Perceptions of Risk and Behavior: Climate Change & Weather-Related Relocation*

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What is the Issue?
The eastern US coast, including inland estuarine areas, has experienced an increase in severe weather impacts in recent years. Such events are predicted to increase in both frequency and intensity with climate change. Long term changes such as rising sea levels worsen flooding and put coastal and estuarine communities at special risk. People, businesses and governments located in high risk areas are increasingly confronted with the question of what to do, either in anticipation or in response. Many prefer to adapt in order to stay in place. But increasing frequency and cost of damage raises the probability of “climate migration” - the planned or unplanned move to what are perceived as lower risk locations. Some of the moves involve national border crossings, but many do not. According to the Internal Displacement Monitoring Centre, over 1.6 million people were internally displaced temporarily or permanently as a result of “natural” disasters including climate or weather-related events in the United States in 2017. The issue of climate migration is important to consider at many levels, e.g. individual, neighborhood, and community. Not only are individuals affected by moving from one place to another (often within the same community), but communities that gain as well as those that lose population are affected. Along with understanding perceptions of personal risk, it is important to also consider perceptions of migration at the community-level.

While the U.S. has already experienced some climate-based displacement, large scale internal population shifts due to rising sea levels and similar climate changes are not yet seen as a major issue. However, there are many indications that voluntary and forced relocation will increase as climate change brings more extreme weather-related events to different areas of the country. Our research has begun to explore individual and community perspectives on climate and weather-related issues and impacts on community quality of life; in particular we are interested in how perceptions of flood risk might influence individual plans to move/relocate, and local policies that support at risk neighborhoods to adapt or relocate. Anticipating increased risk exposure in the future, we seek to establish a better baseline understanding of the current situation. In this report, we discuss national survey responses to questions about individuals’ climate and weather-related risk perceptions and their anticipated subsequent behavior.

Exploring Perceptions of Risk and Behavior
In order to probe perceptions of climate and weather-related risk and influences on relocation or migrations plans, we included several questions in the 2016 Cornell National Social Survey (CNSS), an annual, nationally representative survey of 1,000 individuals age 18 and over. Survey questions are submitted by researchers at Cornell University and cover a range of topics. Standard demographic information – such as age and location – is also included in the survey. We focus on three of our survey questions in this publication:

1. Do you think the climate (or the overall pattern of weather) where you live now is something that increases or decreases the quality of life in your community?
2. What level of influence do you think weather or climate-related issues could have on whether you move to a new location over the next ten years?
3. What type of weather or climate-related factors would be the most likely to cause you to move away from your current residence?

Many factors can influence perceptions of a community’s quality of life. While we do not investigate the full range of factors, a majority (50.5%) of survey respondents thought that the climate or weather where they live increases the quality of life in their community. Almost a third (28.4%) said that the climate or weather had no influence, while a fifth (20.8%) indicated that it decreased the quality of life in their community (see Figure 1).

While over 50% of survey respondents thought that the climate or overall weather patterns where they live increased the quality of life in their community, 56.7% reported that it would have a “moderate” to “extremely strong” influence on whether they moved to a new location within the next ten years. Over two-fifths (43.2%) of respondents indicated that weather/climate would have “minimal” or “no influence” on a potential move over the next decade (See Figure 2). Episodes of extreme temperature, either “very cold” or “very hot” spells, were cited by 45% of those who indicated weather or climate-related issues would likely cause relocation. “Other” weather/climate events, heavy snowfalls, and storm-related flooding followed (19%, 11%, and 9%, respectively). Droughts, strong winds, rising sea levels, and wildfires were less frequently identified as being likely to cause residents to move from their current residence.

* This work is supported by funding from the New York State Water Resources Institute as well as by a joint research and extension program funded by the Cornell University Agricultural Experiment Station ( Hatch funds) and Cornell Cooperative Extension (Smith Lever funds) received from the National Institutes for Food and Agriculture (NIFA) US Department of Agriculture. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the view of NIFA or the USDA.
What level of influence do you think weather or climate-related issues could have on whether you move to a new location over the next ten years?

<table>
<thead>
<tr>
<th>Influence</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Extremely Strong Influence</td>
<td>18%</td>
</tr>
<tr>
<td>Somewhat Strong Influence</td>
<td>20.1%</td>
</tr>
<tr>
<td>Moderate Influence</td>
<td>18.6%</td>
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<tr>
<td>Minimal Influence</td>
<td>11.9%</td>
</tr>
<tr>
<td>No Influence</td>
<td>31.3%</td>
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“Climate or weather-related issues” is a fairly broad concept, and the influence they have on one’s relocation plans can vary by specific type as well as by geographical location, among other factors. Of the 38% of respondents who indicated that weather or climate-related issues would have an “extremely strong” or “somewhat strong” influence on whether they move to a new location over the next ten years, the following factors were cited as most likely to cause such a move (n=376):

- Storm-Related Flooding: 9%
- Rising Sea Levels: 4%
- Very Heavy Snowfall: 11%
- Spells of Very Cold Temperatures: 28%
- Spells of Very Hot Temperatures: 17%
- Very Strong Winds: 5%
- Large Scale Wildfires: 1%
- Lack of Snow or Rain (Drought): 7%
- Other Weather or Climate Event: 19%

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Regional differences (not shown here) also exist. For most regions, the climate/weather factor cited is well-aligned with typical regional weather patterns. For example, 35% of respondents living in the Northeast and 40% of respondents in the Midwest cited “spells of very cold temperatures” as the factor most likely to influence relocation (followed by “very heavy snowfall”). "Storm-related flooding" was cited more frequently by respondents living in the Northeast and 40% of respondents in the Midwest are not perfect predictors of actual behavior. However, in the face of currently changing weather patterns, the acceptance of climate change among most members of the public, and the remarkable levels of influence respondents said these issues could have on their future moving behavior, it seems probable that climate and weather will influence future moving behavior in ways that historical data cannot predict. Our ongoing research is designed to delve much more deeply into these and related issues.