GEO Task DA07-04
Sensor Web Workshop

Supported by EC FP6 Programs SANY & OSIRIS

Ingo Simonis

Group on Earth Observations

Welcome to GEO & WMO

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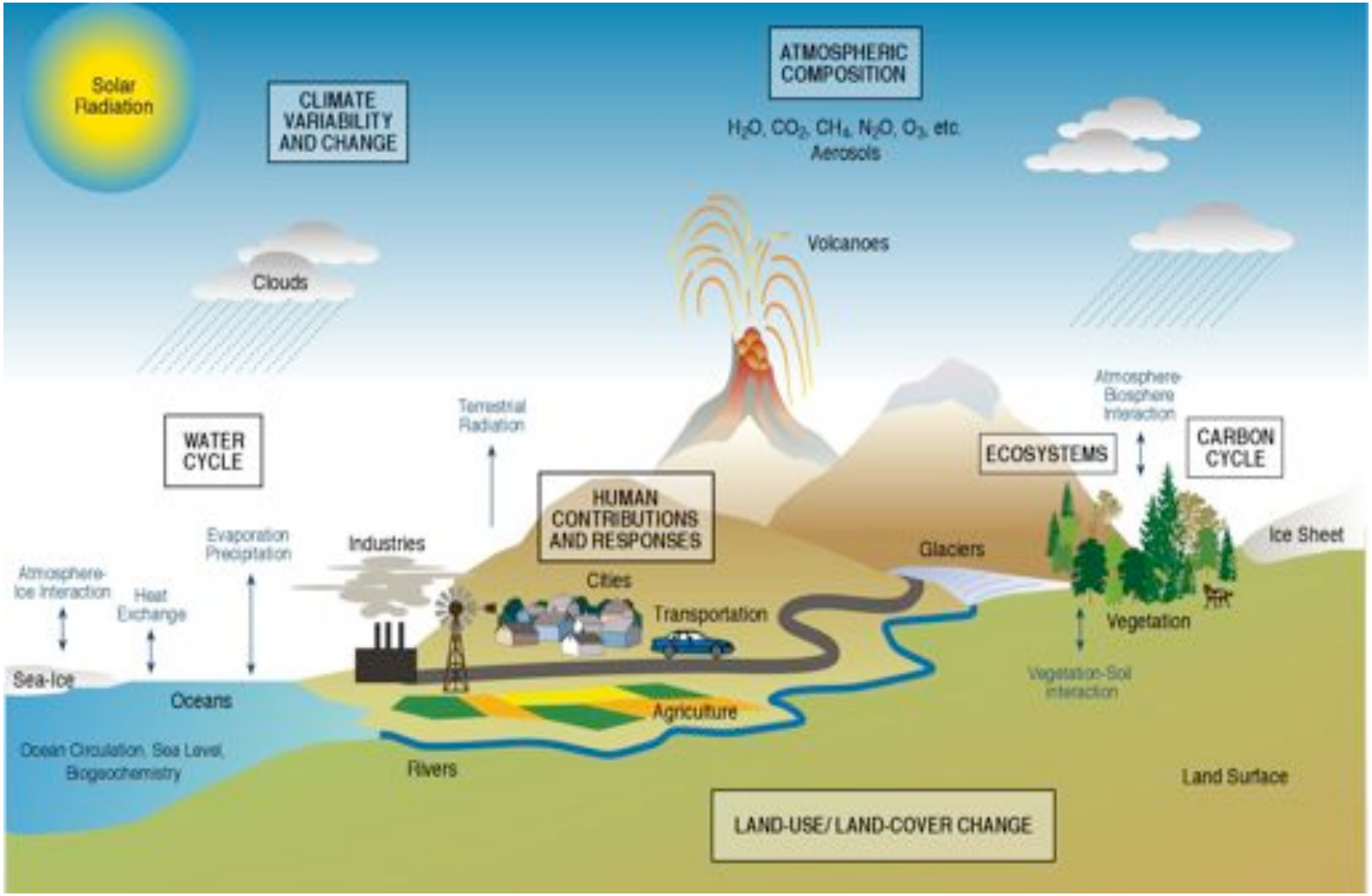
The Earth is a complex system of systems



A Single Problem Requires Many Data Sets

A Single Data Set Serves Many Communities

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GEOSS: A Global, Coordinated, Comprehensive and Sustained System of Observing Systems

- **Improve and Coordinate Observation Systems**
- **Provide Easier & More Open Data Access**
- **Foster Use (Science, Applications, Capacity Bldg)**

… to answer Society's need for informed decision making

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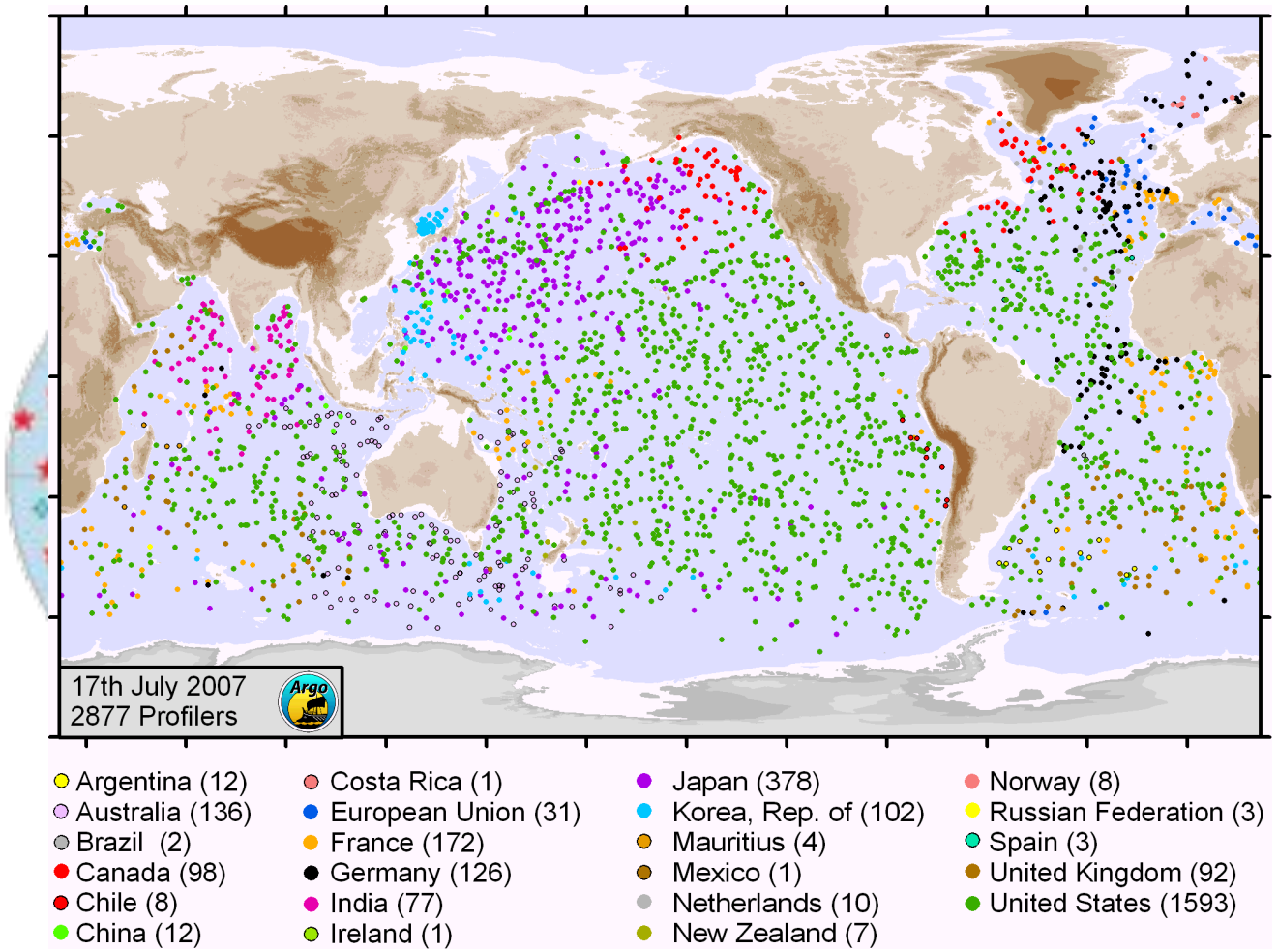
In Situ Observation Systems (Global)



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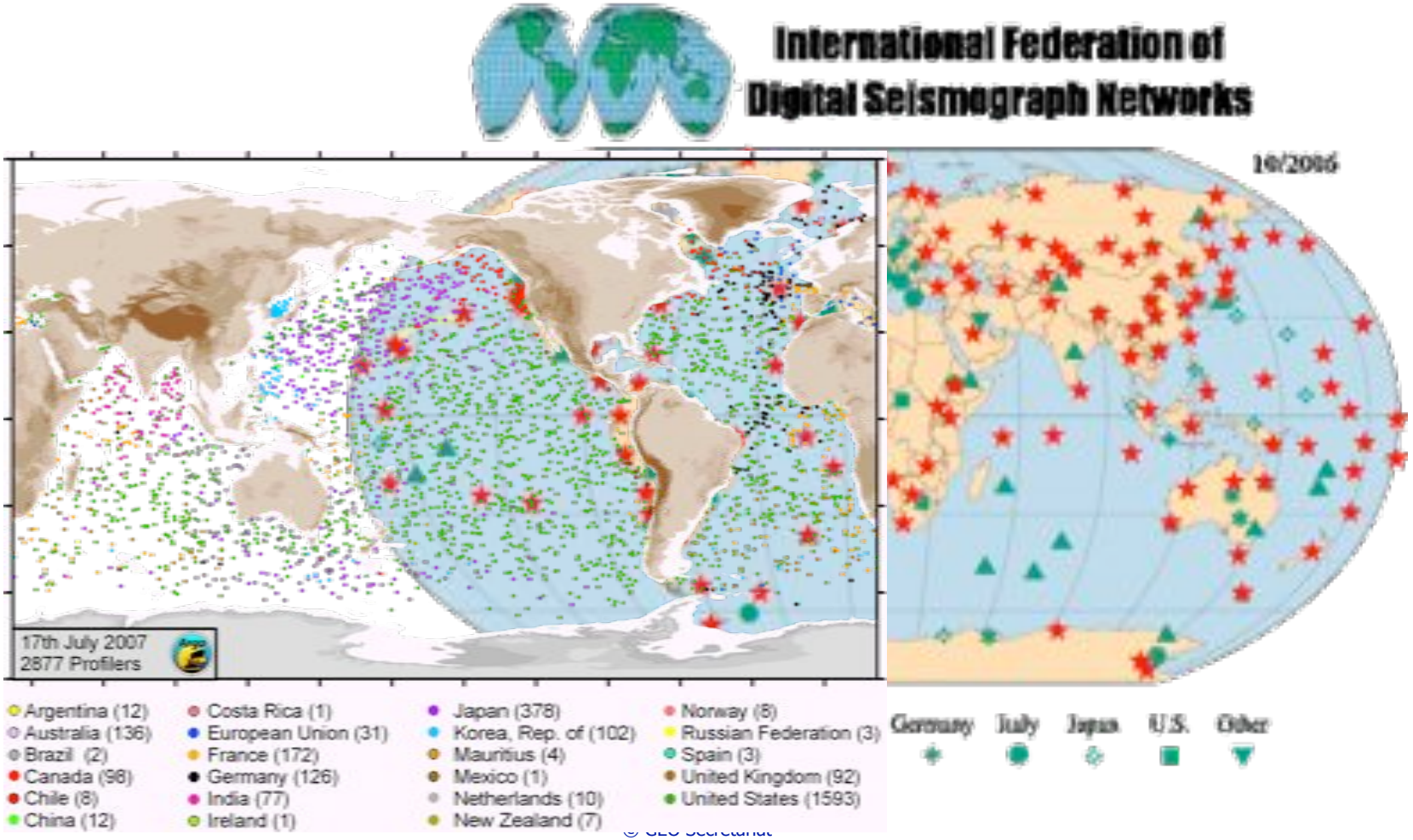
In Situ Observation Systems (Global)



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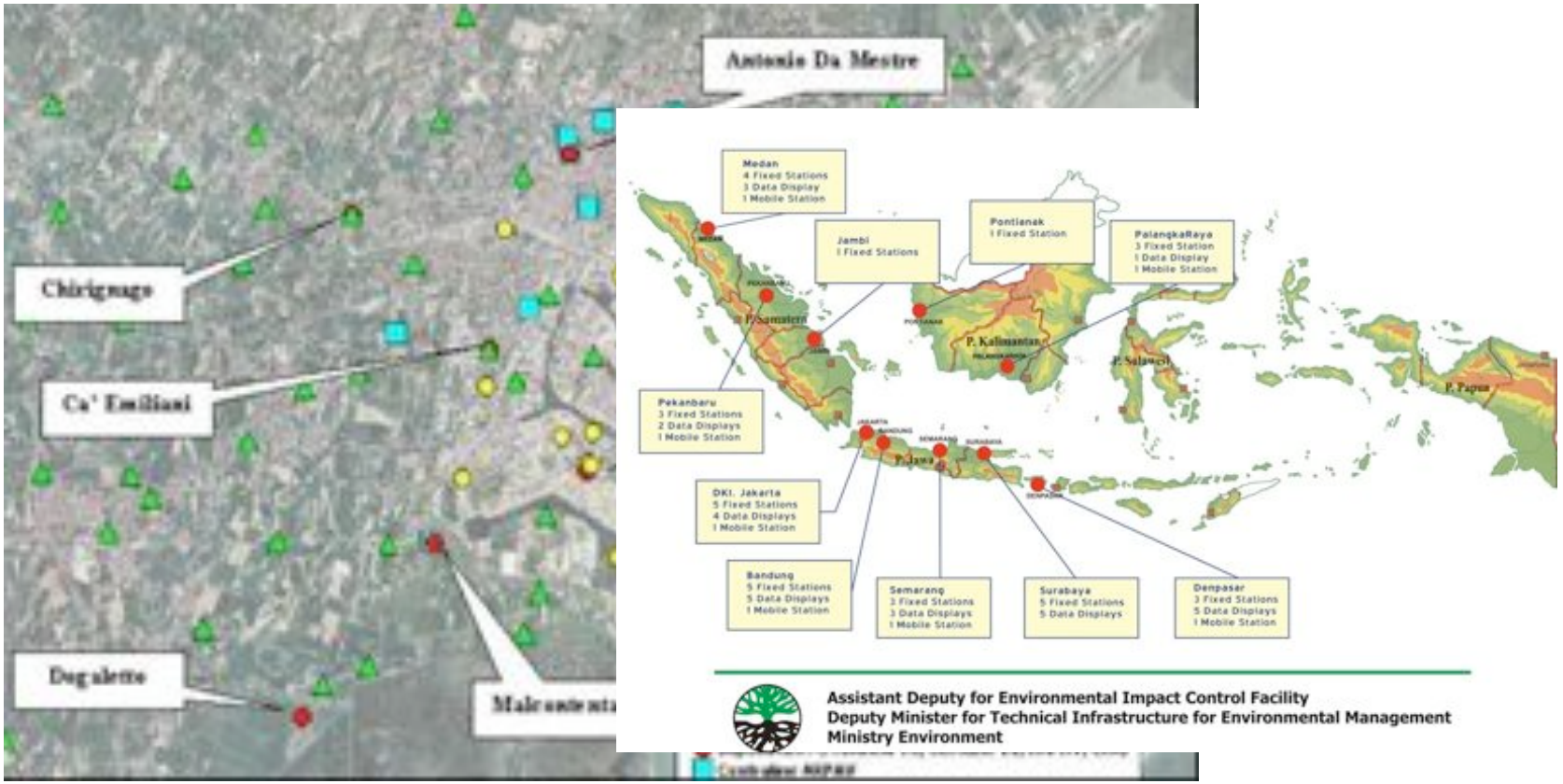
In Situ Observation Systems (Local to Regional)



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Space Observation Systems

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The Tower of Babel

Need for Standards to Benefit Fully from Earth Observation Systems

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GEOSS Implementation Requires Interoperability of Systems

- **Technical Specifications for Collecting, Processing, Storing, and Disseminating Data and Products**
- **Based on Non-proprietary Standards**
- **Defining what Systems should Comply With to be Contributed to GEOSS**

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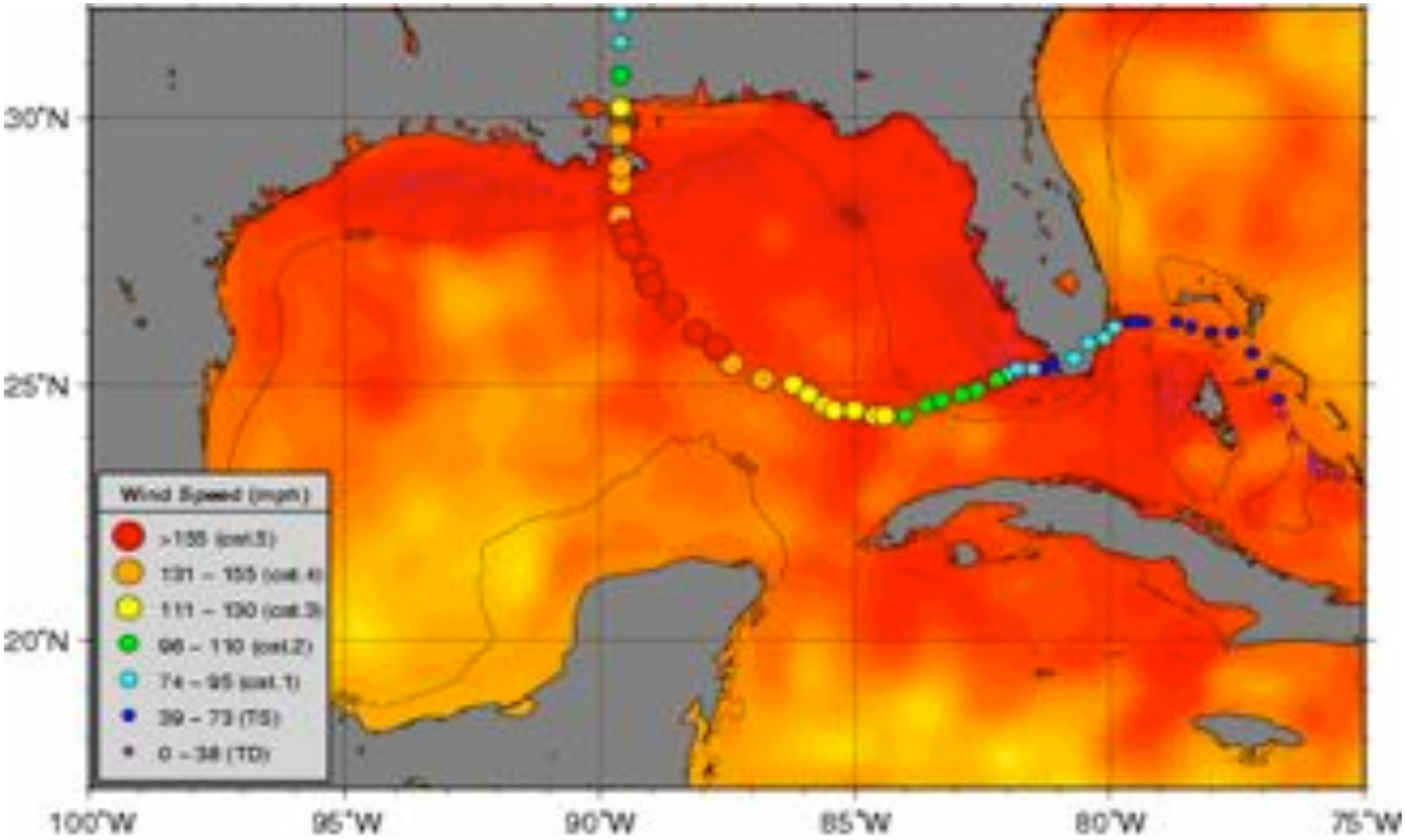

Hurricane Katrina & Sea Surface Temperature

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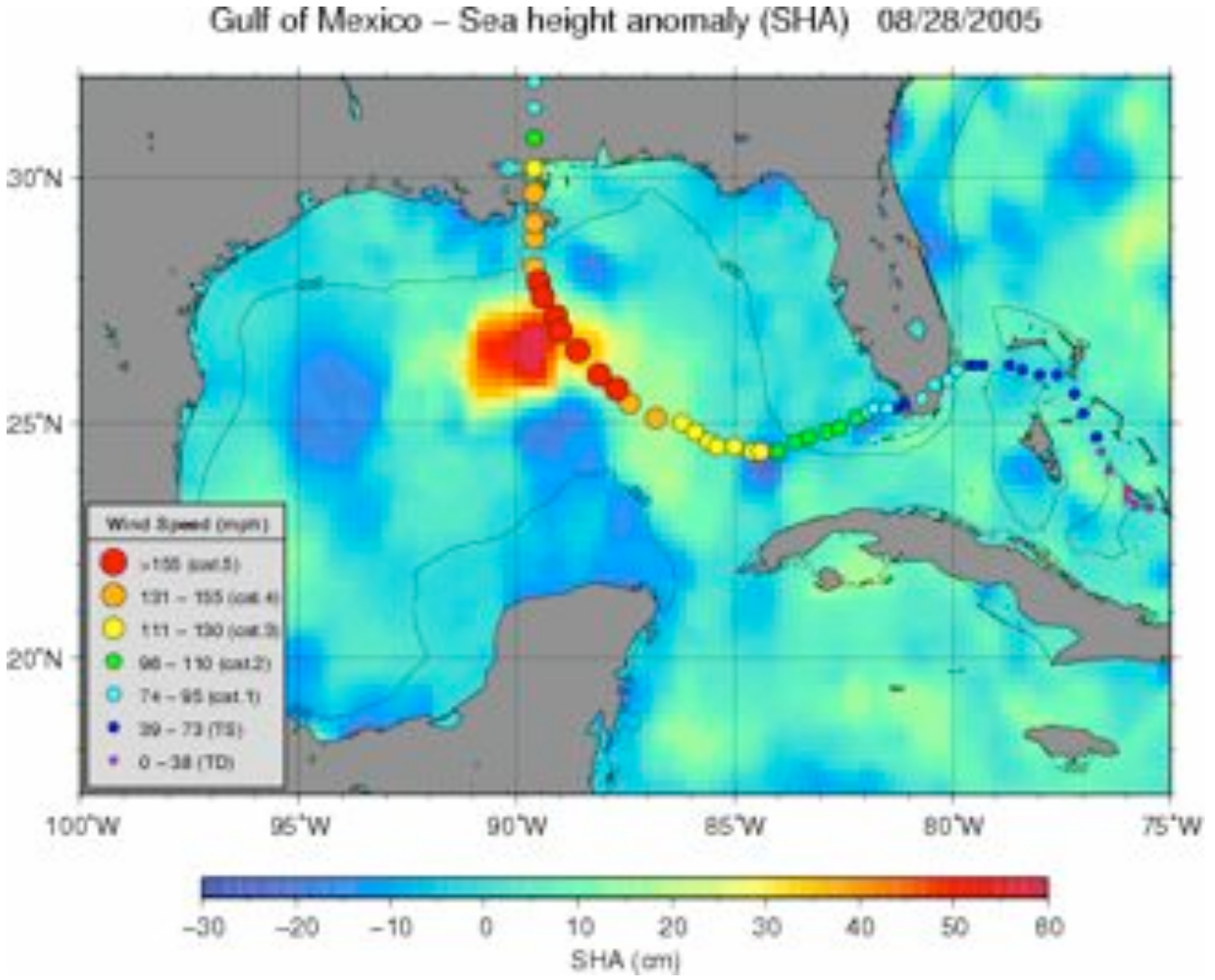

Blending of Sea Height Anomaly

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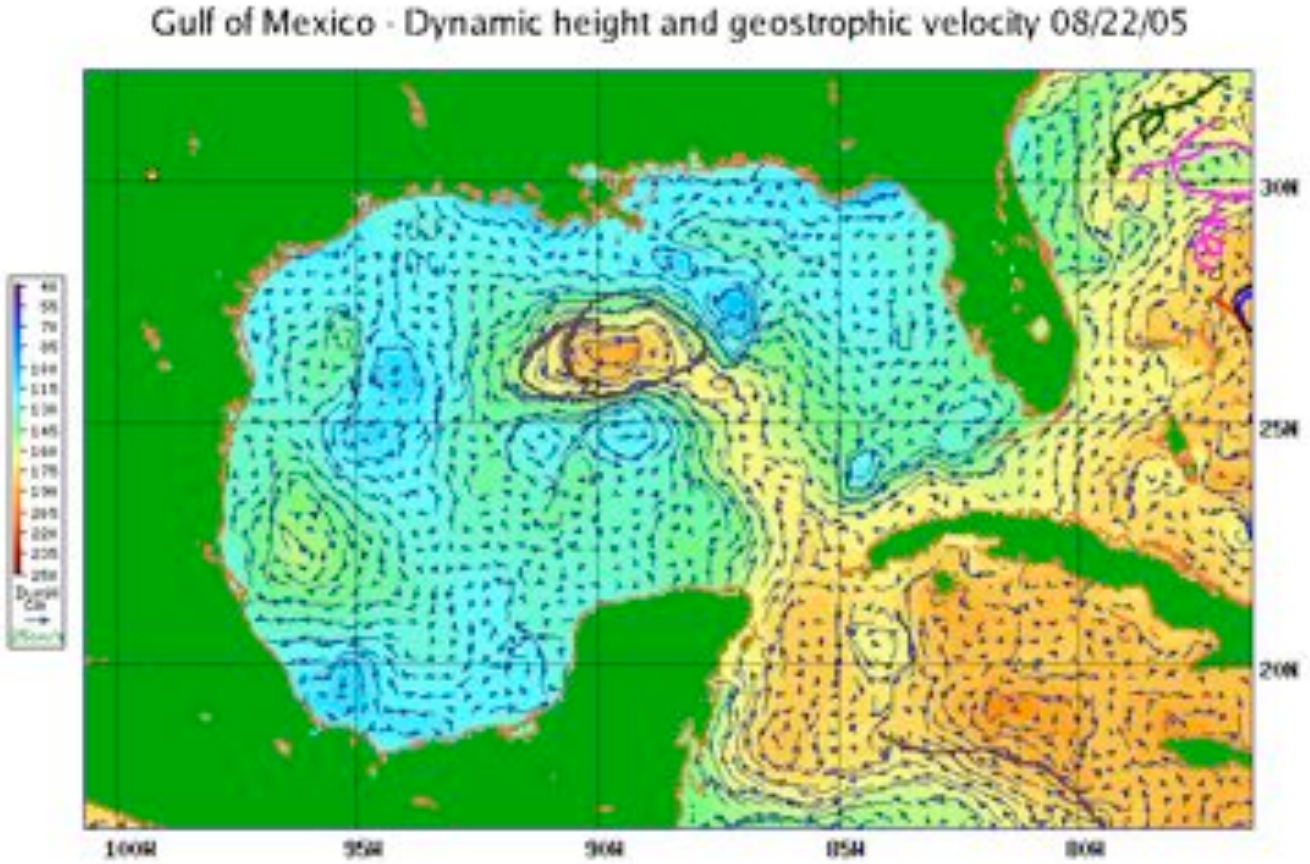

Blending of Tropical Cyclone Heat Potential

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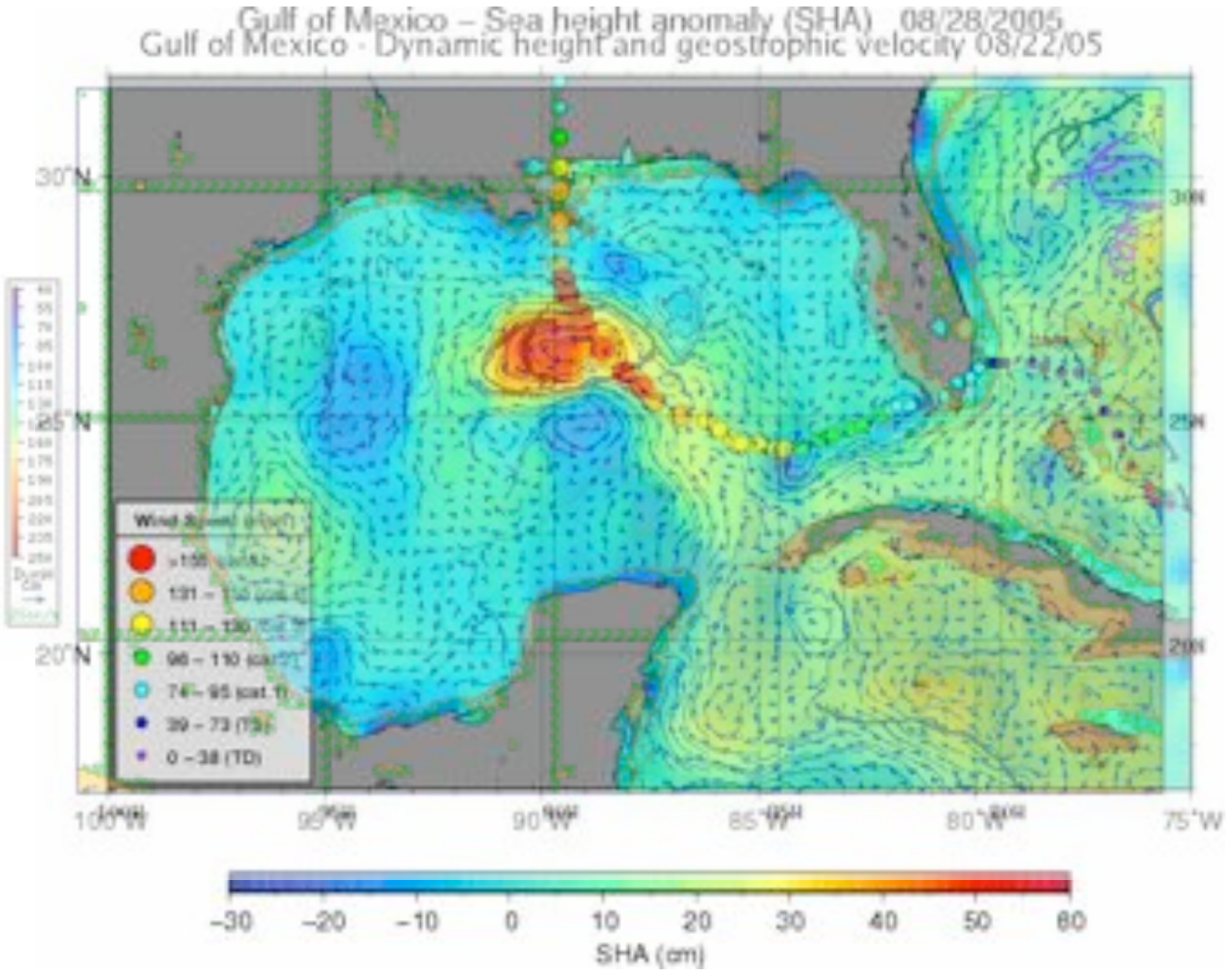

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Get your Pullovers Ready!

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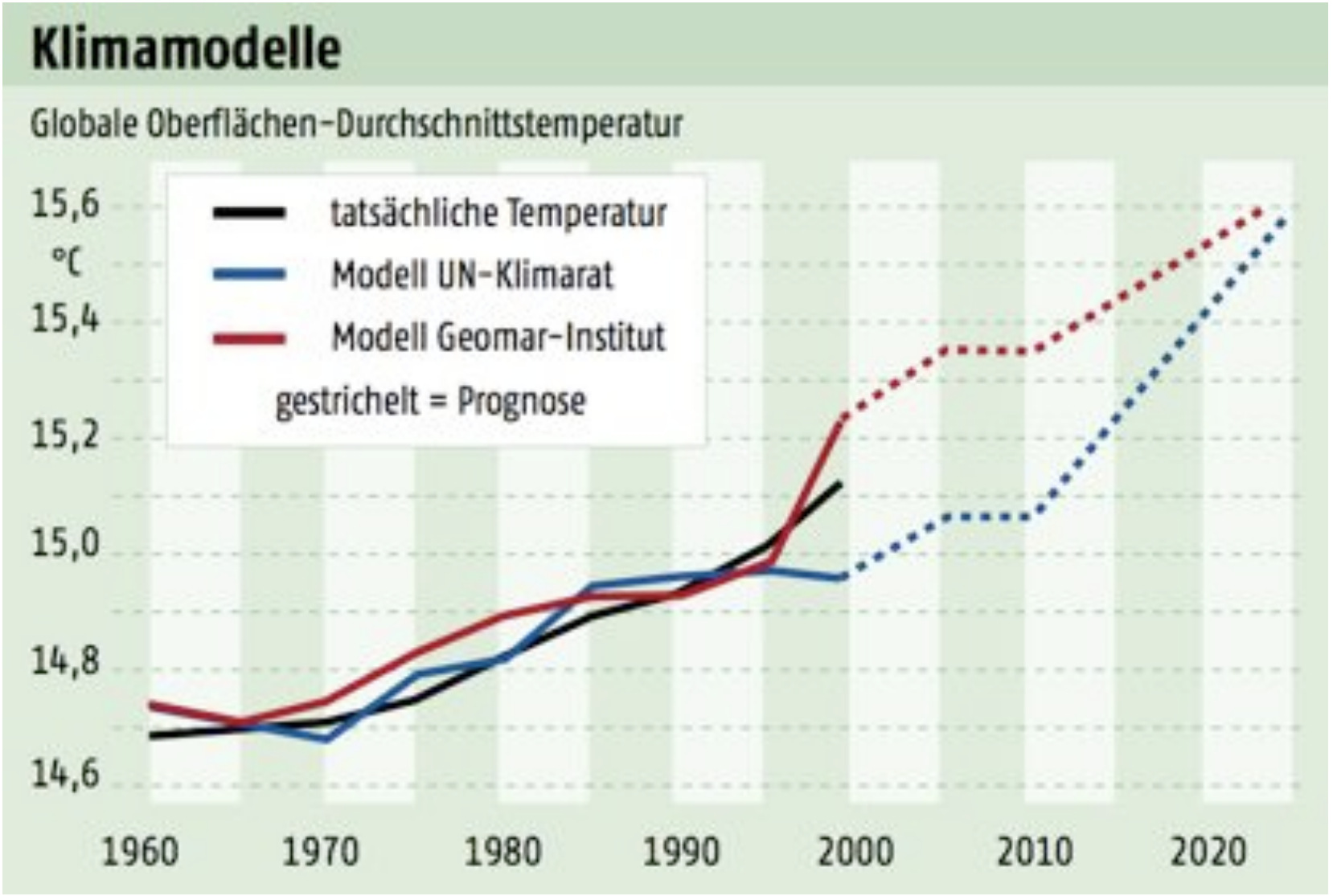

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Get your Pullovers Ready!

Sensor Web & GEOSS

- Sensor Web: Foundation Layer of GEOSS
- Internet as a common platform
- Active Sensing Macro Instrument
  - Connects analysis tools with global data resources
  - Integrates models and processing algorithms
  - Reduces implementation effort
  - Allows identification and discovery of required information
  - Provide the basis for collaborative research
  - Supports eScience workflows
  - Builds trust

GEO Task DA07-04

- Initiated 2006 by Andrew Terhorst
- Sensor Web Workshop, Cape Town, Feb 2007
  - 30 Participants
  - Research & Industry
- Joint task force at WGISS (CEOS)
- Participated in AIP 2007 (AR07-02)
- Advanced Fire Information System (youtube: http://www.youtube.com/v/3uh3cpULBQY)

DA 07-04

- The Task should evaluate the applicable standards for the application of a Sensor Web based approach for the different GEO SBAs. (Ongoing as standards evolve)
- To provide a mechanism to register and categorize Senor Services; a Senor Service registry shall be designed.
- Provide a web space for sensor web users to post documented use cases that demonstrate the benefits of Sensor Web Enablement.

DA 07-04

- Coordination shall be established with the Interoperability arrangements for GEOSS through coordination with Tasks AR-07-01(Further Collaboration) and AR-07-02(Done). Attention should be given to technical-, semantic-, organizational-, and knowledge aspects of interoperability.
- Relevant synergies with Tasks on information networks such as HE-07-01 shall be addressed
- Provide support and create awareness for the sensor web and related technologies. E.g. Create an awareness in other supporting organization of GEO, such as CEOS, IGOS, GOOS, etc.

Program May 15th

8.40 - 9.00	**Registration**	
9.00 - 9.05	**Welcome & Introduction**	**Michael Rast (GEOSS Secretariat)** **Ingo Simonis (OGC Europe)**
9.05 - 9.30	**GEOSS Task DA 07-04** Introduction and overview of GEOSS task DA 07-04 and related ongoing activities.	**Terence van Zyl (Meraka Institute) & Ingo Simonis (OGC Europe)**
9.30 - 9.50	**European Commission: Sensor Web Research** Overview of current research projects funded by EC and future opportunities.	**Michel Schoeppe (EC)**
9.50 - 10.10	**OSIRIS** Introduction to the research project "OSIRIS - Open architecture for Smart and Interoperable networks in Risk management based on In-situ Sensors"	**Danielle Taryniak (Thales Communications)**
10.10 - 10.30	**SANY** Introduction to the research project "SANY - Sensors Anywhere"	**Denis Havlik (Austrian Research Centers GmbH)**
10.30 - 11.00	**Coffee Break**	

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11.00 – 11.15	**OGC Sensor Web Enablement (SWE)** Introduction to the state-of-the-art in interoperable sensor networks.	**Ingo Simonis (OGC Europe)**
11.15 – 11.30	**Open Source for Sensor Web** Overview of Open Source products implementing OGC SWE.	**Johannes Echterhoff / Simon Jirka (University of Münster)**
11.30 – 12.00	**OSIRIS** Architecture, technical achievements, and future developments	**Yves Ghirardelli (Thales Communications)**
12.00 – 12.30	**SANY** Architecture, technical achievements, and future developments	**Désirée Hilbring (Fraunhofer ITB) / Thomas Bleier (Austrian Research Centers GmbH)**
12.30 – 14.00	**Lunch**	
14.00 – 16.00	**Presentations by Participants** Participants have the option to give short (30min) presentations about their current work, interesting scenarios or use cases, or identify standards and best practices for the GEOSS Information Infrastructure Architecture.	

9:10-10.30	**Working Groups** We will split in working groups to discuss interoperability issues in sensor networks, new approaches to integrate existing and future Sensor Networks, alignment of Sensor Web and GEOSS.
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12.30-14.00	**Lunch**
14.00-16.00	**Presentation of Results** The working group results will be presented and discussed.

Join GEO Task DA07-04

- All it requires:
  - Send an email to ingo.simonis@igsi.eu
  - « We would like to participate in DA07-04 »
  - That's it!!

- We put you on the email reflector
- Information about ongoing activities
- Send your ideas, concerns, announcements