1. arava\_study\_area.tif and ovil\_study\_area.tif:

DEMs of study area (Arava and Ovil escarpments shown in Figures 4b and 4c), used for topographic analysis.

2. field site location.kmz:

kmz file that contains windgap locations for all study sites along the the Arava and Ovil escarpments.

3. field\_sites\_info.xlsx:

Coordinates of windgap, knickpoint, channel heads, and distance between channel heads for all study sites in the the Arava and Ovil escarpments.

4. arava\_pre\_cliff.tif and ovil\_pre\_cliff.tif:

Binary maps based on the standard deviation of elevation values over the DEM of the study area (see SI for more details), used to generate the initial escarpment configuration of the study area.

5. arava\_initial\_escarpment\_line.m and ovil\_initial\_escarpment\_line.m:

MATLAB code that used to generate the initial escarpment configuration of the study area.