



Estimating Sea level Allowances for Atlantic Canada using the Fifth Assessment Report of the IPCC

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Sea-level allowances at 22 tide gauge sites along the east coast of Canada are determined based on the latest projections of regional sea-level rise for representative concentration pathway RCP8.5 from the Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC), and on the statistics of historical tides and storm surges (storm tides). The allowances increase with time during the 21st century because of the mean sea-level rise and its increased uncertainty. They show significant spatial variation, which is mainly a consequence of strong regionally varying relative sea-level change due to the glacial isostatic adjustment (GIA). A replacement of the GIA component of the AR5 projection with Global Positioning System (GPS) data significantly decreases the allowances in regions where the uncertainty of the GIA models is large. For RCP8.5 with GPS data incorporated and for the period 1995-2099, the sea level allowances range from about 0.5 m in the north shore of the Gulf of St. Lawrence to more than 1 m along the coast of Nova Scotia and southern Newfoundland.