

Pengembangan model penilaian bahaya banjir berdasarkan analisis kejadian bencana banjir di kabupaten sampang : studi kasus daerah aliran sungai kemuning = Development of flood hazard assessment model based on analysis of flood event in sampang regency, madura : case study kemuning watershed

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Abstrak

ABSTRAK

Permasalahan bencana banjir tidak hanya dipengaruhi oleh fenomena alam yang ekstrim saja, tetapi juga dipengaruhi oleh kondisi kerusakan lingkungan, fenomena sosial masyarakat serta kebijakan pemerintah dalam upaya mengurangi risiko banjir. Strategi upaya mengurangi risiko banjir dapat dilakukan secara tepat dengan melakukan penilaian risiko banjir meliputi penilaian bahaya, kerentanan dan kapasitas. Penelitian ini bertujuan untuk mengembangkan model penilaian bahaya banjir berdasarkan data kejadian bencana banjir di DAS Kemuning Sampang Madura. Metode penilaian bahaya banjir terdiri dari 2 (dua) antara lain metode indeks topografi modifikasi dan metode kombinasi Geomorphic Flood Index (GFI) dan metode Height Above the Nearest Drainage (HAND). Indeks bahaya banjir dibagi menjadi 3 kelas yaitu rendah (indeks bahaya < 0,333), sedang (indeks bahaya: 0.333 - 0.666), tinggi (indeks bahaya > 0,666). Hasil Indeks Bahaya Banjir model indeks topografi modifikasi diperoleh luas bahaya banjir sebesar 6459 hektar (24%) indeks bahaya tinggi, 8329 hektar (31%) indeks bahaya sedang, dan 11882 hektar (45%) indeks bahaya rendah. Sedangkan hasil Indeks Bahaya Banjir model kombinasi GFI dan HAND luas bahayanya sebesar 1402 hektar (44%) indeks bahaya tinggi, 1271 hektar (40%) indeks bahaya sedang, 504 hektar (16%) indeks bahaya rendah. Model penilaian bahaya banjir metode kombinasi GFI dan HAND disimpulkan memiliki hasil yang sebagian besar mewakili kejadian sebenarnya di Kabupaten Sampang serta mampu mengakomodir model penilaian bahaya banjir sesuai ketentuan pada Perka BNPB No. 2 Tahun 2012 yaitu menggunakan parameter potensi ketinggian genangan, sehingga direkomendasikan sebagai model penilaian bahaya banjir tingkat Kab/Kota berdasarkan data kejadian (histori) banjir.

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ABSTRACT

The problem of floods event is not only affected by extreme natural phenomena, but also influenced by conditions of environmental damage, social phenomena and government policies in efforts to reduce floods risk. The strategy to reduce flood risk can be done appropriately with conducting flood risk assessments including hazard assessment, vulnerability and capacity. This study aims to develop a flood hazard assessment model based on historical data on flood event in Kemuning watershed, Sampang-Madura. The flood hazard assessment method consists of 2, including the modified topographic index (MTI) method and the combination of the geomorphic flood index (GFI) method and the height above the nearest drainage (HAND) method. The disaster hazard level is divided into 3 classes, namely low (hazard index < 0.333), medium (hazard index: 0.333 - 0.666), high (hazard index > 0.666). The result is a flood hazard index using modified topographic index models that with details of 1182 hectare (24%) high level,

8329 hectare (31 %) medium level, 11882 hectare (45%) low level. While the result is a flood hazard index using GFI and HAND Combination models that with details of 1402 hectare (44%) high level, 1271 hectare (40 %) medium level, 504 hectare (16 %) low level. The flood hazard assessment model of the GFI and HAND combination method is concluded to have results that largely represent the actual events in Sampang Regency and are able to accommodate the flood hazard assessment model according to the provisions of Perka BNPB No. 2 of 2012, namely using parameters of potential inundation height, so it is recommended as a flood hazard assessment model at the district /city level based on the event data (history) of floods.