly selected group of NIPFs in the selected counties (table 1, Appendix, A) in Alabama, Florida, Georgia, Mississippi, and South Carolina. The Florida, Georgia, and South Carolina sample for this mail survey consists of a random sample taken from county tax assessor rolls. Counties within these states were selected based on the percentage of the population that is African American ( $\geq 25\%$ ); percent of forestland area in county ( $\geq 33\%$ ); and the amount of "state" acreage burned by wildfire over the period 1999-2003.<sup>1</sup> See Table 1, Appendix A. A random sample of landowners from the Mississippi and Alabama counties was

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<sup>1</sup> Source: Fire Cause and Acreage Calculated by Year, State and Agency. Unpublished data from the Southern Area Coordination Center. "State" incorporates all non-federal acreage, including privately held land.

supplied by project collaborators who had previously administered surveys to landowners in the counties of interest.

The Texas A&M survey was administrated according to the Dillman (2000) method with a series of follow-ups. The sample size was 583 (24.7% response rate). This sample contained responses from only 44 African American landowners (7.5%). Yet, the percentage of African Americans in the counties we targeted ranges from a low of 38.3% to 86.5%. We anticipated the need to augment the African American sample with non-random data collected either by telephone or face-to-face methods. Past studies with African American landowners demonstrate the difficulty of obtaining adequate sample sizes from this population (Gan and Kolison, 1999; Gan, Kolison, and Tackie, 2003).

A second collection effort involved face-to-face interviews with African American respondents. This was a convenience sample of attendees at three landowner conferences targeted to small landowners in the South. The first was the Federation of Southern Cooperatives Farmers Conference (Albany, GA, February 2008); second, Alcorn University/Mississippi Association of Cooperatives Small Farmers Conference (Natchez, MS, March-April 2008); and third, the Federation of Southern Cooperatives/Land Assistance Fund Conference (Epps, AL, August 2008). The sample size was 98, with 76 African American, two white, one Native American, and one Asian American respondent. Eighteen respondents indicated no race. We used only the African American-identified observations in the analyses. These data are limited by the fact that they are not random and that respondents could have resided in counties other than those with sufficient African American representation or forestland cover.

A third effort to increase the number of blacks in the sample was undertaken by the University of Florida (UF). These data combined telephone and face-to-face interviews. This data collection resulted in 77 observations from landowners in the identified Florida counties—Gadsden, Hamilton, Jefferson, Madison. UF researchers worked through county extension agents

in each county to obtain African American landowner names and addresses. Interviewers then secured telephone numbers from the white pages directory in each county and contacted potential study participants either by phone or in person.

Because there are more African American landowners in these counties than the extension offices had information about, UF researchers used cluster sampling to conduct door-to-door, home interviews. Of 92 African American households contacted in all four counties (either by phone list or random house selection), 77 respondents participated in the study for an 83.6 % response rate.

Finally, we supplemented the African American sample with 57 observations from South Carolina. This data collection was conducted by Clemson University using a mail survey. The data were obtained in two ways—first, by a random sampling of 250 potential respondents in Allendale, Bamberg, and Hampton Counties. These are counties with African American populations between 55 and 71%. The response rate was 42%, with eight black respondents. Again, a mail survey was not effective in providing substantial African American responses. A second effort in South Carolina involved distributing 200 surveys through county extension agents to African American landowners in Charleston, Lee, Sumter, Anderson, and Williamsburg Counties. These counties also have substantial rural populations with high concentrations of African Americans. The surveys were distributed non-randomly and involved face-to-face interviews. We obtained a 24.5% response rate with 49 completed interviews.

Because of differences in sampling among the four data sets, we compared certain demographic variables-- sex, age, education, and income--for the black samples in the mail survey and the three supplementary African American data sets. The percent male for the Texas A&M mail survey was 67%, 63% for the first face-to-face conference surveys, 57% for the UF survey, and 87% for the Clemson survey. The modal category of educational attainment was higher than a four-year college degree for the Texas A&M mail survey; college for the

conference surveys; and high school for the UF and Clemson samples. The modal income category was less than \$30,000 for all samples; and mean age was 60 (Texas A&M), 58 (conference), 58 (UF), and 58 (Clemson).

The total number of rural, non-industrial private landowners was 903. Of these, 849 respondents provided racial/ethnic data. White respondents totaled 589; African American, 246; Native American, 8; Hispanic, Asian American, and Other each contributed two respondents.<sup>2</sup> Again, respondents not identifying as either African American or white were omitted from the analysis. The final sample size was 835, with 71.5% white and 29.5% African American.

### **Key Findings**

**Objective 1:** In terms of the first objective—resident awareness of wildland fire mitigation policies and programs—results show African Americans actually being more aware than whites of state level programs; also, we found no differences for mitigation information request or receipt. One variable suggesting black marginalization relates to information use; blacks who requested information were less likely than whites to use it. In addition, whites were more likely to say they did something “other” than those actions listed on the survey (table 1). Also, for the sub-sample that did not request information, more blacks than whites said lack of awareness of mitigation information was a barrier to requesting such information (table 2); but trust was not a significant hindrance to information requests for African American respondents.

Overall, however, our findings do not suggest that Black Belt, African American landowners are disadvantaged with respect to either information awareness or acquisition. But again, our results should be taken with some caution because portions of the black sample were selected from small landowner advocacy conferences. Although the focus was not wildland fire

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<sup>2</sup> The percentage of non-black minority groups in these states owning substantial acreage would likely be too small for analysis.

mitigation, the fact that these landowners attended a landownership conference suggests they may also be engaged with various kinds of land management and protection programs and policies.

Table 1. Logistic Regression Estimates: Wildfire Mitigation Awareness, Information Request, Receipt, Use, and Other Mitigation Action

	awareness		information request		information receipt		use requested information		other actions to reduce threats	
Proportion of “yes” responses	0.518		0.218		0.328		0.830		0.228	
Parameter	MLE coeff.	Odds ratio	MLE coeff.	Odds ratio	MLE. coeff.	Odds Ratio	MLE coeff.	Odds Ratio	MLE coeff.	Odds ratio
intercept	0.39		-0.92*		-1.28**		1.61		0.10	
black	1.20**	3.32	-0.18	0.84	0.34	1.41	-1.59**	0.20	-1.26**	0.28
female	-0.12	0.89	0.17	1.18	0.12	1.13	-0.34	0.71	-0.35	0.71
education	0.15	1.16	0.16	1.17	0.04	1.04	-0.11	0.89	0.14	1.15
property loss	0.49**	1.64	0.90**	2.47	0.65**	1.91	-0.30	0.74	1.04**	2.84
believe burn	-1.18**	0.31	-1.49**	0.23	-0.29	0.75	-0.56	0.57	-1.82**	0.16
manage land	-0.94**	0.39	-1.12**	0.33	-0.81**	0.45	1.26*	3.53	-1.16**	0.32
live on land	0.18	1.20	0.31	1.36	0.45*	1.57	0.22	1.25	-0.20	0.82
management plan	0.79**	2.20	0.93**	2.54	1.29**	3.62	0.87	2.39	0.59*	1.81
N=	728		634		585		136		658	
model chi-square	142.48		150.45		79.54		16.44		221.63	
significance level	<0.0001		<0.0001		<0.0001		<0.037		<0.0001	
% correct predictions	74.7		80.0		71.2		74.4		84.6	

\*  $p \leq 0.05$ ; \*\*  $p \leq 0.01$

Table 2. Logistic Regression Estimates: Variables Constraining Information Request: Not Aware Information Available, No Contact Information, Lack of Trust in Agencies Providing Information

	information availability		no contact information		lack of trust	
Proportion of “yes” responses	0.197		0.239		0.387	
Parameter	MLE coeff.	Odds ratio	MLE. coeff.	Odds ratio	MLE coeff.	Odds Ratio
intercept	-0.78		-0.41		0.30	
black	0.84**	2.32	0.23	1.26	-2.27**	0.10
female	-0.78**	0.46	-0.39	0.68	0.40	1.50
education	0.02	1.02	0.04	1.04	0.19	1.21
property loss	0.39**	1.48	0.41*	1.51	0.11	1.12
believe burn manage land	-0.22	0.80	-0.46	0.63	-0.45	0.64
live on land	-0.89**	0.41	-0.33	0.72	0.01	1.01
management plan	0.14	1.15	0.02	1.02	-0.36	0.70
	-0.05	0.95	-0.73**	0.48	-0.90**	0.41
N=	493		493		493	
model chi-square	31.05		25.80		94.45	
significance level	<0.0001		<0.0011		<0.0001	
% correct predictions	67.5		63.1		73.9	

\*  $p \leq 0.05$ ; \*\*  $p \leq 0.01$ .

## Study Description, Location, and Key Findings

**Objective 2:** For Objective two, we used exploratory spatial data analysis (ESDA) to examine the bivariate, spatial association between wildland fire risk and social vulnerability at both the regional and state level. Significantly, we found that the association between these two factors is a non-stationary phenomenon; that is, it does not remain constant across space. For example, high wildland fire risk levels in some areas across the states were associated with high levels of social vulnerability; but in other places, an inverse relationship was detected.

A tabulation of census block groups in the region by type of spatial association indicates that about 27% of total CBGs showed negative association between social vulnerability and wildland fire risk (table 3). This means that just over one-quarter of CBGs in the region represent areas where wildland fire risk and social vulnerability are negatively associated. About 2% of CBGs in the region had high wildland fire risk and high social vulnerability in their neighborhoods (hot spots). High is defined as values exceeding the mean. Likewise, about 15% of CBGs had low wildland fire risk and were located in areas of low social vulnerability (cold spots). About 55% of the CBGs in the region exhibited no significant association between the wildland fire risk and social vulnerability. Table 4 shows similar results for each state.

With this objective, we also looked at the relationship between hot spot CBGs and mitigation programs such as Community Wildfire Protection Programs (CWPPs) and Firewise Communities. Results from the ESDA analyses in figure 2 show high wildland fire risk areas along the Atlantic and Gulf coasts in Florida but low social vulnerability (gold color). Here, mitigation programs in the form of Firewise Communities are clustered in these areas. However, in CBGs with both high fire risk and high social vulnerability (eastern South Carolina, north-central Florida, and pockets in southeast Georgia, and South Florida) (red clusters), there are no mitigation programs in place.

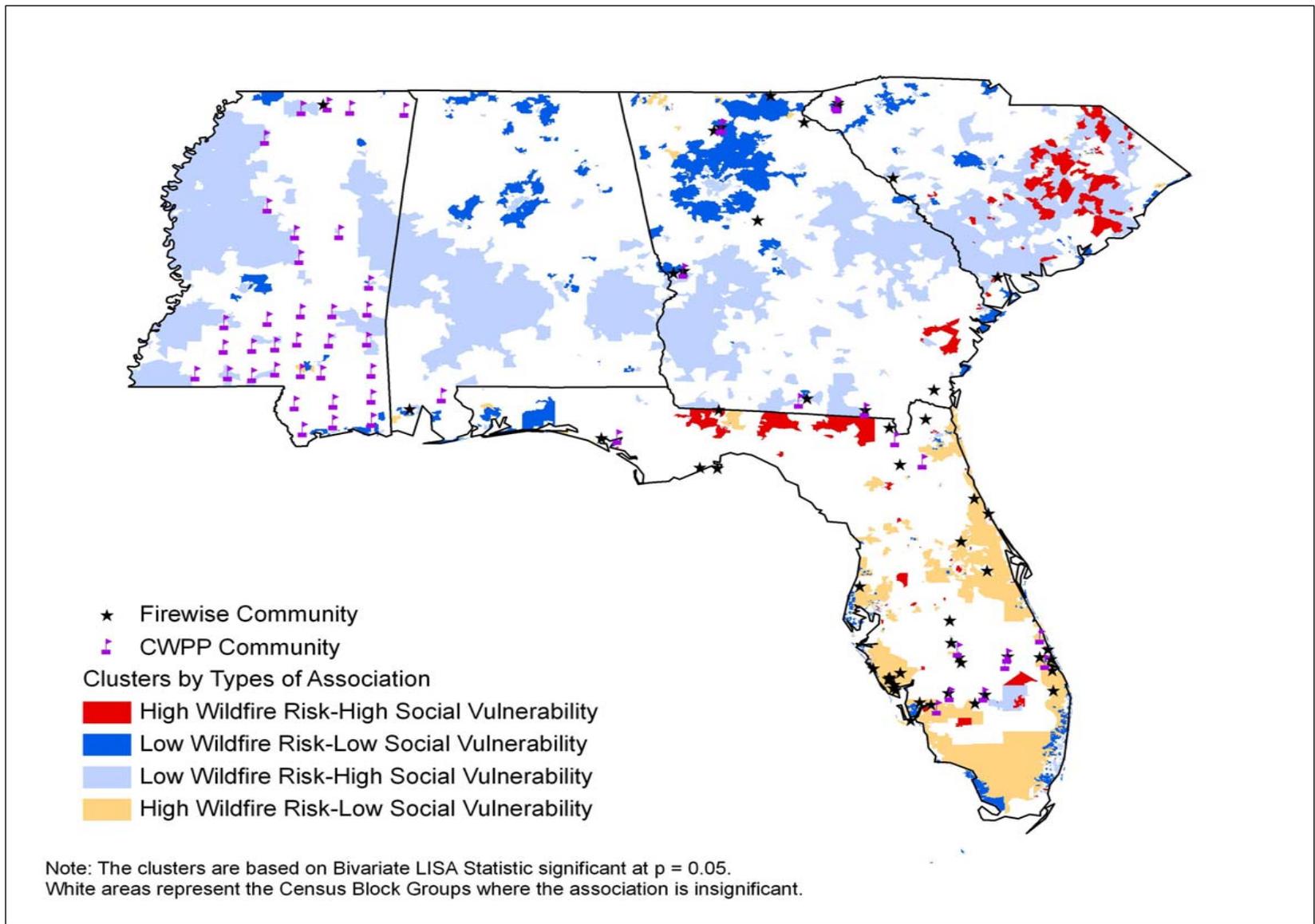
Table 3. Distribution of CBGs in the Southeastern United States according to the types of local spatial association between wildland fire risk and social vulnerability

Types of Association	CBG (N)	CBG (%)
High Wildland fire Risk - High Social Vulnerability	468	2.11
Low Wildland fire Risk - Low Social Vulnerability	3,488	15.70
Low Wildland fire Risk - High Social Vulnerability	4,044	18.21
High Wildland fire Risk - Low Social Vulnerability	1,874	8.44
Insignificant	12,336	55.54
Total	22,210	100.00

*State level analysis*

Table 4. Distribution of CBGs in the state according to the types of local spatial association between wildland fire risk and social vulnerability

Types of Association	Alabama		Florida		Georgia		Mississippi		South Carolina	
	CBG (N)	CBG (%)	CBG (N)	CBG (%)	CBG (N)	CBG (%)	CBG (N)	CBG (%)	CBG (N)	CBG (%)
High Wildland fire Risk - High Social Susceptibility	85	2.55	405	4.46	58	1.21	44	2.05	248	8.68
Low Wildland fire Risk - Low Social Susceptibility	543	16.31	1425	15.68	887	18.53	301	14.02	549	19.21
Low Wildland fire Risk - High Social Susceptibility	589	17.69	1269	13.96	899	18.78	356	16.58	327	11.44
High Wildland fire Risk - Low Social Susceptibility	142	4.27	890	9.79	266	5.56	144	6.71	91	3.18
Insignificant	1970	59.18	5099	56.11	2678	55.93	1302	60.64	1643	57.49
Total	3329	100	9088	100	4788	100	2147	100	2858	100



**Figure 2: Bivariate LISA based spatial clusters showing the local association between wildland fire risk and social vulnerability in the Southeastern United States.**

## **Management Implications**

Results from this last objective can provide practical information to state forestry agencies and others in developing mitigation initiatives specific to areas with high fire risk that are also more marginal in socioeconomic terms. The literature addressing social vulnerability and natural disaster emphasizes that lower socioeconomic status communities are at greater risk than either middle-class or affluent communities for succumbing to these phenomena because of the lack of resident ability to prepare for or recover from resulting losses. The Southern Group of State Foresters' Southern Wildfire Risk Assessment does not explicitly address differences in socioeconomic status and how a community's human capital might affect its ability to respond to wildland fire. Spatial analyses, which mapped the distribution of CWPPs and Firewise Communities, in particular, can help managers make more informed decisions about where to concentrate future mitigation campaigns.

## **Relationship to Recent Findings and Ongoing Work**

Both Objective one and two relate to extant investigations into the human dimensions of wildland fire risk. In terms of the first objective, our study is the first to compare African American and white NIPFs for a multi-state area in the rural Black Belt. While Bowker et al. (2005; 2008) examined racial group variation in perceptions and knowledge of wildland fire mitigation, those efforts involved both urbanites and rural dwellers, as well as non-landowners.

With respect to Objective two, our study again offers relevant analyses that fit well with recent work in the human dimensions field of wildland fire risk. Ours is the first attempt to look at the relationship between socioeconomic well-being and wildland fire risk in the South. As stated, this literature suggests that there are additional risk factors in wildland fire prone areas relating to social vulnerability. Along these lines, Haque and Etkin (2007) argue that an after-the-fact response to disaster emphasizing cleanup and recovery efforts has for the most part been replaced with a "vulnerability/resilience paradigm." This perspective places as much emphasis

on the social dimensions of disaster, that is, on the societal conditions and inequities which may cause some groups to be less prepared for and less able to recover from environmental hazards. Cannon [in Haque and Etkin, 1994] makes explicit social variables that contribute to social vulnerability—social, economic, and political factors. These factors can either enhance or detract from a community’s ability to mitigate or bear disasters. Cutter, Mitchell, and Scott (2000) argue that socially vulnerable groups such as the elderly, lower income, racial minorities, and women are more likely to be exposed to a larger number of hazards and or be less able to recover from disasters (e.g., chemical spills, hurricanes, wildfire), than wealthier, more able-bodied individuals and communities.

Morrow (1999) and Lynn and Gerlitz (2006) also argue that poor communities are less able to absorb the effects of natural disasters. In a review of the literature on poverty and disasters in the U.S., Fothergill and Peek (2004) describe disasters as a “social phenomenon” and cite a number of studies showing that poorer people are more likely than other income groups to perceive greater risks from natural disasters but are less likely to respond to warnings about disasters. Poor people also suffer disproportionately from the physical and psychological impacts of disasters, experience higher mortality rates, and find it more difficult to recover after disasters. The authors state that these findings “...illustrate a systematic pattern of stratification within the United States” and that disasters often highlight a priori disparities in social well-being.

Ojerio (2008) examined both biophysical and social data to assess the vulnerability of census block groups in Arizona to wildfire risks. Results consistently showed that census block groups comprised largely of non-whites (Navajo and Arapaho) are less likely than majority white CBGs to participate in either state-sponsored grants aimed at wildland fire mitigation, community wildfire protection programs, or the Firewise Community program. Our results for five states in the Southeastern U.S. are very much inline with Ojerio’s study conducted in the Southwest.

### **Future Work Needed**

This was an exploratory investigation into the relationship between social status and wildland fire risk. Given the variation in correlation between wildland fire risk and social vulnerability at the state and regional level, we would recommend using a spatially varying parameter model of regression to observe how the magnitude of correlation between wildland fire risk and social vulnerability differs across the larger South. This larger investigation would include the other eight states that make up the USDA Forest Service's Southern Region. We believe the current work provides a novel point of departure for wildland fire studies in the South.

### **Deliverables Crosswalk Table**

Originally, we planned to deliver project findings directly to minority landowners in Black Belt counties via a conference. After more consideration, we realized that the primary audience for these data would be state, wildland fire managers. Project results highlighting the geo-spatial clusters, in particular, will be publicized in the form of posters (to be presented at the 2009 Society of American Forester's meeting in Orlando, FL, September 30-October 4); brochures; and website links through the USDA Forest Service's Interfacesouth technology transfer center. Interfacesouth works extensively with state forestry agencies in helping them to address problems of land use change, wildland fire, and other issues pertinent to the South's Wildland Urban Interface.

Other project deliverables are listed in Table 5. These include a 903 observation database of NIPFs for the study region; a state-level report for Florida (as indicated in the proposal, state reports are available upon request); a final report, both in a short form (the present report) and a longer version containing descriptive, bivariate, and multivariate analyses of a wider array of variables. This report will be made available on the website: [www.humanandnaturalsystems.org](http://www.humanandnaturalsystems.org) and on <http://www.interfacesouth.org> by 1 October 2009. A Master's of Science thesis was also based on results from this study, as well as two referred journal articles. See table 5 below.

Table 5. Project Deliverables.

Deliverable	Description	Completed
Data sets	State-level and region wide data sets: 903 observation data base containing variables on Black Belt resident knowledge, attitudes, and preferences regarding state-level wildland fire mitigation policy. Data also includes demographic and landownership characteristic variables.	April 2009
Individual, state-level reports <b>Available by request</b>	State-level reports on resident knowledge, attitudes, and preferences regarding state-level wildland fire mitigation policy.  Wyman, M., Stein, T., Malone, S., and Johnson, C. 2009. Landowner Response to State-Sponsored Wildfire Mitigation Policy in Florida	Florida January 2009
Final report	Report adheres to revised guidelines for reporting specified on the Joint Fire Science website, ( <a href="http://www.firescience.gov/JFSP_Final_Report_Requirements.cfm">http://www.firescience.gov/JFSP_Final_Report_Requirements.cfm</a> 2005-3)	August 2009
Publications and reports	Jarrett, A. 2008. Landowner perception, awareness and adoption of wildfire programs in the southern United States. M.S. thesis. Texas A&M University, Thesis.  Jarrett, A., Gan, J., Johnson, C., Munn, I.A. 2009. Landowner Awareness and Adoption of Wildfire Programs in the Southern United States. <i>Journal of Forestry</i> , 107(3):113-118.  Gan, J., Jarrett, A., and Johnson, C. Forest Fuel Reduction and Biomass Supply: Perspectives from Private Landowners in the U.S. South. <i>Forthcoming, Journal of Sustainable Forestry</i> .	June 2008  2009  2009

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## Appendix A

Table 1. Percent Black and Forestland for Sampling Area

Location	% Black <sup>3</sup>	% Forestland <sup>4</sup>	State Sample Size
<b>Alabama</b>			<b>100</b>
Greene	80.3	69	
Hale	59.0	64	
Marengo	51.7	72	
Perry	68.4	78	
Sumter	73.2	74	
<b>Florida</b>			<b>100</b>
Gadsden	57.1	77	
Hamilton	37.7	74	
Jefferson	38.3	75	
Madison	40.3	74	
<b>Georgia</b>			<b>100</b>
Greene	44.4	80	
Hancock	77.8	91	
Taliaferro	60.3	87	
Warren	59.5	84	
Wilkes	43.1	76	
<b>Mississippi</b>			<b>100</b>
Adams	52.8	71	
Claiborne	84.1	81	
Copiah	51.0	77	
Jefferson	86.5	79	
Wilkinson	68.2	80	
<b>South Carolina</b>			<b>100</b>
Allendale	71.0	64	
Bamberg	62.5	66	
Hampton	55.7	71	

<sup>3</sup> U.S. Bureau of the Census. 2002. State and county quick facts. Washington, D.C. Available online at <http://quickfacts.census.gov/qfd/states/01000.html>. Retrieved 11/04.

<sup>4</sup> *Forest Statistics* for the five states were consulted in the computation of these percentages. Forest statistics for Southern states are published through the Southern Forest Experiment Station in Asheville, NC and are also available online. See first principal investigator for exact reference.

Table 2. State-level wildland fire mitigation programs and policies

State	Agency	Program/Policy
<b>Alabama</b>	Alabama Forestry Commission	<p>Prescribed burning or fire break services</p> <ul style="list-style-type: none"> <li>• Fire prevention advice with burn permit</li> <li>• Firewise communities</li> </ul> <p>Publication:</p> <ul style="list-style-type: none"> <li>• “Firewise landscaping for woodland homes”</li> <li>• “Living with Fire”</li> <li>• “Safety Guidelines for woodland homes”</li> </ul> <p>Internet:</p> <ul style="list-style-type: none"> <li>• Fire prevention publications on Alabama Forestry Commission website (<a href="http://www.forestry.state.al.us">www.forestry.state.al.us</a>)</li> <li>• Alabama WUI councils</li> <li>• Alabama Wildfire Mitigation Program</li> </ul>
	Alabama Rural Community Fire Protection Institute & Alabama Fire College	<p>Publication:</p> <ul style="list-style-type: none"> <li>• “Learn not to Burn”</li> </ul>
	Alabama Cooperative Extension	<p>Course:</p> <ul style="list-style-type: none"> <li>• Prescribed burning certification course</li> </ul> <p>Internet:</p> <ul style="list-style-type: none"> <li>• Private Forest Management Team website</li> </ul>

State	Agency	Program/Policy
<b>Florida</b>	Florida Department of Community Affairs	Handbook: <ul style="list-style-type: none"> <li>• “Best Development Practices for Wildfire Mitigation in Florida”</li> </ul>
	Florida Division of Forestry	Prevention: <ul style="list-style-type: none"> <li>• Wildfire Prevention Clowns</li> <li>• Smokey Bear</li> <li>• Firewise Communities</li> <li>• Prescribed burning or fire break services</li> <li>• Fire prevention advice with burn permit</li> </ul> Internet: <ul style="list-style-type: none"> <li>• Florida Risk Assessment System</li> <li>• Smoke Screening Tool</li> <li>• Forestry Fire Management</li> </ul> Other: <ul style="list-style-type: none"> <li>• Fire in Florida’s Ecosystem (for teachers)</li> <li>• Living on the Edge in Florida (CD)</li> <li>• Wildfire Risk Assessment Guide</li> </ul>
	Florida Cooperative Extension Service	<ul style="list-style-type: none"> <li>• Landscaping with Florida in Mind</li> </ul>
<b>Georgia</b>	Georgia Forestry Commission	<ul style="list-style-type: none"> <li>• Firewise mobile exhibit</li> <li>• Firewise Risk Assessment</li> <li>• Prescribed burning or fire break services</li> <li>• Fire prevention advice with burn permit</li> <li>• Internet video: “Working Together for Safer Communities”</li> <li>• Georgia National Fire Plan Mitigation Projects</li> </ul>
<b>Mississippi</b>	Mississippi Forestry Commission	Internet: <ul style="list-style-type: none"> <li>• “The Role of Prescribed Burning in Managing Your Southern Pine Forest”</li> <li>• Prescribed burning or fire break services</li> <li>• Fire prevention advice with burn permit</li> <li>•</li> </ul> Firewise Program: <ul style="list-style-type: none"> <li>• Teacher’s Wildfire Prevention Workshops</li> <li>• Firewise Community Workshop</li> <li>• Firewise Radio and TV public service announcements</li> </ul>

State	Agency	Program/Policy
<b>South Carolina</b>	South Carolina Forestry Commission	<ul style="list-style-type: none"> <li>• “Living on the edge in South Carolina” community workshop</li> </ul> <p><u>Internet Fact Sheets:</u></p> <ul style="list-style-type: none"> <li>• “Fire and burning” information</li> <li>• “Firewise” information</li> <li>• “Protecting your home from wildfire”</li> <li>• “Your home in the line of fire”</li> <li>• Prescribed burning or fire break services</li> <li>• Fire prevention advice with burn permit</li> <li>• How to have a “firewise” home</li> <li>• “How to have a firewise home”</li> <li>• “Think before you burn”</li> </ul>