

## Report on the Environment

<https://www.epa.gov/report-environment>

### Forest Extent and Type

The forests of the U.S. cover extensive lands in both the eastern and western thirds of the country. While the amount of forest land has remained nearly unchanged since the beginning of the 20<sup>th</sup> century, regional changes both in amount and types of forest cover have occurred as a result of changing patterns of agriculture and development. The distribution of various forest cover types is a critical determinant of the condition of forest ecosystems.

This indicator is based on data from the U.S. Department of Agriculture (USDA) Forest Service Forest Inventory and Analysis (FIA) program. The FIA program, using a statistical survey design and comparable methods across the U.S., collects various data that help assess the extent, type, age, and health of the nation's forest land. Because the surveys are repeated over time, the FIA data provide an indication of trends in both the extent and composition of forest land. The extent data are collected for all forest lands across the nation, but species composition data over time are only available for *timberland* as defined by FIA data collection procedures (that is, forests capable of producing at least 20 cubic feet per acre per year of industrial wood and not withdrawn from timber utilization by statute or regulation). Timberland makes up approximately 89 percent of the forest land area in the eastern U.S. and 41 percent of forest land in the western U.S. as of 2017 (USDA Forest Service, 2019). Extent data are collected for individual states, but have been summarized by EPA Region for this indicator.

### What the Data Show

From 1907 to 2017, forest land nationwide increased by almost 25 million acres (Exhibit 1). The smallest extent, 721 million acres, occurred in 1920. By 1963, forest land rose to 753 million acres, but then fell to 733 million acres in 1987. Forest extent then steadily increased to 766 million acres by 2012 before declining slightly to 765 million acres in 2017. There are variations in trends in forest cover among the different EPA Regions. For example, between 1907 and 2017, forest land declined by roughly 12 million acres in Region 9. Over the same period, forest land increased by 14 million acres in Region 3.

In addition to changes in the extent of forest, there have been changes in the types of forests over time (Exhibits 2 and 3).

- The largest changes in the eastern U.S. over the 1953–2017 period occurred in the maple-beech-birch forest type and the oak-hickory forest type, which gained 26.3 million acres and 24 million acres, respectively, since 1953. The largest decreases in the East from 1953 to 2017 were seen among the longleaf-slash pine and oak-gum cypress forest types, which decreased by 14.4 million and 12.6 million acres, respectively.
- In the West, fir-spruce and Western hardwood forests have increased by 12.5 million acres and 11.3 million acres, respectively, since 1953. The hemlock-Sitka spruce and ponderosa-Jeffrey pine forest types have decreased by about 14.2 million and 13.8 million acres, respectively. The Western white pine forest type has decreased by 5.4 million acres, or about 98 percent of its 1953 acreage.

## Limitations

- Most of the specific data related to species and age classes are only collected on lands classified as timberland and not forest land in general.
- In addition to extent and species class, age class also influences the use of forest land as habitat by different species. For example, Smith et al. (2001, 2004) noted that younger and older stands of forest had increased over the past half-decade, while middle-aged stands of more merchantable timber had decreased.

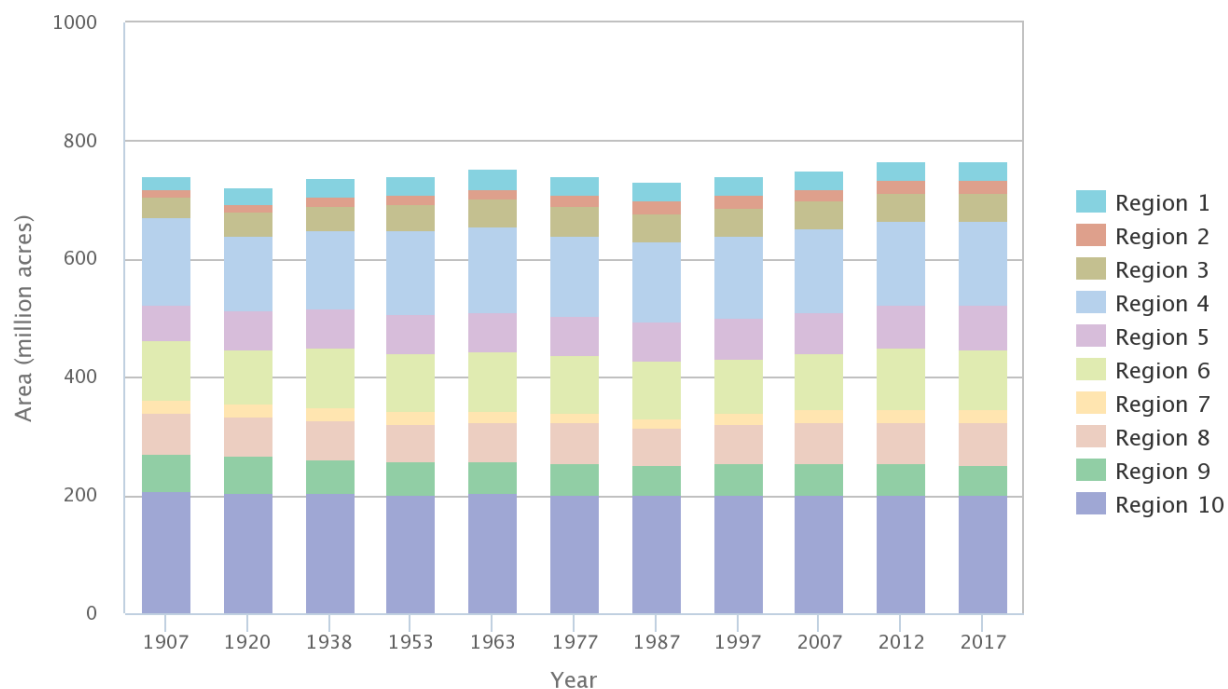
## Data Sources

This indicator is primarily based on data from the USDA Forest Service Resources Planning Act (RPA) resource tables, which are publicly available at <https://www.fia.fs.fed.us/program-features/rpa/> (USDA Forest Service, 2019). The RPA resource tables provide current and historical data on forest extent and type by state. The data are also published in a USDA Forest Service report (Oswalt et al., 2019). The 1963 timberland data were obtained from an older USDA Forest Service report (Smith et al., 2001) because these data were excluded from the newer resource tables. Data were originally collected by the USDA Forest Service's FIA program; original survey data are available from the FIA database (USDA Forest Service, 2020) (<https://www.fia.fs.fed.us/tools-data/>).

## References

- Oswalt, S.N., W.B. Smith, P.D. Miles, and S.A. Pugh. 2019. Forest resources of the United States, 2017: A technical document supporting the Forest Service update of the 2020 RPA assessment. General Technical Report WO-97. Washington, DC: USDA Forest Service, Washington Office.
- Smith, W.B., P.D. Miles, J.S. Vissage, and S.A. Pugh. 2004. Forest resources of the United States, 2002. General Technical Report NC-241. St. Paul, MN: USDA Forest Service, North Central Research Station. [https://www.ncrs.fs.fed.us/pubs/gtr/gtr\\_nc241.pdf](https://www.ncrs.fs.fed.us/pubs/gtr/gtr_nc241.pdf) (PDF) (146 pp, 5.84MB).
- Smith, W.B., J.S. Vissage, D.R. Darr, and R.M. Sheffield. 2001. Forest resources of the United States, 1997. General Technical Report NC-219. St. Paul, MN: USDA Forest Service, North Central Research Station. [https://www.ncrs.fs.fed.us/pubs/gtr/gtr\\_nc219.pdf](https://www.ncrs.fs.fed.us/pubs/gtr/gtr_nc219.pdf) (PDF) (198 pp, 1.17MB)
- USDA Forest Service. 2020. Forest Inventory and Analysis National Program, Forest Inventory Data Online (FIDO). Accessed January 2020. <https://www.fia.fs.fed.us/tools-data/>.
- USDA Forest Service. 2019. 2017 Resources Planning Act (RPA) resource tables. Accessed January 2020. <https://www.fia.fs.fed.us/program-features/rpa/>.

## Exhibit 1. Extent of forest land in the U.S. by EPA Region, 1907–2017



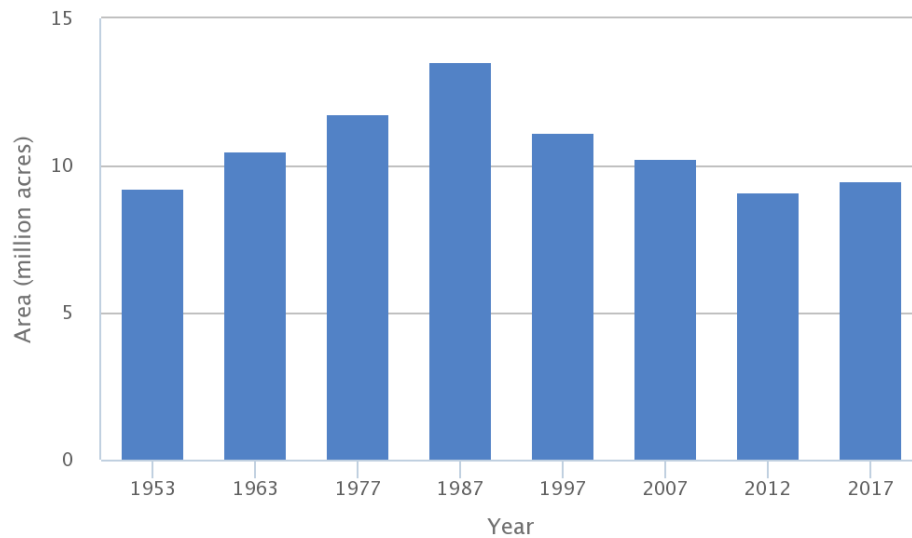
**Coverage:** All 50 states.

Information on the statistical significance of the trends in this exhibit is not currently available. For more information about uncertainty, variability, and statistical analysis, view the technical documentation for this indicator.

**Data source:** Oswalt et al., 2019

## Exhibit 2. Timberland area in the eastern U.S. by forest type, 1953–2017

### White-red-jack pine



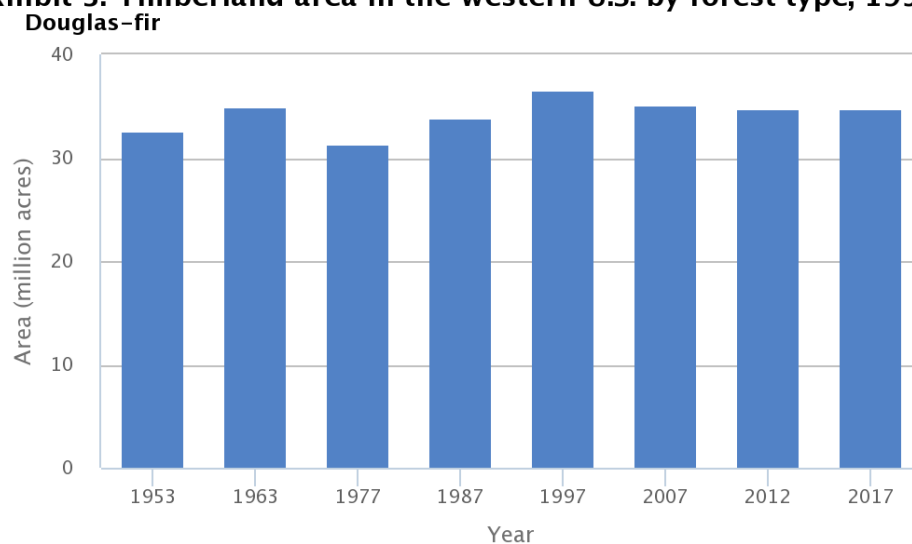
**Coverage:** States in the eastern U.S., based on USDA Forest Service reporting regions (see map). These data cover timberland, as defined by the Forest Service's Forest Inventory and Analysis (FIA) program. Approximately 89% of the forest land in the eastern states is timberland.

Information on the statistical significance of the trend in this exhibit is not currently available. For more information about uncertainty, variability, and statistical analysis, view the technical documentation for this indicator.

**Data source:** Oswalt et al., 2019; Smith et al., 2001

Visit <https://www.epa.gov/roe> to see the full exhibit.

### Exhibit 3. Timberland area in the western U.S. by forest type, 1953–2017



**Coverage:** States in the western U.S. (including Alaska and Hawaii), based on USDA Forest Service reporting regions (see map). These data cover timberland, as defined by the Forest Service's Forest Inventory and Analysis (FIA) program. Approximately 41% of the forest land in the western states is timberland.

Information on the statistical significance of the trend in this exhibit is not currently available. For more information about uncertainty, variability, and statistical analysis, view the technical documentation for this indicator.

**Data source:** Oswalt et al., 2019; Smith et al., 2001

Visit <https://www.epa.gov/roe> to see the full exhibit.