Treesearch

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Treesearch es una base de datos en línea de acceso abierto con publicaciones gratuitas de texto completo escritas o financiadas por la unidad de Investigación y Desarrollo del Servicio Forestal del Departamento de Agricultura de los Estados Unidos (USDA).

En Treesearch se incluyen trabajos académicos y técnicos escritos por los investigadores y colaboradores de la agencia; publicados en revistas, en actas de congresos o en libros.

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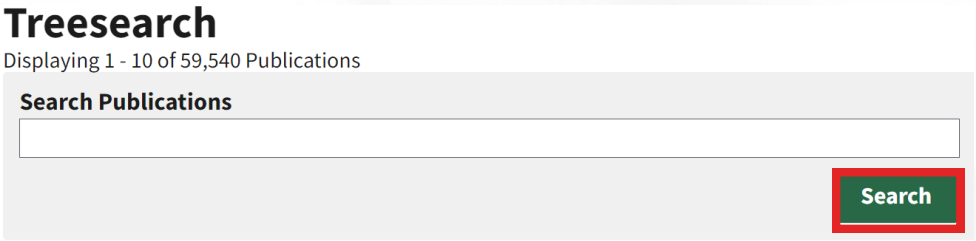
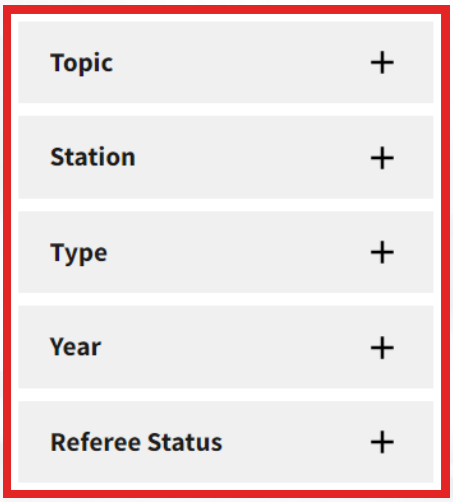
Buscar publicaciones

1. Escriba las **palabras clave** de su tema de investigación en el cuadro de búsqueda y haga clic en "Search".



2. Seleccione de la lista de **filtros** para especificar sus resultados.

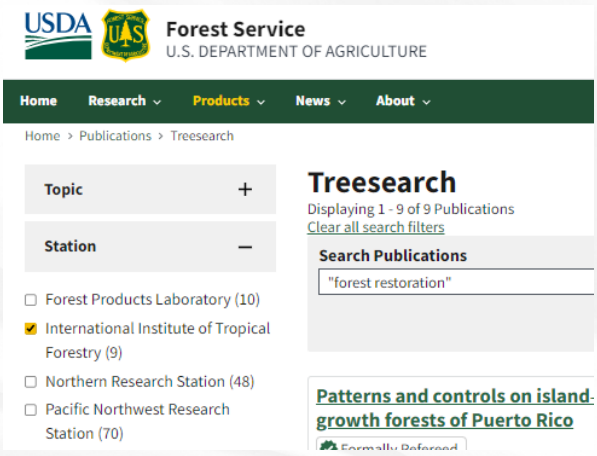


Consejos:

- *Utilice palabras claves en inglés para obtener más resultados.*
- *Utilice nombres científicos cuando busque especies.*
- *Utilice "comillas" para buscar por frase.*
- *Evite el uso de artículos gramaticales y pronombres como palabras clave (yo, usted, el, la).*

Ejemplos:

Palabras claves: "forest restoration"
Filtro: International Institute of Tropical Forestry



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3. Seleccione la publicación que desea descargar haciendo clic en el **título en verde.**

4. Ahora verá el registro bibliográfico y tendrá las opciones para descargar y exportar la cita a un software de gestión de referencias.

Patterns and controls on island-wide aboveground biomass accumulation in second-growth forests of Puerto Rico

Formally Refereed

… of biomass accumulation in second-growth tropical **forests** following land use abandonment is important for informing ecosystem carbon models and **forest restoration** efforts. There is an urgent need for a broad …

Authors: Sebastián Martinuzzi, Bruce D. Cook, Eileen H. Helmer, Michael Keller, Dexter Locke, Humfredo Marcano-Vega, María Uriarte, Douglas C. Morton
Keywords: carbon, forest succession, lidar, restoration, tropical forests
Source: Biotropica
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Year: 2022
Type: Scientific Journal (JRNL)
Station: International Institute of Tropical Forestry
DOI: https://doi.org/10.1111/btp.13122
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Cite

Abstract

Understanding the heterogeneity of biomass accumulation in second-growth tropical forests following land use abandonment is important for informing ecosystem carbon models and forest restoration efforts. There is an urgent need for a broad sample of second-growth forests to enhance our knowledge of carbon accumulation in human-dominated landscapes, especially for older forests. Puerto Rico has predominantly second-growth forests, ranging in age from approximately 25 to more than 80 years. We used an island-wide sample of airborne lidar from the NASA Goddard Lidar, Hyperspectral, and Thermal (G-LiHT) Airborne Imager collected on March 2017, forest inventory data, and data on forest age, precipitation, soils, and land use to estimate aboveground biomass stocks in moist and wet, second-growth tropical forests. Biomass accumulation rates in Puerto Rico were lower, on average, than in other Neotropical forests. Median biomass across >16,700 ha of older secondgrowth forests was 105 Mg ha^{-1}, and sampled biomass rarely surpassed 250 Mg ha^{-1}. Differences in biomass by age were large and persistent across different substrates and land uses, with a plateau in the pattern of island-wide biomass accumulation after about 33 years. A spatial regression model showed that multiple factors were related to biomass accumulation, including time since abandonment, geologic substrate, past land use as coffee or pasture, precipitation, topographic wetness index, and slope. Our findings have important consequences for the total carbon storage and expected climate mitigation benefits of large-scale reforestation efforts, and highlight the value of airborne lidar for quantifying biomass variability in complex tropical landscapes.

Keywords

carbon, forest succession, lidar, restoration, tropical forests

Citation

Martinuzzi, Sebasti n; Cook, Bruce D.; Helmer, Eileen H.; Keller, Michael; Locke, Dexter H.; Marcano Vega, Humfredo; Uriarte, Mar a; Morton, Douglas C. 2022. Patterns and controls on island wide aboveground biomass accumulation in second growth forests of Puerto Rico. Biotropica. 15: 26-. https://doi.org/10.1111/btp.13122.

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- *Formally Refereed (Revisado formalmente) es una evaluación en que los evaluadores son seleccionados por los editores.*
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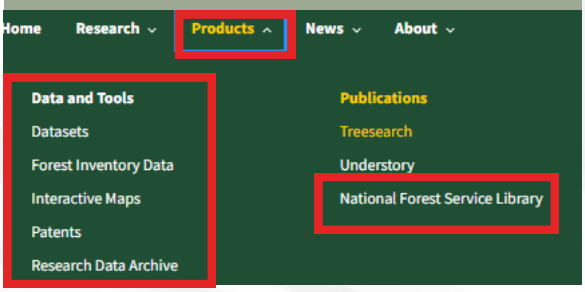

Departamento de Agricultura de Estados Unidos
Servicio Forestal

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