

What is the South Eleutheran Perception Of Climate Change?

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Introduction

Climate Change is a change in an area's atmospheric conditions throughout a long period of time. Climate Change affects everyone either directly or indirectly, and is a pressing issue in the Caribbean and especially in The Bahamas. The Bahamas is considered a Small Island Developing State (SIDS), which according to UNESCO are nations at higher risk for more severe consequences of Climate Change. Some future effects of Climate Change that are projected in the Caribbean include sea level rise, more extreme weather, more intense hurricanes, and extreme heat (see Table 1). This project was inspired by a study previously conducted by Dr. Adelle Thomas and Dr. Lisa Benjamin in 2017 (*Perception of Climate Change Risk in The Bahamas*).

This project is the first step of CEI's campaign to build Climate Change Awareness in Eleuthera. These results will also be sent to the University of The Bahamas' Climate Change Adaptation and Resilience Research Centre (UB CCARR) for their work in improving policy on Climate Change. Our goal was to meet people in South Eleuthera in order to understand their perceptions of Climate Change and build awareness on this matter. In the bigger picture, we hope to potentially change The Bahamas' current policies on Climate Change because a majority of our interviewees believe not enough is being done.

Table 1 shows current and projected Climate Change Effects in The Caribbean

Variable	Historic Data	Future Projections
Temperature	Increase in mean temperature	+ 1.0 - 3.5°C by 2100
Rainfall	Increase in annual rainfall	Decrease up to 30%
Extreme Weather	Increase in extreme events like droughts and intense hurricanes	More major hurricanes (Category 3-5)
Mean Sea Level Rise	+ 1.7–1.9 mm/year	+ 1.4 m by 2100

Methods

- The Survey and its Context
 - A survey written by CEI and UB CCARR staff.
 - Consist of 18 questions.
- Pre-Interview preparation
 - Studied cross cultural etiquette
- What we did
 - Surveyed community members, Island School staff and faculty, and Island School visitors
 - On our research days in the mornings of Tuesdays and Thursdays
- Consent & Ethics
 - Approaching people kindly and respectfully
 - Made conversation in midst of survey to lighten possible tension



Sources of Error

Throughout this research project, we have tried to stay aware of our possible sources of error and have tried to correct them whenever possible. All questions were optional, meaning not all questions were answered so data is kept in percentages.

- COVID-19 Limitations
- Sampling Error
- Human Error → Misrecording a response
- Lack of Understanding
- Misinterpreting a response

Results

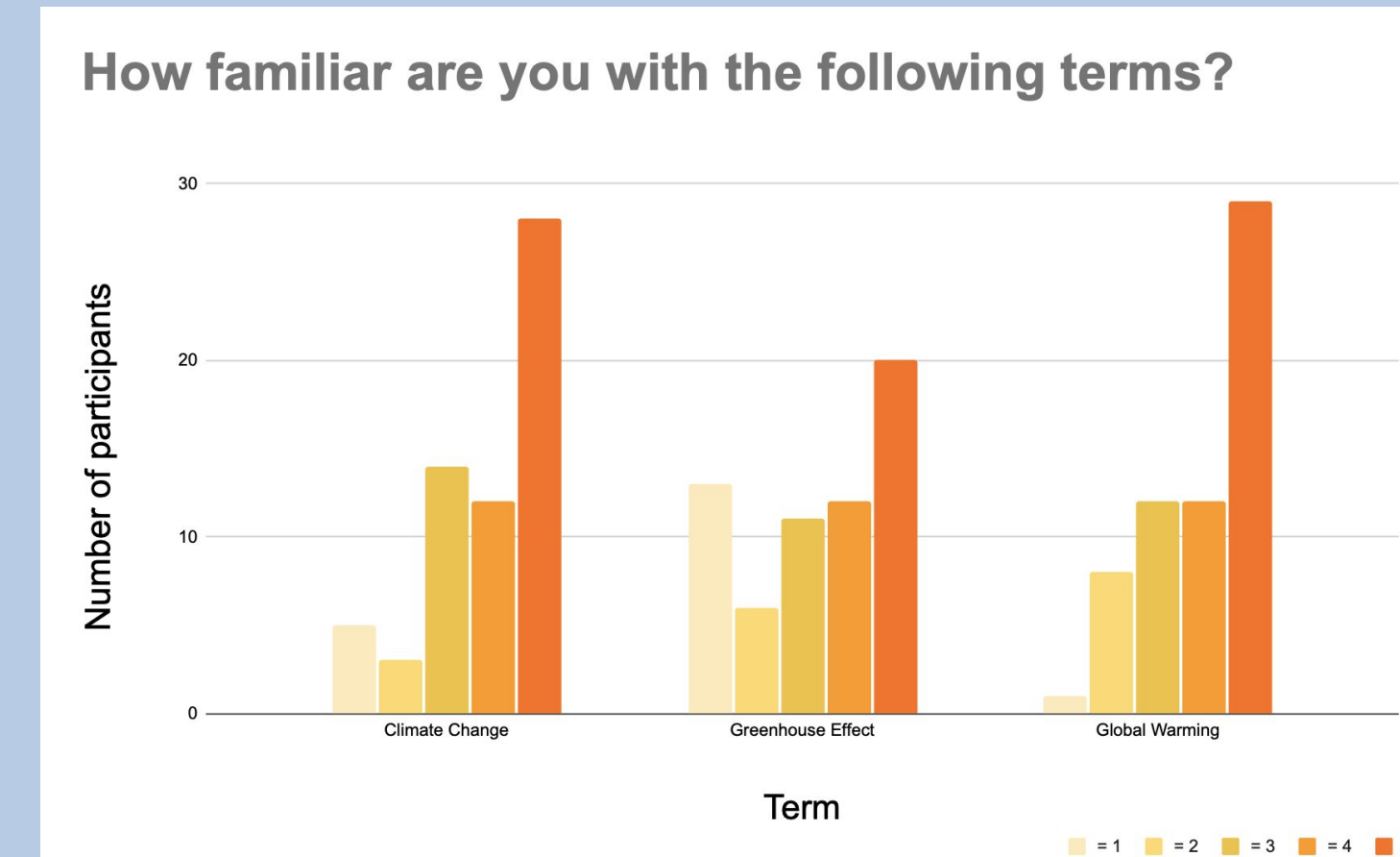


Figure 1 shows participants' familiarity with the terms "Climate Change", "Greenhouse Effect" and "Global Warming" on a scale of 1 to 5 (light to dark orange); 1 being least familiar and 5 being most familiar.

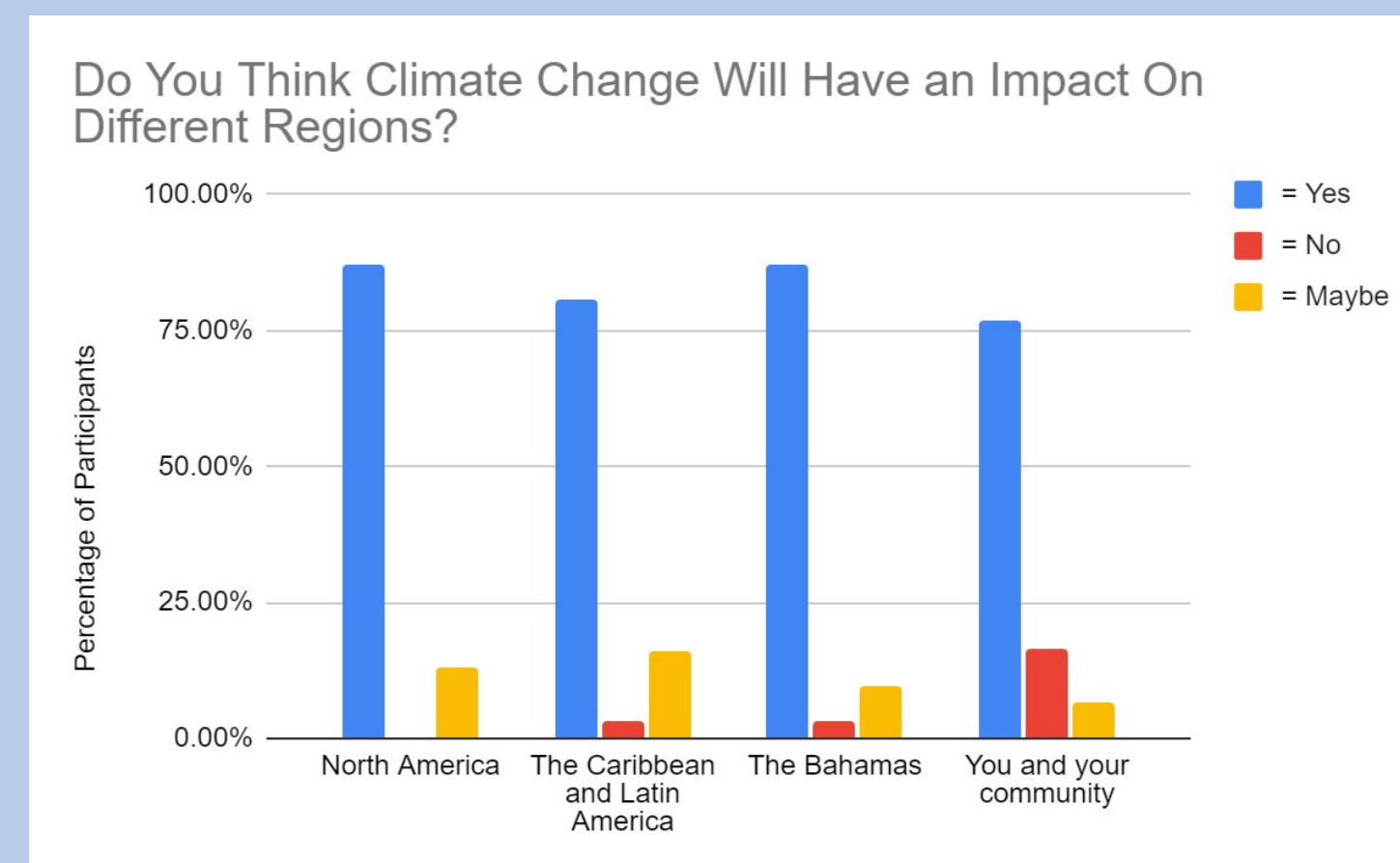


Figure 3 shows breakdown of how respondents believe Climate Change will have an impact on different communities: North America, The Caribbean and Latin America, The Bahamas and their own community. Blue represents yes it will have an impact, red represents "no" and yellow represents "maybe".

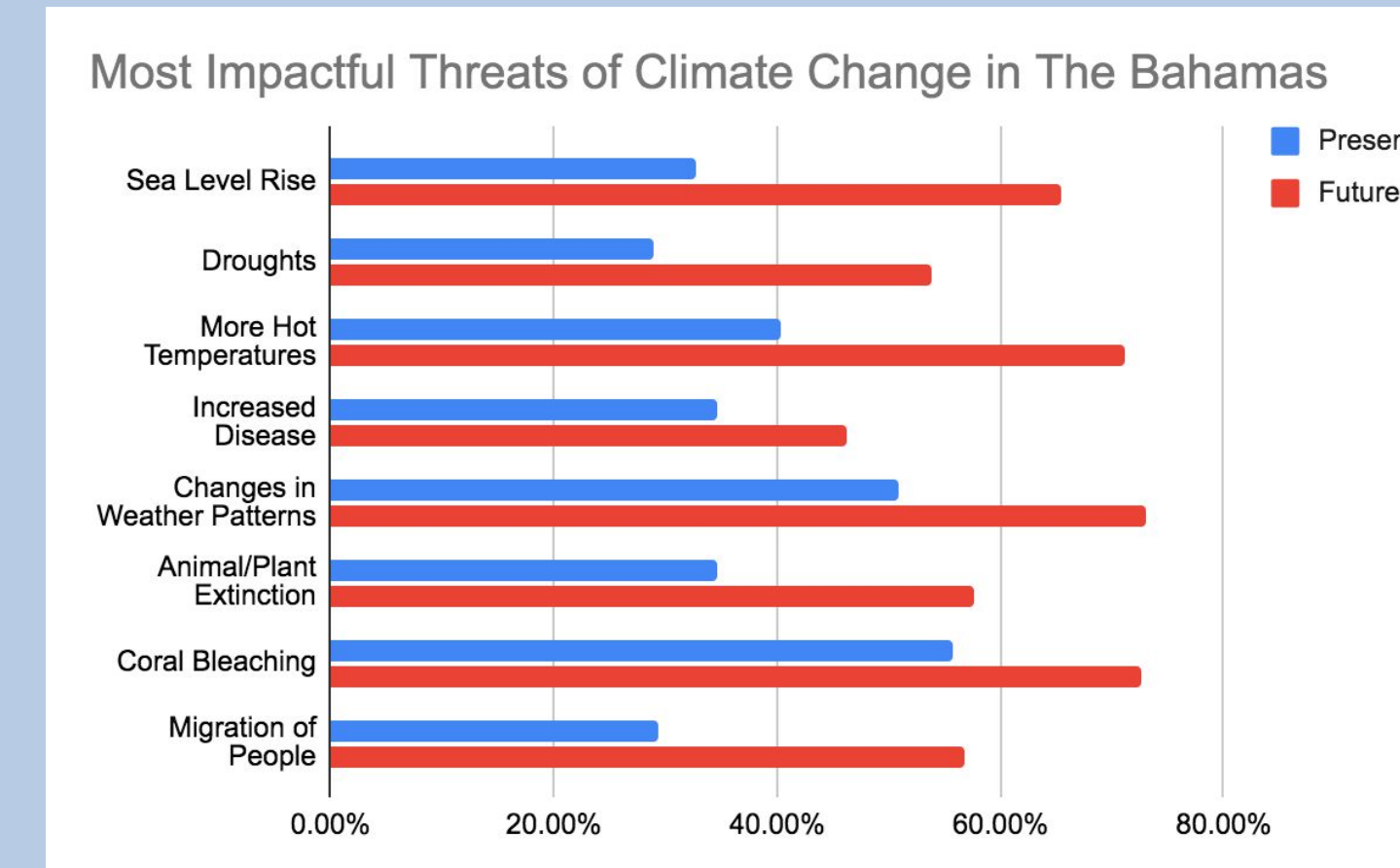


Figure 2 compares two questions on the most impactful threats of Climate Change. Blue represents the number of participants who believe the effects of Climate Change will have the greatest impact on The Bahamas currently, while the red represents the number of participants who believe the effects will be severe in the future for The Bahamas.

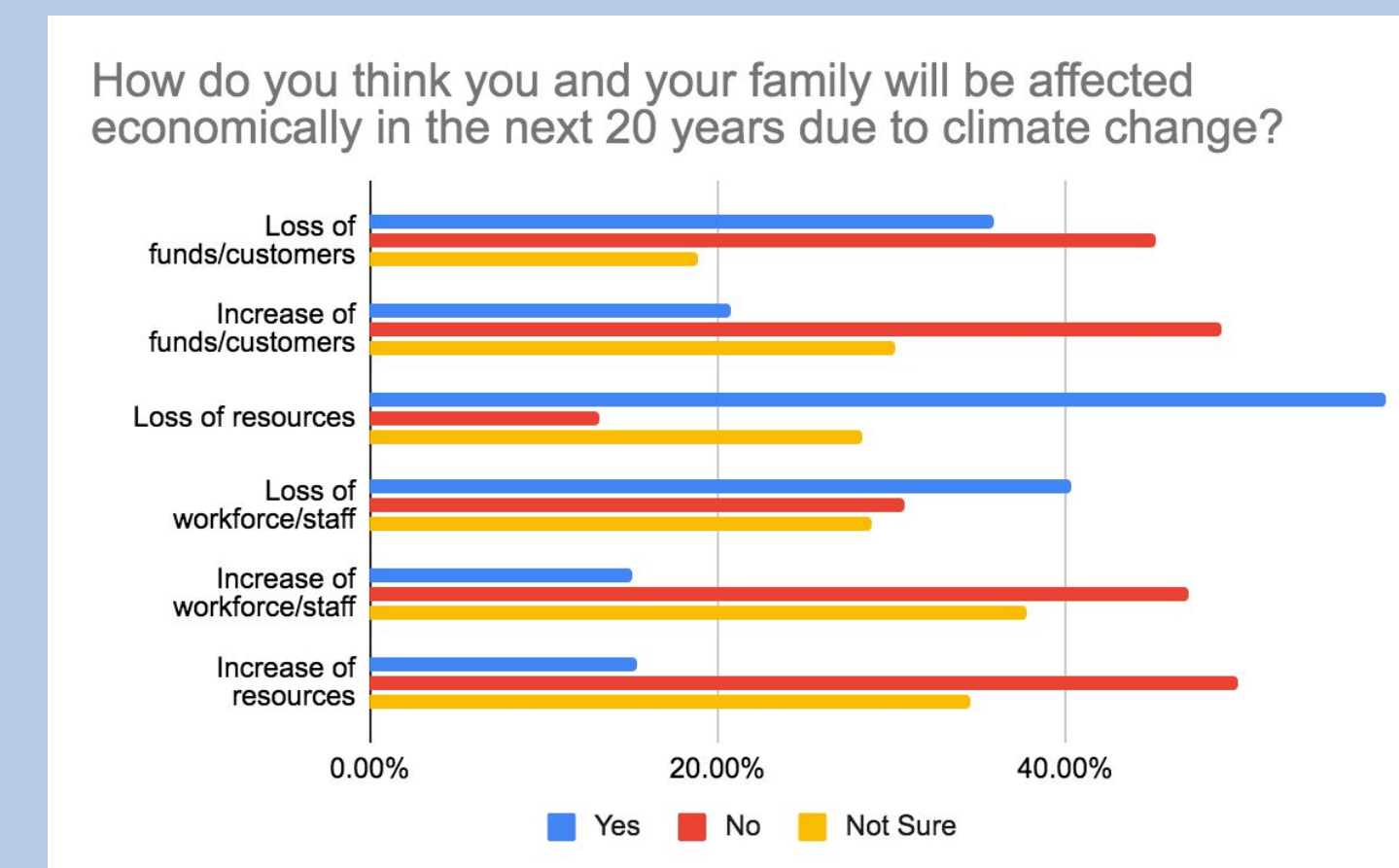


Figure 4 shows how people believe they will be affected economically by Climate Change. Blue represents "yes", red represents "no" and yellow represents "unsure". The horizontal axis demonstrates what percent of participants answered yes, no, or maybe. With the primary demographic for the question being primarily farmers, educators, and people in miscellaneous industries.

Discussion

- In this project, 62 participants were surveyed. Participants were surveyed in Deep Creek and Rock Sound, Eleuthera, as well as on The Island School campus. On campus, participants were affiliated with The Island School, while off campus participants were interviewed randomly.
- Residents of South Eleuthera understand the environmental and economic consequences of Climate Change. A majority of participants were familiar with the terms "Climate Change" and "Global Warming" (Figure 1). These are the terms that should be used when conducting Climate Change education outreach in order to reach a larger audience, instead of "Greenhouse Effect" which participants were less familiar with.
- Climate Change is perceived more as a future concern rather than a present concern, as most participants said the impacts of Climate Change would be more severe in the future rather than the present (Figure 2). Also, participants were more concerned about Climate Change beyond their own communities (Figure 3). The largest proportion of participants who answered "no, Climate Change will not affect this area", answered "no" for themselves and their community (Figure 3). 75% of all participants believe Climate Change will have an impact on all of the communities (Figure 3). Thomas & Benjamin (2017) found in their studies that survey participants are more likely to believe Climate Change will affect communities further away from themselves. The data from our study aligns with their conclusions, and shows that participants are more concerned about Climate Change when it feels like a further away issue, whether that is geographically or temporally.
- In the present, participants are most concerned about coral bleaching (Figure 2). Most participants believed that Climate Change would lead them to have a loss of resources, workforce, and customers in the future rather than an increase (Figure 4). According to Miththapala (2008), the effects of coral bleaching will significantly affect the fishing industry and tourism industry both in the future and the present day. The Bahamas relies heavily on tourism and fishing for their economy, so the death of reefs, which are a major part of these industries could cause economic instability.
- The largest future concerns include changes in weather patterns, coral bleaching, increased temperatures, and sea level rise (Figure 2). We can assume residents are concerned about stronger hurricanes, loss of resources (Figure 4), health risks due to increased temperatures, and the risk of flooding. The impact with the most concern in the future is change in weather patterns (Figure 2). This may be because The Bahamas is a SIDS that is vulnerable to storms. Hurricane Dorian (2019) devastated The Bahamas, increasing concern for storms for the present and future.

Conclusion

This study was conducted because, geographically and economically, The Bahamas is vulnerable and Climate Change is furthering this vulnerability. For example, sea level rise is a threat to tourism, which is key to the economy in The Bahamas.

In this research project, we surveyed residents of South Eleuthera to learn about their perceptions of Climate Change. Our data suggests that many residents of South Eleuthera are aware of Climate Change and perceive it as a future issue. Participants were also more likely to see Climate Change as an issue that affects communities further from their own. However, residents of South Eleuthera are conscious of the effects Climate Change will have on the economy, and show concern over the impacts of Climate Change, especially coral bleaching and changes in weather patterns.

78.4% of respondents don't believe The Bahamas is doing enough to combat Climate Change. In order to address Climate Change for SIDS like The Bahamas, there needs to be more information on how residents perceive Climate Change, in order to influence policy.

Next Steps

- We hope to learn more about people's perceptions of Climate Change from other islands of The Bahamas. This will help the project stretch beyond the perspectives from South Eleuthera, and reach a larger sample size to more accurately represent Bahamian views.
- This next step can be taken by conducting research through more interviews or expanding the survey to make it digital. As our data suggests information is best spread through social media (37%) rather than local news (22%), social media may be a more effective way to spread information on Climate Change. As a consideration with digital information, there is a limitation where people with little access to technology may have a harder time retrieving many of the resources available.
- The next step in the formatting of the survey is to include questions asking participants about how they believe Climate Change should be addressed. In order to fully take impactful next steps in climate action in The Bahamas, ideas must come from Bahamians themselves in order for the ideas to be supported and be sustainable. The questions will give better insight into how Climate Change policies should be formatted and what impacts of Climate Change need to be combatted first.

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