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CLASSIFYING VEGETATIVE COVER WITH LANDSAT DIGITAL DATA, GREAT DISMAL SWAMP, VIRGINIA AND NORTH CAROLINA

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Geometrically corrected and temporally registered Landsat digital data from April and February 1974 have been used to classify and map vegetative cover in the Great Dismal Swamp in Virginia and North Carolina. Cover classes were grouped into dominance types and subclasses according to the new U.S. Fish and Wildlife Service wetland classification system. Four data sets were analyzed on the Interactive Digital Image Manipulation System (IDIMS): (1) April data (2) February data (3) bands 5 and 7 from April and February and (4) all 8 bands from April and February.

Eighteen dominance types were established for the swamp on the basis of season, dominant canopy species and, in some deciduous classes, on type of understory. The subclasses and dominance types vary in number and composition according to season of data acquisition. Percentage estimates for the swamp subclasses were as follows: shallow water/benthos 2.2 percent, broad-leaved evergreen forested wetland 6.5 percent, needle-leaved evergreen forested wetland 16 percent, broad-leaved deciduous forested wetland 67.7 percent, narrow-leaved deciduous forested wetland 1 percent, broad-leaved evergreen shrub wetland 5 percent, and altered 1.6 percent.

IDIMS algorithms were used to choose 65 random, 10x10 pixel, sample plots and to generate the geometric coordinates (line/column; latitude/longitude) for these samples. The plots were transferred to 1:65,000-scale color infrared photographs of the swamp and each sample plot was photointerpreted for dominance type, subclass, and acreage. The photointerpretation results are being compared with IDIMS classification for each data set to measure the accuracy of classification. In addition, we are using the same sample plots to assess the accuracy of previous

classifications made with Landsat digital data from the same data sets and from different dates using IDIMS, Image 100, and Laboratory for Applications of Remote Sensing System (LARSYS).