



LAND FACET CORRIDOR DESIGNER



A SUITE OF ARCGIS TOOLS TO IDENTIFY LAND FACET-BASED CORRIDORS BETWEEN FRAGMENTED HABITAT BLOCKS

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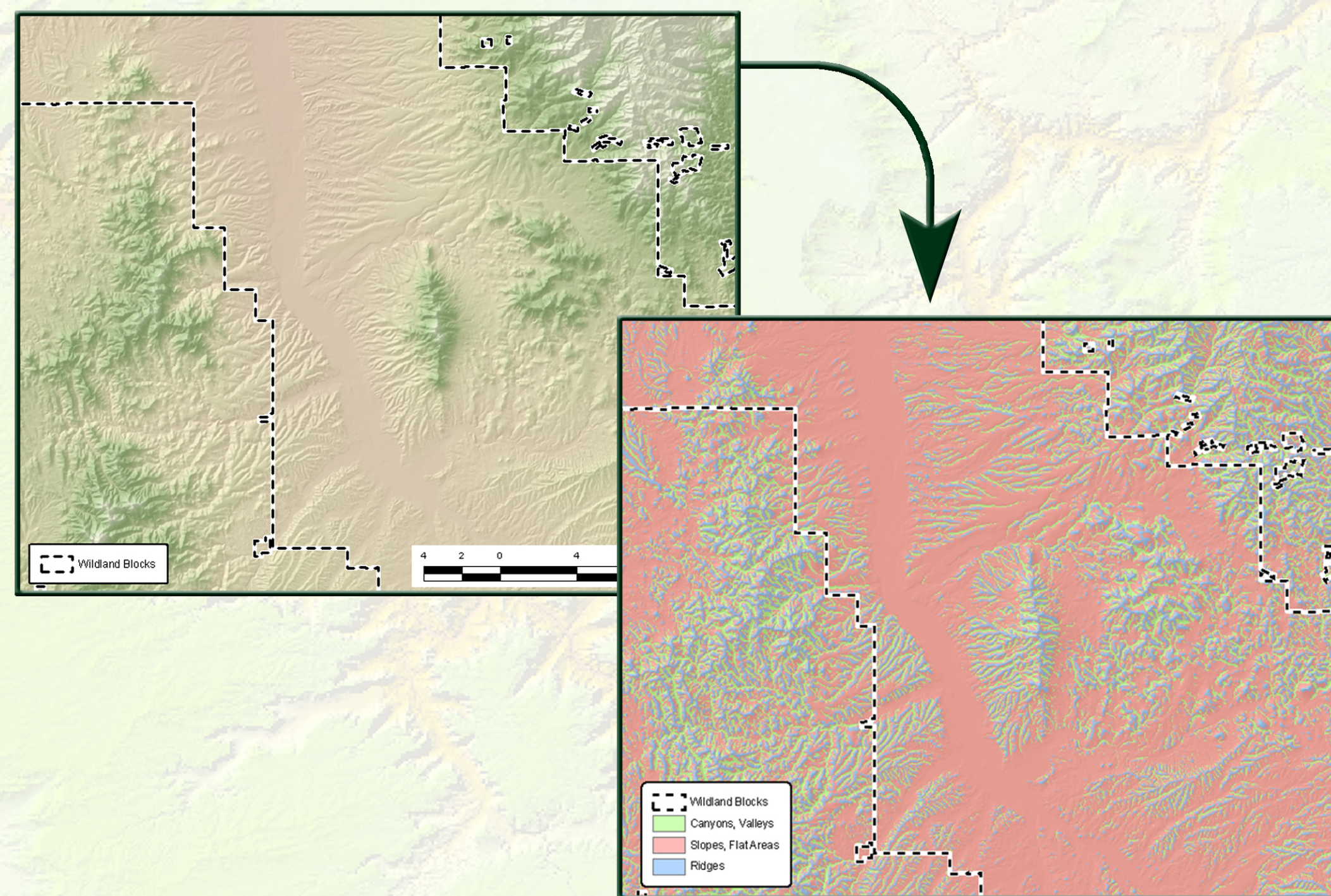
Paul Beier · Northern Arizona University

Tools, Manuals, and Literature available from www.corridordesign.org

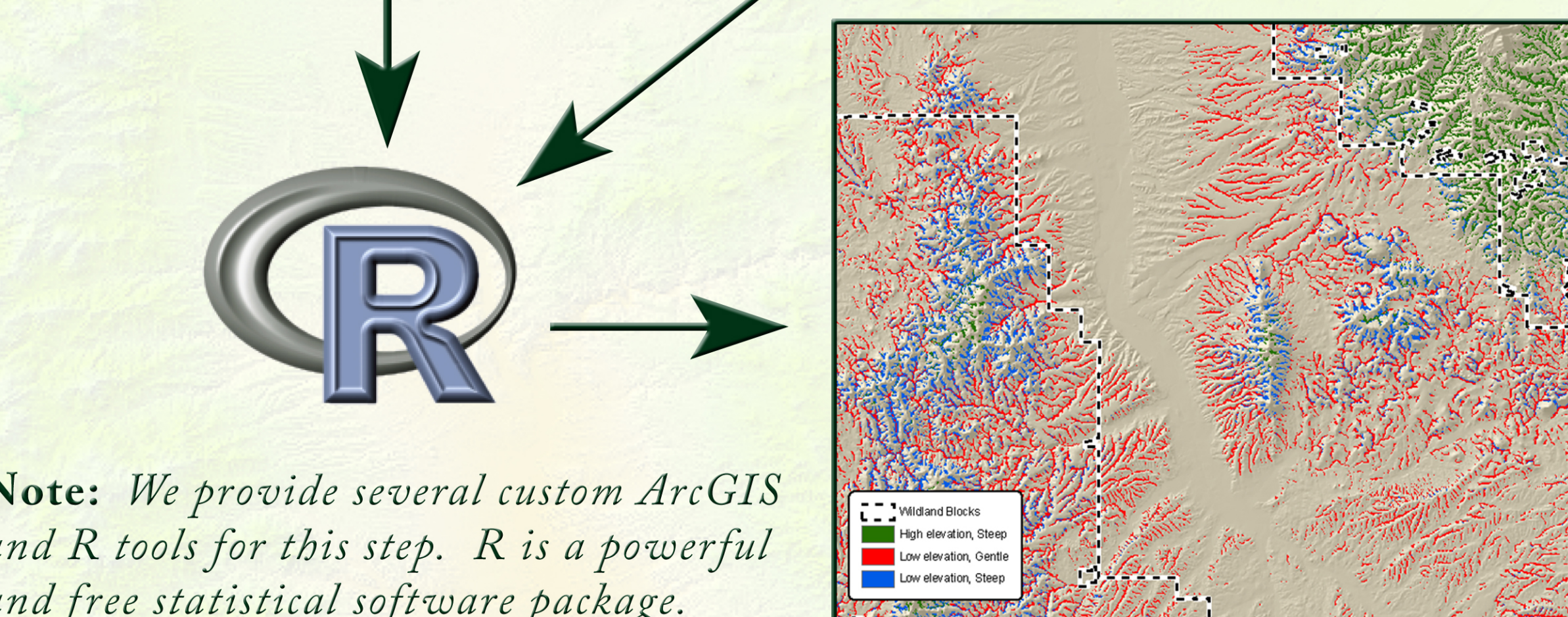
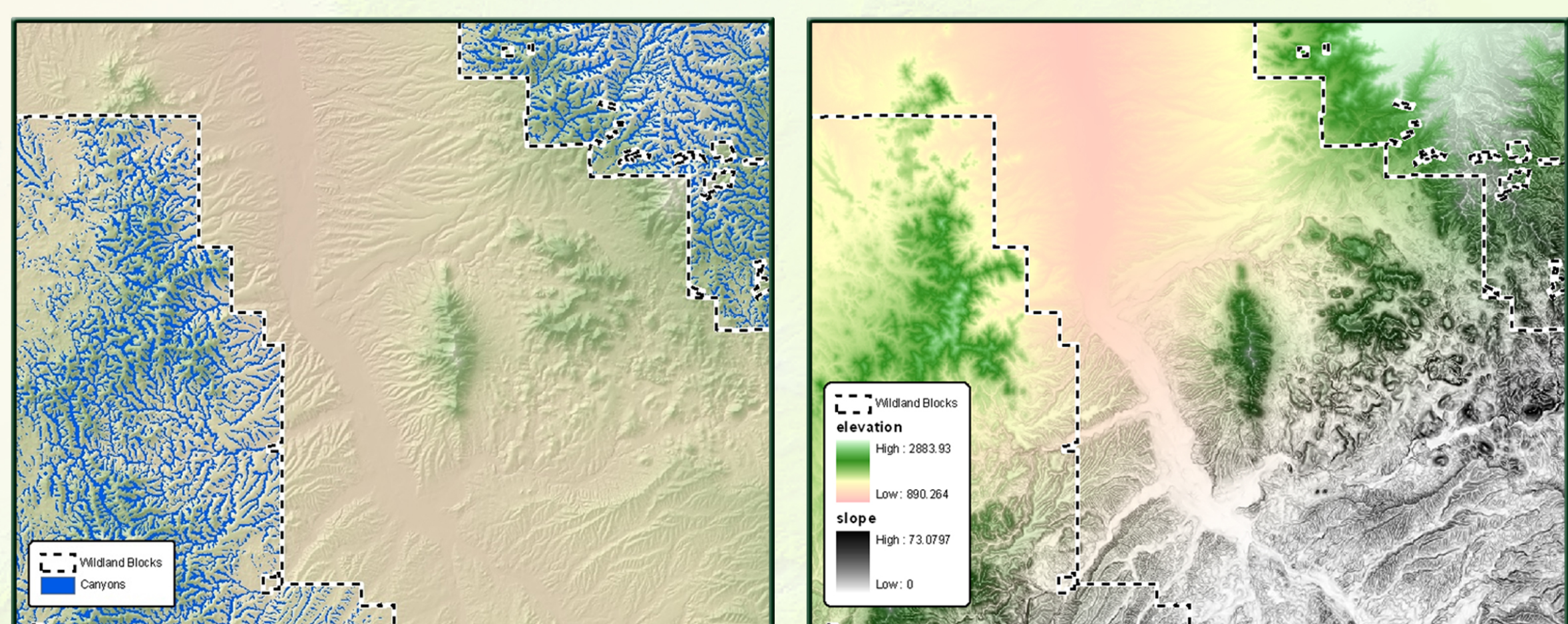
INTRODUCTION

Land Facet Corridor Designer is a geographic approach to designing wildlife linkages that will be useful in the face of impending climate change. This novel GIS-based procedure identifies the geographic portion of a region that maximizes continuity and diversity of landscape units defined by topographic and soil traits (such as high-elevation north-facing slopes with rocky soils, or low-elevation flats with thick soils) that are expected to facilitate wildlife movement.

1 Initial Classification using our *Topographic Position Index (TPI)* tool or any classification method you prefer

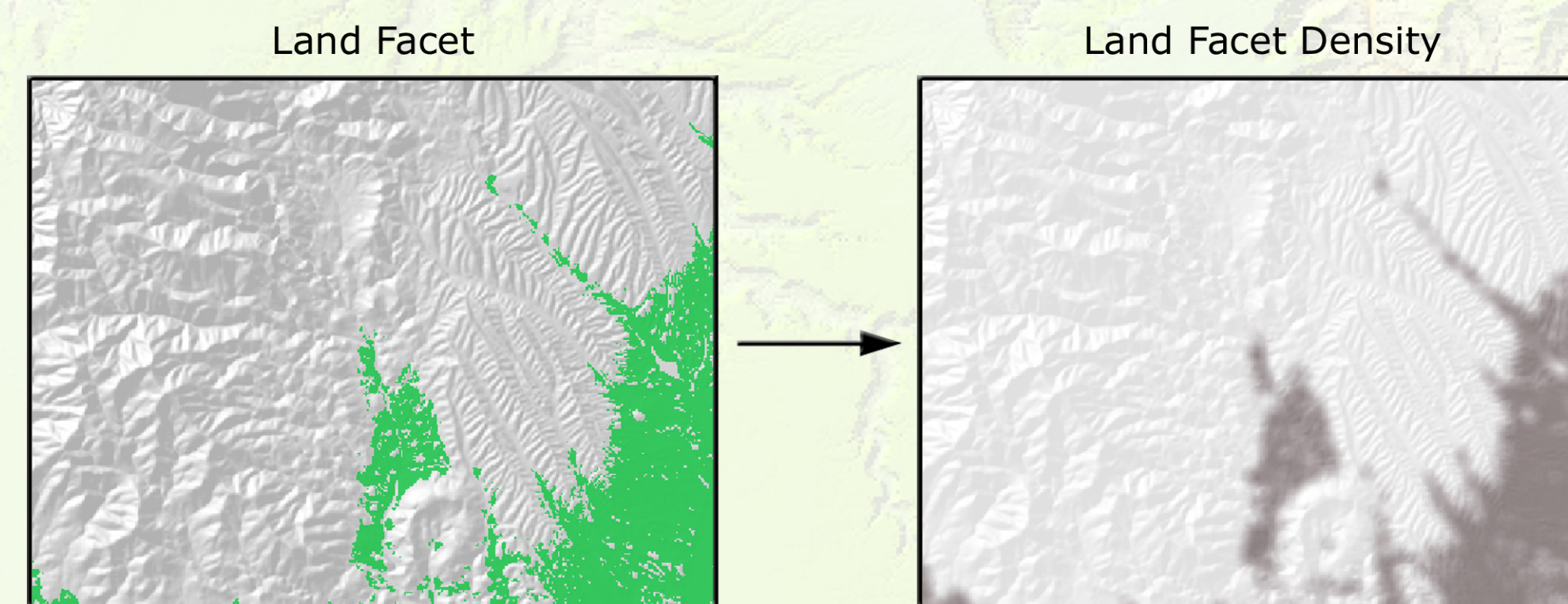


2 Define Land Facets for Each Class
Process should be repeated for each class from your initial classification, using only the portion of your landscape within habitat blocks as your sample area. See manual for details.

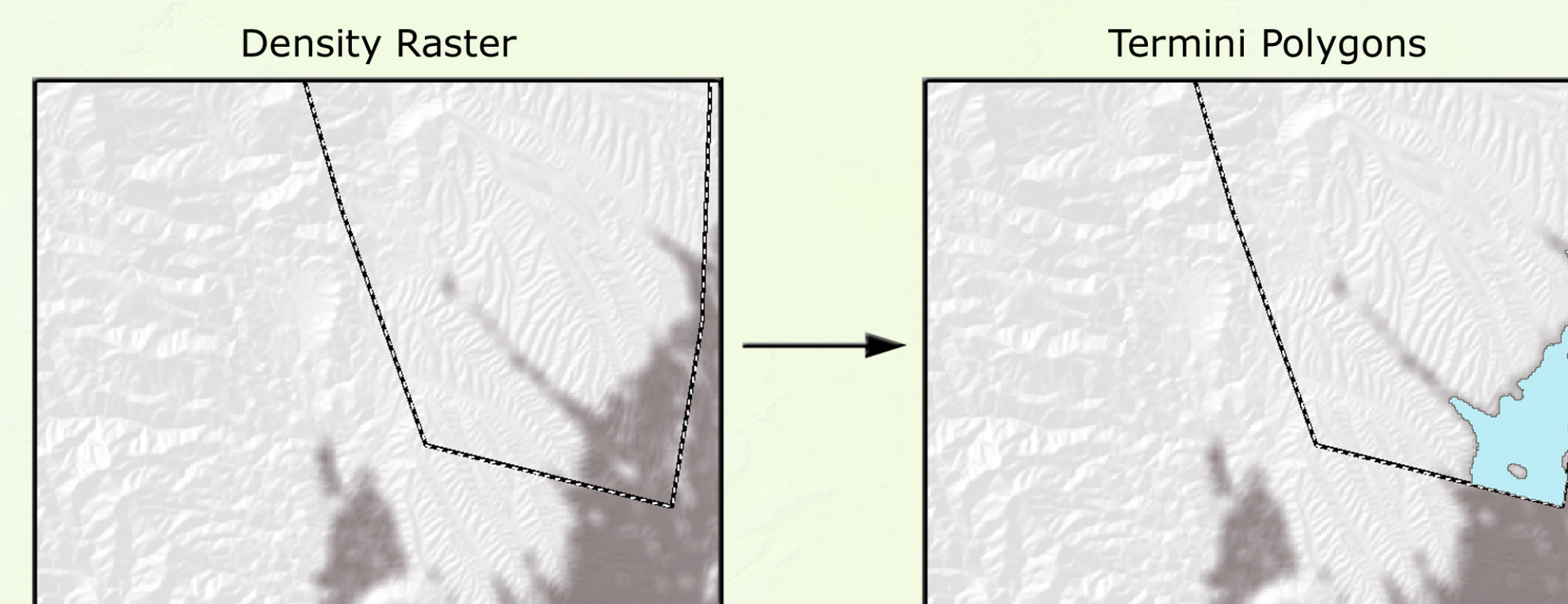


Note: We provide several custom ArcGIS and R tools for this step. R is a powerful and free statistical software package.

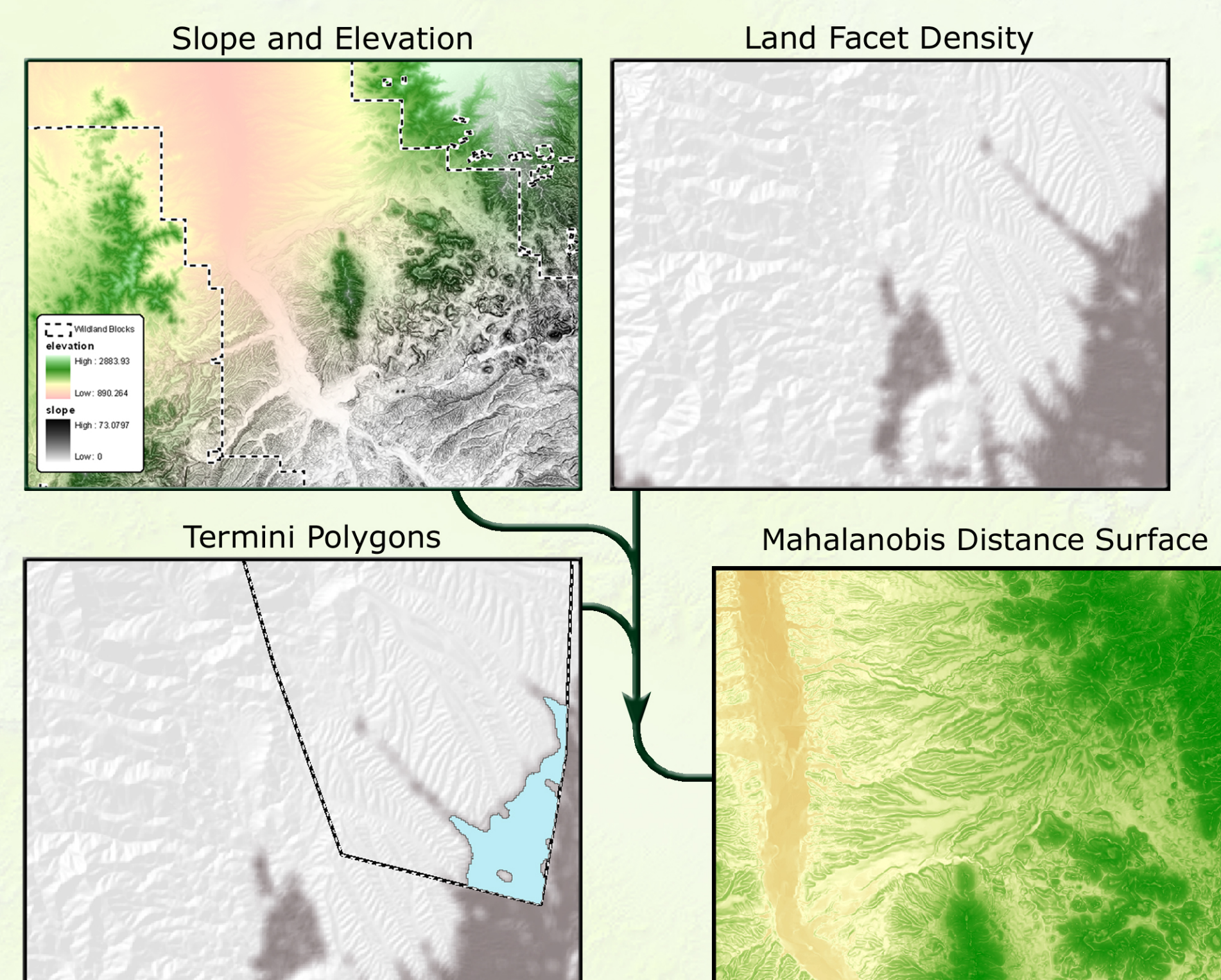
3 Define Density of Each Land Facet using our *Density* tool.



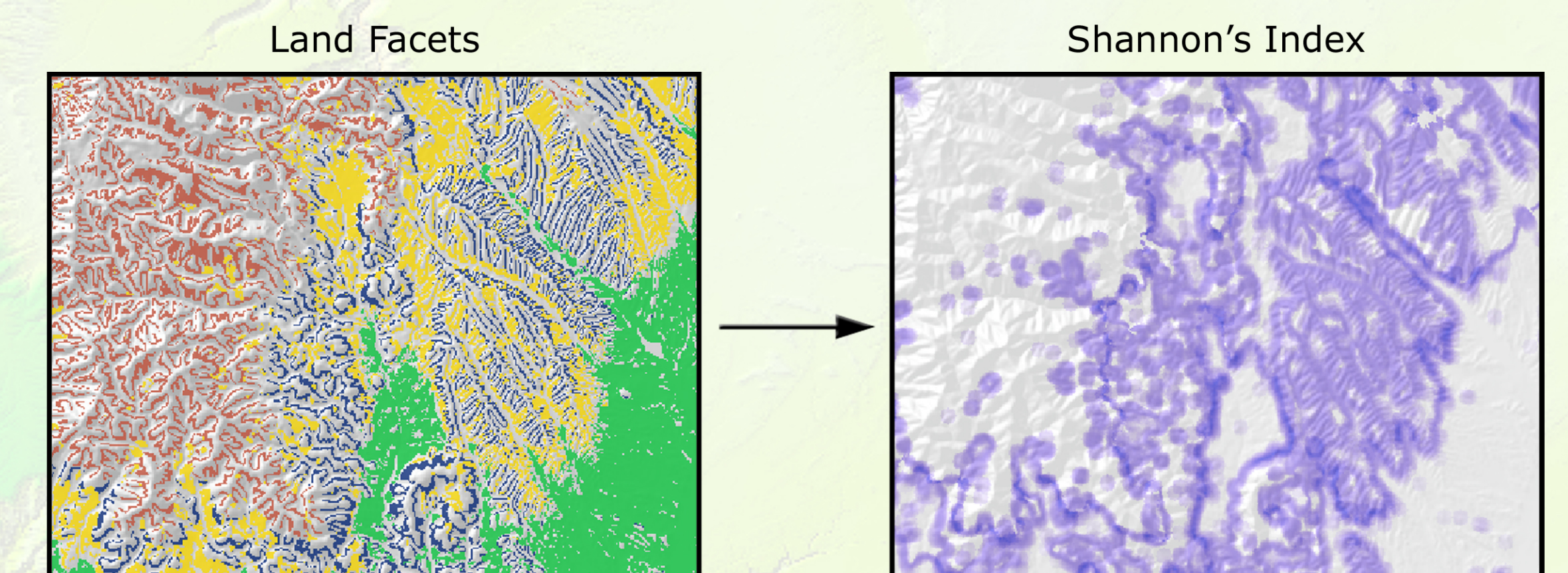
4 Identify Termini Polygons for each land facet, using the "Density" raster and our *Termini* tool.



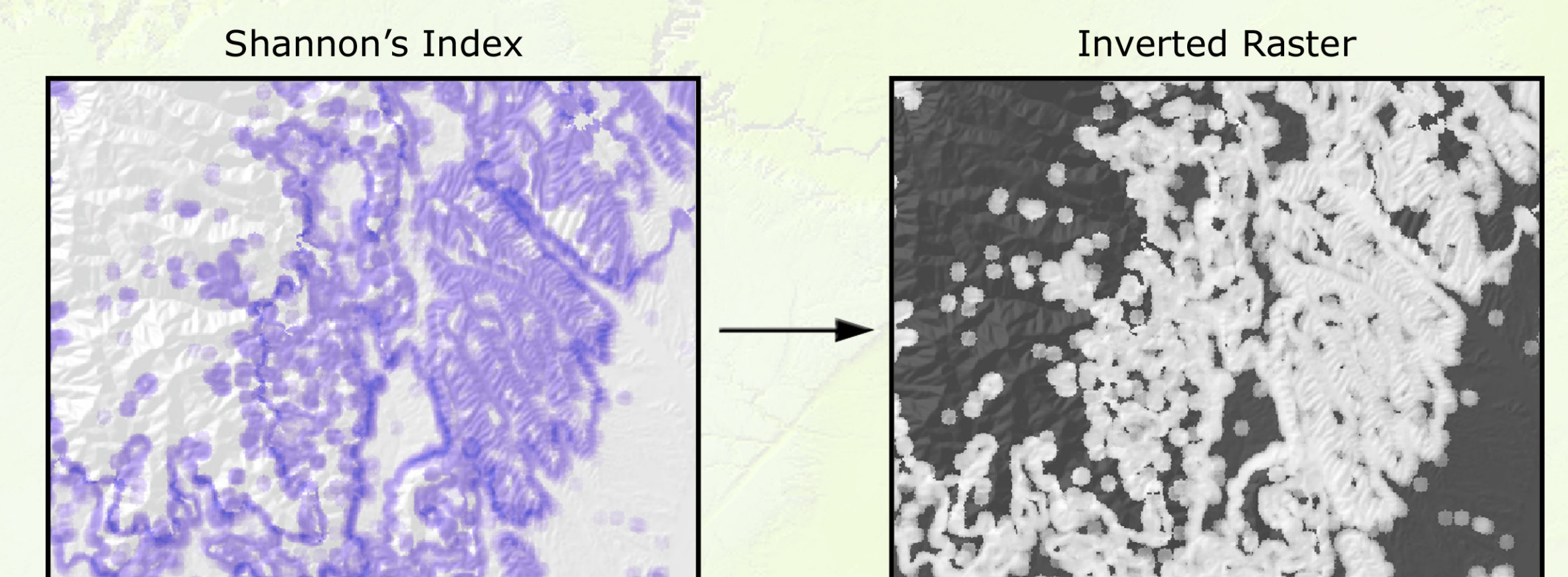
5 Create a Cost Surface for each land facet, using our *Mahalanobis Distances* tool to create a statistical similarity raster. See manual for details.



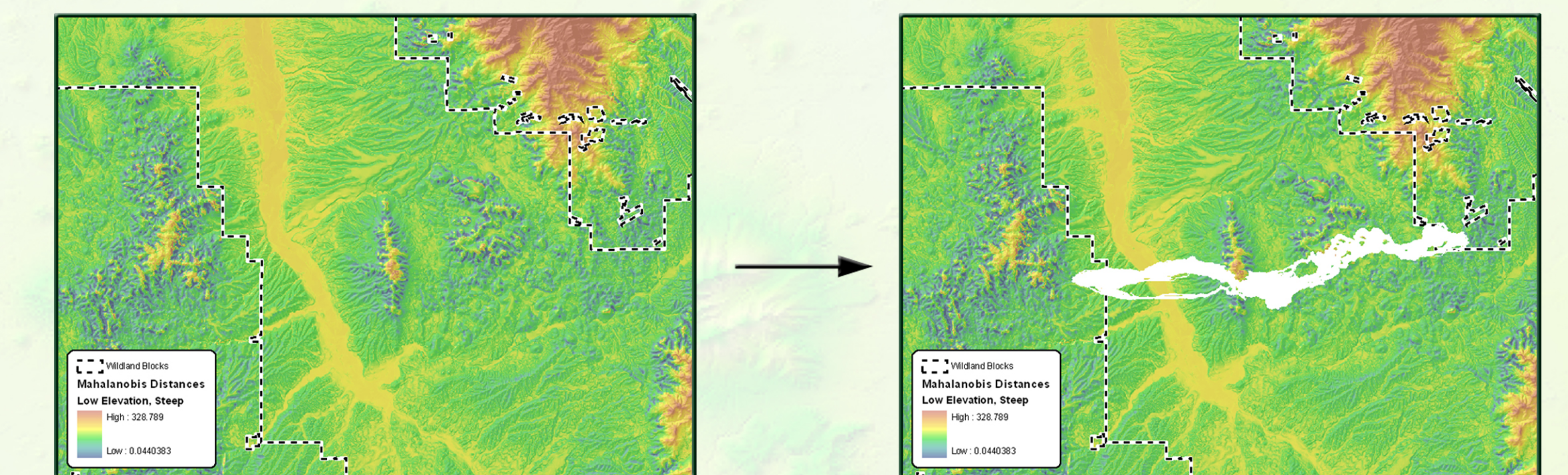
6 Create Land Facet Diversity Raster using our *Shannon's Index Tool*. See manual for details.



7 Invert the Diversity Raster using our *Raster Inversion* tool. See manual for details.



8 Create Corridor Polygons for each land facet and for the Land Facet Diversity layer, using *Corridor Design* tools from <http://www.corridordesign.org>



9 Combine All Corridor Polygons into a single multi-stranded linkage design.

