



Remote sensing in agriculture: A useful application

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Remote sensing technologies has proved to be a very useful tool in almost every sphere of human life nowadays. Remote sensing in association with GIS and GPS has found a number of myriad of applications in agriculture field also thereby benefiting the common man and also the scientific community. Remote sensing, basically, is the process by which we can have information about an object, area or phenomenon through the analysis of data recorded by a device which is not in physical contact with the same. Remote sensing, has, three basic advantages or characteristics,

Multispectral data, wide synoptic view and repetitive coverage.

Remote sensing, in particular, permits the production of regular sequence of images from approximately the same areas at fixed points in different seasons and the simultaneous production of different kinds of high altitude changes in different bands. Satellite imaging is a multi-spectral, multi-disciplinary and sophisticated technique. Remote sensing technology has been found to be the one of the most useful technologies for various applications in the field of agriculture. Here an attempt has been made to give an outline of the various applications which are as follows,

- Crop acreage estimation.
- Crop production estimation.
- Identification of crop pests and diseases.
- Soil mapping.
- Tree census.
- Crop damage estimation.
- Agricultural zonation
- Groundwater prospecting.
- Monitoring of dynamic characteristics like crop growth.,
- Studying climate change.

- Precision farming .
- Building up database on soil, climate , land characteristics .
- Monitoring deforestation.
- Rainfall prediction.
- Weed identification.
- Creation of global soil map
- **LiDAR for farmers.**
- Vegetative analysis.
- Bioprospecting.
- Crop information system

Crop acreage estimation:

Govt. usually undertakes initiative to estimate the area under different crops on district, state and national level each year which is a very important prerequisite for crop production estimation. The GEO Global Agricultural Monitoring Community of Practice (CoP) was established in 2007 at a meeting at the UN FAO in Rome with an objective of (1). Global mapping and monitoring of changes in distribution of cropland. The community was established with three main objectives: Global mapping and monitoring of changes in distribution of cropland, Global monitoring of agricultural production and Effective early warning of famine. Crop acreage assessment is of particular importance in China where total crop land area is shrinking following the urbanization, directly threatening the policy of grain self-sufficiency.

This study demonstrated the application potential of remote sensing to estimate large crop areas on the North China Plain (NCP). The cropping pattern in this plain comprises two growth seasons per year. The harvest of winter wheat is usually followed by the plantation of maize. Two mapping approaches were applied. One consists of the hard classification of multi-temporal high resolution

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