

**SPATIAL ANALYSIS OF
CRITICAL LEVELS OF THE RECHARGE AREA
IN KOKAP SUBDISTRICTS KULON PROGO REGENCY
SPECIAL REGION OF YOGYAKARTA**

By: Nur Hidayat
Supervised by: Partoyo

ABSTRACT

Subdistrict Kokap is an important recharge area in Kulon Progo Regency whose function needs to be preserved. Spatial analysis can be used to map the distribution of critical conditions in recharge areas. This research aims to map the critical levels of recharge areas in subdistrict Kokap along with the spatial distribution of their respective locations and extents. The data used for analysis are slope, infiltration rain, ground water potential, land cover, soil texture, and infiltration rate. Observations and sampling were carried out purposively based on land unit maps resulting from overlaying maps of slope, soil type, ground water potential, and infiltration rain. Classification of recharge area conditions is carried out based on criteria according to PERMEN LHK No. 10 of 2022 concerning general planning on forest and land rehabilitation watershed (RURHL-DAS). The research results found that subdistrict Kokap has several levels of recharge area condition, including good (covering 4,680.76 ha or 68,17%); initially critical (1,256.38 ha or 18.30%); moderately critical (538.02 ha or 7.84%); critical (296.88 ha or 4.32%); and naturally normal condition (93.89 ha or 1.37%).

Keywords: *spatial analysis, recharge area, critical condition*