Intermediate GIS Concepts for Petroleum

Course Length: 3 days
ArcGIS Version: 10.x
App: ArcMap, ArcCatalog

Overview

ArcMap can do so much more than simple map display and navigation. It has many tools for answering questions with the data you already have. Take your ArcGIS skills to a new level by learning to manage your data. Create new files and modify existing ones. Combine existing data into new datasets to show well and lease information in one table. Discover the immense functionality available in ArcToolbox. Take your map layouts to the next level with enhanced labels and new techniques for layouts. Make use of some lesser known features of ArcMap, like seeing animations of wells being placed over a century of time, link wells to other documents like well logs, and attach photographs to sensitive habitat locations.

Audience

Those in the petroleum industry who want to create maps and explore data in ArcGIS; including, but not limited to: Geologists, Geophysicists, Geoscience Technicians, and GIS Analysts.

Topics Covered

Day 1

- GIS Data Sources – Where does all the data come from? Who creates it? How can you access it? (Your Company's Data; GIS Data on the Web; Sharing Maps and Data)

- Understanding Coordinates – Understand the importance of making sure your data is in the right place. See real-life examples of issues inaccurate spatial locations can cause. (Spatial Reference Issues; Spatial Reference and ArcGIS; Geographic Coordinate Systems; Projected Coordinate Systems; Setting the Spatial Reference of the Data)

- Bringing Data into ArcGIS – Take paper maps and place them into correct spatial locations, import or export data from Google Earth, and more. (Importing data; Georeferencing an Image)

- Joins and Relates – Connect well points to a spreadsheet of well data that has no coordinates. (Using Tables in ArcMap; Table Relationships; Attribute Joins; Relates; Spatial Joins)

Day 2

• Creating GIS Data – Create your own GIS data files. (GIS Data Types and File Creation; Setting Properties of GIS Data; Database Design)

• Beginner Editing – Create your own GIS data and make changes to existing data. (Editing Workflow; Feature Construction Tools; Construction Methods; Tips and Tricks)

• Creating Templates and Editing Attributes – Make your editing and data creation more efficient with custom feature templates and *en masse* table editing techniques. (Feature Templates; Editing Attributes)

• Advanced Editing – Employ some data QC techniques by ensuring that the boundaries and intersections between features that touch are accurate. (Advanced Editing Tools; Map Topology)

Day 3

• Geoprocessing Tools – Build right-of-way polygons, find drillable areas of leases, and combine datasets to showcase expiring leases that have not been drilled. (Solving Problems in GIS; ArcToolbox; Geoprocessing Options)

• Advanced Layouts – Learn additional techniques for making a clean map layout. Clip the data frame to the outline of a layer. Add a grid to show coordinates. Show how different data frames relate to one another. Create a set of multiple maps for a whole area, such as one for each lease block or field. (Enhancing the Data Frame, including graphics, clipping the data frame, grids and graticules; Data Driven Pages; Export to PDF)

• Labeling Features – Display important information about your features with a variety of techniques. Adjust the appearance and placement of labels for maximum effect, while still emphasizing what is most important. (Label Basics; Label Styles; Label Expressions; Label Classes)

Format

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

Prerequisites and Recommendations

Attendees should have knowledge of Microsoft Windows® and be familiar with the basic use of ArcGIS, including the topics covered in either the **Fundamentals of ArcGIS** or **ArcGIS Desktop I** classes.