Measuring Municipal Engagement Levels with Residents Regarding Sea-Level-Rise in Broward

Kevin Cresswell, School of Urban and Regional Planning,
Florida Atlantic University, Boca Raton, FL
kcresswell2014@fau.edu

Introduction

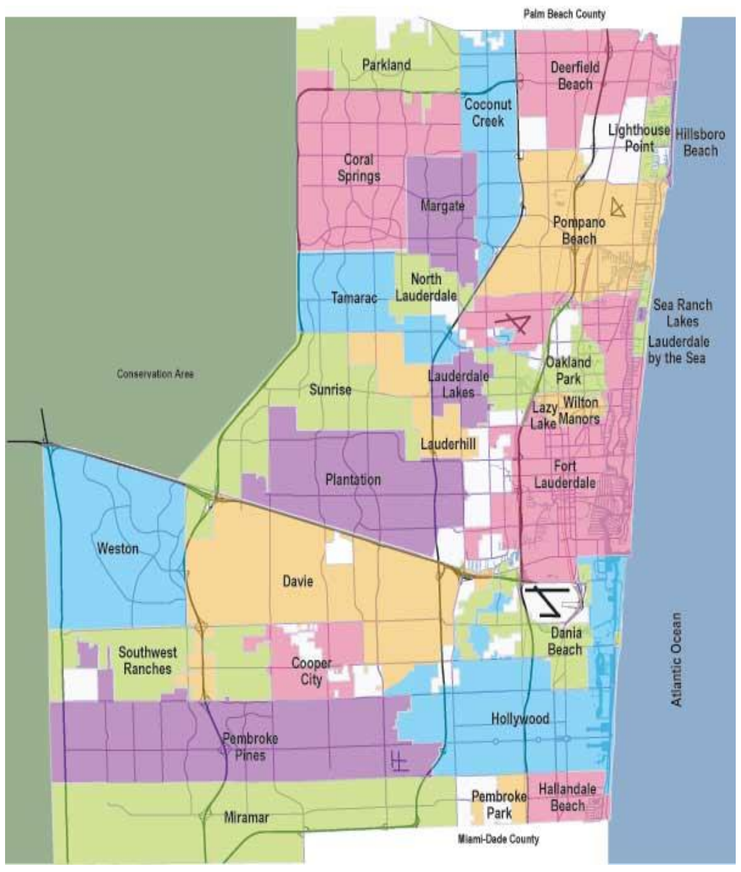
South Florida is one of the most susceptible regions to sea level rise (SLR) resulting from a confluence of local ecological, economic and institutional factors. Therefore, it is crucial for elected officials, citizens, businesses and government employees alike, to work collaboratively to produce comprehensive and adaptable plans preparing for and reducing effects of SLR.

Additionally, it is critical for local governments to disseminate information regarding SLR using language that is pertinent and easy for the general public to comprehend. This research considers the extent to which municipal governments are engaged with residents with respect to SLR and the threat it poses on various neighborhoods in Broward County, FL. No previous studies have examined the relationship and communication patterns of municipalities and persons living in Broward County regarding SLR.

According to recent projections, water levels are expected to rise roughly 9-24 inches by 2060 globally (SE Florida Regional Compact, 2011). However, it seems that many people at risk in South Florida are generally unaware, particularly in lower-income areas. Hence, it is imperative that local governments are properly educating citizens about the threat of SLR and involving these people in the planning process.

Study Area

The study area is Broward County, FL, with a particular focus on its established municipalities with functioning websites (29 out of 31 potential municipalities have working websites). Unincorporated areas in Broward County are not considered in the analysis (and are designated as white on the map below).



This map was created by Sarosh Khan and found at: http://www.broward.org/Greenways/PublishingImages/Municipalities_map.jpg.

Methodology

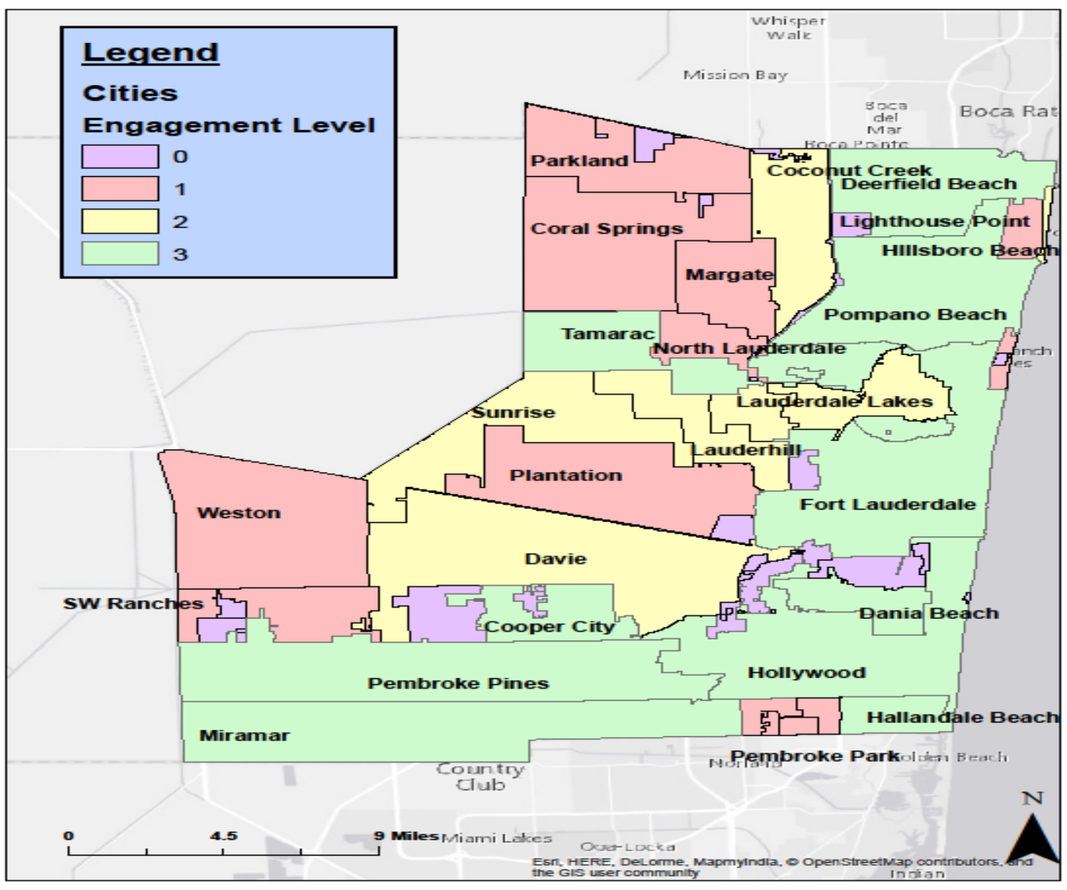
I pose the following research question: to what extent are municipalities in Broward County engaged with citizens in terms of SLR? To answer this question, I perform a qualitative content analysis and consider several factors based on recommendations outlined in the Adaptation Action Area Guidebook produced by SFRPC:

1) How many results are generated performing a basic search on city websites for “sea level rise”?
2) How many times was the phrase “sea level rise” found in City Commission agenda minutes from the past 12 months?
3) Has the municipality held any open meetings with residents focusing solely on SLR?
4) Is the phrase “sea level rise” found in the municipality’s comprehensive plan?

After answering these questions, municipalities are sorted into 3 categories based on level of interaction: no engagement, some engagement, and most engagement. Results are then mapped in ArcGIS.

Visuals were generated in ArcMap showing municipal boundaries and relative level of public engagement (three colors representing levels of engagement). This information will help identify areas in the County that are at high risk to SLR and not currently engaging community members about how to prepare for its effects moving forward. This research offers a platform for future scholars to understand SLR and its impacts on cities in Broward County more thoroughly.

Results: Engagement Levels and Risk Areas



Geographic Coordinate System:GCS_North_American_1983_HARN
Projected Coordinate System: NAD_1983_HARN_StatePlane_Florida_East_FIPS_0901_Feet
Datum: D_North_American_1983_HARN
Prime Meridian: Greenwich
Angular Unit: Degree

For the image to the left: green (3) - most engaged, yellow (2) - somewhat engaged, red (1) - no engagement, and purple (0) - unincorporated area.

Notice that the majority of areas expected to be impacted by SLR first (areas along the coast and in the southern part of the County), typically are more engaged with residents.

Discussion & Conclusion

Overall, 11 municipalities out of 29 are considered “most engaged” and 7 fell into the “some engagement” category. However, 11 municipalities in Broward County are not engaged with community members about the potential threat of SLR at all, which is alarming.

When looking at the visual showing relative engagement level, it is apparent that the majority of municipalities situated directly adjacent to the ocean are the most proactive in addressing SLR (with the exception of Lauderdale by the Sea and Lighthouse Point). Similarly, those located further inland are typically less involved (I.e., Weston or Coral Springs).

Despite some communities being relatively more engaged than others, all cities considered in this study need to allocate more time, effort and money to seriously prepare to SLR. Going forward, researchers can use this information, coupled with insight about people’s perceptions of SLR in Broward County, to understand the most effective way to engage residents in the planning process and craft pertinent public information messages.

References

Broward County Map. (n.d.). Retrieved from http://www.broward.org/Greenways/PublishingImages/Municipalities_map.jpg.
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Technical Ad hoc Work Group. (2011). A Unified Sea Level Rise Projection for Southeast Florida. *Southeast Florida Regional Compact: Climate Change*, 1-25.
The Florida Oceans and Coastal Council. (2010, December). *Climate Change and Sea Level Rise in Florida: An Update on the Effects of Climate Change on Florida's Ocean and Coastal Resources*.