

Selected References

- Ackerman, D.J., 1989, Hydrology of the Mississippi River Valley alluvial aquifer, south-central United States—A preliminary assessment of the regional flow system: U.S. Geological Survey Water Resources Investigations Report 88–4028, 74 p.
- Ackerman, K.V., Mixon, D.M., Sundquist, E.T., Stallard, R.F., Schwarz, G.E., and Stewart, D.W., 2009, RESIS–II: An updated version of the original reservoir sedimentation survey information system (RESIS) database: U.S. Geological Survey Data Series 434, accessed July 11, 2012, at <http://pubs.usgs.gov/ds/ds434/>.
- Adams, D.M., Haynes, R.W., and Daigneault, A.J., 2006, Estimated timber harvest by U.S. region and ownership, 1950–2002: U.S. Department of Agriculture General Technical Report PNW–GTR–659, 64 p. (Also available at http://www.fs.fed.us/pnw/pubs/pnw_gtr659.pdf.)
- Albani, Marco, Medvigy, David, Hurtt, G.C., and Moorcroft, P.R., 2006, The contributions of land-use change, CO₂ fertilization, and climate variability to the eastern U.S. carbon sink: *Global Change Biology*, v. 12, no. 12, p. 2370–2390, accessed September 30, 2013, at <http://dx.doi.org/10.1111/j.1365-2486.2006.01254.x>.
- Albaugh, T.J., Allen, H.L., Dougherty, P.M., Kress, L.W., and King, J.S., 1998, Leaf area and above- and belowground growth responses of loblolly pine to nutrient and water additions: *Forest Science*, v. 44, no. 2, p. 317–328. (Also available at <http://www.ingentaconnect.com/content/saf/fs/1998/00000044/00000002/art00016>.)
- Albert, D.A., 1995, Regional landscape ecosystems of Michigan, Minnesota, and Wisconsin—A working map and classification: U.S. Department of Agriculture, Forest Service General Technical Report NC–178, 250 p., accessed November 13, 2013, at <http://www.npwrc.usgs.gov/resource/habitat/rlandscp/>.
- Albini, F.A., and Reinhardt, E.D., 1995, Model ignition and burning rate of large woody natural fuels: *International Journal of Wildland Fire*, v. 5, no. 2, p. 81–91.
- Albini, F.A., and Reinhardt, E.D., 1997, Improved calibration of a large fuel burnout model: *International Journal of Wildland Fire*, v. 7, no. 1, p. 21–28.
- Albini, F.A., Brown, J.K., Reinhardt, E.D., and Ottmar, R.D., 1995, Calibration of a large fuel burnout model: *International Journal of Wildland Fire*, v. 5, no. 3, p. 173–192.
- Alcamo, Joseph, Leemans, Rick, and Kreileman, Eric, 1998, Global change scenarios of the 21st century—Results from the IMAGE 2.1 model: Elsevier Science Ltd., Oxford, United Kingdom, 296 p.
- Alexander, R.B., Smith, R.A., Schwarz, G.E., Boyer, E.W., Nolan, J.V., and Brakebill, J.W., 2008, Differences in phosphorus and nitrogen delivery to the gulf of Mexico from the Mississippi River basin: *Environmental Science and Technology*, v. 42, no. 3, p. 822–830.
- Allan, J.D., 2004, Landscapes and riverscapes—The influence of land use on stream ecosystems: *Annual Review of Ecology, Evolution, and Systematics*, v. 35, no. 1, p. 257–284.
- Allison, M.A., Bianchi, T.S., McKee, B.A., and Sampere, T.P., 2007, Carbon burial on river-dominated continental shelves—Impact of historical changes in sediment loading adjacent to the Mississippi River: *Geophysical Research Letters*, v. 34, no. 1, L01606, accessed October 30, 2013, at <http://dx.doi.org/10.1029/2006GL028362>.
- Alperin, M.J., Suayah, I.B., Benninger, L.K., and Martens, C.S., 2002, Modern organic carbon burial fluxes, recent sedimentation rates, and particle mixing rates from the upper continental slope near Cape Hatteras, North Carolina (USA): *Deep-Sea Research Part II: Topical Studies in Oceanography*, v. 49, no. 20, p. 4645–4665.
- Anderson, D.M., Glibert, P.M., and Burkholder, J.M., 2002, Harmful algal blooms and eutrophication—Nutrient sources, composition, and consequences: *Estuaries*, v. 25, no. 4B, p. 704–726.
- Anderson, L.A., and Sarmiento, J.L., 1994, Redfield ratios of remineralization determined by nutrient data-analysis: *Global Biogeochemical Cycles*, v. 8, no. 1, p. 65–80.
- Armentano, T.V., and Menges, E.S., 1986, Patterns of change in the carbon balance of organic soil-wetlands of the temperate zone: *Journal of Ecology*, v. 74, no. 3, 755–774.
- Armstrong, R.A., Lee, Cindy, Hedges, J.I., Honjo, Susumu, and Wakeham, S.G., 2001, A new, mechanistic model for organic carbon fluxes in the ocean based on the quantitative association of POC with ballast minerals: *Deep-Sea Research Part II: Topical Studies in Oceanography*, v. 49, nos. 1–3, p. 219–236.
- Auch, R.F., Napton, D.E., Kambly, Steven, Moreland, T.R., Jr., and Sayler, K.L., 2012, The driving forces of land change in the northern Piedmont of the United States: *Geographical Review*, v. 102, no. 1, p. 53–75.
- Aufdenkampe, A.K., Mayorga, Emilio, Raymond, P.A., Melack, J.M., Doney, S.C., Alin, S.R., Aalto, R.E., and Yoo, Kyungsoo, 2011, Riverine coupling of biogeochemical cycles between land, oceans, and atmosphere: *Frontiers in Ecology and the Environment*, v. 9, no. 1, p. 53–60.
- Bachelet, Dominique, Neilson, R.P., Hickler, Thomas, Drapak, R.J., Lenihan, J.M., Sykes, M.T., Smith, Benjamin, Sitch, Stephen, and Thonicke, Kirsten, 2003, Simulating

- past and future dynamics of natural ecosystems in the United States: *Global Biogeochemical Cycles*, v. 17, no. 2, 1045, 21 p., accessed October 30, 2013, at <http://dx.doi.org/10.1029/2001GB001508>.
- Bachelet, Dominique, Neilson, R.P., Lenihan, J.M., and Drappek, R.J., 2001, Climate change effects on vegetation distribution and carbon budget in the United States: *Ecosystems*, v. 4, no. 3, p. 164–185.
- Balshi, M.S., McGuire, A.D., Duffy, P., Flannigan, M., Kicklighter, D.W., and Melillo, J., 2009a, Vulnerability of carbon storage in North American boreal forests to wildfires during the 21st century: *Global Change Biology*, v. 15, no. 6, p. 1491–1510.
- Balshi, M.S., McGuire, A.D., Duffy, Paul, Flannigan, Mike, Walsh, John, and Melillo, Jerry, 2009b, Assessing the response of area burned to changing climate in western boreal North America using a multivariate adaptive regression splines (MARS) approach: *Global Change Biology*, v. 15, no. 3, p. 578–600.
- Barnes, R.T., and Raymond, P.A., 2009, The contribution of agricultural and urban activities to inorganic carbon fluxes within temperate watersheds: *Chemical Geology*, v. 266, nos. 3–4, p. 318–327.
- Battin, T.J., Luyssaert, Sebastiaan, Kaplan, L.A., Aufdenkampe, A.K., Richter, Andreas, and Tranvik, L.J., 2009, The boundless carbon cycle: *Nature Geoscience*, v. 2, p. 598–600. (Also available at <http://dx.doi.org/10.1038/ngeo618>.)
- Behrenfeld, M.J., and Falkowski, P. G., 1997, Photosynthetic rates derived from satellite-based chlorophyll concentration: *Limnology and Oceanography*, v. 42, no. 1, p. 1–20.
- Benecke, Udo, and Nordmeyer, A.H., 1982, Carbon uptake and allocation by *Nothofagus solandri* var. *cliffortioides* (Hook f.) Poole and *Pinus contorta* Douglas ex Loudon ssp. *contorta* at montane and subalpine altitudes, in Waring, R.H., ed., Carbon uptake and allocation in subalpine ecosystems as a key to management, Proceedings of an IUFRO workshop: Corvallis, Oreg., Oregon State University, p. 9–21.
- Bennington, Val, McKinley, G.A., Urban, N.R., and McDonald, C.P., 2012, Can spatial heterogeneity explain the perceived imbalance in Lake Superior's carbon budget? A model study: *Journal of Geophysical Research: Biogeosciences*, v. 117, no. G3, G03020, 20 p., accessed February 4, 2014, at <http://dx.doi.org/10.1029/2011JG001895>.
- Bergamaschi, B.A., Tsamakis, Elizabeth, Keil, R.G., Eglinton, T.I., Montluçon, D.B., and Hedges, J.I., 1997, The effect of grain size and surface area on organic matter, lignin and carbohydrate concentration, and molecular compositions in Peru margin sediments: *Geochimica Et Cosmochimica Acta*, v. 61, no. 6, p. 1247–1260.
- Bianchi, T.S., DiMarco, S.F., Cowan, J.H., Jr., Hetland, R.D., Chapman, P., Day, J.W., and Allison, M.A., 2010, The science of hypoxia in the northern gulf of Mexico—A review: *Science of the Total Environment*, v. 408, no. 7, p. 1471–1484.
- Binford, M.W., Gholz, H.L., Starr, Gregory, and Martin, T.A., Regional carbon dynamics in the southeastern coastal plain—Balancing land cover type, timber harvesting, fire, and environmental variation: *Journal of Geophysical Research: Atmospheres*, v. 111, no. D24, 12 p., accessed February 6, 2014, at <http://dx.doi.org/10.1029/2005JD006820>.
- Birdsey, Richard, Pregitzer, Kurt, and Lucier, Alan, 2006, Forest carbon management in the United States—1600–2100: *Journal of Environmental Quality*, v. 35, no. 4, p. 1461–1469.
- Blair, N.E., Leithold, E.L., and Aller, R.C., 2004, From bedrock to burial—The evolution of particulate organic carbon across coupled watershed-continental margin systems: *Marine Chemistry*, v. 92, no. 1–4, p. 141–156.
- Blair, N.E., Leithold, E.L., Ford, S.T., Peeler, K.A., Holmes, J.C., and Perkey, D.W., 2003, The persistence of memory—The fate of ancient sedimentary organic carbon in a modern sedimentary system: *Geochimica Et Cosmochimica Acta*, v. 67, no. 1, p. 63–73.
- Boudreau, B.P., and Ruddick, B.R., 1991, On a reactive continuum representation of organic-matter diagenesis: *American Journal of Science*, v. 291, no. 5, p. 507–538.
- Boyer, E.W., Howarth, R.W., Galloway, J.N., Dentener, F.J., Green, P. A., and Vörösmarty, C.J., 2006, Riverine nitrogen export from the continents to the coasts: *Global Biogeochemical Cycles*, v. 20, no. 1, 9 p., accessed October 30, 2013, at <http://dx.doi.org/10.1029/2005GB002537>.
- Bracho, Rosvel, Starr, Gregogry, Gholz, H.L., Martin, T.A., Cropper, W.P., and Loescher, H.W., 2012, Controls on carbon dynamics by ecosystem structure and climate for southeastern U.S. slash pine plantations: *Ecological Monographs*, v. 82, no. 1, p. 101–128.
- Bradshaw, L.S., Deeming, J.E., Burgan, R.E., and Cohen, J.D., 1983, The 1978 national fire-danger rating system—Technical documentation: U.S. Department of Agriculture, Forest Service, General Technical Report INT–169, 44 p., accessed October 29, 2013, at http://www.fs.fed.us/rm/pubs_int/int_gtr169.pdf.
- Braun, E.L., 1950, Deciduous forests of eastern North America: New York, Hafner Publishing Company, 596 p.
- Breitbart, D.L., Craig, J.K., Fulford, R.S., Rose, K.A., Boynton, W.R., Brady, D.C., Ciotti, B.J., Diaz, R.J., Friedland, K.D., Hagy, J.D., III, Hart, D.R., Hines, A.H., Houde, E.D., Kolesar, S.E., Nixon, S.W., Rice, J.A., Secor, D.H., and Targett, T.E., 2009, Nutrient enrichment and fisheries exploitation—Interactive effects on estuarine living resources and their management: *Hydrobiologia*, v. 629, no. 1, p. 31–47.
- Bridgman, S.D., Megonigal, J.P., Keller, J.K., Bliss, N.B., and Trettin, Carl, 2006, The carbon balance of North American wetlands: *Wetlands*, v. 26, no. 4, p. 889–916.

- Brown, D.G., Johnson, K.M., Loveland, T.R., and Theobald, D.M., 2005, Rural land-use trends in the conterminous United States, 1950–2000: Ecological Applications, v. 15, no. 6, p. 1851–1863. (Also available at <http://dx.doi.org/10.1890/03-5220>.)
- Brown, T.J., Hall, B.L., Mohrle, C.R., and Reinbold, H.J., 2002, Coarse assessment of federal wildland fire occurrence data: Reno, Nevada, Desert Research Institute Climate, Ecosystem, and Fire Applications Program Report 02–04, 31 p., accessed October 29, 2013, at <http://cefa.dri.edu/Publications/fireoccurrencereport.pdf>.
- Burakowski, E.A., Wake, C.P., Braswell, Bobby, and Brown, D.P., 2008, Trends in wintertime climate in the northeastern United States —1965–2005: Journal of Geophysical Research: Atmospheres, v. 113, no. D20, D20114, 12 p., accessed October 30, 2013, at <http://dx.doi.org/10.1029/2008JD009870>.
- Burdige, D.J., 2005, Burial of terrestrial organic matter in marine sediments—A re-assessment: Global Biogeochemical Cycles, v. 19, no. 4, 7 p., accessed October 30, 2013, at <http://dx.doi.org/10.1029/2004GB002368>.
- Burdige, D.J., 2007, Preservation of organic matter in marine sediments—Controls, mechanisms, and an imbalance in sediment organic carbon budgets?: Chemical Reviews, v. 107, no. 2, p. 467–485.
- Burgan, R.E., 1988, 1988 revisions to the 1978 national fire-danger rating system: U.S. Department of Agriculture, Forest Service, Research Paper SE–273, 144 p., accessed October 30, 2013, at <http://www.treesearch.fs.fed.us/pubs/593>.
- Burgin, A.J., and Hamilton, S.K., 2007, Have we overemphasized the role of denitrification in aquatic ecosystems?—A review of nitrate removal pathways: Frontiers in Ecology and Environmental Science, v. 5, no. 2, p. 89–96.
- Butman, David, and Raymond, P.A., 2011, Significant efflux of carbon dioxide from streams and rivers in the United States: Nature Geoscience, v. 4, no. 12, p. 839–842.
- Calkin, D.E., Thompson, M.P., Finney, M.A., and Hyde, K.D., 2011, A real-time risk assessment tool supporting wildland fire decisionmaking: Journal of Forestry, v. 109, no. 5, p. 274–280.
- Campbell, John, Donato, Dan, Azuma, David, and Law, Beverly, 2007, Pyrogenic carbon emission from a large wildfire in Oregon, United States: Journal of Geophysical Research, v. 112, no. G4, G04014, 11 p., accessed October 30, 2013, at <http://dx.doi.org/10.1029/2007JG000451>.
- Canadian Forest Service, 2012, Climate change scenarios data, in Regional, national and international climate modeling: Canadian Forest Service database, accessed May 31, 2012, at <http://cfs.nrcan.gc.ca/projects/3/5>.
- Canham, C.D., and Loucks, O.L., 1984, Catastrophic windthrow in the presettlement forests of Wisconsin: Ecology, v. 65, no. 3, p. 803–809.
- Cardille, J.A., Ventura, S.J., and Turner, M.G., 2001, Environmental and social factors influencing wildfires in the Upper Midwest, United States: Ecological Applications, v. 11, no. 1, p. 111–127.
- Cary, G.J., Flannigan, M.D., Keane, R.E., Bradstock, R.A., Davies, I.D., Lenihan, J.M., Li, Chao, Logan, K.A., and Parsons, R.A., 2009, Relative importance of fuel management, ignition management and weather for area burned—Evidence from five landscape-fire-succession models: International Journal of Wildland Fire, v. 18, no. 2, p. 147–156.
- Chapin, F.S., III, Woodwell, G.M., Randerson, J.T., Rastetter, E.B., Lovett, G.M., Baldocchi, D.D., Clark, D.A., Harmon, M.E., Schimel, D.S., Valentini, R., Wirth, C., Aber, J.D., Cole, J.J., Goulden, M.L., Harden, J.W., Heimann, M., Howarth, R.W., Matson, P.A., McGuire, A.D., Melillo, J.M., Mooney, H.A., Neff, J.C., Houghton, R.A., Pace, M.L., Ryan, M.G., Running, S.W., Sala, O.E., Schlesinger, W.H., and Schulze, E.D., 2006, Reconciling carbon-cycle concepts, terminology, and methods: Ecosystems, v. 9, p. 1041–1050, accessed October 30, 2013, at <http://dx.doi.org/10.1007/s10021-005-0105-7>.
- Chen, Guangsheng, Tian, Hanqin, Zhang, Chi, Liu, Mingliang, Ren, Wwi, Zhu, Wenquan, Chappelka, A.H., Prior, S.A., and Lockaby, G.B., 2012, Drought in the southern United States over the 20th century—Variability and its impacts on terrestrial ecosystem productivity and carbon storage: Climatic Change, v. 114, no. 2, p. 379–397, accessed October 28, 2013, at <http://dx.doi.org/10.1007/s10584-012-0410-z>.
- Chen, Hua, Tian, Hanqin, Liu, Mingliang, Melillo, Jerry, Pan, Shufen, and Zhang, Chi, 2006, Effect of land-cover change on terrestrial carbon dynamics in the southern United States: Journal of Environmental Quality, v. 35, no. 4, p. 1533–1547.
- Chmura, G.L., Anisfeld, S.C., Cahoon, D.R., and Lynch, J.C., 2003, Global carbon sequestration in tidal, saline wetland soils: Global Biogeochemical Cycles, v. 17, no. 4, 1111, 12 p., accessed October 28, 2013, at <http://dx.doi.org/10.1029/2002GB001917>.
- Christensen, N.L., 1988, Vegetation of the southeastern Coastal Plain, in Barbour, M.G., and Billings, W.D., eds., North American terrestrial vegetation: Cambridge, United Kingdom, Cambridge University Press, p. 317–363.
- Christensen, N.L., 1999, Vegetation of the Southeastern Coastal Plain, chap. 11 of Barbour, M.G., and Billings, W.D., eds., North American terrestrial vegetation, 2d ed.: Cambridge, United Kingdom, Cambridge University Press, p. 397–448.
- Christopher, S.F., Lal, Rattan, and Mishra, Umakant, 2009, Regional study of no-till effects on carbon sequestration in the midwestern United States: Soil Science Society of America Journal, v. 73, no. 1, p. 207–216, accessed October 28, 2013, at <http://dx.doi.org/10.2136/sssaj2007.0336>.

- Claggett, P.R., Jantz, C.A., Goetz, S.J., and Bisland, Carin, 2004, Assessing development pressure in the Chesapeake Bay watershed; an evaluation of two land-use change models: *Environmental Monitoring and Assessment*, v. 94, nos. 1–3, p. 129–146.
- Clark, K.L., Skowronski, Nicholas, and Hom, John, 2010, Invasive insects impact forest carbon dynamics: *Global Change Biology*, v. 16, no. 1, p. 88–101.
- Clark, K.L., Gholz, H.L., Moncrieff, J.B., Cropley, Ford, and Loescher, H.W., 1999, Environmental controls over net exchanges of carbon dioxide from contrasting Florida ecosystems: *Ecological Applications*, v. 9, no. 3, p. 936–948.
- Cleary, M.B., Pendall, Elise, and Ewers, B.E., 2010, Aboveground and belowground carbon pools after fire in mountain big sagebrush steppe: *Rangeland Ecology and Management*, v. 63, no. 2, p. 187–196.
- Cleland, D.T., Crow, T.R., Saunders, S.C., Dickmann, D.I., Maclean, A.L., Jordan, J.K., Watson, R.L., Sloan, A.M., and Brosofske, K.D., 2004, Characterizing historical and modern fire regimes in Michigan (USA)—A landscape ecosystem approach: *Landscape Ecology*, v. 19, no. 3, p. 311–325.
- Cilverd, H.M., Jones, J.B., Jr., and Kielland, Knut, 2008, Nitrogen retention in the hyporheic zone of a glacial river in interior Alaska: *Biogeochemistry*, v. 88, no. 1, p. 31–46.
- Cohn, T.A., Caulder, D.L., Gilroy, E.J., Zynjuk, L.D., and Summers, R.M., 1992, The validity of a simple statistical model for estimating fluvial constituent loads—An empirical study involving nutrient loads entering Chesapeake Bay: *Water Resources Research*, v. 28, no. 9, p. 2353–2363.
- Cole, J.J., and Caraco, N.F., 1998, Atmospheric exchange of carbon dioxide in a low-wind oligotrophic lake measured by the addition of SF_6 : *Limnology and Oceanography*, v. 43, no. 4, p. 647–656.
- Cole, J.J., Prairie, Y.T., Caraco, N.F., McDowell, W.H., Tranvik, L.J., Striegl, R.G., Duarte, C.M., Kortelainen, P., Downing, J.A., Middelburg, J.J., and Melack, J., 2007, Plumbing the global carbon cycle—Integrating inland waters into the terrestrial carbon budget: *Ecosystems*, v. 10, no. 1, p. 172–185, accessed October 31, 2013, at <http://dx.doi.org/10.1007/s10021-006-9013-8>.
- Commission for Environmental Cooperation, 1997, *Ecological regions of North America—Toward a common perspective*: Montréal, Canada, Commission for Environmental Cooperation, 71 p., accessed November 13, 2013, at <http://www3.cec.org/islandora/en/item/1701-ecological-regions-north-america-toward-common-perspective-en.pdf>.
- Commission for Environmental Cooperation, 2006, *Ecological regions of North America—Level I–III*: Montréal, Canada, Commission for Environmental Cooperation map, 1 sh., scale 1:10,000,000, accessed November 13, 2013, at <http://www3.cec.org/islandora/en/item/2560-ecological-regions-north-america-level-i-iii-en.pdf>.
- Commission for Environmental Cooperation, 2012, *Terrestrial ecoregions, 2009*: Commission for Environmental Cooperation Web page, accessed November 12, 2013, at <http://www.cec.org/Page.asp?PageID=122&ContentID=1329>.
- Conservation Technology Information Center, 2012, Crop residue management (CRM) survey data: Conservation Technology Information Center dataset, accessed May 31, 2012, at http://www.ctic.purdue.edu/CRM/crm_search/.
- Craine, J. M., Fierer, Noah, and McLauchlan, K.K., 2010, Widespread coupling between the rate and temperature sensitivity of organic matter decay: *Nature Geoscience*, v. 3, no. 12, p. 854–857.
- Creed, I.F., Beall, F.D., Clair, T.A., Dillon, P.J., and Hoeslein, R.H., 2008, Predicting export of dissolved organic carbon from forested catchments in glaciated landscapes with shallow soils: *Global Biogeochemical Cycles*, v. 22, no. 4, GB4024, 14 p., accessed February 4, 2014, at <http://dx.doi.org/10.1029/2008GB003294>.
- Crowder, B.M., 1987, Economic costs of reservoir sedimentation—A regional approach to estimating cropland erosion damage. *Journal of Soil and Water Conservation*, v. 42, no. 3, p. 194–197. (Also available at <http://www.jswnonline.org/content/42/3/194.abstract>.)
- Curtis, H.T., 1959, *The vegetation of Wisconsin—An ordination of plant communities*: Madison, Wisconsin, The University of Wisconsin Press, 657 p.
- Curtis, P.S., Hanson, P.J., Bolstad, Paul, Barford, Carol, Randolph, J.C., Schmid, H.P., and Wilson, K.B., 2002, Biometric and eddy-covariance based estimates of annual carbon storage in five eastern North American deciduous forests: *Agricultural and Forest Meteorology*, v. 113, nos. 1–4, p. 3–19.
- da Cunha, L.C., Buitenhuis, E.T., Le Quéré, Corinne, Giraud, Xavier, and Ludwig, Wolfgang, 2007, Potential impact of changes in river nutrient supply on global ocean biogeochemistry: *Global Biogeochemical Cycles*, v. 21, no. 4, 15 p., accessed October 31, 2013, at <http://dx.doi.org/10.1029/2006GB002718>.
- Dagg, M., Benner, R., Lohrenz, S., and Lawrence, D., 2004, Transformation of dissolved and particulate materials on continental shelves influenced by large rivers—Plume processes: *Continental Shelf Research*, v. 24, nos. 7–8, p. 833–858.
- Davidson, E.A., and Janssens, I.A., 2006, Temperature sensitivity of soil carbon decomposition and feedbacks to climate change: *Nature*, v. 440, p. 165–173.
- de Boyer Montégut, Clément, Madec, Gurvan, Fischer, A.S., Lazar, Alban, and Iudicone, Daniele, 2004, Mixed layer depth over the global ocean—An examination of profile data and a profile-based climatology: *Journal of Geophysical Research: Oceans*, v. 109, no. C12, 20 p., accessed October 31, 2013, at <http://dx.doi.org/10.1029/2004JC002378>.

- Dean, W.E., and Gorham, Eville, 1998, Magnitude and significance of carbon burial in lakes, reservoirs, and peatlands: *Geology*, v. 26, no. 6, p. 535–538. (Also available at <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1307&context=usgsstaffpub>.)
- Deeming, J.E., Burgan, R.E., and Cohen, J.D., 1977, The national fire-danger rating system—1978: U.S. Department of Agriculture, Forest Service General Technical Report INT-39, 63 p.
- Dendocker, N., Schmit, C., and Rounsevell, M., 2008, Exploring spatial data uncertainties in land-use change scenarios: *International Journal of Geographical Information Science*, v. 22, no. 9, p. 1013–1030. (Also available at <http://dx.doi.org/10.1080/13658810701812836>.)
- Downing, J.A., Cole, J.J., Duarte, C.M., Middelburg, J.J., Melack, J.M., Prairie, Y.T., Kortelainen, Pirrko, Striegl, R.G., McDowell, W.H., and Tranvik, L.J., 2012, Global abundance and size distribution of streams and rivers: *Inland Waters*, v. 2, no. 4, p. 229–236.
- Drummond, M.A., and Loveland T.R., 2010, Land-use pressure and a transition to forest-cover loss in the eastern United States: *Bioscience*, v. 60, no. 4, p. 286–298.
- Duan, Qingyun, Sorooshian, Soroosh, and Gupta, Vijai, 1992, Effective and efficient global optimization for conceptual rainfall-runoff models: *Water Resources Research*, v. 28, no. 4, p. 1015–1031. (Also available at <http://dx.doi.org/10.1029/91WR02985>.)
- Dunne, J.P., Armstrong, R.A., Gnanadesikan, Anand, and Sarmiento, J.L., 2005, Empirical and mechanistic models for the particle export ratio: *Global Biogeochemical Cycles*, v. 19, no. 4, 16 p., accessed October 31, 2013, at <http://dx.doi.org/10.1029/2004GB002390>.
- Dunne, J.P., Sarmiento, J.L., and Gnanadesikan, Anand, 2007, A synthesis of global particle export from the surface ocean and cycling through the ocean interior and on the seafloor: *Global Biogeochemical Cycles*, v. 21, no. 4, 16 p., accessed October 31, 2013, at <http://dx.doi.org/10.1029/2006GB002907>.
- Earley, L.S., 2004, Looking for longleaf—The fall and rise of an American forest: Chapel Hill, North Carolina, University of North Carolina Press, 336 p.
- Efron, Bradley, and Tibshirani, R.J., 1993, An introduction to the bootstrap: New York, Chapman & Hall, 456 p.
- Eggleston, Simon, Buenda, Leandro, Miwa, Kyoko, Ngara, Todd, and Tanabe, Kiyoto, 2006, 2006 IPCC guidelines for national greenhouse gas inventories: Intergovernmental Panel on Climate Change, 5 v., [variously paged].
- Eidenshink, Jeff, Schwind, Brian, Brewer, Ken, Zhu, Zhiliang, Quayle, Brad, and Howard, Stephen, 2007, A project for monitoring trends in burn severity: *Fire Ecology*, v. 3, no. 1, p. 3–21.
- Falge, Eva, Baldocchi, Dennis, Tenhunen, John, Aubinet, Marc, Bakwin, Peter, Berbigier, Paul, Bernhofer, Christian, Burba, George, Clement, Robert, Davis, K.J., Elbers, J.A., Goldstein, A.H., Grelle, Achim, Granier, André, Guðmundsson, Jón, Hollinger, David, Kowalski, A.S., Katul, Gabriel, Law, B.E., Malhi, Yadvinder, Meyers, Tilden, Monson, R.K., Munger, J.W., Oechel, Walt, Paw U, K.T., Pilegaard, Kim, Rannik, Üllar, Rebmann, Corinna, Suyker, Andrew, Valentini, Riccardo, Wilson, Kell, and Wofsy, Steve, 2002, Seasonality of ecosystem respiration and gross primary production as derived from FLUXNET measurements: *Agricultural and Forest Meteorology*, v. 113, nos. 1–4, p. 53–74. (Also available at [http://dx.doi.org/10.1016/S0168-1923\(02\)00102-8](http://dx.doi.org/10.1016/S0168-1923(02)00102-8).)
- Falk, D.A., Miller, Carol, McKenzie, Donald, and Black, A.E., 2007, Cross-scale analysis of fire regimes: *Ecosystems*, v. 10, p. 809–823.
- Finney, M.A., 2002, Fire growth using minimum travel time methods: *Canadian Journal of Forest Research*, v. 32, no. 8, p. 1420–1424.
- Finney, M.A., McHugh, C.W., Grenfell, I.C., Riley, K.L., and Short, K.C., 2011, A simulation of probabilistic wildfire risk components for the continental United States: *Stochastic Environmental Research and Risk Assessment*, v. 25, no. 7, p. 973–1000.
- Flannigan, M.D., Krawchuk, M.A., de Groot, W.J., Wotton, B.M., and Gowman, L.M., 2009, Implications of changing climate for global wildland fire: *International Journal of Wildland Fire*, v. 18, no. 5, p. 483–507.
- Flato, G.M., and Boer, G.J., 2001, Warming asymmetry in climate change simulations: *Geophysical Research Letters*, v. 28, no. 1, p. 195–198.
- Forman, R.T.T., ed., 1998, Pine barrens—Ecosystem and landscape: New Brunswick, New Jersey, Rutgers University Press, 654 p.
- Foster, D.R., Motzkin, Glenn, and Slater, Benjamin, 1998, Land-use history as long-term broad-scale disturbance—Regional forest dynamics in central New England: *Ecosystems*, v. 1, no. 1, p. 96–119.
- Franzluebbers, A.J., 2010, Achieving soil organic carbon sequestration with conservation agricultural systems in the southeastern United States: *Soil Science Society of America Journal*, v. 74, no. 2, p. 347–357. (Also available at <http://dx.doi.org/10.2136/sssaj2009.0079>.)
- Freeman, C., Fenner, N., Ostle, N.J., Kang, H., Dowrick, D.J., Reynolds, B., Lock, M.A., Sleep, D., Hughes, S., and Hudson, J., 2004, Export of dissolved organic carbon from peatlands under elevated carbon dioxide levels: *Nature*, v. 430, p. 195–198.
- Frelich, L.E., and Lorimer, C.G., 1991, Natural disturbance regimes in hemlock-hardwood forests of the upper Great Lakes region: *Ecological Monographs*, v. 61, no. 2, p. 145–164.

- French, N.H.F., de Groot, W.J., Jenkins, L.K., Rogers, B.M., Alvarado, Ernesto, Amiro, Brian, de Jong, Bernardus, Goetz, Scott, Hoy, Elizabeth, Hyer, Edward, Keane, Robert, Law, B.E., McKenzie, Donald, McNulty, S.G., Ottmar, Roger, Pérez-Salicrup, D.R., Randerson, James, Robertson, K.M., and Turetsky, Merritt, 2011, Model comparisons for estimating carbon emissions from North American wildland fire: *Journal of Geophysical Research: Biogeosciences*, v. 116, no. G4, 21 p., accessed October 31, 2013, at <http://dx.doi.org/10.1029/2010JG001469>.
- Friedman, S.K., and Reich, P.B., 2005, Regional legacies of logging—Departure from presettlement forest conditions in northern Minnesota: *Ecological Applications*, v. 15, no. 2, p. 727–744.
- Gallant, A.L., Loveland, T.R., Sohl, T.L., and Napton, D.E., 2004, Using an ecoregion framework to analyze land-cover and land-use dynamics: *Environmental Management*, v. 34, supplement 1, p. S89–S110.
- Gedalof, Ze'ev, Peterson, D.L., and Mantua, N.J., 2005, Atmospheric, climatic, and ecological controls on extreme wildfire years in the northwestern United States: *Ecological Applications*, v. 15, no. 1, p. 154–174.
- Geis, J.W., and Boggess, W.R., 1968, The prairie peninsula; its origin and significance in the vegetational history of central Illinois, in Bergstrom, R.E., ed., *The Quaternary of Illinois*: University of Illinois College of Agriculture Special Publication 14, p. 89–96.
- Gholz, H.L., and Fisher, R.F., 1982, Organic matter production and distribution in slash pine (*Pinus elliottii*) plantations: *Ecology*, v. 63, no. 6, p. 1827–1839.
- Gibson, Campbell, 1998, Population of the 100 largest cities and other urban places in the United States—1790 to 1990: U.S. Census Bureau Population Division Working Paper 27, accessed October 31, 2013, at <http://www.census.gov/population/www/documentation/twps0027/twps0027.html>.
- Giglio, Louis, Descloitres, Jacques, Justice, C.O., and Kaufman, Y.J., 2003, An enhanced contextual fire detection algorithm for MODIS: *Remote Sensing of Environment*, v. 87, nos. 2–3, p. 273–282.
- Giglio, Louis, Randerson, J.T., van der Werf, G.R., Kasibhatla, P.S., Collatz, G.J., Morton, D.C., and DeFries, R.S., 2010, Assessing variability and long-term trends in burned area by merging multiple satellite fire products: *Biogeosciences*, v. 7, no. 3, p. 1171–1186.
- Glassy, J. M., and Running, S.W., 1994, Validating diurnal climatology logic of the MT–CLIM model across a climatic gradient in Oregon: *Ecological Applications*, v. 4, no. 2, p. 248–257.
- Glibert, P.M., 2010, Long-term changes in nutrient loading and stoichiometry and their relationships with changes in the food web and dominant pelagic fish species in the San Francisco estuary, California: *Reviews in Fisheries Science*, v. 18, no. 2, p. 211–232.
- Glibert, P.M., Seitzinger, Sybil, Heil, C.A., Burkholder, J.M., Parrow, M.W., Codispoti, L.A., and Kelly, Vince, 2005, The role of eutrophication in the global proliferation of harmful algal blooms: *Oceanography*, v. 18, no. 2, p. 198–209.
- Goetz, S.J., Bond-Lamberty, B., Law, B.E., Hicke, J.A., Huang, C., Houghton, R.A., McNulty, S., O'Halloran, T., Harmon, M., Meddens, A.J.H., Pfeifer, E.M., Mildrexler, D., and Kasischke, E.S., 2012, Observations and assessment of forest carbon dynamics following disturbance in North America: *Journal of Geophysical Research: Biogeosciences*, v. 117, no. G2, 17 p., accessed October 31, 2013, at <http://dx.doi.org/10.1029/2011JG001733>.
- Goldblum, David, and Rigg, L.S., 2010, The deciduous forest—Boreal forest ecotone: *Geography Compass*, v. 4, no. 7, p. 704–717.
- Gonzalez, Patrick, Neilson, R.P., Lenihan, J.M., and Drapek, R.J., 2010, Global patterns in the vulnerability of ecosystems to vegetation shifts due to climate change: *Global Ecology and Biogeography*, v. 19, no. 6, p. 755–768. (Also available at <http://dx.doi.org/10.1111/j.1466-8238.2010.00558.x>.)
- Gordon, C., Cooper, C., Senior, C.A., Banks, H.T., Gregory, J.M., Johns, T.C., Mitchell, J.F.B., and Wood, R.A., 2000, The simulation of SST, sea ice extents and ocean heat transports in a version of the Hadley Centre coupled model without flux adjustments: *Climate Dynamics*, v. 16, nos. 2–3, p. 147–168.
- Gordon, E.S., Goni, M.A., Roberts, Q.N., Kineke, G.C., and Allison, M.A., 2001, Organic matter distribution and accumulation on the inner Louisiana shelf west of the Atchafalaya River: *Continental Shelf Research*, v. 21, nos. 16–17, p. 1691–1721.
- Goulden, M.L., Munger, J.W., Fan, S.-M., Daube, B.C., and Wofsy, S.C., 1996, Exchange of carbon dioxide by a deciduous forest—Response to interannual climate variability: *Science*, v. 271, no. 5255, p. 1576–1578. (Also available at <http://dx.doi.org/10.1126/science.271.5255.1576>.)
- Goward, S.N., Masek, J.G., Cohen, Warren, Moisen, Gretchen, Collatz, G.J., Healey, Sean, Houghton, R.A., Huang, Chengquan, Kennedy, Robert, Law, Beverly, Powell, Scott, Turner, David, and Wulder, M.A., 2008, Forest disturbance and north American carbon flux: *Eos Transactions American Geophysical Union*, v. 89, no. 11, p. 105–106. (Also available at <http://dx.doi.org/10.1029/2008EO110001>.)
- Greco, Susanna, and Baldocchi, D.D., 1996, Seasonal variations of CO₂ and water vapour exchange rates over a temperate deciduous forest: *Global Change Biology*, v. 2, no. 3, p. 183–197. (Also available at <http://dx.doi.org/10.1111/j.1365-2486.1996.tb00071.x>.)
- Green, R.E., Bianchi, T.S., Dagg, M.J., Walker, N.D., and Breed, G.A., 2006, An organic carbon budget for the Mississippi River turbidity plume and plume contributions to air-sea CO₂ fluxes and bottom water hypoxia: *Estuaries and Coasts*, v. 29, no. 4, p. 579–597.

- Griffith, G.E., Omernik, J.M., and Azevedo, S.H., 1997, Ecoregions of Tennessee: U.S. Environmental Protection Agency EPA/600/R-97/022, 51 p.
- Hair, J.F., Black, W.C., Babin, Barry, Anderson, R.E., and Tatham, R.L., 2005, *Multivariate data analysis* (6th ed.): Upper Saddle River, N.J., Prentice Hall, 928 p.
- Hales, Burke, Cai, W.J., Mitchell, B.G., Sabine, C.L., and Schofield, Oscar, eds., 2008, *North American continental margins—A synthesis and planning workshop*: Washington, D.C., U.S. Carbon Cycle Science Program, 115 p.
- Hall, R.O., Jr., Kennedy, T.A., and Rosi-Marshall, E.J., 2012, Air-water oxygen exchange in a large whitewater river: *Limnology and Oceanography: Fluids and Environments*, v. 2, no. 1, p. 1–11. (Also available at <http://dx.doi.org/10.1215/21573689-1572535>.)
- Hanley, J.A., and McNeil, B.J., 1982, The meaning and use of the area under a receiver operating characteristic (ROC) curve: *Radiology*, v. 143, no. 1, p. 29–36.
- Harris, W.F., Sollins, P., Edwards, N.T., Dinger, B.E., and Shugart, H.H., 1975, Analysis of carbon flow and productivity in a temperate deciduous forest ecosystem, *in* Reichle, D.E., Franklin, J.F., and Goodall, D.W., eds., *Productivity of world ecosystems*: Washington, D.C., National Academy of Sciences, p. 116–122.
- Hart, J.F., 1968, Loss and abandonment of cleared farm land in the eastern United States: *Annals of the Association of American Geographers*, v. 58, no. 3, p. 417–440.
- Hart, J.F., 1978, Cropland concentrations in the South: *Annals of the Association of American Geographers*, v. 68, no. 4, p. 505–517.
- Hastie, Trevor, Tibshirani, Robert, and Friedman, Jerome, 2009, *The elements of statistical learning—Data mining, inference, and prediction* (2d ed.): New York, New York, Springer, 745 p.
- Hasumi, Hiroyashu, and Emori, Seita, eds., 2004, K-1 coupled GCM (MIROC) description: University of Tokyo Center for Climate System Research, National Institute for Environmental Studies, and Frontier Research Center for Global Change, 34 p., accessed November 6, 2013, at http://ccsr.aori.u-tokyo.ac.jp/~hasumi/miroc_description.pdf.
- Hawbaker, T.J., and Zhu, Zhiliang, 2012, Baseline wildland fires and emissions for the Western United States, chap. 3 of Zhu, Zhiliang, and Reed, B.C., eds., *Baseline and projected future carbon storage and greenhouse-gas fluxes in ecosystems of the Western United States*: U.S. Geological Survey Professional Paper 1797, p. 29–37. (Also available at <http://pubs.usgs.gov/pp/1797/>.)
- Hayhoe, Katharine, Wake, C.P., Huntington, T.G., Luo, Lifeng, Schwartz, M.D., Sheffield, Justin, Wood, Eric, Anderson, Bruce, Bradbury, James, DeGaetano, Art, Troy, T.J., and Wolfe, David, 2007, Past and future changes in climate and hydrological indicators in the US northeast: *Climate Dynamics*, v. 28, no 4, p. 381–407.
- Haynes, R.W., 2003, An analysis of the timber situation in the United States—1952 to 2050: U.S. Department of Agriculture, Forest Service General Technical Report PNW-GTR-560, 254 p. (Also available at <http://www.fs.fed.us/pnw/pubs/gtr560/>.)
- Heath, L.S., Smith, J.E., Skog, K.E., Nowak, D.J., and Woodall, C.W., 2011a, Managed forest carbon estimates for the U.S. greenhouse gas inventory, 1990–2008: *Journal of Forestry*, April/May, p. 167–173.
- Heath, L.S., Smith, J.E., Woodall, C.W., Azuma, D.L., and Waddell, K.L., 2011b, Carbon stocks on forestland of the United States with emphasis on USDA Forest Service ownership: *Ecosphere*, v. 2, no. 1, article 6, 21 p., accessed October 31, 2013, at <http://dx.doi.org/10.1890/ES10-00126.1>.
- Hedges, J.I., and Keil, R.G., 1995, Sedimentary organic matter preservation—An assessment and speculative synthesis: *Marine Chemistry*, v. 49, nos. 2–3, p. 81–115.
- Hedges, J.I., Keil, R.G., and Benner, R., 1997, What happens to terrestrial organic matter in the ocean?: *Organic Geochemistry*, v. 27, nos. 5–6, p. 195–212.
- Heinselman, M.L., 1973, Fire in the virgin forests of the Boundary Waters Canoe Area, Minnesota: *Quaternary Research*, v. 3, no. 3, p. 329–382.
- Herbert, R.A., 1999, Nitrogen cycling in coastal marine ecosystems: *FEMS Microbiology Reviews*, v. 23, no. 5, p. 563–590.
- Hessl, A.E., 2011, Pathways for climate change effects on fire—Models, data, and uncertainties: *Progress in Physical Geography*, v. 35, no. 3, p. 393–407.
- Hesterberg, Tim, Moore, D.S., Monaghan, Shaun, Clipson, Ashley, and Epstein, Rachel, 2010, Bootstrap methods and permutation tests, chap. 16 of Moore, D.S., McCabe, G.P., and Craig, Bruce, eds., *Introduction to the practice of statistics* (7 ed.): New York, W.H. Freeman & Company, p. 16.1–16.60.
- Hicke, J.A., Allen, C.D., Desai, A.R., Dietze, M.C., Hall, R.J., Hogg, E.H., Kashian, D.M., Moore, David, Raffa, K.F., Sturrock, R.N., and Vogelmann, James, 2012, Effects of biotic disturbances on forest carbon cycling in the United States and Canada: *Global Change Biology*, v. 18, no. 1, p. 7–34. (Also available at <http://dx.doi.org/10.1111/j.1365-2486.2011.02543.x>.)
- Hicke, J.A., Jenkins, J.C., Ojima, D.S., and Ducey, Mark, 2007, Spatial patterns of forest characteristics in the western United States derived from inventories: *Ecological Applications*, v. 17, no. 8, p. 2387–2402. (Also available at <http://dx.doi.org/10.1890/06-1951.1>.)
- Hofmann, E.E., Cahill, Bronwyn, Fennel, Katja, Friedrichs, M.A.M., Hyde, Kimberly, Lee, Cindy, Mannino, Antonio,

- Najjar, R.G., O'Reilly, J.E., Wilkin, John, and Xue, Jianhong, 2011, Modeling the dynamics of continental shelf carbon: *Annual Review of Marine Science*, v. 3, p. 93–122.
- Homer, Collin, Dewitz, Jon, Fry, Joyce, Coan, Michael, Hosain, Nazmul, Larson, Charles, Herold, Nate, McKerrrow, Alexa, Van Driel, J.N., and Wickham, James, 2007, Completion of the 2001 national land cover database for the conterminous United States: *Photogrammetric Engineering and Remote Sensing*, v. 73, no. 4, p. 337–341. (Also available at <http://www.asprs.org/a/publications/pers/2007journal/april/highlight.pdf>).
- Horizon Systems Corporation, 2005, NHDPlus, version 2: Horizon Systems Corporation Web site accessed October 1, 2012, at <http://www.horizon-systems.com/nhdplus/>.
- Houghton, R.A., 2010, How well do we know the flux of CO₂ from land-use change?: *Tellus B*, v. 62, no. 5, p. 337–351, accessed October 31, 2013, at <http://dx.doi.org/10.1111/j.1600-0889.2010.00473.x>.
- Houghton, R.A., and Hackler, J.L., 2000, Changes in terrestrial carbon storage in the United States. 1. The roles of agriculture and forestry: *Global Ecology and Biogeography*, v. 9, no. 2, p. 125–144, accessed December 10, 2013, at <http://dx.doi.org/10.1046/j.1365-2699.2000.00166.x>.
- Houghton, R.A., Hackler, J.L., and Lawrence, K.T., 1999, The U.S. carbon budget—Contributions from land-use change: *Science*, v. 285, no. 5427, p. 574–578, accessed October 31, 2013, at <http://dx.doi.org/10.1126/science.285.5427.574>.
- Howarth, R.W., 2008, Coastal nitrogen pollution—A review of sources and trends globally and regionally: *Harmful Algae*, v. 8, no. 1, p. 14–20.
- Howarth, R.W., Billen, G., Swaney, D., Townsend, A., Jaworski, N., Lajtha, K., Downing, J.A., Elmgren, R., Caraco, N., Jordan, T., Berendse, F., Freney, J., Kudeyarov, V., Murdoch, P., and Zhu Zhao-Liang, 1996, Regional nitrogen budgets and riverine N & P fluxes for the drainages to the North Atlantic Ocean—Natural and human influences: *Biogeochemistry*, v. 35, no. 1, p. 75–139.
- Huang, Chengquan, Goward, S.N., Masek, J.G., Thomas, Nancy, Zhu, Zhiliang, and Vogelmann, J.E., 2010, An automated approach for reconstructing recent forest disturbance history using dense Landsat time series stacks: *Remote Sensing of Environment*, v. 114, no. 1, p. 183–198. (Also available at <http://dx.doi.org/10.1016/j.rse.2009.08.017>.)
- Huang, Cho-ying, Asner, G.P., Barger, N.N., Neff, J.C., and Floyd, M.L., 2010, Regional aboveground live carbon losses due to drought-induced tree dieback in piñon-juniper ecosystems: *Remote Sensing of Environment*, v. 114, no. 7, p. 1471–1479. (Also available at <http://dx.doi.org/10.1016/j.rse.2010.02.003>.)
- Hunt, R.J., Walker, J.F., and Krabbenhoft, D.P., 1999, Characterizing hydrology and the importance of groundwater discharge in natural and constructed wetlands: *Wetlands*, v. 19, no. 2, p. 458–472. (Also available at <http://users.ipfw.edu/isiorho/20010114-12.pdf>.)
- Hunt, C.W., Salisbury, J.E., and Vandemark, D., 2011, Contribution of non-carbonate anions to total alkalinity and overestimation of pCO₂ in New England and New Brunswick rivers: *Biogeosciences*, v. 8, no. 10, p. 3069–3076. (Also available at <http://dx.doi.org/10.5194/bg-8-3069-2011>.)
- Huntington, T.G., Richardson, A.D., McGuire, K.J., and Hayhoe, Katharine, 2009, Climate and hydrological changes in the northeastern United States—Recent trends and implications for forested and aquatic ecosystems: *Canadian Journal of Forest Research*, v. 39, no. 2, p. 199–212.
- Huntzinger, D.N., Post, W.M., Wei, Y., Michalak, A.M., West, T.O., Jacobson, A.R., Baker, I.T., Chen, J.M., Davis, K.J., Hayes, D.J., Hoffman, F.M., Jain, A.K., Liu, S., McGuire, A.D., Neilson, R.P., Potter, Chris, Poulter, B., Price, David, Raczka, B.M., Tian, H.Q., Thornton, P., Tomelleri, E., Viovy, N., Xiaos, J., Yuant, W., Zengu, N., Zhaov, M., and Cook, R., 2012, North American carbon project (NACP) regional interim synthesis—Terrestrial biospheric model intercomparison: *Ecological Modelling*, v. 232, p. 144–157. (Also available at <http://dx.doi.org/10.1016/j.ecolmodel.2012.02.004>.)
- Hurteau, M.D., and Brooks, M.L., 2011, Short- and long-term effects of fire on carbon in US dry temperate forest systems: *BioScience*, v. 61, no. 2, p. 139–146.
- Hurt, G.C., Pacala, S.W., Moorcroft, P.R., Caspersen, J., Shevliakova, E., Houghton, R.A., and Moore, B., III, 2002, Projecting the future of the U.S. carbon sink: *Proceedings of the National Academy of Sciences of the United States of America*, v. 99, no. 3, p. 1389–1394, accessed October 31, 2013, at <http://dx.doi.org/10.1073/pnas.012249999>.
- International Organization for Standardization, 1995, Guide to the expression of uncertainty in measurements: Geneva, International Organization for Standardization Guide 98–3: 1995, 120 p.
- Jenkins, J.C., Birdsey, R.A., and Pan, Yude, 2001, Biomass and NPP estimation for the mid-Atlantic region (USA) using plot-level forest inventory data: *Ecological Applications*, v. 11, no. 4, p. 1174–1193.
- Jensen, O.P., Benson, B.J., Magnuson, J.J., Card, V.M., Futter, M.N., Soranno, P.A., and Stewart, K.M., 2007, Spatial analysis of ice phenology trends across the Laurentian Great Lakes region during a recent warming period: *Limnology and Oceanography*, v. 52, no. 5, p. 2013–2026.
- Jeon, S.B., Olofsson, Pontus, and Woodcock, C.E., 2012, Land use change in New England—A reversal of the forest transition: *Journal of Land Use Science*, v. 9, no. 1, p. 105–130.
- Jolly, W.M., Nemani, Ramakrishna, and Running, S.W., 2005, A generalized, bioclimatic index to predict foliar phenology in response to climate: *Global Change Biology*, v. 11, no. 4, p. 619–632.

- Jones, J.B., Jr., and Mulholland, P., 1998, Influence of drainage basin topography and elevation on carbon dioxide and methane supersaturation of stream water: *Biogeochemistry*, v. 40, no. 1, p. 57–72.
- Joyce, L.A., Price, D.T., McKenney, D.W., Siltanen, R.M., Papadopol, Pia, Lawrence, Kevin, and Coulson, D.P., 2011, High resolution interpolation of climate scenarios for the conterminous USA and Alaska derived from general circulation model simulations: Fort Collins, Colo., U.S. Department of Agriculture, Forest Service General Technical Report RMRS–GTR–263, 87 p.
- Kara, A.B., Rochford, P.A., and Hurlburt, H.E., 2000, An optimal definition for ocean mixed layer depth: *Journal of Geophysical Research: Oceans*, v. 105, no. C7, p. 16803–16821.
- Kashian, D.M., Romme, W.H., Tinker, D.B., Turner, M.G., and Ryan, M.G., 2012, Post-fire changes in forest carbon storage over a 300-year chronosequence of *Pinus contorta*-dominated forests: *Ecological Monographs*, v. 83, no. 1, p. 49–66 plus appendixes.
- Kasischke, E.S., Amiro, B.D., Barger, N.N., French, N.H.F., Grosse, Guido, Goetz, S.J., Harmon, M.E., Hicke, J.A., Liu, Shuguang, and Masek, J.G., 2013, Impacts of disturbance on the terrestrial carbon budget of North America: *Journal of Geophysical Research: Biogeosciences*, v. 118, no. 1, p. 1–14. (Also available at <http://dx.doi.org/10.1002/jgrg.20027>.)
- Keane, R.E., Cary, G.J., and Parsons, R., 2003, Using simulation to map fire regimes—An evaluation of approaches, strategies, and limitations: *International Journal of Wildland Fire*, v. 12, nos. 3–4, p. 309–322.
- Keenan, T.F., Davidson, Eric, Moffat, A.M., Munger, William, and Richardson, A.D., 2012, Using model-data fusion to interpret past trends, and quantify uncertainties in future projections, of terrestrial ecosystem carbon cycling: *Global Change Biology*, v. 18, no. 8, p. 2555–2569.
- Keil, R.G., Mayer, L.M., Quay, P.D., Richey, J.E., and Hedges, J.I., 1997, Loss of organic matter from riverine particles in deltas: *Geochimica et Cosmochimica Acta*, v. 61, no. 7, p. 1507–1511.
- Keim, B.D., Fischer, M.R., and Wilson, A.M., 2005, Are there spurious precipitation trends in the United States climate division database?: *Geophysical Research Letters*, v. 32, no. 4, L04702, 3 p., accessed November 6, 2013, at <http://dx.doi.org/10.1029/2004GL021985>.
- Kellndorfer, Josef, Walker, Wayne, Pierce, Leland, Dobson, Craig, Fites, Jo Ann, Hunsaker, Carolyn, Vona, John, and Clutter, Michael, 2004, Vegetation height estimation from shuttle radar topography mission and national elevation datasets: *Remote Sensing of Environment*, v. 93, no. 3, p. 339–358. (Also available at <http://dx.doi.org/10.1016/j.rse.2004.07.017>.)
- Kellndorfer, Josef, Walker, W.S., Kirsch, Katherine, Fiske, G.J., Bishop, J.B., LaPoint, Liz, Hoppus, Mike, and Westfall, Jim, 2013, NACP aboveground biomass and carbon baseline data, ver. 2 (NBCD 2000), U.S.A., 2000: Oak Ridge National Laboratory dataset, accessed January 14, 2014, at <http://dx.doi.org/10.3334/ORNLDAAAC/1161>.
- Kimball, J.S., Running, S.W., and Nemani, R., 1997, An improved method for estimating surface humidity from daily minimum temperature: *Agricultural and Forest Meteorology*, v. 85, nos. 1–2, p. 87–98.
- Korontzi, Stefania, McCarty, Jessica, Loboda, Tatiana, Kumar, Suresh, and Justice, Chris, 2006, Global distribution of agricultural fires in croplands from 3 years of Moderate Resolution Imaging Spectroradiometer (MODIS) data: *Global Biogeochemical Cycles*, v. 20, no. 2, GB2021, 15 p., accessed November 6, 2013, at <http://dx.doi.org/10.1029/2005GB002529>.
- Kuchler, A.W., 1964, Potential natural vegetation of the conterminous United States: New York, American Geographical Society Special Publication 36, 116 p., scale 1:3,168,000.
- Lai, C.-T., Katul, G., Butnor, J., Siqueira, M., Ellsworth, D., Maier, C., Johnsen, K., McKeand, S., and Oren, R., 2002, Modelling the limits on the response of net carbon exchange to fertilization in a south-eastern pine forest: *Plant, Cell and Environment*, v. 25, no. 9, p. 1095–1119. (Also available at <http://dx.doi.org/10.1046/j.1365-3040.2002.00896.x>.)
- Larkin, N.K., O'Neill, S.M., Solomon, Robert, Raffuse, Sean, Strand, Tara, Sullivan, D.C., Krull, Candace, Rorig, Miriam, Peterson, J.L., and Ferguson, S.A., 2009, The BlueSky smoke modeling framework: *International Journal of Wildland Fire*, v. 18, no. 8, p. 906–920.
- Lauerwald, Ronny, Hartmann, Jens, Ludwig, Wolfgang, and Moosdorf, Nils, 2012, Assessing the nonconservative fluvial fluxes of dissolved organic carbon in North America: *Journal of Geophysical Research*, v. 117, no. G1, G01027, 19 p. accessed February 4, 2014, at <http://dx.doi.org/10.1029/2011JG001820>.
- Law, B.E., Turner, D., Campbell, J., Sun, O.J., Van Tuyl, S., Ritts, W.D., and Cohen, W.B., 2004, Disturbance and climate effects on carbon stocks and fluxes across western Oregon USA: *Global Change Biology*, v. 10, no. 9, p. 1429–1444.
- Lee, C., Murray, D.W., Barber, R.T., Buesseler, K.O., Dymond, J., Hedges, J.I., Honjo, S., Manganini, S.J., Marra, J., Moser, C., Peterson, M.L., Prell, W.L., and Wakeham, S.G., 1998, Particulate organic carbon fluxes—Compilation of results from the 1995 US JGOFS Arabian Sea process study: Deep-Sea Research Part II: Topical Studies in Oceanography, v. 45, nos. 10–11, p. 2489–2501.
- Lee, J.J., and Dodson, Rusty, 1996, Potential carbon sequestration by afforestation of pasture in the south-central United States: *Agronomy Journal*, v. 88, no. 3, p. 381–384, accessed November 6, 2013, at <https://www.soils.org/publications/aj/abstracts/88/3/AJ0880030381>.

- Leithold, E.L., Perkey, D.W., Blair, N.E., and Creamer, T.N., 2005, Sedimentation and carbon burial on the northern California continental shelf—The signatures of land-use change: *Continental Shelf Research*, v. 25, no. 3, p. 349–371.
- Leopold, L.B., and Maddock, Thomas, Jr., 1953, The hydraulic geometry of stream channels and some physiographic implications: U.S. Geological Survey Professional Paper 252, 57 p. (Also available at <http://pubs.usgs.gov/pp/0252/report.pdf>)
- Lillesand, Thomas, Kiefer, R.W., and Chipman, Jonathan, 2007, Remote sensing and image interpretation (6th ed.): New York, Wiley, 804 p.
- Litchman, E., Klausmeier, C.A., Miller, J.R., Schofield, O.M., and Falkowski, P. G., 2006, Multi-nutrient, multi-group model of present and future oceanic phytoplankton communities: *Biogeosciences*, v. 3, no. 4, p. 585–606.
- Liu, Shuguang, 2009, Quantifying the spatial details of carbon sequestration potential and performance, in McPherson, B.J., and Sundquist, E.T., eds., Carbon sequestration and its role in the global carbon cycle: American Geophysical Union Monograph 183, p. 117–128. (Also available at <http://dx.doi.org/10.1029/2006GM000524>.)
- Liu, Shuguang, Bond-Lamberty, Ben, Hicke, J.A., Vargas, Rodrigo, Zhao, Shuqing, Chen, Jing, Edburg, S.L., Hu, Yueming, Liu, Jinxun, McGuire, A.D., Xiao, Jingfeng, Keane, Robert, Yuan, Wenping, Tang, Jianwu, Luo, Yiqi, Potter, Christopher, and Oeding, Jennifer, 2011, Simulating the impacts of disturbances on forest carbon cycling in North America: processes, data, models, and challenges: *Journal of Geophysical Research*, v. 116, no. G4, G00K08, 22 p., accessed March 25, 2014, at <http://dx.doi.org/10.1029/2010JG001585>.
- Liu, Shuguang, Liu, Jinxun, Young, C.J., Werner, J.M., Wu, Yiping, Li, Zhengpeng, Dahal, Devendra, Oeding, Jennifer, Schmidt, G.L., Sohl, T.L., Hawbaker, T.J., and Sleeter, B.M., 2012a, Baseline carbon storage, carbon sequestration, and greenhouse-gas fluxes in terrestrial ecosystems of the western United States, chap. 5 of Zhu, Zhiliang, and Reed, B.C., eds., Baseline and projected future carbon storage and greenhouse-gas fluxes in ecosystems of the western United States: U.S. Geological Survey Professional Paper 1797, p. 45–63. (Also available at <http://pubs.usgs.gov/pp/1797/>.)
- Liu, Shuguang, Loveland, T.R., and Kurtz, R.M., 2004, Contemporary carbon dynamics in terrestrial ecosystems in the southeastern plains of the United States: *Environmental Management*, v. 33, supplement 1, p. S442–S456, accessed October 31, 2013, at <http://dx.doi.org/10.1007/s00267-003-9152-z>.
- Liu, Shuguang, Tan, Zhengxi, Chen, Mingshi, Liu, Jinxun, Wein, Anne, Li, Zhengpeng, Huang, Shengli, Oeding, Jennifer, Young, Claudia, Verma, S.B., Suyker, A.E., Faulkner, Stephen, and McCarty, G.W., 2012b, The general ensemble biogeochemical modeling system (GEMS) and its applications to agricultural systems in the United States, chap. 18 of Liebig, Mark, Franzluebbers, A.J., and Follett, Ronald, eds., Managing agricultural greenhouse gases—Coordinated agricultural research through GRACEnet to address our changing climate: London, Academic Press, p. 309–323. (Also available at <http://dx.doi.org/10.1016/B978-0-12-386897-8.00018-8>.)
- Liu, Shuguang, Wu, Yiping, Young, C.J., Dahal, Devendra, Werner, J.M., Liu, Jinxun, Li, Zhengpeng, Tan, Zhengxi, Schmidt, G.L., Oeding, Jennifer, Sohl, T.L., Hawbaker, T.J., and Sleeter, B.M., 2012c, Projected future carbon storage and greenhouse-gas fluxes of terrestrial ecosystems in the western United States, chap. 9 of Zhu, Zhiliang, and Reed, B.C., eds., Baseline and projected future carbon storage and greenhouse-gas fluxes in ecosystems of the western United States: U.S. Geological Survey Professional Paper 1797, p. 109–124. (Also available at <http://pubs.usgs.gov/pp/1797/>.)
- Liu, Shuguang, Bliss, Norman, Sundquist, Eric, and Huntington, T.G., 2003, Modeling carbon dynamics in vegetation and soil under the impact of soil erosion and deposition: *Global Biogeochemical Cycles*, v. 17, no. 2, 1074, 24 p., accessed January 14, 2014, at <http://dx.doi.org/10.1029/2002GB002010>.
- Liu, Yongqiang, 2004, Variability of wildland fire emissions across the contiguous United States: *Atmospheric Environment*, v. 38, no. 21, p. 3489–3499.
- Loescher, H.W., Law, B.E., Mahrt, L., Hollinger, D.Y., Campbell, J., and Wofsy, S.C., 2006, Uncertainties in, and interpretation of, carbon flux estimates using the eddy covariance technique: *Journal of Geophysical Research*, v. 111, no. D12, D21S90, 19 p., accessed February 12, 2014, at <http://dx.doi.org/10.1029/2005JD006932>.
- Loveland, T.R., Sohl, T.L., Stehman, S.V., Gallant, A.L., Saylor, K.L., Napton, D.E., 2002, A strategy for estimating the rates of recent United States land-cover changes: *Photogrammetric Engineering and Remote Sensing*, v. 68, no. 10, p. 1091–1099.
- Lozovik, P.A., 2005, Contribution of organic acid anions to the alkalinity of natural humic water: *Journal of Analytical Chemistry*, v. 60, no. 11, p. 1000–1004.
- Lutes, D.C., Keane, R.E., and Caratti, J.F., 2009, A surface fuel classification for estimating fire effects: *International Journal of Wildland Fire*, v. 18, no. 7, p. 802–814.
- Luyssaert, S., and others, 2007, CO₂ balance of boreal, temperate, and tropical forests derived from a global database: *Global Change Biology*, v. 13, no. 12, p. 2509–2537.
- Magnuson, J.J., Robertson, D.M., Benson, B.J., Wynne, R.H., Livingstone, D.M., Arai, Tadashi, Assel, R.A., Barry, R.G., Card, Virginia, Kuusisto, Esko, Granin, N.G., Prowse, T.D., Stewart, K.M., and Vuglinski, V.S., 2000, Historical trends in lake and river ice cover in the Northern Hemisphere: *Science*, v. 289, no. 5485, p. 1743–1746.

- Maier, C.A., Albaugh, T.J., Allen, H.L., and Dougherty, P.M., 2004, Respiratory carbon use and carbon storage in mid-rotation loblolly pine (*Pinus taeda* L.) plantations—The effect of site resources on the stand carbon balance: *Global Change Biology*, v. 10, p. 1335–1350.
- Malone, T.C., Conley, D.J., Fisher, T.R., Glibert, P.M., Harding, L.W., and Sellner, K.G., 1996, Scales of nutrient-limited phytoplankton productivity in Chesapeake Bay: *Estuaries*, v. 19, no. 2, p. 371–385.
- Martin, J.H., Knauer, G.A., Karl, D.M., and Broenkow, W.W., 1987, Vertex—Carbon cycling in the northeast Pacific: Deep-Sea Research Part I: Oceanographic Research Papers, v. 34, no. 2, p. 267–285.
- Maurer, E.P., Brekke, Levi, Pruitt, Tom, and Duffy, P.B., 2007, Fine-resolution climate projections enhance regional climate change impact studies: EOS, Transactions, American Geophysical Union, v. 88, no. 47, p. 504.
- Maurer, E.P., Wood, A.W., Adam, J.C., Lettenmaier, D.P., and Nijssen, B., 2002, A long-term hydrologically based dataset of land surface fluxes and states for the conterminous United States: *Journal of Climate*, v. 15, no. 22, p. 3237–3251.
- Mayorga, Emilio, Seitzinger, S.P., Harrison, J.A., Dumont, Egon, Beusen, A.H.W., Bouwman, A.F., Fekete, B.M., Kroeze, Carolien, and Van Drecht, Gerard, 2010, Global nutrient export from WaterSheds 2 (NEWS 2)—Model development and implementation: *Environmental Modelling and Software*, v. 25, no. 7, p. 837–853.
- McDonald, C.P., Rover, J.A., Stets, E.G., and Striegl R.G., 2012, The regional abundance and size distribution of lakes and reservoirs in the United States and implications for estimates of global lake extent: *Limnology and Oceanography*, v. 57, no. 2, p. 597–606.
- McIntyre, S.C. 1993, Reservoir sedimentation rates linked to long-term changes in agricultural land use: *Journal of the American Water Resources Association*, v. 29, no. 3, p. 487–495. (Also available at <http://dx.doi.org/10.1111/j.1752-1688.1993.tb03226.x>.)
- McKinley, Galen, Urban, Noel, Bennington, Val, Pilcher, Darren, and McDonald, Cory, 2011, Preliminary carbon budgets for the Laurentian Great Lakes: *Ocean Carbon and Biogeochemistry News*, v. 4, no. 2, p. 1–7. (Also available at http://www.us-ocb.org/publications/OCB_NEWS_SPR_SUM11.pdf.)
- Mearns, L.O., Giorgi, F., McDaniel, L., and Shields, C., 2003, Climate scenarios for the southeastern U.S. based on GCM and regional model simulations: *Climatic Change*, v. 60, nos. 1–2, p. 7–35.
- Meehl, G.A., Covey, Curt, Delworth, Thomas, Latif, Mojib, McAvaney, Bryant, Mitchell, J.F.B., Taylor, K.E., and Stouffer, R.J., 2007, The WCRP CMIP3 multimodel dataset—A new era in climate change research: *Bulletin of the American Meteorological Society*, v. 88, no. 9, p. 1383–1394.
- Meigs, G.W., Donato, D.C., Campbell, J.L., Martin, J.G., and Law, B.E., 2009, Forest fire impacts on carbon uptake, storage, and emission—The role of burn severity in the eastern Cascades, Oregon: *Ecosystems*, v. 12, no. 8, p. 1246–1267.
- Melching, C.S., and Flores, H.E., 1999, Reaeration equations derived from U.S. Geological Survey database: *Journal of Environmental Engineering*, v. 125, no. 5, p. 407–414. (Also available at http://solon.er.usgs.gov/pubs/reaeration_equations_melching_flores.pdf.)
- Melvin, A.M., and Goodale, C.L., 2013, Tree species and earthworm effects on soil nutrient distribution and turnover in a northeastern U.S. common garden: *Canadian Journal of Forest Research*, v. 43, no. 2, p. 180–187.
- Mesinger, Fedor, DiMego, Geoff, Kalnay, Eugenia, Mitchell, Kenneth, Shafran, P.C., Ebisuzaki, Wesley, Jović, Dušan, Woollen, Jack, Rogers, Eric, Berbery, E.H., Ek, M.B., Fan, Yun, Grumbine, Robert, Higgins, Wayne, Li, Hong, Lin, Ying, Manikin, Geoff, Parrish, David, and Shi, Wei, 2006, North American regional reanalysis: *Bulletin of the American Meteorological Society*, v. 87, no. 3, p. 343–360.
- Messina, M.G., and Conner, W.H., 1998, Southern forested wetlands—Ecology and management: Boca Raton, Florida, CRC Press LLC, 640 p.
- Metherell, A.K., Harding, L.A., Cole, C.V., and Parton, W.J., 1993, CENTURY soil organic matter model environment, technical documentation, Agroecosystem version 4.0: U.S. Department of Agriculture Technical Report 4, accessed December 16, 2013, at <http://www.nrel.colostate.edu/projects/century/>.
- Meybeck, Michel, Dürr, H.H., and Vörösmarty, C.J., 2006, Global coastal segmentation and its river catchment contributors—A new look at land-ocean linkage: *Global Biogeochemical Cycles*, v. 20, no. 1, GB1S90, 15 p., accessed November 6, 2013, at <http://dx.doi.org/10.1029/2005GB002540>.
- Michalak, A.M., Jackson, R.B., Marland, Gregg, Sabine, C.L., and the Carbon Cycle Science Working Group, 2011, A U.S. carbon cycle science plan: Washington, D.C., U.S. Carbon Cycle Science Program, 69 p., accessed November 6, 2013, at <http://www.carboncyclescience.gov/sites/default/files/documents/USCarbonCycleSciencePlan-2011.pdf>.
- Michigan Tech Research Institute, 2012, Wildland fire emissions information system: Michigan Technological University, Michigan Tech Research Institute database, accessed August 3, 2012, at <http://wfeis.mtri.org/>.
- Michmerhuizen, C.M., Striegl, R.G., and McDonald, M.E., 1996, Potential methane emission from north-temperate lakes following ice melt: *Limnology and Oceanography*, v. 41, no. 5, p. 985–991.

- Mickler, R.A., Earnhardt, T.S., and Moore, J.A., 2002, Modeling and spatially distributing forest net primary production at regional scale: *Journal of the Air and Waste Management Association*, v. 52, no. 4, p. 174–185. (Also available at http://www.srs.fs.usda.gov/pubs/ja/ja_mickler002.pdf.)
- Middelburg, J.J., and Levin, L.A., 2009, Coastal hypoxia and sediment biogeochemistry: *Biogeosciences*, v. 6, no. 7, p. 1273–1293.
- Milesi, Cristina, Elvidge, C.D., Nemani, R.R., and Running, S.W., 2003, Assessing the impact of urban land development on net primary productivity in the south-eastern United States: *Remote Sensing of Environment*, v. 86, no. 13, p. 401–410, accessed November 6, 2013, at [http://dx.doi.org/10.1016/S0034-4257\(03\)00081-6](http://dx.doi.org/10.1016/S0034-4257(03)00081-6).
- Millero, F.J., 1979, Thermodynamics of the carbonate system in seawater: *Geochimica et Cosmochimica Acta*, v. 43, no. 10, p. 1651–1661. (Also available at [http://dx.doi.org/10.1016/0016-7037\(79\)90184-4](http://dx.doi.org/10.1016/0016-7037(79)90184-4).)
- Milliman, J.D., and Syvitski, J.P.M., 1992, Geomorphic/tectonic control of sediment discharge to the ocean—The importance of small mountainous rivers: *The Journal of Geology*, v. 100, no. 5, p. 525–544.
- Mixon, D.M., Kinner, D.A., Stallard, R.F., and Syvitski, J.P.M., 2008, Geolocation of man-made reservoirs across terrains of varying complexity using GIS: *Computers and Geosciences*, v. 34, no. 10, p. 1184–1197. (Also available at <http://dx.doi.org/10.1016/j.cageo.2008.02.015>.)
- Mulholland, P.J., 2003, Large-scale patterns in dissolved organic carbon concentration, flux, and sources, in Findlay, S.E.G., and Sinsabaugh, R.L., eds., *Aquatic ecosystems—Interactivity of dissolved organic matter*: Elsevier Science, p. 139–159.
- Mulholland, P.J., and Elwood, J.W., 1982, The role of lake and reservoir sediments as sinks in the perturbed global carbon cycle: *Tellus*, v. 34, no. 5, p. 490–499.
- Mulholland, P.J., and Watts, J.A., 1982, Transport of organic carbon to the oceans by rivers of North America—A synthesis of existing data: *Tellus*, v. 34, no. 2, p. 176–186.
- Murray, A.G., and Parslow, J.S., 1999, The analysis of alternative formulations in a simple model of a coastal ecosystem: *Ecological Modelling*, v. 119, nos. 2–3, p. 149–166.
- Najjar, R.G., Pyke, C.R., Adams, M.B., Breitburg, Denise, Hershner, Carl, Kemp, Michael, Howarth, Robert, Mulholland, M.R., Paolisso, Michael, Secor, David, Sellner, Kevin, Wardrop, Denise, and Wood, Robert, 2010, Potential climate-change impacts on the Chesapeake Bay: *Estuarine, Coastal, and Shelf Science*, v. 86, no. 1, p. 1–20.
- Najjar, R.G., Walker, H.A., Anderson, P.J., Barron, E.J., Bord, R.J., Gibson, J.R., Kennedy, V.S., Knight, C.G., Megonigal, J.P., O'Connor, R.E., Polsky, C.D., Psuty, N.P., Richards, B.A., Sorenson, L.G., Steele, E.M., and Swanson, R.S., 2000, The potential impacts of climate change on the mid-Atlantic coastal region: *Climate Research*, v. 14, no. 3, p. 219–233.
- Nakićenović, Nebojša, Alcamo, Joseph, Davis, Gerald, de Vries, Bert, Fenhann, Joergen, Gaffin, Stuart, Gregory, Kenneth, Grübler, Arnulf, Jung, T.Y., Kram, Tom, La Rovere, E.L., Michaelis, Laurie, Mori, Shunsuke, Morita, Tsuneyuki, Pepper, William, Pitcher, Hugh, Price, Lynn, Riahi, Keywan, Roehrl, Alexander, Rogner, H.H., Sankovski, Alexei, Schlesinger, Michael, Shukla, Priyararshi, Smith, Steven, Swart, Robert, van Rooijen, Sascha, Victor, Nadejda, and Zhou Dadi, 2000, Special report on emissions scenarios; A special report of Working Group III of the Intergovernmental Panel on Climate Change: Cambridge, United Kingdom, Cambridge University Press, 599 p., accessed November 15, 2011, at <http://www.grida.no/publications/other/ipcc%5Fsr/?src=/climate/ipcc/emission/index.htm>.
- Napton, D.E., Auch, R.F., Headley, Rachel, and Taylor, J.L., 2010, Land changes and their driving forces in the south-eastern United States: *Regional Environmental Change*, v. 10, no. 1, p. 37–53.
- National Aeronautics and Space Administration, 2012, Surface meteorology and solar energy: National Aeronautics and Space Administration, accessed May 31, 2012, at <http://eosweb.larc.nasa.gov/sse/>.
- National Interagency Fire Center, [undated], Wildland fire statistics: Bureau of Land Management Web site, accessed May 3, 2013, at http://www.nifc.gov/fireInfo/fireInfo_statistics.html.
- Nixon, S.W., Ammerman, J.W., Atkinson, L.P., Berounsky, V. M., Billen, G., Boicourt, W.C., Boynton, W.R., Church, T.M., Ditoro, D.M., Elmgren, R., Garber, J.H., Giblin, A.E., Jahnke, R.A., Owens, N.J.P., Pilson, M.E.Q., and Seitzinger, S.P., 1996, The fate of nitrogen and phosphorus at the land-sea margin of the North Atlantic Ocean: *Biogeochemistry*, v. 35, no. 1, p. 141–180.
- Nowacki, G.J., and Abrams, M.D., 2008, The demise of fire and “mesophication” of forests in the eastern United States: *Bioscience*, v. 58, no. 2, p. 123–138. (Also available at <http://dx.doi.org/10.1641/B580207>.)
- Nowak, D.J., and Crane, D.E., 2002, Carbon storage and sequestration by urban trees in the USA: *Environmental Pollution*, v. 116, no. 3, p. 381–389, accessed November 7, 2013, at <http://www.ncbi.nlm.nih.gov/pubmed/11822716>.
- Oak Ridge National Laboratory, 2012, Global fire emissions database, version 2.1: Oak Ridge National Laboratory Distributed Active Archive Center database, accessed August 9, 2012, at http://daac.ornl.gov/VEGETATION/guides/global_fire_emissions_v2.1.html.
- Oczkowski, Autumn, and Nixon, Scott, 2008, Increasing nutrient concentrations and the rise and fall of a coastal fishery; a review of data from the Nile Delta, Egypt: *Estuarine, Coastal, and Shelf Science*, v. 77, no. 3, p. 309–319.

- Oliver, B.G., Thurman, E.M., and Malcolm, R.L., 1983, The contribution of humic substances to the acidity of colored natural waters: *Geochimica et Cosmochimica Acta*, v. 47, no. 11, p. 2031–2035. (Also available at [http://dx.doi.org/10.1016/0016-7037\(83\)90218-1](http://dx.doi.org/10.1016/0016-7037(83)90218-1).)
- Omerik, J.M., 1987, Ecoregions of the conterminous United States: *Annals of the Association of American Geographers*, v. 77, no. 1, p. 118–125.
- Oren, Ram, Hsieh, Cheng-I, Stoy, Paul, Albertson, John, McCarthy, H.R., Harrell, Peter, and Katul, G.G., 2006, Estimating the uncertainty in annual net ecosystem carbon exchange—Spatial variation in turbulent fluxes and sampling errors in eddy-covariance measurements: *Global Change Biology*, v. 12, no. 5, p. 883–896. (Also available at <http://dx.doi.org/10.1111/j.1365-2486.2006.01131.x>.)
- Ottmar, R.D., Prichard, S.J., Vihnanek, R.E., and Sandberg, D.V., 2008, Modification and validation of fuel consumption models for shrub and forested lands in the Southwest, Pacific Northwest, Rockies, Midwest, Southeast and Alaska: Seattle, Washington, Joint Fire Science Program Project 98–1–9–06 final report, 14 p. plus appendixes, accessed November 7, 2013, at http://www.firescience.gov/projects/98-1-9-06/project/98-1-9-06_final_report.pdf.
- Ottmar, R.D., Sandberg, D.V., Riccardi, C.L., and Prichard, S.J., 2007, An overview of the fuel characteristic classification system—Quantifying, classifying, and creating fuelbeds for resource planning: *Canadian Journal of Forest Research*, v. 37, no. 12, p. 2383–2393.
- Outcalt, K.W., and Wade, D.D., 2004, Fuels management reduces tree mortality from wildfires in southeastern United States: *Journal of Applied Forestry*, v. 28, no. 1, p. 28–34.
- Pacala, S.W., Hurtt, G.C., Baker, D., Peylin, P., Houghton, R.A., Birdsey, R.A., Heath, L., Sundquist, E.T., Stallard, R.F., Ciais, P., Moorcroft, P., Caspersen, J.P., Shevliakova, E., Moore, B., Kohlmaier, G., Holland, E., Gloor, M., Harmon, M.E., Fan, S.-M., Sarmiento, J.L., Goodale, C.L., Schimel, D., and Field, C.B., 2001, Consistent land- and atmosphere-based U.S. carbon sink estimates: *Science*, v. 292, no. 5525, p. 2316–2320, accessed October 31, 2013, at <http://dx.doi.org/10.1126/science.1057320>.
- Pacala, Stephen, Birdsey, R.A., Bridgman, S.D., Conant, R.T., Davis, Kenneth, Hales, Burke, Houghton, R.A., Jenkins, J.C., Johnston, Mark, Marland, Gregg, Paustian, Keith, Caspersen, John, Socolow, Robert, and Tol, R.S.J., 2007, The North American carbon budget past and present, chap. 3 of King, A.W., Dilling, Lisa, Zimmerman, G.P., Fairman, D.M., Houghton, R.A., Marland, Gregg, Rose, A.Z., and Wilbanks, T.J., eds., *The first state of the carbon cycle report (SOCCR)—The North American carbon budget and implications for the global carbon cycle*, U.S. Climate Change Committee Synthesis and Assessment Product 2.2: Asheville, North Carolina, National Oceanic and Atmospheric Administration, p. 29–36, accessed November 7, 2013, at <http://downloads.globalchange.gov/sap/sap2-2/sap2-2-final-all.pdf>.
- Paerl, H.W., 2006, Assessing and managing nutrient-enhanced eutrophication in estuarine and coastal waters—Interactive effects of human and climatic perturbations: *Ecological Engineering*, v. 26, no. 1, p. 40–54.
- Pan, Yude, Birdsey, R.A., Fang, Jingyun, Houghton, Richard, Kauppi, P.E., Kurz, W.A., Phillips, O.L., Shvidenko, Anatoly, Lewis, S.L., Canadell, J.G., Ciais, Philippe, Jackson, R.B., Pacala, S.W., McGuire, A.D., Piao, Shilong, Rautiainen, Aapo, Sitch, Stephen, and Hayes, Daniel, 2011, A large and persistent carbon sink in the world's forests: *Science*, v. 333, no. 6045, p. 988–993, accessed October 31, 2013, at <http://dx.doi.org/10.1126/science.1201609>.
- Park, C.C., 1977, World-wide variations in hydraulic geometry exponents of stream channels—An analysis and some observations: *Journal of Hydrology*, v. 33, no. 1–2, p. 133–146.
- Parkhurst, D.L., and Appelo, C.A.J., 1999, User's guide to PHREEQC (version 2)—A computer program for speciation, batch-reaction, one-dimensional transport, and inverse geochemical calculations: U.S. Geological Survey Water-Resources Investigations Report 99–4259, 312 p.
- Parton, W.J., Ojima, D.S., and Schimel, D.S., 1994, Environmental change in grasslands—Assessment using models: *Climatic Change*, v. 28, no. 1, p. 111–141. (Also available at <http://dx.doi.org/10.1007/BF01094103>.)
- Parton, W.J., Schimel, D.S., Cole, C.V., and Ojima, D.S., 1987, Analysis of factors controlling soil organic-matter levels in great plains grasslands: *Soil Science Society of America Journal*, v. 51, no. 5, p. 1173–1179. (Also available at <http://dx.doi.org/10.2136/sssaj1987.03615995005100050015x>.)
- Peet, R.K., and Allard, D.J., 1993, Longleaf pine vegetation of the southern Atlantic and eastern Gulf Coast regions—A preliminary classification, in Herman, S.M., ed., *The longleaf pine ecosystem—Ecology, restoration and management*, Tall Timbers Fire Ecology Conference, 18th, Tallahassee, Fla., May 30–June 2, 1991, Proceedings: Tallahassee, Fla., Tall Timbers Research Station, p. 45–81.
- Piña-Ochoa, E., and Álvarez-Cobelas, M., 2006, Denitrification in aquatic environments—A cross-system analysis: *Biogeochemistry*, v. 81, no. 1, p. 111–130.
- Planbureau voor de Leefomgeving [Netherlands Environmental Assessment Agency], 2001, The IMAGE 2.2 implementation of the SRES scenarios—A comprehensive analysis of emissions, climate change and impacts in the 21st century: The Hague, Netherlands, Netherlands Environmental Assessment Agency CD-ROM 481508018.
- Poffenbarger, H.J., Needelman, B.A., and Megonigal, J.P., 2011, Salinity influence on methane emissions from tidal marshes: *Wetlands*, v. 31, no. 5, p. 831–842, accessed

- October 31, 2013, at <http://dx.doi.org/10.1007/s13157-011-0197-0>.
- Pontius, R.G., Jr., and Millones, Marco, 2012, Death to Kappa—Birth of quantity disagreement and allocation disagreement for accuracy assessment: *International Journal of Remote Sensing*, v. 32, no. 15, p. 4407–4429. (Also available at <http://dx.doi.org/10.1080/01431161.2011.552923>.)
- Post, W.M., Emanuel, W.R., Zinke, P.J., and Stangenberger, A.G., 1982, Soil carbon pools and world life zones: *Nature*, v. 298, p. 156–159. (Also available at <http://dx.doi.org/10.1038/298156a0>.)
- Potter, C.S., Randerson, J.T., Field, C.B., Matson, P.A., Vitousek, P.M., Mooney, H.A., and Klooster, S.A., 1993, Terrestrial ecosystem production—A process model based on global satellite and surface data: *Global Biogeochemical Cycles*, v. 7, no. 4, p. 811–841.
- Potter, Christopher, Klooster, Steven, Genovese, Vanessa, Hiatt, Cyrus, Boriah, Shyam, Kumar, Vipin, Mithal, Varun, and Garg, Ashish, 2012, Terrestrial ecosystem carbon fluxes predicted from MODIS satellite data and large-scale disturbance modeling: *International Journal of Geosciences*, v. 3, no. 3, p. 469–479.
- Poulter, Benjamin, Christensen, N.L., Jr., and Halpin, P.N., 2006, Carbon emissions from a temperate peat fire and its relevance to interannual variability of trace atmospheric greenhouse gases: *Journal of Geophysical Research: Atmospheres*, v. 111, no. D6, D06301, 11 p., accessed November 7, 2013, at <http://dx.doi.org/10.1029/2005JD006455>.
- Powell, T.L., Bracho, Rosvel, Li, Jiahong, Dore, Sabina, Hinkle, C.R., and Drake, B.G., 2006, Environmental controls over net ecosystem carbon exchange of scrub oak in central Florida: *Agricultural and Forest Meteorology*, v. 141, no. 1, p. 19–34. (Also available at <http://dx.doi.org/10.1016/j.agrformet.2006.09.002>.)
- Preisler, H.K., Brillinger, D.R., Burgan, R.E., and Benoit, J.W., 2004, Probability based models for estimation of wildfire risk: *International Journal of Wildland Fire*, v. 13, no. 2, p. 133–142.
- Preston, S.D., Alexander, R.B., and Wolock, D.M., 2011, SPARROW modeling to understand water-quality conditions in major regions of the United States—A featured collection introduction: *Journal of the American Water Resources Association*, v. 47, no. 5, p. 887–890.
- PRISM Climate Group, 2012, PRISM data: PRISM Climate Group dataset, accessed October 23, 2012, at <http://www.prism.oregonstate.edu/>.
- Protected Areas Database of the United States Partnership, 2009, A map for the future—Creating the next generation of protected area inventories in the United States: Protected Areas Database of the United States Partnership, 20 p., accessed June 18, 2010, at http://www.protectedlands.net/images/PADUS_FinalJuly2009LowRes.pdf.
- Rabalais, N.N., Díaz, R.J., Levin, L.A., Turner, R.E., Gilbert, D., and Zhang, J., 2010, Dynamics and distribution of natural and human-caused hypoxia: *Biogeosciences*, v. 7, no. 2, p. 585–619.
- Rabalais, N.N., Turner, R.E., Justić, Dubravko, Dortch, Quay, Wiseman, W.J., Jr., and Sen Gupta, B.K., 1996, Nutrient changes in the Mississippi River and system responses on the adjacent continental shelf: *Estuaries*, v. 19, no. 2B, p. 386–407.
- Radeloff, V.C., Mladenoff, D.J., and Boyce, M.S., 2000, A historical perspective and future outlook on landscape scale restoration in the northwest Wisconsin pine barrens: *Restoration Ecology*, v. 8, no. 2, p. 119–126.
- Raymond, P.A., and Cole, J.J., 2003, Increase in the export of alkalinity from North America's largest river: *Science*, v.301, no. 5629, p. 88–91.
- Raymond, P.A., Zappa, C.J., Butman, David, Bott, T.L., Potter, Jody, Mulholland, Patrick, Laursen, A.E., McDowell, W.H., and Newbold, Dennis, 2012, Scaling the gas transfer velocity and hydraulic geometry in streams and small rivers: *Limnology and Oceanography—Fluids and Environments*, v. 2, p. 41–53. (Also available at <http://dx.doi.org/10.1215/21573689-1597669>.)
- Reich, P.B., 2012, Key canopy traits drive forest productivity: *Proceedings of the Royal Society B: Biological Sciences*, v. 279, no. 1736, p. 2128–2134.
- Reinhardt, E.D., Keane, R.E., and Brown, J.K., 1997, First order fire effect model—FOFEM 4.0, user's guide: U.S. Department of Agriculture, Forest Service General Technical Report INT–GTR–344, 65 p., accessed November 7, 2013, at http://www.fs.fed.us/rm/pubs_int/int_gtr344.pdf.
- Reinhardt, Elizabeth, and Keane, Bob, 2009, FOFEM—The first-order fire effects model adapts to the 21st century: *Fire Science Brief*, no. 62, p. 1–6, accessed November 7, 2013, at http://www.firescience.gov/projects/98-1-8-03/supdocs/98-1-8-03_fsbrief62-final.pdf.
- Rhemtulla, J.M., Mladenoff, D.J., and Clayton, M.K., 2009, Legacies of historical land use on regional forest composition and structure in Wisconsin, USA (mid-1800s–1930s–2000s): *Ecological Applications*, v. 19, no. 4, p. 1061–1078.
- Riera, J.L., Schindler, J.E., and Kratz, T.K., 1999, Seasonal dynamics of carbon dioxide and methane in two clear-water lakes and two bog lakes in northern Wisconsin, U.S.A.: *Canadian Journal of Fisheries and Aquatic Sciences*, v. 56, no. 2, p. 265–274.
- Robinson, D.T., Brown, D.G., French, N.H.F., and Reed, B.C., 2013, Linking land use and the carbon cycle, chap. 1 of Brown, D.G., Robinson, D.T., French, N.H.F., and Reed, B.C., eds., *Land use and the carbon cycle: Advances in integrated science, management, and policy*: New York, N.Y., Cambridge University Press, p. 3–23.

- Rollins, M.G., 2009, LANDFIRE—A nationally consistent vegetation, wildland fire, and fuel assessment: *International Journal of Wildland Fire*, v. 18, no. 3, p. 235–249.
- Roy, D.P., Lewis, P.E., and Justice, C.O., 2002, Burned area mapping using multi-temporal moderate spatial resolution data—A bi-directional reflectance model-based expectation approach: *Remote Sensing of Environment*, v. 83, nos. 1–2, p. 263–286.
- Runkel, R.L., Crawford, C.G., and Cohn, T.A., 2004, Load estimator (LOADEST)—A FORTRAN program for estimating constituent loads in streams and rivers: U.S. Geological Survey Techniques and Methods, book 4, chap. A5, 69 p., accessed November 7, 2013, at <http://pubs.usgs.gov/tm/2005/tm4A5/>.
- Running, S.W., 2008, Ecosystem disturbance, carbon, and climate: *Science*, v. 321, no. 5889, p. 652–653, accessed October 31, 2013, at <http://dx.doi.org/10.1126/science.1159607>.
- Ryan, M.G., Binkley, D., and Fownes, J.H., 1997, Age-related decline in forest productivity—Pattern and process: *Advances in Ecological Research*, v. 27, p. 213–262.
- Ryan, M.G., Hubbard, R.M., Pongracic, Silvia, Raison, R.J., and McMurtrie, R.E., 1996, Foliage, fine-root, woody-tissue and stand respiration in *Pinus radiata* in relation to nutrient status: *Tree Physiology*, v. 16, no. 3, p. 333–343.
- Rykiel, E.J., Jr., 1996, Testing ecological models—The meaning of validation: *Ecological Modelling*, v. 90, no. 3, p. 229–244. (Also available at [http://dx.doi.org/10.1016/0304-3800\(95\)00152-2](http://dx.doi.org/10.1016/0304-3800(95)00152-2).)
- Sampere, T.P., Bianchi, T.S., Wakeham, S.G., and Allison, M.A., 2008, Sources of organic matter in surface sediments of the Louisiana continental margin—Effects of major depositional/transport pathways and Hurricane Ivan: *Continental Shelf Research*, v. 28, no. 17, p. 2472–2487.
- Sarmiento, J.L., and Gruber, Nicolas, 2002, Sinks for anthropogenic carbon: *Physics Today*, v. 55, no. 8, p. 30–36.
- Sauer, M.J., Roesler, C.S., Werdell, P.J., and Barnard, A., 2012, Under the hood of satellite empirical chlorophyll *a* algorithms—Revealing the dependencies of maximum band ratio algorithms on inherent optical properties: *Optics Express*, v. 20, no. 19, p. 20920–20933.
- Schmidt, Gail, Liu, Shuguang, and Oeding, Jennifer, 2011, Derived crop management data for the land carbon project: U.S. Geological Survey Open-File Report 2011–1303, 15 p., accessed February 12, 2014, at <http://pubs.usgs.gov/of/2011/1303/>.
- Schulte, L.A., Mladenoff, D.J., Crow, T.R., Merrick, L.C., and Cleland, D.T., 2007, Homogenization of northern U.S. Great Lakes forests due to land use: *Landscape Ecology*, v. 22, no. 7, p. 1089–1103.
- Schwalm, C.R., Williams, C.A., Schaefer, Kevin, Anderson, Ryan, Arain, M.A., Baker, Ian, Barr, Alan, Black, T.A., Chen, Guangsheng, Chen, J.M., Ciais, Phillippe, Davis, K.J., Desai, Ankur, Dietze, Michael, Dragoni, Danilo, Fischer, M.L., Flanagan, L.B., Grant, Robert, Gu, Lianhong, Hollinger, David, Izaurralde, R.C., Kucharik, Chris, Lafleur, Peter, Law, B.E., Li, Longhui, Li, Zhengpeng, Liu, Shuguang, Lokupitiya, Erandanthie, Luo, Yiqi, Ma, Siyan, Margolis, Hank, Matamala, Roser, McCaughey, Harry, Monson, R.K., Oechel, W.C., Peng, Changhui, Poulter, Benjamin, Price, D.T., Riciutto, D.M., Riley, William, Sahoo, A.K., Sprintsin, Michael, Sun, Jianfeng, Tian, Hanqin, Tonitto, Christina, Verbeeck, Hans, and Verma, S.B., 2010, A model-data intercomparison of CO₂ exchange across North America—Results from the North American carbon program site synthesis: *Journal of Geophysical Research: Biogeosciences*, v. 115, no. G3, G00H05, 22 p., accessed February 25, 2014, at <http://dx.doi.org/10.1029/2009JG001229>.
- Schwarz, G.E., Hoos, A.B., Alexander, R.B., and Smith, R.A., 2006, The SPARROW surface water-quality model—Theory, application, and user documentation: U.S. Geological Survey Techniques and Methods, book 6, chap. B3., 248 p., accessed November 7, 2013, at <http://pubs.usgs.gov/tm/2006/tm6b3/>.
- Seiler, Wolfgang, and Crutzen, P.J., 1980, Estimates of gross and net fluxes of carbon between the biosphere and the atmosphere from biomass burning: *Climatic Change*, v. 2, no. 3, p. 207–247.
- Seitzinger, S., Harrison, J.A., Böhlke, J.K., Bouwman, A.F., Lowrance, R., Peterson, B., Tobias, C., and Van Drecht, G., 2006, Denitrification across landscapes and waterscapes—A synthesis: *Ecological Applications*, v. 16, no. 6, p. 2064–2090.
- Seitzinger, S.P., and Giblin, A.E., 1996, Estimating denitrification in North Atlantic continental shelf sediments: *Biogeochemistry*, v. 35, no. 1, p. 235–260.
- Seitzinger, S.P., Harrison, J.A., Dumont, Egon, Beusen, A.H.W., and Bouwman, A.F., 2005, Sources and delivery of carbon, nitrogen, and phosphorus to the coastal zone — An overview of global nutrient export from watersheds (NEWS) models and their application: *Global Biogeochemical Cycles*, v. 19, no. 4, 11 p., accessed November 7, 2013, at <http://dx.doi.org/10.1029/2005GB002606>.
- Seitzinger, S.P., Mayorga, E., Bouwman, A.F., Kroeze, C., Beusen, A.H.W., Billen, G., Van Drecht, G., Dumont, E., Fekete, B.M., Garnier, J., and Harrison, J.A., 2010, Global river nutrient export—A scenario analysis of past and future trends: *Global Biogeochemical Cycles*, v. 24, no. 2, 16 p., accessed November 7, 2013, at <http://dx.doi.org/10.1029/2009GB003587>.
- Sharitz, R.R., and Mitsch, W.J., 1993, Southern floodplain forests, in Martin, W.H., Boyce, S.G., and Echternacht, A.C., eds., *Biodiversity of the southeastern United States—Lowland terrestrial communities*: New York, John Wiley and Sons, p. 311–372.

- Shepherd, D., Burgess, D., Jickells, T., Andrews, J., Cave, R., Turner, R.K., Aldridge, J., Parker, E.R., and Young, E., 2007, Modelling the effects and economics of managed realignment on the cycling and storage of nutrients, carbon and sediments in the Blackwater estuary UK: *Estuarine, Coastal, and Shelf Science*, v. 73, nos. 3–4, p. 355–367.
- Shih, J.S., Alexander, R.B., Smith, R.A., Boyer, E.W., Schwarz, G.E., and Chung, Susie, 2010, An initial SPARROW model of land use and in-stream controls on total organic carbon in streams of the conterminous United States: U.S. Geological Survey Open-File Report 2010–1276, 22 p., accessed November 7, 2013, at <http://pubs.usgs.gov/of/2010/1276/>.
- Siegel, D.A., Behrenfeld, M.J., Maritorena, S., McClain, C.R., Antoine, D., Bailey, S.W., Bontempi, P.S., Boss, E.S., Dierssen, H.M., Doney, S.C., Eplee, R.E., Jr., Evans, R.H., Feldman, G.C., Fields, E., Franz, B.A., Kuring, N.A., Mengelt, C., Nelson, N.B., Patt, F.S., Robinson, W.D., Sarmiento, J.L., Swan, C.M., Werdell, P.J., Westberry, T.K., Wilding, J.G., and Yoder, J.A., 2013, Regional to global assessments of phytoplankton dynamics from the SeaWiFS mission: *Remote Sensing of Environment*, v. 135, p. 77–91.
- Sleeter, B.M., Sohl, T.L., Bouchard, M.A., Reker, R.R., Soular, C.E., Acevedo, William, Griffith, G.E., Sleeter, R.R., Auch, R.F., Sayler, K.L., Pringle, Stephen, and Zhu, Zhiliang, 2012a, Scenarios of land use and land cover change in the conterminous United States—Utilizing the special report on emission scenarios at ecoregional scales: *Global Environmental Change*, v. 22, no. 4, p. 896–914.
- Sleeter, B.M., Sohl, T.L., Loveland, T.R., Auch, R.F., Acevedo, William, Drummond, M.A., Sayler, K.L., and Stehman, S.V., 2013, Land-cover change in the conterminous United States from 1973 to 2000: *Global Environmental Change*, v. 23, no. 4, p. 733–748.
- Sleeter, B.M., Wilson, T.S., and Acevedo, William, eds., 2012b, Status and trends of land change in the western United States—1973 to 2000: U.S. Geological Survey Professional Paper 1794–A, 324 p. (Also available at <http://pubs.usgs.gov/pp/1794/a/>.)
- Smith, J.E., and Heath, L.S., 2008, Carbon stocks and stock changes in U.S. forests, chap. 4 of *U.S. agriculture and forestry greenhouse gas inventory—1990–2005*: U.S. Department of Agriculture Technical Bulletin 1921, p. 65–80 plus appendix C, accessed November 7, 2013, at http://www.nrs.fs.fed.us/pubs/jrnl/2008/nrs_2008_smith-j_001.pdf.
- Smith, R.A., Schwarz, G.E., and Alexander, R.B., 1997, Regional interpretation of water-quality monitoring data: *Water Resources Research*, v. 33, no. 12, p. 2781–2798.
- Smith, S.V., and Hollibaugh, J.T., 1993, Coastal metabolism and the oceanic organic-carbon balance: *Reviews of Geophysics*, v. 31, no. 1, p. 75–89.
- Smith, W.B., Miles, P.D., Perry, C.H., and Pugh, S.A., 2009, Forest resources of the United States, 2007: U.S. Department of Agriculture, Forest Service, General Technical Report WO–78, 336 p., accessed February 12, 2014, at http://www.fs.fed.us/nrs/pubs/gtr/gtr_wo78.pdf.
- Smith, W.B., Miles, P.D., Vissage, J.S., and Pugh, S.A., 2004, Forest resources of the United States, 2002: U.S. Department of Agriculture, Forest Service, General Technical Report NC–241, 137 p. (Also available at http://nrs.fs.fed.us/pubs/gtr/gtr_nc241.pdf.)
- Soetaert, Karline, and Petzoldt, Thomas, 2010, Inverse modelling, sensitivity and Monte Carlo analysis in R using package FME: *Journal of Statistical Software*, v. 33, no. 3, p. 1–28. (Also available at <http://www.jstatsoft.org/v33/i03>.)
- Sohl, T.L., Sleeter, B.M., Sayler, K.L., Bouchard, M.A., Reker, R.R., Bennett, S.L., Sleeter, R.L., Kanengieter, R.L., and Zhu, Zhiliang, 2012a, Spatially explicit land-use and land-cover scenarios for the Great Plains of the United States: *Agriculture, Ecosystems & Environment*, v. 153, p. 1–15, accessed October 31, 2013, at <http://dx.doi.org/10.1016/j.agee.2012.02.019>.
- Sohl, T.L., Sleeter, B.M., Zhu, Zhiliang, Sayler, K.L., Bennett, Stacie, Bouchard, Michelle, Reker, Ryan, Hawbaker, Todd, Wein, Anne, Liu, Shuguang, Kanengieter, Ronald, and Acevedo, William, 2012b, A land-use and land-cover modeling strategy to support a national assessment of carbon stocks and fluxes: *Applied Geography*, v. 34, p. 111–124, accessed October 31, 2013, at <http://dx.doi.org/10.1016/j.apgeog.2011.10.019>.
- Sohl, Terry, and Sayler, Kristi, 2008, Using the FORE–SCE model to project land-cover change in the southeastern United States: *Ecological Modelling*, v. 219, nos. 1–2, p. 49–65, accessed October 31, 2013, at <http://dx.doi.org/10.1016/j.ecolmodel.2008.08.003>.
- Spracklen, D.V., Mickley, L.J., Logan, J.A., Hudman, R.C., Yevich, R., Flannigan, M.D., and Westerling, A.L., 2009, Impacts of climate change from 2000 to 2050 on wildfire activity and carbonaceous aerosol concentrations in the western United States: *Journal of Geophysical Research: Atmospheres*, v. 114, no. D20, 17 p., accessed November 7, 2013, at <http://dx.doi.org/10.1029/2008JD010966>.
- Stackpoole, S.M., Butman, David, Clow, D.W., McDonald, C.P., Stets, E.G., and Striegl, R.G., 2012, Baseline carbon sequestration, transport, and emission from inland aquatic ecosystems in the western United States, chap. 10 of *Zhu, Zhiliang, and Reed, B.C., eds., Baseline and projected future carbon storage and greenhouse-gas fluxes in ecosystems of the western United States*: U.S. Geological Survey Professional Paper 1797, p. 125–141. (Also available at <http://pubs.usgs.gov/pp/1797/>.)
- Stephenson, S.L., Ash, A.N., and Stauffer, D.F., 1993, Appalachian oak forests, in *Martin, W.H., Boyce, S.G., and Echternacht, A.C., eds., Biodiversity of the southeastern United*

- States—Upland terrestrial communities: New York, John Wiley and Sons, p. 255–303.
- Stets, E.G., and Striegl, R.G., 2012, Carbon export by rivers draining the conterminous United States: *Inland Waters*, v. 2, no. 4, p. 177–184.
- Stets, E.G., Striegl, R.G., Aiken, G.R., Rosenberry, D.O., and Winter, T.C., 2009, Hydrologic support of carbon dioxide flux revealed by whole-lake carbon budgets: *Journal of Geophysical Research: Biosciences*, v. 114, no. G1, G01008, 14 p., accessed November 7, 2013, at <http://dx.doi.org/10.1029/2008JG000783>.
- Stocks, B.J., Mason, J.A., Todd, J.B., Bosch, E.M., Wotton, B.M., Amiro, B.D., Flannigan, M.D., Hirsch, K.G., Logan, K.A., Martell, D.L., and Skinner, W.R., 2002, Large forest fires in Canada, 1959–1997: *Journal of Geophysical Research: Atmospheres*, v. 108, no. D1, 8149, 12 p., accessed November 7, 2013, at <http://dx.doi.org/10.1029/2001JD000484>.
- Strahler, A.N., 1952, Dynamic basis of geomorphology: *Geological Society of America Bulletin*, v. 63, no. 9, p. 923–938.
- Strauss, David, Bednar, Larry, and Mees, Romain, 1989, Do one percent of the forest fires cause ninety-nine percent of the damage?: *Forest Science*, v. 35, no. 2, p. 319–328.
- Strengers, Bart, Leemans, Rik, Eickhout, Bas, de Vries, Bert, and Bouwman, Lex, 2004, The land-use projections and resulting emissions in the IPCC SRES scenarios as simulated by the IMAGE 2.2 model: *GeoJournal*, v. 61, no. 4, p. 381–393.
- Striegl, R.G., Dornblaser, M.M., Aiken, G.R., Wickland, K.P., and Raymond, P.A., 2007, Carbon export and cycling by the Yukon, Tanana, and Porcupine rivers, Alaska, 2001–2005: *Water Resources Research*, v. 43, no. 2, W02411, 9 p., accessed February 4, 2014, at <http://dx.doi.org/10.1029/2006WR005201>.
- Striegl, R.G., Dornblaser, M.M., McDonald, C.P., Rover, J.R., and Stets, E.G., 2012, Carbon dioxide and methane emissions from the Yukon River system: *Global Biogeochemical Cycles*, v. 26, no. 4, GB0E05, 11 p., accessed February 4, 2014, at <http://dx.doi.org/10.1029/2012GB004306>.
- Swaney, D.P., Hong, Bongghi, Ti, Chaopu, Howarth, R.W., and Humborg, Christoph, 2012, Net anthropogenic nitrogen inputs to watersheds and riverine N export to coastal waters—A brief overview: *Current Opinion in Environmental Sustainability*, v. 4, no. 2, p. 203–211.
- Swetnam, T.W., and Betancourt, J.L., 1990, Fire—Southern oscillation relations in the southwestern United States: *Science*, v. 249, no. 4972, p. 1017–1020.
- Syphard, A.D., Radeloff, V.C., Keeley, J.E., Hawbaker, T.J., Clayton, M.K., Stewart, S.I., and Hammer, R.B., 2007, Human influence on California fire regimes: *Ecological Applications*, v. 17, no. 5, p. 1388–1402.
- Syvitski, J.P.M., Vörösmarty, C.J., Kettner, A.J., and Green, Pamela, 2005, Impact of humans on the flux of terrestrial sediment to the global coastal ocean: *Science*, v. 308, no. 5720, p. 376–380.
- Szeto, M., Werdell, P.J., Moore, T.S., and Campbell, J.W., 2011, Are the world's oceans optically different?: *Journal of Geophysical Research: Oceans*, v. 116, no. C7, C00H04, 14 p., accessed November 7, 2013, at <http://dx.doi.org/10.1029/2011JC007230>.
- Tan, Zhenxi, Lal, Rattan, and Liu, Shuguang, 2006, Using experimental and geospatial data to estimate regional carbon sequestration potential under no-till management: *Soil Science*, v. 171, no. 12, p. 950–959.
- Thomas, C.J., Blair, N.E., Alperin, M.J., DeMaster, D.J., Jahnke, R.A., Martens, C.S., and Mayer, L., 2002, Organic carbon deposition on the North Carolina continental slope off Cape Hatteras (USA): *Deep-Sea Research Part II: Topical Studies in Oceanography*, v. 49, no. 20, p. 4687–4709.
- Thomas, Helmut, Bozec, Yann, Elkalay, Khalid, and de Baar, H.J.W., 2004, Enhanced open ocean storage of CO₂ from shelf sea pumping: *Science*, v. 304, no. 5673, p. 1005–1008.
- Tian, Hanqin, Chen, Guangsheng, Liu, Mingliang, Zhang, Chi, Sun, Ge, Lu, Chaoqun, Xu, Xiaofeng, Ren, Wei, Pan, Shufen, and Chappelka, Arthur, 2010, Model estimates of net primary productivity, evapotranspiration, and water use efficiency in the terrestrial ecosystems of the southern United States during 1895–2007: *Forest Ecology and Management*, v. 259, no. 7, p. 1311–1327, accessed November 7, 2013, at <http://dx.doi.org/10.1016/j.foreco.2009.10.009>.
- Tian, Hanqin, Chen, Guangsheng, Zhang, Chi, Liu, Mingliang, Sun, Ge, Chappelka, Arthur, Ren, Wei, Xu, Xiaofeng, Lu, Chaoqun, Pan, Shufen, Chen, Hua, Hui, Dafeng, McNulty, Steven, Lockaby, Graeme, and Vance, Eric, 2012, Century-scale responses of ecosystem carbon storage and flux to multiple environmental changes in the southern United States: *Ecosystems*, v. 15, no. 4, p. 674–694.
- Tishchenko, P.Ya., Wallmann, K., Vasilevskaya, N.A., Volkova, T.I., Zvalinskii, V.I., Khodorenko, N.D., and Shkirnikova, E.M., 2006, The contribution of organic matter to the alkaline reserve of natural waters: *Oceanology*, v. 46, no. 2, p. 192–199. (Also available at <http://dx.doi.org/10.1134/S0001437006020068>.)
- Transeau, E.N., 1935, The prairie peninsula: *Ecology*, v. 16, no. 3, p. 423–437.
- Tranvik, L.J., Downing, J.A., Cotner, J.B., Loiselle, S.A., Striegl, R.G., Ballatore, T.J., Dillon, Peter, Finlay, Kerri, Fortino, Kenneth, Knoll, L.B., Kortelainen, P.L., Kutser, Tiit, Larsen, Soren, Laurion, Isabelle, Leech, D.M., McCallister, S.L., McKnight, D.M., Melack, J.M., Overholt, Erin, Porter, J.A., Prairie, Yves, Renwick, W.H., Roland, Fabio, Sherman, B.S., Schindler, D.W., Sobek, Sebastian, Tremblay, Alain, Vanni, M.J., Verschoor, A.M., von Wachenfeldt, Eddie, and Weyhenmeyer, G.A., 2009, Lakes and reservoirs

- as regulators of carbon cycling and climate: *Limnology and Oceanography*, v. 54, no. 6, part 2, p. 2298–2314, accessed November 7, 2013, at http://dx.doi.org/10.4319/lo.2009.54.6_part_2.2298.
- Trimmer, Mark, and Engström, Pia, 2011, Distribution, activity, and ecology of anammox bacteria in aquatic environments, chap. 9 of Ward, B.B., Arp, D.J., and Klotz, M.G., eds., *Nitritification*: Washington, D.C., ASM Press, p. 201–236.
- Trombulak, S.C., and Wolfson, Richard, 2004, Twentieth-century climate change in New England and New York, USA: *Geophysical Research Letters*, v. 31, no. 19, L19202, 4 p., accessed November 7, 2013, at <http://dx.doi.org/10.1029/2004GL020574>.
- Tulbure, Mirela, Wimberly, Michael, Roy, David, and Henebry, Geoffrey, 2011, Spatial and temporal heterogeneity of agricultural fires in the central United States in relation to land cover and land use: *Landscape Ecology*, v. 26, no. 2, p. 211–224.
- Turner, D.P., Göckede, M., Law, B.E., Ritts, W.D., Cohen, W.B., Yang, Z., Hudiburg, T., Kennedy, R., and Duane, M., 2011, Multiple constraint analysis of regional land-surface carbon flux: *Tellus*, v. 63B, no. 2, p. 207–221. (Also available at <http://dx.doi.org/10.1111/j.1600-0889.2011.00525.x>.)
- Turner, D.P., Koerper, G.J., Harmon, M.E., and Lee, J.J., 1995, A carbon budget for forests of the conterminous United States: *Ecological Applications*, v. 5, no. 2, p. 421–436.
- Turner, M.G., Baker, W.L., Peterson, C.J., and Peet, R.K., 1998, Factors influencing succession—Lessons from large, infrequent natural disturbances: *Ecosystems*, v. 1, no. 6, p. 511–523.
- Turner, R.E., and Rabalais, N.N., 2004, Suspended sediment, C, N, P, and Si yields from the Mississippi River basin: *Hydrobiologia*, v. 511, nos. 1–3, p. 79–89.
- Turner, R.E., Rabalais, N.N., Alexander, R.B., McIsaac, G., and Howarth, R.W., 2007, Characterization of nutrient, organic carbon, and sediment loads and concentrations from the Mississippi River into the northern Gulf of Mexico: *Estuaries and Coasts*, v. 30, no. 5, p. 773–790.
- Tyson, R.V., 2001, Sedimentation rate, dilution, preservation and total organic carbon—Some results of a modelling study: *Organic Geochemistry*, v. 32, no. 2, p. 333–339.
- U.S. Army Corps of Engineers, 2012, National inventory of dams: U.S. Army Corps of Engineers Web site, accessed June 22, 2012, at <http://geo.usace.army.mil/pgis/f?p=397:12>.
- U.S. Census Bureau, 2012, TIGER products: U.S. Census Bureau Web page, accessed August 5, 2012, at <http://www.census.gov/geo/www/tiger/>.
- U.S. Congress, 2007, Energy independence and security act of 2007—Public Law 110–140: U.S. Congress, 311 p., accessed November 7, 2013, at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_public_laws&docid=f:publ140.110.pdf.
- U.S. Department of Agriculture, 2008, U.S. agriculture and forestry greenhouse gas inventory—1990–2005: U.S. Department of Agriculture Technical Bulletin 1921, [variously paged]. (Also available at http://www.usda.gov/oce/climate_change/AFGGInventory1990_2005.htm.)
- U.S. Department of Agriculture, 2011, USDA agriculture and forestry greenhouse gas inventory—1990–2008: U.S. Department of Agriculture Technical Bulletin 1930, 115 p. plus appendixes, accessed November 7, 2013, at http://www.usda.gov/oce/climate_change/AFGGInventory/USDA_GHG_Inv_1990-2008_June2011.pdf.
- U.S. Department of Agriculture, Economic Research Service, 2011a, ARMS farm financial and crop production practices—Tailored reports: U.S. Department of Agriculture, Economic Research Service database, accessed August 16, 2011, at <http://www.ers.usda.gov/Data/ARMS/app/>. [Database moved and accessed June 6, 2014, at http://www.ers.usda.gov/data-products/arms-farm-financial-and-crop-production-practices/tailored-reports-farm-structure-and-finance.aspx#.U5GYp_mwLMO.]
- U.S. Department of Agriculture, Economic Research Service, 2011b, Fertilizer use and price: U.S. Department of Agriculture, Economic Research Service database, accessed August 16, 2011, at <http://www.ers.usda.gov/Data/FertilizerUse/>. [Database moved and accessed March 25, 2014, at http://www.ers.usda.gov/data-products/fertilizer-use-and-price.aspx#.UzGMH_ldV8E.]
- U.S. Department of Agriculture, Forest Service, [2009], Timber products output studies: U.S. Department of Agriculture, Forest Service Web page, accessed February 12, 2014, at <http://www.fia.fs.fed.us/program-features/tpo>.
- U.S. Department of Agriculture, Forest Service, 2012a, Forest biomass across the lower 48 states and Alaska: U.S. Department of Agriculture, Forest Service database, accessed September 5, 2012, at <http://fsgeodata.fs.fed.us/rastergateway/biomass/>.
- U.S. Department of Agriculture, Forest Service, 2012b, Forest inventory and analysis national program: U.S. Department of Agriculture, Forest Service database, accessed November 25, 2012, at <http://www.fia.fs.fed.us/tools-data>.
- U.S. Department of Agriculture, Forest Service, 2012c, Future of America's forests and rangelands: U.S. Department of Agriculture General Technical Report WO–87, 197 p., accessed November 7, 2013, at http://www.fs.fed.us/research/publications/gtr/gtr_wo87.pdf.
- U.S. Department of Agriculture, National Agricultural Statistics Service, 2011, Quick stats: U.S. Department of Agriculture, National Agricultural Statistics Service database, accessed September 5, 2012, at <http://www.nass.usda.gov/QuickStats/>. [Web site moved to <http://quickstats.nass.usda.gov/>.]

- U.S. Department of Agriculture, Natural Resources Conservation Service, 2009, Soil survey geographic (SSURGO) database: U.S. Department of Agriculture, Natural Resources Conservation Service database, accessed August 14, 2012, at <http://soildatamart.nrcs.usda.gov/>. [At the time of publication, the soil data mart functionality had been incorporated into the soil survey Web site at <http://websoilsurvey.nrcs.usda.gov> and <http://datagateway.nrcs.usda.gov/>.]
- U.S. Department of Agriculture, Natural Resources Conservation Service, 2012, Watershed boundary dataset: U.S. Department of Agriculture, Natural Resources Conservation Service Web site, accessed October 3, 2012, at <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/water/watersheds/dataset/>.
- U.S. Department of Interior, 2012, Federal wildland fire occurrence data: U.S. Department of the Interior database, accessed August 12, 2012, at <http://wildfire.cr.usgs.gov/firehistory/data.html>.
- U.S. Environmental Protection Agency, 1999, Level III ecoregions of the continental United States: U.S. Environmental Protection Agency, scale 1:7,500,000.
- U.S. Environmental Protection Agency, 2009, National lakes assessment—A collaborative survey of the nation's lakes: U.S. Environmental Protection Agency, Office of Water and Office of Research and Development EPA 841-R-09-001, 103 p., accessed October 23, 2012, at http://www.epa.gov/owow/LAKES/lakessurvey/pdf/nla_report_low_res.pdf.
- U.S. Environmental Protection Agency, 2012, Inventory of U.S. greenhouse gas emissions and sinks—1990–2010: U.S. Environmental Protection Agency EPA 430-R-12-001, [variously paged], accessed November 8, 2013, at <http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2012-Main-Text.pdf>.
- U.S. Environmental Protection Agency, 2013a, Ecoregions of North America: U.S. Environmental Protection Agency, accessed November 13, 2013, at http://www.epa.gov/wed/pages/ecoregions/na_eco.htm.
- U.S. Environmental Protection Agency, 2013b, Inventory of U.S. greenhouse gas emissions and sinks—1990–2011: U.S. Environmental Protection Agency EPA 430-R-13-001, [variously paged], accessed April 29, 2013, at <http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2013-Main-Text.pdf>.
- U.S. Geological Survey, [undated], National water information service: U.S. Geological Survey Web site, accessed October 1, 2012, at <http://waterdata.usgs.gov/nwis>.
- U.S. Geological Survey, 2010, Moderate resolution imaging spectroradiometer (MODIS) irrigated agriculture dataset for the United States (MIRAD-US): U.S. Geological Survey Web site, accessed February 12, 2014, at <http://earlywarning.usgs.gov/USirrigation/>.
- U.S. Geological Survey, 2012a, Land cover trends: U.S. Geological Survey database, accessed May 31, 2012, at <http://landcover trends.usgs.gov/>.
- U.S. Geological Survey, 2012b, National elevation dataset: U.S. Geological Survey database, accessed August 5, 2012, at <http://ned.usgs.gov/>.
- U.S. Geological Survey, 2012c, National hydrography dataset: U.S. Geological Survey database, accessed August 6, 2012, at <http://nhd.usgs.gov/>.
- United Nations Framework Convention on Climate Change, 1998, Kyoto protocol to the United Nations Framework Convention on Climate Change: Bonn, Germany, United Nations Framework Convention on Climate Change, 20 p. (Also available at <http://unfccc.int/resource/docs/convkp/kpeng.pdf>.)
- Urbanski, S., Barford, C., Wofsy, S., Kucharik, C., Pyle, E., Budney, J., McKain, K., Fitzjarrald, D., Czikowsky, M., and Munger, J.W., 2007, Factors controlling CO₂ exchange on timescales from hourly to decadal at Harvard Forest: *Journal of Geophysical Research*, v. 112, no. G2, G02020, 25 p., accessed January 23, 2014, at <http://dx.doi.org/10.1029/2006JG000293>.
- van der Werf, G.R., Randerson, J.T., Giglio, L., Collatz, G.J., Mu, M., Kasibhatla, P.S., Morton, D.C., DeFries, R.S., Jin, Y., and van Leeuwen, T.T., 2010, Global fire emissions and the contribution of deforestation, savanna, forest, agricultural, and peat fires (1997–2009): *Atmospheric Chemistry and Physics*, v. 10, no. 23, p. 11707–11735.
- van Heuven, Steven, Pierrot, Denis, Lewis, Ernie, and Wallace, D.W.R., 2009, CO2SYS v 1.1—MATLAB program developed for CO2 system calculations: U.S. Department of Energy, Oak Ridge National Laboratory ORNL/CDIAC-105b, accessed February 4, 2014, at http://cdiac.ornl.gov/ftp/co2sys/CO2SYS_calc_MATLAB_v1.1/.
- van Vuuren, D.P., Lucas, P.L., and Hilderink, Henk, 2007, Downscaling drivers of global environmental change scenarios—Enabling use of global SRES scenarios at the national and grid level: *Global Environmental Change*, v. 17, no. 1, p. 114–130.
- van Vuuren, D.P., Smith, S.J., and Riahi, Keywan, 2010, Downscaling socioeconomic and emissions scenarios for global environmental change research—A review: *Climate Change*, v. 1, no. 3, p. 393–404.
- Verburg, P.H., Kok, Kasper, Pontius, R.G., Jr., and Veldkamp, A., 2006, Modeling land-use and land-cover change, in Lambin, E.F., and Geist, H.J., eds., *Land-use and land-cover change—Local processes and global impacts*: Berlin, Springer-Verlag, p.117–135.
- Verburg, P.H., Tabeau, Andrzej, and Hatna, Erez, 2013, Assessing spatial uncertainties of land allocation using a scenario approach and sensitivity analysis—A study for land use in Europe: *Journal of Environmental Manage-*

- ment, v. 127, supplement, p. S132–S144. (Also available at <http://dx.doi.org/10.1016/j.jenvman.2012.08.038>.)
- Verburg, P.S.J., and Johnson, D.W., 2001, A spreadsheet-based biogeochemical model to simulate nutrient cycling processes in forest ecosystems: *Ecological Modelling*, v. 141, nos. 1–3, p. 185–200, accessed December 10, 2013, at [http://dx.doi.org/10.1016/S0304-3800\(01\)00273-3](http://dx.doi.org/10.1016/S0304-3800(01)00273-3).
- Vogelmann, J.E., Howard, S.M., Yang, Limin, Larson, C.R., Wylie, B.K., and Van Driel, Nick, 2001, Completion of the 1990s National Land Cover Data Set for the conterminous United States from Landsat thematic mapper data and ancillary data sources: *Photogrammetric Engineering and Remote Sensing*, v. 67, no. 6, p. 650–662. (Also available at http://eserv.asprs.org/PERS/2001journal/jun/2001_jun_highlight.pdf.)
- Vörösmarty, C.J., McIntyre, P. B., Gessner, M.O., Dudgeon, D., Prusevich, A., Green, P., Glidden, S., Bunn, S.E., Sullivan, C.A., Liermann, C.R., and Davies, P. M., 2010, Global threats to human water security and river biodiversity: *Nature*, v. 467, no. 7315, p. 555–561.
- Walsh, J.J., Premuzic, E.T., Gaffney, J.S., Rowe, G.T., Harbottle, G., Stoenner, R.W., Balsam, W.L., Betzer, P. R., and Macko, S.A., 1985, Organic storage of CO₂ on the continental slope off the mid-Atlantic bight, the southeastern Bering Sea, and the Peru coast: *Deep-Sea Research Part I: Oceanographic Research Papers*, v. 32, no. 7, p. 853–883.
- Wanninkhof, Rik, 1992, Relationship between wind speed and gas exchange over the ocean: *Journal of Geophysical Research*, v. 97, no. C5, p. 7373–7382. (Also available at <http://dx.doi.org/10.1029/92JC00188>.)
- Watson, R.T., Noble, I.R., Bolin, Bert, Ravindranath, N.H., Verardo, D.J., and Dokken, D.J., 2000, Land use, land-use change, and forestry: Geneva, Intergovernmental Panel on Climate Change, 375 p.
- West, T.O. and Marland, Gregg, 2002, A synthesis of carbon sequestration, carbon emissions, and net carbon flux in agriculture — Comparing tillage practices in the United States: *Agriculture, Ecosystems & Environment*, v. 91, nos. 1–3, p. 217–232.
- West, T.O., and Post, W.M., 2002, Soil organic carbon sequestration rates by tillage and crop rotation—A global data analysis: *Soil Science Society of America Journal*, v. 66, no. 6, p. 1930–1946. (Also available at <http://dx.doi.org/10.3334/CDIAC/tcm.002>.)
- Westerling, A.L., Hidalgo, H.G., Cayan, D.R., and Swetnam, T.W., 2006, Warming and earlier spring increase western US forest wildfire activity: *Science*, v. 313, no. 5789, p. 940–943.
- Whitehead, P. G., Wilby, R.L., Battarbee, R.W., Kernan, M., and Wade, A.J., 2009, A review of the potential impacts of climate change on surface water quality: *Hydrological Sciences Journal*, v. 54, no. 1, p. 101–123.
- Whittaker, R.H., and Woodwell, G.M., 1969, Structure, production and diversity of the oak-pine forest at Brookhaven, New York: *Journal of Ecology*, v. 57, no. 1, p. 155–174.
- Wiedinmeyer, Christine, and Neff, J.C., 2007, Estimates of CO₂ from fires in the United States—Implications for carbon management: *Carbon Balance and Management*, v. 2, no. 10, 12 p., accessed November 8, 2013, at <http://dx.doi.org/10.1186/1750-0680-2-10>.
- Wiken, Ed, Nava, F.J., and Griffith, Glenn, 2011, North American terrestrial ecoregions—Level III: Montréal, Canada, Commission for Environmental Cooperation, 149 p., accessed November 13, 2013, at <http://www3.cec.org/islandora/en/item/10415-north-american-terrestrial-ecoregionslevel-iii-en.pdf>.
- Williams, C.A., Collatz, G.J., Masek, Jeffrey, and Goward, S.N., 2012, Carbon consequences of forest disturbance and recovery across the conterminous United States: *Global Biogeochemical Cycles*, v. 26, no. 1, 13 p., accessed November 8, 2013, at <http://dx.doi.org/10.1029/2010GB003947>.
- Williams, J.R., Mooney, Siân, and Peterson, J.M., 2009, What is the carbon market—Is there a final answer?: *Journal of Soil and Water Conservation*, v. 64, no. 1, p. 27A–35A.
- Wilson, K.B., and Baldocchi, D.D., 2000, Seasonal and inter-annual variability of energy fluxes over a broadleaved temperate deciduous forest in North America: *Agricultural and Forest Meteorology*, v. 100, no. 1, p. 1–18. (Also available at [http://dx.doi.org/10.1016/S0168-1923\(99\)00088-X](http://dx.doi.org/10.1016/S0168-1923(99)00088-X).)
- Wilson, T.S., Sleeter, B.M., Sohl, T.S., Griffith, Glenn, Acevedo, William, Bennett, Stacie, Bouchard, Michelle, Reker, Ryan, Ryan, Christy, Sayler, K.L., Sleeter, Rachel, and Soulard, C.E., 2012, Future scenarios of land-use and land-cover change in the United States—The marine west coast forests ecoregion: U.S. Geological Survey Open File Report 2012–1252, 14 p. and appendixes, accessed February 6, 2014, at <http://pubs.usgs.gov/of/2012/1252/>.
- Wofsy, S.C., Goulden, M.L., Munger, J.W., Fan, S.-M., Bakwin, P.S., Daube, B.C., Bassow, S.L., and Bazzaz, F.A., 1993, Net exchange of CO₂ in a mid-latitude forest: *Science*, v. 260, no. 5112, p. 1314–1317. (Also available at <http://dx.doi.org/10.1126/science.260.5112.1314>.)
- Wood, A.W., Maurer, E.P., Kumar, Arun, and Lettenmaier, D.P., 2002, Long-range experimental hydrologic forecasting for the eastern United States: *Journal of Geophysical Research: Atmospheres*, v. 107, no. D20, 4459, p. ACL 6–1—ACL 6–15, accessed November 8, 2013, at <http://dx.doi.org/10.1029/2001JD000659>.
- Woodbury, P.B., Heath, L.S., and Smith, J.E., 2006, Land use change effects on forest carbon cycling throughout the southern United States: *Journal of Environmental Quality*, v. 35, p. 1348–1363, accessed October 31, 2013, at <http://dx.doi.org/10.2134/jeq2005.0148>.

- Woodbury, P.B., Smith, J.E., and Heath, L.S., 2007, Carbon sequestration in the U.S. forest sector from 1990 to 2010: *Forest Ecology and Management*, v. 241, nos. 1–3, p. 14–27. (Also available at <http://dx.doi.org/10.1016/j.foreco.2006.12.008>.)
- Wrona, F.J., Prowse, T.D., Reist, J.D., Hobbie, J.E., Lévesque, L.M.J., and Vincent, W.F., 2006, Climate change effects on aquatic biota, ecosystem structure and function: *Ambio*, v. 35, no. 7, p. 359–369, accessed November 8, 2013, at [http://dx.doi.org/10.1579/0044-7447\(2006\)35\[359:CCEOAB\]2.0.CO;2](http://dx.doi.org/10.1579/0044-7447(2006)35[359:CCEOAB]2.0.CO;2).
- Wu, Yiping, and Liu, Shuguang, 2012, Automating calibration, sensitivity and uncertainty analysis of complex models using the R package flexible modeling environment (FME)—SWAT as an example: *Environmental Modelling and Software*, v. 31, p. 99–109. (Also available at <http://dx.doi.org/10.1016/j.envsoft.2011.11.013>.)
- Xian, George, Homer, Collin, and Fry, Joyce, 2009, Updating the 2001 national land cover database land cover classification to 2006 by using landsat imagery change detection methods: *Remote Sensing of Environment*, v. 113, no. 6, p. 1133–1147. (Also available at <http://dx.doi.org/10.1016/j.rse.2009.02.004>.)
- Yu, Z.C., 2012, Northern peatland carbon stocks and dynamics—A review: *Biogeosciences*, v. 9, p. 4071–4085.
- Zappa, C.J., McGillis, W.R., Raymond, P.A., Edson, J.B., Hints, E.J., Zemmeling, H.J., Dacey, J.W.H., and Ho, D.T., 2007, Environmental turbulent mixing controls on air-water gas exchange in marine and aquatic systems: *Geophysical Research Letters*, v. 34, no. 10, L10601, 6 p., accessed February 4, 2014, at <http://dx.doi.org/10.1029/2006GL028790>.
- Zhang, Chi, Tian, Hanqin, Chen, Guangsheng, Chappelka, Arthur, Xu, Xiaofeng, Ren, Wei, Hui, Dafeng, Liu, Mingliang, Lu, Chaoqun, Pan, Shufen, and Lockaby, Greame, 2012, Impacts of urbanization on carbon balance in terrestrial ecosystems of the southern United States: *Environmental Pollution*, v. 164, p. 89–101.
- Zhang, J., Gilbert, D., Gooday, A.J., Levin, L., Naqvi, S.W.A., Middelburg, J.J., Scranton, M., Ekau, W., Peña, A., Dewitte, B., Oguz, T., Monteiro, P.M.S., Urban, E., Rabalais, N.N., Ittekkot, V., Kemp, W.M., Ulloa, O., Elmgren, R., Escobar-Briones, E., and Van der Plas, A.K., 2010, Natural and human-induced hypoxia and consequences for coastal areas—Synthesis and future development: *Biogeosciences*, v. 7, no. 5, p. 1443–1467.
- Zhang, Quanfa, Pregitzer, K.S., and Reed, D.D., 2000, Historical changes in the forests of the Luce district of the Upper Peninsula of Michigan: *The American Midland Naturalist*, v. 143, no. 1, p. 94–110.
- Zhao Maosheng, Heinsch F.A., Nemani R.R., and Running S.W., 2005, Improvements of the MODIS terrestrial gross and net primary production global data set: *Remote Sensing of Environment*, v. 95, no. 2, p. 164–176. (Also available at <http://dx.doi.org/10.1016/j.rse.2004.12.011>.)
- Zheng, Daolan, Heath, L.S., Ducey, M.J., and Smith, J.E., 2011, Carbon changes in conterminous US forests associated with growth and major disturbances—1992–2001: *Environmental Research Letters*, v. 6, no. 1, 014012, 10 p., accessed November 8, 2013, at <http://dx.doi.org/10.1088/1748-9326/6/1/014012>.
- Zhu, Zhiliang, and Reed, B.C., eds., 2012, Baseline and projected future carbon storage and greenhouse-gas fluxes in ecosystems of the western United States: U.S. Geological Survey Professional Paper 1797, 192 p. (Also available at <http://pubs.usgs.gov/pp/1797/>.)
- Zhu, Zhiliang, ed., Bergamaschi, Brian, Bernknopf, Richard, Clow, David, Dye, Dennis, Faulkner, Stephen, Forney, William, Gleason, Robert, Hawbaker, Todd, Liu, Jinxun, Liu, Shuguang, Prisley, Stephen, Reed, Bradley, Reeves, Matthew, Rollins, Matthew, Sleeter, Benjamin, Sohl, Terry, Stackpoole, Sarah, Stehman, Stephen, Striegl, Robert, Wein, Anne, and Zhu, Zhiliang, 2010, A method for assessing carbon stocks, carbon sequestration, and greenhouse-gas fluxes in ecosystems of the United States under present conditions and future scenarios: U.S. Geological Survey Scientific Investigations Report 2010–5233, 190 p. (Also available at <http://pubs.usgs.gov/sir/2010/5233/>.) (Supersedes U.S. Geological Survey Open-File Report 2010–1144.)
- Zhu, Zhiliang, ed., Bouchard, Michelle, Butman, David, Hawbaker, Todd, Li, Zhengpeng, Liu, Jinxun, Liu, Shuguang, McDonald, Cory, Reker, Ryan, Sayler, Kristi, Sleeter, Benjamin, Sohl, Terry, Stackpoole, Sarah, Wein, Anne, and Zhu, Zhiliang, 2011, Baseline and projected future carbon storage and greenhouse-gas fluxes in the Great Plains region of the United States: U.S. Geological Survey Professional Paper 1787, 28 p. (Also available at <http://pubs.usgs.gov/pp/1787/>.)

