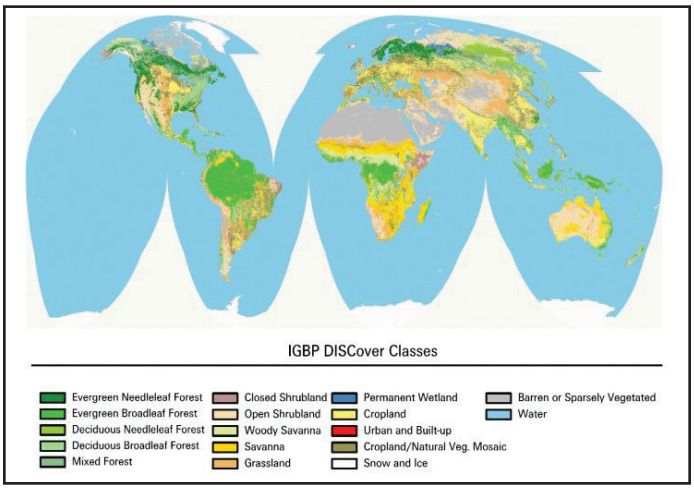
The USGS Land Cover Institute

The U.S. Geological Survey (USGS) Land Cover Institute (LCI) is located at the Center for Earth Resources Observation and Science (EROS) in Sioux Falls, South Dakota. It provides a focal point for advancing USGS land cover studies and applications. Satellite images and other remotely sensed data play an important role in this research. Land Cover scientists investigate new ways to use satellite images and other data to map land cover. They assess national and global land cover characteristics and monitor how—and how rapidly—land cover changes. They also study the economic impacts of land cover as well as its effects on water quality, the spread of invasive species, habitats and biodiversity, climate variability, and other environmental factors.

Scientists working in the USGS are one of the leaders in the study of land cover. Land cover refers to the vegetation and artificial structures that cover the land's surface. Examples of land cover include trees, grass, crops, wetlands, water, buildings, and pavement.



From Land Cover to Land Use

As scientists study land cover, they are also studying land use. Land use involves human activities that take place on the land such as farming, grazing, logging, and recreation. Land cover is often a reflection of land use. For example, if crops cover a section of land, land cover scientists can assume that the land's use is agricultural. However, the correlation between land cover and land is not always so clear. If an area of land is covered with trees, the possible land use could be logging, recreation, conservation, or something else.

Our Mission

USGS LCI is a focal point for advancing the science, knowledge, and applications of land use and land cover information. LCI's primary mission is to:

- Promote the collection and scientific analysis of land cover data, applications, and production through active participation in national and international scientific forums.
- Conduct periodic seminars and workshops focused on developing innovative and creative ideas and strategic plans to address land cover research issues.
- Provide extension services, technical assistance, data, and information to LCI partners and the public.

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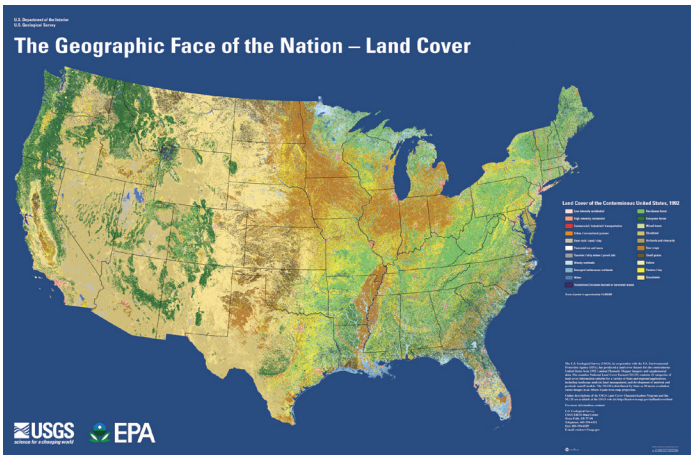
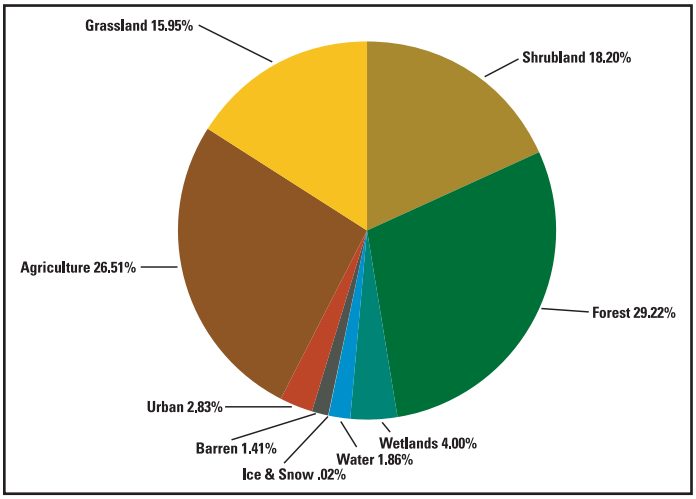
Land Cover of the Conterminous United States

USGS researchers produced the map below of land cover in the conterminous United States using 1992 Landsat imagery. The types and patterns of land cover reflect the climate, topography, soils, geology, and other environmental features that have made various types of land use possible, and shaped settlement patterns and current economic activities. A generalized summary of the map shows that forests are the major land cover type, followed closely by agriculture. Urban areas represent a very small fraction (approximately 3%) of the conterminous United States.





What Can the USGS Land Cover Institute Do for You?

Technical Assistance

USGS and other agencies and organizations have produced land cover data to meet a wide variety of spatial needs. USGS LCI has been established to provide access to, and scientific and technical support for the use of, the application of these land cover data. USGS LCI assists in identifying the most accurate and up-to-date land cover data sets available to meet the continuing requirements of modern scientists, policy makers, and educators. USGS LCI continues to identify potential partnerships for the continued development of land cover data and applications. This is accomplished by providing links to organizations that distribute land cover data and to those who demonstrate the application of such data.

For additional information, please contact us.

The USGS Land Cover Institute Web Site
http://landcover.usgs.gov/

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