



## **KAJIAN HIDROGEOMORFOLOGI MATAAIR DAERAH ALIRAN SUNGAI (DAS) TLEGUNG KABUPATEN KULONPROGO**

*oleh*

Regina Lexi Narulita  
15/377527/GE/07968

Karakteristik mataair berupa debit, suhu, DHL, TDS, pH, sifat pengaliran, tenaga permunculan mataair dapat dikaitkan dengan kondisi geomorfologi suatu wilayah. Kaitan keduanya merupakan kajian utama pada penelitian ini. Penelitian ini dilakukan di DAS Tlegung yang sebagian besar terletak di Kecamatan Samigaluh dan Kecamatan Kalibawang, Kabupaten Kulonprogo. Tujuan dilakukannya penelitian ini, yaitu untuk menentukan pola distribusi dan karakteristik hidrogeomorfologi mataair di DAS Tlegung serta menganalisis faktor-faktor hidrogeomorfologi yang mengontrol permunculan dan karakteristik mataair.

Metode pengumpulan data yang digunakan, yaitu metode survei untuk mengetahui titik permunculan mataair, mengukur debit mataair, menguji kualitas fisik dan kimia mataair serta memvalidasi hasil interpretasi geomorfologi. Metode lainnya yang digunakan, yaitu pengumpulan data-data sekunder seperti peta RBI, peta geologi, citra, dan sebagainya.

Hasil penelitian menunjukkan bahwa keseluruhan mataair yang dikaji merupakan mataair perennial dan mataair gravitatif dengan tipe mataair depresi, kontak, dan retakan. Debit mataair di DAS Tlegung terklasifikasi dalam kelas Q3 (10-100 liter/detik) hingga kelas Q5 (<1 liter/detik). Daya Hantar Listrik (DHL) mataair seluruhnya tergolong dalam klasifikasi EC1 (air tawar) dengan rata-rata 229,24  $\mu$ mhos/cm, sedangkan nilai rata-rata TDS mataair, yaitu 116,09 mg/L. Nilai DHL dan TDS mataair di bagian hulu cenderung lebih rendah daripada nilai DHL dan TDS mataair di bagian tengah dan hilir. pH mataair berkisar antara 5,4 hingga 7,96 yang termasuk pH normal atau netral. Sementara itu, temperatur mataair di DAS Tlegung berkisar antara 24,5°C hingga 29,7°C, terklasifikasikan menjadi dua, yaitu temperatur  $t_1$  dan temperatur  $t_{2+}$ . Faktor hidrogeomorfologi yang mengontrol permunculan dan karakteristik mataair, antara lain kontak batuan antara batuan vulkanik tua dan batuan gamping, struktur retakan yang banyak ditemukan pada batuan breksi andesit, dan perubahan kelas lereng antara kemiringan lereng 13-20% dan 20-55% serta 20-55% dan 55-140%.

**kata kunci:** mataair, geomorfologi, hidrogeomorfologi, DAS Tlegung



***STUDY OF HYDROGEOMORPHOLOGICAL SPRINGS  
IN TLEGUNG WATERSHED  
KULONPROGO REGENCY***

by

***Regina Lexi Narulita  
15/377527/GE/07968***

*The spring characteristics such as spring discharge, temperature, EC, TDS, pH, springs stream character, and emergence type of springs can be linked to geomorphology in some areas. This research was conducted in Tlegung Watershed, which is mostly located in Samigaluh and Kalibawang District, Kulonprogo Regency. The purposes of this study are to determine the springs distribution pattern and the springs hydrogeomorphology characteristics, also to analyze the hydrogeomorphological factors which control the springs' appearance and characteristics.*

*Data collection method which used in this research is survey method to determine the point of spring appearance, measure spring discharge, test springs' physical and chemical quality, and validate geomorphological interpretation. The other method which used is collecting secondary data from institution such as RBI maps, geological maps, satellite imagery, etc.*

*The result showed that all springs in Tlegung Watershed classified as perennial springs and gravitational springs with depression, contact, and structure springs type. Springs discharge in the Tlegung Watershed are classified in Q3 class (10-100 liters/sec) to Q5 class (<1 liter/sec). Electric Conductivity (EC) of all springs are classified in the EC1 (fresh water) with an average of 229,24, whereas the average value of TDS is 116,09 mg/L. The value of EC and TDS in the upstream watershed tend to be lower than the value of EC and TDS in the middle and downstream watershed. The pH of springs ranges from 5,4 to 7,96 which is classified as normal or neutral pH. Meanwhile, the springs' temperature in Tlegung Watershed ranges from 24,5°C to 29,7°C, classified into two classes,  $t_1$  (normal) temperature and  $t_{2+}$  (hot) temperature. Hydrogeomorphological factors that control the appearance and characteristic of springs, including rock contact between old volcanic rocks and limestone, crack structures found in andesitic breccia rocks, and slope class changes between slope 13-20% and 20-55% and 20-55% and 55-140%.*

***keywords:*** spring, geomorphology, hydrogeomorphology, Tlegung Watershed