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GEOSPATIAL TECHNOLOGY APPROACH FOR GEOMORPHOLOGICAL MAPPING AND GEOPHYSICAL PROFILING OF PANNA NATIONAL PARK, MADHYA PRADESH

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Abstract

Geomorphological mapping plays an essential role in understanding the Earth surface processes, geochronology, natural resources, natural hazards and landscape evolution. The Panna National Park (now Biosphere Reserve) is a part of the central Indian Highlands and located in north-central Madhya Pradesh, India. The study is concerned with the major units of geomorphological mapping to develop baseline data for Panna National Park. The present study can be used for wild life habitat characterization and process modeling of wild animal habitats (like Penthra Tigris, Aix Axis etc.). The geomorphological maps were prepared through a combination of knowledge base and detailed visualization in a geographical information system (GIS). Survey of India (SOI) Toposheets on 1:50,000 scale were geo-referenced, a geo-database prepared, a symbol-based digitization was carried out and rectification into polygons was done for generation of the geomorphological map. Finally this study illustrates how geomorphological mapping can be integrated through geographical information system and remote sensing for evaluation of habitat suitability on a detailed scale for wildlife conservation.

Keywords: Geomorphological mapping, Morphometry, Remote Sensing,