

**Title** Assoc. Prof.; Director, Pacific Northwest Tree Improvement Research Cooperative  
**First Name** Glenn **11/2/2007**  
**Middle Name** **Permission date**  
**Last Name** Howe **Photo**  
**Institution** OSU  
**Department** Forest Science  
**Email** Glenn.Howe@oregonstate.edu  
**Phone** 541-737-9001 **Website** [www.forestry.oregonstate.edu/cof/fs/people/faculty/howe.php](http://www.forestry.oregonstate.edu/cof/fs/people/faculty/howe.php)

### Research Fields

- Atmospheric chemistry
- Biogeochemistry
- Carbon Footprint Analysis
- Climatology
- Community & Disaster Planning
- Data Analysis & Statistical Modeling
- Ecology & Ecosystem Management
- Economics
- Energy policy & technology
- Ethics
- Fire
- Forestry & Forest Management
- Geographic Information Systems
- Horticulture
- Human Impacts - economics
- Human Impacts - health
- Human Impacts - policy
- Hydrology
- Impacts - agriculture & horticulture
- Impacts - ecosystems, populations
- Impacts - physical
- Instrumentation
- Mitigation Policy
- Modeling Climate
- Modeling Ecosystems
- Modeling Socioeconomic Processes
- Natural Resource Policy & Planning
- Outreach & Engagement
- Paleoclimatology
- Paleoecology
- Physical Ecology
- Physiological Ecology
- Urban Ecology
- Water Policy & Planning
- Other...

Impacts – forestry  
Genetics

### Specific Research Interests

Forest genetics, tree breeding, quantitative genetics, physiological genetics, genomics, adaptation of forest trees to climate change.

## Projects

Forest Management and Climate Change: A Synthesis of Genetic and Silvicultural Options for the Western U.S. (PI), <http://www.cof.orst.edu/cof/fs/wfcctf/pdf/CCProblemAnalysis.pdf>

Western Forest Climate Change Taskforce (co-organizer), <http://www.cof.orst.edu/cof/fs/wfcctf/>

Pacific Northwest Tree Improvement Research Cooperative (Director), <http://www.fsl.orst.edu/pnwtirc/>

NSF Center for Advanced Forestry Systems (CAFS) (co-PI).

Conifer Translational Genomics Network (CTGN), USDA-NRI Coordinated Agricultural Project Program (co-PI), <http://www.pinegenome.org/ctgn/>

Douglas-fir Genome Project (DFGP) (co-organizer), <http://dendrome.ucdavis.edu/dfgp/>

A functional genomics approach to altering crown architecture in *Populus*: Maximizing carbon capture in trees grown in dense plantings, U.S. Department of Energy (co-PI).

## Selected Recent Publications

St. Clair, J.B., and Howe, G.T. 2007. Genetic maladaptation of coastal Douglas-fir seedlings to future climates. *Global Change Biology* 13:1441-1454.

Howe, G.T., Jayawickrama, K.J., Cherry, M.L., Johnson, G.R., and Wheeler, N.C. 2006. Breeding Douglas-fir. Pp. 245-353. In: *Plant breeding reviews*, v. 27, J. Janick (ed). John Wiley and Sons, Inc.

Howe, G.T., and Brunner, A.M. 2005. Invited Commentary: An evolving approach to understanding plant adaptation. *New Phytol.* 167:1-5.

Wheeler N.C., Jermstad, K.D., Krutovsky K., Aitken, S.N., Howe, G.T., Krakowski, J., and Neale, D.B. 2005. Mapping of quantitative trait loci controlling adaptive traits in coastal Douglas-fir. IV. Cold-hardiness QTL verification and candidate gene mapping. *Mol. Breed.* 15:145-156.

Howe, G.T., Aitken, S.N., Neale, D.B., Jermstad, K.D., Wheeler, N.C., and Chen, T.H.H. 2003. From genotype to phenotype: unraveling the complexities of cold adaptation in forest trees. *Can. J. Bot.* 81:1247-1266.

Chen, T.H.H., Howe, G.T., and Bradshaw, H.D. Jr. 2002. Molecular genetic analysis of dormancy-related traits in poplars. *Weed Science* 50:232-240.

## Professional Activities

Associate Editor, *Forest Science*

Western Forest Genetics Society

Society of American Foresters