Using River Diversions to Maximize Elevation Capital

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Hydroperiod Influences on Vegetation Productivity


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\[ y = 5778e^{-0.0141x}, r^2 = 0.17 \]
Examined the wetland formation and elevation dynamics on an individual lobe of a developing crevasse splay within the Cubits Gap sub-delta complex

Transitioned to subaerial in 1985, and was high marsh by 1988
Accrual of Elevation Capital in Delta Splays

reproduced from Cahoon et al., Geomorphology 131:57-68 (2011)
Drivers of Vertical Accretion in the Inactive Delta Marshes

![Image of marshes with locations marked]

<table>
<thead>
<tr>
<th>Location</th>
<th>n</th>
<th>$r^2$</th>
<th>slope organic</th>
<th>slope mineral</th>
<th>accretion rate (cm/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terrebonne (Nyman et al. 1993)</td>
<td>15</td>
<td>0.81</td>
<td>12.9</td>
<td>ns</td>
<td>0.55-1.78</td>
</tr>
<tr>
<td>Louisiana (Delaune et al. 1989)</td>
<td>47</td>
<td>0.49</td>
<td>13.7</td>
<td>ns</td>
<td>0.22-1.17</td>
</tr>
<tr>
<td>LA/TX (Turner 2000)</td>
<td>55</td>
<td>0.66</td>
<td>8.0</td>
<td>ns</td>
<td>0.28-1.14</td>
</tr>
<tr>
<td>Barataria (DeLaune et al. 2013)</td>
<td>12</td>
<td>0.56</td>
<td>10.9</td>
<td>ns</td>
<td>0.59-1.03</td>
</tr>
<tr>
<td>Breton Sound 2008</td>
<td>18</td>
<td>0.63</td>
<td>9.0</td>
<td>ns</td>
<td>0.49-0.94</td>
</tr>
</tbody>
</table>
Mineral Effects on Organic Matter Production
Components of Soil Volume in the Delta Plain
Mineral and Organic Contributions to Soil Volume
Mineral Sediment as a Driver of Bulk Density

![Graph showing the relationship between mineral, organic, air + water, and soil bulk density.](image-url)