Net accretion processes in tidal wetlands

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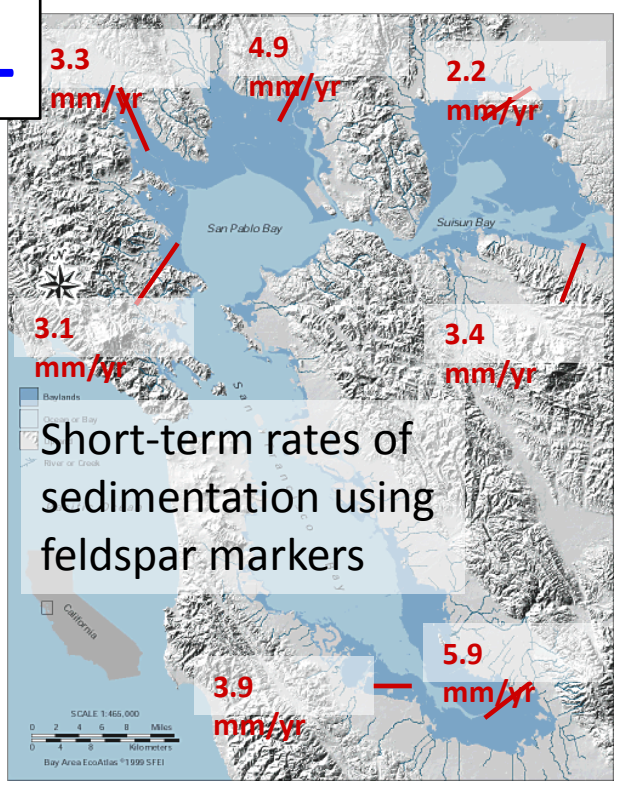
Relative elevation in tidal wetlands reflects the balance between sedimentation, above and belowground production versus sea level rise, compaction, subsidence, and decomposition. Large future unknowns include the rate of acceleration in SLR, the influence of temperature and increased CO_2 on production and decomposition and sources of suspended sediment.

1



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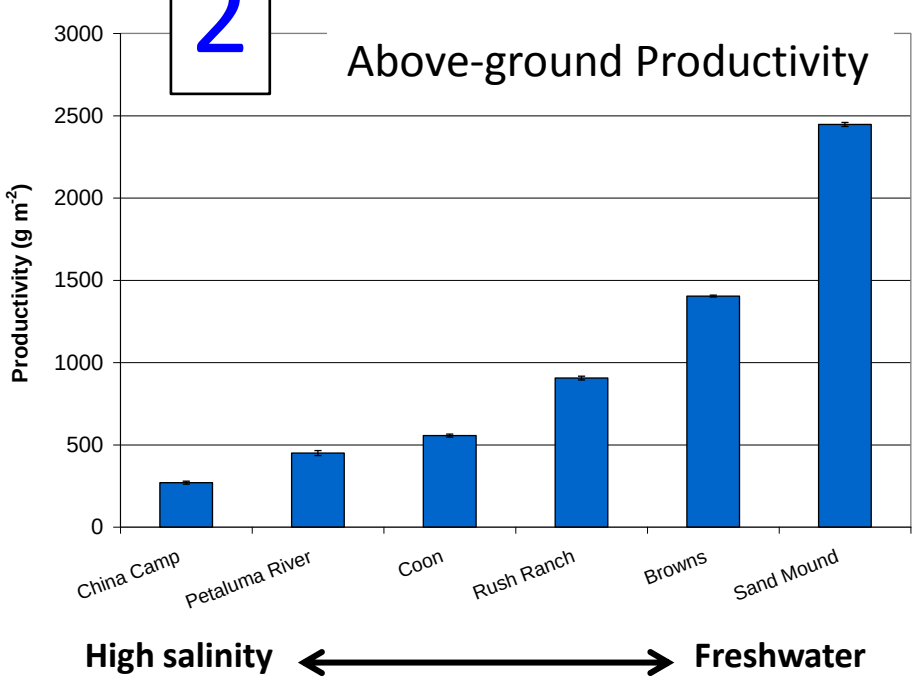
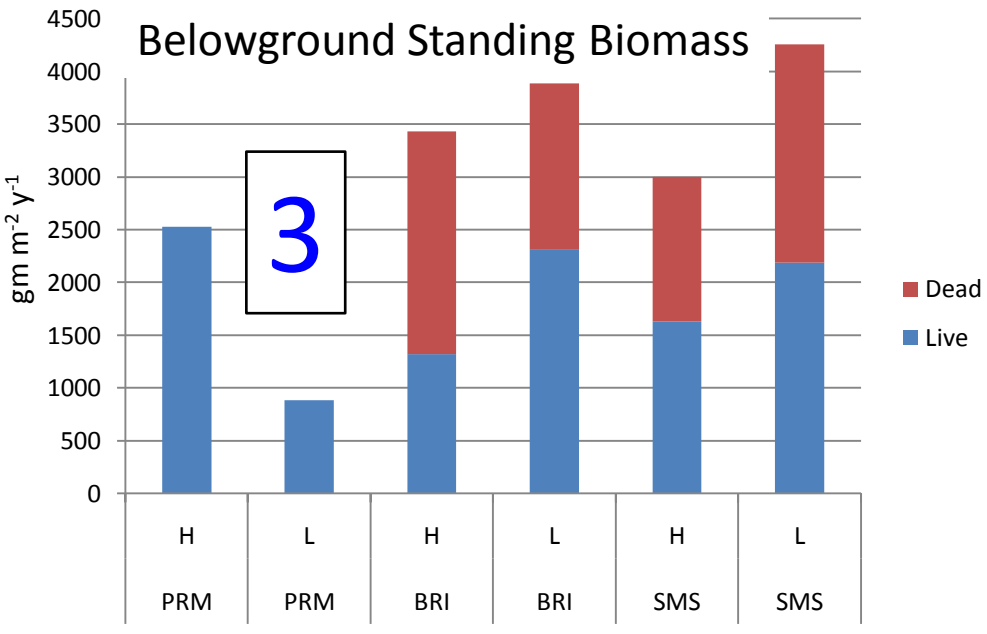


Sedimentation (1) and above ground (2) production as well as belowground standing biomass (3) suggest high potential for wetland resiliency in the short term. Decomposition (4) is high, especially for the salt marsh dominant

3



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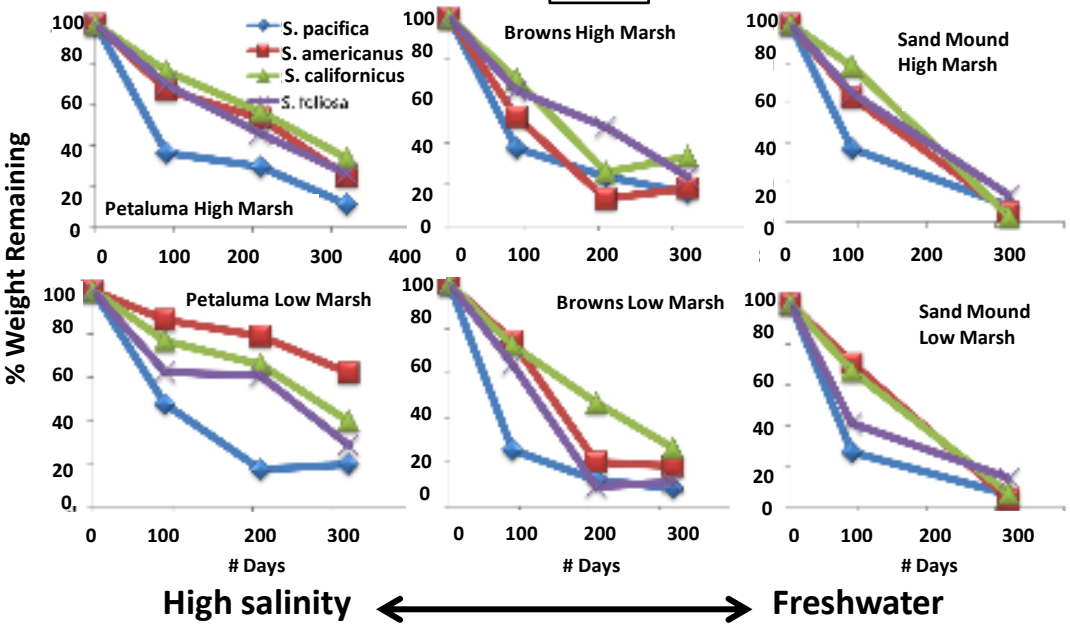

Increased salinity will reduce NPP throughout the estuary.

Increased temp. and CO_2 will have unknown impacts on NPP and decomposition.

Sediment accretion (including both mineral inputs and organic accumulation) may not keep up with accelerated sea level rise over the long-term.