

SOIL MAPPING IN APA NASCENTES DO RIO VERMELHO, THROUGH THE ASSOCIATION BETWEEN DIRECT AND INDIRECT TECHNIQUES

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The present study aimed to perform a soil mapping in the Environmental Protection Area (Apa), Rio Vermelho Springs, in order to integrate direct and indirect techniques. The direct techniques involved two collection campaigns, the first one being along the Rio Vermelho basin, in the depths of 0-20cm, 40-60cm, 60-80cm, in 22 points, and in the second, superficial samples (0-20cm) at 94 Apa points, the samples were air dried, disaggregated, and separated into fractions > 2mm, > 1mm and < 1mm. From the samples were made spectroradiometry tests, to be compared to Landsat and Aster images, because the soil reflectance is a property derived from the sum of several factors that will show the behavior or spectral signature, the mentioned factors include a heterogeneous combination of components as particle size, soil structure, surface roughness, moisture content, organic matter content, carbonated mineral content, presence of quartz and Fe oxides. GPR profiles were executed as soil depth on slopes, for spreading the model in the whole Apa area, as accurate soil depth information is essential to improve the way we evaluate the quality and management of soil resources. contribute to the sustainable management of agricultural land. The indirect methods of mapping have evolved to the point of generating maps with the same level of detail of the mappings made through direct techniques.

Keywords: Soil; direct and indirect techniques mapping; GPR