

MAPPING CURRENT AND HISTORIC VEGETATION AT PEA RIDGE NATIONAL MILITARY PARK

Missouri Resource Assessment Partnership (MoRAP) mapped current and historical vegetation at Pea Ridge National Military Park, Benton County, Arkansas, for management planning by the National Park Service. In order to map current vegetation, image objects that circumscribe visually homogeneous polygons were generated from stacked, 1-meter resolution leaf-on and leaf-off aerial imagery.

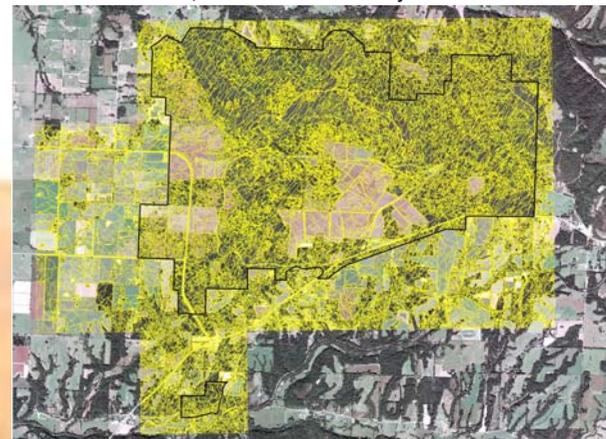
1-meter Leaf On



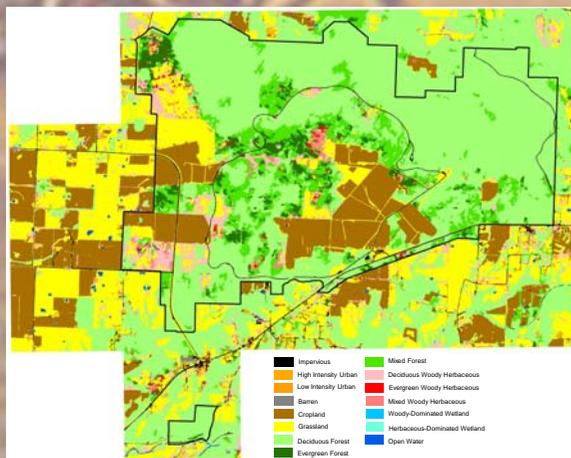
1-meter Leaf Off



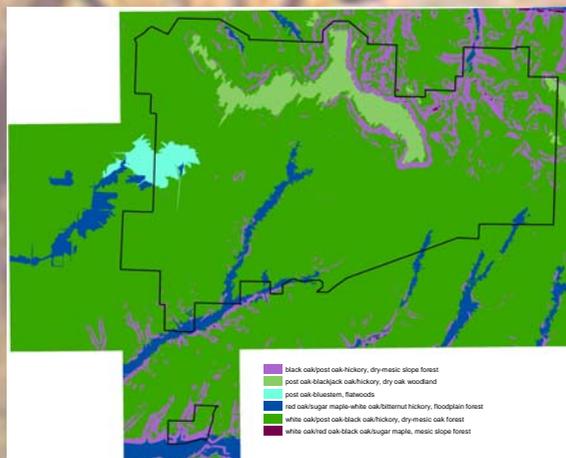
18,000+ Generated Objects



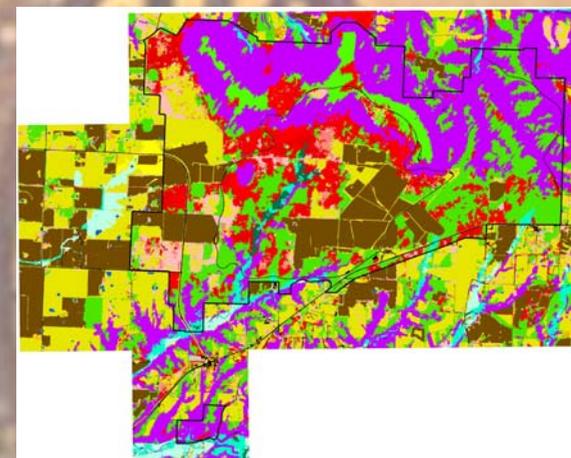
Land Cover Classes



Potential (Historic) Vegetation



Current Vegetation



The 18,000+ objects were visually inspected at a scale of 1:2,500 and attributed into one of 15 land cover classes. The same image objects were also attributed with abiotic variables that influence vegetation patterns, including soil type, percent slope, and solar insolation (exposure and shading). Experts defined current vegetation based on the occurrence of a particular land cover on a specific abiotic site type for each object, resulting in a thematic resolution of 28 mapped vegetation types. MoRAP used ecological interpretation to attribute six historic vegetation types to image objects based on combinations of soil type, percent slope, and solar insolation. These results allow a comparison between current and historic vegetation, providing a framework for future park management planning.

