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Landsat Digital Data as Tool for Mining Exploration and Geologic Mapping in Coastal Plain of Malaysian Peninsula

Landsat Multispectral Scanner (MSS) data were used for systematic mapping of the coastal plain of the Malaysian Peninsula. The study was conducted to evaluate the use of Landsat digital data to assist the geologist in the exploration and mapping of the coastal plain of the Malaysian Peninsula. The brightness of the four Landsat MSS channels and six ratios were recorded for each pixel, and were subsequently used as input to the supervised classification technique. Several lithologic units were selected to define training groups, and the remaining study area was classified into the preselected categories. The results indicated that using Landsat digital data combined with geologic and topographic information can improve the interpretation and quality of the geologic maps. The Landsat information was an effective tool to delineate the structural features and recognize different geologic patterns that can be defined as exploration targets. The most useful Landsat parameters to study the geology in the area were channels 5 and 7 and their ratio 7/5. Vegetation areas were enhanced by the ratio 6/4. Further fieldwork in the area will confirm the results of the present study.