

What Influences New Hampshire Communities to Address Climate Change in their Master Plans?



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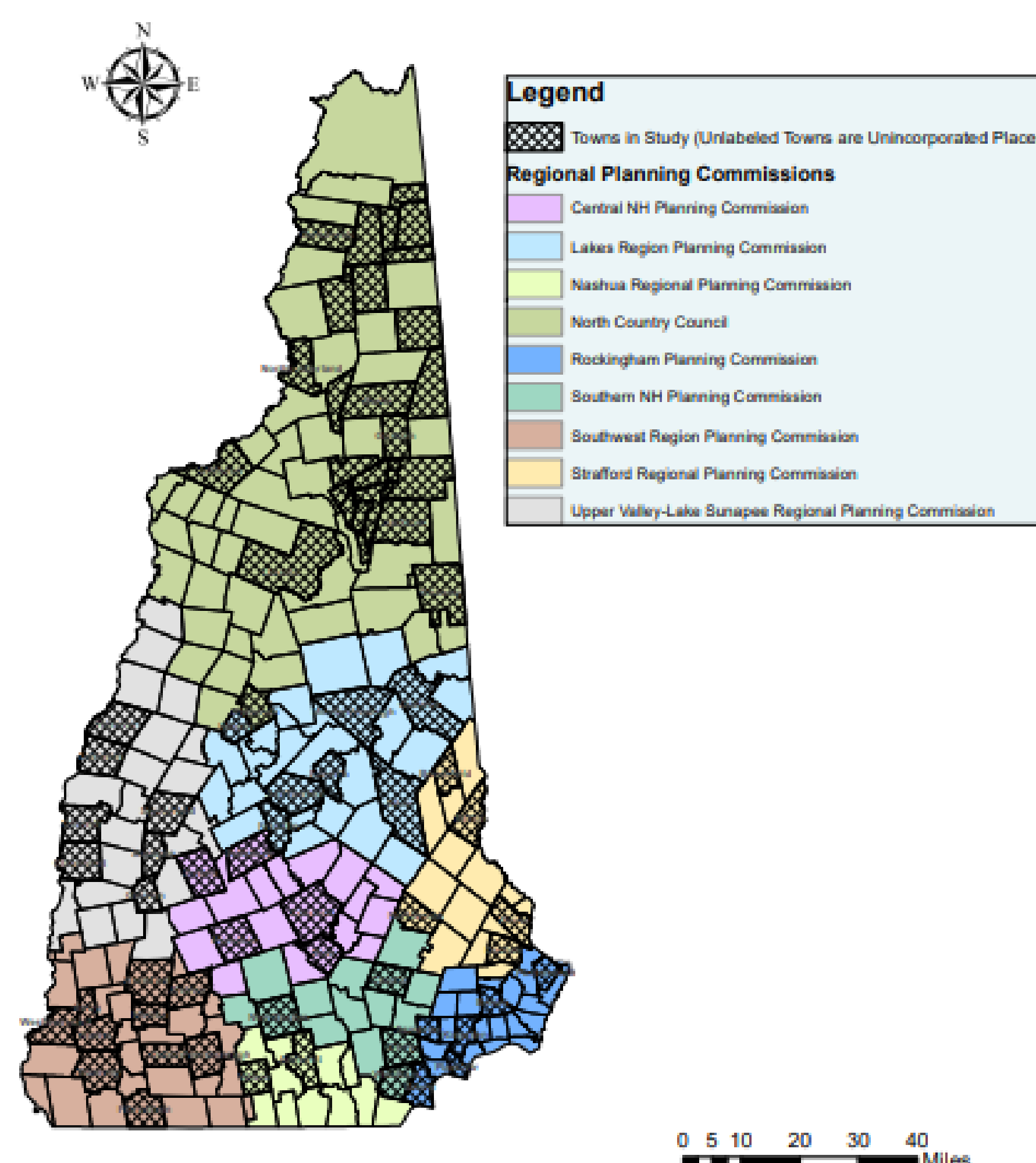
Introduction

Land use and development are shaped by the plans and decisions made at the local level by the municipal and county Planning Boards. Master Plans are created and adopted by these boards and serve as a comprehensive, forward looking policy statement to guide the overall character, physical form, growth, and development of a community.

Climate change impacts occur at the local level and, therefore adaptation and mitigation should start at the local level as well. Because of this, Master Plans are ideally suited to address climate change.

This research focuses on an analysis of Master Plans from communities around New Hampshire to identify what language, if any, is used to address climate change; and what factors ultimately influence communities to incorporate information regarding climate change. This research provides information that will be useful to researchers, state agencies, and planners to help them better assist New Hampshire's communities in planning for the future.

Towns in Study with Regional Planning Boundaries



Methods

57 municipalities, representing approximately 25% of New Hampshire, were selected for analysis. Municipalities were chosen to represent 25% of each Regional Planning Commission, and were selected based on the following criteria:

- Municipality's geographic location
- Population size and density,
- Presence of a fulltime planning staff
- A publicly available master plan in a digital format

Master Plans from communities in the study were searched for 14 terms related to climate change. Those terms included : climate change, greenhouse gas emissions, and extreme weather.

Master Plan coding was done with the qualitative software NVivo. Coding is way of gathering all references on a specific topic. The coding results identified 8 communities that reference climate change in their Master Plans and 7 that do not. Together, these 15 communities served as case studies for further analysis through interviews with municipal representatives. Interviewees represented planning staff, volunteer planning board members, and regional planning consultants.

Interviews consisted of 10 pre-established questions and were conducted following a semi-structured style, which allowed for additional discussion between questions. Interviews were transcribed and loaded into NVivo for analyzed using latent content analysis (LCA).

LCA revealed codes and categories that were used to identify overarching themes present within the dataset. For this research, a theme is identified as a commonality found within each data set.

Results

Analysis revealed a variety of methods communities use to address climate change in their Master Plans. 14 communities make direct reference to climate change while 15 make indirect references. The extent of these references varies from background information to actionable steps meant to mitigate and adapt to climate change. Examples of these references to climate change are:

"...climate change is already impacting New Hampshire...from increased intensity of storms, higher sea level ...and more winter rain."

"...reduce overall energy consumption in the community...and thereby...reduce both overall energy costs and the release of greenhouse gases..."

Interviews provided context to the language found in Master Plans, as well as insight into the potential influences decision makers face during the Master Planning process. A common statement among interviewees whose Master Plans did not mention climate change was that it had simply never come up during the planning process. Other interviewees said their Master Plans reference climate change because the community had been directly impacted by it. Examples of these types of statements are:

"It's nothing that really rises to the forefront...there...revitalization issues that are kind of capturing people's minds right now..."

"...when a 100 year flood plain map is more like a 10 year flood plain map, I think that in and of itself encourages towns to look more closely at ways to deal with climate change..."

Analysis

Master Plan and interview analyses showed a range of extents to which communities address climate change in their Master Plans; as well as the various influences community decision makers face during the Master Planning process. Through this analysis, five main themes emerged:

- Discussion of climate change
- Mitigation of climate change
- Politics or personal belief
- Available resources
- Experience

Of these five themes, experience is the most important. Communities that have experienced the effects of climate change directly, or that have residents educated on climate change, are more likely to reference climate change in their Master Plans.

Interestingly, communities that have experienced climate change are less likely to reference it directly, focusing instead on the specific hazard or event that effected them. Communities with residents educated on climate change are more likely to reference it directly in their Master Plans.

Future Research

Further research should be done to understand exactly what effect experience of climate change has on the community planning process, and what level of exposure is required for communities to incorporate climate change into their Master Plans. Further study could also identify what role information generated by planning organizations plays in the planning process and whether that is more or less important than information community members acquire on their own.