



Decadal variability in sea level rise rates

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20th Century global mean sea level (GMSL) reconstructions (e.g. Church et al., Rahmstorf et al., Ray et al., Hamlington et al.) show substantial decadal variability in the rate of global rise. A common feature of these reconstructions is a rate of rise in the 1940s similar to present-day estimates from altimetry, which is coincident with increases in global surface temperature. The large GMSL rise rates of the 1940s may indicate the present rate is not anomalous in recent history. In contrast, Merrifield et al. averaged tide gauge data in 10° latitude bands from 1955-2007 and found decadal variability was reduced relative to the reconstructions over the common period. We are investigating the impact of similar area weighting techniques on decadal variability in GMSL rise rates, with a particular emphasis on extending the Merrifield et al. analysis through the 1940s.