

**From Particles to Preservation:  
The Sedimentology of Long Island Salt Marshes.**

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We present <sup>210</sup>Pb derived accretion rates from 11 salt marsh cores from 5 different oceanographic environments in Long Island, NY. Constant activity accretion rates over the past century (derived from a best fit line) ranged from between 0.2 cm/yr and 0.59 cm/yr for the marshes studied. There was no link between the constant activity accretion rates and levels of marsh loss- as judged by N.Y.S.D.E.C. aerial photography. A detailed analysis of accretion rates using a model assuming a constant flux of <sup>210</sup>Pb reveals that marsh accretion rates may in fact be variable over time. Ongoing work is attempting to explain accretion patterns in terms of decadal scale changes in storm frequency, sea level and anthropogenic disturbance. The decoupling of accretion rates and marsh loss around Long Island suggests that marsh loss is controlled by complex dynamics that may not be directly linked to sediment accretion rate. Results from this study suggests that preservationists may need focus their efforts beyond the legal boundaries of a marsh to be effective.

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