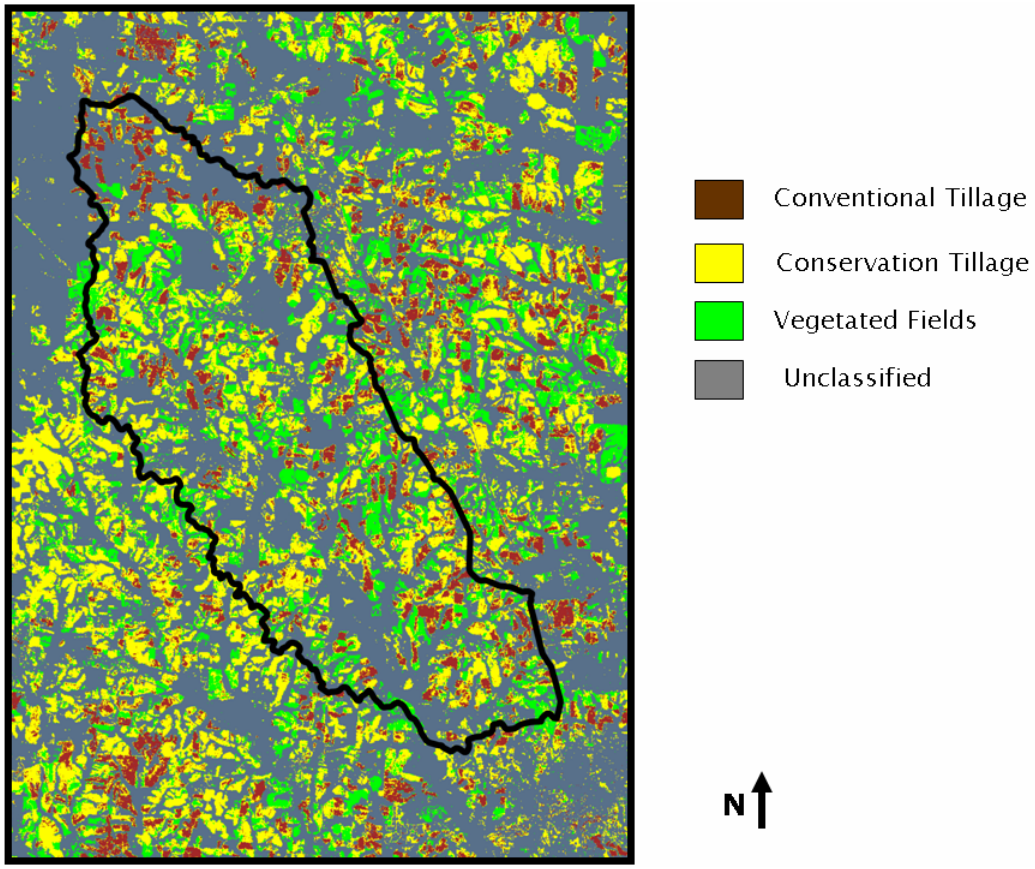
SATELLITE-DERIVED MAPS OF CONSERVATION TILLAGE could reduce efforts to verify producer compliance with USDA cost-sharing programs by >60%. Methodology for rapid and unbiased assessments of conservation tillage mapping is lacking. By combining a simple land use classification algorithm, with two remotely derived indices, SEWRL scientists have successfully delineated conservation (> 30 % crop residue cover at planting) and conventional tillage (< 30% crop residue cover at planting) regimes within the Little River Experimental Watershed in Georgia. This method was developed to characterize the spatial distribution of conservation tillage in the Little River Watershed as part of the CEAP effort. However, this tool also shows promise for a regular application that could reduce NRCS' need to rely upon the labor-intensive point-transect method for estimating residue cover. This tool can provide regular assessments of conservation tillage adoption at the watershed scale and would facilitate federal conservation program implementation, natural resource inventories, and provision of input data for soil and water quality models. Results varied based on the number of ground control points used to generate model parameters, ranging from 71 – 78 % accuracy. Accuracy was best when a minimum of 22 conventional and 22 conservation tillage sites were surveyed. A next phase of regional accuracy assessment would be necessary to identify the ground truth logistics necessary for national implementation.



Satellite (Landsat5) derived conservation tillage map for the Little River Experimental Watershed and surrounding areas.