Supplement of Hydrol. Earth Syst. Sci., 25, 769–786, 2021
https://doi.org/10.5194/hess-25-769-2021-supplement

Hydrology and Earth System Sciences
Open Access
EGU

Supplement of

Accretion, retreat and transgression of coastal wetlands experiencing sea-level rise

Angelo Breda et al.

Correspondence to: Patricia M. Saco (patricia.saco@newcastle.edu.au) and José F. Rodríguez (jose.rodriguez@newcastle.edu.au)

Supplementary information

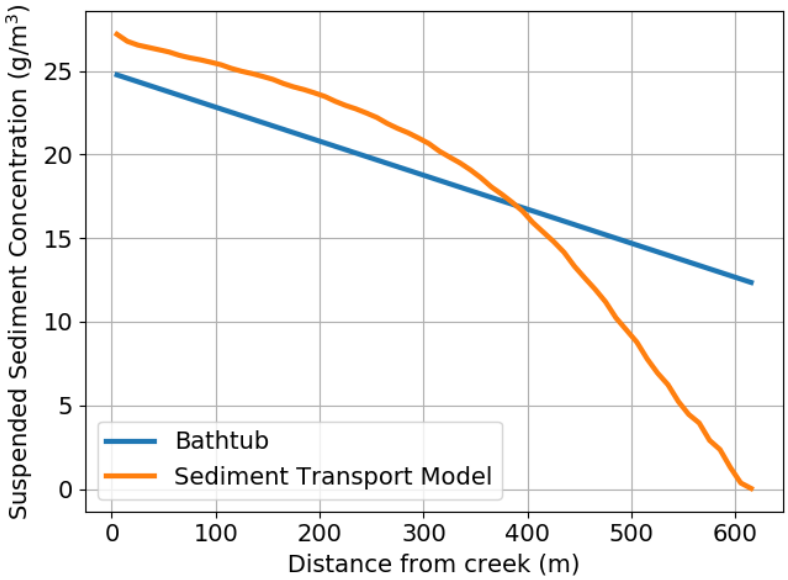
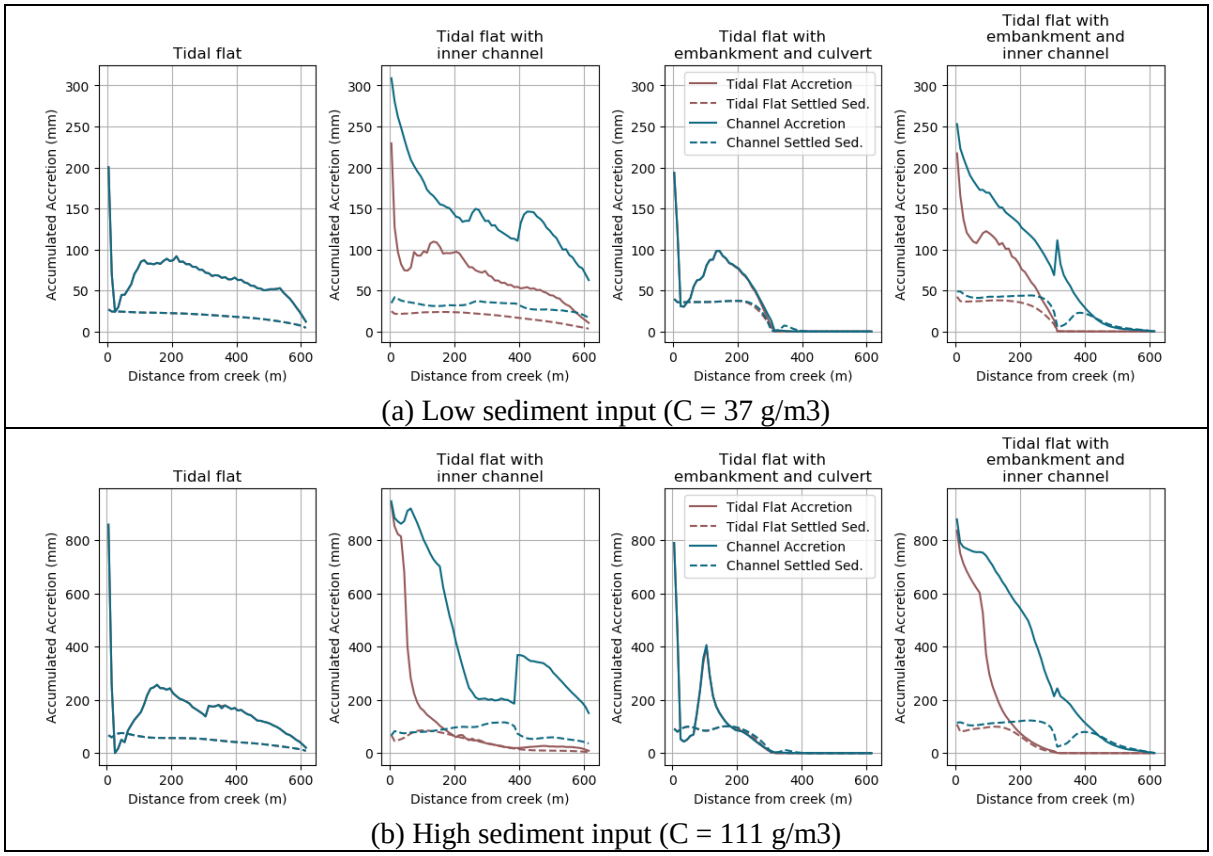


Figure S1: Comparison between bathtub and full hydrodynamic and sediment transport EGMs over a smooth topography (Manning's n=0.035)



(a) Low sediment input (C = 37 g/m3)

(b) High sediment input (C = 111 g/m3)

Figure S2 – Comparing accretion (solid lines) computed with equation 10 and settled sediment (dashed lines) given by the term $As_i\varphi_i$ from equation (4). Tidal flat profiles (red lines) show

conditions far from the inner channel. Channel profiles (blue lines) show results at the margin of the inner channel. Settled sediment (originally in g/m2) was converted to mm using a sediment density of 0.5 Mg/m3 as found in Howe et al. (2009) for restored wetlands in Kooragang Island. Results correspond to the last year of the simulated period, 2100.

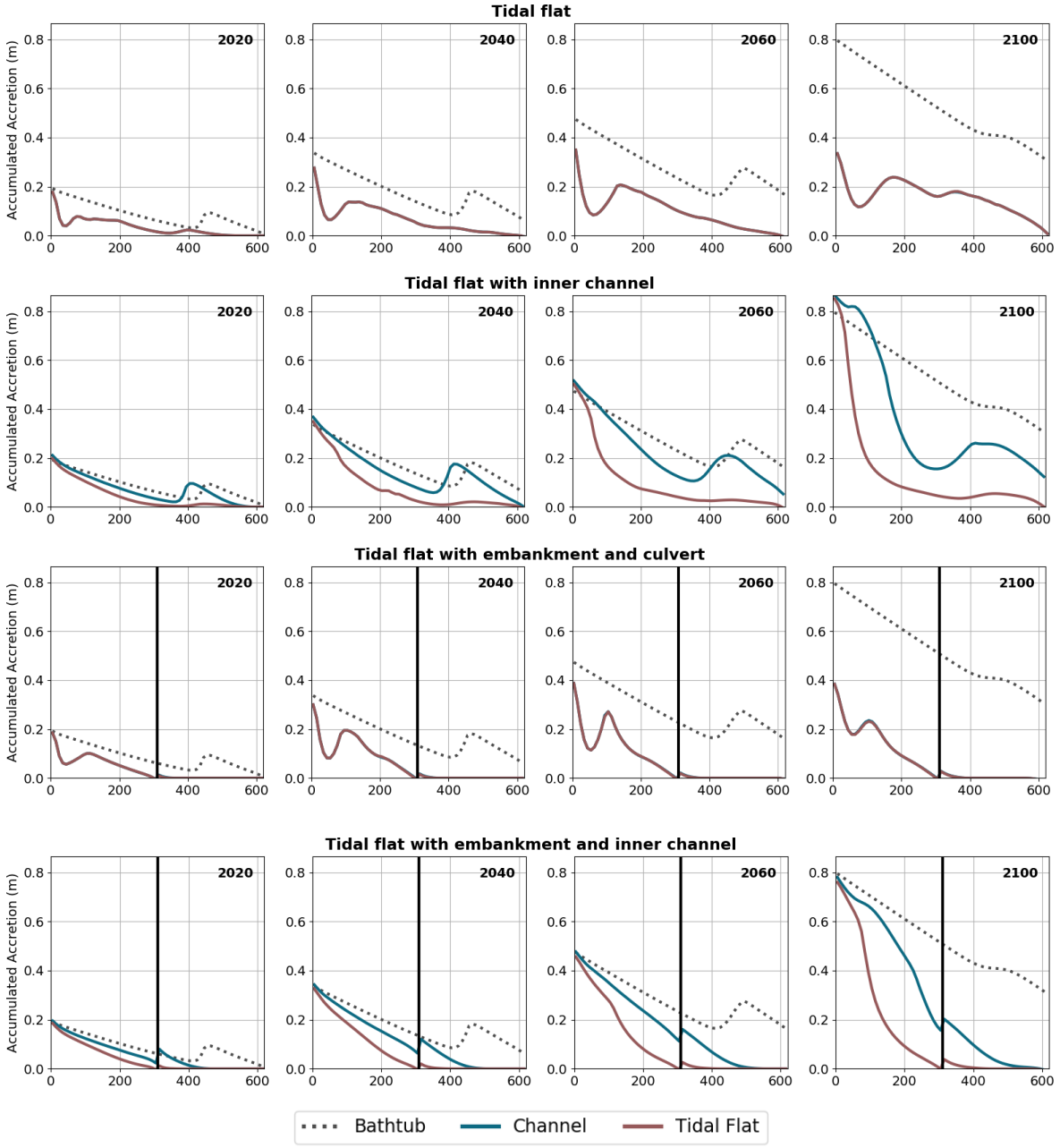


Figure S3. Longitudinal profiles of accumulated accretion (ΔE, m) for a sediment supply of 111 g/m^3. The vertical black line represents the embankment with culvert. The "channel" profile represents the accretion near the central channel, while the "tidal flat" profile is situated in the middle of the tidal flat. Note: simulation starts in the year 2000.