Basemap Data Model

Data Model User Group

Join the data model user group if you are an existing ArcGIS customer and want to learn more about design and architecture of personal or enterprise Geodatabase and become a part of Esri's growing data model community.

In every GIS project there are many layers that serve as the basemap. These layers provide context for multiple GIS workflows, such as editing data or producing cartographic products. Basemap layers include themes such as hydrography, physiography, boundaries, transportation, cultural features, and elevation. You will find features such as these on topographic maps. Other maps may use some or all of thse features as the geographic base for showing operational layers, such as soils, geology, zoning, and utilities. Many of these same layers also appear in base for maps that overlay satellite imagery or orthophotography. Detailed instructions for modeling, symbolizing, and labeling many of these layers are provided on the ESRI Mapping Center Web site.

The basemap model represented here is one that would commonly be used for topographic maps. The addition or exclusion of layers allows it to be modified to produce various types of maps. The intent of this model is to provide a clear approach for implementing, managing, and creating maps using these basemap layers.

In particular, this work was done as a case study at ESRI using the Texas Natural Resources Information System's (TNRIS) data. The goal was to create a multi-purpose basemap to demonstrate best practices for topographic map production using GIS.

User Forums

Visit the Esri data model discussion forum to share your ideas, thoughts, and questions with other users.

Downloads - Case Studies

These Case Studies are a good starting point to learn about best practices for this discipline. These project examples include sample geodatabases, map documents, and documentation.

- Template Database Schema ArcGIS 8.3 - zip format, 863 kb
- Topographic Base Map Data Model Poster - zip format, 11667 kb

Downloads - Design Templates

The Design Templates are the result of the community-based design process. The general concepts and terms for this discipline are described here. Tools and examples to create a template data model are also included for advanced users.

- Global Map Data Model Poster - pdf format, 872 kb

- Using Valid Value Tables in Geodatabase Design pdf file - zip format, 220 kb

User Community

Visit the TNRIS site at Texas Natural Resources Information System.

Visit also ESRI Mapping Center to learn about how to use ArcGIS in the graphic delivery of geographic information. Its goal is to help you make great looking maps by using the same cartographic concepts and techniques that professional cartographers use.