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Data Article

Dataset of timberland variables used to assess forest conditions in two Southeastern United States' fuelsheds[☆]



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ABSTRACT

The data presented in this article are related to the research article entitled “How is wood-based pellet production affecting forest conditions in the southeastern United States?” (Dale et al., 2017) [1]. This article describes how United States Forest Service (USFS) Forest Inventory and Analysis (FIA) data from multiple state inventories were aggregated and used to extract ten annual timberland variables for trend analysis in two case study bioenergy fuelshed areas. This dataset is made publically available to enable critical or extended analyses of changes in forest conditions, either for the fuelshed areas supplying the ports of Savannah, Georgia and Chesapeake, Virginia, or for other southeastern US forested areas con-

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tributing biomass to the export wood pellet industry.
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Specifications Table

Subject area	Forestry, Ecology, Renewable energy
More specific subject area	Effect of bioenergy wood pellet production on forest conditions
Type of data	Tables, Figures
How data were acquired	USDA Forest Service (USFS) Forest Inventory and Analysis (FIA) annual inventory data and associated uncertainty values were obtained using the online USFS EVALIDator tool in conjunction with custom queries.
Data format	Raw, Analyzed
Experimental factors	Two Southeastern US case study fuelshed areas were defined and used to test for changes in ten timberland variables derived from annual FIA estimates (2002–2014) extracted and aggregated across multiple state inventories.
Experimental features	A hypothesis of no change was used to evaluate trends in timberland characteristics for each fuelshed pre- and post-2009 pellet production
Data source location	Southeastern United States. Two fuelshed regions centered on ports in Savannah, Georgia, 32°1'N; 81°7'W and Norfolk, Virginia, 36°55'N; 76°12'W
Data accessibility	The data are available with this article

Value of the data

- The dataset presents ten landscape-scale characteristics of timberland health that can be used by other researchers for multiple purposes.
- The methods used to aggregate FIA data across US state lines for fuelshed-scale change detection can be used to extend the statistical analyses to other locations (e.g., other SE US fuelsheds).
- These data and methods will allow other researchers to extend the statistical analyses into the future as more annual FIA data become available.

1. Data

Annual timberland characteristics and associated uncertainty values derived from USDA Forest Service (USFS) Forest Inventory and Analysis (FIA) annual inventory data [2] for years 2002–2014 are provided for two forested areas supplying bioenergy wood pellets shipped out of the ports of Savannah, Georgia, and Chesapeake, Virginia, in the southeastern United States (SE US). The annual estimates provided for each fuelshed include timberland volume of naturally regenerating stands ('natural stands') and plantations (Table 1), timberland area by stand-size class (Table 2), number of standing dead trees per hectare of timberland for natural stands and plantations (Table 3), and millions of metric tons of carbon calculated for three carbon pools (Table 4). A summary of all ten annual timberland variables and outlier values is provided for each fuelshed (Tables 5–7).

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