

Geo Sensor networks: The future for spatial data infrastructures?

Sensing a Changing World: 20 November 2008

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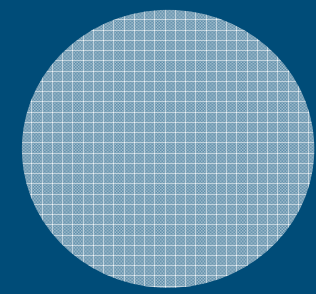
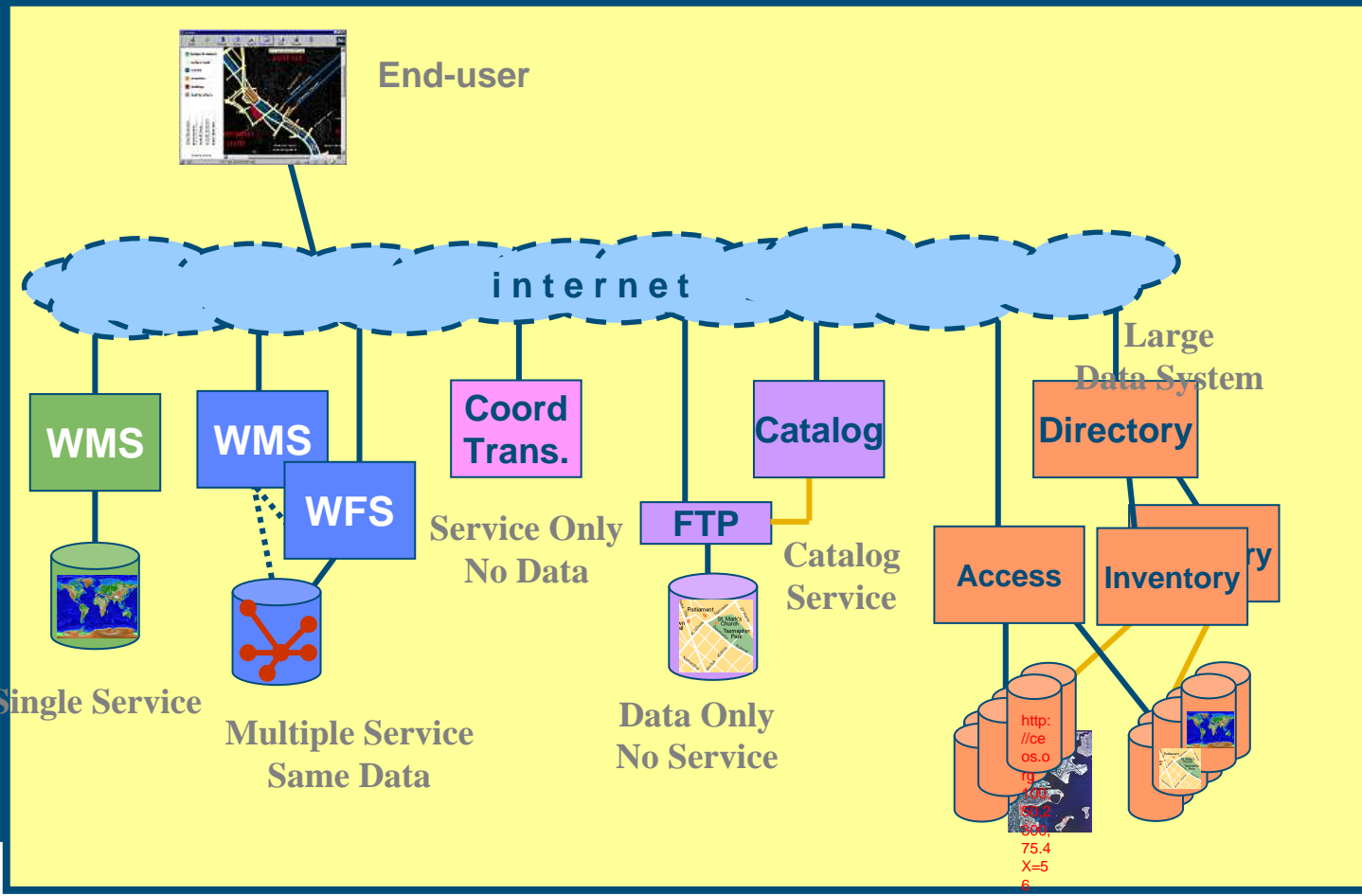


Introduction

- Spatial data Infrastructures (SDI)
- Geo sensor networks → SDI
- SDI → Geo sensor networks

Spatial data Infrastructures (SDI)

- Spatial Data Infrastructure (SDI): Integrated spatial data support for societal issues!
- Components: Data, Technology, Standards, Policy and People
- World development (e.g INSPIRE in EU)



GEO Portal GEO

provided by:  

 GROUP ON EARTH OBSERVATIONS | **GEO Portal**

HOME ABOUT GEOPORTAL CONTACTS NEWS MAP VIEWER go ADVANCED SEARCH DOWNLOAD GEOPORTAL ABOUT GEO

Provide Feedback to GEO

BROWSE RESOURCES BY SOCIAL BENEFIT AREAS

-  DISASTERS
-  HEALTH
-  ENERGY
-  CLIMATE
-  WATER
-  WEATHER
-  ECOSYSTEMS
-  AGRICULTURE
-  BIODIVERSITY

GEOSS CLEARINGHOUSE 

GEOSS REGISTRY 

中文 | English



North America
Europe
Asia
Oceania/Australia

zoom  Change Surface Texture Find a place Key

BREAKING NEWS

FLOODING IN CHILE

Heavy flooding, with overflow of rivers and collapse of bridges, occurred in the centre and south of Chile. Some 13,000 people were affected. The towns hardest hit were Licatén and Lontué.



[More...](#)

WELCOME TO GEOPORTAL

The GEOportal provides an entry point to access remote sensing, geospatial static and in-situ data, information and services.

CAPACITY BUILDING 

Example

The screenshot displays the GeoNetwork website interface. At the top, the logo for FAO GeoNetwork is visible, along with navigation links for Home, Last results, and Help. A search bar contains the text 'soil'. Below the search bar, there are input fields for Username and Password, and a Login button. The main content area is titled 'FIND INTERACTIVE MAPS, GIS DATASETS, SATELLITE IMAGERY AND RELATED APPLICATIONS'. On the left, there is a search filter section with 'What?' and 'Where?' dropdowns, a 'Search' button, and a 'Reset' button. Below this is a 'CATEGORIES' list. The main search results area shows 'GEONETWORK'S PURPOSE IS:' followed by a list of bullet points. Below this is a paragraph about GeoNetwork opensource and a link to 'GeoNetwork@fao.org'. A 'Featured map' section displays a map titled 'MARGINAL OTHER WORKERS FEMALES MAP OF HP, INDIA' with a description and a thumbnail image. On the right side, there is a 'GEOSPATIAL INFORMATION IN FAO' section with a list of links, a 'RECENT CHANGES' section with a 'GeoRSS' icon, and a list of recent changes.

FAO // **GeoNetwork**
[Find and analyze geo-spatial data]

Home | Last results | Help

Username Password Login

Franglais | Español

FIND INTERACTIVE MAPS, GIS DATASETS, SATELLITE IMAGERY AND RELATED APPLICATIONS

What?

Where?

Open Map Viewer ▶

- Any -

Search

Reset Advanced Options

CATEGORIES

- ▶ Applications
- ▶ Audio/Video
- ▶ Case studies, best practices
- ▶ Conference proceedings
- ▶ Datasets
- ▶ Directories
- ▶ Interactive resources
- ▶ Maps & graphics
- ▶ Other information resources
- ▶ Photo

GEONETWORK'S PURPOSE IS:

- ▶ To improve access to and integrated use of spatial data and information
- ▶ To support decision making
- ▶ To promote multidisciplinary approaches to sustainable development
- ▶ To enhance understanding of the benefits of geographic information

GeoNetwork opensource allows to easily share geographically referenced thematic information between different organizations. For more information please contact

GeoNetwork@fao.org

Featured map

- ▶ **MARGINAL OTHER WORKERS FEMALES MAP OF HP, INDIA**

The map was prepared based on Census of India 2001 showing Marginal Other Workers Females of Himachal Pradesh (HP), India.

RECENT CHANGES

GEOSPATIAL INFORMATION IN FAO

- ▶ Core Products
- ▶ GIS Gateway
- ▶ Tools
- ▶ Links and Partners
- ▶ Contacts
- ▶ Feedback
- ▶ About this site

- ▶ Global Ecological Zones.
- ▶ FAO Statistical Areas for Fishery Purposes
- ▶ Ethiopia - Major Towns
- ▶ Ethiopia - Acute Watery Diarrhoea (AWD) cases
- ▶ Congo, Democratic Republic of - Baseline Data (as of May 2008)
- ▶ Predicted areas of suitability for tsetse flies: Ethiopia
- ▶ Distribution of Primary & Secondary Schools Map of Afghanistan

Components of SDI

Policy

Spatial Data

Technology

People

Standards



WAGENINGENUR

For quality of life

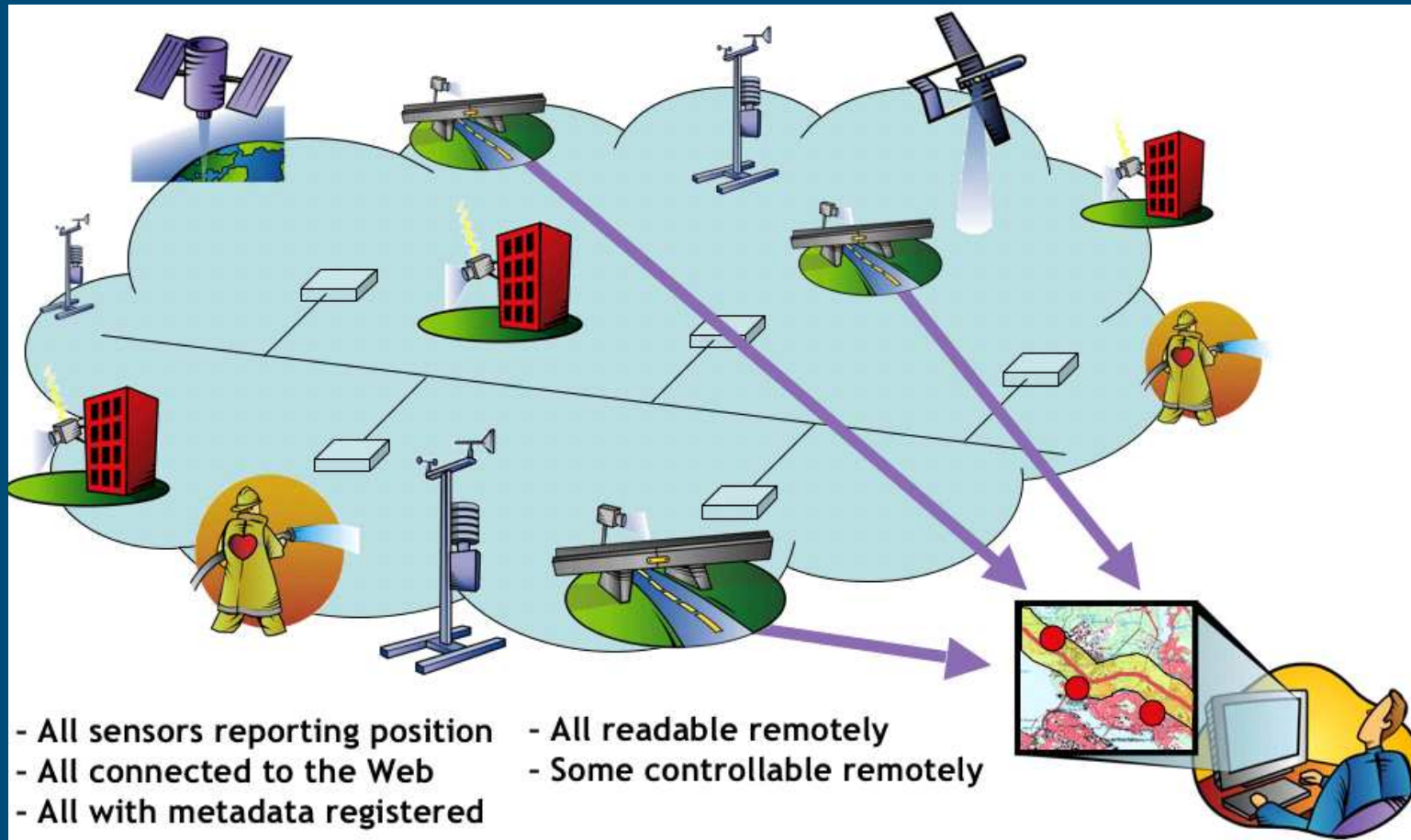
Problems (Challenges) with current SDI's

- Use of SDI:
 - Spatial data integration
 - Real support for spatial problems in society
 - Use restrictions (data policies)
- Data content:
 - Real time data
 - Link with Remote Sensing domain

Geo sensor networks → SDI

- Geo sensor networks can supplement SDI with:
 - Real time data
 - Link with remote sensing
- It is not easy, due to different cultures (SDI is NMA's dominated, Geo sensor networks are “jumping scientists”)

Geo sensor network



- SDI
 - Core spatial datasets (authentic registrations)
 - Other datasets
- GSN
 - Identification of key aspects to be sensed (focus)

SDI → Geo sensor networks

Technology

- SDI
 - There is no unique SDI technology (mainstream IT technology)
- GSN
 - There is quite some unique GSN technology

SDI → Geo sensor networks

People

- SDI
 - Many different actors involved (researchers, companies, policy makers, mapping agencies, etc)
- GSN
 - Mainly researchers and developers.

SDI → Geo sensor networks

Standards

- SDI
 - Relative stable set of international standards (ISO, OGC)
- GSN
 - Many industry standards and SWE quite young.

SDI → Geo sensor networks

Policy

- SDI
 - Data access and use policy are defined by governments
 - Funding from government (it is an infrastructure)
- GSN
 - Funding from institutions (high initial investment and maintenance)
 - Development of a data access and use policy

SDI & GSN

A fertile marriage !



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