



# Caribbean Climate Change Vulnerability

(Lessons From an Aggregate Index Approach)

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### BACKGROUND

Small island developing states (SIDS) continue to experience adverse impacts of climate variability and change from more variable weather patterns, rising sea levels and changing weather extremes. Even among these nations the consequences of climate change are anticipated to vary in nature and extent since impacts are also contingent on, for example, the unique climatic, topographic, socio-economic and political factors that define particular locations (CAF 2014).

There is a need to quantitatively incorporate future climate change in more vulnerability assessments for the region. In this study we examine twelve Caribbean countries and investigate their present and future levels of vulnerabilities to climate change in the context of exposure to intense rain events, socioeconomic well-being and demographic structure. The approach utilizes an aggregated vulnerability index which is first applied to historical climate, demographic and socio-economic data and then to future climate data with demographic and socio-economic sub indices held constant.

### RESULTS

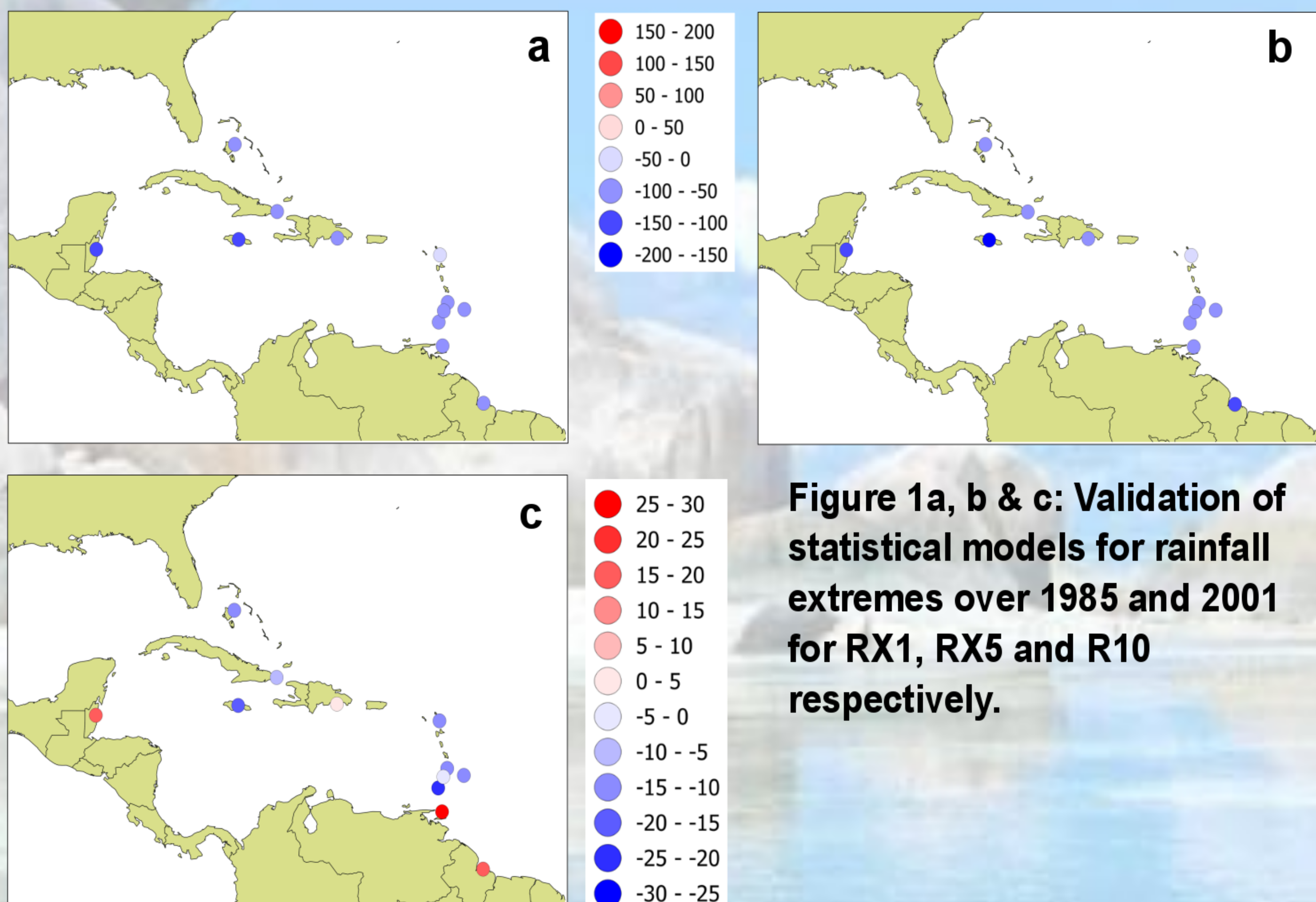


Figure 2: Projected change in RX1, RX5 and R10 under the A2 (medium high emissions scenario) for the 2030s and 2050s.

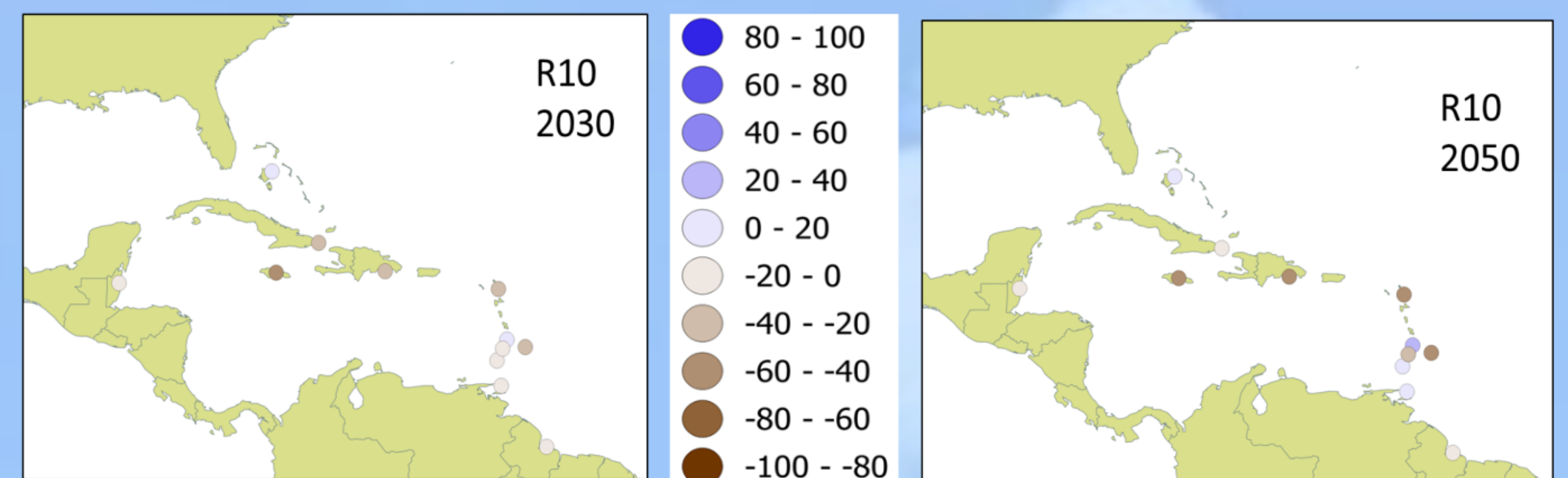
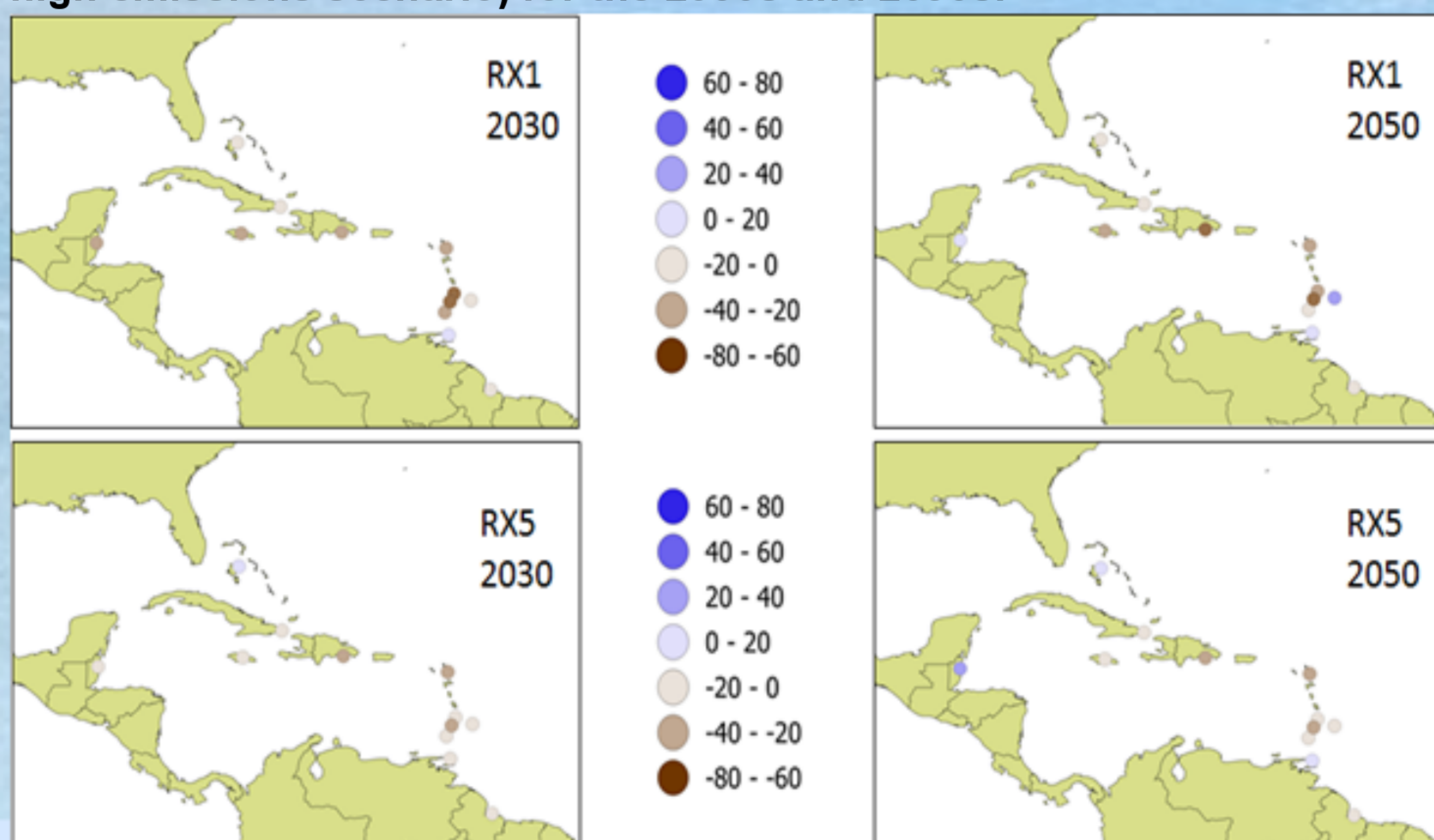
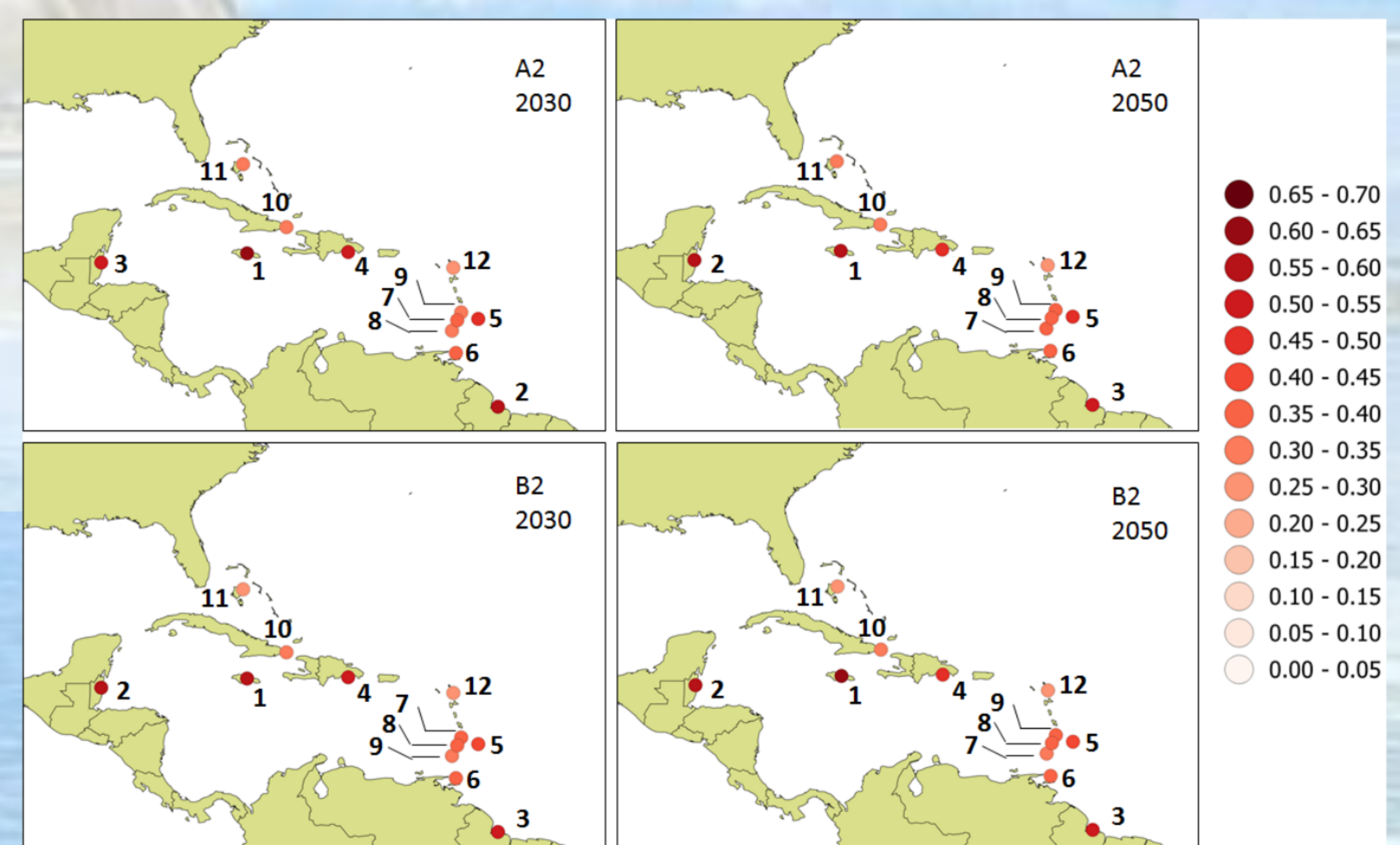
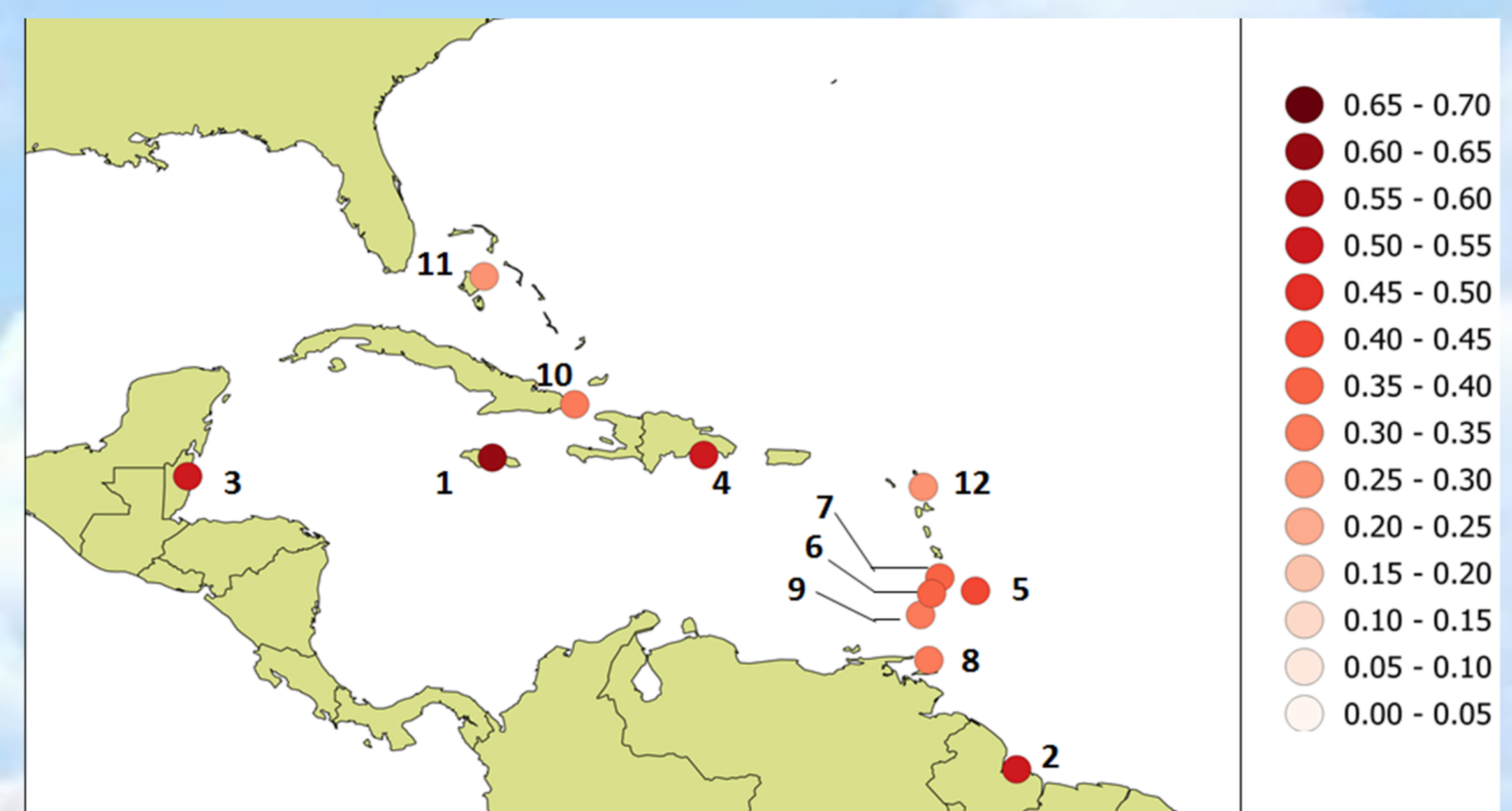


Figure 3: Ranking of countries based on historical and future CVS



### DISCUSSION

Jamaica was ranked most vulnerable for the climate sub-index, Guyana for the socioeconomic sub-index and Barbados for the demographic sub-index. Belize, Guyana and Jamaica were the top three most vulnerable in the Caribbean for the historical period and the future when weights were used with CVS. Jamaica was ranked most vulnerable for historical period 2006 to 2011 for CVS. The same was observed for the 2030s and 2050s A2 and B2.

### REFERENCES

Corporación Andina de Fomento, 2014. Vulnerability Index to climate change in the Latin American and Caribbean Region.