Sensor-Analysis-Model Interoperability Technology Suite

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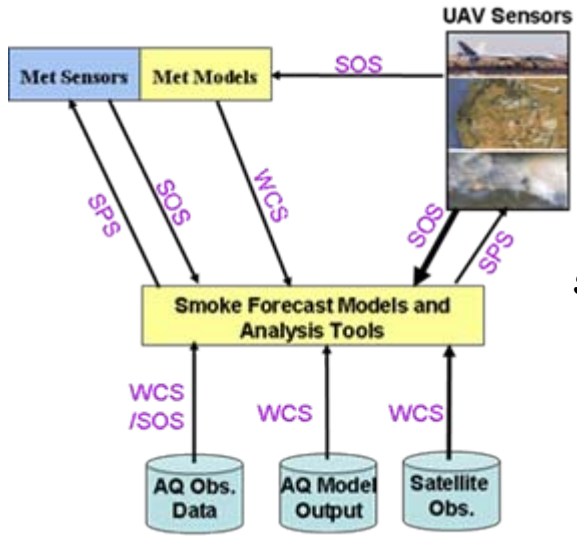
Objective

This project will develop a Sensor-Analysis-Model Interoperability Technology Suite (SAMITS) that provides a package of standards, technologies, methods, use cases, and guidance for implementing networked interaction between sensor webs and models.

SAMITS will foster seamless two-way data and control flow between active sensors and data analysis/modeling tools. SAMITS will be tested through use case applications that tie together atmospheric, air quality, and fire sensors with weather and smoke forecasting models.



Sensor observation and planning flow in estimating smoke emissions

Approach

SAMITS will use and extend geospatial interoperability and emerging sensor web standards, such as the Open Geospatial Consortium Sensor Web Enablement specifications, to bridge the gap between sensors and models.

Technology development in the proposed project includes extension of sensor and related standards and the integration of multiple sensor services.

Co-I's/Partners

- Rudolf Husar / Washington University
- Mike Botts / University of Alabama in Huntsville
- Don Sullivan / ARC

Key Milestones

• Initial web service access to sensor observations	11/2006
• Use SensorML/SOS to encode sensors/obs.	02/2007
• OGC-based catalog extended to SOS/SPS	06/2007
• Integrate ARC Sensor Planning Service	10/2007
• Extend sensor standards for sensor/model interop.	12/2007
• Demonstrate sensor-model interaction	03/2008
• End-to-end workflow with services & models	07/2008
• Define sensor-model implementation profile	11/2008
• Test catalog and services within applications	03/2009
• Complete SAMITS documentation and package	07/2009

$TRL_{in} = 2$ $TRL_{out} = 6$

ESTO Earth Science Technology Office