

## **Agricultural Comprehensive Assessment of Landscape and Modeling for Sustainability Analysis and Forecasting Events (CALM-SAFE Agriculture) Program**

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**Abstract:** The CALM-SAFE Agriculture Program devise methods on modeling infestation on various crops. This program aims to develop a comprehensive assessment for agricultural sustainability and forecasting such events like pest infestation and disaster risk in crop insect pest infestation. The programs web mapping facility provides the functionalities that can be used as a decision support system for resource management and other sustainability and monitoring. In order to develop a Decision Support System (DSS), the researchers will develop a stationary insect pest detector for gathering data of insect pest in an area and Geographic Information system (GIS) for data management, spatial analysis, and visualization. The Agricultural Comprehensive Assessment of Landscape and Modeling for Sustainability Analysis and Forecasting Events Program (CALM-SAFE Agriculture) program plays a significant role in assessing the agricultural in the Caraga region. Outputs of the program find valuable in mitigation, prevention, planning, decision-making and management of the resources most importantly in the agricultural sector.

**Keywords:** Decision Support System, Pest Infestation, GIS, Deep Learning.