Climate Change Risk Perceptions and Willingness to Act

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Outline

- Tourism in Maine
  - Western Maine
- Climate change in Maine
- Risk perceptions
- Research objective
- Methods
- Results and implications
Tourism in Maine

- 19 million tourists in 2016
  - 35% nature-based
- $6 billion
- 105,957 jobs (16% of state employment)

(Maine Office of Tourism, 2017)
Western Maine

- Maine Lakes and Mountains tourism region
- Tourism: Major economic driver
- 53% tourists nature-based
- Winter nature-based tourism
Changes in

- **temperature** (3-5°F)
- **seasonality** (winter: two week shorter)
- **precipitation** (1 inch decline in snow)

More frequent storms

(Fernandez et al., 2015)
Risk: exposure to a hazard (reality)

Risk perceptions: views that are specifically directed to information processing and sense-making related to a hazard (Shakeela & Becken, 2015)

Risk ≠ Risk Perceptions
Risk Perceptions

- Perceptions can influence behavior

- Destination selection
  (Huebner, 2012)

- Acadia National Park:
  Higher risk perceptions associated with intention to change future visitation behaviors
  (De Urioste-Stone et al., 2016)
Significance

• Understand visitor risk perceptions and predict future behavioral shifts resulting from climate change

• To enhance climate change adaptive capacity via informing tourism strategic management and planning efforts in Western Maine

• Increase destination resilience
To evaluate what factors determine visitor climate change risk perceptions and predict potential behavioral shifts related to destination selection, seasonal shifts in visitation, and the activities in which visitors participate.
Methods

• Mixed mode *visitor* survey
  – Mailed invitation
  – Online survey
  – Messaging experiment

• Reminders

• $1

• 19% response rate

• Statistical analysis in SPSS
Results

- 60% male; 40% female
- 55 years old
- High education
- 14% Republican, 25% Democrat, 40% Independent
- Swimming/beaches
- Backpacking/hiking
Results

• Climate change is currently happening: 91%
• Anthropogenic: 89%
• Threat to Western Maine communities: 78%
## Results

### Threats to Recreation

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>Threats to Recreation</th>
</tr>
</thead>
<tbody>
<tr>
<td>91%</td>
<td>1. Ticks</td>
</tr>
<tr>
<td>85%</td>
<td>2. Mosquitoes</td>
</tr>
<tr>
<td>73%</td>
<td>3. Extreme weather events</td>
</tr>
<tr>
<td>66%</td>
<td>4. Heat waves</td>
</tr>
<tr>
<td>49%</td>
<td>5. Disease outbreaks</td>
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<tr>
<td></td>
<td>6. Ice storms</td>
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<td>7. Higher temperatures</td>
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<td>8. Rain</td>
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<td>9. Decrease in snow</td>
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<td>10. Lower temperatures</td>
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</tbody>
</table>
If weather conditions were not appropriate for your recreational pursuits in Western Maine, how likely would you be to do the following?
<table>
<thead>
<tr>
<th>Activity</th>
<th>Likely</th>
<th>Neutral</th>
<th>Unlikely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visit another place in Maine</td>
<td>60%</td>
<td>13%</td>
<td>17%</td>
</tr>
<tr>
<td>Visit another place in the Northeast</td>
<td>47%</td>
<td>18%</td>
<td>24%</td>
</tr>
<tr>
<td>Visit another place in the U.S.</td>
<td>45%</td>
<td>20%</td>
<td>35%</td>
</tr>
<tr>
<td>Visit another place outside the U.S.</td>
<td>24%</td>
<td>16%</td>
<td>58%</td>
</tr>
<tr>
<td>Visit Western Maine in another time of year</td>
<td>59%</td>
<td>23%</td>
<td>18%</td>
</tr>
<tr>
<td>Pursue other tourism/recreational activities</td>
<td>55%</td>
<td>26%</td>
<td>19%</td>
</tr>
</tbody>
</table>
Implications

• Visitors are aware of climate change
• High threats associated with high likelihood of occurrence in Western Maine
• If negative outdoor recreation conditions, high intention to change behaviors through substitution
• Proactive management of threats, educate visitors, good publicity, take advantage of emerging opportunities
Acknowledgements

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Questions?
References

