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# OS31B-2024: The Contribution of Glacial Isostatic Adjustment to Projections of Sea Level Change Along the Atlantic and Gulf Coasts of North America

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We determine the contribution of glacial isostatic adjustment (GIA) to future relative sea level change for the North American coastline between Newfoundland and Texas. We infer GIA model parameters using recently compiled and quality assessed databases of past sea-level changes, including new databases for the United States Gulf coast and Atlantic Canada. At 13 cities along this coastline, we estimate the GIA contribution to range from a few centimeters (e.g. 3[-1-9]cm, Miami) to a few decimeters (e.g. 18[12-22]cm, Halifax) for the period 2085-2100 relative to 2006-2015 (1- $\sigma$  ranges given). We provide estimates of uncertainty in the GIA component using two different methods; the more conservative approach produces total ranges (1- $\sigma$  confidence) that vary from 3 to 16 cm for the cities considered. Contributions from ocean steric and dynamic changes as well as those from changes in land ice are also estimated to provide context for the GIA projections. When summing the contributions from all three processes at the 13 cities considered along this coastline, using median or best-estimate values, the GIA signal comprises  $\approx 5 - 38\%$  of the total depending on the adopted climate forcing and location. The contributions from ocean dynamic/steric changes and ice mass loss are similar in amplitude but with spatial variation that approximately cancels, resulting in GIA dominating the net spatial variability north of 35N

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