

Virginia H. Dale

Scientist and Corporate Fellow

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Education and Training

- 1980 University of Washington, Seattle, Mathematical Ecology, PhD
1975 University of Tennessee, Knoxville, Mathematics (minor in Ecology), MS
1974 University of Tennessee, Knoxville, Mathematics, BS

Research and Professional Experience

- 1984-Present Research Scientist. Oak Ridge National Laboratory, Environmental Sciences Division. (Research Scientist 1984-1994, Associate Director 1994-1996, Senior Scientist 1996-2002, Corporate Fellow 2003-present, Director of the Center for BioEnergy Sustainability 2009 to present)
- 2006-present Adjunct Faculty. Department of Forestry, Wildlife and Fisheries, University of Tennessee, Knoxville.
- 1993-present Adjunct Faculty. Department of Ecology and Evolutionary Biology, University of Tennessee, Knoxville
- 1982-1982 Instructor, Department of Biology, University of Puget Sound.
- 1981-1982 Assistant Professor, Departments of Biology and Mathematics, Pacific Lutheran University (as a sabbatical replacement).
- 1981-1983 Research Associate, College of Forest Resources, University of Washington.
- 1981 Research Associate, Forest Research Laboratory, Oregon State University.
- 1980 Research Associate, Department of Botany, University of Washington.

Publications

1. Dale, V.H. and J.F. Franklin. 1989. Potential effects of climate change on stand development in the Pacific Northwest. *Canadian Journal of Forest Research* 19:1581-1590.
2. Graham, R.L., M.G. Turner, and V.H. Dale. 1990. Increasing CO₂ and climate change: effects on forests. *BioScience* 40(8): 575-587.
3. Franklin, J.F., F.J. Swanson, M.E. Harmon, D.A. Perry, T.A. Spies, V.H. Dale, A. McKee, W.K. Ferrell, J.E. Means, S.V. Gregory, J.D. Lattin, T.D. Schowalter, and D. Larson. 1991. Effects of global climatic change on forests in northwestern North America. *Northwest Environmental Journal* 7(2):233-254.
4. Dale, V.H. and H.M. Rauscher. 1994. Assessing impacts of climate change on forests: the state of biological modeling. *Climatic Change* 28:65-90.
5. Dale, V.H. and English, M.R. (editors). 1999. *Tools to Aid Environmental Decision Making*. New York: Springer-Verlag.
6. Joyce, L.A., J. Aber, S. McNulty, V. Dale, A. J. Hansen, L. Irland, R. P. Neilson, K. Skog. 2001. Forests. Pages 489-524 IN *Climate Change Impacts: The Potential Consequences of Climate Variability and Change*, A report of the National Assessment Synthesis Team of the U. S. Global Change Research Program, Cambridge University Press, Cambridge, UK.
7. Dale, V.H., Joyce, L.A., McNulty, S., and Neilson, R.P. 2000. The interplay between climate change, forests, and disturbances. *The Science of the Total Environment* 262:201-204.
8. Dale, V. H., S. Brown, R.A. Haeuber, N. T. Hobbs, N. Huntly, R. J. Naiman, W. E. Riebsame, M. G. Turner, and T. J. Valone. 2000. Ecological principles and guidelines for managing the use of land. *Ecological Applications* 10: 639-670.
9. Dale, V.H., L.A. Joyce, S. McNulty, R.P. Neilson, M.P. Ayres, M.D. Flannigan, P.J. Hanson, L.C. Irland, A.E. Lugo, C.J. Peterson, D. Simberloff, F.J. Swanson, B.J. Stocks, and B.M. Wotton. 2001. Forest disturbances and climate change. *BioScience* 51(9):723-734.

10. Dale, V.H., and Haeuber, R.A. (editors). 2001. *Applying Ecological Principles to Land Management*. New York: Springer-Verlag.
11. Hansen, A.J., R.P. Neilson, V.H. Dale, C. Flather, L. Iverson, D.J. Currie, P. Bartlein. 2001. Global change in forests: responses of species, communities, and biomes. *BioScience* 51(9): 765-779.
12. Hansen, A. and V.H. Dale. 2001 Biodiversity in United States forests under global climate change. *Ecosystems* 4:161-163.
13. Dale, V.H. (editor) 2003. *Ecological Modeling for Resource Management*. New York: Springer-Verlag.
14. Dale, V.H., Swanson, F.J., and Crisafulli, C.M. (editors). 2005. *Ecology Response to the 1980 Eruption of Mount St. Helens*. New York: Springer.
15. Dale, V.H. and Polasky, S. 2007. Measures of the effects of agricultural practices on ecosystem services. *Ecological Economics* 64:286-296.
16. Kline, KL and Dale, VH. 2008. Biofuels, causes of land-use change, and the role of fire in greenhouse gas emissions. *Science* 321:199.
17. Robertson, GP, VH Dale, et al. 2008. Sustainable Biofuels Redux, *Science* 322(5898): 49–50. DOI: 10.1126/science.1161525.
18. Dale, VH, KO Lannon, ML Tharp, DG Hodges, and J Fogel. 2009. Effects of climate change, land-use change, and invasive species on the ecology of the Cumberland Forests. *Canadian Journal of Forest Research* 39:467-480.
19. Dale, VH, ML Tharp, KO Lannon and DG Hodges. 2010. Modeling Transient Response of Forests to Climate Change. *Science of the Total Environment*. 408:1888-1901.
20. Dale, V.H. et al. 2010. *Hypoxia in the Northern Gulf of Mexico*. New York: Springer.
21. Dale, VH et al. 2011. Interactions Between Bioenergy Feedstock Choices and Landscape Dynamics and Land Use. *Ecological Applications* 21(4):1039-1054.
22. McBride, A, VH Dale, L Baskaran, M Downing, L Eaton, RA Efroymson, C Garten, KL Kline, H Jager, P Mulholland, E Parish, P Schweizer, and J Storey. 2011. Indicators to support environmental sustainability of bioenergy systems. *Ecological Indicators* 11(5) 1277-1289.
23. Dale VH, Efroymson RA and Kline KA. 2011. The land use – climate change – energy nexus. *Landscape Ecology* 26(6):755-773.

Synergistic Activities

1. 2010-2011, Committee on Economic and Environmental Impacts of Increasing Biofuels Production
2. 2000-2009 (Chair 2005-2009), US National Committee on the Scientific Committee on Problems of the Environment (SCOPE).
3. 2008-present, Member of National Environmental Observation Network (NEON), Technology and Education Advisory Committee
4. 1992-1997, 2000-2008, Environmental Protection Agency Scientific Advisory Board
5. 2000-2002 (Chair), 2004 (Nominations Committee), US Regional Association of the International Association for Landscape Ecology
6. 1996-present, Certified Senior Ecologist
7. 2001-present, Editor-in-Chief, *Environmental Management*
8. Editorial Board: *Journal of Land Use Science* (2005-present), *Ecological Indicators* (2000-present), *Ecological Economics* (1999-present).

Awards

1. 2003, Corporate Fellow, ORNL
2. Award of Merit for a book (2007) and for a scholarly/professional article (2003), International Technical Communications Competition of the Society of Technical Communication
3. 2006, The 2006 Distinguished Scientist at ORNL
4. 2006, Finalist in Science/Technology Category, YWCA of Knoxville, Tennessee Tribute to Women