

Abstract

Images obtained from satellites play a vital role in geography, military and weather related activities. This research presents a novel technique to visualize in 3D objects extracted from multi-spectral satellite images. At the beginning, a thematic map of the original image is obtained by assessing the quality and correcting geometric errors. Before obtaining this thematic map, the original image is transferred through various image processing steps to remove noise and geometrical distortions. This map is then classified to identify the features of interest. A Non-Uniform Rational B-Spline (NURBS) surface is generated from this extracted feature in order to visualize the object in 3D. A NURBS surface is selected due to its higher geometrical flexibility than other surface models. The results indicate an overall classification accuracy of eighty percent.