Climatic Change (2008) 89:447–449
DOI 10.1007/s10584-008-9478-x

ERRATUM

# The relationship between climate and outbreak characteristics of the spruce budworm in eastern Canada

**David R. Gray**



**Erratum to: Climatic Change (2008) 87:361–383**
**DOI 10.1007/s10584-007-9317-5**

Unfortunately, in the printed version of this article Figs. 1, 2, 5 and 6 were displayed in black and white where colour reproduction was necessary. Please find the colour figures below.

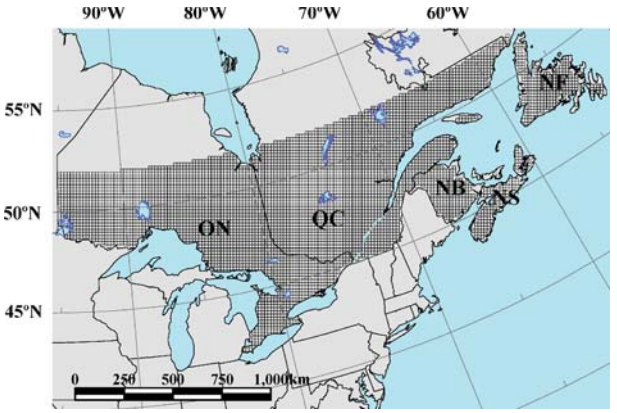


**Fig. 1** The 4,744 cells (30,000 ha) in which forest composition, climate variables, and spruce budworm outbreak characteristics were summarized

The online version of the original article can be found at http://dx.doi.org/10.1007/s10584-007-9317-5.

D. R. Gray (✉)
Natural Resources Canada, Canadian Forest Service – Atlantic Forestry Centre,
P.O. Box 4000, Fredericton, NB E3B 5P7, Canada
e-mail: dgray@nrcan.gc.ca

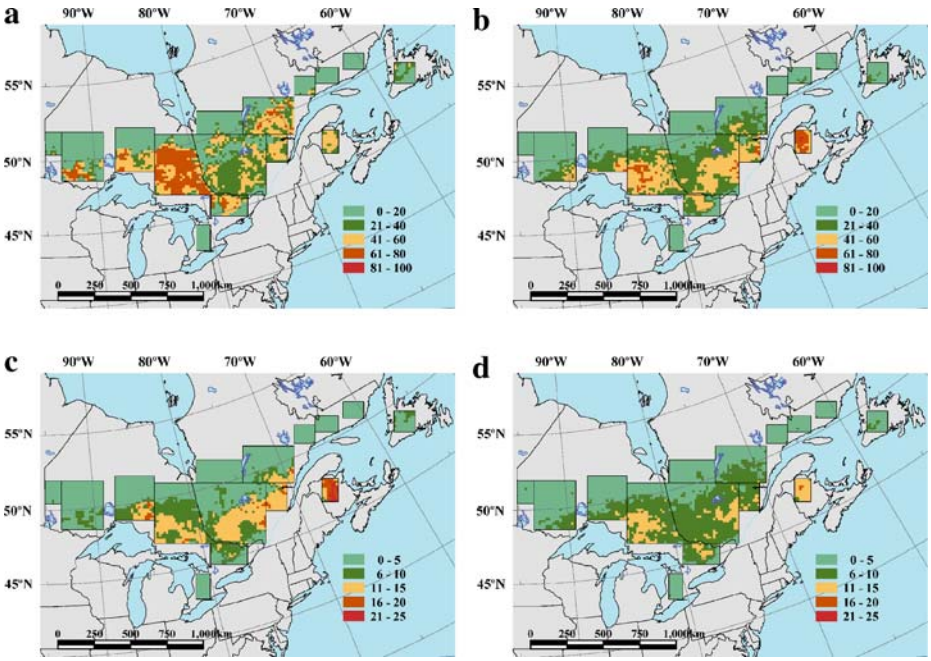


**Fig. 2** Historical observations, and model predictions, of outbreak severity (% defoliation) and duration (years) in the 3,245 cells used to build the model. Cells within each rectangular grid were permuted in Monte Carlo simulations for significance testing of explanatory variables. **a** observed severity; **b** predicted severity; **c** observed duration; **d** predicted duration

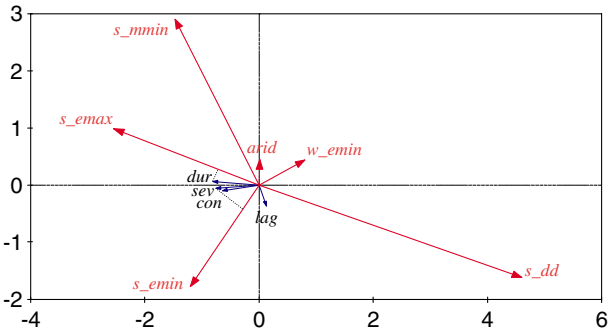


**Fig. 5** Regression biplot of the model where **Y** is the matrix of spruce budworm outbreak characteristics, and **X** is the combined matrix of significant climate variables, forest composition, and geographic location. For clarity, only the climate variables ($\mathbf{X}_C$) have been displayed. A regression biplot shows the rate of change in $y_k$ (a variable of **Y**) per unit change in $x_j$ (a variable of **X**) when the other variables of **X** are held constant. The change in *s_emax* or *s_emin* (proportion of 1 s.d.) necessary to produce a –1.0 s.d. change in *dur* and *sev*, respectively, are shown by the dotted lines that intersect the *s_emax* and *s_emin* vectors

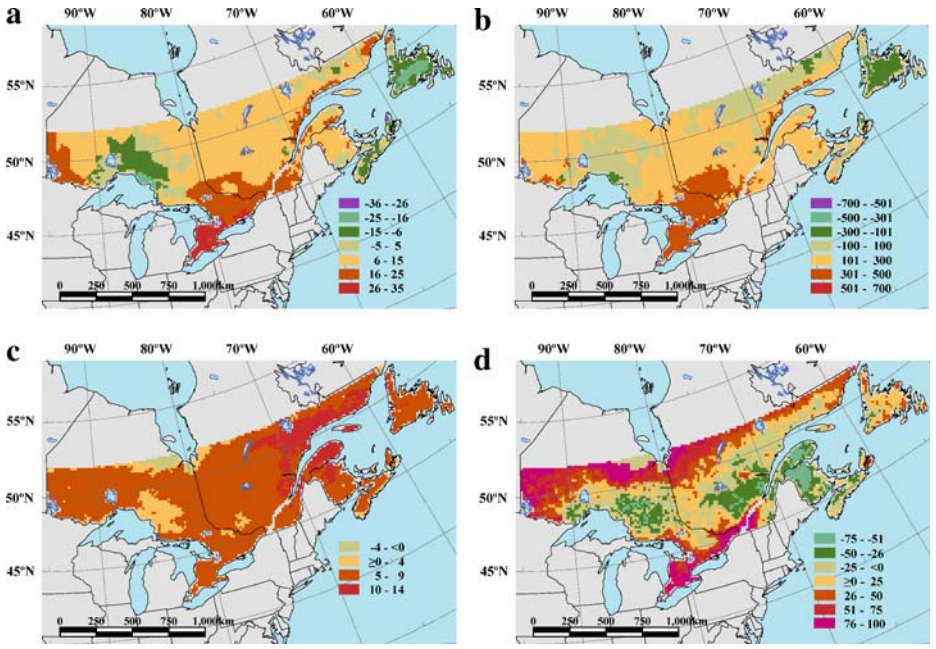


**Fig. 6** Projected changes (2081–2100 values minus historic values) in climate variables *s_emax* (°C) and *s_dd* (°C-day), and the predicted changes to spruce budworm outbreak duration (years) and severity (% defoliation; future model predictions minus historic model predictions). **a** predicted change in *s_emax*; **b** predicted change in *s_dd*; **c** predicted change in duration; **d** predicted change in severity