

Résumé

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General

- Ph.D. in Biological Systems Simulation.
- B.Sc.(Hons) in Microbiology.
- Interests in spatial aspects of ecosystems, and the application of computing and simulation techniques to enhance understanding of ecosystem behavior and conservation.

Experience and Employment

2001- Research Associate at the Natural Resources Research Institute, University of Minnesota, Duluth.

- Designed and implemented schema based multi-project multi-site on-line database (data entry and retrieval) with integrated GIS functions.
- Designed and implemented prototype on-line EML metadata entry system.
- Produced various reports on Range of Natural Variation issues for forest management in Northern Minnesota.

1997-2001 Post Doctoral Associate at the Natural Resources Research Institute, University of Minnesota, Duluth.

- Developing a spatially explicit simulation of plant community structure in beaver meadows, including hydrological, nutrient and light-competition effects.
- Developing a model for landscape management based on natural variability as a measure of sustainable practice.
- Developed field data management software with web based interface and revision control system to maintain a high quality base data set.
- Worked collaboratively to produce a map of white pine blister rust risk across northern Minnesota using GIS tools.

1996- Member of the editorial board of *Ecological Modelling*, an international Elsevier journal.

1994-1997 Research scientist for Lincoln Environmental. Design and implementation of a simulation of the fate of nitrogen in dairy shed effluent applied to pasture. A layered, one-dimensional model of hydrological, chemical and biological processes, including a novel isotope labeling function. The position also involved extensive field scale lysimeter and laboratory work, data-processing and visualization, and general programming.

Experienced in computer programming in C++, C, SQL, HTML, CGI, PHP, XML, XSLT, XML-Schema, LaTeX, (g)awk, Tcl/Tk, ArcView programming, FORTRAN, BASIC.

Selected Publications

- N.P. Danz, R.R. Regal, G.J. Niemi, V. Brady, T. Hollenhorst, L.B. Johnson, G.E. Host, J.M. Hanowski, C.A. Johnston, T. Brown, J. Kingston, , and J.R. Kelly. Environmentally stratified sampling design for the development of great lakes environmental indicators. environmental monitoring and assessment. *Environmental Monitoring and Assessment*, In press, 2004.
- Mark White and Terry Brown. RNV and Forest Service plan alternatives for the Chippewa and Superior National Forests. Technical report, Natural Resources Research Institute, University of Minnesota, Duluth, 2003.
- T. N. Brown, C. A. Johnston, and K. R. Cahow. Lateral flow routing into a wetland: field and model perspectives. *Geomorphology*, 53(1-2):11–23, 2003.
- M.A. White, T.N. Brown, and G.E. Host. Landscape analysis of risk factors for blister rust (*Cronartium ribicola*) on eastern white pine (*Pinus strobus L.*) in the mixed forest province of minnesota, u.s.a. *Canadian Journal of Forest Research*, 32(9):1639–1650, 2002.
- Terry Brown and Mark White. Northern superior uplands: A comparison of range of natural variation and current conditions. Technical report, Natural Resources Research Institute, University of Minnesota, Duluth, 2002.
- Terry Brown and Mark White. Drift and lake plains: A comparison of range of natural variation and current conditions. Technical report, Natural Resources Research Institute, University of Minnesota, Duluth, 2001.
- T.N. Brown, J. Pastor, C.A. Johnston, and H.D. Mooers. A finite difference type algorithm with pro rata resource allocation. *Ecological Modelling*, 126(1):1–8, 2000.
- G.F. Barkle, T.N. Brown, and P.L. Singleton. Leaching of particulate organic carbon from land-applied dairy farm effluent. *Soil Science*, 164:252–263, 1999.
- G.F. Barkle, T.N. Brown, D.J. Painter, and P.L. Singleton. Hydrology models DRAINMOD and SWIM applied to large soil lysimeters with artificial drainage. *Australian Journal of Soil Research*, 36:783–797, 1998.
- T.N. Brown, D. Kulasiri, and R.E. Gaunt. A root–morphology based simulation for plant / soil microbial ecosystem modelling. *Ecological Modelling*, 99:275–287, 1997.
- T.N. Brown, D. Kulasiri, and R. Gaunt. An objective index for the radial distribution of low order lateral tree roots. *New Zealand Journal of Forestry Science*, 26(3), 1997.
- T.N. Brown and D. Kulasiri. Validating models of complex, stochastic, biological systems. *Ecological Modelling*, 86:129–134, 1996.
- T.N. Brown and D. Kulasiri. Simulation of *Pinus radiata* root system structure for ecosystem management applications. *Simulation*, 62(5):286–294, 1994.