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Tree inventory data from permanent plots in French forest reserves

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Abstract

We present a data set resulting from the first round of a national monitoring program of forest reserves. It contains 9538 permanent plots, distributed across 111 study sites in mainland France (including Corsica). Notably focusing on dead wood measurement, this protocol has primarily been applied in strict forest reserves and special nature reserves (sensu Bollmann & Braunisch 2013), with 68% (6494) of the plots being currently located in strict forest reserves (unmanaged) and 24.7% (2363 plots) in forests unmanaged for at least 50 years. Sites cover a large variety of ecological conditions, from lowland to subalpine forests, but with an underrepresentation of Mediterranean forests (Table 1). The protocol assesses all the stages of a tree's life cycle, from seedling to decomposed lying dead wood. On each plot, a combination of three sampling techniques was used: (1) fixed-area inventory for regeneration, standing dead trees, living trees, and coarse woody debris (CWD) with diameter over 30 cm; (2) transect lines for CWD with diameter <30 cm; and (3) fixed-angle plot method for living trees with diameter at breast height (DBH) >30 cm (using a relascope angle of 3%). Measurements include exact tree location (azimuth, distance), species, diameter(s), tree-related microhabitats, decay stage and bark cover, and seedling cover. With ongoing climate change, the program network can also provide important information to monitor changes in forest ecosystems. It can also be used as forest management monitoring or conservation status assessment. These data are freely available for noncommercial scientific use (Creative Commons Attribution 4.0 CC BY SA 4.0) with attribution, and this paper must be cited if this material is reused.

KEYWORDS

biodiversity, deadwood, dendrometry, forest reserves, France, nature reserve, old-growth forests, permanent plots, tree diameter, tree recruitment, tree spatial coordinates

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

Data are available on Zenodo at <https://zenodo.org/doi/10.5281/zenodo.11064978>.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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