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# Retrieving Canopy Chlorophyll Content from Sentinel-2 imagery using Google Earth Engine

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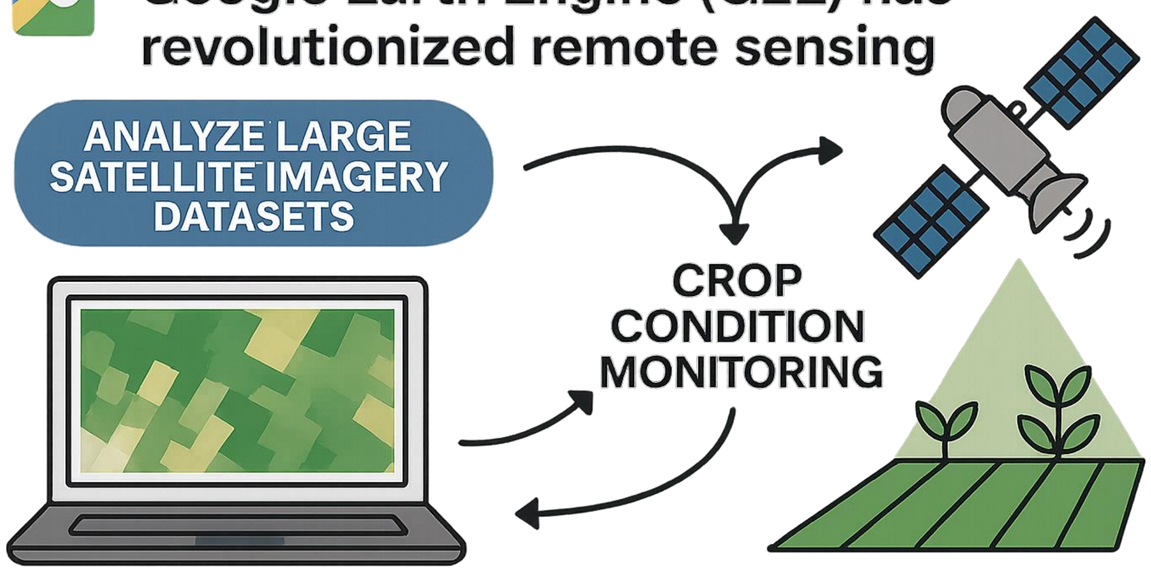
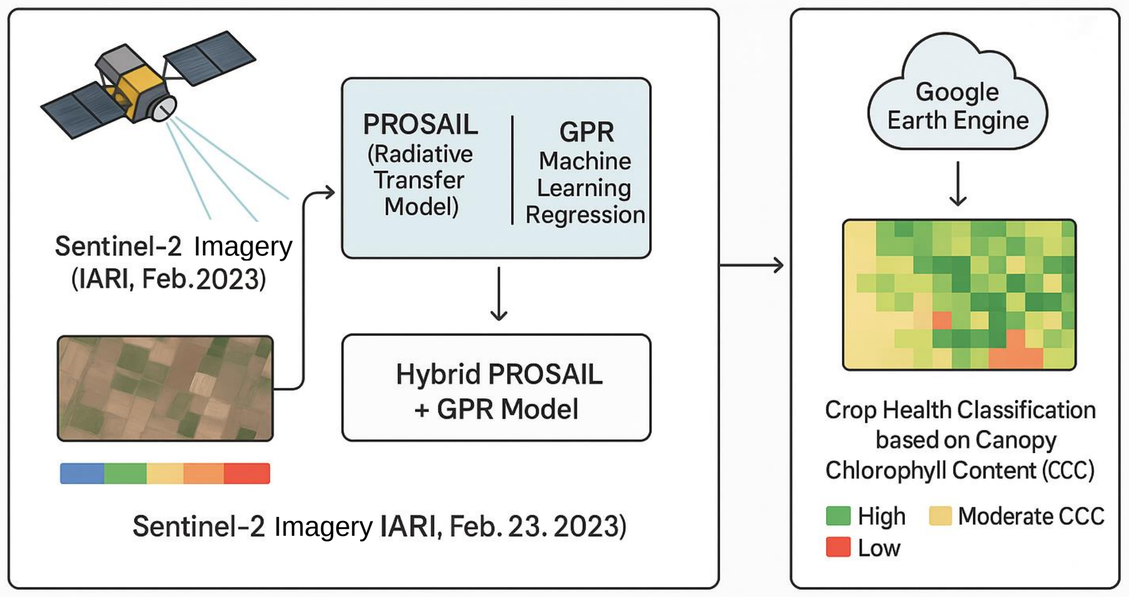
## INTRODUCTION & AIM

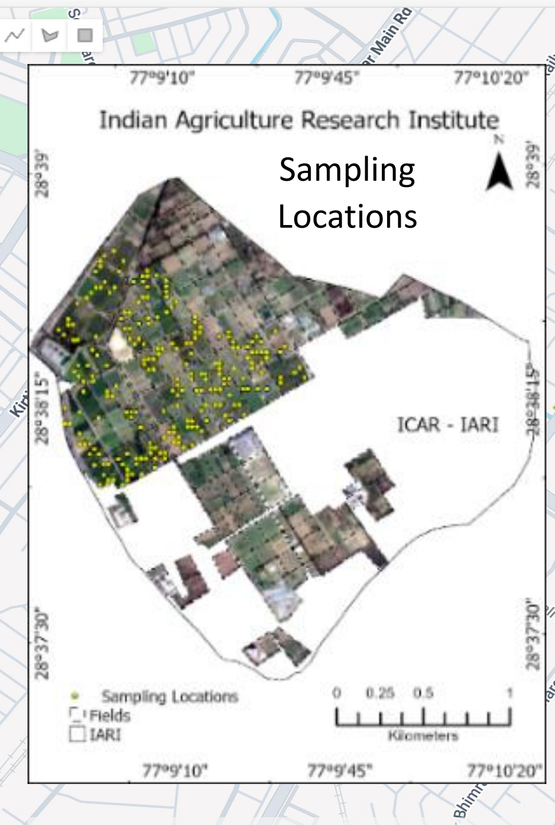
**Google Earth Engine (GEE) has revolutionized remote sensing**

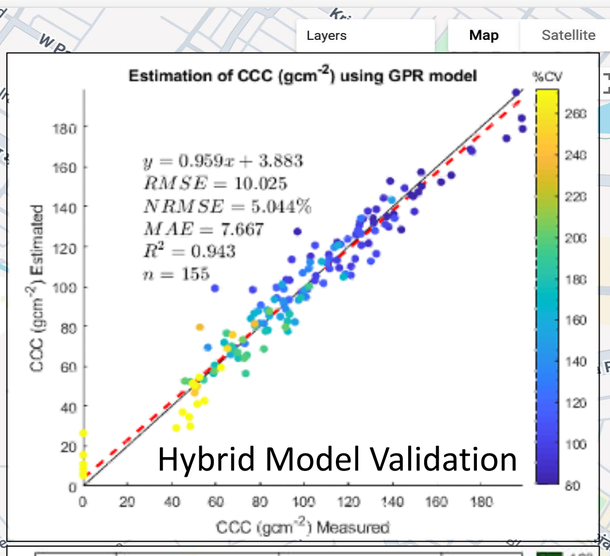


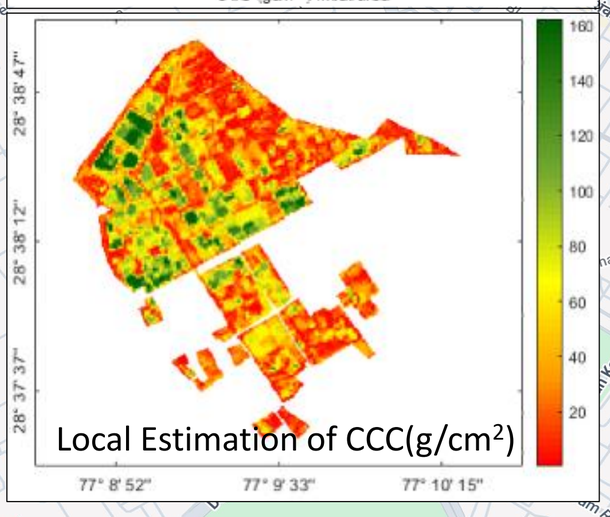

**Estimating canopy chlorophyll content (CCC) is an effective method for monitoring crops through Remote Sensing**

## Methodology: Hybrid PROSAIL + GPR Model Integrated in Google Earth Engine (GEE)

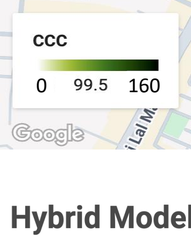


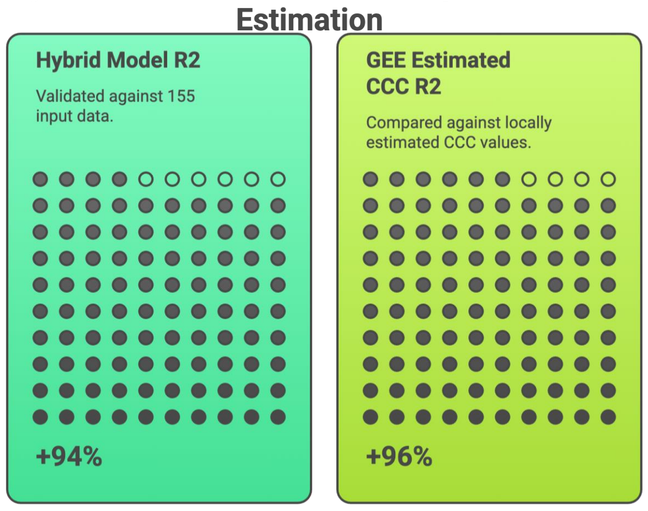




CCC estimation using GEE using the same hybrid model

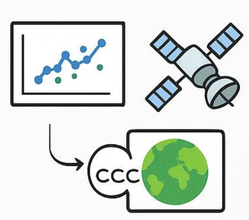



## Hybrid Model Validation for Crop Parameter Estimation

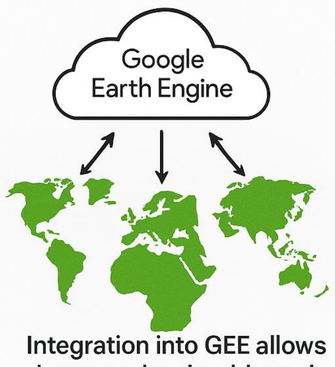



**The hybrid model demonstrates high accuracy and efficiency in estimating crop parameters from remote sensing data, making it a valuable tool for agricultural monitoring and management.**

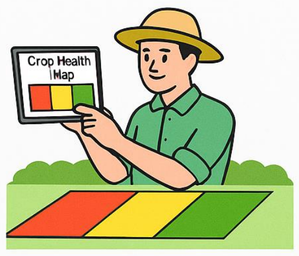
## Conclusion




The hybrid PROSAIL + GPR model accurately estimates canopy chloroh-pyll cont (CCC) using Sentinel-2 imagery



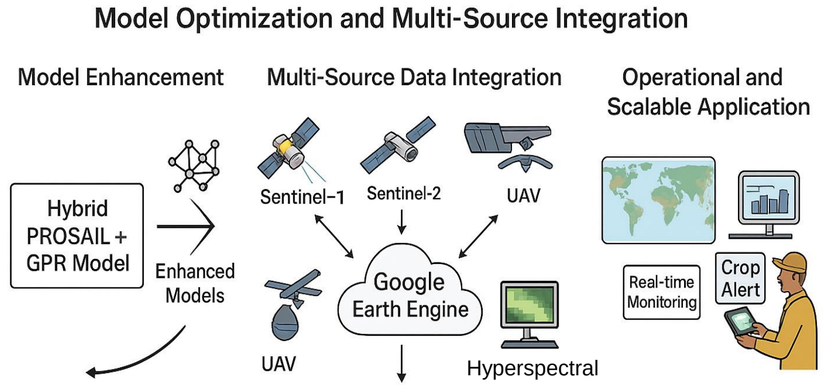

Integration into GEE allows large-scale, cloud-based monitoring across regions and nm




Supports precision agriculture and timely decision-making for sustainable crop management

**GEE-based CCC estimation using PROSAIL + GPR provides an effective and accurate framework for long-term, large-scale vegetation monitoring.**

## Future Work: Advancing GEE-Based Crop Monitoring through Model Optimization and Multi-Source Integration




Future work will focus on enhancing model scalability, integrating diverse data sources, and developing real-time decision support systems for sustainable agriculture