

[RF-CLASS: a Remote-Sensing-Based Crop Loss Assessment Service System \[1\]](#)

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Abstract:

Flood causes crop damages on a large scale. Correct decisions to mitigate flood-induced crop loss need extended information (time series and different spatial resolution and extend). A survey of user requirements reveals that the USDA National Agricultural Statistics Services (NASS) and the USDA Risk Management Agency (RMA) have been identified as two of the largest users on the flood-induced crop loss information. The former requires statistics of crop loss assessment after all flood events in the United States of America. The latter needs time series of flood assessment to make correct decisions in crop insurance management. To meet the requirements of both agencies, a system of service-oriented services has been designed and developed for better disseminating and providing much needed decision-support information. Geospatial Web services are adopted as the fundamental components. Standard and specifications are the glue to support interactions and integrations among loose-coupled components to form a unified system. Standard geospatial Web services include those following OGC specifications: Web Coverage Service (WCS) for data/product servicing, Web Map Service (WMS) for data presentation, Web Feature Service (WFS) for geographic features, and Web Processing Services (WPS) for data processing and analysis. The system consists of four functional modules to provide monthly and annually flood statistics, crop condition profiles, flood duration/frequency, and crop loss. The latency of information production is reduced by establishing live workflows from Earth Observations (EO) to flood duration and frequency and crop condition profiles.

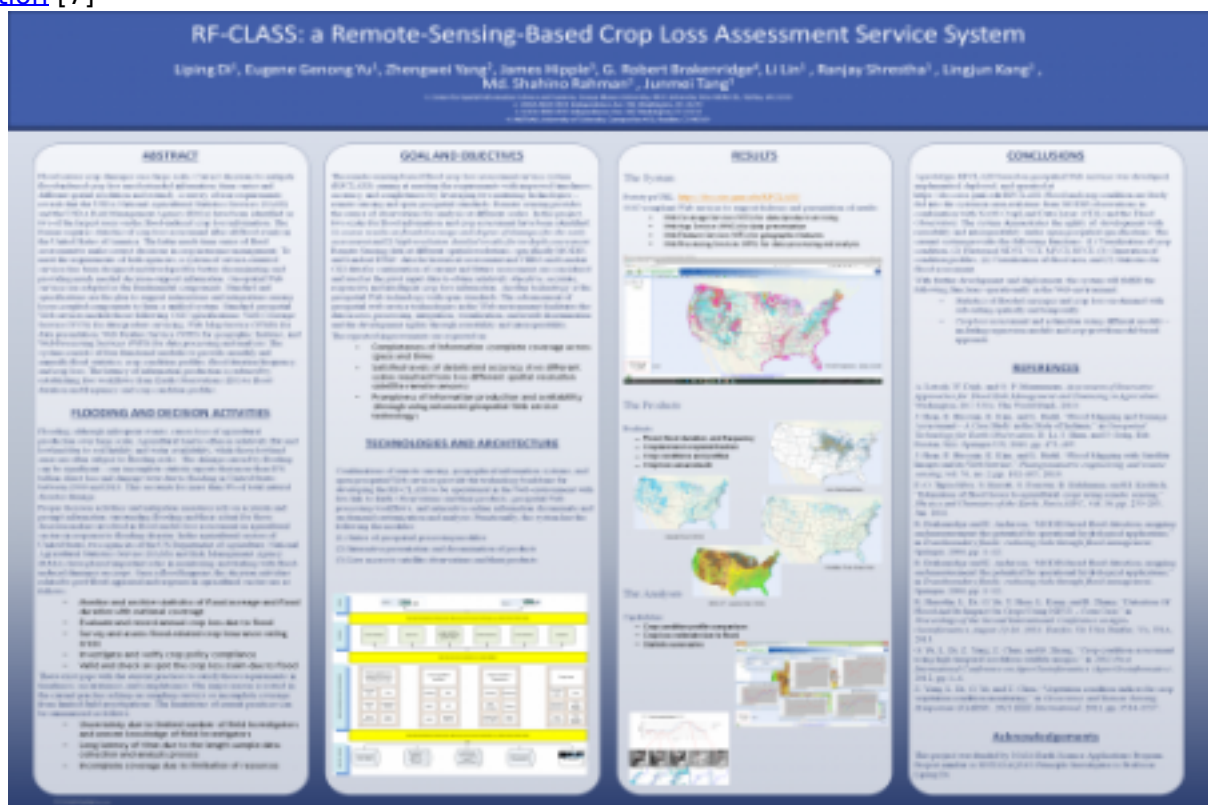
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