

# Diving deeper into public perceptions of sea-level rise

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## Background

Public perceptions of sea level rise (SLR) are shaped by socio-cultural factors and pre-existing views on broader environmental issues, among other variables (Covi & Kain, 2016; Akerlof et al., 2016; Rechless et al., 2017). Researchers and activists must keep in mind that public ideas of what constitutes 'valid' data differ from scientific or governmental understandings of validity (Covi & Kain, 2016). In order for governmental and non-profit organizations to effectively communicate climate science, they must understand what people's perceptions of SLR are, and how they arrived at those conclusions.

Our study focuses on perceptions of SLR among undergraduate students at Dalhousie University in Halifax, NS.

## Research Question

What are HRM residents' perceptions of SLR, and what influences these perceptions?



## Methodology

The student researchers conducted two focus groups, with a total of ten participants. Notably, focus groups provide group data and are useful for drawing out people's decisions, priorities, and motivations (Morgan, 1996). Thereby, focus groups are the ideal qualitative research method to get at public perceptions of SLR.

In both of the focus groups, the same order of questions and prompts were asked or given to the participants. Additionally, the focus groups began with a free-write exercise, asking participants to draw or write their pre-existing perceptions of SLR (Smith & Joffe, 2012). We asked a series of questions and ended both focus groups with the same visual prompts based on a Halifax Waterfront development project.

The student researchers transcribed the recordings of both focus groups and developed both in-vivo (i.e., using a word or short phrase taken from the data) and analytical codes to analyze the raw data (i.e., extrapolating on what was said).

## Results

### Point of Agreement:

#### ➤ *Confusion/ Uncertainty*

Both focus groups, participants expressed confusion and uncertainty. During the opening free-write exercise, many participants drew literal interpretations of water rising, polar bears, and the words global warming or climate change. One participant in the second focus group said her main perception of SLR was simply "I don't know," since she was unsure about when, how, and in what ways SLR would affect her life.

### Points of Disagreement:

#### ➤ *Who/ what influences perceptions of SLR?*

The discussion of flooding was prompted by a series of images displaying the Halifax waterfront after the storm that occurred in January 2018. Several participants disclosed that their first reaction to the image was that the flooding was caused by the storm, not sea level rise or even global warming in general. A second participant acknowledged this opinion but fostered the idea that extreme weather conditions such as that particular storm can be a direct result of climate change. Thus, the flooding was a result of climate change and consequentially SLR.

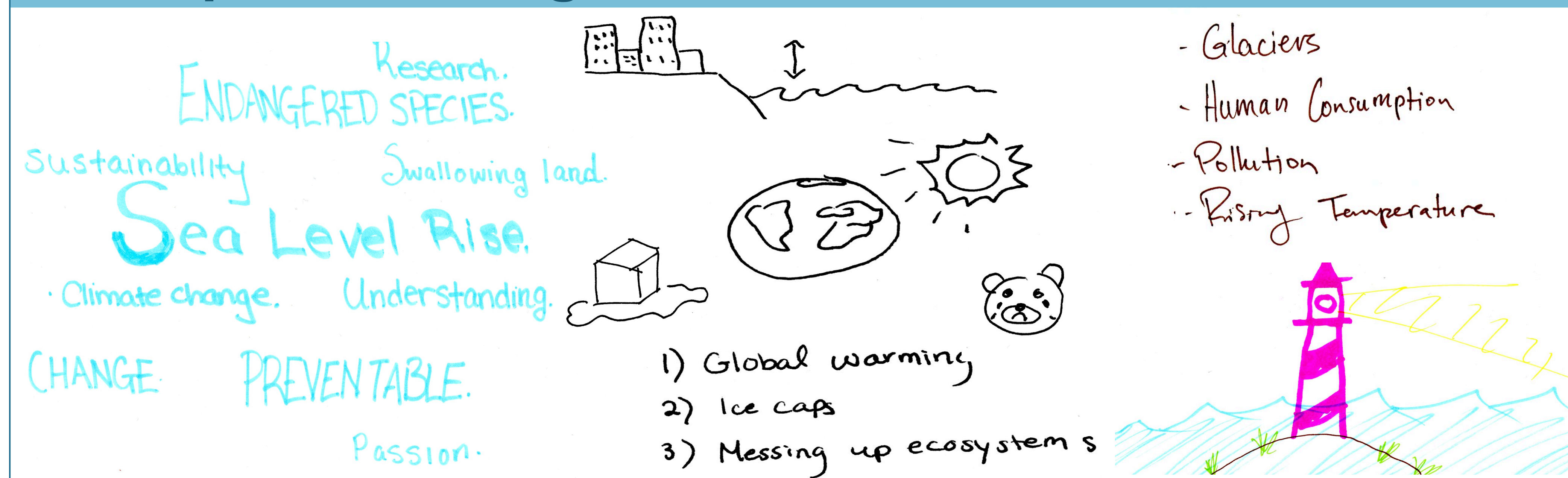
#### ➤ *Coastal flooding: Steady or increasing?*

Participants discussed coastal flooding based on a series of images showing the Halifax waterfront during a January 2018 storm. A few participants thought the flooding was a direct result of the storm, which was in turn exacerbated by SLR. Moreover, one participant acknowledged that extreme weather conditions can be a direct result of climate change. In our second focus group, though, a participant referenced their father, saying flooding has been an issue in Halifax at least since the 1980s. Thus, whether coastal flooding has occurred consistently or is increasing due to SLR and climate change was a point of sharp disagreement among our participants.

#### ➤ *Who is responsible for the solutions to SLR?*

In both focus groups, there was disagreement over whether governments or individuals were responsible for creating and enforcing solutions to SLR. One participant felt that it was the individual's responsibility to address rising sea-levels because the individual has a responsibility to preserve the world for future generations. However, another participant felt that the government and policy makers are responsible for the solutions to SLR, such as through a 'green taxation' to deter businesses from producing or operating in ways that negatively effect the environment.

## Participant Drawings



## Discussion

The results of our study indicate that our participants' perceptions of SLR vary, and that none of our participants have long-standing or firmly set perceptions. Their opinions on what constituted 'good' and 'bad' responses to SLR and who ought to be responsible for addressing SLR were even more ambivalent. Given that the consensus point for our participants in both focus groups was a sense of confusion, SLR is a murky issue indeed. Governmental and NGO-based SLR strategies should address this confusion by making clear the connections between climate change and SLR, and presenting positive actions which all relevant actors - individuals, businesses, and governments - can take to address SLR.

## Coding Book

Analytical:	In-vivo:
Optimism vs. Pessimism	Sea level-rise
Charged vs. Neutral opinions	Climate change
Uncertainty/Confusion	Global warming
Old vs. New problem	I don't know
Coastal vs. Inland	
Responsibility for solutions	
Influences of perceptions	

## References

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