# Introduction

- 'Data Driven Pages' (DDP) is an ArcGIS capability to make a series of map pages, using a general .mxd file template, for each feature in an index layer.

- For example, a COD reference map series might consist of a map of each administrative level 1 feature. Any additional layers can be included as usual.
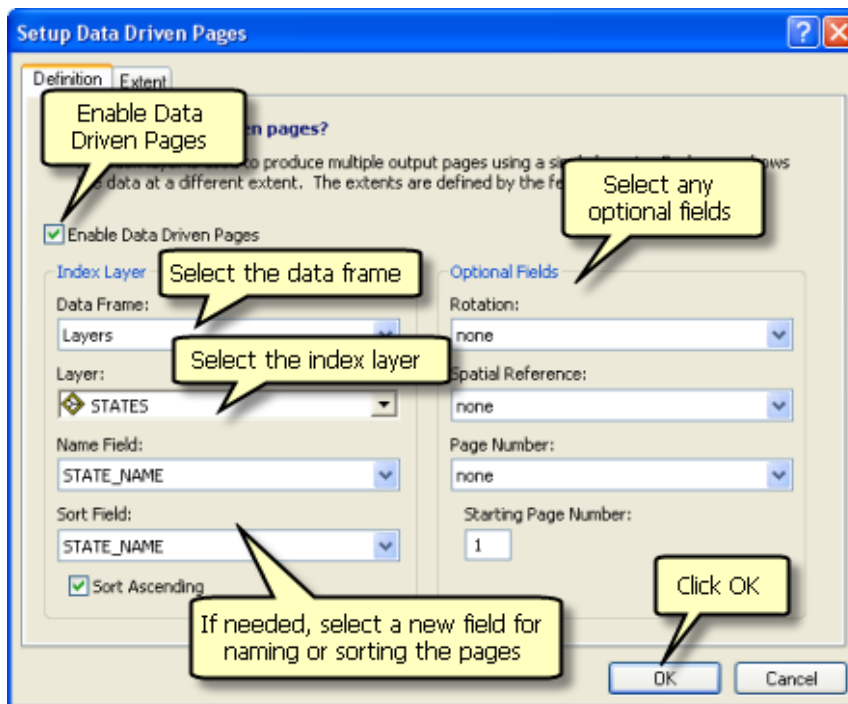
Assumption:

o The index layer will be a polygon layer. Points and lines are possible but not discussed here.

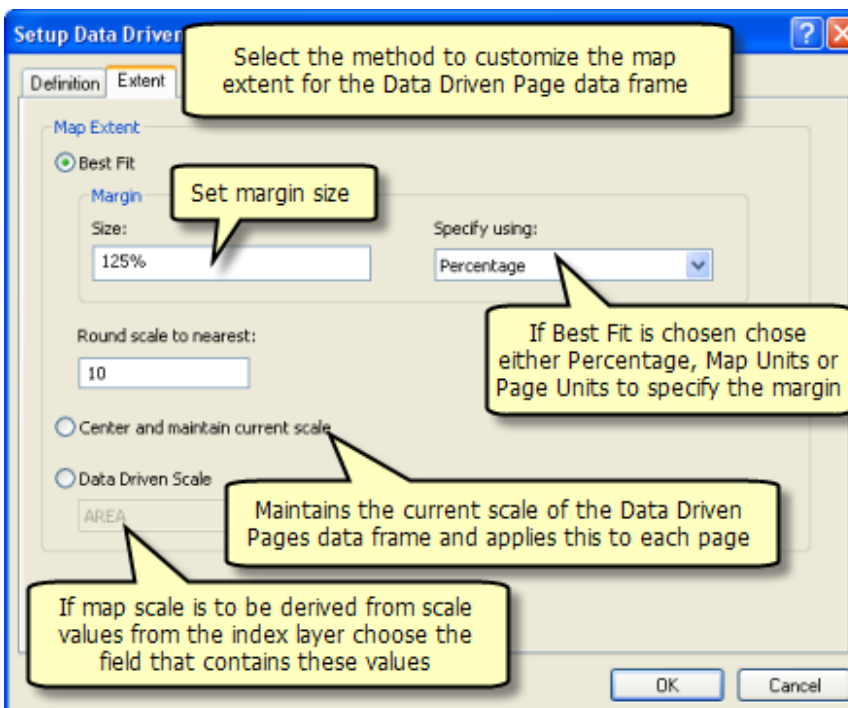o Create new project and add layers, preferably from Geodatabase as illustrated below.
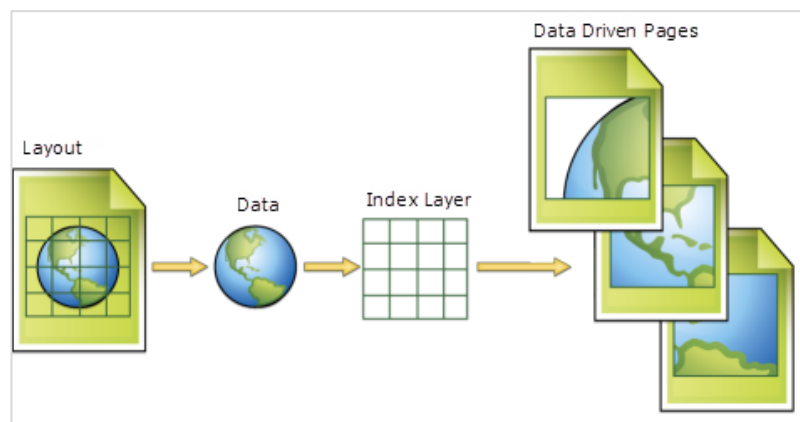
Setup

- The 'Data Driven Pages' toolbar must be selected.

- An index layer must be included in the .mxd table of contents. DDP will allow export of a map page centred on each feature. This layer can be drawn or not drawn on the maps but cannot participate in a data driven definition query. (See section below)

- This toolbar has 'definition' and 'extent' tabs.

  o **'Definition' tab**

    - Tick 'Enable Data Driven Pages'. If this is not ticked, the effect is the same as if the toolbox is not selected. (It can be useful to temporarily disable DDP. When doing so the parameters are not lost.)

    - If the .mxd file has multiple data frames, select the data frame which will be controlled by DDP. DDP can control only one data frame but other frames react. For instance, if another data frame shows the whole country it can have an extent indicator that adjusts itself to each DDP index layer feature.

    - Select the desired index layer, which must be present in the .mxd file. The available features may be modified by a normal definition query.

    - Select the Name Field from the index layer attribute table. The DDP toolbox will use this field to display a name for each page, and the name can appear in as a dynamic text 'Data Driven Page Number'.

    - Select the Sort Field from the index layer attribute table (This could be the same as the name, but could also be the P-code or any other field). This will control the sequence of maps. If P-code is selected then the first map will be the feature with the smallest P-code, and so on.

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Setup Data Driven Pages

Definition | Extent

Enable Data Driven Pages

☑ Enable Data Driven Pages

Select the data frame

Index Layer

Data Frame:
Layers

Select the index layer

Layer:
◆ STATES

Name Field:
STATE_NAME

Sort Field:
STATE_NAME

☑ Sort Ascending

If needed, select a new field for naming or sorting the pages

Select any optional fields

Optional Fields

Rotation:
none

Spatial Reference:
none

Page Number:
none

Starting Page Number:
1

Click OK

OK | Cancel

o **'Extent' tab**

▪ This tab controls the map extent or scale for each map. The scale can be automatically set to the map extent of each index map feature (default), or a fixed scale, or a scale driven by an attribute of the index map layer. The default will ensure that each page is zoomed to the size of the particular feature.

Setup Data Driven

Definition | Extent

Select the method to customize the map extent for the Data Driven Page data frame

Map Extent

◉ Best Fit

Margin

Set margin size

Size:
125%

Specify using:
Percentage

Round scale to nearest:
10

If Best Fit is chosen chose either Percentage, Map Units or Page Units to specify the margin

○ Center and maintain current scale

○ Data Driven Scale
AREA

Maintains the current scale of the Data Driven Pages data frame and applies this to each page

If map scale is to be derived from scale values from the index layer choose the field that contains these values

OK | Cancel

Layout

- Every page will be based on the same layout view with the same data frames and the same design. Selective orientation (landscape or portrait) is not possible. If this is required the options are:

  o Create a separate .mxd of each type i.e. landscape and portrait. Generate every page with each orientation and throw away the ones not wanted.

  o Create a separate .mxd of each type. Add an attribute to the index layer specifying the preferred orientation. Populate this with an algorithm that uses feature extreme coordinates calculated with the 'Calculate Geometry...' attribute table tool.

  o An option preference: square maps of every feature with just one .mxd!

Output

- Pages are created with the File > Export Map... capability.

- Save as file type must be .pdf

- Select Options > Pages. (The .mxd must be in layout view.)

- There are options to export all pages, the current page, or any range of pages. ('Current' refers to the page selected by the forward or back arrows in the DDP toolbar.)

- There are options to export to a single .pdf file with a page for each feature, or multiple .pdf files with one page per file.

  o A single .pdf map will have a file name based on the .mxd file name

  o Multiple .pdf maps will have file names based on the .mxd file name and the page name field, or on the .mxd file name and the page number field.

- Map exports can be slow, especially if base maps are involved.
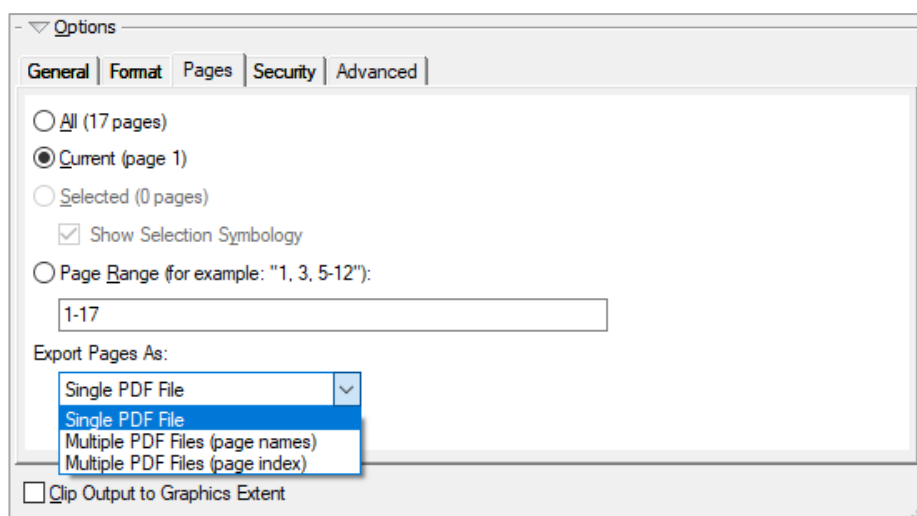

Definition Queries

- Maps can have layer features turned on off on each page if they have an attribute field matching the DDP name field. This can be very powerful.

- These layers could be the same shapefile as the index layer but have be represented as separate layer in the table of contents.

- For instance, a DDP series of adm2 features could draw surrounding adm2 features grey on every page with the specific adm2 feature in white.

- This is achieved with the definition query tab of layer properties. Again, this is not available for the actual DDP index layer.

- There are DDP definition query options to:

- o Turn on the feature that match the page name attribute

- o Turn on the features that do not match the page name attribute
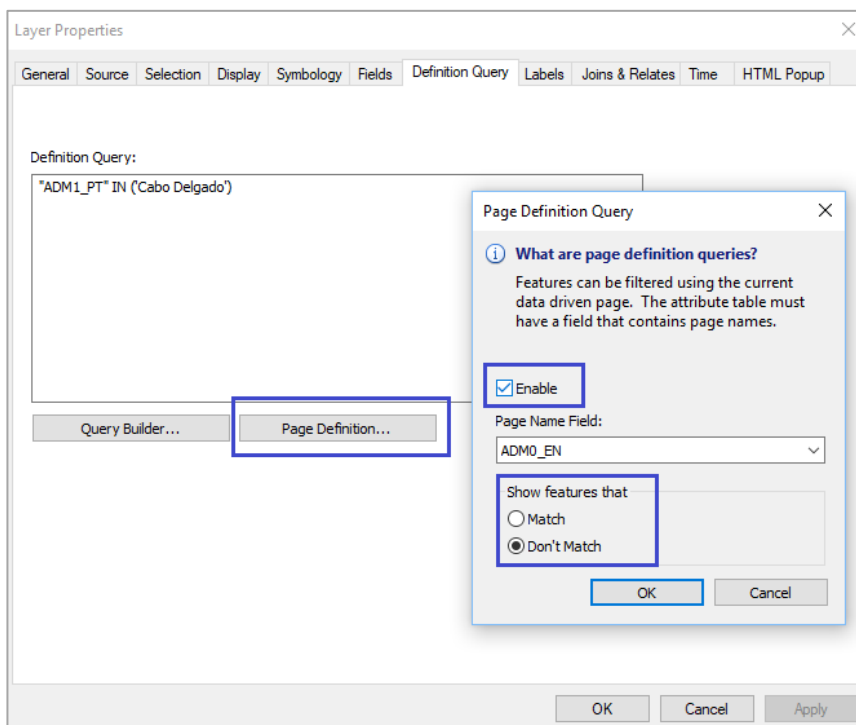
Dynamic text

- DDP can include dynamic text driven by the page name, page number, page with count, page display expression, or page attribute.

- This can control the page title according to the index feature name or any other attribute.

- These options create a sample of text in the middle of the page (which can be hard to find). Their properties include the defining HTML string that can be copied and pasted into other map text, and a map text element can contain more than one DDP dynamic text string.
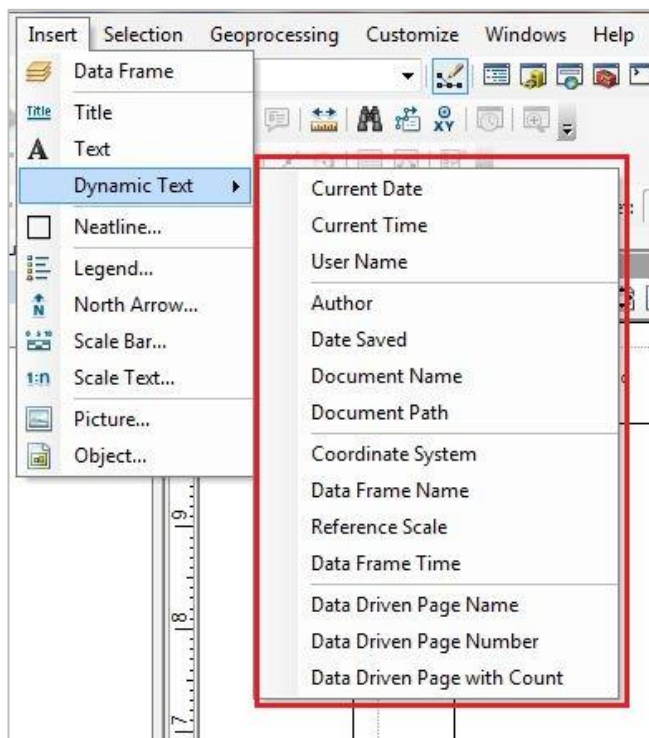
Export created Data Driven Pages from ArcToolbox

- Exporting data driven pages into PDF can be automated using Python script, which can be added as Toolbox to ArGIS.

- First you will need to add the Toolbox named "DDP_Automation.tbx" and then you could use it, as illustrated below:
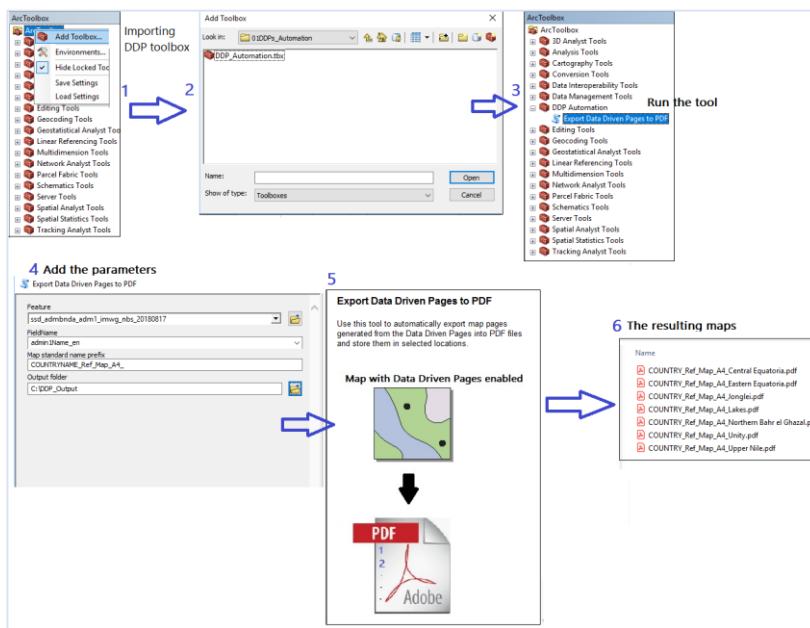
Resources

- What are Data Driven Pages?

- Creating Data Driven Pages

- Adding a script tool