Using ArcGIS to Leverage Your Legacy Data

Course Length: 2 days
ArcGIS Version: 10.x
App: ArcMap

Overview

Exploration companies pour a large amount of resources into organizing existing data and integrating new data. This is especially true at project start up, and much of this effort is repeated in every project that gets initiated. This course was developed by an experienced geoscientist and GIS user, and brings together a career's experience in organizing and conditioning data as it gets used in the modern digital workroom. The class is optimal for team training between geoscientists and technical support staff, and is designed to facilitate interaction and communication between the two job descriptions.

Learn how to efficiently deal with large data sets from vendors (or in personal stores) and integrate them in a systematic way. Reclassify and update geologic age tags in the data to a modern standard. Learn how to build statistical summary maps and dynamic interactive graphs in ArcMap that allow them to be used by geoscientists as regional prospect screening tools. Get the tools and understanding of what you will need to systematically integrate your organization's data once you return to work.

Audience

Those in exploration organizations who want to spend more time thinking about their data, rather than organizing it and reformatting it. Geologists, Geophysicists, Geoscience Technicians, and GIS analysts will all find value in attending this class. Although not directed at supervisors and managers, this course is also beneficial for them because it provides valuable insight into common data issues and will clarify many of the problems embedded in modern digital data.

Topics Covered

Day 1

- Relational Database Concepts
    - Table joins and relates – Combining database tables to analyze petroleum reserves and run time-slice queries of hydrocarbon resources by age
- Data Reclassification
    - Redefining data – Using the Summary function in ArcGIS to build the rudiments of a translation table; Optimizing the manual editing that is often required
    - Editing / updating data with a translation table – Learn to exploit joins and relates to update large databases from relatively small and easily managed translation tables

- o Resolve issues of geologic age inconsistencies by efficiently updating existing data following international standards

Day 2

- ▪ Analysis and Graphing
  - o Value of interactive graphs and building graphs in ArcMap – Discussion of geoscience data put into the context of interactive graphs that link dynamically to the map; Mechanics of building basic interactive graphs in ArcMap; Building dynamic charts to analyze parameters that indicate reservoir maturity
  - o Statistical summary of data – Learn the mechanics for optimal statistical analysis to condition the data for easy mapping, including the construction of compound keys
- ▪ Reconciling Disparate Data Sets
  - o Approach to dealing with reconciling separate data files – An overall strategy of data integration
  - o Organization's data standard development – Develop an understanding of the need for standardization when data is to be integrated into a single master reference data set
  - o Automation of processing – A ModelBuilder short course to help facilitate efficient appending (and/or population) of attributes
  - o Using load tools – Learn how to bulk load large data sets using Arc Catalog

Format

In-person instruction with hands-on practice and course materials you can keep.

Prerequisites and Recommendations

Students should be users of ArcGIS on a semi-regular basis. If coming as a team, it is very useful to have a geoscientist or someone with a strong geoscience background. This course was designed for team training, and therefore, a geoscientist along with the geotechnical support staff or GIS analyst is ideal.