# Land Information Sensor Web

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Objective

This project will develop a prototype Land Information Sensor Web (LISW) by integrating the Land Information System (LIS) in a sensor web framework. Through continuous automatic calibration techniques and data assimilation methods, LIS will enable on-the-fly sensor web reconfiguration to optimize the changing needs of science and solutions. This prototype will be based on a simulated interactive sensor web, which is then used to exercise and optimize the sensor web - modeling interfaces. In addition to providing critical information for sensor web design considerations, this prototype would establish legacy for operational sensor web integration with modeling systems.
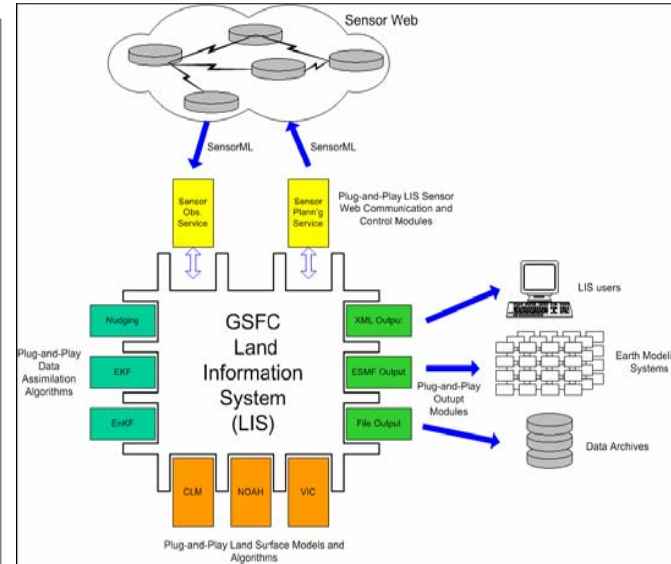
Enabling LIS to interact with sensor webs with open protocols and web

Approach

This work will be performed in six steps:
- Scenario development: a synthetic global land "truth" will be established
- Sensor simulation: a model of a future land sensors will be established
- Sensor web framework: sensor web communication, reconfiguration and optimization will be developed
- Evaluation and optimization metrics: various land surface uncertainty, prediction and decision support metrics will be established
- LISW experiments: to exercise and evaluate the system.
- Sensor web design implications: design trade-offs

Co-I's/Partners

- James Geiger / NASA-GSFC
- Sujay Kumar, Yudong Tian / GEST-UMBC

Key Milestones

Milestone	Date
Scenario development	March/2007
Sensor simulation	Sept/2007
Sensor web framework	March/2008
Evaluation and optimization metrics	Sept/2008
LISW experiments	March/2009
Sensor web design implications	August/2009
Collaboration, Communication & Dissemination	August/2009

$TRL_{in} = 4$