Participation in GEOSS Task IN-05
Architecture Implementation Pilot (AIP-5)

Dan Mandl – NASA Goddard Space Flight Center

Stuart Frye – SGT, Inc.

John Evans - GST, Inc.

Karen Moe - NASA Earth Science Technology Office

WGISS-34 / Hyderabad, AP, India

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AIP-5 Call for Participation

- CFP issued 28 February 2012:
  - AIP-5 CFP Summary
  - AIP Development Process
  - GEOSS AIP Architecture

- Kickoff 3,4 May 2012

- GEO Members/Participating Organizations are
  - Collaboratively deploying SBA scenarios
  - Deploying, registering, and testing services; based on Interoperability Arrangements
  - Refining architecture; working with SIF
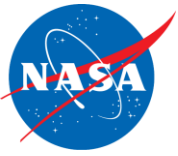
- Aquatic Informatics
- CAAS and Tsinghua
- CIESIN
- Compusult
- CSISS
- EO2HEAVEN
- EuroGEOSS
- GeoViqua
- GEOWOW Hydrology
- GEOWOW Architecture
- GIS-FCU
- INCOSE

- MINES ParisTech/ ENDORSE
- NASA
- NASRDA
- NIWA
- NOAA
- PML
- PYXIS
- RSA/DLR
- TUD-GLUES
- UNEP-Live
- Univ. Tokyo

http://www.ogcnetwork.net/node/1803

Target Contributions by NASA for AIP-5 Support

- Access to MODIS instruments data products from Terra and Aqua
  - Daily flood extent via RESTful web service (250 meter resolution)
- Access to Hyperion and ALI on EO-1
  - Sensor Planning Service (SPS) to task EO-1 via RESTful web service w/OpenID
  - Radiance to reflectance conversion service (30 meter resolution)
  - User triggered atmospheric correction web service for ALI and Hyperion
  - User triggered pan sharpening to create virtual 10 meter resolution for ALI
  - User triggered flood classifier for ALI with output in KML tiled format
- Access to radar instrument on Radarsat-2
  - SPS in progress for Radarsat with OpenID RESTful web service
    - (full implementation after end of AIP-5)
  - User triggered workflow to generate water extent map in GeoTiff and KML
  - Conversion of water extent map into OpenStreetMap (OSM) format
  - Automatic extraction of baseline water maps from Planet.osm
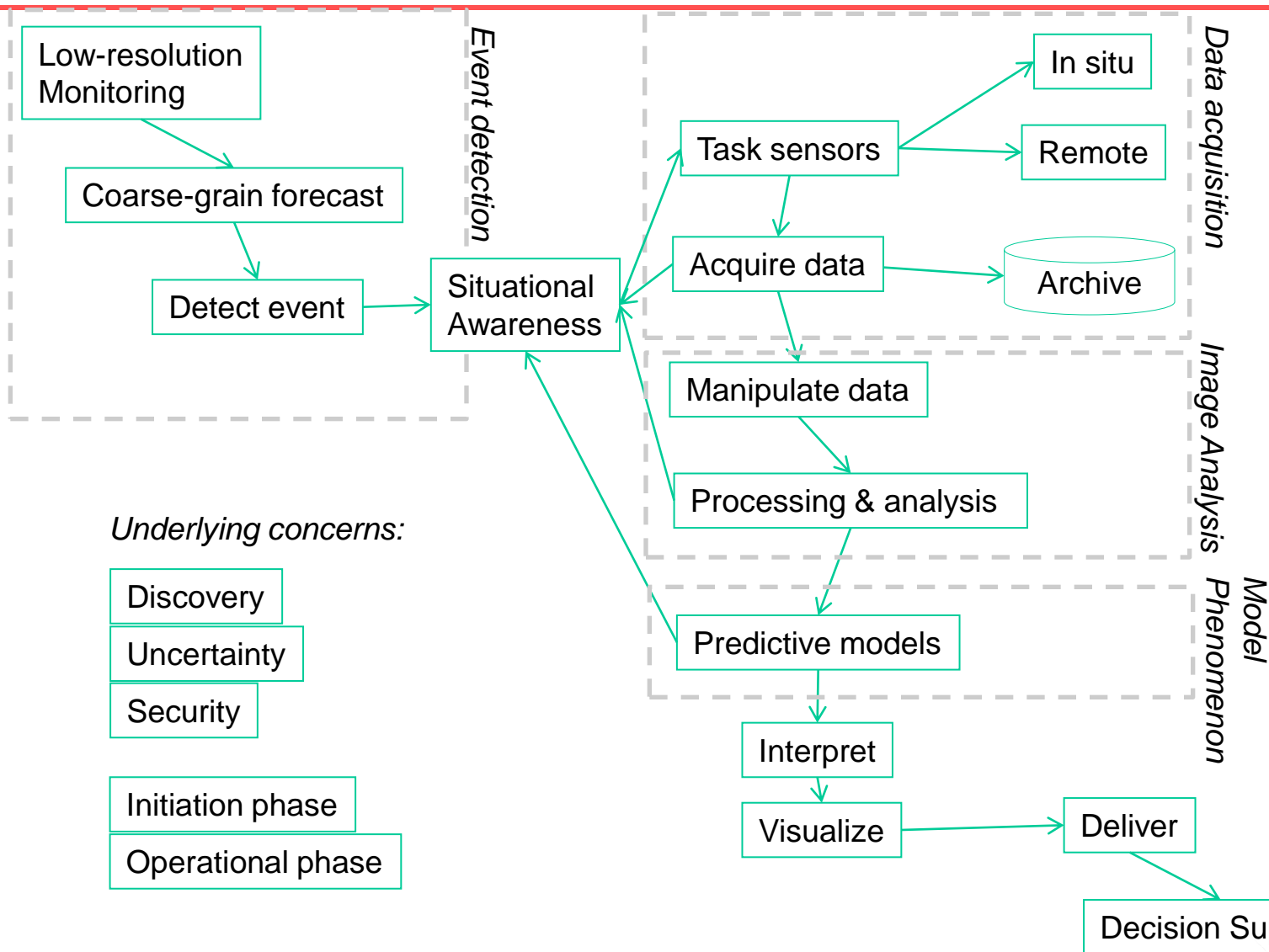 - Automatic combination into combined display in OpenStreetMap format

Target Contributions by NASA for AIP-5 Support

- Storage of OSM tagged water vectors in database for customized displays
  - Stubs provided to enable future editing of water vector tags
  - Conceptual addition of crowd sourcing capability which allows multiple sources to update the base water mask over time
    - Generate auditable data products
    - Validate / Annotate data by in-country experts
    - Improve in-country water mask and related information
    - Update public database
    - Crowd-Source public database under expert supervision
    - Leverage updated data to improve products
- GeoTorrent upgrade to allow multiple servers to deliver data simultaneously thus improving delivery throughput
- Working towards standards recommendations in Disaster Architecture work under WGISS
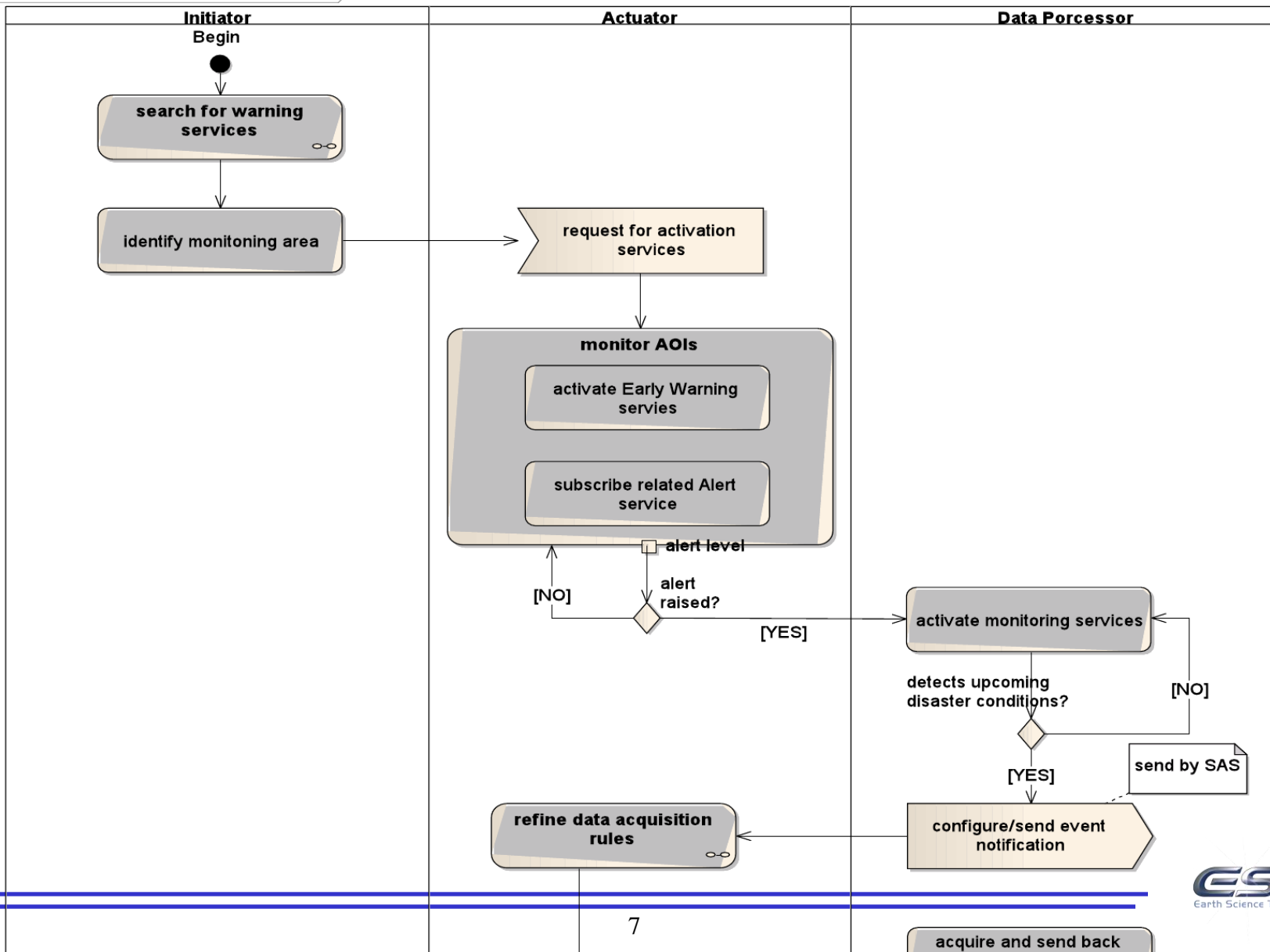- Open Source Technology; OpenStreetMap

Actions & Functions from GA.4.D Case Studies

AIP-3 Disaster Scenario Activity Diagram


act Disaster Management Activity Diagram

| Initiator | Actuator | Data Porcessor |

Begin

search for warning services

identify monitoning area

request for activation services

monitor AOIs

activate Early Warning servies

subscribe related Alert service

alert level

alert raised?

[NO]

[YES]

activate monitoring services

detects upcoming disaster conditions?

[NO]

send by SAS

[YES]

refine data acquisition rules

configure/send event notification

acquire and send back

AIP Architecture

Community Objectives

Enterprise
Viewpoint

Business aspects: purpose, scope and policies
What for? Why? Who? When?

Abstract/Best Practices

Information sources and models
What is it about?

Information
Viewpoint

Computational
Viewpoint
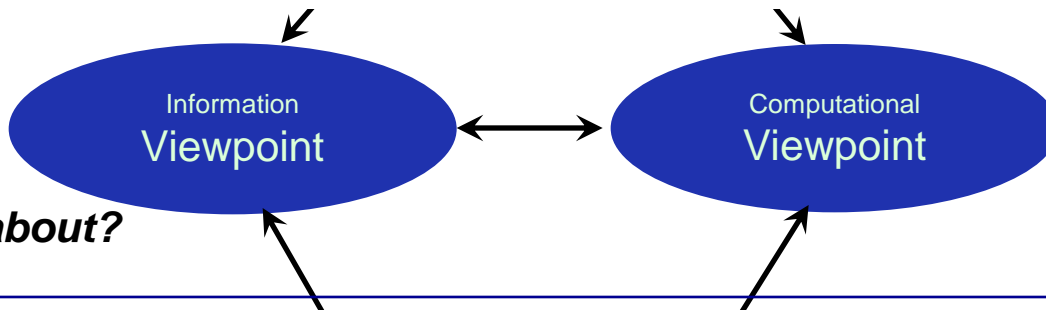
Types of services and protocols
How does each bit work?

Implementation/Development

Engineering
Viewpoint
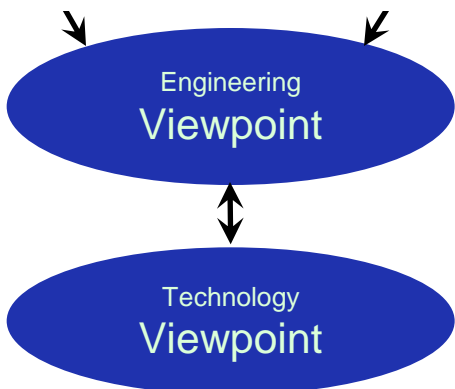
Solution optimization: distribution infrastructure
How do the components work together?

Technology
Viewpoint

Implementation system: hardware, software, distribution
With what?

GEOSS AIP Architecture organized with RM-ODP Viewpoints

AIP-5 Master Schedule

CFP Issued	28 February 2012
CFP Response Due Date for Kickoff	11 April 2012
Kickoff Workshop at GEO Secretariat, Geneva	3-4 May 2012
Interoperability Testing Begins	1 September 2012
Results to GEO Plenary, Foz de Iguazu, Brazil	November 2012
Completion of AIP-5 activities	December 2012

GA.4.Disasters Agenda

- Project Overview: GA.4.Disasters – GEOSS Architecture for the Use of Satellites for Disaster Management and Risk Assessment
- GEOSS AIP-5 contributions and outcomes
- Findings from the July ESA forum on Understanding Risk with Earth observation
- GA.4.Disasters Architecture status
- Case Study findings
- Preliminary recommendations
- Next Steps