The Forest School at Yale School of the Environment

New grants and initiatives include the Yale Center for Natural Carbon Capture focused on developing collaborative and innovative solutions to remove carbon dioxide from our atmosphere and mitigate the effects of greenhouse gas emissions, as well as funding of 100 million USD on forest resilience and climate change mitigation, 2.5 million USD to understand the basics of plant photosynthesis, and additional resource to student forest farming and agroforestry systems in New England.

In Education and outreach the Forest School hosted a Spring 2021 Yale Forest Forum online speaker series on The Promise and Practice of Community-Based Forestry hosted jointly by The Forests Dialogue and the Urban Resources Initiative is available now. Additionally, this summer the Yale-Environmental Leadership and Training Initiative launched its third cohort of the online certificate program on Tropical Forest Landscape Conservation, Restoration, and Sustainable Use, with more than 80 participants of environmental practitioners and students all over the world. In April and May The Forests Dialogue hosted its first virtual dialogue, bringing together global stakeholders as part of their Climate Positive Forest Products initiative to discuss the opportunities, challenges, and concerns to scaling up mass-timber construction as a climate change mitigation strategy.

New research out of The Forest School was published in thematic areas of Forest Ecology, Urban Forestry, Human Dimensions, Climate Change, and Wildlife. See below for highlights of research published in peer-reviewed journals Spring and Summer 2021. To see a full list of research publications this year visit Yale Forest Forum website.

To stay up to date on new initiatives and research out The Forest School, sign up to receive The Overstory Newsletter.

Research Highlights

Forest Ecology

- Carpenter, R., **Ward, E. B., Wikle, J., Duguid, M. C., Bradford, M. A.,** & **Ashton, M. S.** (2021). Soil nutrient recovery after shelterwood timber harvesting in a temperate oak hardwood forest: Insights using a twenty-five-year chronosequence. *Forest Ecology and Management*, *499*, 119604.
- **Bradford, M.A., Wood, S.A., Addicott, E.T., Fenichel, E.P., Fields, N., Gonzalez-Rivero, J.,** …& Wieder, W.R. (2021). Quantifying microbial control of soil organic matter dynamics at macrosystem scales. *Biogeochemistry,* 1-22.
- **Penagos Zuluaga, J. C.,** van der Werff, H., Park, B., Eaton, D. A., **Comita, L. S., Queenborough, S. A., & Donoghue, M. J.** (2021). Resolved phylogenetic relationships in the Ocotea complex (Supraocotea) facilitate phylogenetic classification and studies of character evolution. *American Journal of Botany*.
- **Piotto, D.,** Magnago, L. F. S., **Montagnini, F., Ashton, M. S., Oliver, C.,** & Thomas, W. W. (2021). Nearby mature forest distance and regenerating forest age influence tree species composition in the Atlantic forest of Southern Bahia, Brazil. *Biodiversity and Conservation*, 1-16.
- **Trueba, S.,** Theroux-Rancourt, G., Earles, J. M., Buckley, T. N., Love, D., Johnson, D. M., & **Brodersen, C.** (2021). The 3D construction of leaves is coordinated with water use efficiency in conifers. *bioRxiv*.

Urban Forestry

- **Doroski, D. A., Duguid, M. C., & Ashton, M. S.** (2021). Forest patch size predicts seed bank composition in urban areas. *Applied Vegetation Science*, *24*(1), e12534.
- **Ward, E. B., Doroski, D. A.,** Felson, A. J., Hallett, R. A., **Oldfield, E. E.,** Kuebbing, S. E., & **Bradford, M. A.** (2021). Positive long-term impacts of restoration on soils in an experimental urban forest. *Ecological Applications*, e2336.
- **Scanlan, C. N., Doroski, D. A., Murphy-Dunning, C., & Ashton, M. P.** (2021). Urban Resources Initiative: A University Model for Clinical Urban Forestry Education. *Arboriculture & Urban Forestry*, *47*(1).
- **Pregitzer, C. C., Charlop-Powers, S., & Bradford, M. A.** (2021). Natural Area Forests in US Cities: Opportunities and Challenges. *Journal of Forestry*, *119*(2), 141-151.
- **Klein, W., Dove, M. R.,** & Felson, A. J. (2021). Engaging the unengaged: Understanding residents' perceptions of social access to urban public space. *Urban Forestry & Urban Greening*, *59*, 126991

Human Dimensions

- **Dove, M.R.** (2021). *Bitter Shade: The Ecological Challenge of Human Consciousness*. Yale University Press.
- Dernbach, J. C., Schang, S. E., Adler, R. W., Boudreaux, K., Bouman, J., Babineaux-Fontenot, C., …**Torres, G.,** … & Wilson, A. (2021). Making America A Better Place for All: Sustainable Development Recommendations for the Biden Administration.
- **Taylor, D. E.** (2021). Understanding Black, Asian, Latinx, and White College Students' Views of Nature: Frequent Thoughts About Wild, Remote, Rural, and Urban Landscapes. *American Behavioral Scientist*, 00027642211013403.

Climate Change

- Favero, A., **Mendelsohn, R.,** Sohngen, B., & Stocker, B. (2021). Assessing the long-term interactions of climate change and timber markets on forest land and carbon storage. *Environmental Research Letters*, *16*(1), 014051.
- **Mendelsohn, R.** (2021). The Extent of Future Damages from Climate Change. In *Oxford Research Encyclopedia of Economics and Finance*.

Wildlife

- **Benitez, L.,** & **Queenborough, S. A.** (2021). Fruit trees drive small-scale movement of elephants in Kibale National Park, Uganda. *Biotropica*.
- **Hanle, J.,** Singhakumara, B. M., & **Ashton, M. S.** (2021). Complex Small-Holder Agriculture in Rainforest Buffer Zone, Sri Lanka, Supports Endemic Birds. *Frontiers in Ecology and Evolution*, *9*, 57.
- **Murphy, S. J.,** & **Comita, L. S.** (2021). Large mammalian herbivores contribute to conspecific negative density dependence in a temperate forest. *Journal of Ecology*, *109*(3), 1194-1209.
- **McCary, M. A., & Schmitz, O. J.** (2021). Invertebrate functional traits and terrestrial nutrient cycling: insights from a global meta-analysis. *Journal of Animal Ecology*.