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Editorial

Remote Sensing And its Application in Agriculture

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INTRODUCTION

Hearing is the process of obtaining information about the earth's surface by measuring its reflected and emitted rays without direct contact with the object. In most distant sightings, this process involves the interaction between event radiation and the intended purpose (Figure 1) The most effective electromagnetic radiation for remote sensing involves visible light (VIS), near infra red (NIR) and infwared infrared (SWIR).)), in infrared (TIR) and microwave bands (Figure 2). Sensitive remote sensors record the event radiation reflected or emitted from objects while the active sensors emit their rays, meet the target to be investigated and return to the measuring instrument.

REMOTE SENSING IN AGRICULTURE

A recent FAO project report states that global population growth will reach 9.15 billion by 2050, which would require current food production to increase by 60%. Numerous efforts continue to increase overall production to feed the growing population by increasing productivity efficiency such as high agriculture, efficient water use, and a wide variety of high- yield products. Agricultural production follows strong seasonal patterns related to the plant life cycle. Production also depends on the physical environment (e.g., soil type), as well as the variability of climate driving and agricultural management practices. All of these variables vary greatly in space and time. In addition, as production may change in the short term, due to increasing unfavorable conditions, agricultural monitoring systems should be a real-time high-yield producer. Therefore, the use of remote sensitivity is important in monitoring agricultural field, plant and soil health, water management and quality, and atmospheric conditions by emphasizing productivity.

For the past two decades, remote sensing techniques have been used to assess agricultural applications such as crop bias, crop estimates, crop condition assessments, soil moisture measurements, crop yields, direct agriculture, soil survey, agricultural water management, agricultural and agricultural agricultural advice. The use of remote sensitivity in agriculture, meaning that in plants and soils is extremely complex due to the high density of organic matter and soil (Myers, 1983). However, remote sensing technology offers many advantages over traditional methods of agricultural resource testing. Benefits include (a) parallel viewing power,

(b) rapid exploration capability, (c) repetitive cover power to detect change, (d) low cost involvement, (e) high accuracy, and, (f) hyperspectral data usage for additional information .

As mentioned, there are many applications for remote sensing in the agricultural sector. Below is a summary of these applications.

1.Crop production forecasting: Remote hearing is the discovery of information about an object or thing without making any connection with that object. It is a situation with many applications that include photography, exploration, geology, forestry and much more. But in the agricultural sector where remote sensors have found significant use. There are many uses for remote sensing in the agricultural sector. Below is a summary of these applications.

2.Assessment of crop damage and crop progress: Long-term sensors are used to predict expected crop production and production in a given area and determine how much yield will be harvested under certain conditions. Investigators can predict the amount of crop to be produced on a given farm over a period of time.

3.Horticulture, Cropping Systems Analysis: In the event of crop damage or crop development, remote sensing technology can be used to enter the farmland and determine exactly how much of a given yield has been damaged and the progress of the remaining crop on the farm.

4.Crop Identification: Remote sensing technology has contributed to the analysis of various plant-based systems. This technology has been used mainly in the agricultural industry where flower growth processes can be analyzed and forecasts are analyzed.

Remote sensitivity has also played an important role in crop identification, especially in cases where the observed yield is surprising or indicates some abnormal features. Data from the

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plant is collected and taken to labs where various aspects of the plant are studied, including plant culture.

5.Crop acreage estimation: Remote sensing has also played a very important role in estimating the farm where the crop is grown. This is often the most difficult process when done by hand due to the large size of the measured areas.

Planting condition and pressure detection: Remote technology plays an important role in assessing the health status of each plant and how well the crop is resistant to stress. This data is then used to determine crop quality.

6.Identification of planting and harvesting dates: Due to the nature of remote sensing technology, farmers can now use remote sensing to detect a variety of factors including weather patterns and soil types to predict planting and harvesting seasons for each crop.

7.Product yield modeling and estimation: Remote sensing also allows farmers and experts to predict the expected crop yield from a given farm by measuring the quality of the crop and the width of the farm. This is used to determine the overall expected yield of the plant.

Pest identification and infection: Surveillance technology plays an important role in the identification of pests on farms and provides information on proper pest control that will be used to control pests and diseases on the farm.

8.Soil moisture measurement: Soil moisture can be difficult to measure without the help of a remote sensing technology. Remote sensitivity provides soil moisture data and helps in determining the amount of soil moisture which is why a type of plant can be planted in the soil.

9.Irrigation and irrigation management: Remote hearing provides information on soil mass. This information is used to determine whether a particular soil is moist or not and is helpful in planning the irrigation needs of the soil.

10. Soap mapping: Land mapping is one of the most widely used but very important methods of remote sensing. By mapping the soil, farmers can determine which soil is suitable for which crops and which soil needs irrigation and which do not. This information contributes to agricultural accuracy.