

Remote sensing derivation of land surface temperature for insect pest monitoring

ABSTRACT

Temperature has major influence in insect development and outbreak. At present, the common method of collecting temperature information mainly relies on ground weather stations. However, this method is unfeasible for a large-scale area as weather stations distributions are sparse. This, however, can be compensated by the temperature measured through remote sensing satellites known as Land Surface Temperature (LST). Hence, this paper reviews the advantages and disadvantages of Thermal Infrared (TIR) and Microwave (MW) sensors for the acquisition of LST. This review will focus on the availability, suitability and adaptability of those sensors in providing LST for insect pest monitoring with the comparison being concentrated on their spatial and temporal characteristics, along with their accuracies.

Keyword: Land surface temperature; Thermal infrared; Microwave infrared; Pest outbreak monitoring; Sensor characteristics