



SPECIAL ISSUE

Southern Forest Science in Support of a Low Carbon Economy

Guest Editor: Kurt H. Johnsen

- ii Introduction: Southern Forest Science in Support of a Low Carbon Economy
C. Maier, K. Johnsen, J. Butnor, and D. Nelson
- 407 Thinning, Age, and Site Quality Influence Live Tree Carbon Stocks in Upland Hardwood Forests of the Southern Appalachians
T.L. Keyser and S.J. Zarnoch
- 419 Carbon Emissions and Sequestration from Fertilization of Pine in the Southeastern United States
T.J. Albaugh, E.D. Vance, C. Gaudreault, T.R. Fox, H.L. Allen, J.L. Stape, and R.A. Rubilar
- 430 Effect of Harvest Residue Management on Tree Productivity and Carbon Pools during Early Stand Development in a Loblolly Pine Plantation
C.A. Maier, K.H. Johnsen, P. Dougherty, D. McInnis, P. Anderson, and S. Patterson
- 446 Carbon Sequestration from 40 Years of Planting Genetically Improved Loblolly Pine across the Southeast United States
M.J. Aspinwall, S.E. McKeand, and J.S. King
- 457 Modeling the Effects of Stand Development, Site Quality, and Silviculture on Leaf Area Index, Litterfall, and Forest Floor Accumulations in Loblolly and Slash Pine Plantations
C.A. Gonzalez-Benecke, E.J. Jokela, and T.A. Martin
- 472 Relationships between Soil CO₂ Efflux and Forest Structure in 50-Year-Old Longleaf Pine
L.J. Samuelson and W.B. Whitaker
- 485 Loblolly Pine Age and Density Affects Switchgrass Growth and Soil Carbon in an Agroforestry System
M.A. Blazier, T.R. Clason, E.D. Vance, Z. Leggett, and E.B. Sucre
- 497 A Comparison of Three Methods to Estimate Evapotranspiration in Two Contrasting Loblolly Pine Plantations: Age-Related Changes in Water Use and Drought Sensitivity of Evapotranspiration Components
J.-C. Domec, G. Sun, A. Noormets, M.J. Gavazzi, E.A. Treasure, E. Cohen, J.J. Swenson, S.G. McNulty, and J.S. King
- 513 A Comparison of Three Field Sampling Methods to Estimate Soil Carbon Content
L. Worsham, D. Markewitz, N.P. Nibelink, and L.T. West
- 523 Effect of Bioenergy Demands and Supply Response on Markets, Carbon, and Land Use
K.L. Abt, R.C. Abt, and C. Galik
- 540 What Makes Carbon Work? A Sensitivity Analysis of Factors Affecting Forest Offset Viability
C.S. Galik and D.M. Cooley

On the cover: Twenty-one-month-old clonal loblolly pine plantations (clone AA-93, Arborgen, Inc.) growing under different organic matter residue incorporation treatments: plus 25 Mg ha⁻¹ forest floor (*top image*), and plus 50 Mg ha⁻¹ comminuted logging debris (*bottom image*). Photos by Chris Maier (USDA Forest Service). See Maier et al., "Effect of Harvest Residue Management on Tree Productivity and Carbon Pools during Early Stand Development in a Loblolly Pine Plantation," for further details.



5400 Grosvenor Lane
Bethesda, MD 20814-2198
(866) 897-8720 (office)
(301) 897-3690 (fax)
www.eforester.org