Ministry of Forestry and Water Affairs

Geographical Information System Infrastructure

28.02.2013
GIS APPLICATION

- GIS Infrastructure
- Geographical Data Portal (Inspire Geoportal)
- Geodata
- Plan Revision Automation System and Planing Portal
- National Land Cover Database
- Land Monitoring System
- Erosion Risk Maps
- National Biodiversity Database (Noah’s Ark)
- Protected Areas Database
- Property Information System
- River Basin Database
- Local Branch Managers Information System
- Hunting Information System
- Protected Areas Permission Information System
- Geographical Archive System
Spatial Data which belongs to Ministry has been determined and GIS Database has been set up to manage all spatial Data. System has been set up on multi layer architecture. We run our official and public applications on this architecture.

**DATA LAYER**
- RDBMS (RAC) ORACLE

**SERVICE LAYER**
- SDE
- NetGIS
- GeoServer
- Web Servis
- Diğer

**IMPLEMENTATION LAYER**
- Esri ArcGIS Server
- NetGIS Server
- GeoServer
System has been set up on 17 servers.
We can satisfy data synchronization between DSİ (General Directorate of State Hydrolic Works), OGM (General Directorate of Forest), DMİ (State Meteorological Works) and Ministry. Also other ministries and public can reach all the data by using web web applications.
Currently it is installed under information technologies departments of our Ministry and its affiliate organizations. It provides a platform for the authorities for managing the spatial layers under their responsibility and for serving these layers to the users via internet.
Standard Map Services Usage (Google Maps, Microsoft Bings etc.)
- Web-based – easy access
- Flexible structure
- Open to additions
- Permits fast presentation of the dynamic data
- Queries attribute information
- Carries out Geographic Analysis e.g., Buffer Zone Analysis, Intersection Analysis, Spatial Selections, etc.
- Supports the use of an unlimited number of layers (currently >250 layers online)
- 4 Language Support

GEODATA MOBILE: Ipad and Iphone Support, Android Operating system Support, Visualization of Layer, Attribute Queries
19.12.2012 Geodata was awarded as second best application in Turkey by Turkey Grand National Assembly.
Turkey’s first Geoportal has been put into use in 2011. And it is fully compatible with Inspire Directive.
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Head of Information Technologies Department
PLANNING PORTAL and PLAN REVISION AUTOMATION SYSTEM

Head of Information Technologies Department
By using Planning portal and plan revision automation system you can control all planning process. And you can make revision on the web screen.
PROBLEMS in PLANNING PROCESS
• LACK of GIS TOOLS
• LACK of STANDARDISATION
• DIFFICULTIES IN QUERIES
• LACK of DYNAMIC DATABASE
• DIFFICULTIES IN REVISION
• NON-ACCESSIBLE
• LACK OF MONITORING SYSTEM
• NO RELATION BETWEEN PLAN HIERARCHY

SOLUTION: GIS & PLAN REVISION and PLANNING PORTAL PROJECT
PLANNING PORTAL and PLAN REVISION AUTOMATION SYSTEM

- Map Services
- MedaData Services
- Geoprocessing Services
- Data Management Services
- WHO SAVE THE DATA, WHERE IT COME FROM?
- WEB VISUALISATION, QUERRY AND UPDATE
- WEB ANALYSIS
- SYSTEMATIC STORAGE of DATA from DIFFERENT RESOURCES

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This Web Based GIS application has been established to collect permission data in protected areas. By this way users from General Directorate of National Parks and Nature Conservation can monitor the permission and conditions in the protected areas.
IT Department of Ministry of Forestry and Water Affairs is focal point of EU GMES Programme. In the concept of GMES programme, we established Land Monitoring System by using CORINE data.
Working Areas covers whole of Turkey. In 25 riverbasins micro-basins and sub-basins were determined. Moreover 25 riverbasin borders has been revised.
RIVERBASIN DATABASE

RIVER BASIN DATASETS

River Basin Borders;
- Basin,
- Sub-Basin,
- Micro Basin,
- Dam Basin Border.

Hydrology;
- Rivers,
- Dams,
- Lakes,
- Ponds,
- Monitoring stations.

Morphology;
- Sand
- Topography (Height, Slope, Exposure)

Meteorology
- Meteorology stations
- Climatological Data (Rain)

Land Cover;
- Artificial Surfaces,
- Agricultural Areas,
- Forests and Semi-natural areas,
- Wet Lands,
- Water Bodies.

Head of Information Technologies Department
RIVERBASIN DATABASE

GEOGRAPHICAL DATA LAYERS

- IRS Satellite Images
- IKONOS Satellite Images
- Satellite Images
- River Protection Plans
- Water Monitoring Networks

Basin
Sand
Forest
Hydrology
Land Cover

Head of Information Technologies Department
ETKE/YETKE - $A_3 = R \times K \times LS \times C \times SIO$

Sedimentation Level Maps in the River Basins

RIVERBASIN DATABASE
The Biodiversity Monitoring Unit of the Department of Information Technology is responsible for the collection, coordination, sharing, distribution and management of all kinds of biodiversity data, which has been acquired by the Ministry of Forestry and Water Affairs and its affiliated institutions in accordance with the Circular dated in 19.10.2009 and numbered B.18.0.BiD.0.03–713.03–91/10, in the digital environment, namely the Noah’s Ark National Biological Diversity Database, under the coordination of the General Directorate of Nature Conservation and National Parks.

The National Biodiversity Database namely the Noah’s Ark is online database of Turkey in which all kinds of biodiversity data have been collected. All kinds of information concerning flora and fauna and their habitats are collected and found in this database for monitoring present biodiversity of Turkey.
Digitised protected areas borders which are under responsibility of our ministry collected in database and served all governmental and non-governmental organisations.
This application was established for defining hunting areas and forbidden areas by using web editing tools. Experts from the local and General Directorate can use this system according to their authorities.
By this system high level managers can reach three (OGM;DSİ;DMİ) General Directorate’s local managers in the system. System get the data from three general directorates database by web service. And this system has also mobil version.
Thank You.

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