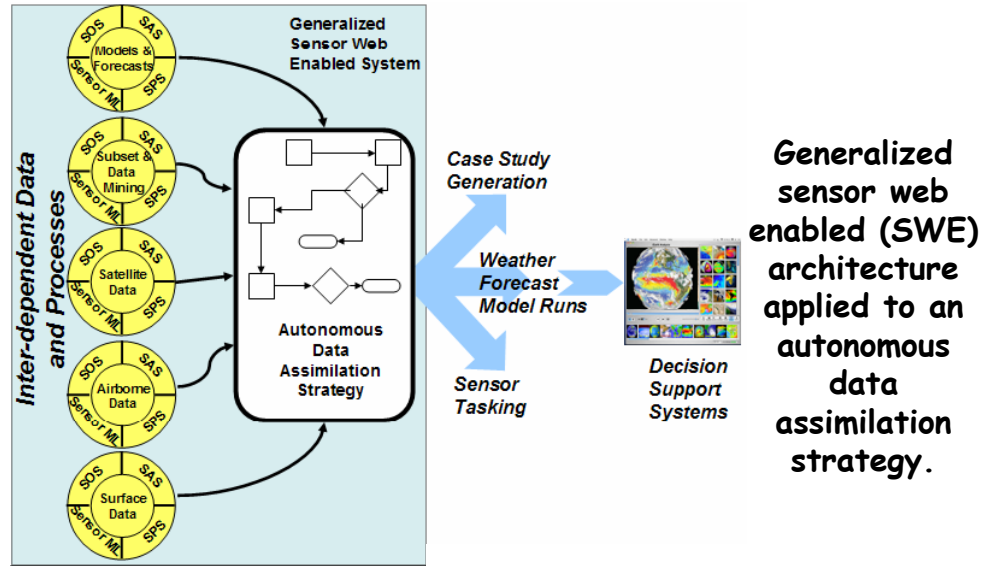


Sensor Management for Applied Research Technologies (SMART) - On-Demand Modeling (ODM)

PI: Michael Goodman, MSFC

Objective

The goal of the Sensor Management for Applied Research Technologies (SMART) - On-Demand Modeling (ODM) proposal is to develop and demonstrate the readiness of Open Geospatial Consortium (OGC) Sensor Web Enablement (SWE) capabilities that integrate both Earth observations and forecast model output into new data acquisition and assimilation strategies. This project will plan, develop, and assimilate NASA satellite data sets into a regional weather forecast model over the southeastern U.S. The NASA Earth Observation System (EOS) satellites make real-time global observations of the Earth with revolutionary spectral and spatial fidelity on a continuous basis in support of NASA's research and applications programs.



Approach

Within SWE framework, sensor systems, models and simulations, and data processing engines can be described in SensorML as process models or chains, and all produce observations that can be advertised and accessed through a Sensor Observation Service (SOS) and encoded in the OGC Common Observation Model. Many of these sensor systems and models can also be tasked or configured to meet the specific needs of the user and are candidates for SWE through the Sensor Planning Service (SPS). In addition, many sensor systems and processes can produce alerts that can be advertised by, subscribed to, and published by a Sensor Alert Service (SAS).

Co-I's/Partners

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- Mike Botts, Xiang Li / UAH

Key Milestones

- Detailed Design Spec complete 2/2007
- Sensor Web Enablement (SWE)
 - ESML Translated to COM Definitions 7/2007
 - Component & Sub-system Linkages Verified 2/2008
 - Sensors/Models Wrapped with SWE Encodings 3/2008
 - Data Mining to SWE Environment Configuration 4/2008
- End-to-End Test of Process Chains 5/2008
- Full System Demo with Archived Data 8/2008
- Full System Demo with Real-time Data 8/2009
- Peer Review Publication & Final Report 9/2009

TRL_{in} = 3

