

Identifikasi wilayah kekeringan pertanian dengan metode Vegetation Health Index (VHI) di Kabupaten Indramayu, Jawa Barat = Identification of agricultural drought using Vegetation Health Index (VHI) Method in Indramayu Regency, West Java

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Abstrak

Kabupaten Indramayu merupakan salah satu sentra padi Jawa Barat dengan 56 % wilayahnya berupa sawah. Namun beberapa tahun terakhir produktivitas padi berkurang karena terjadinya bencana kekeringan akibat musim kemarau panjang. Dinas Pertanian Kabupaten Indramayu mencatat bahwa pada tahun 2012, 2015 dan 2018 lahan sawah mengalami gagal panen yang disebabkan kekeringan sangat berat.

Tujuan penelitian ini untuk mengetahui persebaran wilayah kekeringan pertanian lahan sawah tahun 2012, 2015 dan 2018 serta hubungannya dengan curah hujan, kemiringan lereng dan ketinggian di Kabupaten Indramayu. Indeks kekeringan VHI Vegetation Health Index digunakan untuk mengetahui persebaran wilayah kekeringan lahan pertanian. VHI merupakan kombinasi indeks VCI Vegetation Condition Index dan TCI Temperature Condition Index yang diperoleh dari pengolahan data NDVI Normalized Difference Vegetation Index dan LST Land Surface Temperature Citra Landsat 7 dan 8.

Hasil pengolahan indeks VHI menunjukkan persebaran wilayah yang tidak mengalami kekeringan hingga kekeringan sangat berat pada wilayah pesisir pantai Kabupaten Indramayu. Sedangkan kategori tingkat kekeringan ringan berada pada wilayah barat bagian utara dan tengah Kabupaten Indramayu. Berdasarkan hasil uji statistik, terdapat hubungan yang signifikan antara curah hujan dengan kekeringan pada tahun pengamatan 2012, 2015 dan 2018. Sedangkan ketinggian dan lereng tidak ada hubungan signifikan dengan kekeringan.

.....Indramayu Regency is one of the rice centers in West Java with 56 % of its area is rice fields. But in recent years rice productivity has been reduced due to drought that occurred in Indramayu Regency that caused by a shift of the beginning season and a long dry season. The Indramayu District Agriculture Office noted that in 2012, 2015 and 2018 paddy fields experienced crop failures due to very heavy drought. The purpose of this study was to determine the distribution of 2012, 2015 and 2018 wetland agricultural drought areas and their relationship with rainfall in Indramayu Regency. The VHI drought index Vegetation Health Index is used to determine the pattern of distribution of the drought area of agricultural land. VHI is a combination of VCI Vegetation Condition Index and TCI Temperature Condition Index derived from NDVI data processing Normalized Difference Vegetation Index, LST Land Surface Temperature of Landsat 7 and 8 images.

The processing results of the VHI index show the distribution of drought levels no drought to extreme drought, where in 2012, 2015 and 2018 the distribution of drought in agricultural land has the same pattern, which is dominated by the coastal areas of Indramayu Regency due to the influence of less rainfall. While the level of mild drought is in the western and center regions of Indramayu Regency. Based on the results of statistical tests, there is a significant relationship between rainfall and drought in 2012, 2015 and 2018. Whereas altitude and slope dont have relationship with drought.