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THE USE OF THE ANALYSIS OF COVARIANCE MODEL IN SPATIAL POINT ESTIMATION

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In many resource management oriented disciplines, a spatial array of point estimates for ecosystem parameters and productive capacities is required over a given political/administrative unit. Statistical statements of confidence about these point estimates must be made and the relative importance of factors involved in their prediction should be testable. Moreover, the point estimates must be generated in such a way that differences between values over space can be assessed for statistical significance.

Current remote sensing data automatic classification algorithms emply weighted probability density comparisons of clustered/unclustered hypervolume look up functions for class selection. As such, these discriminant models do not produce true point estimates or estimates that may be readily subjected to the statistical analysis necessary in some resource management disciplines.

The use of another discriminant model documented in the statistical literature and giving point estimate arrays with the aforementioned desirable properties is presented. This function is commonly referred to as the analysis of covariance model.

The model may either be developed from raw, spectral/resource parameter channel data obtained from "training" fields or from previously classified data. It may then be used to generate point estimates of such quantities as forage/timber yield and snow water content.

REFERENCE

Scheffe, H. 1959. The Analysis of Variance. John Wiley & Sons, Inc., New York. 477 pp.

DELINEATION OF UDOLLS FROM UDALFS USING MULTI-SPECTRAL SCANNER DATA

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