



The Regional Distribution of Sea-level Rise

John Church, Didier Monselesan, Neil White, and Xuebin Zhang

Centre for Australian Weather and Climate Research, Centre for Australian Weather and Climate Research, Hobart, Australia
(john.church@csiro.au)

Little is known about the historical regional distribution of sea-level rise and projections of it vary significantly between climate models. The factors controlling this regional distribution are not well understood. We attempt to use sea-level observations to better describe the historical regional distribution over decades and models to better understand the factors controlling that distribution. We use a climate model (CSIRO Mark 3.6) to identify the regional sea-level responses to various radiative forcing schemes and their associated feedbacks, particularly the regional differences in aerosol radiative forcing. We also use pre-industrial control runs of the CMIP5 ensemble to better quantify the natural variability on the uncertainty in the projections for the 21st century from the CMIP5 ensemble.