

CHARACTERIZING THE BROWN MARSH SPECTRAL RESPONSE AT THE PLANT AND CANOPY LEVELS WITH HYPERSPECTRAL AND TEMPORAL REMOTE SENSING DATA

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The remote sensing study was carried out at three spatial scales. First, plant samples were collected at four coastal marsh sites exhibiting marsh dieback. From each plant sample, leaves were collected and analyzed for variability in spectral properties. Second, hyperspectral recordings of radiant flux reflected from numerous visually impacted to not impacted marsh sites were collected from a helicopter platform near the time of the plant collections. Simultaneous recordings of downwelling radiant flux were used to transform the collected helicopter spectra to canopy reflectance spectra. Third, a sequence of Landsat ETM images was collected, georeferenced, and nominally corrected for atmospheric influences. The abilities to detect occurrence and monitor the change in the impacted marsh sites were examined.