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## Social justice in climate services: Engaging African American farmers in the American South



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### ABSTRACT

This article contributes to efforts to develop more inclusive climate services, understood as institutional arrangements and processes that generate and disseminate science-based climate information to promote improved preparedness to climate impacts. Discussion on equity in climate services tends to focus on the specific challenges of women and the poor in developing countries. We seek to broaden this scope by considering a farming population in the southern United States, whose particular circumstances are shaped by rural poverty as well as by racial discrimination, namely African American farmers. The research is based on a phone survey, in-depth interviews, and a workshop, and was conducted in collaboration with a civil right organization that helped the research team gain trust and entry to this community. The findings show that farmers in this study are vulnerable to drought given their relatively limited access to resources and risk management mechanisms. Climate forecasts can help these farmers move from coping strategies to deal with the effects of climate anomalies to proactive planning to anticipate and mitigate those effects. Research participants were able to identify a range of options for using such information in risk management decisions. Provision of climate services to African American farmers, however, must be consistent with existing patterns of knowledge management. These patterns are shaped by major trends stemming from the transformation of rural Southern life. Social networks of mutual assistance and knowledge transmission have been eroded by the outmigration of African American farmers from rural areas. Additionally, their relationship with public agencies is marred by a legacy of racial inequities, which makes it difficult for well-meaning projects involving the same agencies to establish legitimacy in this community. We discuss how insights from research findings and research process have guided programmatic efforts to involve African American

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farmers in climate services and outline lessons that can inform similar initiatives seeking to work with under-represented groups. In the conclusions we propose that engagement of this community challenges climate services to fully embrace a “social justice” perspective and an understanding of science as transformative of society.

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## Introduction

This article contributes to efforts to develop more inclusive climate services, understood as institutional arrangements and processes to generate and disseminate science-based climate information to support decision-making, promote adaptive management, and improve preparedness to climate impacts (Miles et al., 2006). We do so by focusing on a social group that has been neglected in the literature on climate vulnerability and adaptation, namely African American farmers in the American South. This study elucidates the distinctive historical experience and social position of African American farmers, bringing to light how social exclusion and inequality can hamper the development and dissemination of climate knowledge. It also informs programmatic efforts to engage under-represented users in climate services.

User participation is now widely recognized as essential to ensuring that climate information is salient to decision-making and applicable in real-life contexts (Romsdahl and Pyke, 2009). Beyond salience goals, collaboration between stakeholders and scientists has shown to foster trust, thereby enhancing credibility and legitimacy of climate services (Bartels et al., 2012; Dilling and Lemos, 2011). This realization has spurred a shift from a conventional “loading dock” model – whereby information and technologies were produced by scientists and then transferred unaltered to intended users – to a “co-production of knowledge” approach, which involves users in iterative processes of assessment and translation of scientific information (Cash et al., 2006).

This approach results from a growing movement within climate services that emphasizes science’s accountability to society (Agrawala et al., 2001) and tangible return for public investments in research (Dilling and Lemos, 2011). Such an approach reflects a commitment for making science not only more “usable” but also more “equitable”. This focus on user engagement begs the question of which and how users are to be engaged. Since the early years of climate services development, concerns have been raised as to whether and how such information and tools would benefit resource-poor and socially disadvantaged groups (Lemos et al., 2002; Archer, 2003; Blench, 1999). Research has shown that such groups are more vulnerable to climate shocks and lack the necessary material and social resources to prepare for and recover from them (Adger et al., 2009; Cutter et al., 2003; Whyte, 2013). They are also less able to get climate information in due time and in the right form and language (Pfaff et al., 1999; Broad et al., 2002; Lemos and Dilling, 2007; Roncoli et al., 2009). Furthermore, they lack access and clout to ensure that their concerns are taken into account in research agendas.

These findings have moved the topic of equity closer to the center of discussion concerning the development and assessment of climate services (Tall et al., 2013). For the most part, however, equity considerations have focused on the rural poor in developing countries (Moser, 2009), with gender dimensions given more attention than other kinds of social exclusions. For example, the Climate Change, Agriculture, and Food Security (CCAFS), a 10-year research initiative of the Consortium of International Agricultural Research Centers (CGIAR) promotes the use of climate information as a key factor in agricultural risk management, with an explicit commitment to address equity. However, the latter tends to be framed in terms of the challenges faced by women farmers, a focus that overshadows other aspects of their social diversity (McOmber et al., 2013).

Power imbalances in developed countries have received less emphasis, as recognized in a recent review of the literature on uses of climate information in agricultural decision making (Mase and Prokopy, 2014). In particular, the role of race has rarely been addressed. The case of African American farmers in the American South is emblematic of how, coupled with rural poverty, race shapes distinct experiences of climate vulnerability, through specific ways of engaging with land and locality. Race equally mediates the way farmers relate to institutions that provide information, technologies, and services to agricultural producers, including federal and state agencies, land-grant universities, credit and insurance companies, and commodity organizations. These historical legacies can mar the relationship between African American farmers and climate service providers, undermining trust and perceptions of legitimacy, which in turn influence the willingness to rely on climate information for making decisions.

A combination of environmental and economic forces has entrenched marginalities and disparities among rural producers in the American South. Since the droughts of the 1980s and subsequent structural changes in U.S. agriculture, availability of irrigation has become vital to business viability (Barlett, 1993). This trend has deepened in the last 10 years, with frequent droughts prompting an even greater expansion of irrigation in the Southern states (NASS, 2005). Since 2007, irrigated acreages in Georgia have increased by one-third (Jonsson, 2013). As a result, for those farmers who can afford irrigation, droughts no longer result in financial liabilities. Even with an inevitable rise in irrigation costs, these expenses are offset by higher crop prices, reduced harvesting costs, and lower incidence of pests and diseases (Charles, 2012). On the other hand, farmers who have most of their holdings as “dry land”, remain vulnerable to drought and less competitive than those who have irrigation. It is reasonable to assume that many African American farmers are among those who lack irrigation given their small land-holding size and poor access to capital or credit (though this assumption cannot be statistically tested given that Agricultural Census does not cross reference irrigation with ethnicity).

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