

Gerald E. Rehfeldt, Nicholas L. Crookston, Cuauhtémoc Sáenz-Romero, and Elizabeth M. Campbell. 2012. North American vegetation model for land-use planning in a changing climate: a solution to large classification problems. *Ecological Applications* 22:119–141.

Appendix B. Projected impacts at the trailing edge summarized for three General Circulation Models and two scenarios.

The geographic shifting of climates suitable for biomes will produce impacts at trailing edges where climates may become suited to biomes not occurring there today (Fig. B1). Climate suited to the Madrean pine-oak woodlands (33), for instance, is expected to occupy slightly more area in 2060 than it does today but in the future should encompass only 57 % of today’s area (Table 4). Its displacement would be attributable to climates better suited for deserts (35 and 39), arid grasslands (40), and thornscrub (34) (Fig. B1a). Expansion of the climate suited to biome 33 plus that of another woodlands, biome 17, should be primarily responsible for the tremendous loss in area (~84 %) of climate suited to conifer forests of the Transvolcanic Axis, part of which also would be replaced by climates suitable to cloud forests (27) and grasslands (40) (Fig. B1b).

The area encompassing climates suitable for the Great Basin Woodlands (8) is predicted to shrink 21 % by 2060 (Table 4) largely as a result of the climate at the trailing edge becoming suited to scrublands (30, 38, and 39) or grasslands (40, 42, and 47) (Fig. B1c). Yet, for the montane forests of the Rocky Mountains (Fig. B1d), only 41 % of the lands currently occupied still should have a suitable climate in 2060, the remainder being displaced primarily by climates suited to grasslands (42 and 47), montane scrub (7) and woodlands (8).

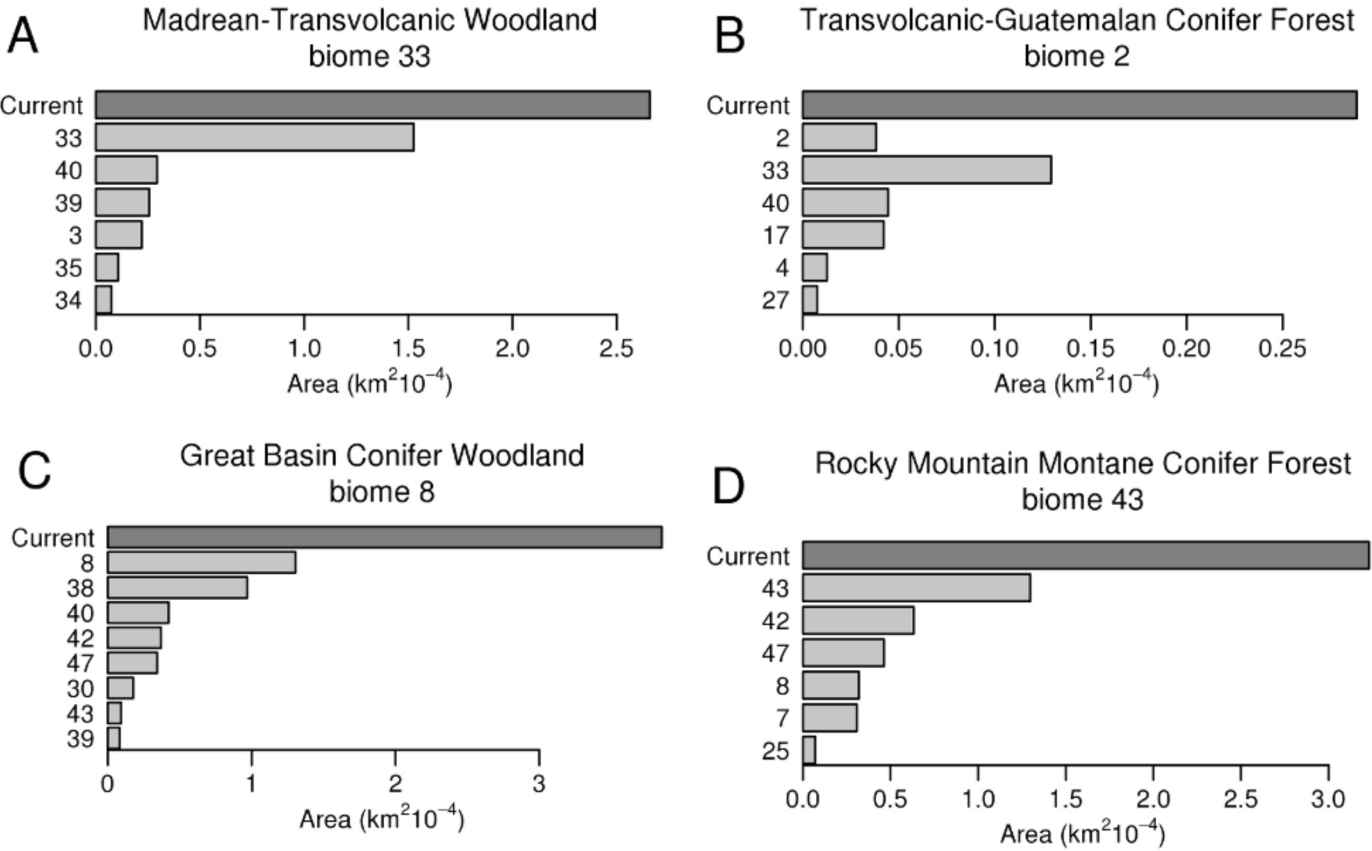


FIG. B1. Trailing edge impacts on the contemporary climate suitable for four biomes (A-D) predicted for the decade surrounding 2060. In each panel, the uppermost bar shows the current area of the biome, the next shows the amount of the current area for which the climate should remain suitable to that biome, and the remaining bars show amount of the current area that should have climates suitable for other biomes. Numeric biome codes are keyed to Table 1.

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