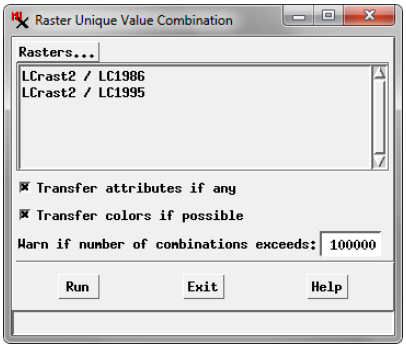
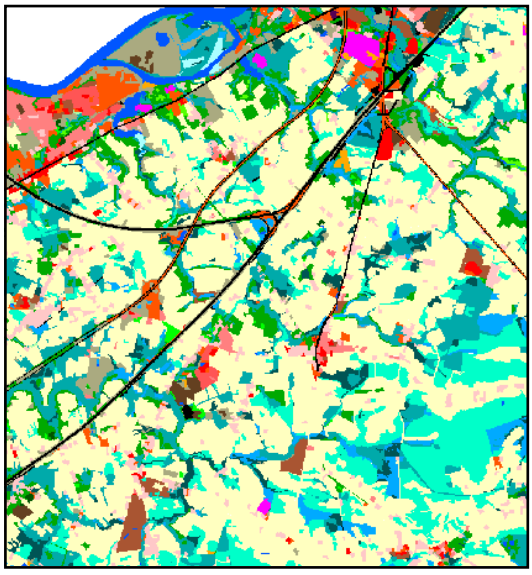
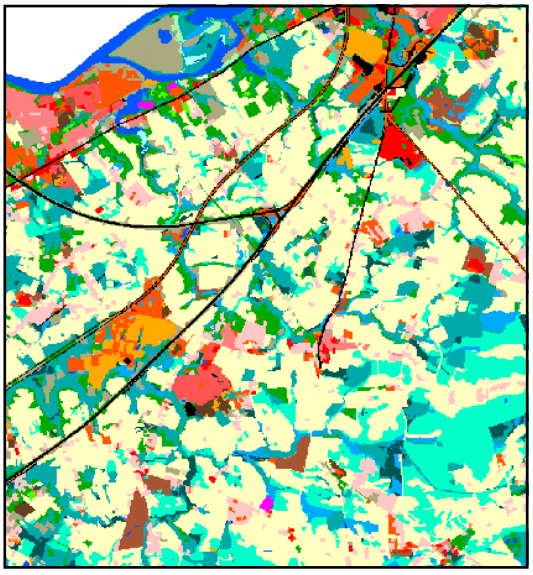
Raster Unique Value Combination

The Raster Unique Value Combination process in TNTmips (Image / Classify / Unique Value Combination) combines the spatial information in two or more input rasters into a single combination raster. The process is designed to help you analyze sets of categorical rasters in which the raster values identify spatial classes of some type. The input rasters might represent different spatial conditions (such as soil type and crop yield) or a single condition at different times (such as land use). The process examines the set of input raster values for each cell location, then assigns each unique set of values to a distinct arbitrary cell value in the new combination raster. An attached CELLVALUES table details the actual combinations: it has a record for each cell value in the combination raster and fields containing the corresponding source raster cell values, as well as the count of cells having that combination. By analyzing this table you can identify the degrees of correlation between different spatial conditions or determine the nature and areal extent of changes in conditions through time.



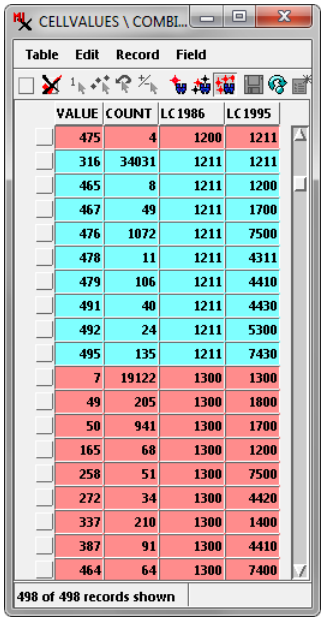


Land Use Raster for 1986



Land Use Raster for 1995

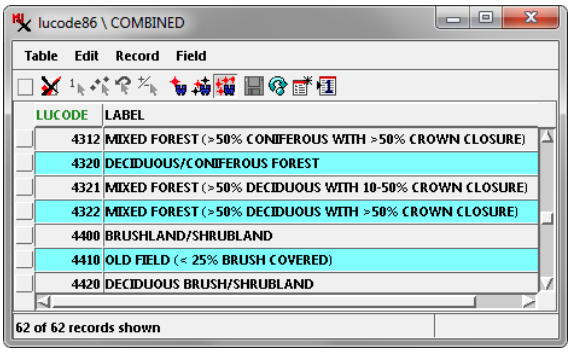
This illustration shows portions of two land use rasters that were combined in the Automatic Raster Combination process. Values in each input raster follow the same numerical coding system for land use. Both are shown with the same color palette keyed to land use classes.



VALUE	COUNT	LC1986	LC1995
475	4	1200	1211
316	34031	1211	1211
465	8	1211	1200
467	49	1211	1700
476	1072	1211	7500
478	11	1211	4311
479	106	1211	4410
491	40	1211	4430
492	24	1211	5300
495	135	1211	7430
7	19122	1300	1300
49	205	1300	1800
50	941	1300	1700
165	68	1300	1200
258	51	1300	7500
272	34	1300	4420
337	210	1300	1400
387	91	1300	4410
464	64	1300	7400

498 of 498 records shown

CELLVALUES table showing all combinations of land use classes for the two dates, along with a count of the number of cells for each unique combination.



LUCODE	LABEL
4312	MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLOSURE)
4320	DECIDUOUS/CONIFEROUS FOREST
4321	MIXED FOREST (>50% DECIDUOUS WITH 10-50% CROWN CLOSURE)
4322	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE)
4400	BRUSHLAND/SHRUBLAND
4410	OLD FIELD (< 25% BRUSH COVERED)
4420	DECIDUOUS BRUSH/SHRUBLAND

62 of 62 records shown

An option is provided to transfer additional attribute tables from the input rasters to the combination raster. These tables retain their original structure and have attachments from the combination raster cell values to the corresponding records as needed. This feature allows you to further integrate information from the different input rasters.

All raster types including color composites and complex rasters may be used as input rasters in this process, but it is best suited for categorical rasters. All source rasters must have the same number of lines and columns.

You can elect to transfer color information from each input raster to the combination raster to aid in interpretion. For each input raster with color information (stored as color palette entries or composite color cell values), the process creates a corresponding color palette subobject for the combination raster. The combination raster can then be displayed to appear identical to any input raster by selecting the appropriate color palette. This feature is only available if the number of unique source value combinations is less than 65536, as that is the current upper limit on the number of colors in a color palette.