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# Creation of the Kansas GAP Map.

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### Objectives

The National Gap Analysis Program (GAP) provides broad geographic information on the status of ordinary species and their habitats in order to provide land managers, planners, scientists, and policy makers with the information they need to make better-informed decisions. Mapping and analysis is conducted by GAP projects within each state. The Kansas GAP Analysis Project represents the third statewide land cover map that KARS has completed for the State of Kansas. Previous maps were completed in 1974 and 1993.

### Methods

Development of the Kansas GAP Map began in 1995, and thousands of hours of personnel time were required before its completion in 2000. The Kansas GAP project used Landsat TM imagery to map grassland, woodland, and wetland areas at the vegetation alliance level. Three separate sets of statewide imagery – representing spring, summer, and fall – were analyzed to create the final map. Field data were collected from more than 3500 sites around the state in support of the analysis and classification work.

### Current Uses of KS GAP

GAP maps are often used to support direct land management decision making, where quick access to ecological information is required to meet an immediate need at low cost, such as a rapid assessment of the distribution of a habitat type in response to proposed changes in management or use. Additional applications include delineation of critical habitats by various agencies, environmental assessments, county-level planning, and wildlife management.

In Kansas, special feature mapping was conducted using post-classification differencing techniques to map grasslands enrolled in the State's Conservation Reserve Program. This derived CRP map was used in several areas of the state, particularly by wildlife managers and CRP program staff to help focus conservation efforts.
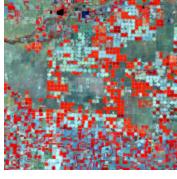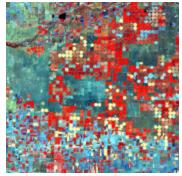
### Significance

Up-to-date statewide land cover data is an essential component of the Kansas digital infrastructure. Accurate land cover information is critical to urban planning efforts, statewide conservation efforts, watershed management plans, and is important in disaster response situations such as drought, wildfire, and early frost.
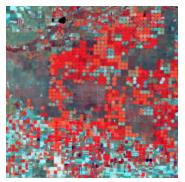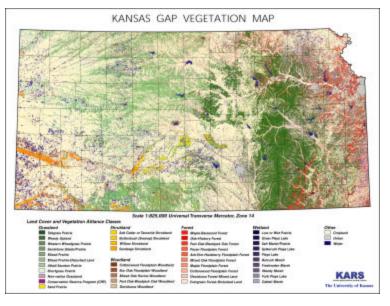






Spring, summer, and fall Landsat TM images were used to capture variability within a particular land cover or vegetative class. Shown here are center-pivot irrigation fields in western Kansas.

The resulting map (below) depicts 43 vegetation classes. The Kansas GAP Map has a minimum mapping unit of 2 hectares, with a spatial accuracy of 15 meters.



In preparation for future updates of the digital land cover database and maps for the state of Kansas, we have now begun work in cooperation with the Kansas Biological Survey, Department of Wildlife and Parks, and the State GIS Policy Board to create an ongoing multi-season, multi-year image data set. This work in turn directly supports the creation of the **Kansas Satellite Image Database**, which will be the State's first publicly available satellite image archive.