Cross-scale Exploration of Stressor-State Correlations

EMAP Estuaries
SF Bay Intensification Project

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30 randomly chosen 1-m² EMAP Core intertidal stations
Cross-scale Stressor Analysis

Nested Systems

Watershed

EMAP Core Plot

Marsh Drainage Area
Core Station Response Data

- Metals
- Trace Organics
- Nutrients
- Total Carbon
- Benthos
- Vegetation
Stressors

Human demographics
Adjacent land use
Marsh patch geometry
Concentrations of total mercury in intertidal sediments
Concentration of Total Mercury in Intertidal Sediments

<table>
<thead>
<tr>
<th>Wetland Type</th>
<th>Concentration mg/Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Marsh</td>
<td>0.00</td>
</tr>
<tr>
<td>Low Marsh</td>
<td>0.10</td>
</tr>
<tr>
<td>Mudflat</td>
<td>0.20</td>
</tr>
</tbody>
</table>

ERL = 0.15
Stressor Analysis

Mercury Contamination Related to Housing Density in the Watershed

$R^2 = 0.2158$

$r = 0.464$

$p = 0.0942$

Average Number of Houses per 10 ha

Mercury Concentration (ug/g)