



Climate change impacts in Missouri State Parks: Perceptions from engaged park users

Lisa Groshong*, Sonja Wilhelm Stanis, Mark Morgan

University of Missouri, School of Natural Resources, 105 Anheuser-Busch Natural Resources Building, Columbia, MO 65211, United States

ARTICLE INFO

Keywords:

Climate change
Photo elicitation
Key informant interview
State parks

ABSTRACT

Frequent visitors to natural areas may be more receptive to climate change messages and more likely to act on their environmental values. To aid in developing targeted communication strategies, this exploratory study assessed how engaged state park users perceive climate change impacts and what they view as the agency role in climate change mitigation, education, and communication. Photo elicitation and semi-structured interviews were conducted with 18 members of the Missouri Parks Association (MPA), an advocacy group. While participants expressed concern about the threat of climate change to state parks, some doubted their ability to identify impacts. Despite this, participants accurately identified most of the regional threats predicted by experts, including increased flooding and drought, early blooming, invasive species, and extreme weather. Some reported that participation in the study inspired them to observe climate impacts more closely. Participants affirmed that state parks should lead climate change education and mitigation efforts, while acknowledging the challenges of addressing a politically charged subject. Regarding communication, MPA members recommend focusing on the science behind climate change and ecological mitigation. Although this study focused on Missouri state parks, results may be applicable to visitors in other Midwestern states.

Management implications:

- Study participants supported managerial action on climate change adaptation through education and ecological management.
- They acknowledged the political challenges managers face. This study supports presenting scientific evidence to the public and framing climate-change communication around specific, resource-related impacts, especially vegetation, wildlife, and landscape themes that visitors identify as locally salient.
- Alternatively, park management could focus natural resource-based climate change education on the broader ecological benefits of environmental behavior.
- Staff can also highlighting environmental efforts underway in parks, such as adoption of energy efficient technology and landscape management practices aimed at increasing ecological resilience.
- Staff should be educated, empowered and encouraged to deliver locally-relevant climate change interpretation.

1. Introduction

1.1. Public perceptions of climate change

Despite the scientific consensus around climate change, for much of the public, climate change still seems abstract and controversial (Sheppard, 2012; Weber & Stern, 2011). Previous research indicates that perceptions vary greatly across demographic groups and geographic regions (Howe, Mildemberger, Marlon, & Leiserowitz, 2015) and are influenced by mitigating factors, such as political orientation

and beliefs (McCright & Dunlap, 2011; Whitmarsh, 2011) and risk perception (Leiserowitz, 2005). Furthermore, the public may have trouble conceptualizing climate change in places where the effects are not as obvious or newsworthy as in other parts of the world and where news coverage does not link climate change to events and impacts.

Previous studies have validated the potential for using parks and natural areas for climate change education and engagement and have recommended creating locally-relevant, region-specific education campaigns that highlight place and place-related connections to emotional, cultural, and social meanings, using messages that help visitors

* Corresponding author.

E-mail addresses: lisagroshong@mizzou.edu (L. Groshong), sonjaws@missouri.edu (S.W. Stanis), markmorgan@missouri.edu (M. Morgan).

<https://doi.org/10.1016/j.jort.2018.09.002>

Received 2 July 2018; Received in revised form 17 September 2018; Accepted 17 September 2018

2213-0780/ © 2018 Elsevier Ltd. All rights reserved.

identify actions that can be taken (Schweizer, Davis, & Thompson, 2013; Thompson, Davis, & Mullen, 2013). Other scholars have called for more integration of social and behavioral sciences into the field of climate-change research (Bjurström & Polk, 2011; Dunlap & Brulle, 2015). A number of outdoor recreation researchers have studied perceptions of climate change impacts in parks and natural areas; however, this research often focuses on locations where the effects are acknowledged and dramatic, such as a lake experiencing extreme drought (Brownlee, Hallo, Moore, Powell, & Wright, 2014) or a park where glaciers are visibly receding (Schweizer et al., 2013). Although studies have examined park visitors' perceptions of climate change (Brownlee & Verbos, 2015; Perry, Manning, Xiao, Valliere, & Reigner, 2018; Sharp, Brownlee, Larson, 2012), research has not addressed these impacts in areas where the effects are less apparent (IPCC, 2014). Indeed, Shepard writes that scientists have only recently begun to model climate change impacts in ways that highlight small-scale, locally-relevant implications and predicts that as people have become more aware of threats to their own communities, "the clamour for better local data is likely to become a deafening roar" (Sheppard, 2012, p. 51).

1.2. Photo elicitation

Photo elicitation projects have shown that engaging local people in collaborative or visual methodologies can create unique conceptualizations of climate impacts and avenues for dialogue (Baldwin & Chandler, 2010; Gustafson & Al-Sumait, 2009). Photo elicitation is a qualitative research technique that allows people to combine photos with verbal descriptions of certain places to provide greater depth, understanding and context, producing "a different kind of information" (Harper, 2002, p. 13). Photo elicitation is used as a way to add a visual element to data collection and to provide a basis for discussion when conducting interviews. Since being developed in the 1950s (Collier, 1957), photo elicitation has been used in many studies as a way to cast ordinary people as experts of their own experience for capturing unique insights (Bennett, 2014a, 2014b; Wang & Burris, 1997). Photo elicitation studies are useful for helping people engage individually and as communities to identify threats and impacts related to climate change (Baldwin & Chandler, 2010; Gustafson & Al-Sumait, 2009; Sherrin & Verstraten, 2013). For example, one study used photo elicitation to examine climate change threats related to rising sea levels in coastal communities, with a goal of educating and building capacity for adaptation (Baldwin & Chandler, 2010). In this capacity, photos provided a way for study participants to show specific perceived impacts.

1.3. Local knowledge

A growing body of work examines the ways outdoor recreation visitors interact with the natural world in response to climate change (Hand, Smith, Peterson, Brunswick, & Brown, 2018). Previous studies have found that park visitors are more likely to believe that climate change is occurring (Sharp et al., 2012) and to believe that climate change will affect nature-based tourism destinations (De Urioste-Stone, Scaccia, & Howe-Poteet, 2015) as compared with the general population. Specific experiences at recreation areas may also influence visitors' perceptions of climate change (Brownlee, Hallo, Wright, Moore, & Powell, 2013). Indeed, people who visit natural places appear to be receptive to persuasive climate change messages (Davis, 2014) and more likely to put their environmental values into action (Vaske & Kobrin, 2001). While park visitors may be a target in terms of climate education and action, a further subset of this group may be useful in assessing climate change impacts and aiding in communication efforts. Many state and national parks have "friends" groups made up of devoted park users who take on an advocacy role. These groups provide volunteer services for parks, such as guiding, and support parks through raising money or providing volunteers (Eagles, 2002).

2. Methods

2.1. Study purpose and research design

This exploratory study assessed perceived climate change impacts of engaged state park users and what they view as the state parks' role in climate change mitigation. It is part of a larger, statewide effort examining how Missouri communities manage for climate resiliency.

2.2. Setting and participants

Missouri State Parks and Historic Sites (MSP) was selected to gather knowledge to inform climate adaptation strategies on a local level in a place where climate effects may not be readily apparent (IPCC, 2014). MSP receives approximately 18 million annual visitors, with an estimated economic impact of more than \$1 billion per year (Missouri State Parks, 2014). Engaged users of MSP were selected to conduct observations, based on a desire to identify locally-relevant climate change impacts in a sector of great social and economic importance to the state and region. These users were recruited using a purposive critical case sample (Palinkas et al., 2015) from among members of the Missouri Parks Association (MPA), a lobbying and advocacy group comprised of approximately 3000 park supporters who share an interest and involvement in the state park system. Critical case sampling is a method used in exploratory qualitative research using a small number of cases to enable generalization to the overall phenomenon (Palinkas et al., 2015). Because of their membership status, these participants were assumed to have broader knowledge of and experience with state parks than other visitors or the general public. Further, membership in this group might give study participants a unique awareness of climate-related challenges facing the parks. Participants were recruited initially during the MPA annual meeting in October 2015, followed by an additional email invitation sent to the organization's members.

2.3. Data collection

Qualitative data was collected through photo elicitation and follow-up interviews. For the photo elicitation, participants were asked to take 8–10 photographs in Missouri State Park & Historic Sites of their choice that illustrated tangible effects of climate change. For each photo, participants were asked to create a short narrative (caption), including a brief description of the photo, the location where it was taken, and its connection with climate change. Photographs were submitted with captions to the researcher via email. Participants were asked to send photographs and captions from fall 2015 through summer 2016, with the intention of capturing climate impacts in different seasons. A \$10 incentive was provided to participants who submitted photos.

Follow-up interviews were conducted in fall 2016 with those who had agreed to participate in the project, whether or not they had submitted photos. Participants were interviewed at a location of their choice, either at their home, a park, or a public venue. Interviews averaged approximately 30 min and used a semi-structured script. In the interviews, participants were asked to describe their pictures, if submitted, and to explain how they represented climate change. Participants were asked what other climate-related impacts they have witnessed in Missouri State Parks and what they perceive as the role of state parks in adapting to climate change effects statewide. A \$10 incentive was provided to participants who agreed to be interviewed.

Five participants submitted a total of 34 photos with captions. The photos represented 12 locations across the state (see map, Fig. 1, below); some participants focused on one park, while others submitted photos from several different areas. Four of the original participants who had submitted photos and an additional 13 members agreed to be interviewed, for a total sample size of 18, including one person who submitted photos but declined to be interviewed. The sample was split among females (n = 8) and males (n = 10).

Download English Version:

<https://daneshyari.com/en/article/11021480>

Download Persian Version:

<https://daneshyari.com/article/11021480>

[Daneshyari.com](https://daneshyari.com)