Where is Upstate New York? Cognitive Evaluations of Geographical Regions

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Introduction

Upstate New York is a concept referred by general public quite often. The question, where does upstate New York begin, has drawn everyone's attention during the 2018 New York Governor campaign. When the challenging candidate in the Democratic primary was asked this question, she suggested that "Once you get to Ithaca, by around there, you are starting to get upstate". Her response first surprised some native New York reporters and then residents. Regions are typically vague, except those with crisp boundaries such as states or counties. When referring to a portion and land surface, regions are considered fuzzy entities without clearly defined boundaries (Humayun & Schwering, 2013; Montello et al., 2003). This type of regions is commonly used in natural languages to provide information for orientation or spatial descriptions. For example, downtown, upstate, SoCal are the names of regions that people used frequently in daily communications, but such regions perceived mental representations could have varying boundaries.

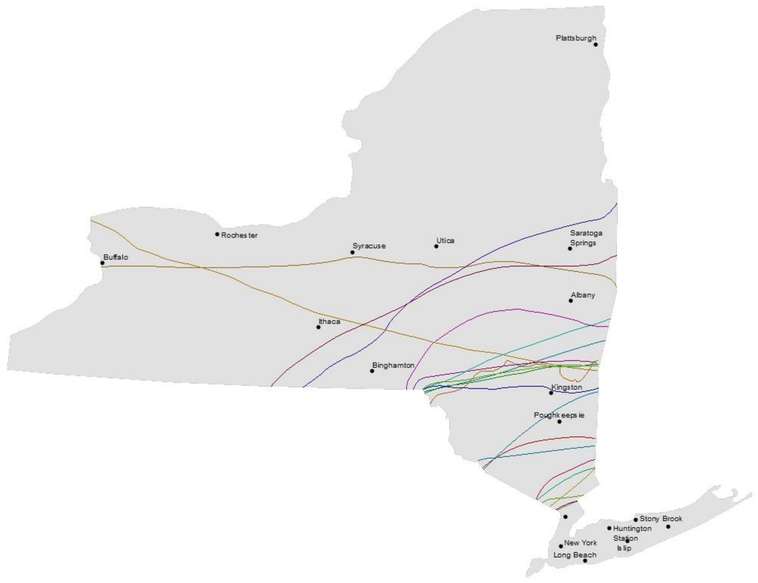
Motivated by many discussions raised by this comment, this study intend to investigate how Upstate New York is represented in human's mental representations, as humans commonly think and refer to regions without a crisp boundary. This study utilized behavioral approaches to investigate the conceptualization of regions through two tasks: drawing the region where the upstate or downstate is and categorization of different regions within the state. The first task aimed to identify the region where surveyed New York residents consider as upstate, which is a vague concept. The second task was to examine the conceptualized different regions within the state and compare the categories created in mental representations with regions established by various departments of the state government.

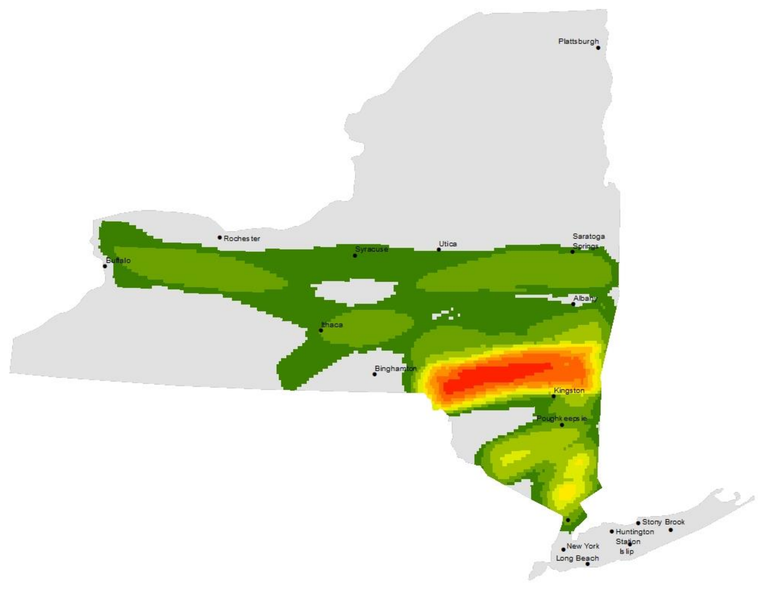
Methods

Behavioral approaches to assess the externalized concepts related to upstate were employed in this study. In total, 23 Students from an introductory cartography class participated in this study as a part of course activities. They received two maps of New York on letter-sized paper. Each map of New York only showed the outline of the New York State. On the first map, each student was asked to draw a line that creates the two regions of upstate and downstate New York. On the second identical map of New York outline, each student was asked to draw create regions of New York based on their own criteria and then write down their names for each created region. At the end of the second drawing, each student was asked their length of living in the State. Each map was scanned and then rectified in ArcMAp for comparison. Based on the created regions, the number and areas of each region were calculated for later comparison.

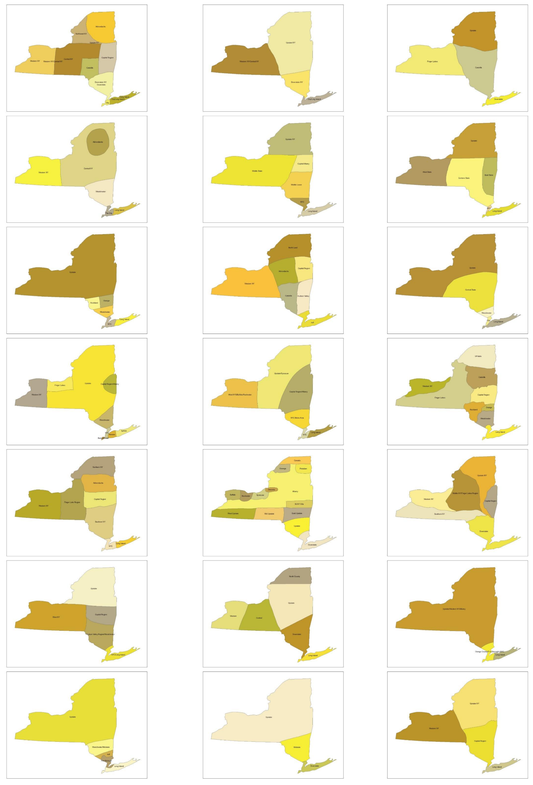
Results

The first figure below shows the 22 valid boundaries that participants created for the upstate and downstate. The second figure shows the heat map based on the drawn boundaries. Many participants placed their boundaries above the Kingston area where the Catskill is.





In the task of creating New York Regions, 21 valid responses were received. Participants created an average of 6.1 regions ranging from the smallest number of only three regions to the largest number of 11 regions. The figure on the right shows the regions created and named by each participant. Pearson's correlation showed that the number of regions was negatively associated with one's time lived in New York, $r(20) = -0.47$, $p < 0.05$.



Conclusion

The results demonstrated the vagueness of the upstate and downstate of the New York regions. The results showed a large portion of the participants considered the area above Catskill and Kingston upstate. The next noticeable location of boundaries were drawn above the West Chester County. The results also showed varying categorization of regions within the state but also difference in comparisons of regions, which are similar to the official regions used by different departments of the state government. For example, the Department of Economic Development suggested 11 tourism regions but 10 economic regions. The Department of Transportation has 11 regions, The Department of Environmental Conservations has 9 regions. On average, it is much larger than the number of regions created by participants. Experiment is ongoing with increasing sample size.

Reference

Humayun, M. I., & Schwering, A. (2012). Representing vague places: Determining a suitable method. In *Proceedings of the international workshop on place-related knowledge acquisition research (P-KAR 2012), Monastery Seeon, Germany* (Vol. 881, pp. 19-25).

Montello, D. R., Goodchild, M. F., Gottsegen, J., & Fohl, P. (2003). Where's Downtown?: Behavioral Methods for Determining Referents of Vague Spatial Queries. *Spatial Cognition & Computation*, *3* (2-3), 185-204.