Agriculture and Food Security
Global Spatial Data Initiatives

GLOBAL SPATIAL DATA AND INFORMATION USER WORKSHOP
Development, Dissemination, and Use

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Overview

- Comprehensive overview of selected initiatives

- What do we mean by "global"
  - available for the whole globe
    - aggregated to coarse resolution
  - global coverage of finer resolution data

Global Datasets

- What do we mean by global data?
  - scope of information
  - geographical coverage
  - spatial resolution
  - temporal resolution
  - data type (point, polygon, raster)
  - degree of processing
  - data sources
  - target audience

Typology of "Global Datasets"

- Target User Groups
  - Global Modelers to Local Users
- Scale / Spatial Resolution
  - Globally-aggregated vs. Global Coverage
- Temporal Dimension
  - Real Time – Early Warning – Disaster Relief
  - Long-term – LUCC – Change Detection
  - Current Status or Static vs. Dynamic / Periodic Update
    - e.g. DEM's vs. population growth
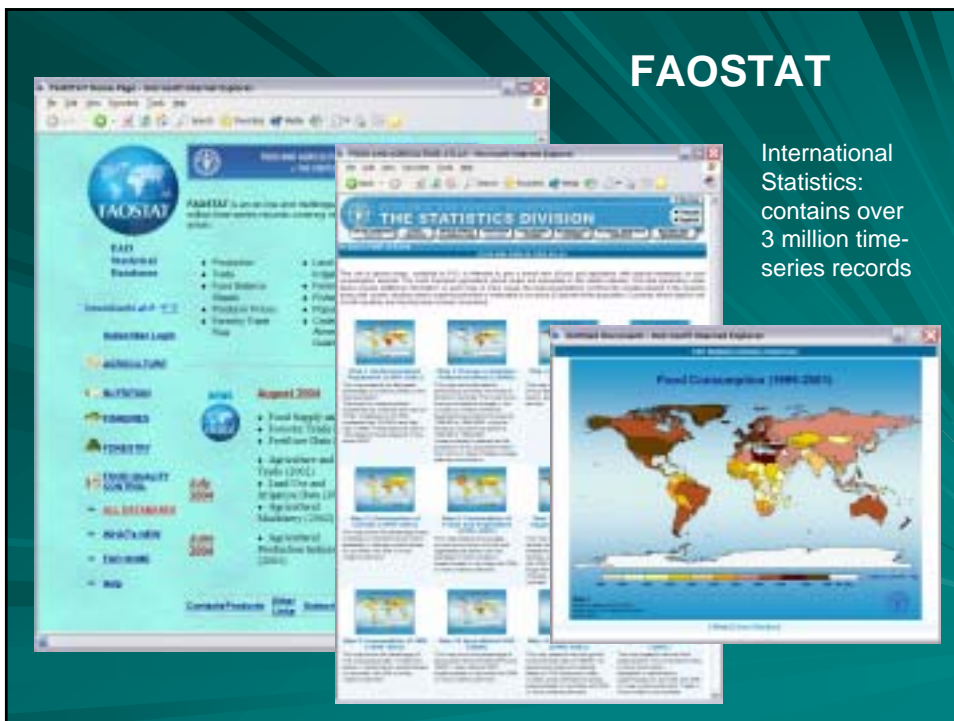
FAOSTAT

International Statistics: contains over 3 million time-series records

GeoNetwork

FAO's Portal for collecting, hosting and sharing georeferenced thematic information.

Provides a common metadata structure and search facility through which geographic (map) outputs can be searched for and downloaded by users.

SIMAG:
Spatial Information Management Advisory Group

FEWS-NET

DEPHA:
Data Exchange Platform for the Horn of Africa

FIVIMS

Interagency initiative to promote information and mapping systems on food insecurity and vulnerability.

Provides social indicators, especially as they relate to food security, such as access to safe water and various poverty measures.

Partner in PovertyMap.net

GIEWS Workstation

Global Information on Early Warning –

Provides assessment of the current year against other known years – particularly in relation to drought.

Works thru GeoWeb and GeoNetwork

KIDS Toolbox:

Key Indicator Display System

ARTEMIS: Africa Real Time Environmental Monitoring System
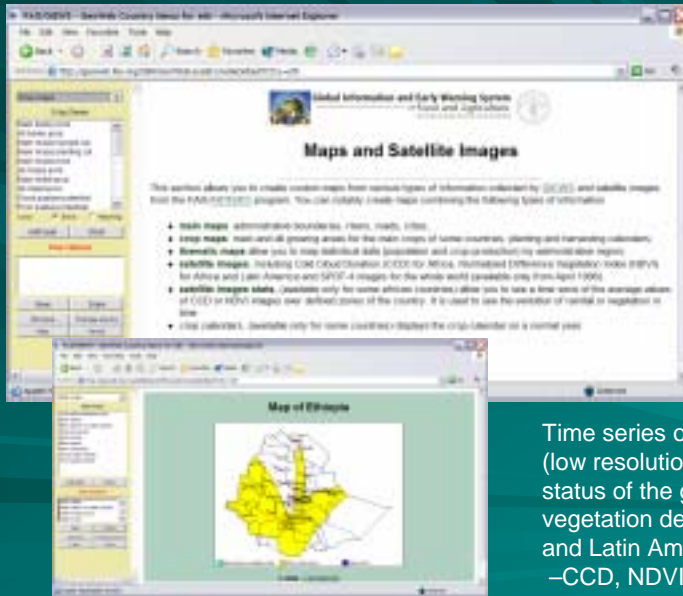
Time series of satellite images (low resolution) showing the status of the growing season and vegetation development in Africa and Latin America
–CCD, NDVI and SPOT-4

Agro-MAPS: Global Spatial Database of Sub-national Agricultural Landuse Statistics

Currently contains data on crop production, area harvested and crop yields, for one or more years for each country

Agro-MAPS Explorer – facilitate selective retrieval of data from the full Agro-MAPS database.

GLiPHA – Global Livestock Production and Health Atlas
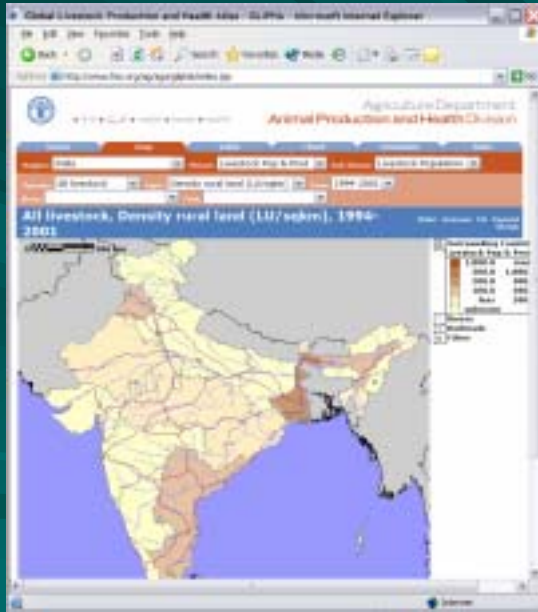
Scalable overview of spatial and temporal variation of quantitative information related to animal production and health, through the combination of maps, tables, and charts.

Data themes included are:

- biophysical
- socioeconomic
- livestock population
- livestock production
- animal health
- trade

GTOS – TEMS – Terrestrial Ecosystem Monitoring Sites
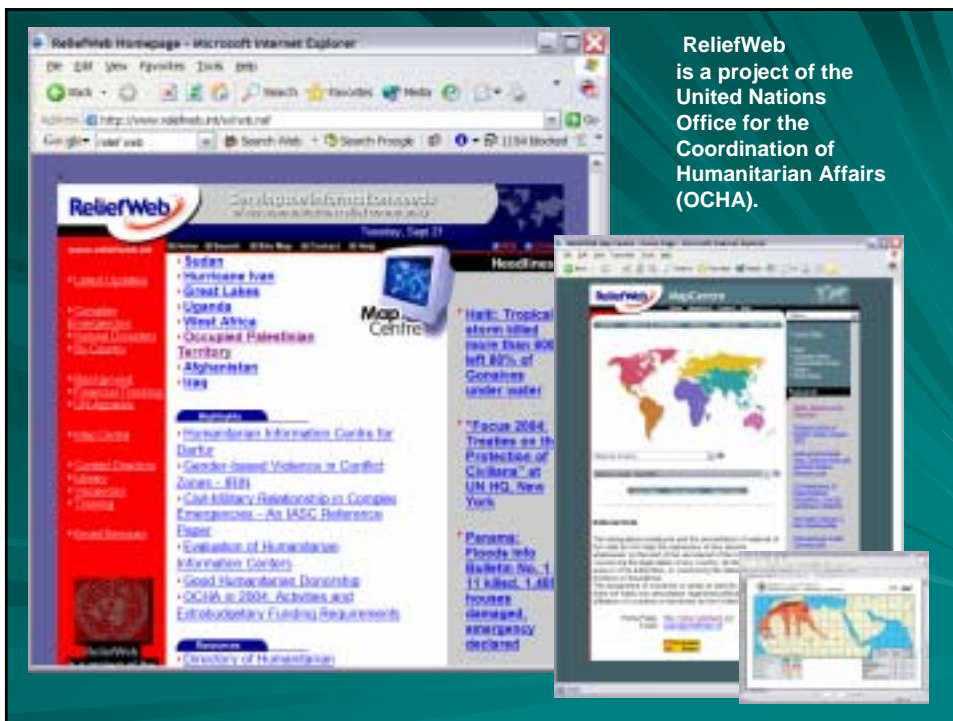
Directory of sites collecting long-term data on geo-physical variables.

About 300 indicator variables.

Also allows users to map where stations are in terms of, for example, agro-ecological zones.
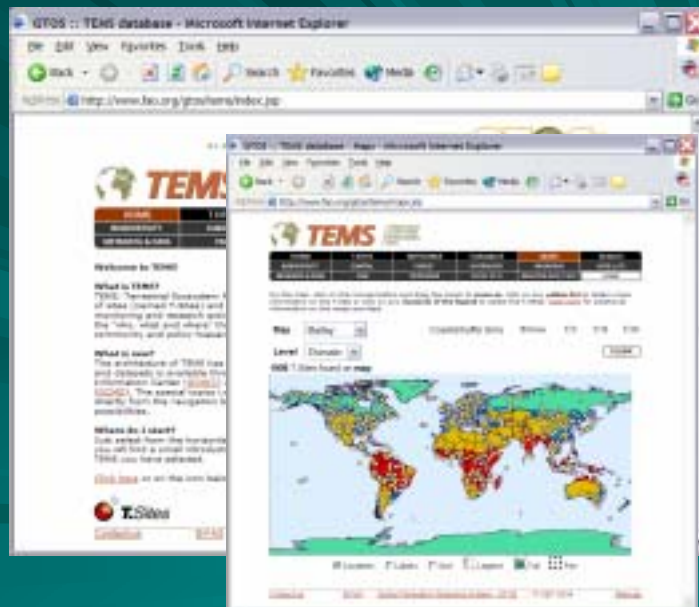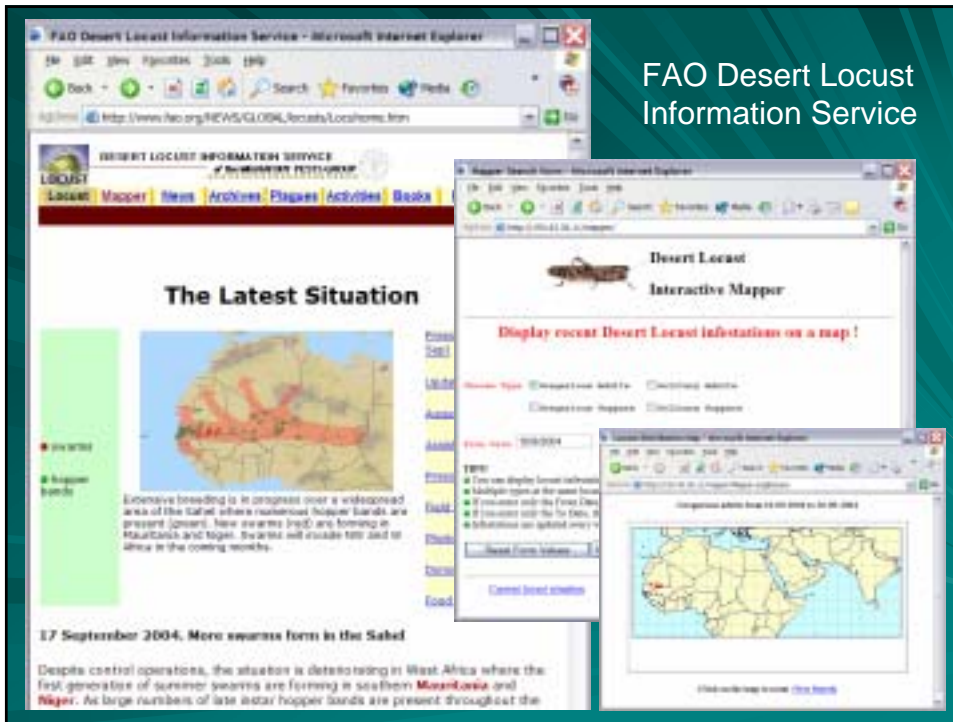
FAO Desert Locust
Information Service

ReliefWeb
is a project of the
United Nations
Office for the
Coordination of
Humanitarian Affairs
(OCHA).

FAO Nutrient Response Database

Spatial referenced database of nutrient response experiments.
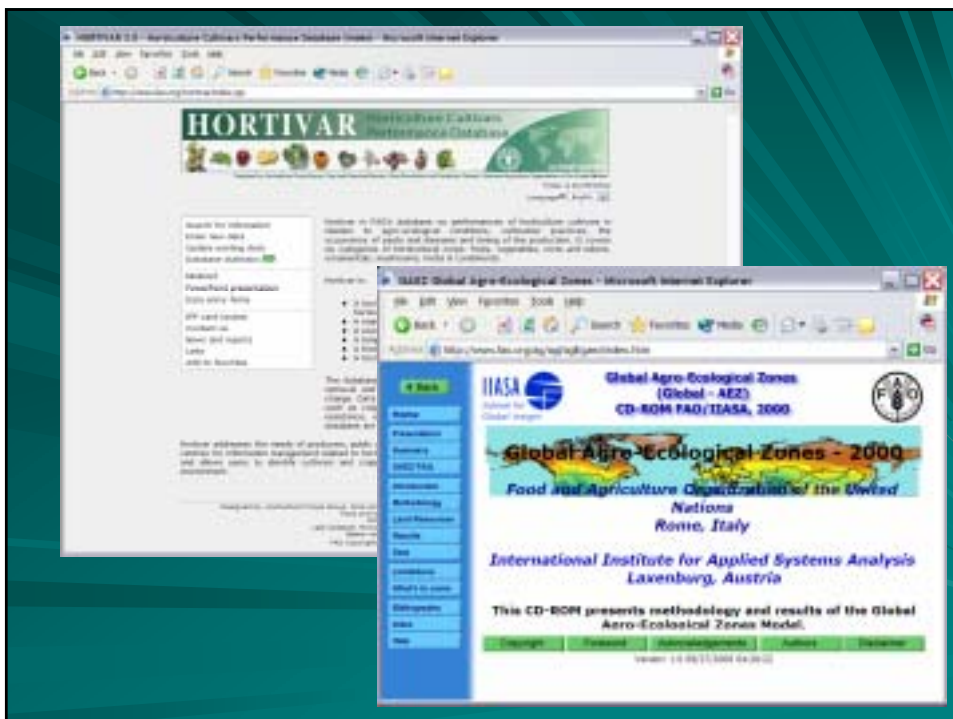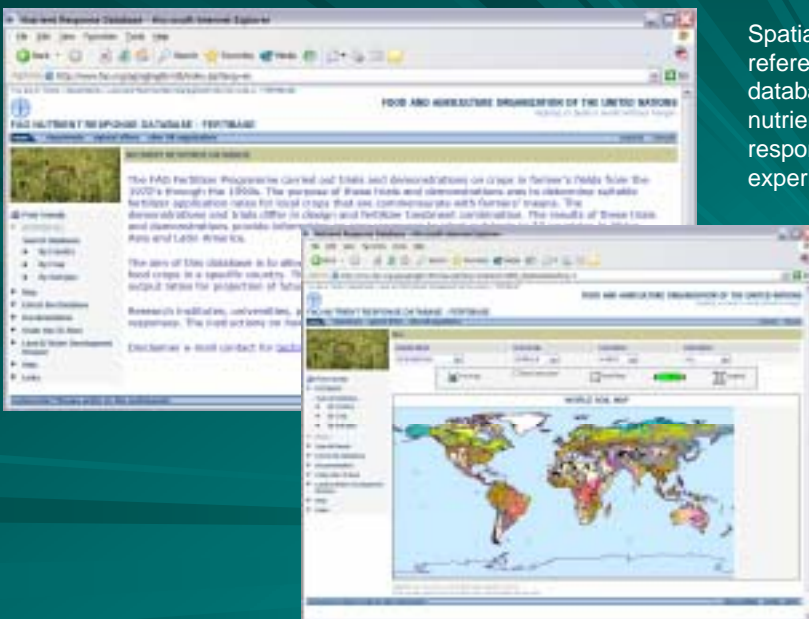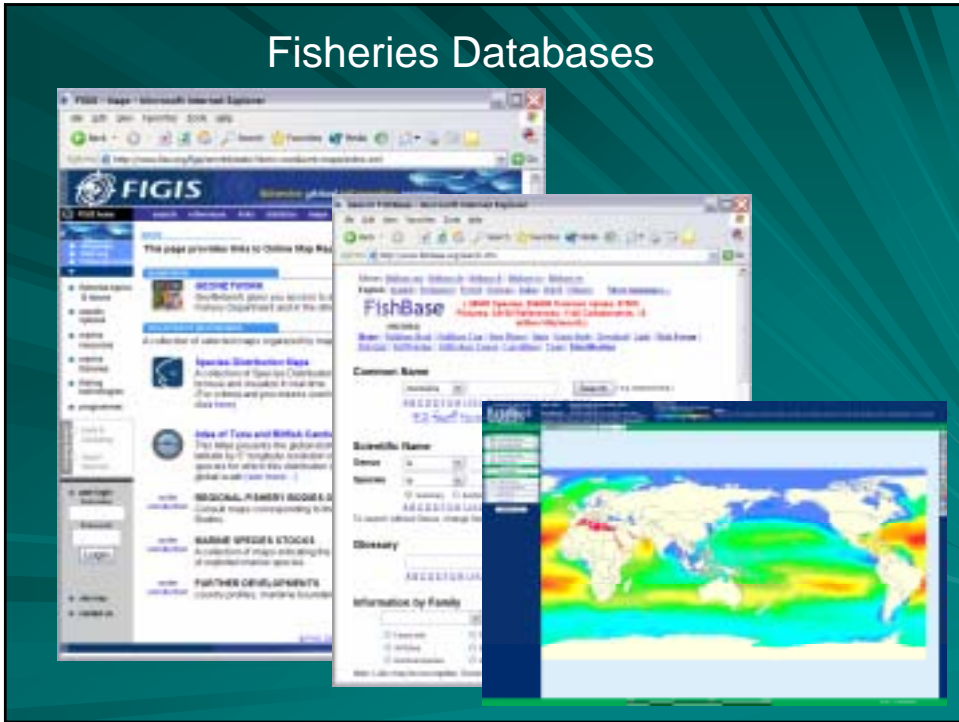
AQUASTAT: FAO's Information System on Water and Agriculture

Comprehensive information on the state of agricultural water management worldwide

Many maps of water resources available, e.g. Global Map of Irrigated Areas

Fisheries Databases

Foris WebView – Global Forest Resources Assessment

FORESTRY

CIFOR FSIC
Forest Spatial Information Catalog

UNEP.NET

CIESIN and SEDAC

World Bank Development Gateway
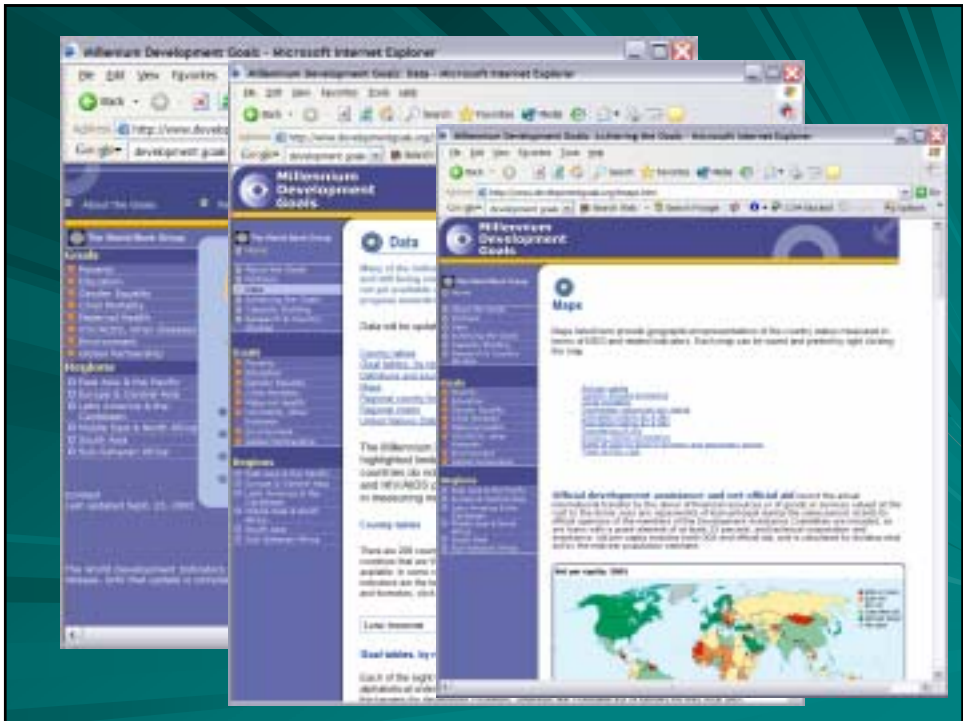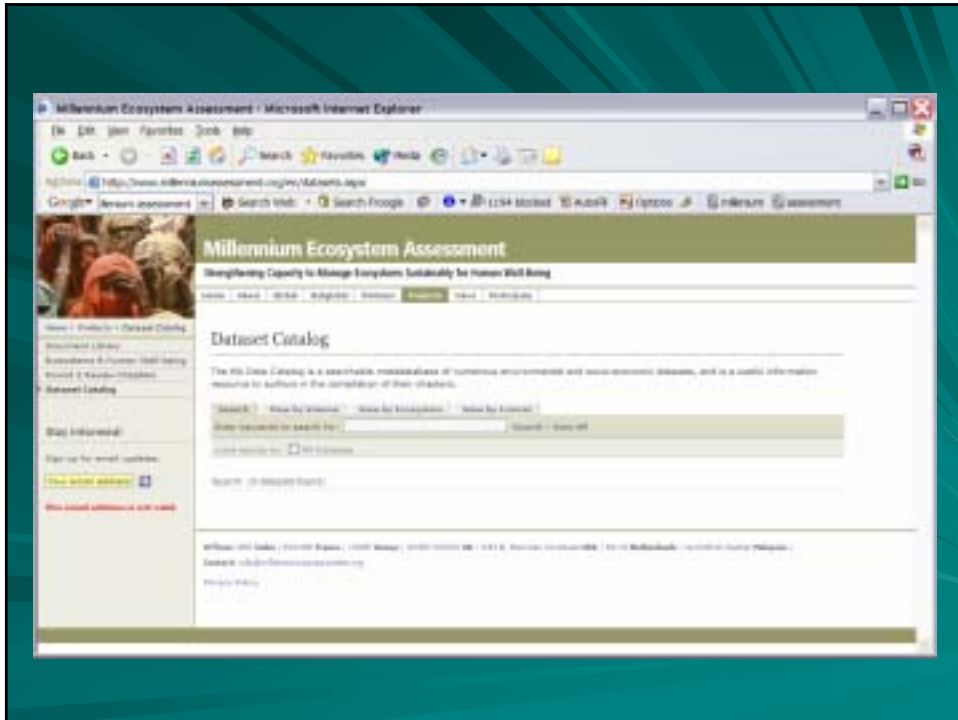
Global Land Cover Facility

University of Maryland

Develops and distributes remotely sensed satellite data and products concerned with land cover from the local to global scales.

27,475 Landsat scenes
• orthorectified (georeferenced)
• 1990 and 2000

GeoCover
• georeferenced
• mosaiced
• Mr. Sid format

MODIS NDVI
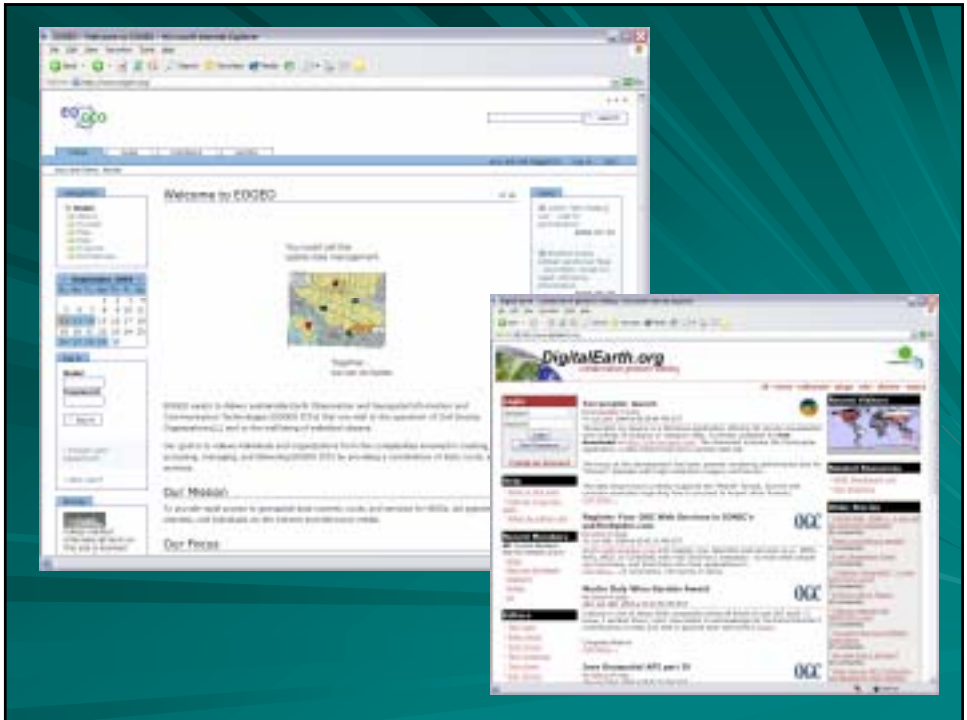
GeoSpatial Science for a Sustainable Future

CGIAR – CSI

Consortium for Spatial Information

Contact: csi@cgiar.org

The CGIAR Consortium for Spatial Information (CGIAR-CSI)

A global network of research laboratories applying geospatial science and technology for international sustainable agricultural development, natural resource management, biodiversity conservation, and poverty alleviation

http://csi.cgiar.org

CSI Objectives

- Coordinate and integrate CGIAR geospatial efforts

- Strengthen the Centers' capacities to apply Geo-Spatial Science

- Share and disseminate methods, tools, experiences,
  - within the CGIAR system,
  - with national / NGO partners,
  - globally via online access.

- Further development of global databases:
  - sustainable development,
  - agricultural research
  - natural resources management

Strategic Initiatives

- Six high priority areas identified,
    - with their respective coordinating centers:
  - Coordinated data management and tools (IWMI)
    - ICT/KM Project
  - Geographic dimensions of crop varieties (CIMMYT)
  - Impact assessment and policy research (IFPRI)
  - Natural resource degradation (ICARDA)
  - Integration, training, capacity building, with NARES (CSI)
  - Poverty mapping (CIAT)
    - PovertyMap Project

GASSIA Workshop
Follow-up: GASSIA – Africa (March 2005)

CGIAR-CSI Regional and Global Datasets

Preprocessed SRTM DEM Data – 90m – GeoTiff – 5 Deg Tiles
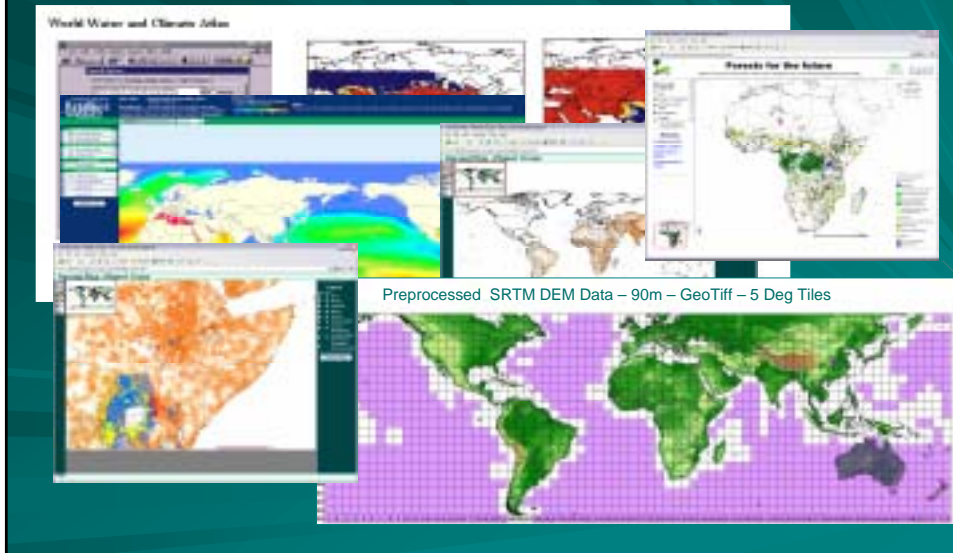
CGIAR-CSI GeoPortal
MultiCenter MapServer and Data Sharing Platform

- CGIAR-CSI –GeoPortal,
  - A central access point CGIAR geo-spatial data and tools.
  - GeoSpatial Data and Spatial Tool Sharing Platform

- CGIAR GeoSpatial "InfoFinder" – Meta-data inventory
  - Full set of metadata for CGIAR geospatial data
  - Facilitate dissemination of GPG's

- CGIAR Multi-Center MapServer - GeoPortal
  - Assemble and make available a selected set of geospatial datasets for non-expert users
  - Demonstrate advanced ICT/KM spatial analysis capabilities,
  - Multi-Center analytic capability based upon a distributed database architecture.

GeoSpatial Info-finder
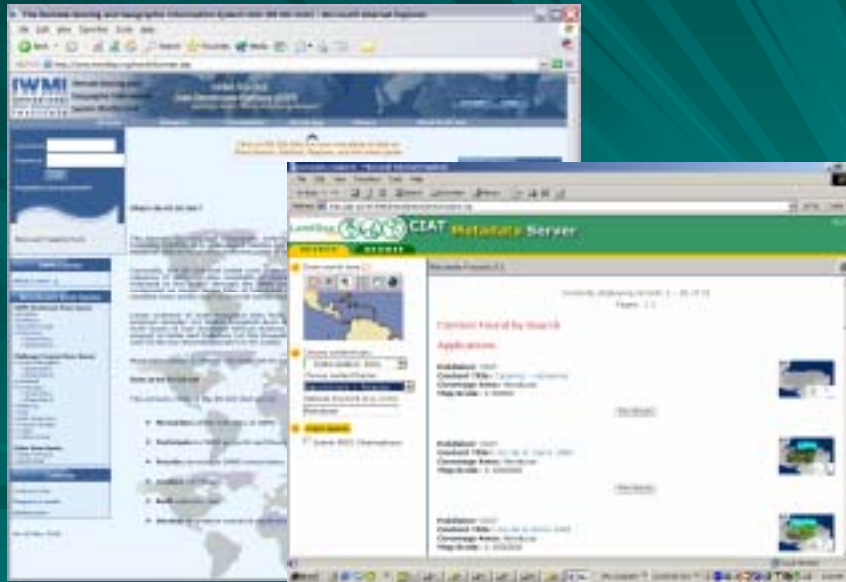
Significant Gaps

- Farming / Production systems
  - "LCCS" type hierarchical classification system
  - small farms methodology
  - dis-aggregation of the "mixed farming" category
- Global Irrigated Areas Mapping
  - spatial disaggregated country stats
  - actually mapping (e.g. remote sensing)
  - accounting for small irrigation systems

Most Significant Gap

- Missing Link:
  - Capacity at the National / Local Level
  - Perceived demand at both ends of the user spectrum
  - Allow national partners to manage their own resources
- Bridging the "GeoSpatial Digital Divide"
  - Creation of a viable, sustainable, and healthy, two-way interactive data exchange and information flow across scales

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Geospatial One-Stop E-Gov Initiative

Operating Philosophy:

     Two-clicks to the data.

We're still not there, but this is where we should be headed.

Thank You…

For further information, contact:
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