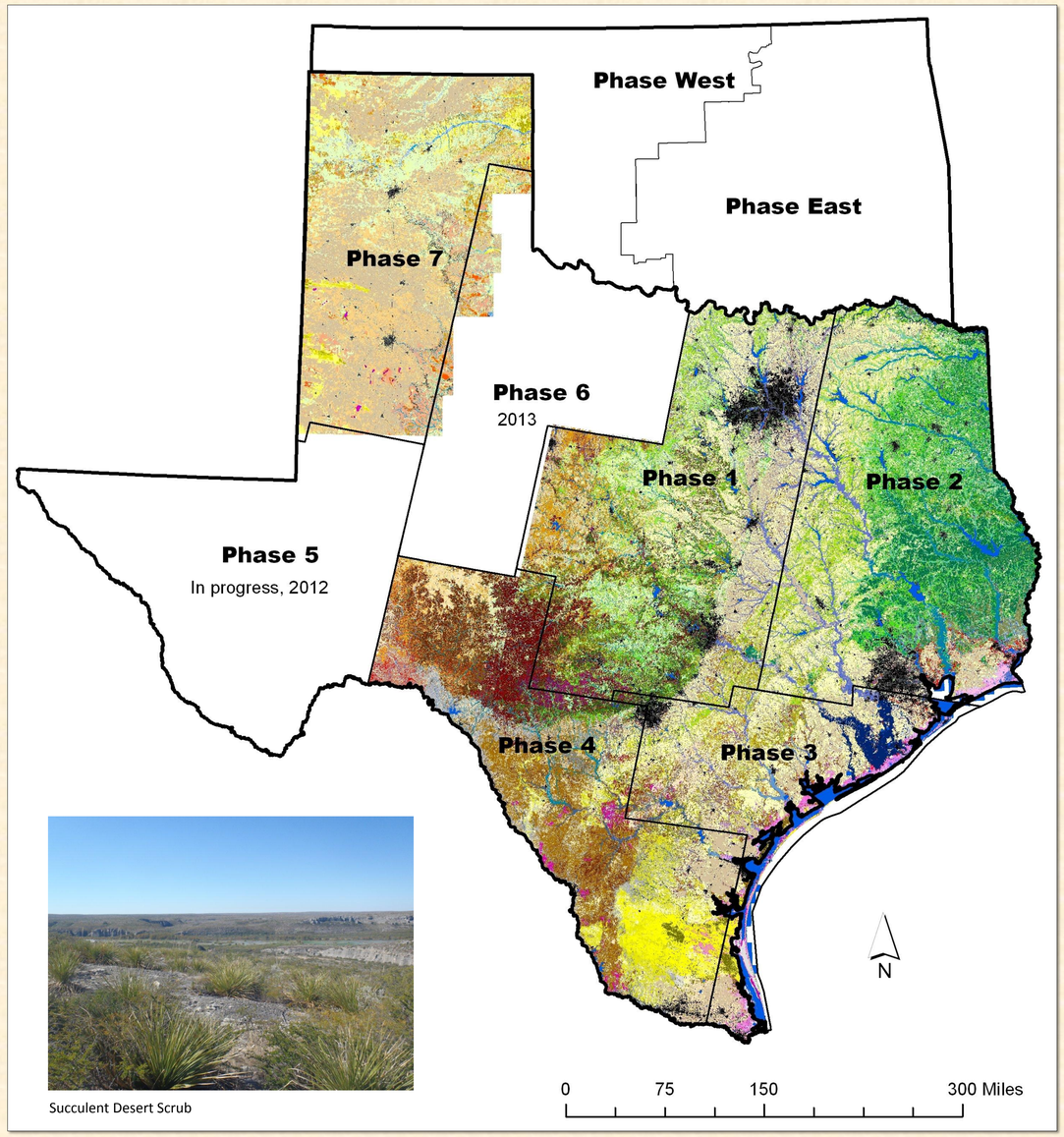
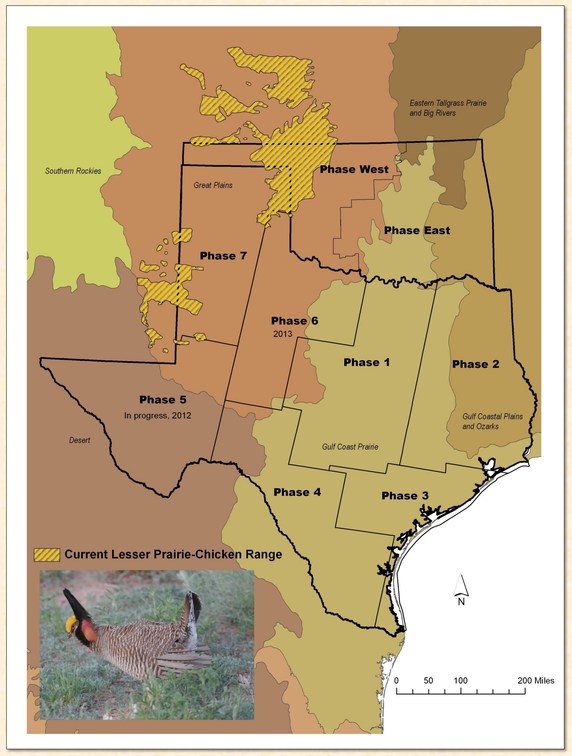
Ecological Systems Mapping – Crossing Boundaries

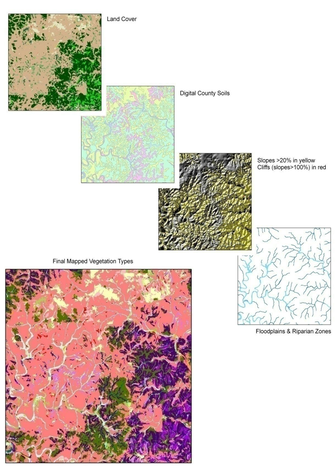
Improvements in both thematic (number of types mapped) and spatial resolution of land cover maps will enhance efforts to identify and conserve species, communities, and landscapes. Maps should ideally be continuous across state boundaries both thematically and spatially. The Oklahoma Department of Wildlife Conservation, Landscape Conservation Cooperatives, and other partners plan to build on methods and results achieved in Texas to provide a uniform map of current vegetation across the south central USA. For full details on methods and results to date, visit http://morap.missouri.edu/Projects.aspx?ProjectId=57
Contact David Diamond (diamondd@missouri.edu), Duane German (duane.german@tpwd.state.tx.us), or Allan Janus (allanjanus@hotmail.com) for more information.



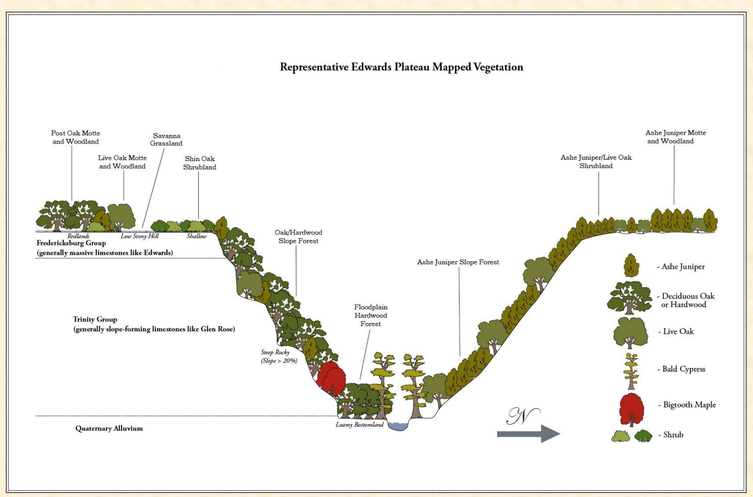
Uniform, fine-resolution current vegetation maps that cross state and LCC boundaries (shown below) will aid in conservation planning for species such as the Lesser Prairie-Chicken.



Modeling "Mapped Vegetation Types"



- Define land cover from LandSat using both photo-interpreted and ground-collected data
- Interpret current vegetation types using NRCS soils and Ecological Site Types
- Add slope & cliff classes from 10 m DEM
- Model riparian classes from hi-res NHD



Improvements Over Existing Maps

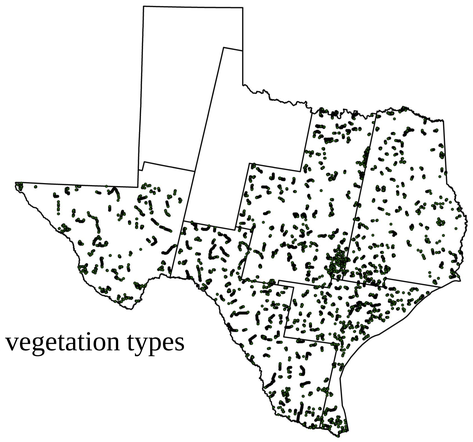
-Increased thematic resolution (about 20x more mapped types than NLCD)
-Increased spatial resolution (30 m to 10 m resolution)
-More use of ground-based data (2,000 points estimated for Oklahoma)
-Nationally-recognized classification system
-Seamless coverage across state boundaries

Field Data Collection

>9,000 points and counting

400 + Field Days

Used to:
Map land cover
Check accuracy
Describe mapped vegetation types



Results & Added Value for Texas

-Mapped 304 current vegetation types through Phase 4 (NLCD has 15; NatureServe VegMap has 96)

-Minimum 74% to 90% map match with ground data for 210 sampled types (excluding urban & row crops)

-210 types comprise 88% of the area

-10 m resolution objects can be manipulated

-Ground-based data collected & summarized

-GIS data, interpretive materials, input to National Vegetation Classification