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Title: Integration of weather forecast and GIS for the weather decision support system

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Abstract:

This work presents a framework for designing a decision support system for Weather forecasting using Real time satellite remote sensing data and numerical weather prediction model. Generally the these data sets are used to capture and monitor micro-climates over the region. Recent developments and advances in the remote sensing and weather prediction models and computing capabilities as well as affordability give rise to this emerging field in the realm of precision agriculture, disaster management etc. The main purpose of this work is to develop an efficient decision support system for the weather forecasting by using numerical models and telemetry system for measuring and storing micro-climates and environmental data to understand the now casting and forecasting using weather forecast models and real time satellite data processing. The data collected is to be used for initializing the weather forecast models that could enhance our understanding about the effects of climate change on different sectors like health, water, agriculture, renewable energy (wind and solar) etc. We propose a system for integration of satellite data and weather forecast model output by developing the database for handling and storing the data real-time. Finally a web based application is being developed to enable remote access to the interactive data retrieval and visualization functionalities and developing the modules for the real dissemination of the forecast product to the user in real time.

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