

| SYSTEM DIMENSIONS | CHEMICAL AND PHYSICAL | BIOLOGICAL COMPONENTS | HUMAN USES |
|-------------------|---|--|---|
| Extent Pattern | Nutrients, Carbon, Oxygen Contaminants Physical | Plants and Animals Communities Ecological Productivity | Food, Fiber, and Water Recreation and Other Services |

Carbon Storage

What Is This Indicator, and Why Is It Important? This indicator reports how much carbon—an essential component of all organisms—is stored in forests, including trees, soil, and plant litter on the forest floor, and in wood products.

Carbon storage has become important in international negotiations on the management of greenhouse gas emissions, because increased carbon storage can be useful in offsetting emissions of carbon from fossil fuel burning and other sources. The amount of carbon stored in forests can change through the adoption of forest management practices that allow the incorporation of more plant materials into forest soils, changes in age structure (see Forest Age, p. 126), and increases in the extent of forested areas (see Forest Area and Ownership, p. 117).

What Do the Data Show? The amount of carbon stored in trees in the East increased by 80% from 1950 to 1992, despite relatively modest changes in forest area. This increase has been attributed to growth on farmlands allowed to revert to forests, maturing of second-growth forests, and to increased growth in some southeastern forests. In western forests, the addition of new carbon through forest growth was offset by harvest, resulting in little change in the overall amount stored. Note that, unlike many other forest indicators, these data do not reflect changes that occurred after 1992.

Why Can't This Entire Indicator Be Reported at This Time? More data are needed to report on the amount of carbon stored in forest soils, in leaf litter and other decomposing matter on the ground in forests, and in forest products in use or slowly decomposing in landfills.

In addition, available data are limited to timberlands, but data collection will be more comprehensive in future.

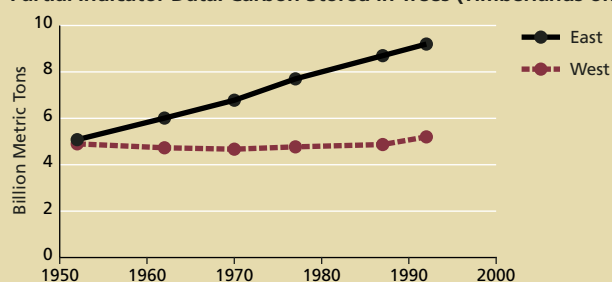
The technical note for this indicator is on page 241.

Carbon Stored in Forests

Data Not Adequate for National Reporting on

- Soils
- Forest Floors
- Wood Products
- Nontimberland Forests

Partial Indicator Data: Carbon Stored in Trees (Timberlands only)



Data Source: USDA Forest Service. Coverage: timberlands in lower 48 states.

Note: "Timberlands" is a USDA Forest Service designation for lands that grow at least 20 cubic feet of wood per acre per year, which is considered to be sufficient to support commercial harvest under current economic conditions. Lands on which harvest is prohibited by statute are not included as "timberlands."