Spatial-temporal variability of vegetation health during el niño 2015/2016 and la niña 2017/2018: a case study of Sarawak

ABSTRACT

The El Niño incident in 2015/2016 resulted in a 30% decrease in Gross Domestic Product (GDP) mainly from the agricultural sector. This is due to the El Niño incident which contributed to the prolonged drought for 3 months. This prolonged drought disaster has caused the deterioration of plant health due to a decrease in the amount of rainfall. This study examines and analyzes the spatial-temporal dynamics to identify and delineate the vegetation stress zones in Sarawak. In achieving the objectives of this study Vegetation Health Index (VHI) has been used in studying the changes in monthly space due to changes in Oceanic Niño Index (ONI). This study only focuses on the two occurrences of El Niño in 2015/2016 and La Niña in 2017 and 2018 because the Visible Infrared Imaging Radiometer Suite (VIIRS) data only started operations in 2013 until now. The results of this study offer the discovery of the effect of La Niña on plant health. Indirectly, this study can provide information on which areas of the district are severely affected by the occurrence of La Niña and El Niño on plant health.