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ERTS-MSS DIGITAL DATA, FIELD SPECTRAL MEASUREMENTS, AND MULTIBAND PHOTOGRAPHY FOR WETLANDS VEGETATION ANALYSIS

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Knowledge of the distribution of major wetlands plant species is important for evaluation of wetlands and management of coastal zone resources. Preliminary results of analysis indicate that there is a direct relationship between ERTS-MSS digital data and spectral measurements made in the field. Digital tapes from ERTS image #1079-15140 were used for the analysis. Plant species and other features found in wetlands -- water, mudflats, sand, spoil, and road surfaces -- have differing reflectances dependent upon wavelength. Multiband photography can be used to look at reflectance responses in narrow wavebands, but digital data from the ERTS-MSS system can be utilized directly to determine spectral response simultaneously in four wavebands. ERTS-MSS data supply additional information in band 7 that is beyond the wavelength range of normal photographic film. It appears that knowledge of spectral characteristics of vegetation and wetland components will aid interpretation of ERTS data and allow discrimination of species in areas where ground truth is not available.

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