

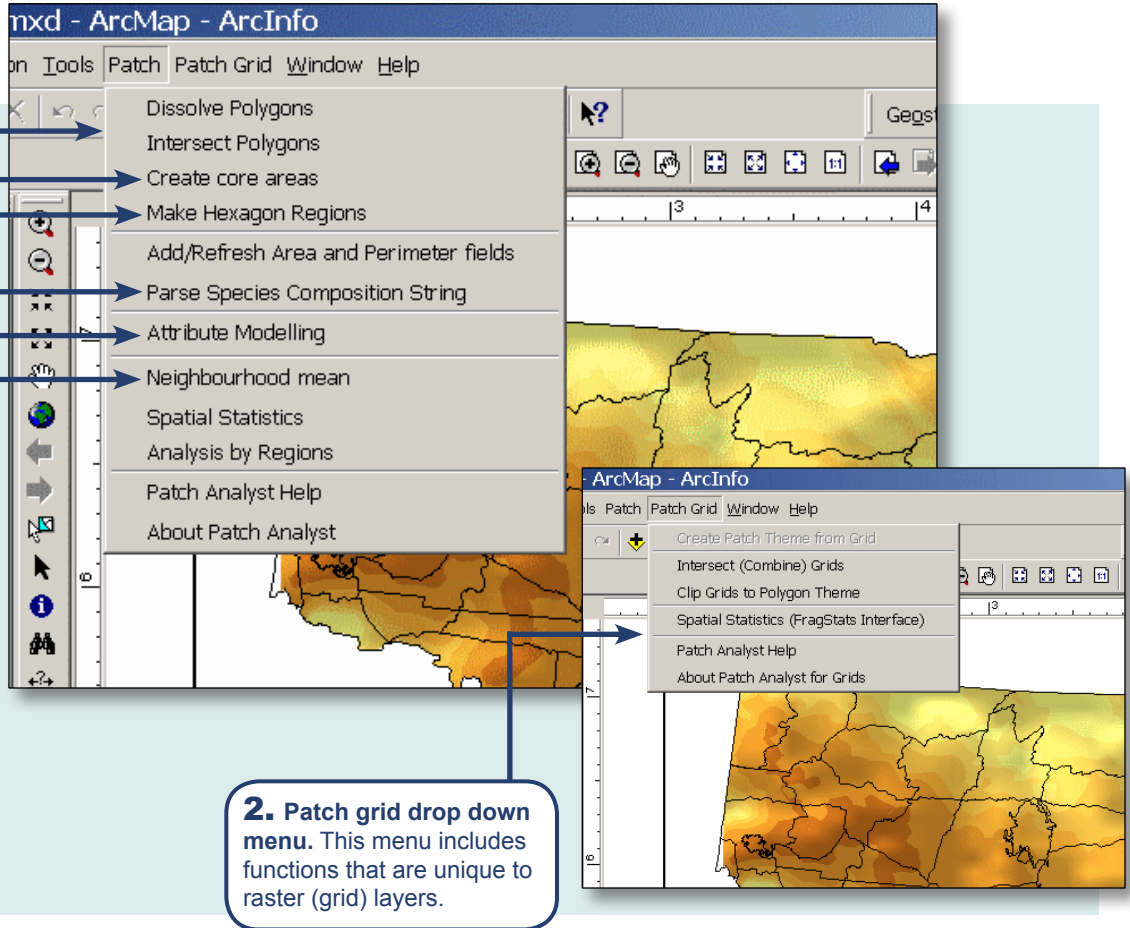


PATCH ANALYST FOR ArcGIS®

1. Patch Analyst drop down menu. This menu primarily includes functions that can be performed on polygon layers.

Functions that can be performed on either polygon or raster layers (e.g. create core areas, make hexagon regions) are found only in the Patch Analyst menu.

Other functions (e.g. Parse species composition string, Attribute modeling, Neighbourhood means) can only be performed on polygon layers.



2. Patch grid drop down menu. This menu includes functions that are unique to raster (grid) layers.

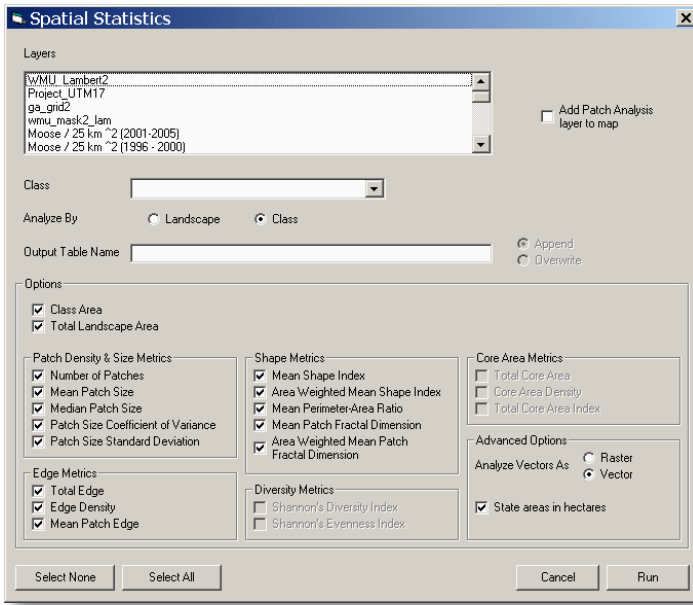
WHAT IS PATCH ANALYST FOR ArcGIS®?

Patch analyst is an extension to the ArcGIS® software system that facilitates the spatial analysis of landscape patches and the modeling of attributes associated with patches. It is used for spatial pattern analysis, often in support of habitat modeling, biodiversity conservation and forest management. The program includes capabilities to characterize patch pattern and the ability to assign patch values based on combinations of patch attributes (e.g. combinations of stand age, overstory composition and crown closure). It is available in two versions, Patch and Patch grid; the former is used with polygon layers while the latter is for raster (grid) layers.

HOW DOES IT WORK?

- Once the program is downloaded and added to the ArcGIS toolbar the user simply clicks on Patch or Patch Grid to reveal a pull down menu. If relevant data (e.g. a raster file for Patch Grid) is not a part of the current map, options pertaining to that data type will be unavailable and appear faded on the menu.
- A variety of available operations allow the user to: dissolve (clump) and re-class polygons or rasters by fields, intersect (combine) layers, create core areas, make hexagon regions, add or refresh area and perimeter fields, make variables from FRI string fields as well as calculate a variety of spatial statistics on the data in the layers.

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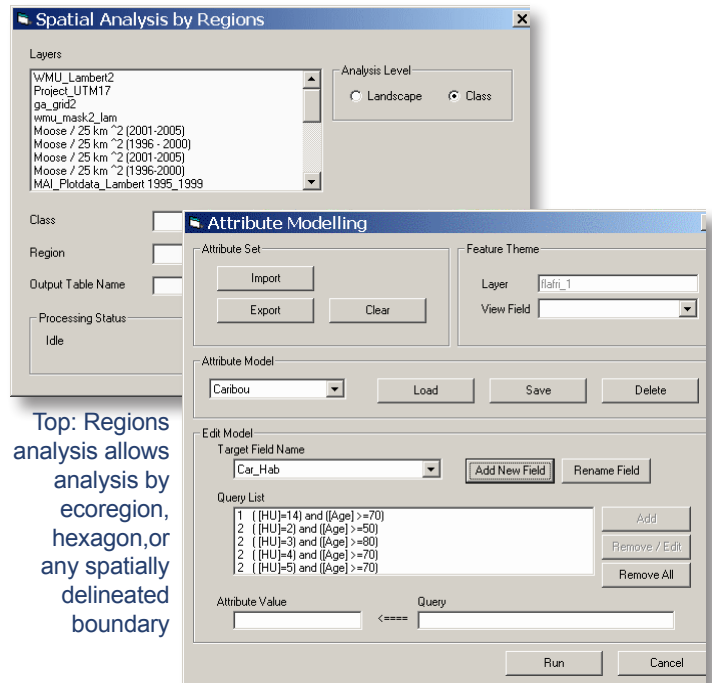


The Patch Analyst Spatial Statistics Window

- The Spatial Analysis statistics for raster and polygon layers are calculated differently and therefore there is a 'Spatial Statistics' selection on both the Patch Analyst and Patch Grid menus.
- Some functions differ depending on whether the layer is a polygon or raster file. For example, the dissolve function in Patch Analyst uses the Dissolve tool in ArcGIS®, while in Patch Grid the tool clumps adjacent like pixels together.
- The Intersect (combine) command also works differently in Patch Analyst and Patch Grid. When intersecting polygons in Patch Analyst, the ArcGIS® Intersect tool is used and Patch Grid uses a different method for raster layers.

BATCH AND REGIONS ANALYSIS

- Analysis can be automated by using either batch analysis or regions analysis. Batch analysis will run separate analyses on pre-selected shapefiles. Regions analysis is used where a single large analysis layer is subdivided into regions, and analysis is desired on each of these smaller analysis units. Regions can be administrative, ecological or arbitrary, and can include such things as administrative districts, watersheds, or a hexagon grid overlay. Patch Analyst provides a facility to generate a hexagon overlay, and this overlay can be intersected with the original analysis layer.



Top: Regions analysis allows analysis by ecoregion, hexagon, or any spatially delineated boundary

Attribute modelling can be used to define habitat analysis units, HSI values, etc. using standard database query syntax.

ACKNOWLEDGEMENTS

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- Patch Analyst Project Team: Daniel Kaukinen (GSC), Angus Carr, Rob Rempel, Phil Elkie, Rob Kushneriuk, Julie Elliott, and Jeff Robinson.
- FRAGSTATS (raster version) was written by Kevin McGarigal and Barbara Marks (USDA), and was enhanced for speed and capabilities by Frank Schneckeburger, OFRI.

SYSTEM REQUIREMENTS

This program extension is designed to work with ArcGIS® version 9.1 and higher.

For more information or to obtain a copy of this software, please contact:

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