ABSTRAK

Infiltrasi adalah komponen penting dari siklus hidrologi dimana limpasan permukaan dan pengisian air tanah saling berhubungan. Laju infiltrasi dan kemampuan maksimum infiltrasi akan berbeda untuk karakteristik dan kondisi tanah. DAS Code merupakan salah satu area yang terdampak abu vulkanik Merapi sehingga akan berpengaruh terhadap kemampuan infiltrasi suatu daerah. Penelitian ini bertujuan untuk melakukan penkajian terhadap perbandingan laju infiltrasi sepanjang wilayah DAS Code dengan 2 metode yang berbeda. Dalam penelitian ini, pengukuran laju infiltrasi lapangan menggunakan metode *double ring infiltrometer*. *Double ring infiltrometer* ini memiliki tinggi 500 mm, diameter cincin dalam 300 mm dan diameter cincin luar antara 450 mm sampai dengan 600 mm, terbuat dari besi, baja atau logam campuran setebal 3 mm dengan ujung bawah diruncingkan. Untuk menganalisis laju infiltrasi digunakan persamaan Horton dan Green-Ampt. Hasil dari analisis ini kemudian dipetakan dengan bantuan software *ArcMap* berupa metode infiltrasi yaitu: Kriging dan *FAO*. Berdasarkan hasil analisis metode Horton memiliki nilai rata-rata infiltrasi sebesar 18,27 cm/jam dan model Green-Ampt 10,42 cm/jam. Kedua model Analisis perbandingan model Horton dan Green-Ampt baik untuk memperkirakan laju infiltrasi karena sangat mendekati dengan data infiltrasi lapangan.

Kata-kata kunci: Infiltrasi, *double ring infiltrometer*, Horton, Green-Ampt

ABSTRACT

Infiltration is an important component of the hydrological cycle where surface runoff and groundwater filling are interconnected. Infiltration rates and infiltration maximum capabilities will be different for soil characteristics and conditions. The watershed code is one of the areas affected by Merapi volcanic ash so that it will affect the infiltration ability of an area. This study aims to assess the comparison of infiltration rates along the watershed area with 2 different methods. In this study, measuring the infiltration rate of the field using the double ring infiltrometer method. The double ring infiltrometer has a height of 500 mm, an inner ring diameter of 300 mm and an outer ring diameter of 450 mm up to 600 mm, made of iron, steel or mixed metal 3 mm thick with a tapered lower end. To analyze the infiltration rate, Horton and Green-Ampt equations were used. The results of this analysis are then mapped with the help of ArcMap software in the form of infiltration methods, namely: Kriging and FAO. Based on the results of the Horton method analysis, the average infiltration value is 18.27 cm / hour and the Green-Ampt model is 10.42 cm / hour. Both models Comparative analysis of Horton and Green-Ampt models are good for estimating infiltration rates because they are very close to field infiltration data

Key words : Infiltration, double ring infiltrometer, Horton, Green-Ampt