Transect Plot Description

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See **Overview of PX and PXT Shoreline Change Rate Methods** for descriptions of shoreline change rate methods.

An effective way to examine shoreline changes is through individual transect plots (Figures 1 and 2). In these plots the horizontal axis represents time (historical shoreline date) and the vertical axis represents shoreline position. UP on this axis means a shoreline is moving landward in time (erosion). Historical shoreline positions are depicted as red crosses and the shoreline change model is depicted with a blue line. PX methods (LX, RX, EX) produce shoreline change rates which vary in the alongshore direction but are constant in time. Thus the PX models are linear (constant rate) when viewed in the individual transect plots (Fig. 1).

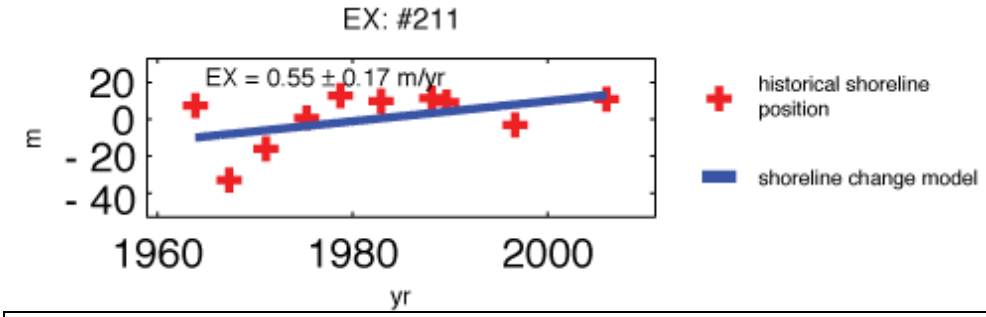


Figure 1 Individual transect plot of a PX shoreline change model. The model type (EX – chosen by statistical information criteria as the most parsimonious model) and transect number are shown at the top. Historical shoreline time is shown on the horizontal axis and shoreline position is shown on the vertical axis. The historical shoreline positions are depicted as red crosses. The shoreline change model is depicted as a blue line. The rate and its uncertainty (metric) are shown in the upper left. Note: The shoreline change rate is constant with time, i.e., linear.

Our PXT methods identify changes in rate through time. If the PXT methods (LXT, RXT, EXT) identify acceleration in the shoreline change rate, they will produce shoreline change models with rates that vary in the alongshore direction and with time. Thus, the PXT models may be non-linear when viewed in the individual transect plots (Fig. 2).

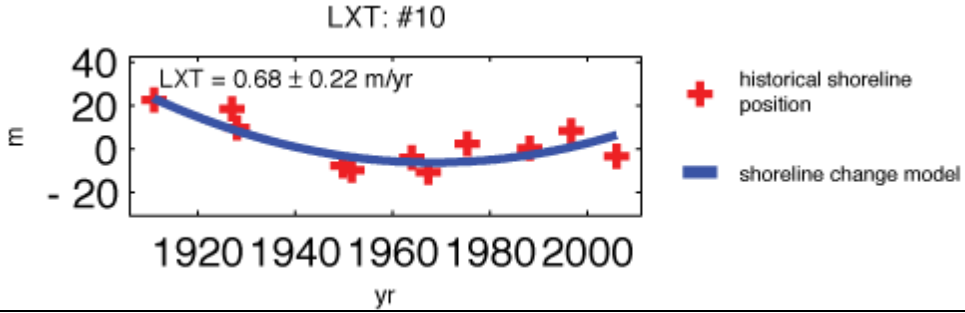
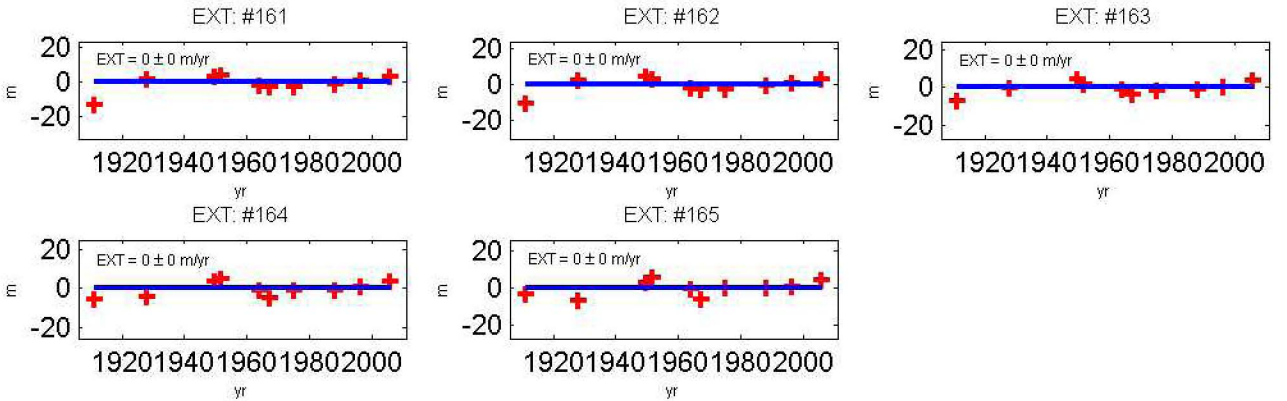
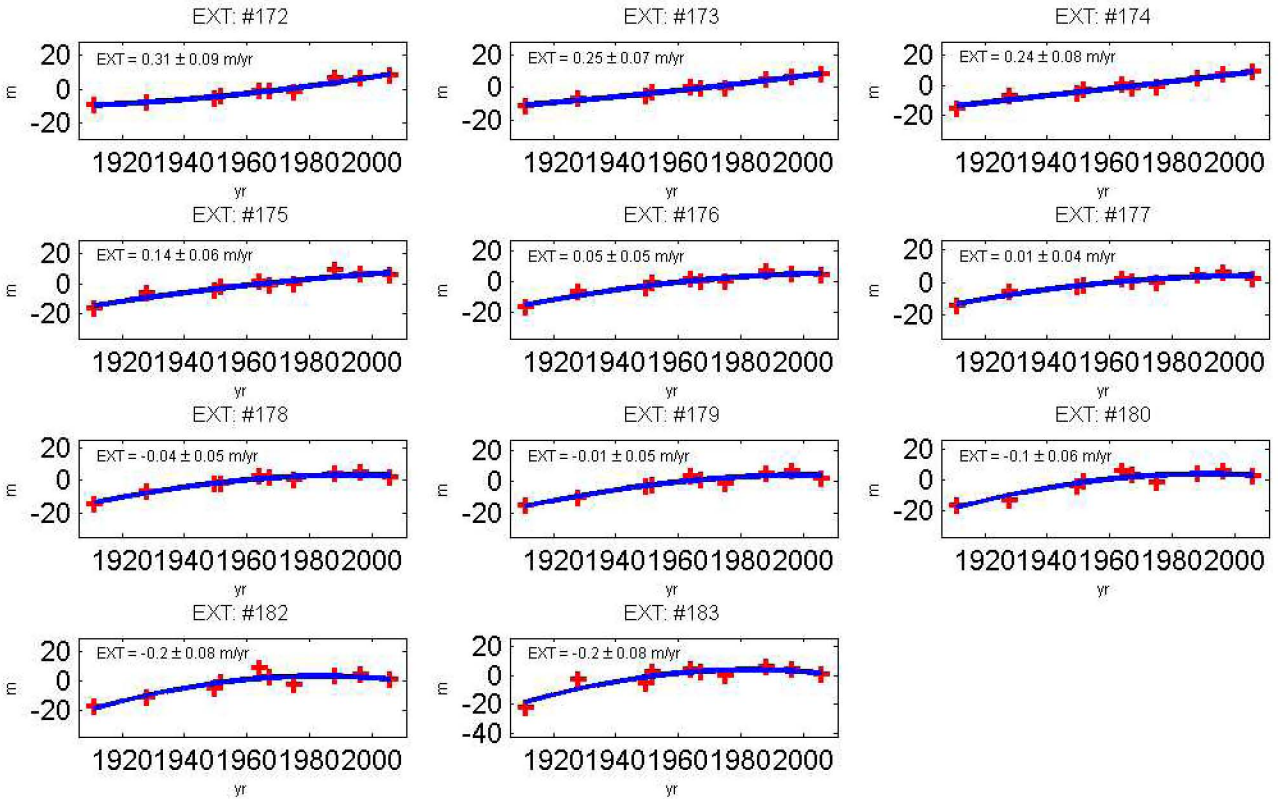


Figure 2: Individual transect plot of a PXT (LXT) shoreline change model. Note: The shoreline change rate varies with time. The model indicates accretion (negative slope) from 1911 - 1967 and erosion (positive slope) from 1967 – 2005 at this transect. The rate describes shoreline movement at the most recent time.

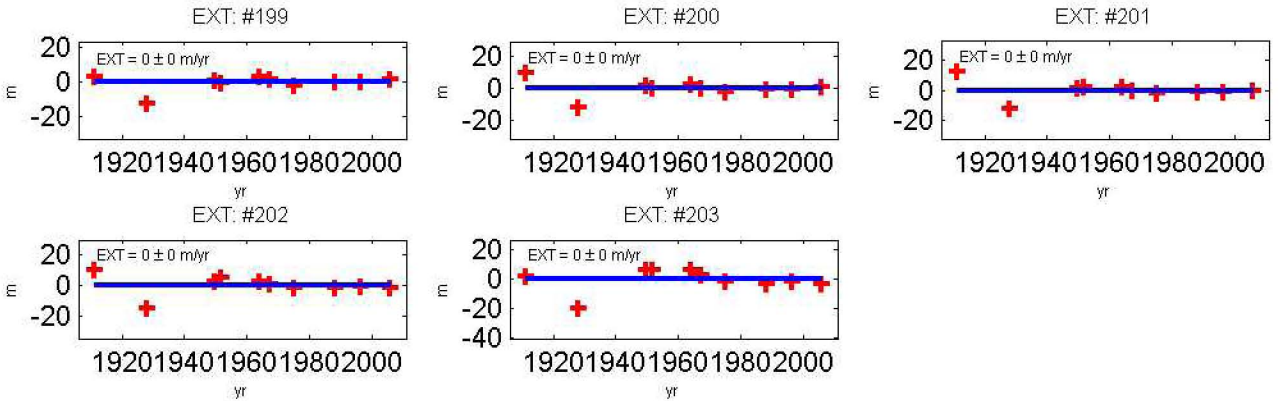
Makapuu - No shoreline change (all PXT methods)



Makapuu - EXT Shoreline Change Rates (meter/year)



Makapuu - No shoreline change (all PXT methods)



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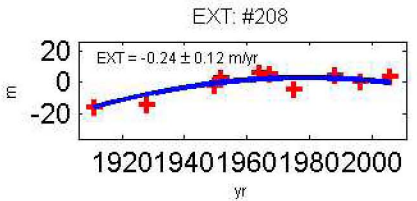
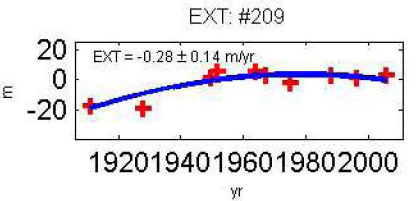
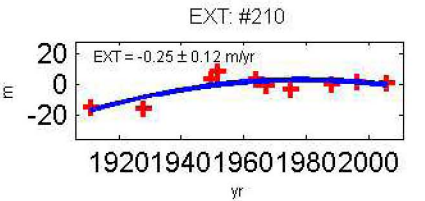
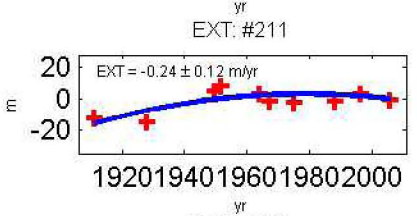
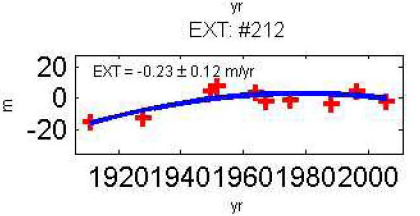
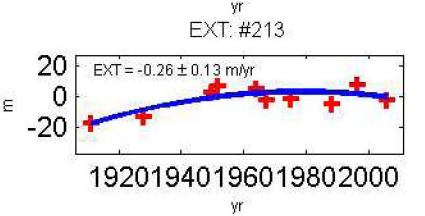


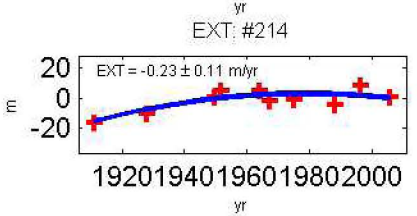




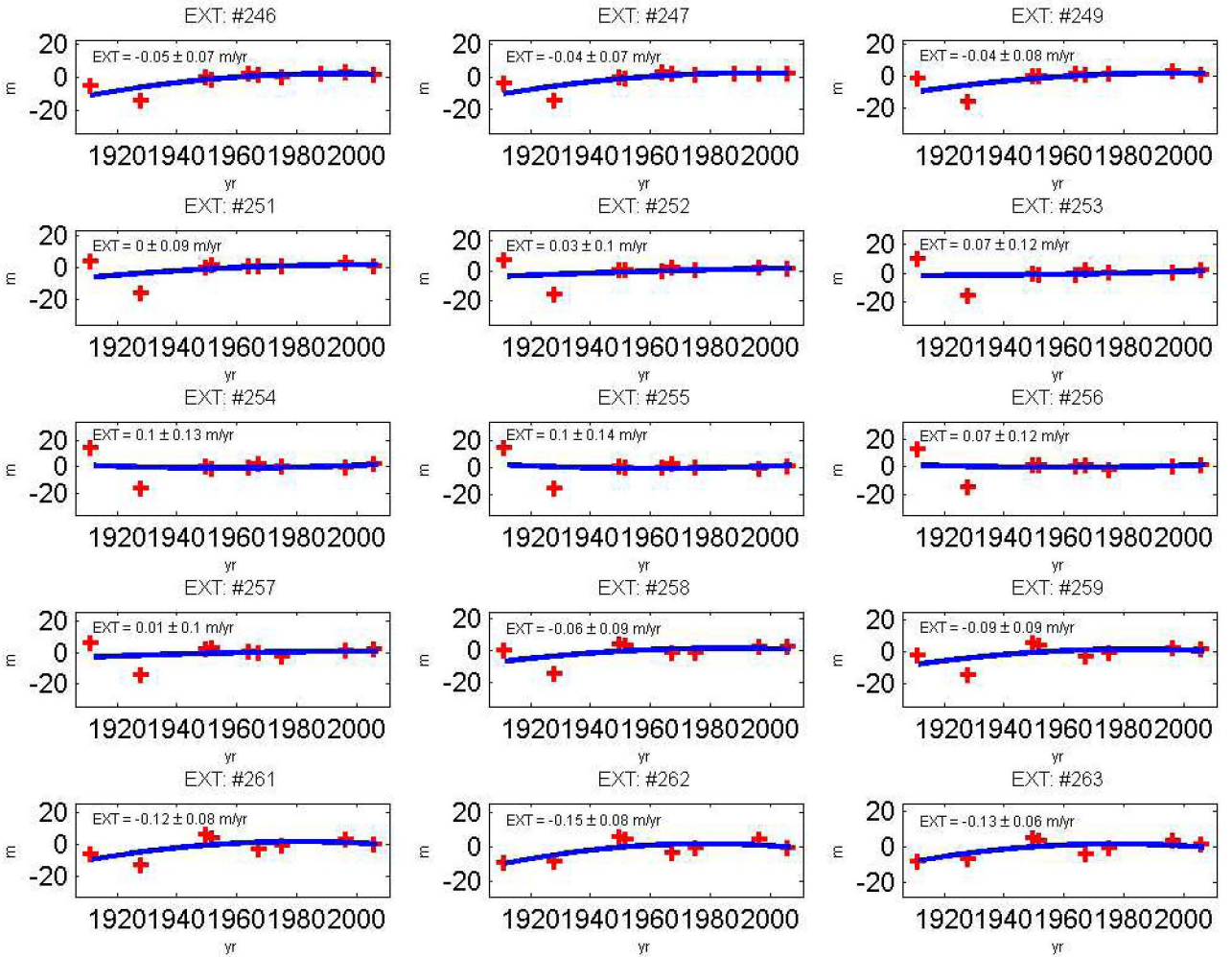








Makapuu - EXT Shoreline Change Rates (meter/year)



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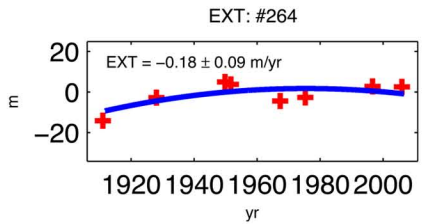

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