For our three scenarios (single fire, all fires, and total treeless), we implemented a series of simplifying operations on the vectorized high-severity patch layers. These operations were used to generate the null distribution of patch sizes for each scenario, which was then compared against simulated random patches (below). The first operation was to remove small patches <= 1 ha, and remove small holes within larger patches <= 1 ha. Because these vectorized patch layers were derived from 30 m rasters, this was equivalent to patches and holes of 11 contiguous pixels (0.99 ha) or less.

The second operation was to split larger (>100 ha) polygons (patches) at narrow pinch points, with the reasoning that narrow pinch points are functionally equivalent to patch edges from the perspective of seed dispersal, habitat corridors, and other ecological processes. To do this, we first buffered the edges of a given larger patch inward by a given buffer increment. Where this process resulted in splitting the single original patch into two or more new patches greater than 10 ha, we then expanded the edges of the smallest of the new patches (those > 10 ha) by a new increment slightly larger than the original increment, and split the original larger patch by the edge of the newly expanded smaller patch. This creates a boundary between two separate patches at a pinch point, and increases the number of patches in the layer by 1. We did this iteratively for every patch >100 ha until no new patches >10 ha were created by the given buffer increment, and then we expanded to a larger buffer increments. We did this process for increments of 15, 30, 60 and 120 m, in that order.