The use of digital satellite image data for a spatial database requires several preprocessing procedures. These procedures include, but are not limited to: radiometric correction, geometric correction, terrain correction, image enhancement, and feature selection. The goal of digital image preprocessing is to increase both the accuracy and the interpretability of the digital data during the image processing phase.

Geometric correction involves the reorientation of the image data to selected parameters. This includes the selection of a map projection system and the co-registration of satellite image data with other data layers that may be used in a GIS. This will allow for accurate spatial assessments and measurements of the data generated from the satellite imagery.

The co-registration of satellite data for the Mississippi coastal corridor project was crucial for the development of a land-use/land-cover classification. All satellite images were reprojected to Mississippi Transverse Mercator (MSTM) map projection. The initial satellite image was co-registered to a vector coverage of primary, secondary and county roads. Each additional scene was then co-registered by image to image rectification with the initial registered image. All of the co-registered images had a root mean square error (RMS) of less than 0.3 pixels, which allows for accurate image to image comparisons and analysis with other spatial data layers.