



**US Army Corps  
of Engineers** ®  
Mobile District

GIS Installation and User's Guide for  
**Enterprise GIS: eCoastal**

Initial Installation: December 1, 2003

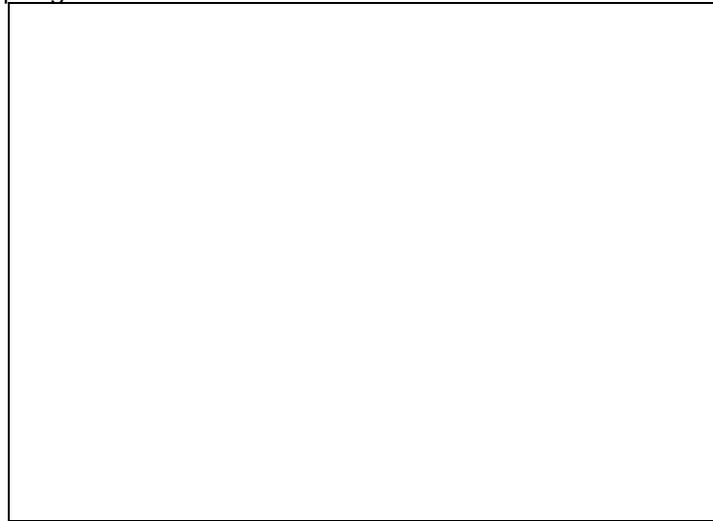
Acronyms .....	1
What is a Geodatabase? .....	1
Server-Based GIS.....	1
Installation of the eGIS Toolbox.....	2
To install the eGIS Data View Toolbox .....	3
Indexing Layer Files.....	5
Questions .....	6

## Acronyms

DBMS	Database Management System
GDB	Geodatabase
OPJ	Spatial Data Branch in the Mobile District
SDS	Spatial Data Standards

## What is a Geodatabase?

A geodatabase (short for geographic database) is a physical store of geographic information inside a database management system (DBMS). The diagram below illustrates a sample geodatabase.



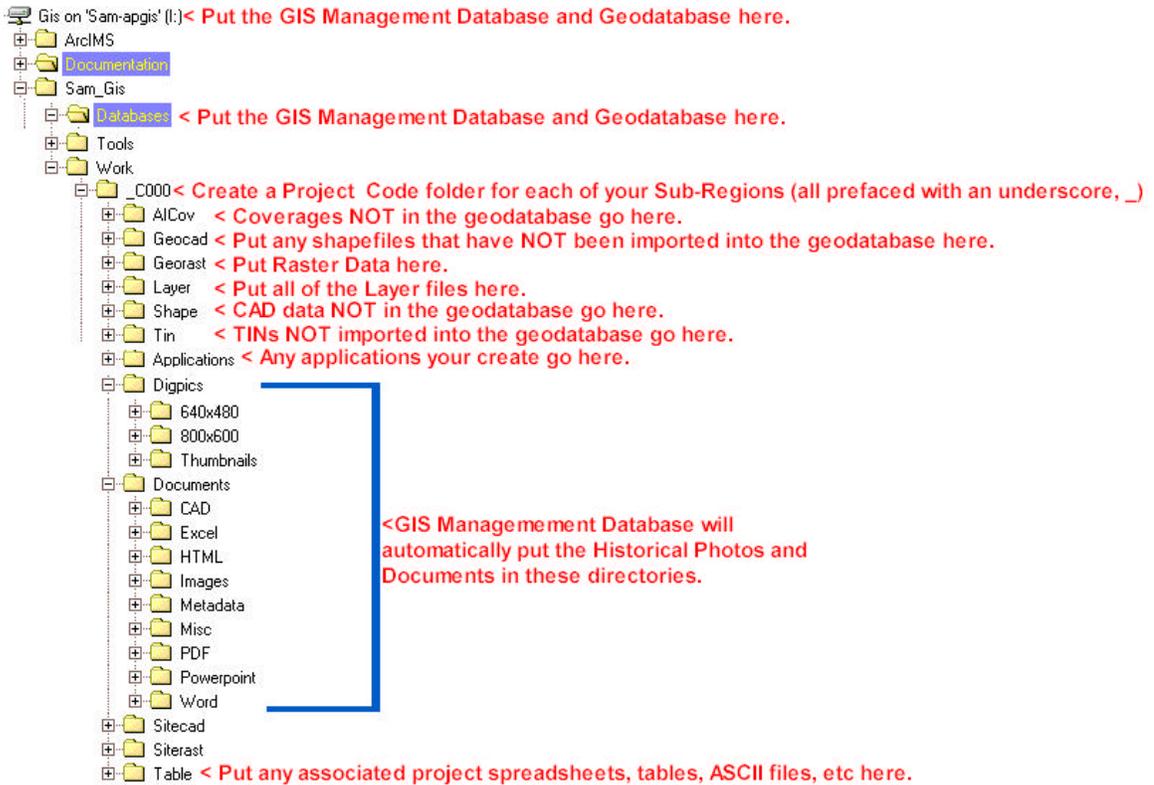
All data (vector, raster, address, measures, CAD, etc.) is stored together in a commercial off-the-shelf DBMS, in our case, Microsoft Access. This system does not use shapefiles. All data accessed from this system and to be imported to this system will be done through SDS Feature Datasets and Feature Classes. Shapefiles are most equivalent to feature classes.

## Server-Based GIS

Your Geographic Information System will be server based. All spatial data should reside on your GIS Server within the Geodatabase. Having all data in a central repository allows everything to be indexed and all users to have access to all project datasets. All custom applications are written to only retrieve data stored in this database. Therefore, it is imperative that all data are put through the proper SDS formatting and GDB importation routines.

### Server Directory Structure:

## Geodatabase and GIS Installation Guide



### Software Need for Geodatabase Migration:

In order to build and maintain an eCoastal Enterprise GIS, the follow software will be needed:

- ?? Spatial Data Standards 2.31;
- ?? ArcInfo / Editor 8.3;\*
- ?? ArcSDE 8.3;
- ?? and SQL Server 2000, however personal geodatabases, such as MS Access can serve as the primary geodatabase if required data storage does not exceed the software's limitations.

The SDS GDB Builder requires a user to have ArcInfo / Editor 8.3 to build a GDB with all the appropriate subtypes and domains. Once a personal GDB is built with domains and subtypes it will not be editable with anything less than ArcEditor 8.3. This type of personal GDB will be viewable with ArcGIS 8.3 but not editable.

\* Please Note: If an office has not received the latest version of ArcGIS from ESRI, it is possible to be provided a 90-day trail use of ArcInfo or Editor until one can be purchased. Please contact your ESRI representative for more information.

## Installation of the eGIS Toolbox

The eGIS Toolbox was developed to give the user quick access to the data stored in the GDB, as well as perform standard GIS operations with a click of a button.

### The following applications have been included in your installation:

- ?? eGIS: Data Viewer

- ?? eGIS: Survey Tools
- ?? eGIS: Report Tools
- ?? SBAS-A – Sediment Budget Analysis System for ArcGIS 8.3

Dredging information can be managed through the eGIS Toolbox, however data connection and maintenance must be done with the assistance of Silent Inspector. The custom Visual Basic application developed for the eGIS uses the Silent Inspector database, as well as a connection to the existing Channel definitions defined in the GIS Management Database. Please contact the Spatial Data Branch for assistance for inclusion of the **Dredging Tools** application. The following information must exist in Silent Inspector (<http://si.wes.army.mil/>) to enable the Dredging Tools of the eGIS Toolbox.

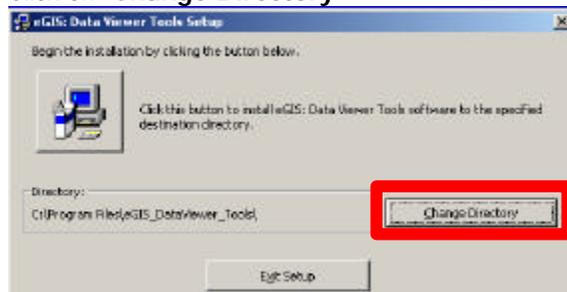
1. Project and channel names for the district
2. Contracts
  - a) Contract info such as dates, contractor
  - b) Contract #, bid #
3. At least 1 bid item/contract
4. The dredges/scows that worked on the contract should be assigned to the contract
5. The working locations of the dredge - reaches or assignments. Where the detailed are not available, they should be labeled as summary assignments or reaches. Tie each assignment to the appropriate bid item if possible.
6. Disposal Areas used by the contract. This can be done in a stepwise manner, but some judgment is required to make a consistent set of projects, channel names, and disposal areas for a District. Defining proper stationing and names for the assignments/reaches may also require judgment.

**Once these data are in a consistent form, you can use the SI Data Explorer to input the data.**

## To install the eGIS Data View Toolbox

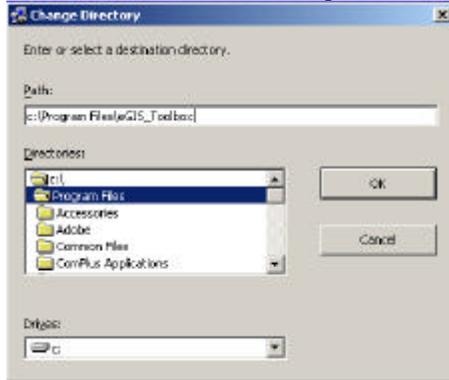
The eGIS Toolbox is made up a series of Toolbars. Each toolbar is designed to group like functions together. Locate and extract the contents of the 2 Application\_Distribution.zip files. One zip contains the standard eGIS Toolbars, the other contains the Sediment Budget Analysis for ArcGIS application.

1. Within each subdirectory, double-click to run **Setup.exe**
2. Click on **"Change Directory"**

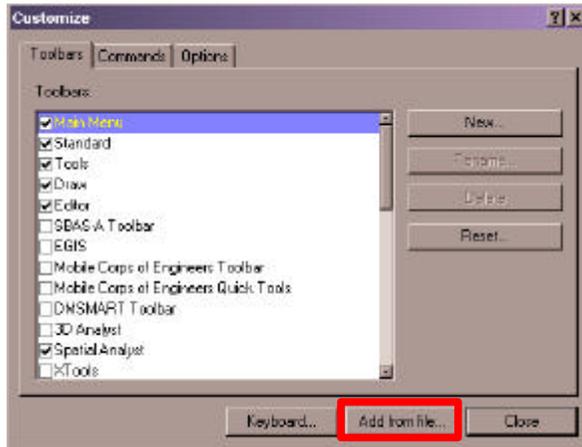


3. Change the Path of the Installation to c:\Program Files\**eGIS\_Toolbox\***

***\*you will need to type in this path. Once you Click OK, you will be prompted to create a new directory. Click Yes.***



4. Follow the on-screen instructions for the rest of the installation.
5. Open ArcMap
6. From the Tools menu, select Customize
7. If you do not see any of the eGIS: \* toolbars listed, from the Toolbars tab, select "Add from File"



8. Browse to C:\Program Files\GIS\_Toolbox\
9. Click on eGIS-DataViewer.dll, and Click Open. It takes a few seconds for this toolbar to load.
10. Once it loads, Click OK to close the Added Objects preview box
11. Click to check eGIS: Data Viewer Tools. This will turn on the toolbar:

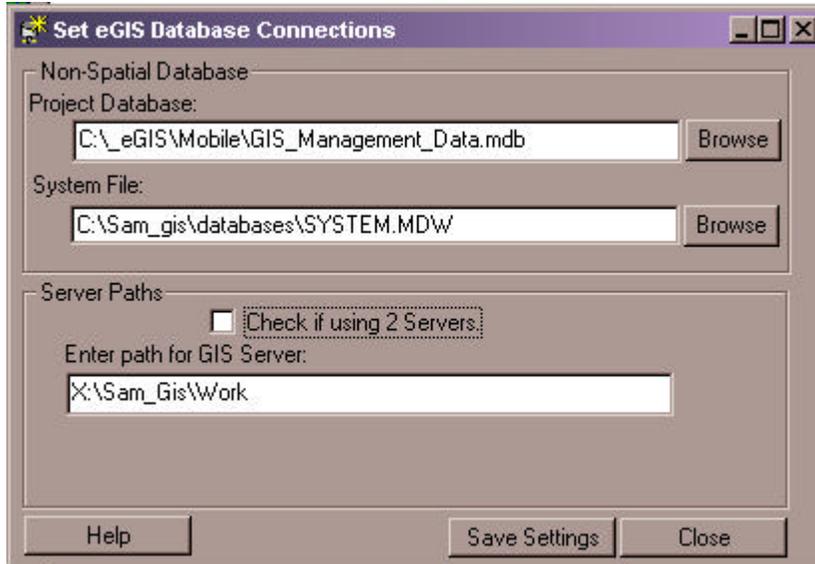
Functions of the eGIS: Data Viewer Toolbar include:



- ?? Connect to Database
- ?? Add Data from Database
- ?? Maps: Create Quick Layout, Create Layout and Report
- ?? Layer: Move Layers Up/Down, Sort Layers
- ?? Locate: Find by XY, Find by Attribute
- ?? Data: Add XY, Import Excel as Point, Bounding Polygon, Polygon Area
- ?? Tools: Get Coordinate, Geo to UTM/UTM to Geo Coordinates, Draw Azimuth, Delete Graphics

12. Close the Customize Dialog Box
13. Before you can start using this toolbar, you must be connected to the databases. Below are instructions for connecting to the GIS Management Database. The GIS Management Database stores all of the necessary business information to fuel the custom applications. To connect to these databases, select the "Connect to Database" button.

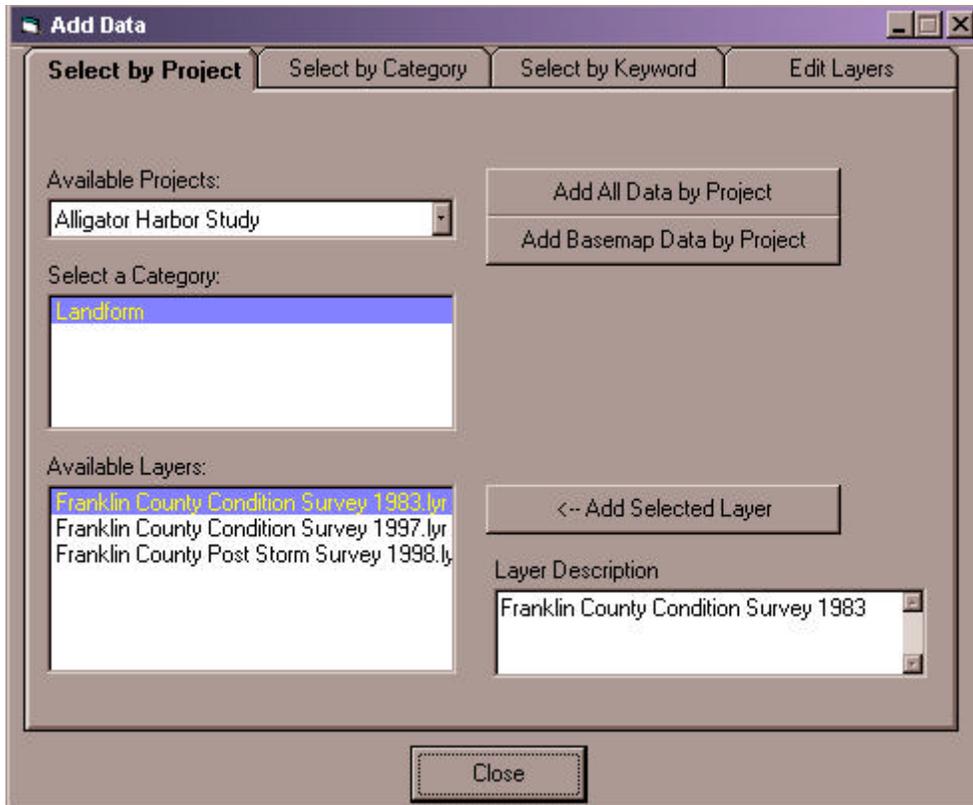




- 14.
15. The above dialog opens to assist in the database connections.
16. Click the first Browse button and navigate to \\GISserver\GIS\Databases\GIS Management Data.mdb
17. Click the second Browse button and navigate to \\ GISserver \GIS\Databases\System.mdw
18. The Server Path section allows the user to connect to the geodatabase layer files, and associated documents and photos. If your system uses a spatial and non-spatial server, check the box and enter the appropriate paths. However, most system installation use only one GIS server, if this is the case copy and paste the working directory path of the GIS Server.
19. Click "Save Settings"

## Indexing Layer Files

After the layer file has been created for each feature class, the layer file must be indexed so it can be used by the custom application. Once the GIS Management Database is populated with all of the layer files the Data Viewer application will allow all users to browse for the spatial data. Below is a screen shot from the application that reads the index database:



This application allows the user to search for layer based on project, category, or keyword. To add layers into the Map Display, select the “Select by Project”, “Select by Category” or “Select by Keyword” tab. Enter your search criteria, and once the desired layers is listed, select the layer and click “Add Selected Layer”. This will add the layer to your Map Display.

## Updating the eGIS Toolbox

If updates are available for any of the distribution eGIS tools, they will be provided in .dll form. To update a toolbar:

1. Start --> Run --> Type `regsvr32 c:\Program Files\eGIS_Toolbox\<<name of .dll>> /u`  
Click OK.  
i.e. `regsvr32 c:\Program Files\eGIS_Toolbox\eGIS_Toolbox.dll /u` This is will un-register the current version
2. Paste the **new** .dll into `c:\Program Files\eGIS_Toolbox\`
3. Start --> Run --> Type `regsvr32 c:\Program Files\eGIS_Toolbox\<<name of .dll>> /v`  
Click OK.  
i.e. `regsvr32 c:\Program Files\eGIS_Toolbox\eGIS_Toolbox.dll /v` This is will register the current version

## Questions

For questions regarding the installation of the eGIS please contact members of the Mobile District's Spatial Data Branch.

**Hal Gates**, GIS Project Manager 251-690-2706  
109 St. Joseph St.  
Room 7029

## Geodatabase and GIS Installation Guide

Mobile, AL 36602

For questions on the eGIS Geodatabase structure, SDS, or datasets contact:  
**Greg Dreaper** at 251-694-3728

For questions on the eGIS Toolbox applications or SBAS-A contact:  
**Rose Dopsovic** at 251-690-3107

