

Improving environmental decision making: what social science can tell us

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Abstract

Scientific information about climate change and other human impacts on the environment is increasingly available and sought, often in the form of probabilistic forecasts or technical information. However, it is apparent that there are barriers to the use of this information by decision makers – either from its lack of application altogether, its usability for people without scientific backgrounds, or its ability to inform sound decisions and widespread behavior change. While the argument has been made that an information deficit is to blame there is also a motivation deficit contributing to a lack of understanding of information about climate change impacts and solutions

This poster builds on the foundation laid out in the 2009 Center for Research on Environmental Decisions (CRED) guide “Psychology of Climate Change Communication: A Guide for Scientists, Journalists, Educators, Political Aides, and the Interested Public.” It shares new insights about how people make decisions, perceive risks, and what psychological biases and effects inhibit good environmental decision making.

Figure 1: CRED's Multi-Method Approach



Example: Fuel Efficiency Labels

Rick Larrick, Adrian Camilleri, Christoph Ungemach, Elke Weber, Eric Johnson

- Product labeling is an important public policy tool.
- The way that information is framed can help to reduce greenhouse gas emissions by encouraging pro-environmental behavior that is also economically beneficial for the consumer.
- **How can changing information on vehicle fuel economy labels can help people make more informed choices and what combination of information yields the strongest preference for fuel efficient vehicles?**

Figure 2: 2013 Fuel Efficiency Label



Main Findings

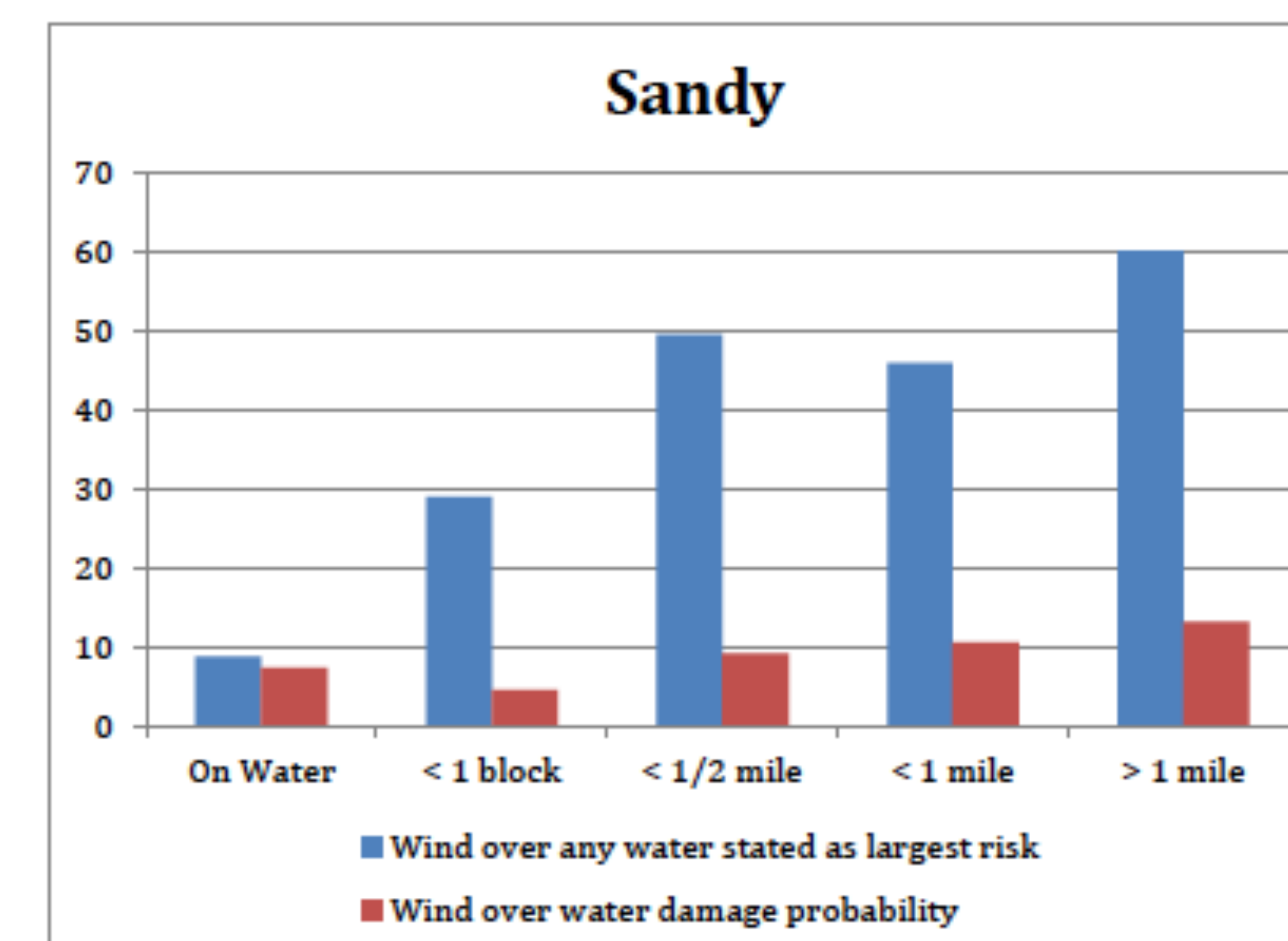
- Two studies tested 908 participants who chose between two vehicles that traded off on price and fuel economy.
- **Consumers choose fuel-efficient vehicles more often when fuel economy is expressed in terms of cost of gas over a longer time frame – the 100,000 mile scale.**
- **This is significant because the 100,000 mile scale is not expressed on the current vehicle labels.**

Example: Promoting Hurricane Preparedness

Robert J. Meyer, Jay Baker, Kenneth Broad, Jeff Czajkowski, Ben Orlove

- Over the past century hurricanes have been the single largest source of property damage from natural hazards in the U.S.
- Forecasters and emergency management officials must design natural hazard communication strategies that successfully encourage individuals in threatened areas to take appropriate protective actions.
- **How do hurricane risk perceptions and responses evolve over time during storm threats? How do these perceptions compare to the objective risk residents face?**

Figure 3: Beliefs about most likely source of damage



Main Findings

- Two field studies measured in real time the evolution of coastal residents' perceptions of risk and preparation plans for Hurricane Isaac and Superstorm Sandy.
- While public awareness about hurricanes increased, this did not translate into appropriate protective actions.
- **Hurricane communication should focus less on maximum wind strength and more on the impacts that residents are likely to experience.**
- **A suite of communication activities including decision tools, simulation activities, decision defaults is needed to improve storm preparedness.**

Example: How Warm Days Increase Belief in Global Warming

Lisa Zaval, Elizabeth Keenan, Elke Weber & Eric Johnson

- Perceived abnormalities in present temperature have been causally linked with changes in belief in global warming.
- This effect is termed local warming.
- The underlying psychological processes regarding how or why this relationship occurs have not been studied.
- **What psychological mechanisms explain the local warming effect? How can we overcome this bias?**

Main Findings

- Five studies examined how belief in climate change is impacted by the temperature.
- For climate change, individuals draw weak conclusions and reconsider their opinion each time they are asked.
- This can impact public opinion on climate change in polling.
- **Weather variability should become better associated with heightened belief in climate change.**
- **Forecasters may be advised to make increasing warming abnormalities more cognitively available to the general public.**

Contact

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