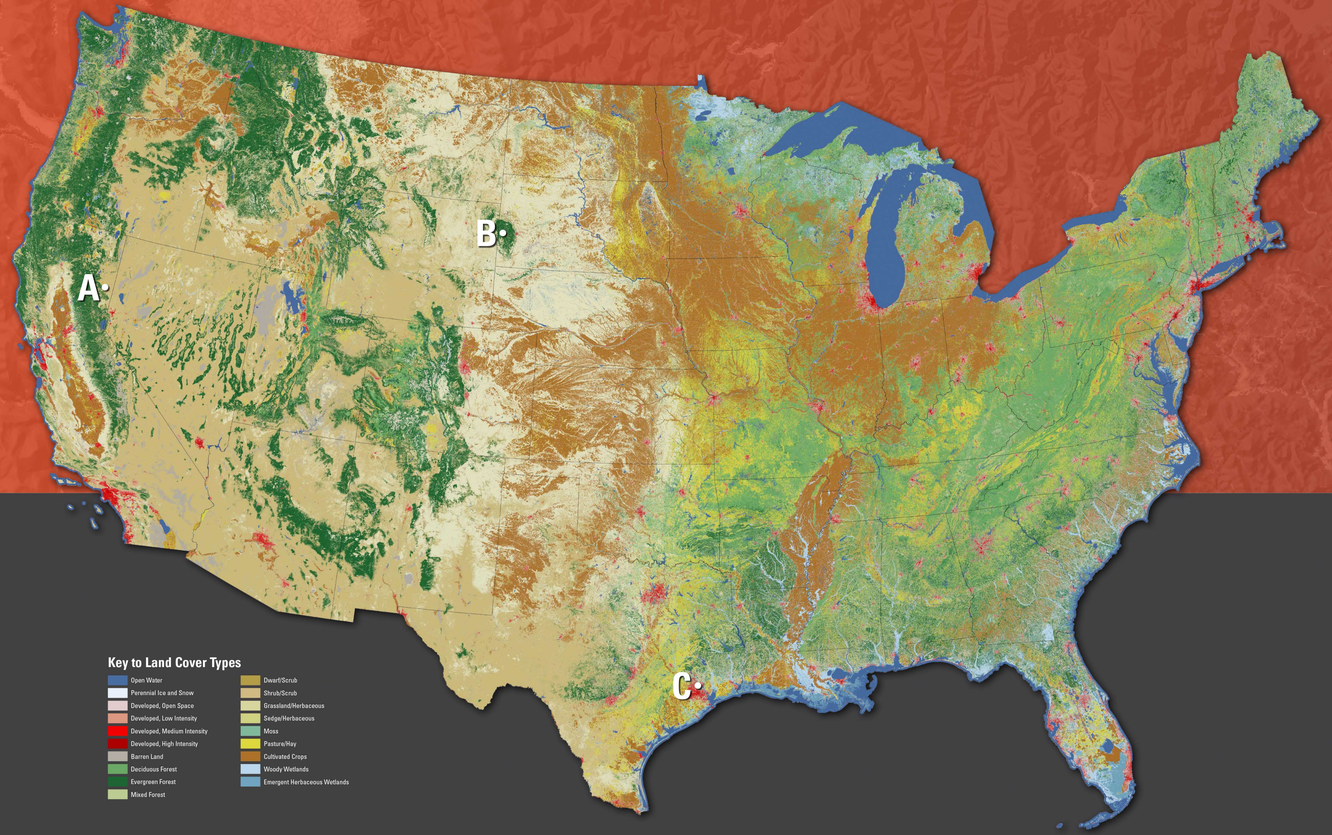
Land Cover in the Lower Forty-Eight



(A) Although Honey Lake in northeastern California experiences some natural fluctuation in its water levels, overall water loss is increasing from year to year as a result of drought and agricultural practices. These three images, representing land cover around Honey Lake in 2001, 2006, and 2011 (left to right), reveal changes in surface water area over time. (Gray areas represent the exposed lake bed, which are mapped as barren.)

(B) Mountain pine beetles are killing evergreen trees in many mountainous regions of the western United States, including the Black Hills of South Dakota. In these 2001, 2006, and 2011 (left to right) images of land cover in the Black Hills, you can see how healthy evergreens (dark green areas) are succumbing to beetle infestations, creating patches of open shrub/scrub where infected evergreens have been removed (tan areas among the healthy evergreen forest).

(C) In these 2001, 2006, and 2011 (left to right) land cover images of Houston, Texas, developed areas consisting of roads, parking lots, buildings, and other human-made structures appear as shades of red. As Houston's George Bush International Airport (concentration of red lines and patches in roughly the middle of each image) expanded between 2001 and 2011, notice how developed areas increased around the airport to gradually replace other land cover types in the vicinity.

Arriving at the EROS Center, you traveled across a rural landscape where the land cover consists primarily of pasture, cropland, small stands of trees, and wetlands. But the land cover around EROS was not always like it is today. It has changed over time, as land cover has across our entire nation.

Here you see a large printed map of land cover for the conterminous United States. This map is derived from the National Land Cover Database (NLCD), a digital land cover change product created at the EROS Center in collaboration with several other federal agencies. Different colors on the map represent different land cover types. Pick a place on the map—perhaps an area where you are from—and see what the predominant land cover is in that location.

This printed map shows land cover for a single year. NLCD, in contrast, is a powerful, interactive database that contains many complex land cover maps spanning multiple years. Using NLCD, it is possible to select any location in the country and compare land cover there at different points in time. Such comparisons (see above) can reveal dramatic, large-scale land cover changes as well as smaller, more subtle ones.

Determining land cover change in this way provides information vital for effective land management, conservation efforts, drought and fire prevention, climate change mitigation, urban planning, and other activities undertaken in counties, states, and the nation as a whole.