

## **Remote sensing and geographic information system (GIS) approach in groundwater potential zone mapping in hardrock terrain: a case study of the Langat Basin, Selangor**

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The advantages of remote sensing images in projecting ground surface features of a wide area and the ability of the geographic information system (GIS) to integrate several layers of data of certain area are used in producing the groundwater potential map of the Langat Basin. By using the GIS technique, all groundwater related data in hardrock terrain, consisting of lineaments and land use information depicted from remote sensing images are integrated with other auxiliary data such as topographic elevation, topographic gradient, annual rainfall, soil type, drainage density and lithology of the area. As a result, a derived map which demarcate the study area into very high, high, moderate, low or very low groundwater potential zones is produced. The map indicates that hardrock terrain that was previously mapped as low to very low potential actually possess moderate to high groundwater potential. Since the derived groundwater potential zone map is very useful, and can be produced quickly, it is suggested that this method be applied in the early stages of groundwater exploration to locate target areas in hardrock terrain, before further detailed investigation.

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