

Farmer's necessity for climatic requirements for season-wise agriculture crop harvesting – A Perspective Analytics

Abstract

Indian farmers repeatedly face a wide range of challenges to access the right and necessary information on real-time climate requirement for crop harvesting. Information required by farmers based on season for selecting crop and required temperature, humidity, altitude, rainfall etc. Mismatch of any of these parameters has adverse impact on agriculture productivity. The suitable range of temperature and humidity requirement need to maintain and which was naturally differ in season as “Kharif”, “Rabbi” and “Summer”. This completely depends on natural climate condition. The need for timely watering and rainfall is the necessity for crop harvesting to get expected yield. This case study provides an analysis of season and crop based on selected parameters. In this case study we have collected data from the Department of Agriculture & Cooperation and Farmers Welfare, Ministry of Agriculture and Farmers Welfare, Government of India for three seasons, ten different crops, with nine zones for the Maharashtra state. The data processing and visualization done for the crop harvesting and monitoring in real time environment. The selected parameters are Season, Crop Name, Temperature, Humidity, Altitude and Rainfall. This can be analyzed with the help of the R-programming language "raster" package for clustering and assigned a variable to the raster package and then raster can visualize the data through the layout function. Agricultural farmers can therefore collect, compile and analyze real-time climatic requirements for various types of crops. Finally to compute the temperature and humidity in order to estimate the appropriate amount of water usage and rainfall pattern for respective selected crop for harvesting.