



**VARIABILITAS SPASIAL KARBON ORGANIK TANAH DI DAS BENDO,
KABUPATEN BANYUWANGI, PROVINSI JAWA TIMUR**

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INTISARI

Daerah Aliran Sungai (DAS) Bendo berada di lereng tenggara kompleks Gunungapi Ijen dengan bentuklahan dan penutup lahan yang bervariasi. Penelitian bertujuan menggambarkan pengaruh bentuklahan dan penutup lahan terhadap variabilitas spasial karbon organik tanah di DAS Bendo. Penelitian juga bertujuan untuk menghitung kandungan karbon organik tanah total di DAS Bendo.

Data dikumpulkan melalui survai lapangan dan pengujian laboratorium. Sampel diambil berdasarkan stratifikasi satuan lahan hasil *overlay* penutup lahan dengan bentuklahan. Kandungan karbon organik tanah dihitung pada kedalaman 30 cm. Analisis pengaruh bentuklahan dan penutup lahan terhadap variabilitas spasial karbon organik tanah di DAS Bendo menggunakan metode statistik deskriptif dan analisis spasial.

Hasil penelitian menunjukkan distribusi spasial karbon organik tanah di DAS Bendo dipengaruhi oleh karakteristik bentuklahan dan penutup lahan. Elevasi, proses eksogenik, erupsi vulkanik, dan karakteristik material tanah mempengaruhi kandungan karbon organik tanah. Penutup lahan dengan vegetasi yang rapat dan tidak mengalami pengolahan lahan mempunyai kandungan karbon organik tanah yang tinggi. Kandungan karbon organik tanah total di DAS Bendo adalah 189,749.78 ton.

Kata kunci: karbon organik tanah, variabilitas spasial, DAS Bendo, Gunungapi Ijen.



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SPATIAL VARIABILITY OF SOIL ORGANIC CARBON IN BENDO WATERSHEED, BANYUWANGI, EAST JAVA PROVINCE

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ABSTRACK

Bendo watershed is located in southeast slopes of Ijen volcanic complex which has several landform and land cover. The study aims to describe the effects of landforms and land covers to soil organic carbon spatial variability. The research also aims to calculate the total soil organic carbon content in Bendo watershed.

Data were collected through field surveys and laboratory tests. Samples were taken based on land unit. Land units created from landforms and land cover overlay. Soil organic carbon content is calculated at a depth of 30 cm. Analysis of the influence of landform and land cover spatial variability of soil organic carbon in Bendo watershed using descriptive statistics and spatial method.

The results showed that spatial distribution of soil organic carbon in Bendo watershed influenced by the characteristics of the landform and land cover. Elevation, eksogenic processes, volcanic eruptions, and soil characteristics affect soil organic carbon contents. Land cover with dense vegetation and not cultivated has high soil organic carbon contents. Total of soil organic carbon contents in Bendo watershed is 189,749.78 ton.

Keyword: soil organic carbon, spatial variability, Bendo watershed, Ijen volcano.