Supporting Information

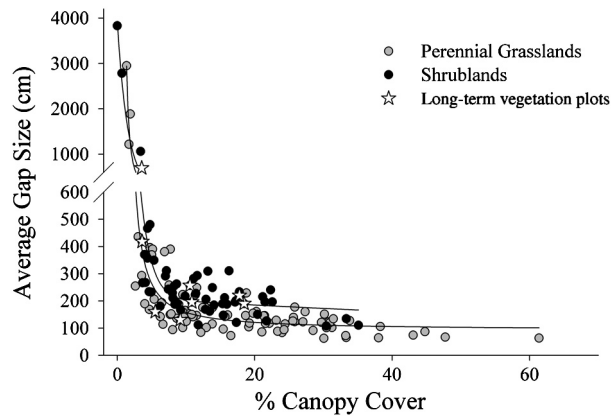## Munson et al. 10.1073/pnas.1014947108

Fig. S1. Empirical relationship between perennial vegetation average gap size and percent canopy cover in perennial grasslands and shrublands on long-term plots used for this study and adjacent areas. Nonlinear regressions for grasslands: $y = 92.2e^{5.50/(x+0.24)}$, $r^2 = 0.92$, $P < 0.0001$; shrublands: $y = 3716e^{-0.66x} + 212.03e^{-0.01x}$, $r^2 = 0.97$, $P < 0.0001$.
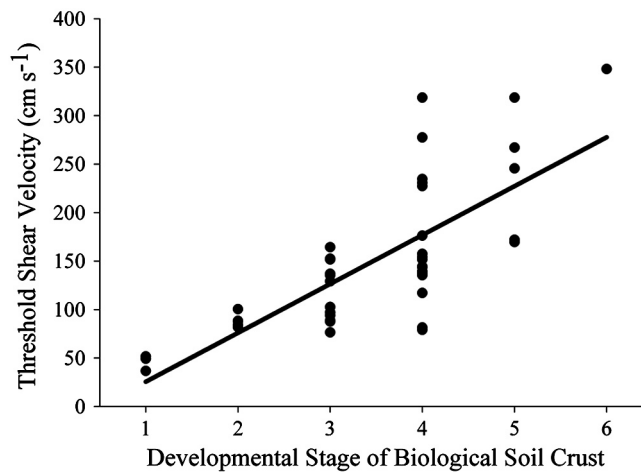

Fig. S2. Empirical relationship between threshold shear velocity and developmental stage of biological soil crusts determined from wind tunnel ($y = 50.4x - 24.9$, $r^2 = 0.57$, $P < 0.0001$).
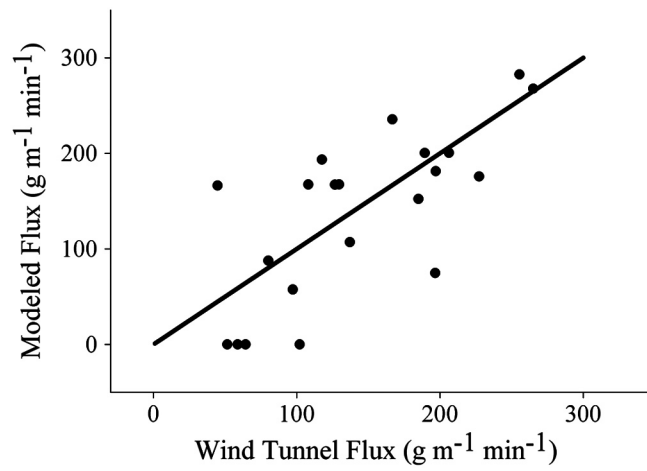
Fig. S3. Relationship between modeled aeolian sediment flux generated from wind erosion simulations and experimental aeolian sediment flux from the wind tunnel on different soil types in the study area. The slope (0.95) of the relationship is not significantly different from 1 ($F = 0.06$, $P = 0.81$) and the intercept (1.5) is not significantly different from 0 ($F = 0.00$, $P = 0.96$).