DISASTER ANALYSIS OF LIGHTNING STRIKE DENSITY BASED ON LANDFORM FOR REDUCING VICTIMS IN WONOSOBO, INDONESIA

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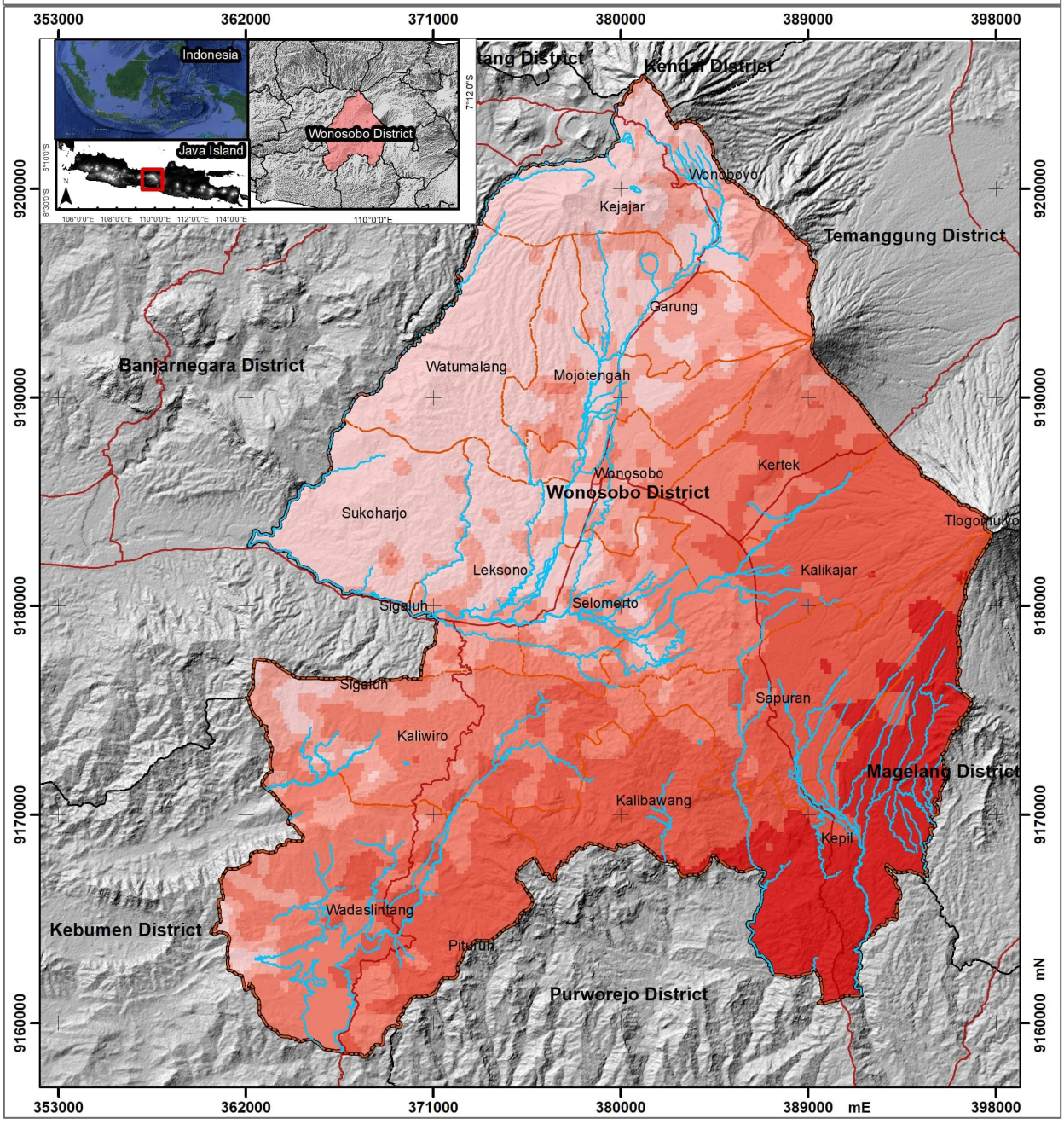
Wonosobo regency is a region with diverse configuration landforms. The morphological and material aspects of the landform different responses to the lightning strike density. The incident of lightning strikes in Wonosobo Regency has negative impacts on people, buildings, and environment. Therefore, a lightning strike density analysis is important to minimize the negative impact of lightning strikes. This study aims to determine the condition of landform, analyze the relationship of lightning strike density and the landform, to know the risk of a lightning strike and give a recommendation of mitigation to reduce the negative impacts caused lightning strike. The research was conducted in Wonosobo Regency, Central Java Province. The data used are lightning strike type Cloud to Ground (CG) on 2015 - 2017 obtained from BMKG Yogyakarta station. Data is processed using ArcGIS 10.3 software with Kernel Density modeling and analyzed quantitatively-qualitative. Lightning strike density in Wonosobo shows a lower pattern from the southeast to the northwest. Wonosobo's landforms are volcanic and structural. Structural landform in Wonosobo Regency is anticlinal mountains with a strong or moderate incision that has the highest lightning strike density. The condition of the lithology of Wonosobo Regency dominated by Breccia, Lava and Tuff rocks that effect on the number of lightning strikes, because it has a low resistivity value (conductor). Kepil District and Wonosobo District are areas that have the highest risk of lightning strikes. Some mitigation activities that can be applied to reduce the risk of losses and death are installing a lightning rod, unplug the cable of electronic device inside the house during a lightning strike and immediately ending the outdoor activities when Cumulonimbus clouds begin to appear, and protect yourself by going into permanent buildings.

Keywords: Landform, Cloud to Ground, Wonosobo Regency, Risk, Lightning Strikes

LIGHTNING STRIKE DENSITY MAP IN WONOSOBO DISTRICT 2017



Legend

- Road
- River
- Subdistrict Border
- District Border

N

0 2 4 Km

Scale 1: 250.000

Density Class (in hectar)

Very Low	< 4.020
Low	4.021 - 5.303
Medium	5.306 - 8.330
High	8.331 - 15.435
Very High	15.436 - 32.138

Projection System : Transvers Mercator
Coordinate System : UTM
Datum : WGS 1984 Zone 49S
Source : 1.Lightning Strike Data's in Wonosobo District 2017 (Yogyakarta BMKG Station)
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