

**PREDIKSI EROSI DAN PENGUKURAN SEDIMENTASI DI
SUB DAS GAYO DAS ARAU KOTA PADANG**

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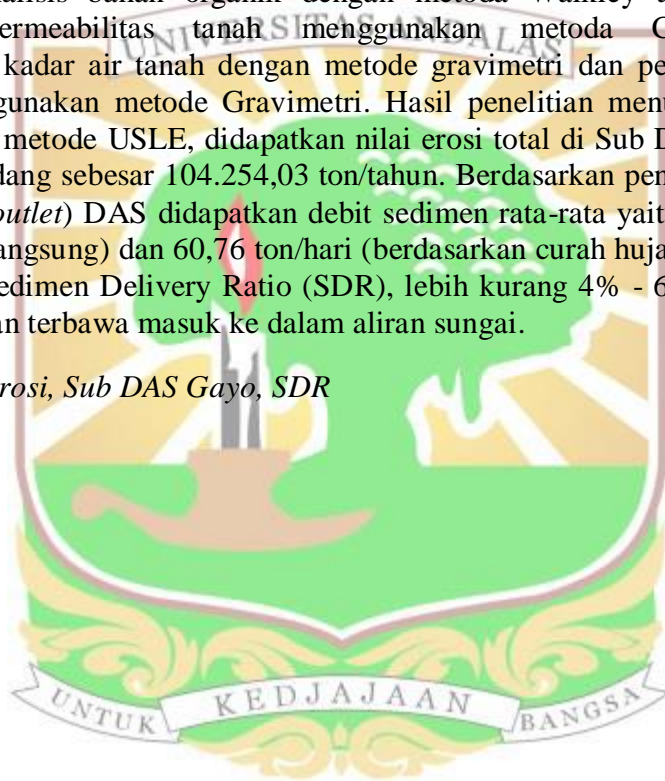
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PREDIKSI EROSI DAN PENGUKURAN SEDIMENTASI DI SUB DAS GAYO DAS ARAU KOTA PADANG

Abstrak

Penelitian tentang prediksi erosi dan pengukuran sedimentasi telah dilaksanakan di Sub DAS Gayo DAS Arau Kota Padang. Tujuan dilakukan penelitian ini adalah untuk menduga besarnya erosi dan sedimentasi yang terjadi pada sub DAS Gayo, DAS Arau Kota Padang. Penelitian ini telah dilaksanakan dari Oktober 2017 hingga September 2018 di lapangan dan di Laboratorium Jurusan Fisika Tanah Universitas Andalas. Penelitian ini menggunakan metoda survey dengan pengambilan sampel secara purposive random sampling di 10 satuan lahan. Pengamatan di laboratorium meliputi analisis tekstur tanah dengan metoda ayak dan pipet, analisis bahan organik dengan metoda Walkley and Black, dan penetapan permeabilitas tanah menggunakan metoda Constant Head Permeameter, kadar air tanah dengan metode gravimetri dan pengukuran kadar lumpur menggunakan metode Gravimetri. Hasil penelitian menunjukkan dengan menggunakan metode USLE, didapatkan nilai erosi total di Sub DAS Gayo DAS Arau Kota Padang sebesar 104.254,03 ton/tahun. Berdasarkan pengamatan di titik pengamatan (*outlet*) DAS didapatkan debit sedimen rata-rata yaitu 38,26 ton/hari (pengukuran langsung) dan 60,76 ton/hari (berdasarkan curah hujan). Berdasarkan perhitungan Sedimen Delivery Ratio (SDR), lebih kurang 4% - 6,4% tanah yang tererosi di lahan terbawa masuk ke dalam aliran sungai.

Kata kunci : *Erosi, Sub DAS Gayo, SDR*



PREDICTION OF EROSION AND SEDIMENTATION MEASUREMENT IN SUB DAS GAYO DAS ARAU PADANG CITY

Abstract

Research on prediction of erosion and sedimentation measurements have been conducted at Sub DAS Gayo DAS Arau Padang city. The purpose of this research was done to infer the magnitude of erosion and sedimentation occur in sub Gayo, DAS DAS Arau Padang city. This research has been carried out from October 2017 until September 2018 on the field and in the laboratory of Soil Physics Department University of Andalas. This study used a survey method with sampling purposive random sampling basis at 10 units of land. Observations in the laboratory include soil texture analysis with the method of sift and the Eyedropper, analysis of organic materials with Walkley and Black method, and the determination of the permeability of the soil using the method of Constant Head Permeameter, the moisture content of the soil with the method gravimetric analysis and measurements of the levels of the mud using the gravimetric method. Results of the study showed using USLE, obtained the value of the total erosion in DAS Gayo DAS Arau Padang city of 104,254.03 tons/year. Based on observations at the point of observation (outlet) DAS obtained average sediment discharge i.e. 38.26 tons/day (direct measurement) and 60.76 tons/day (based on rainfall). Calculation based on SDR (Sediment Delivery Ratio), much less 4% - 6.4% soil eroding land brought entry into the flow of the river.

Key words: *Erosion, Sub DAS Gayo, SDR*

