A COPULA APPROACH TO CONSTRUCT VULNERABILITY RICE PUSO MAPS IN EAST JAVA WITH EL-NINO SOUTHERN OSCILLATION (ENSO) INDICATOR

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Abstract
This final project describes about identification of relationship between ENSO indicator and rice puso vast in some of East Java regency with Copula method. The results are used to construct vulnerability rice puso maps. Copula method is used, because relationship between ENSO indicator and rice puso vast don’t follow Normal distribution. This research is done in 5 regency, e.g. Bojonegoro, Lamongan, Jember, Ngawi, and Banyuwangi. The results of this research show that Pearson correlation analysis can’t be used to identify relationship between ENSO indicator and rice puso vast in East Java and the 5 regency. The other conclusion show that dependence structure between ENSO indicator and rice puso vast in East Java and Banyuwangi follow Gumbel Copula. In Bojonegoro, dependence structure between ENSO indicator SST Nino Anomaly 1+2, SST Nino 3, SST Nino 4 and rice puso vast follow Gumbel Copula, SST Nino Anomaly 3.4 with rice puso vast follow Frank Copula, In Lamongan and Jember don’t follow any Copula. In Ngawi, dependence structure between SST Nino Anomaly 4, SST Nino Anomaly 3.4 follow Gumbel Copula. Based of Copula analysis, Bojonegoro, Banyuwangi and Ngawi vulnerable rice puso, while Lamongan and Jember don’t vulnerable rice puso.

Key words: Rice Puso Vast, ENSO, Copula