Editorial

Volume 3, Spring 2015

<http://dx.doi.org/10.3998/mjs.12333712.0003.000>

Historic drought in California. Increasing numbers and frequency of floods in the Midwest. Record breaking snowfall in the Northeast. Longer and more intense fire seasons across the West. The incidence of each individual extreme weather event cannot be attributed directly to climate change, but the overall trends are clear and consistent with the impacts of a warming climate. And these trends are likely to continue, as climate science points unequivocally to greater degrees of variability in weather and the intensity of extreme events. The resulting impacts are already evident nearly everywhere one looks. These events are having a profound impact on people, property, and the natural environment.

Meanwhile, our progress addressing the causes of the climate crisis have been inadequate. This means that some degree of climatic change will continue and accelerate in the coming decades despite our best efforts. The challenges posed by these now unavoidable consequences are complex and require new strategies that are attuned to the particular characteristics of climate change. The good news is that a rapidly growing number of local and regional pioneers are taking action to proactively address these new challenges and in so doing are demonstrating what it will take to prepare for changes that are already emerging.

From its inception, the *Michigan Journal of Sustainability* has aimed to foster transdisciplinary communication by publishing timely, innovative, stimulating, and informative articles that translate scholarly research and empirical practices on systemic sustainability problems into useful formats for practitioners and policy makers. Given the threats that climate change poses to the short and long-term sustainability of social, natural, and economic systems, the editors of the *Journal* decided to dedicate this issue to efforts unfolding around the country to prepare for climate change. Specifically, this Special Issue of the *Michigan Journal of Sustainability* focuses on promising practices unfolding across sectors and scales in the United States as well as lingering questions that will have to be addressed to accelerate the preparedness of communities, ecosystems, and society to the new reality of a changing climate.

One of the unique components of this Special Issue is that practitioners wrote the majority of the articles. These practitioners work within city governments, at state agencies, nonprofit organizations, or at regional organizations, and have a portion of their job responsibilities dedicated to building resilience to the impacts of a changing climate. In addition, a series of articles have been included from scholars working at the interface of research and practice. These articles are unique in that they are based on the scholar's experiences or interactions with practitioners, making nearly all articles included within this Special Issue grounded in empiricism.

Within the pages of this Special Issue, readers will find stories about how natural resource managers in Michigan are working to integrate projections of future climate into their deer management practices (Hoving and Notaro), how wastewater system operators in King County, Washington (Phillips et al.) and stakeholders in the City of Cambridge, Massachusetts (Beauvais et al.) determined their vulnerability to existing and future changes in climate, details about how marina and harbor operators in the Great Lakes are preparing for climate change (Samples et al.), information about a community of practice unfolding in the Gulf Coast (Daigle and Seimpier), and an overview of State-based adaptation planning and action (Ray and Grannis). In addition, articles by Grace et al. and Palchak et al. use work with local communities to describe, among other things, different ways that researchers and students have and can continue to meaningfully engage with practitioners to advance local adaptation efforts.

This Special Issue also features articles that identify key gaps in our understanding of and ability to adapt to climate change. An article by Wellstead and Stedman identifies a general lack of research on policy processes and policy capacity as an impediment to mainstreaming climate change into institutional policies and decision-making processes. Another article by Desai et al. uses a case study approach to call for more research and emphasis in building design and renovation on net zero water consumption (similar to the concept of net zero energy consumption). And an article by Bitsura-Meszaros et al. provides details about a research project exploring how tourism along the north shore of Lake Superior may be affected by a changing climate and what decision makers can do to prepare for projected changes. Together, the articles in this Special Issue provide a snapshot of the spectrum of adaptation activities unfolding across the U.S., as well as some suggestions on where more work is critically needed to ensure both the short- and long-term preparedness of our society.

The release of this Special Issue was timed to coincide with and contribute to

the 2nd bi-annual National Adaptation Forum, held in St. Louis, Missouri in May 2015. Participation in that event, which is expected to draw more than double the number of attendees as the inaugural Forum in 2013, is indicative of the burgeoning activity on adaptation in the U.S. Every year, more and more practitioners are taking steps to understand their risks and vulnerabilities and learn how to prepare for existing and projected climate change impacts. This growing number of climate adaptation practitioners is encouraging. However, based on our experience, it is also abundantly clear that significantly more work, resources, and information are needed in order to ensure that this growing field of practice is positioned to serve the needs of all communities, sectors, and individuals so that they can move towards climate resilience.

The stories within this Special Issue can be viewed, in part, as examples that demonstrate progress to proactively addressing climate impacts. It is our firm belief that in the absence of a politically and economically actionable, large-scale national (and international) response to the climate crisis, locally driven, community-based approaches must be established now to reduce vulnerabilities to climate impacts. Engaging people in addressing the impacts of climate change attunes them to the climate issue and associated risks in ways that might otherwise escape their attention until it is too late. It is in this way that adaptation action can ultimately lay the foundation for policy change because it can enable the development of political will to drive that change. The challenge for all readers is to learn from these examples, improve upon them, and apply those lessons to their own work so that on the whole we begin to scale up adaptation action so that individuals, communities, resource managers in the United States and across the globe are building resilience to climate change. Perhaps we can contribute to the acceleration of policy solutions to the climate crisis by building public understanding in the meantime.

We are well aware that the articles in this issue only represent a small fraction of the growing population of adaptation actions unfolding in the U.S. That said, while a great deal of good work is happening, much, much more is needed. The growing list of climate-related crises we referenced above is one reason. The opportunity that we have to harness this energy and use it to build more sustainable, just, and resilient communities is another. We hope that this Special Issue draws attention to some of the promising practices currently unfolding as well as to the desperate need for more action. Whether you are a practitioner, a scholar, a funder, a citizen, or a politician, we believe that you will find something of use in the articles within and, importantly, we hope you find inspiration and guidance to continue your work

to build the resilience of natural, human, social, and economic systems to climate change. As you do, we look forward to learning from your experiences and sharing your story with others.

Sincerely,
Missy Stults, co-Editor-in-Chief, Michigan Journal of Sustainability
John Nordgren, Senior Advisor, The Kresge Foundation

Volume 3:1 Editorial Board

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