Remote Sensing Images for Estimation of Distribution Geothermal Resources Information

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Abstract

Geothermal energy is one of the renewable power source which can be an alternative to the increasingly more scarce fossil fuel. Indonesia, which is located at the ring of fire, has an abundant potential for geothermal energies. The potential of this energy reaches 40% of the total potential that exists around the world which has been exploited. To investigating the geothermal energy potential, remote sensing (RS) technique has been played an important role which it can be used to measuring land surface temperature (LST). The results indicate that the maximum land surface temperature ranged value from 28.1°C to 32.59 °C. It can be observed from the image in Landsat-8 OLI/TIRS and DEM SRTM that northwest and south-eastern parts exhibit high temperature. Some of the area with higher temperature zones distribution are located in Solok, Agam and Pasaman.

Keywords: Remote sensing, LST, Landsat-8 OLI/TIRS, DEM SRTM