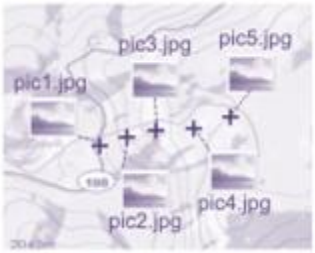
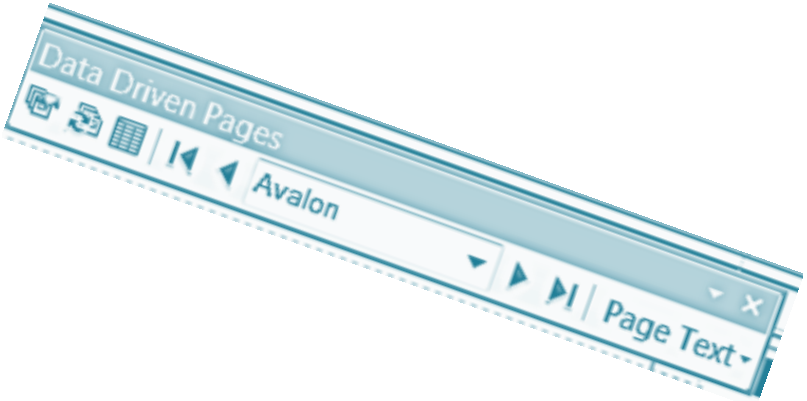
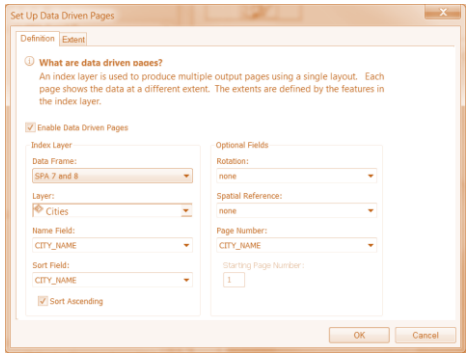
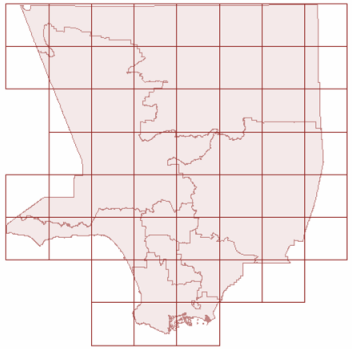




Use of GeoTagged Photos, Data Driven Pages and Dynamic Text in ArcGIS 10.1





Douglas Morales, MPH

Epidemiologist/GIS Coordinator

Los Angeles County Department of Public Health

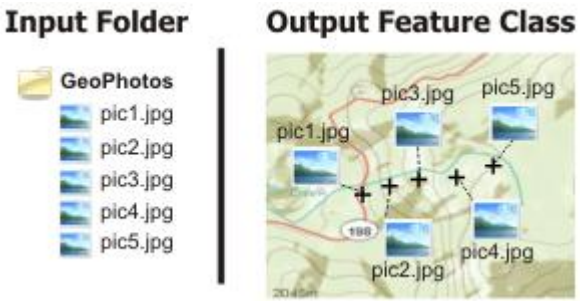
Office of Health Assessment and Epidemiology

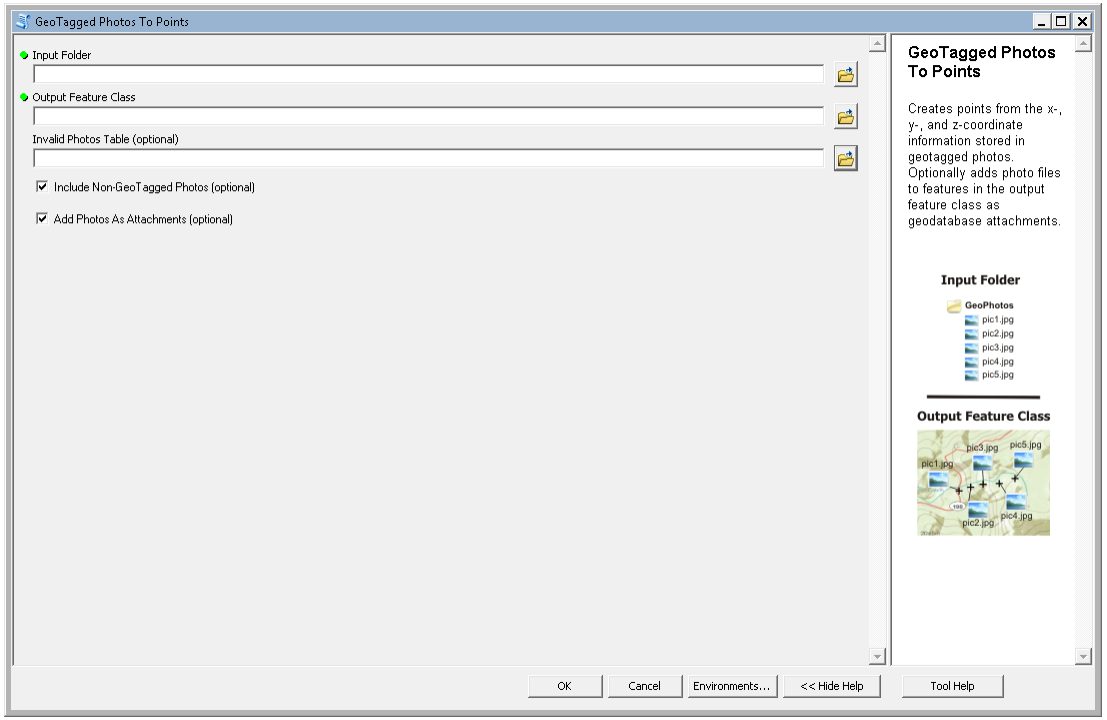
Epidemiology Unit

Background Info

- DPH Environmental Health Toxics Epidemiology request
- Sign locations known by one person by memory!!!
- Initial step: map locations
  - No handheld GPS devices
  - Blackberry County phones
  - GeoTagged Photos
- Future: use mobile GIS to assess sign condition

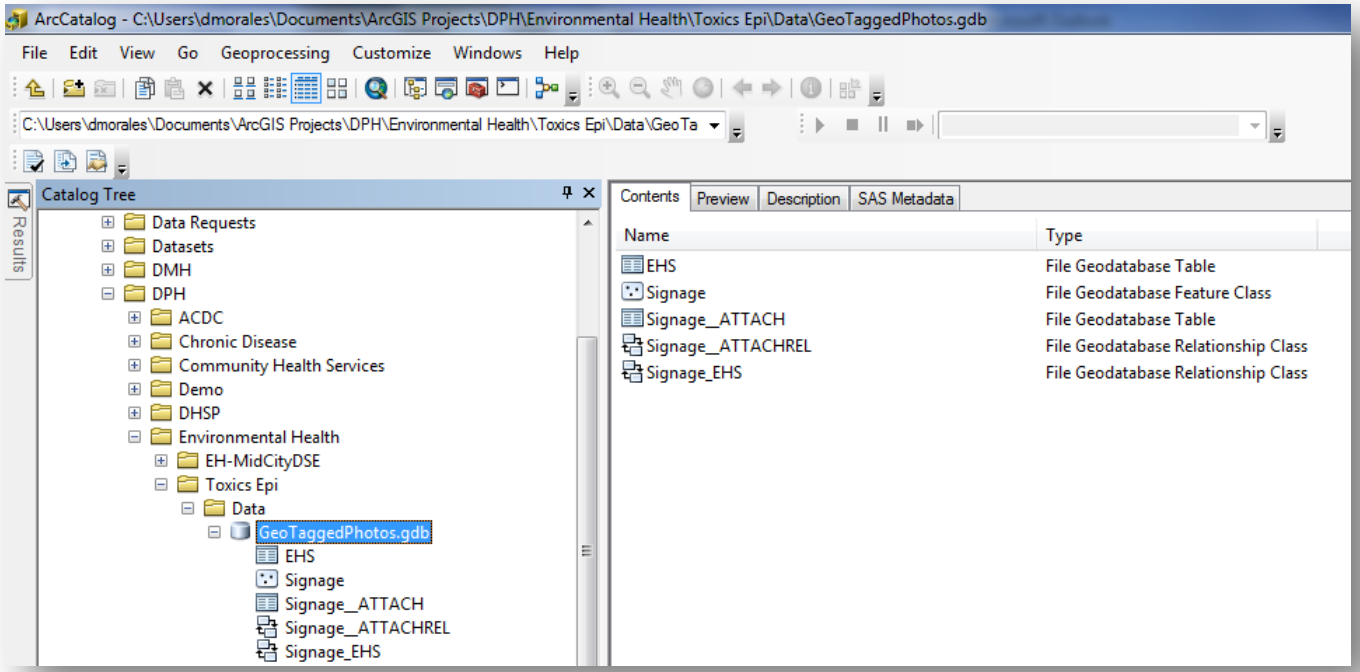
GeoTagged Photos To Points Tool





- Reads the longitude, latitude, and altitude coordinate information from JPEG and TIFF photo files with valid Exif (exchangeable image file format) metadata
- Writes these coordinates and associated attributes to an output point feature class
- Adds images to features in the output feature class as geodatabase attachments

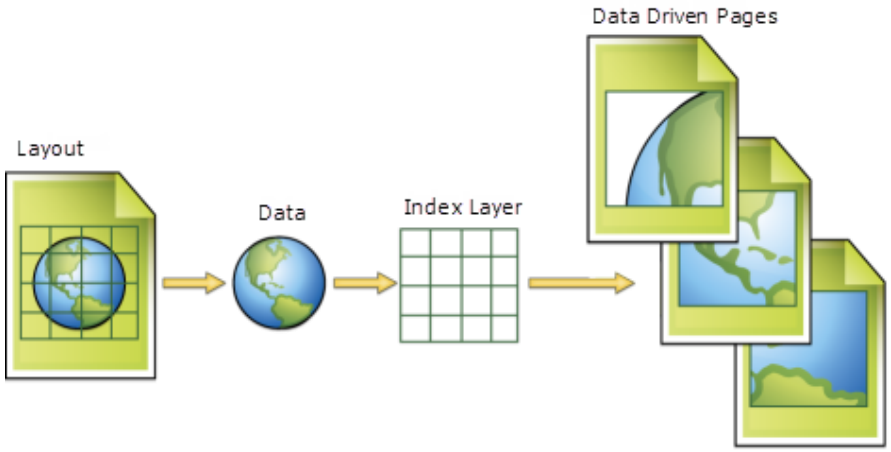
GeoTagged Photos To Points Tool



- Tool creates geodatabase table and relationship class

What are Data Driven Pages?

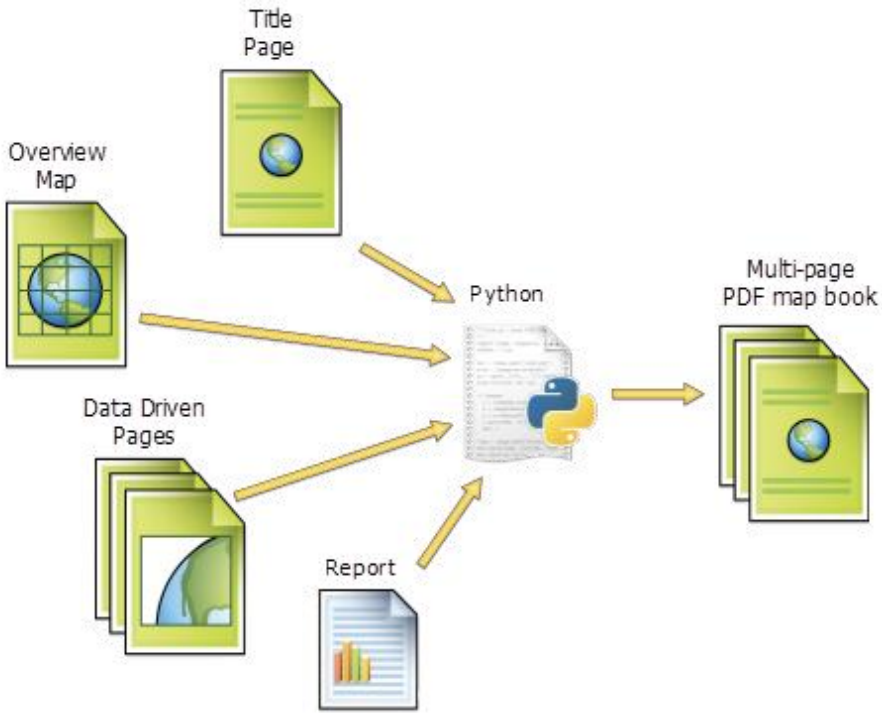
- Create a series of layout pages from a single map document
- A feature layer, or index layer, divides the map into sections
- Generates one page per index feature



Why use Data Driven Pages?

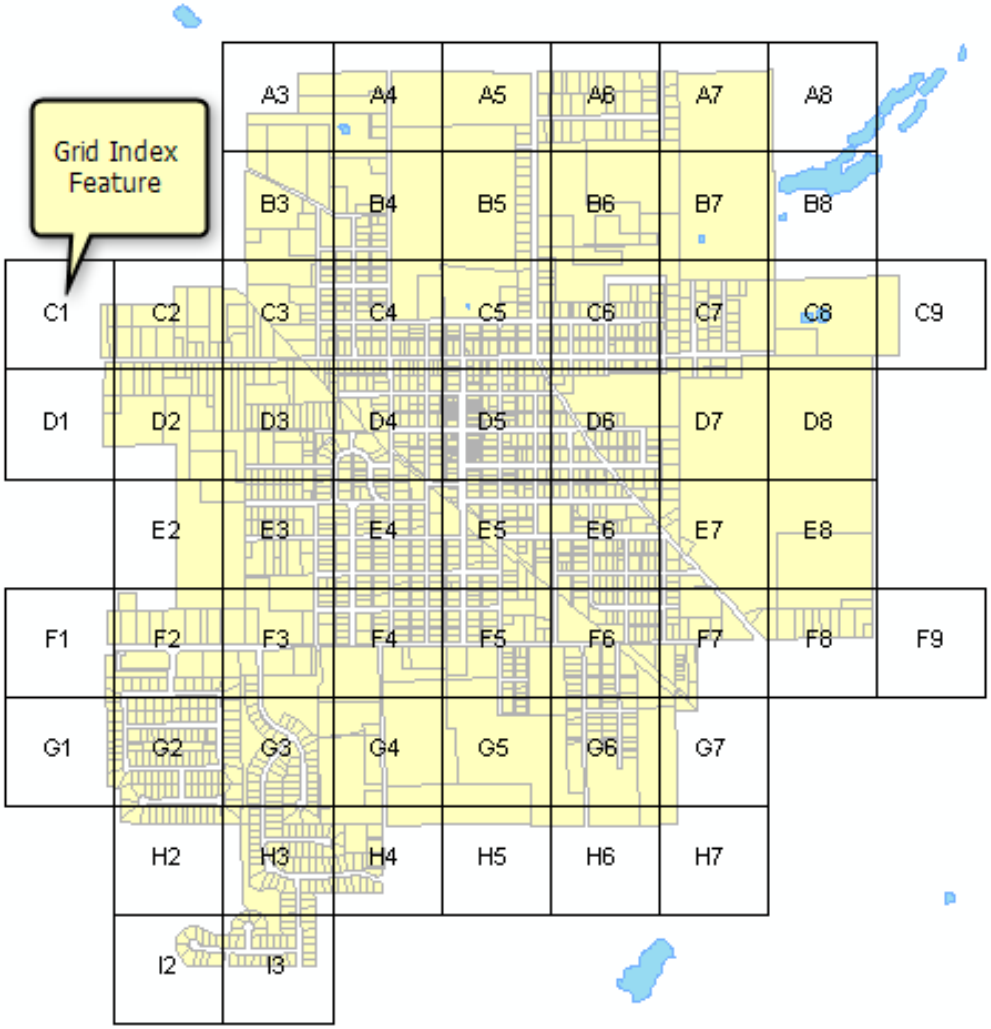
- Increase:
  - Efficiency
  - Productivity
  - Mastery of ArcGIS
  - Probability of promotion! ☺
  - Free time to text

Build a Map Book

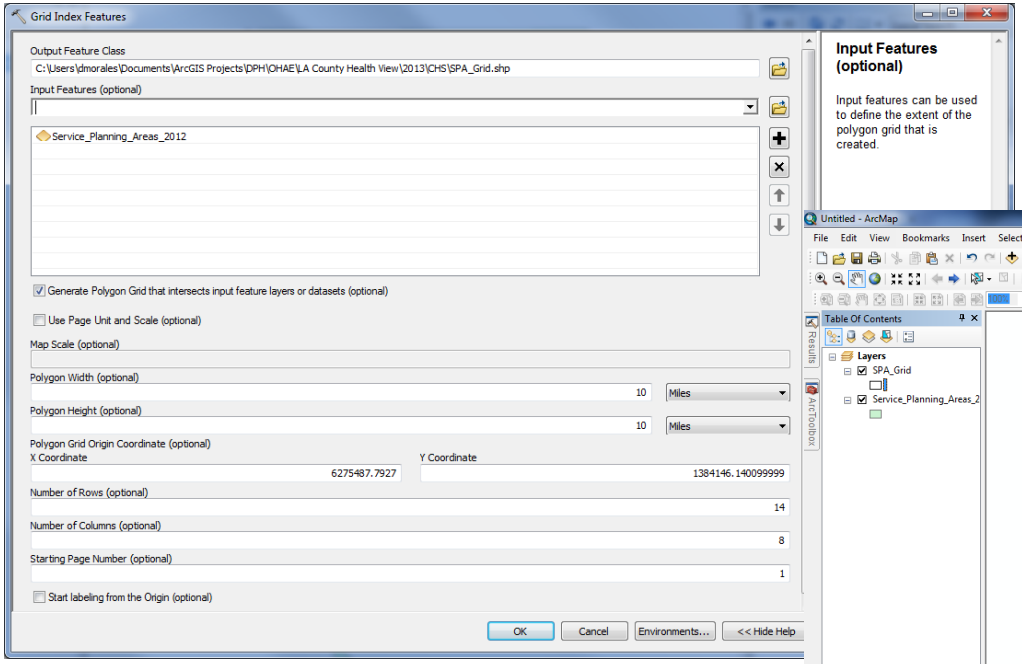


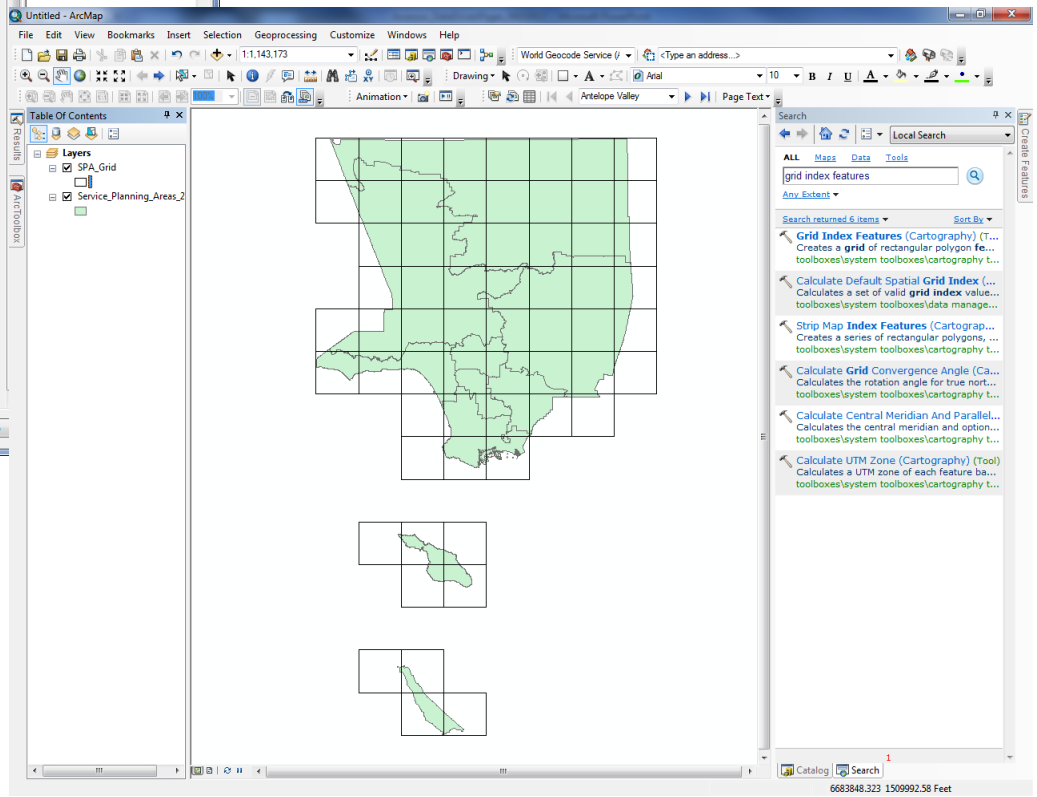
- In order to use Data Driven Pages to [build a map book]() you need to use Arcpy.mapping
- Arcpy.mapping is a Python scripting module that is part of the ArcPy site package

Grid Index Features Tool



Grid Index Features Tool



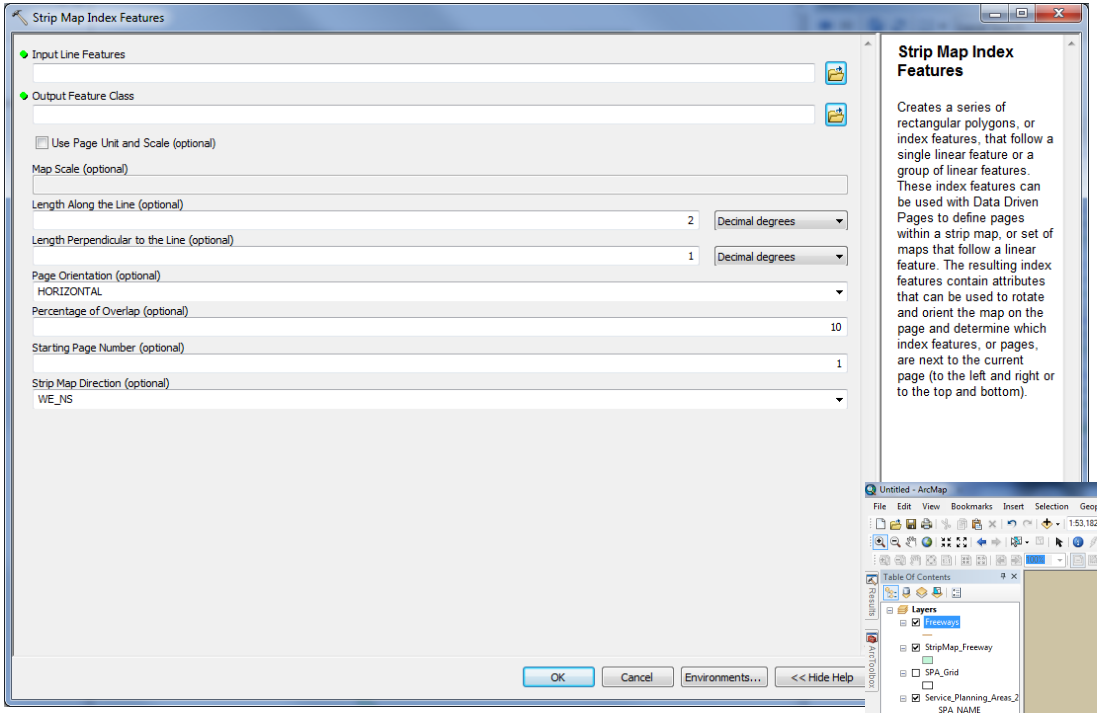


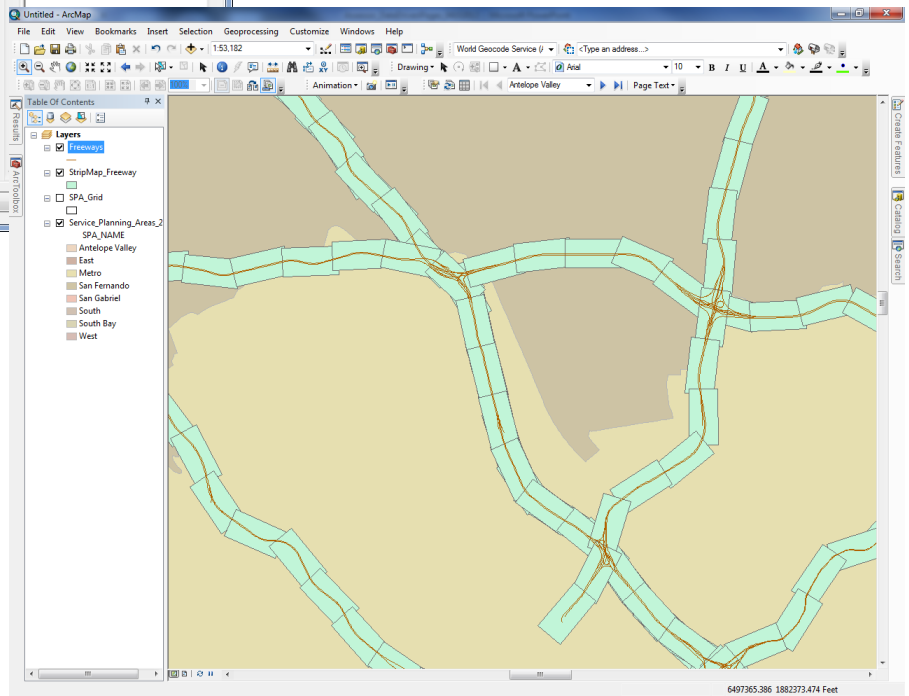
- Create index layers
  - Create grid around polygon feature to use with Data Driven Pages

Strip Map Index Features

You may want to create Data Driven Pages, based on a route, such as a highway, or along a river as seen in the strip map example below.

Strip Map Index Features





- Create index layers
  - Create grid around line feature to use with Data Driven Pages

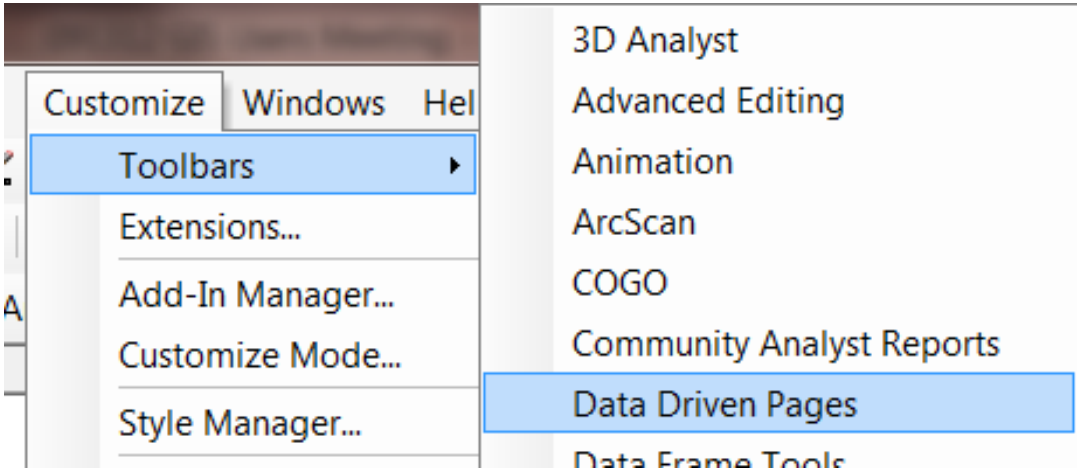
Data Driven Pages Toolset

	Description
Calculate Adjacent Fields	The most common use case for using this tool is to populate fields that can be used to label the adjacent pages in a map book. This tool appends eight new fields (each field representing one of the eight points of the compass: North, Northeast, East, Southeast, South, Southwest, West and Northwest) to the input feature class and calculates values that identify the adjacent (neighboring) polygons, in each cardinal direction, for each feature in the input feature class.
Calculate Central Meridian and Parallels	Calculates the central meridian and optional standard parallels based on the center point of a feature's extent; stores this coordinate system as a spatial reference string in a specified text field and repeats this for a set, or subset, of features.
Calculate Grid Convergence Angle	Calculates the rotation angle for true north based on the center point of each feature in a feature class and populates this value in a specified field. This field can be used in conjunction with Data Driven Pages to rotate each map to true north.
Calculate UTM Zone	Calculates a UTM zone of each feature based on the center point and stores this spatial reference string in a specified field. This field can be used in conjunction with Data Driven Pages to update the spatial reference to the correct UTM zone for each map.
Grid Index Features	Creates a grid of rectangular polygon features that can be used as an index to specify pages for a map book using Data Driven Pages. A grid can be created that only includes polygon features that intersect another feature layer.
Strip Map Index Features	Creates a series of rectangular polygons, or index features, that follow a single linear feature or a group of linear features. These index features can be used with Data Driven Pages to define pages within a strip map, or set of maps that follow a linear feature. The resulting index features contain attributes that can be used to rotate and orient the map on the page and determine which index features, or pages, are next to the current page (to the left and right or to the top and bottom).

Data Driven Pages toolset

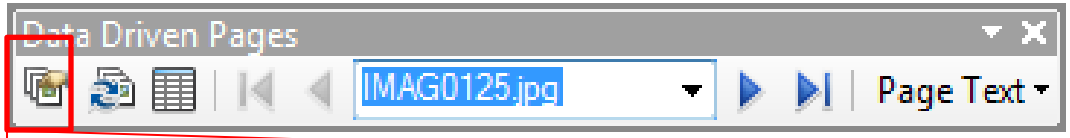
County of Los Angeles Public Health

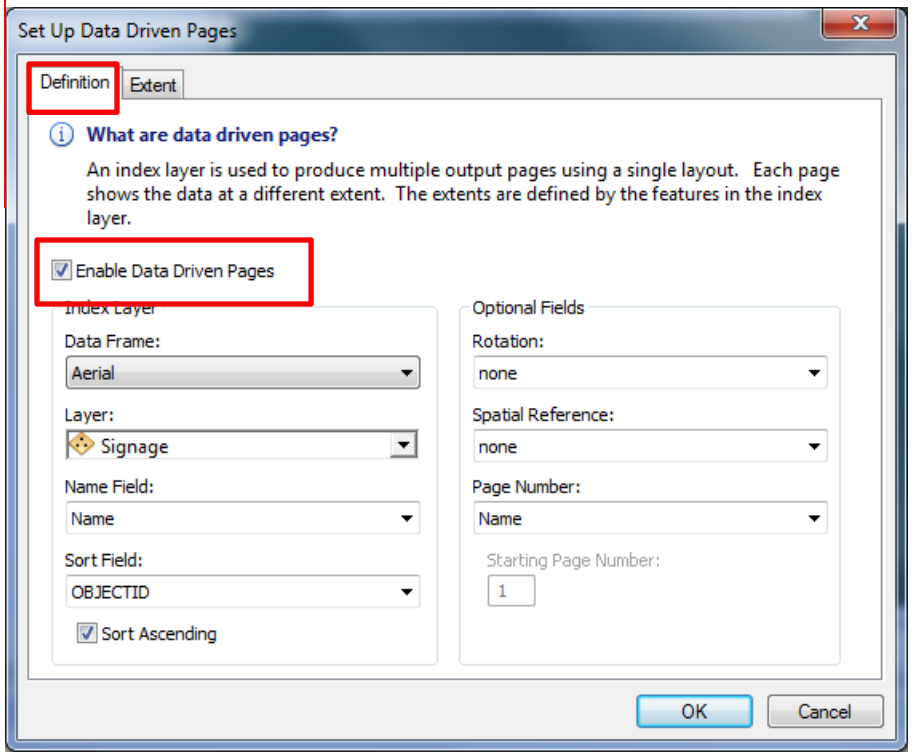
Data Driven Pages Tool

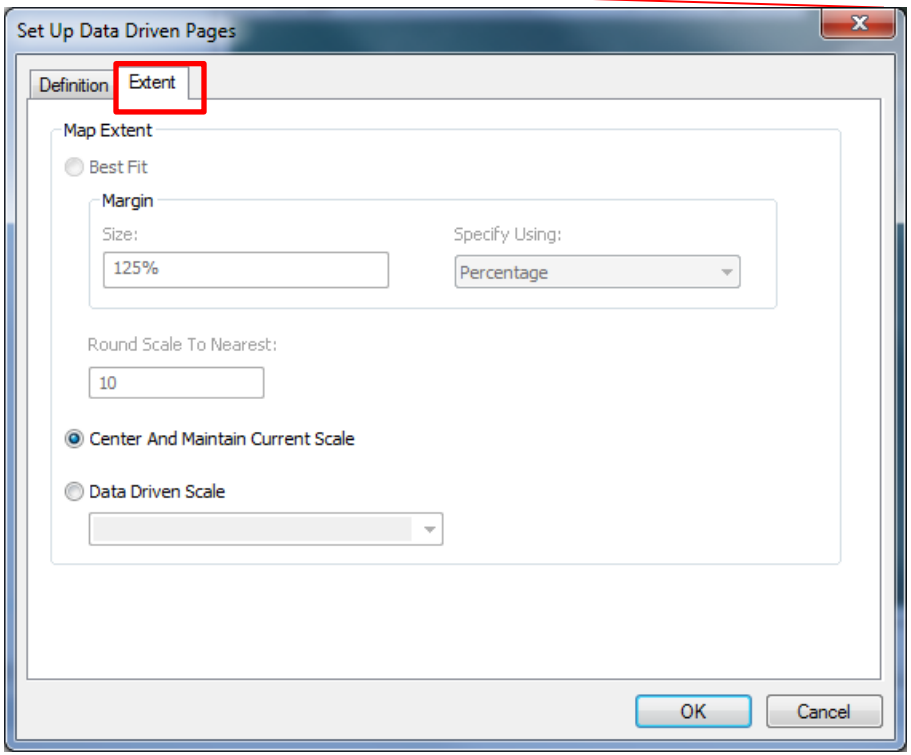


- Activate tool from:
  - Customize → Toolbars → Data Driven Pages
  - Right-click on Toolbar area → Data Driven Pages

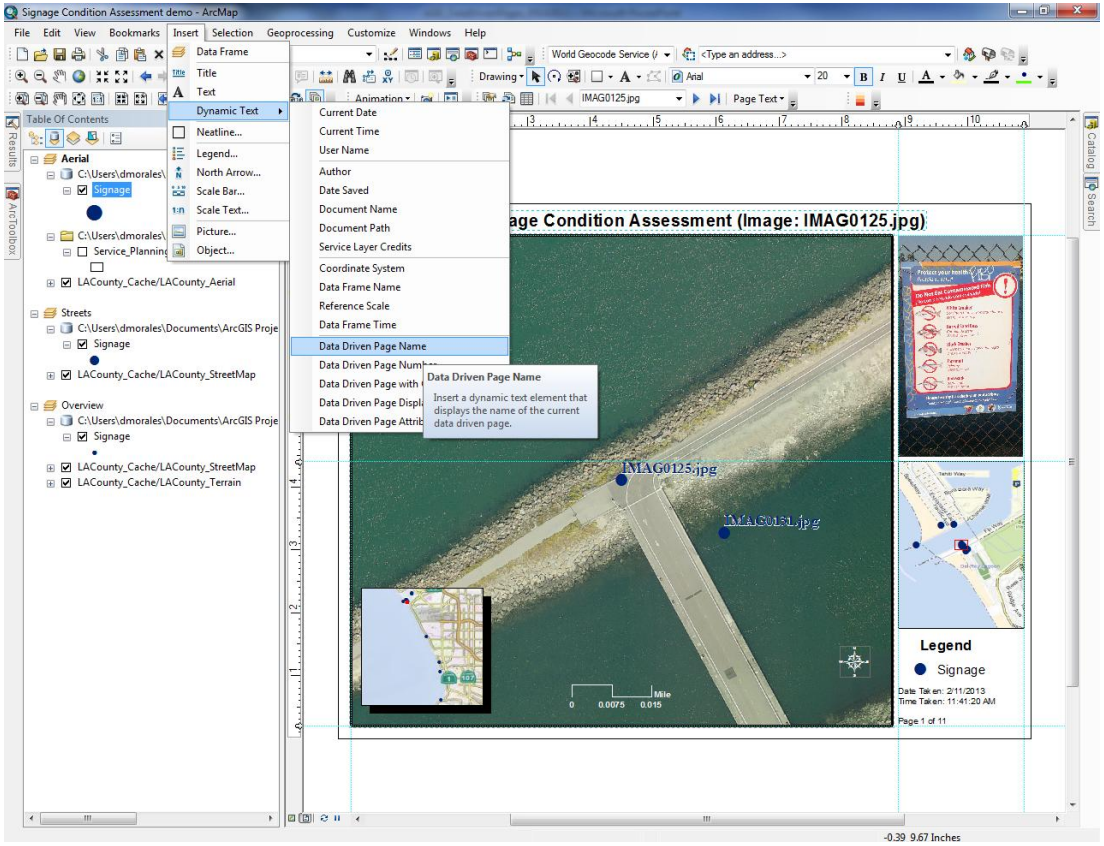
Data Driven Pages Tool







Data Driven Pages - Dynamic Text



Text placed on a map layout that changes based on the current properties of the map document, data frame, and Data Driven Page.

<dyn type="page" property="name"/>

http://resources.arcgis.com/en/help/main/10.1/index.html#//00s90000000v000000

Seven Types of Dynamic Text

Code	Description
1. Computer (<dyn type ="computer"/>)	1. Returns the name of the machine currently viewing
2. User (<dyn type ="user"/>)	2. Returns the name of the current login the map
3. Date (<dyn type ="date"/>)	3. Returns the current date and has a default format of MM/dd/yyyy (example: 01/01/1001)
4. Time (<dyn type ="time"/>)	4. Returns the current time and has a default format of hh:mm tt (example: 01:17 PM)
5. Document (<dyn type ="document"/>)	5. Returns property values of the map document
6. Data frame (<dyn type ="dataframe"/>)	6. Returns property values of the specified data frame
7. Page (<dyn type ="page"/>)	7. Returns property values of the map's Data Driven Pages, if enabled

County of Los Angeles Public Health

Map Elements

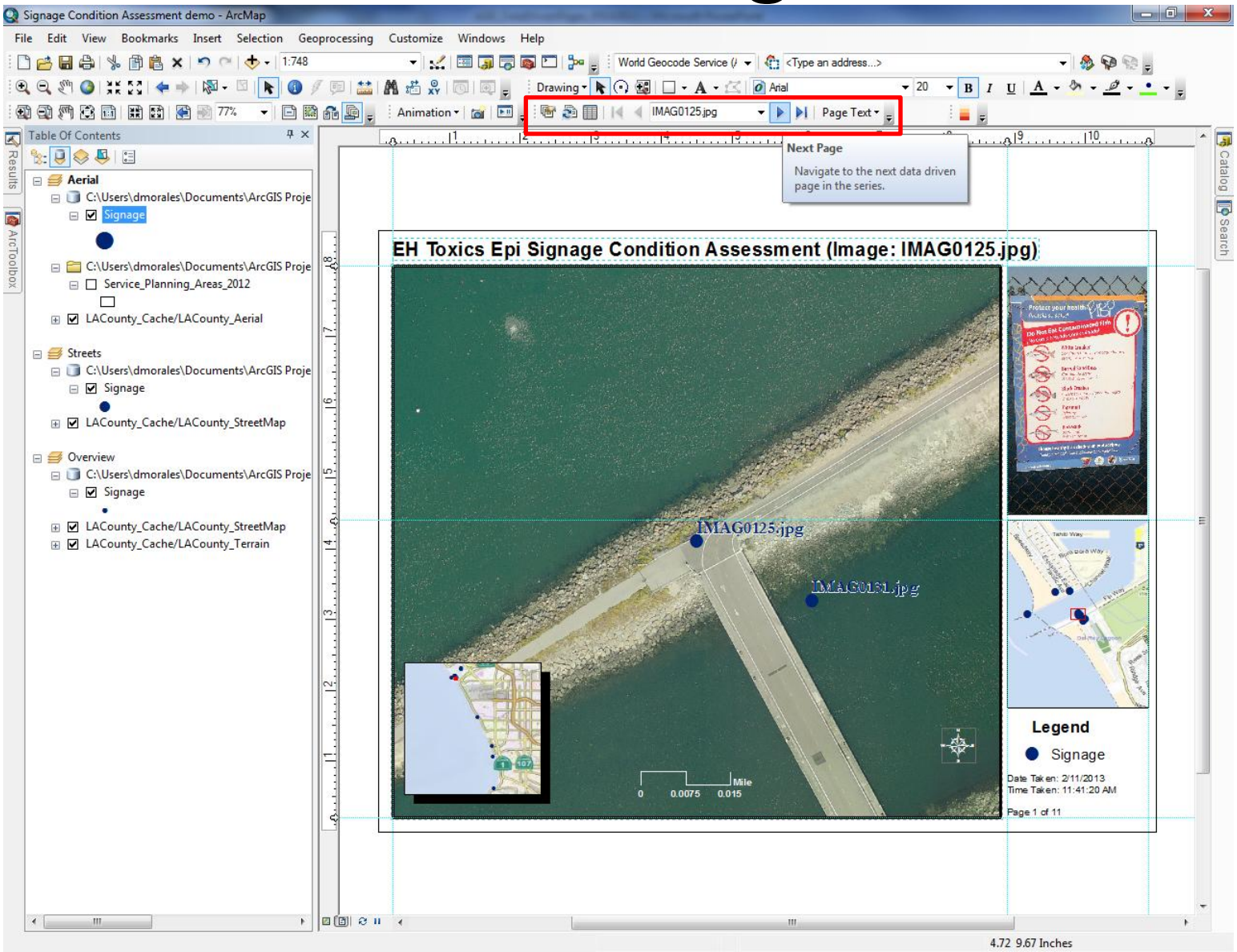
Dynamic Elements

- Geographic extent of the map
- Map scale
- North arrow (if map rotation is set)
- Scale bar
- Scale text
- Dynamic text (for example, page name and page number)
- Layers containing a dynamic query

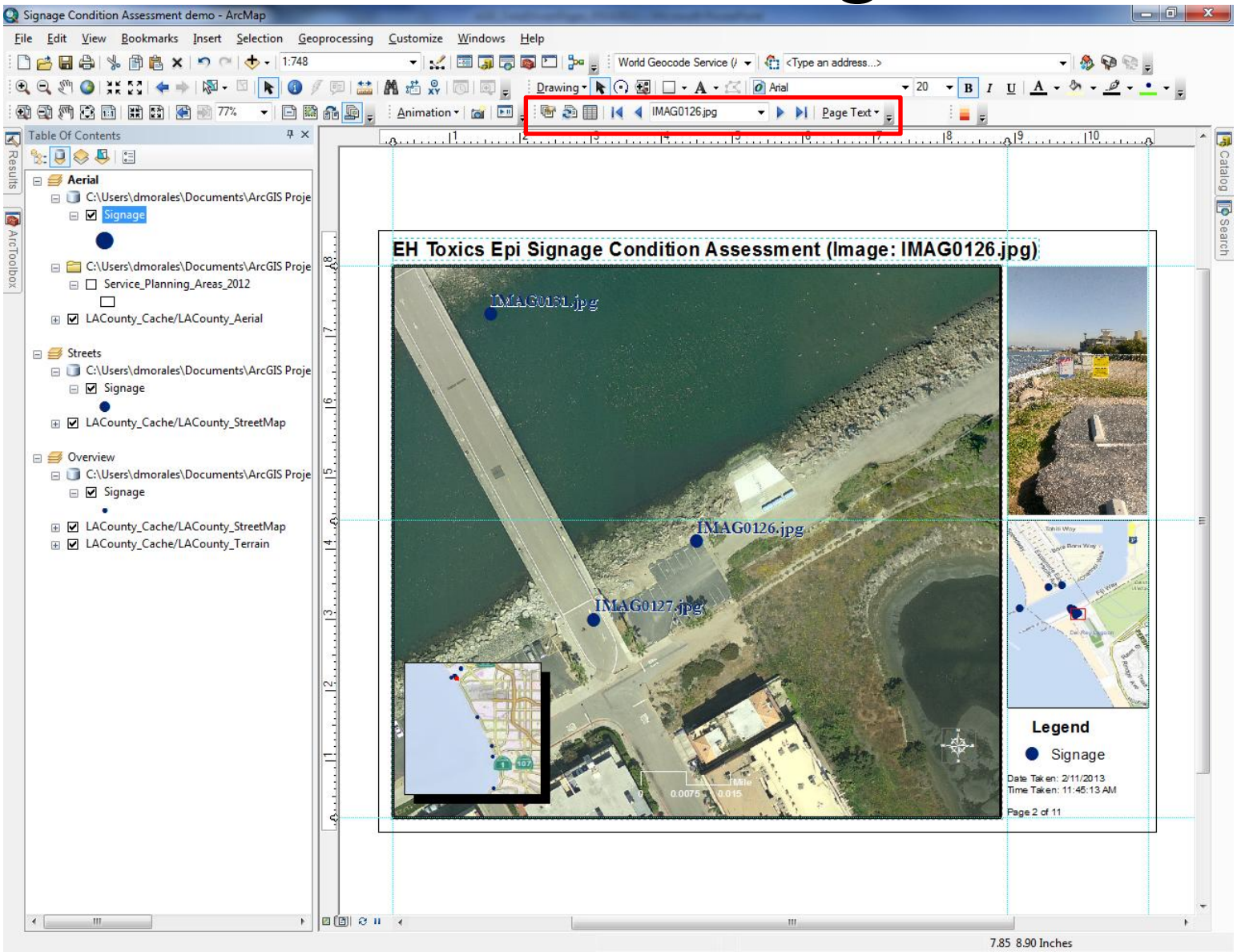
Static Elements

- Size and orientation of layout page
- Size and position of data frames
- Static text
- Neatlines

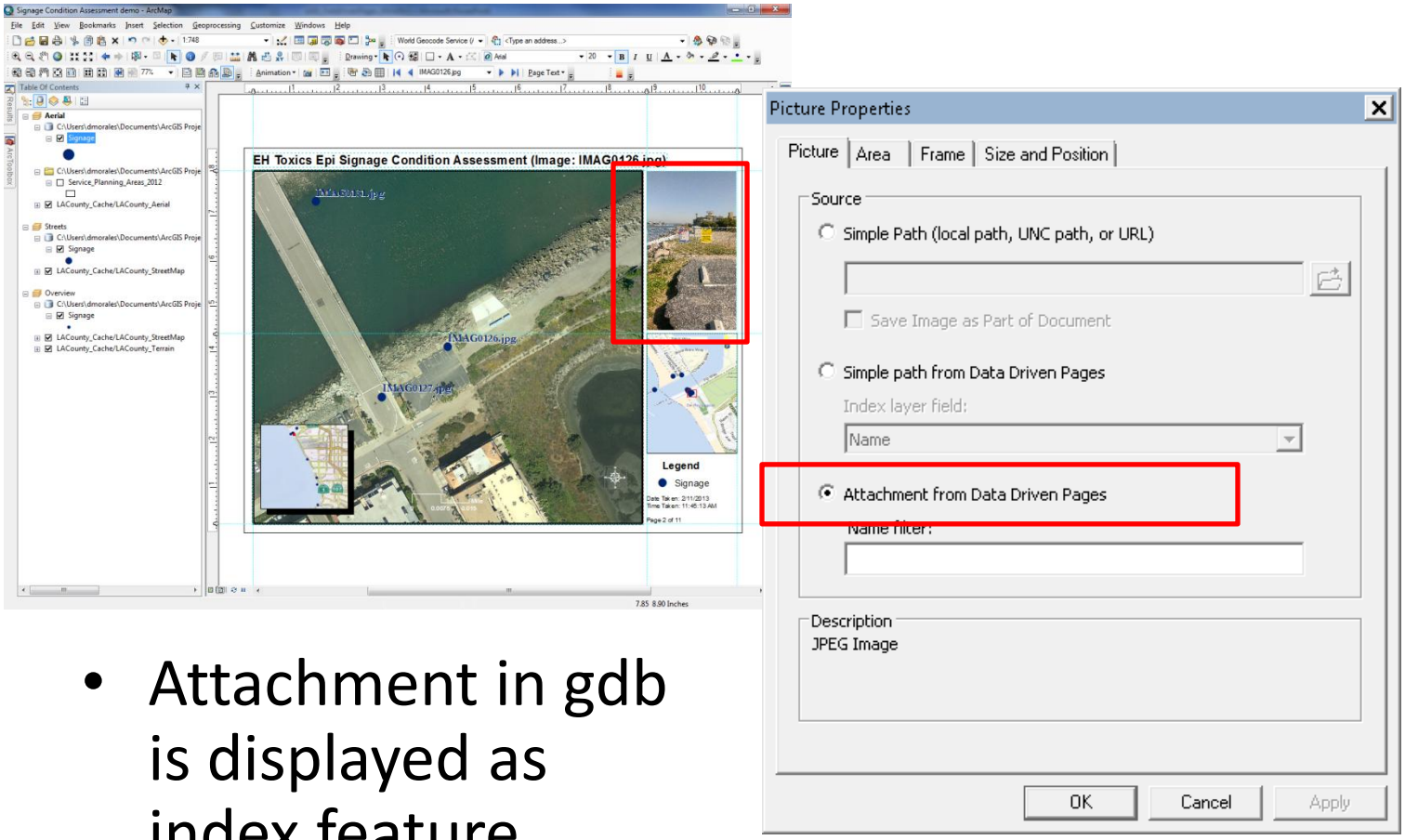
Data Driven Pages Tool



Data Driven Pages

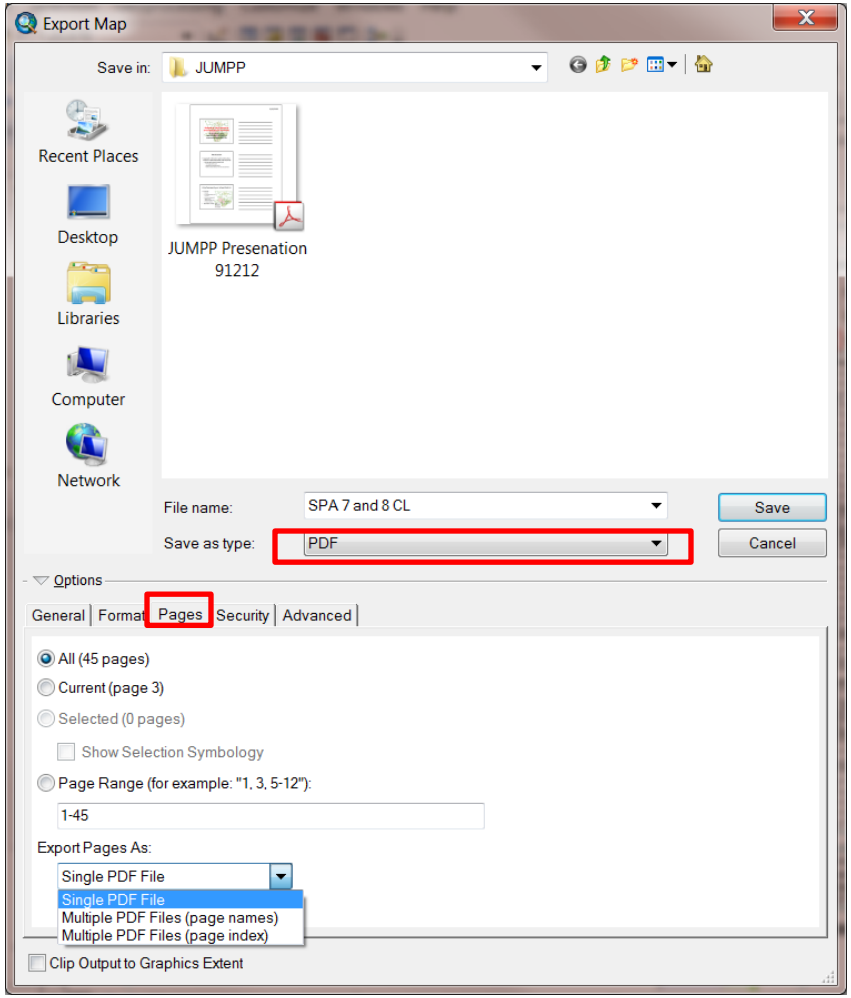


Attachment from Data Driven Pages

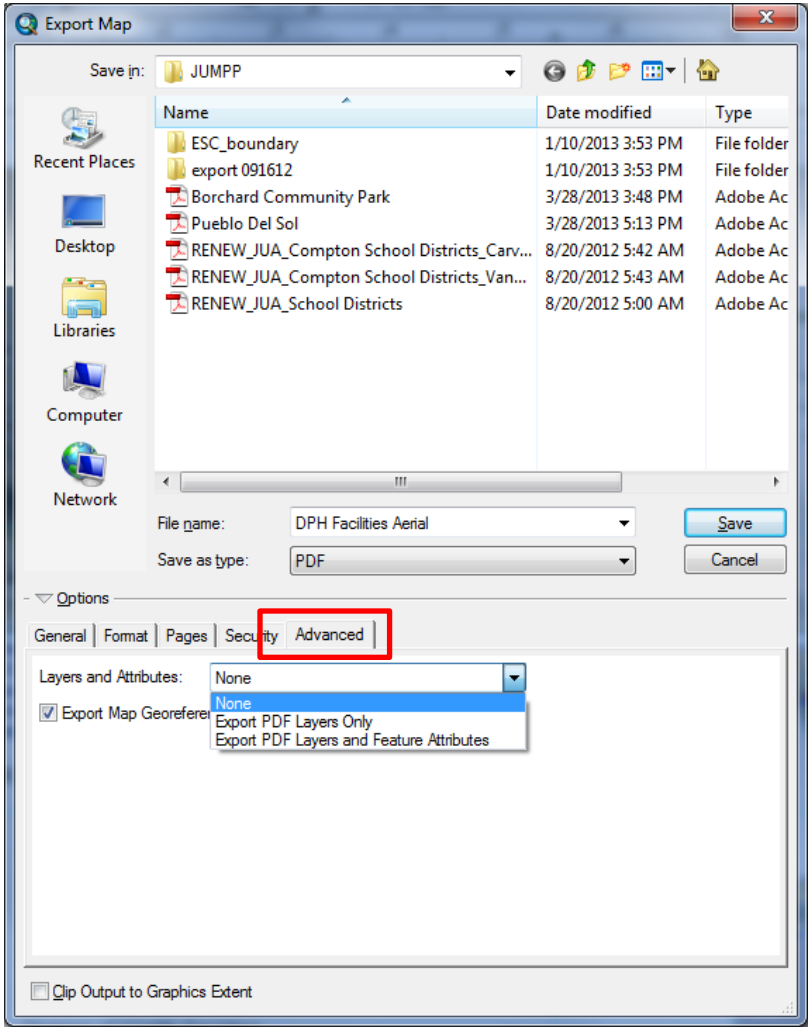


- Attachment in gdb is displayed as index feature changes

Data Driven Pages- Export



Data Driven Pages- Export



- Export Attributes of layers into the pdf
- Create an “interactive” pdf

Oh, Oh Demo

References

- ArcGIS Help10.1
  - http://resources.arcgis.com/en/help/main/10.1/index.html#//00s90000003m000000
  - http://resources.arcgis.com/en/help/main/10.1/index.html#//00s90000003n000000

Think Spatially!

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