

**Effects of Land Use Changes to Hydrogeology Condition of Northern Part
Cikapundung Rivershed
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Many investigations have been conducted in the upstream part of Cikapundung rivershed over last 13 years to determine the characteristics of aquifer hydrogeological and land use changes. Land use change in this area is potentially decreasing groundwater resources as result of reduce of recharge. Cikapundung rivershed area plays important role as recharge zone for groundwater in northern part of Bandung Basin. Aquifer of Cikapundung rivershed is composed by quaternary volcanic materials e.g. tuff, volcanic breccia and lava with hydraulic conductivity values range 1.56×10^{-6} - 4.77×10^{-8} m s. Measurements of groundwater level in last 5 years shows that groundwater level are 2 meter decreasing down. Isotopic analysis of groundwater H2 and O18 then strengthen by tritium result indicate that groundwater are classified as submodern mixing new and meteoric water seeped and aged younger than 10 years. Based on the simulation of water balance, the river baseflow discharge give 18.5% of the average river discharge. This study also shows that the baseflow discharge decreased from 0.26 m³ s to 0.16 m³ s with a value Base flow index (BFI) in dry 0.64-0.80 and 0.76-0.93 in the wet season.

