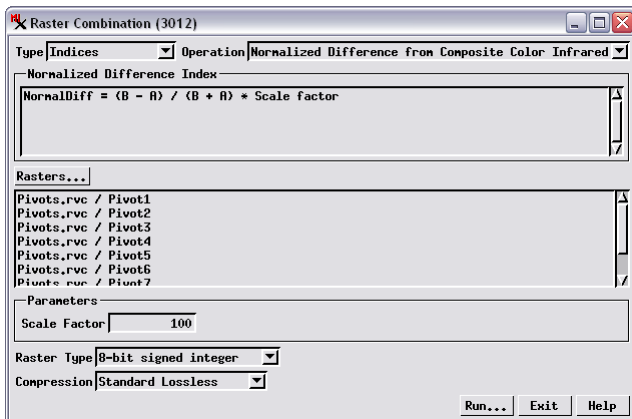


Compute Vegetation Indices from Composite Color-Infrared Images

The Predefined Raster Combination process in TNTmips (Image / Combine / Predefined) provides a large number of operations that combine values from one or more input raster objects in various ways to compute the values for a new output raster. Among these operations are options to compute several types of vegetation index using near-infrared and red image bands that are either separate input raster objects or components of 24-bit color composites. With the Type menu in the Raster Combination window set to the Indices option, three options on the Operations menu are designed for use with color-infrared composite raster inputs:

- Normalized Difference from Composite Color Infrared
- Modified ND from Composite Color Infrared
- TVI from Composite Color Infrared

These options allow you to choose one or more composite color-infrared images as input and compute a separate index raster for each one. These operations assume that the near-infrared band values are stored as the red component in the composite and the red spectral band values are the green color component in the composite. To streamline processing of multiple composite images, you have the option to AutoName the output rasters based on the input composite raster names.



Above, the Raster Combination window set to compute NDVI for 10 composite color-infrared images using the *Normalized Difference from Composite Color Infrared* option on the Operation menu (with Type menu set to the *Indices* option). The Scale Factor and Raster Type settings shown result in integer NDVI values with a possible range from -100 to +100.

If you are processing images stored with a separate raster object for each spectral band, use the standard Normalized Difference, Modified ND, and TVI operations. For these operations you choose a pair of input raster objects corresponding to the two spectral bands, so only one index raster object can be created at a time.

The two columns of illustrations to the right show a selection of composite color-infrared images (left column) and NDVI rasters (right column) computed in one run in the Predefined Raster Combinations process using the *Normalized Difference from Composite Color Infrared* option. Each image shows a circular crop field irrigated using a center-pivot system during the height of the growing season. The NDVI rasters are displayed with color theme maps to accentuate differences in NDVI within the fields (dark green = high NDVI, brown = low NDVI).

