

Dr. Stith Thompson Gower

ADDRESS:

Department of Forest Ecology and Management,
120 Russell Labs, 1630 Linden Drive,
University of Wisconsin
Phone: (608) 262-0532,
Email: stgower@wisc.edu,
<http://forestecology.forest.wisc.edu>

FORMAL EDUCATION:

Ph.D. 1987. College of Forest Resources, University of Washington, Seattle, Washington.
Major: Forestry. Thesis title: *A comparison of aboveground productivity and carbon and nutrient allocation patterns of a deciduous (*Larix occidentalis*) and an evergreen (*Pinus contorta*) conifer in the east slope forests of the Washington Cascades.*
Major Professor: Charles C. Grier.
M.S. 1983. School of Forest Resources, North Carolina State University, Raleigh, North Carolina, Major: Forestry, Minors: Soil Science and Ecology. Thesis title: *Distribution of energy in different-aged southeastern bottomland hardwood forests.*
Major Professor: Douglas J. Frederick.
B.S. 1980. Furman University, Greenville, South Carolina, Major: Biology.

PROFESSIONAL CAREER:

Professor, Forest Ecology, Department of Forest Ecology and Management, University of Wisconsin - Madison, 1996-present.
Associate Professor, Forest Ecology, Department of Forestry, University of Wisconsin - Madison, 1992-1996.
Assistant Professor, Forest Ecology, Department of Forestry, University of Wisconsin - Madison, 1987-1992.
Research Scientist, Northern Arizona University, Flagstaff, 1986-1987.
Research Assistant, University of Washington, Seattle, 1984-1987.
Teaching Assistant, University of Washington, 1985.
Organization for Tropical Studies (OTS) participant. Attended the OTS Tropical Biology Course in Costa Rica, 1983.
Research Assistant, North Carolina State University, 1980-1983.
Laboratory Research Technician, North Carolina State University, 1980-1983.
Curatorial Assistant, Furman University, Greenville, South Carolina, 1979-1980.
Research Assistant, Furman University, Greenville, South Carolina, 1979.

HONORS AND AWARDS:

Invited member of Advisory Committee, Oak Ridge National Laboratory, Distributed Active Archive Center, 1999-2002.
Selected as Leader for Task 3.5 Division of International Geosphere-Biosphere Programme in 1999. Task 3.5 is Effects of Global Change on Managed Forests.
Associate Editor, Tree Physiology, 1998-present
Associate Editor, Canadian Journal of Forest Research, 1997-1999
Vilas Associate Award, 1996, The Graduate School, University of Wisconsin-Madison
New Zealand Landcare Scholarship Program (Manaaki Whenua Visiting Fellow), Christchurch, NZ, 1995-1996
National Academy of Science, award for research trip to Siberia, 1993
Pound Research Award, 1993, College of Agricultural and Life Sciences, University of Wisconsin-Madison

Visiting Scientist Award to Siberia, National Academy of Science, National Research Council, 1992.

Bloedel Fellowship, 1985, University of Washington, Seattle, Washington

Agnes Healy Anderson Fellowship, 1985, University of Washington, Seattle, Washington

Memorial Botany Scholarship, 1979, Furman University, Greenville, South Carolina

Elizabeth Thackston Taylor Botany Award, 1980, Furman University, Greenville, South Carolina

Xi Sigma Pi

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Beta Chi

PUBLICATIONS:

I. Books

Landsberg, J. J and S. T. Gower. 1997. *Applications of Physiological Ecology to Forest Management*. Physiological Ecology Series, Academic Press, San Diego, CA. 354pp.

Campbell, J.L., S. Burrows, S.T. Gower, and W.B. Cohen. 1999. *BigFoot: Characterizing land cover, LAI, and NPP at the landscape scale for EOS/MODIS validation*. Field Manual Version 2.1. Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge TN, 104 pp.

II. Refereed Journal Publications

2009

Bond-Lamberty, B, SD Peckham, ST Gower, and BE Ewers. Effects of regional transpiration in the central Canadian boreal forest. *Global Change Biology* (in press).

Bond-Lamberty, B, ST Gower, B. Amiro, C. Barker, and BE Ewers. 2009. Measurement and modeling of bryophyte evaporation in a boreal forest chronosequence. *Global Biogeochemical Cycles* (submitted).

Bronson, DR and ST Gower. 2009. Ecosystem warming does not affect photosynthesis or aboveground autotrophic respiration for boreal black spruce. *Tree Physiology*

Bronson, DR, ST Gower, MT Tanner, and IG Van Herk. 2009. Effect of ecosystem warming on boreal black spruce bud burst and shoot growth. *Global Change Biology* 1-10.

Bronson, DR and ST Gower. 2009. The effect of ecosystem warming on above- and belowground net primary production for boreal black spruce. *Oecologia* (submitted).

Dyer, J.H., C.G. Lorimer, S.T. Gower, J.A. Forrester, and D.J. Mladenoff. In Prep. Initial response of saplings and stump sprouts to canopy gap formation in a northern hardwood forest. *Forest Ecology and Management*.

Peckham, S, DE Ahl, and ST Gower. 2009. Bryophyte cover estimation in a boreal black spruce forest using airborne lidar and multispectral sensors. *Remote Sensing of Environment* (submitted).

Serbin, SP, ST Gower, and DE Ahl. 2009. Canopy dynamics and phenology of a boreal black spruce wildfire chronosequence. *Agriculture and Forest Meteorology* 149 (1), p. 187-204

Stoffel, JL, ST Gower, DJ Mladenoff, TC Balsler, and JA Forrester. 2009. Microbial dynamics following small scale harvesting in a northern hardwood forest. *Soil Biology and Biochemistry* (submitted).

Stoffel, JL, ST Gower, JA Forrester, and DJ Mladenoff. 2009. Effects of winter selective tree harvest on soil microclimate and soil surface CO₂ flux of a northern hardwood forest. *Forest Ecology and Management* (submitted).

2008

- Bond-Lamberty B, ST Gower. 2008. Decomposition and fragmentation of coarse woody debris: re-visiting a boreal black spruce chronosequence. *Ecosystems*. 11:831-840.
- Bronson, DR, ST Gower, MT Tanner, S Linder, and IG Van Herk, 2007. Response of soil surface CO₂ flux in a boreal forest to ecosystem warming. *Global Change Biology* (in press).
- Peckham, S, DE Ahl, S Serbin, and ST Gower. 2008. Fire-induced changes in green-up and leaf maturity of the Canadian boreal forests. *Remote Sensing of the Environment* 112:3594-3603.
- Van Herk, IG, ST Gower DR Bronson, and MS. Tanner. 2007. Effects of climate warming on canopy water dynamics of a boreal black spruce plantation. *Tree Physiology* (submitted).

2007

- Ahl, DE and ST Gower. 2007. Coupling the biological and industrial forest carbon cycles to estimate net system carbon balance. *Ecological Applications* (submitted)
- Bond-Lamberty B, S Peckham, DE Ahl, and ST Gower. 2007. The dominance of fire in determining carbon balance of the central Canadian boreal forest. *Nature* 450:89-92.
- Bond-Lamberty B, and ST Gower. 2007. Estimation of stand-level leaf area for boreal bryophytes. *Oecologia* 151:581-592.
- Bond-Lamberty B, ST Gower, DE Ahl. 2007. Improved simulation of poorly drained forest using Biome-BGC. *Tree Physiology* 27:703-715.

2006

- Ahl, DE, ST Gower, and SN Burrows 2006. Monitoring spring canopy phenology of a deciduous broadleaf forest using MODIS. *Remote Sensing of Environment* 104:88-95.
- Bond-Lamberty B, Goranson C, Nielsen K & Gower. ST 2006. Spatial relationships of soil water and temperature in a black spruce boreal chronosequence. *Canadian Journal of Forest Research* 36:2794-2802
- Bond-Lamberty B, ST Gower, C Wang, P Cyr, and H Velhuis. 2006. Nitrogen dynamics of a boreal wildfire chronosequence. *Biogeochemistry* 81:1-16.
- Gower, ST, McKeon-Ruediger, A, Reitter, A, Bradley, M, Refkin, DJ, Tollefson, T, Souba, FJ, Jr, Taup, A, Embury-Williams, L, Schiavone, S, Weinbauer, J, Janetos, AC, Jarvis, R. 2006. Following the paper trail. The impact of magazine and dimensional lumber production on greenhouse gas emissions: A case study. The H. John Heinz III Center for Science, Economics, and the Environment. Washington, DC. 102 p. ISBN 0-9717592-6-X.
- Martin, JL and ST Gower. 2006. Boreal mixedwood tree growth on contrasting soils and disturbance types. *Canadian Journal of Forest Research* 36: 986–995

2005

- Ahl, DE, ST Gower, DS Mackay, SN Burrows, JM Norman, and G Diak. 2005. The effects of aggregated land cover data on estimating NPP in northern Wisconsin, USA. *Remote Sensing of Environment* 97:1-14
- Bond-Lamberty B, ST Gower, M Goulden, and A McMillan. 2005. Simulation of well- and poorly-drained boreal fire chronosequence I. Comparison to field measurements. *JGR-Biogeosciences* 111(G2):G02014.
- Bond-Lamberty B, ST Gower, DE Ahl, and PE Thornton. 2005. Reimplementation of the BIOME-BGC model to simulate successional change. *Tree Physiology* 25(4): 413-424.
- Bond-Lamberty B, C Wang, and ST Gower. 2005. Spatiotemporal measurement and modeling of boreal forest soil temperatures. *Agriculture and Forest Meteorology* 131:27-40.

- Ewers BE, ST Gower, B Bond-Lamberty, and C Wang. 2005. Effects of stand age and tree species composition on transpiration and canopy conductance of boreal forest stands. *Plant Cell Environment* 28(5):660-678.
- Martin JL, J Plaut, ST Gower, and B Holmes. 2005. Carbon content of boreal mixedwood stands following logging. *Global Change Biology* 11: 1883-1894.
- Shabanov, NV, D Huang, W Yang, B Tan, Y Knyakikhin, RB Myneni, DE Ahl, ST Gower, AR Huerte, LEOC Aragao, YE Shimabukuro. 2005. Analysis and optimization of the MODIS Leaf Area Index algorithm retrivals over broadleaf forests. *IEEE Transactions on Geosciences and Remote Sensing* 43:1855-1865.
- Turner, DP, WD Ritts, WB Cohen, TK Maeirsperger, ST Gower, AA Kirschbaum, SW Running, MS Zhao, SC Wofsy, AL Dunn, BE Law, JL Campbell, WC Oechel, HJ Kwon, TP Meyers, EE Small, SA Kurc, JA Gamon and H Tian. 2005. Site-level evaluation of satellite-based global terrestrial gross primary production and net primary production monitoring. *Global Change Biology* 11(4): 666-684.
- Wang, CK, DC Feldkirchner, ST Gower, J Ferris, and EL Kruger. 2005. Effects of amendments of paper mill sludge and nutrients on soil surface CO₂ flux in northern hardwood forests. *Journal of Forestry Research*, 16(4):265-269.
- White MK, ST Gower, and DE Ahl. 2005. Life-cycle inventories of roundwood production in Wisconsin – Inputs into an industrial forest carbon budget. *Forest Ecology Management* 219:13-22.

2004

- Ahl, D, ST Gower, DS Mackay, SN Burrows, JM Norman, and G Diak. 2004. Light use efficiency of a heterogeneous forest in northern Wisconsin: Implications for remote sensing and modeling net primary production, *Remote Sensing of Environment* 93:168-178.
- Bond-Lamberty, B, ST Gower, DE Ahl, and PE Thornton. 2005. A reimplementation of the Biome-BGC model supporting multiple interacting vegetation types. *Tree Physiology* 25:413-424.
- Bond-Lamberty, B, C Wang, and ST Gower. 2004. The contribution of root respiration to soil surface CO₂ flux in boreal black spruce chronosequence. *Tree Physiology* 24:1387-1395.
- Lee KS, WB Cohen, RE Kennedy, TK Maiersberger, and ST Gower. 2004. Hyperspectral versus multispectral data for estimating leaf area index in four different biomes. *Remote Sensing of Environment* 91(3-4): 508-520.
- Howard, EA, ST Gower, JA Foley, and CJ Kucharik. 2004. Effects of logging on carbon dynamics of a jack pine forest in Saskatchewan, Canada. *Global Change Biology* 10:1267-1284.
- Bond-Lamberty, B, C Wang, and ST Gower. 2004. A global relationship between heterotrophic and autotrophic components of soil respiration. *Global Change Biology* 10:1756-1766.
- Bond-Lamberty, B, C Wang, and ST Gower. 2004. Net primary production of a boreal black spruce wildfire chronosequence. *Global Change Biology* 10:473-487.

2003

- Brye, KR, JM Norman, ST Gower and LG Bundy. 2003. Methodological limitations and N-budget differences among a restored tallgrass prairie and maize agroecosystems. *Agriculture, Ecosystems, & Environment* 97:181-198.
- Brye, KR, JM Norman, ST Gower and LG Bundy. 2003. Effects of management practices on annual net N-mineralization in a restored prairie and maize agroecosystems. *Biogeochemistry* 63:135-160.

- Bond-Lamberty, B, C Wang, and ST Gower. 2002. Annual carbon flux from woody debris for a boreal black spruce fire chronosequence. *Journal Geophysical Research* 108 D3:1-1 to 1-10.
- Bond-Lamberty, B, C Wang, and ST Gower 2003. The use of multiple measurement techniques to refine estimates of conifer needle geometry, *Canadian Journal of Forest Research* 33:101-105.
- Burrows, SN, ST Gower, JM Norman, G Diak, DS Mackay, DE Ahl, MK Clayton, 2003. Spatial variability of net primary production for a forested landscape in northern Wisconsin. *Canadian Journal of Forest Resources* 33:2007-2018.
- O'Connell, KE, ST Gower, and JM Norman. 2003. Comparison of net primary production and light-use dynamics of two boreal black spruce forest communities. *Ecosystems* 6:236-247.
- O'Connell, KE, ST Gower, and JM Norman. 2003. Net Ecosystem Production of Two Contrasting Boreal Black Spruce Forest Communities. *Ecosystems* 6:248-260.
- Cohen, WB, TK Maersperger, Z Yang, ST Gower, DP Turner, WD Ritts, M Berterretche and SW Running. 2003. Comparison of land cover and LAI estimates derived from ETM+ and MODIS for four sites in North America: a quality assessment of 2000/2001 provisional MODIS products. *Remote Sensing of Environment* 88:233-255.
- Cohen, WB, TK Maersperger, ST Gower, DP Turner, 2003. An improved strategy for regression of biophysical variables and Landsat ETM+ data. *Remote Sensing of Environment* 84:561-571.
- Gower, ST 2003. Patterns and mechanisms of the forest carbon cycle. *Annual Reviews Energy and Environment* 28:169-204.
- Mackay, S, D Ahl, B Ewers, S Samanta, SB Burrows, ST Gower. 2002. Physiological Tradeoffs in the Parameterization of a Model of Canopy Transpiration. *Advances in Water Resources*.
- Mackay, DS, S Samanta, DE Ahl, BE Ewers, and ST Gower. 2003. Automated parameterization of land surface process models using fuzzy logic. *Transactions in GIS*. 7(1), 139-153
- Turner, D, WD Ritts, WB Cohen, ST Gower, M Zhao, SW Running, SC Wofsy, S Urbanski, AL Dunn, and JW Munger. 2003. Scaling gross primary production (GPP) over boreal and deciduous forest landscapes in support of MODIS GPP product validation. *Remote Sensing of Environment* 88:256-270.
- Turner, D, ST Gower, WB Cohen, M Gregory, and TK Maersperger. 2002. Effects of spatial variability in light use efficiency on satellite-based NPP monitoring. *Remote Sensing Environment* 80:397-405.
- Wang C, B Bond-Lamberty, and ST Gower. 2003. Carbon distribution and accumulation in a boreal black spruce fire chronosequence. *Global Change Biology* 9:1-14.
- Wang, C, B Bond-Lamberty and ST Gower. 2003. Soil surface CO₂ flux in a boreal black spruce fire chronosequence. *Journal of Geophysical Research* 108 D3:WFX5-1 to 5-8.

2002

- Brye, KR, ST Gower, JM Norman, and LG Bundy. 2002. Carbon budgets for a prairie and managed agroecosystems: towards an improved understanding of the effects of land use change. *Ecological Applications* 12:962-979.

- Bond-Lamberty, B, C Wang, ST Gower and JM Norman. 2002. Leaf area dynamics of a boreal black spruce fire chronosequence. *Tree Physiology* 993-1002.
- Bond-Lamberty, B, C Wang, and ST Gower. 2002. Aboveground and belowground biomass and sapwood area equations for six boreal tree species of northern Manitoba. *Canadian Journal of Forest Research* 32:1441-1450.
- Brye, KR, JM Norman, EV Nordheim, ST Gower and LG Bundy. 2002. Refinements to an in-situ soil core technique for measuring net N-mineralization in moist, fertilized agricultural soil. *Agronomy Journal* 94:864-869.
- Brye, KR, JM Norman and ST Gower. 2002. Assessing the progress of a restored tallgrass prairie in southern Wisconsin and difficulties with objectivity. *American Midland Naturalist*. 148:218-235.
- Brye, KR, JM Norman and ST Gower. 2002. The fate of nutrients following three- and six- year burn intervals in a restored tallgrass prairie in Wisconsin. *American Midland Naturalist*. 148:28-42.
- Brye, KR, ST Gower, JM Norman and LG Bundy. 2002. Carbon budgets for a prairie and managed agroecosystems: towards an improved understanding of the effects of land use change. *Ecological Applications* 12:962-969.
- Burrows, SN, ST Gower, MK Clayton, DS Mackay, DE Ahl, JM Norman and G Diak. 2002. Application of geostatistics to characterize LAI for flux towers to landscapes. *Ecosystems* 5:667-679.
- Ewers, BE, DS Mackay, S. T. Gower, DE Ahl, SN Burrows and S Samanta. 2002. Tree species effects on stand transpiration in northern Wisconsin. *Water Resources Research*. 38:8-1-8.11
- Feldkirchner, DC, C Wang, ST Gower, EL Kruger, and J Ferris. 2002. Effects of paper mill biosolids amendments on the growth and nutrient status of hardwood forests. *Forest Ecology and Management*. 44:1-22.
- Lefsky, MA, WB Cohen, DJ Harding, GG Parker, SA Acker, ST Gower. 2002. Lidar remote sensing of aboveground biomass in three biomes. *Global Ecology and Biogeography* 11:393-399.
- Mackay, DS, DE Ahl, BE Ewers, ST Gower, SN Burrows, S Samanta and KJ Davis. 2002. Aggregation effects of remotely sensed vegetation cover on estimates of evapotranspiration in a northern Wisconsin forest. *Global Change Biology* 8:1253-1265.
- McGuire, AD, C Wirth, M Apps, J Beringer, J Clein, H Epstein, DW Kicklighter, J Bhatti, FS Chapin, III, B deGroot, D Efremov, W Eugster, M Fukuda, T Gower, L Heinzman, B Huntley, GJ Gia, E Kasischke, J Melillo, V Romanovsky, A Shvidenko, E Vaganov, and D Walker. 2002. Environmental variation, vegetation distribution, carbon dynamics and water/energy exchange at high latitudes. *Journal of Vegetation Science* 13:301-314.

2001

- Bisbee, K, ST Gower, JM Norman, and EV Nordheim. 2001. Environmental factors controls on the distribution and NPP of bryophytes in a southern boreal black spruce forest. *Oecologia* 129:261-270.
- Brye, KR, JM Norman, LG Bundy, and ST Gower. 2001. Nitrogen and carbon leaching in agroecosystems and their role in denitrification potential. *J. Environ. Quality* 30:58-70.
- Gower ST, O Krankina, RJ Olson, M Apps, S Linder, and Wang C 2001. Net primary production and carbon allocation patterns of boreal forest ecosystems. *Ecological Applications*.11(5): 1395-1411.

- Kucharik, CJ, KR Brye, JM Norman, JA Foley, ST Gower, and LG Bundy. 2001. Measurements and modeling of carbon and nitrogen dynamics in managed and natural ecosystems in the Upper Midwest. *Ecosystems* 4:237-258.
- Wang, C, B Bond-Lamberty and ST Gower. 2002. Environmental controls on carbon dioxide flux from black spruce coarse woody debris. *Oecologia* 132:374-381.
- Wang C, ST Gower, Y Wang, H Zhao, P Yan, and B Bond-Lamberty. 2001. Influence of fire on carbon distribution and net primary production of boreal *Larix gmelinii* forests in northeastern China. *Global Change Biology* 7: 719-730.
- Whitehead, D and ST Gower. 2001. Photosynthesis and light-use efficiency by plants in a Canadian boreal forest ecosystem. *Tree Physiology* 21:925-929.

2000

- Brye, KR, JM Norman, LG Bundy, and ST Gower. 2000. Water budget evaluation of prairie and maize ecosystems. *Soil Science Society America Journal* 64:715-724.
- Campbell, JL and ST Gower. 2000. Detritus production and soil N transformations in old-growth eastern hemlock and sugar maple stands. *Ecosystems* 3:185-192.
- Gower, ST, A Hunter, J Campbell, J Vogel, H Veldhuis, J Harden, S Trumbore, JM Norman, CJ Kucharik. 2000. Nutrient dynamics of the southern and northern BOREAS boreal forests. *Ecoscience* 7:481-490.
- Harden, JW, SE Trumbore, BJ Stocks, A Hirsch, ST Gower, KP O'Neill and ES Kasischke. 2000. The role of fire in the boreal carbon budget. *Global Change Biology* 6:174-184.

1999

- Brye, KR, JM Norman, LG Bundy, and ST Gower. 1999. An equilibrium tension lysimeter for measuring drainage through soil. *Soil Science Society of America Journal* 63:536-543.
- Canadell, JG, HA Mooney, DD Baldochi, JA Berry, JR Ehleringer, CB Field, ST Gower, DY Hollinger, JE Hunt, RB Jackson, SW Running, GR Shaver, W Steffen, SE Trumbore, R. Valentini, and BY Bond. 1999. Carbon metabolism of the terrestrial biosphere: A multi-technique approach for improved understanding. *Ecosystems* 3:115-130.
- Campbell, JL and ST Gower. 1999. Detritus production and soil N transformations in old-growth eastern hemlock and sugar maple stands. *Ecosystems* 3:185-193.
- Fassnacht, KS and ST Gower. 1999. Comparison of the litterfall and forest floor organic matter and nitrogen dynamics of upland forest ecosystems in north central Wisconsin. *Biogeochemistry* 45:265-284.
- Gower, ST and JR Gries. 1999. Disturbance effects on aboveground net primary production and the distribution of organic matter and nutrient distribution of northern hardwood forests. *Ecosystems* 3:185-192.
- Gower, ST, CJ Kucharik and JM Norman. 1999. Direct and indirect estimation of leaf area index, fAPAR, and net primary production of terrestrial ecosystems. *Remote Sensing of Environment* 70:29-51.
- Kloeppel, BK, ST Gower, JG Vogel, PB Reich. 1999. Leaf-level resource use for evergreen and deciduous conifers along a resource availability gradient. *Functional Ecology* 14:281-292.
- Kucharik, CJ, JM Norman, and ST Gower. 1999. Characterization of radiation regimes in nonrandom forest canopies: theory, measurements, and a simplified modeling approach. *Tree Physiology* 19:695-706.

- Kucharik, CJ, JA Foley, C Delire, VA Fisher, MT Coe, JD Lenters, C Young-Molling, JM Norman, N Ramankutty, ST Gower. 1999. The IBIS-2 Dynamic biosphere model: model formulation and evaluation. *Global Biogeochemical Cycles* 14:795-825
- Running, SW, DD Baldochii, W Cohen, ST Gower, D Turner, P Bakwin, K Hibbard. 1999. A global terrestrial monitoring network, scaling tower fluxes with ecosystem modeling and EOS satellite data. *Remote Sensing of Environment* 70:108-127.

1998

- Fassnacht, KS and ST Gower. 1998. Comparison of soil and vegetation characteristics of six upland forest habitat types in north central Wisconsin. *Northern Journal of Applied Forestry*. 15:69-76.
- Goulden, ML, SC Wofsy, JW Harden, SE Trumbore, PM Crill, ST Gower, T Fries, BC Daube, S-M Fan, DJ Sutton, A Bazzaz, and JW Munger. 1998. Sensitivity of boreal forest carbon balance to soil thaw. *Science* 279:214-217.
- Kloeppel, BD, ST Gower, TW Treichel, and S Kharuk. 1998. Foliar carbon isotope discrimination in *Larix* species and sympatric evergreen conifers: a global comparison. *Oecologia* 114:153-159.
- Kucharik, CJ, JM Norman, ST Gower. 1998. Measurements of branch area and adjusting leaf area index indirect measurements. *Agricultural and Forest Meteorology* 91:69-88.
- Kucharik, CJ, JM Norman, and ST Gower. 1998. Measurements of leaf orientation, light distribution and sunlit leaf area in a boreal aspen forest. *Agricultural and Forest Meteorology* 91:127-148.
- Vogel, JG and ST Gower. 1998. Carbon and nitrogen dynamics of boreal jack pine stands with and without a green alder understory. *Ecosystems* 1:386-400.
- Wagai, R, KR Brye, ST Gower, JM Norman, and LG Bundy. 1998. Effects of land use and environmental factors on soil surface CO₂ flux for natural and managed ecosystems in south central Wisconsin. *Soil Biology and Biochemistry* 30:1501-1509.

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- Arneeth, A, FM Kelliher, ST Gower, NA Scott, JN Byers, and TM McSeveny. 1997. Physical variables regulating soil carbon dioxide efflux following clear-cutting of a *Pinus radiata* D. Don plantation. *J. Geophysical Research* 103-D5:5695-5705.
- Chen, J, PW Rich, ST Gower, JM Norman, and S Plummer. 1997. Leaf area index of boreal forests: Theory, techniques and measurements. *Journal Geophysical Research*. 102-D24:29,429-29,444.
- Fassnacht, KS, ST Gower, MD MacKenzie, EV Nordheim, TM Lillesand. 1997. Estimating the leaf area of north central Wisconsin forests using the Landsat Thematic Mapper. *Remote Sensing of Environment* 61:229-245.
- Fassnacht, KS and ST Gower. 1997. Interrelationships among edaphic and stand characteristics, leaf area index, and aboveground net primary productivity for upland forest ecosystems in north central Wisconsin. *Canadian Journal Forest Research* 27:1058-1067.
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- Lavigne, MB, MG Ryan, DE Anderson, DD Baldocchi, PM Crill, DR Fitzjarrald, ML Goulden, ST Gower, JM Massheder, JH McCaughey, M Rayment, and RG Striegl.

1997. Comparing nocturnal eddy covariance measurements to estimates of ecosystem respiration made by scaling chamber measurements at six coniferous boreal sites. *Journal Geophysical Research* 102-D24:28,997-28,985.
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- Reich, P., DF Grigal, JD Aber, and ST Gower. 1997. Nitrogen mineralization and productivity in 50 hardwood and conifer stands on diverse soils. *Ecology* 78:335-347.
- Ryan, MG, B Lavigne, ST Gower. 1997. Annual carbon cost of autotrophic respiration in boreal forest ecosystems in relation to species and climate. *Journal Geophysical Research* 102-D24:28,871-28,883.
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- Steele, SJ, ST Gower, J Vogel, JM Norman. 1997. Root mass, production and turnover of aspen, jack pine and black spruce BOREAS forests. *Tree Physiology* 17:577-587.

1996

- Gower, ST, S Pongracic, and JJ Landsberg. 1996. A global trend in belowground carbon allocation: can we use the relationship at smaller scales? *Ecology* 77:1750-1755.
- Magnuson, JJ, TK Kratz, TF Allen, DE Armstrong, BJ Benson, CJ Bowser, DW Bolgrien, SR Carpenter, TM Frost, ST Gower, TM Lillesand, JA Pike, and MG Turner. 1996. Regionalization of long-term ecological research (LTER) on north temperate lakes. *Verh. Limnol* 26:522-528.
- Gower, ST, RE McMurtrie, and D Murty. 1996. Aboveground net primary production declines with stand age: potential causes. *Trends Ecology & Evolution* 11:378-382.

1995

- Haynes, BE and ST Gower. 1995. Belowground carbon allocation in control and fertilized red pine plantations in northern Wisconsin. *Tree Physiology* 14:317-326.
- Ryan, MG, ST Gower, RM Hubbard, RH Waring, HL Gholz, WP Cropper and SW Running. 1995. Stem maintenance respiration of conifer stands in contrasting climates. *Oecologia* 101:133-140.

1994

- Fassnacht, KS, ST Gower, JM Norman and RE McMurtrie. 1994. A comparison of optical and direct methods for estimating foliage surface area index in forests. *Agricultural and Forest Meteorology* 71:183-207.
- Kloeppel, BD and ST Gower. 1994. Construction and installation of acrylic minirhizotron tubes in forest ecosystems. *Soil Science Society of America Journal* 59: 241-243.

1993

- Gower, ST, BE Haynes, KS Fassnacht, SW Running and ER Hunt. 1993. Influence of fertilization on the allometric relations for two pines in contrasting environments. *Canadian Journal of Forest Research* 23:1704-1711.
- Gower, ST, PB Reich and Y Son. 1993. Aboveground net production and canopy dynamics of five plantation-grown tree species with different leaf longevities. *Tree Physiology* 12:327-345.

1992

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