

ORGANIZATIONAL COMMUNICATIONS

Applying the Best Available Science to Fire Management: Individual and Organizational Influences to Success

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Fifty years of scientific literature on human behavior, communication and organizations offers numerous insights into the communication and use of science in the context of public land management. Using diverse but complementary social science theories and methods, I studied individual and organizational influences on the use of science by federal fire managers and decision-makers. Results supported the Technology Acceptance Model by showing individual beliefs about research usefulness to be better predictors of use than beliefs about ease of use. Overall, individual beliefs and attitudes toward research were diverse, with National Park Service managers, fire ecologists, and those with graduate education showing more positive attitudes toward research, more use of research and more frequent relationships with scientists. Applying the Diffusion of Innovation Theory, percentages of early and late adopters were different in different fire management positions; for example, fire ecologists showed the greatest percentage of early adopters. Organizationally, perceptions of learning culture and process varied by pay grade level; those at higher levels showed more positive views than those at lower levels. The following characteristics of learning organizations showed the most room for improvement in the fire management community: time for reflection, appreciation of differences and analysis of assumptions. Finally, structural equation modeling was used to compare the relative influence of individual beliefs and attitudes and organizational culture on research use. Based on this study's results, I conclude with recommendations to scientists, science communicators and upper level land managers interested in bridging the gap between science and decision-making by public fire managers.

Fire Science Needs in the Pacific Northwest

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Between May 24 and July 11, 2011, 70 telephone and in-person interviews were conducted with 74 key stakeholders across the Northwest to gather information on content, format, and participatory research needs related to fire science information and tools. Interviewees represented a broad array of fire science users, including federal and state land management agencies, county and municipal entities, non-profit conservation, community forestry / collaborative organizations, Native American tribes and tribal organizations, private contractors and others. The interviews revealed diversity within the Northwest fire science community regarding issues of access to and use of information, specific research and information needs and familiarity with the concepts of collaborative and participatory research. Key findings from the interviews are as follows: Interviewees acknowledged that a great deal of important information already exists and that they could benefit from new ways to search, access and be made aware of this information. Interviewees' specific information needs were diverse, but often centered on site-specific information that would help in strategic planning, management project planning and resolution of ongoing debates regarding specific controversial conditions and practices. Interviewees who regularly used modeling tools commonly felt that the