Desktop Mapping: Building Map Books

Michael Grossman
Jeff Barrette
Two ways to make a map book

• Layout Map Series
  - User interface approach to building map pages

• Python Map Automation
  - Scripting framework for automating map output
  - Can be used to automate complete map book production
Types of map books

• Collection of map pages
  - plus additional pages like:
    - titles, Table of Contents, index pages, etc.

• Most common are Reference map books
  - series of pages that iterate across a geographic area
  - reference grid based, strip maps, or feature based
  - Layout Map Series or Python Map Automation
Types of map books (cont.)

• Thematic
  - all pages have the same extent
  - each page shows unique layers
  - built with Python Map Automation
Layout map series

• Index layer
• Single map layout
• Pages based on feature extents

• Other map updates
  - Dynamic legends, text, and pictures
Layout Map Series

Jeff Barrette
Map books in ArcGIS Pro and ArcMap - Terminology

• Map series pages
  - Data Driven Pages (ArcMap)
    http://esriurl.com/13001
  - Map Series (ArcGIS Pro)
    http://esriurl.com/11486

• Python Map Automation
  - arcpy.mapping (ArcMap)
    http://esriurl.com/13000
  - arcpy.mp (ArcGIS Pro)
    http://esriurl.com/12995
Map books in ArcGIS Pro and ArcMap - Tools

- GP Tools in ArcMap
  - Data Driven Pages
    - Calculate Adjacent Fields
    - Calculate Central Meridian And Parallels
    - Calculate Grid Convergence Angle
    - Calculate UTM Zone
    - Grid Index Features
    - Strip Map Index Features

- GP Tools in Pro (as of version 2.0)
  - Map Series
    - Grid Index Features

- Making the ArcGIS Pro tools equivalent with ArcMap is on the Pro roadmap
Map Books with Python
More about Python Map Automation

• A Python API that allows users to:
  - Manage project files, layer files, and their contents
  - find a layer with data source X and replace with Y
  - generate reports that list document information

• Build Map Books
  - Detailed examples with sample Python scripts: [http://esriurl.com/12994](http://esriurl.com/12994)
import arcpy
newPDF = arcpy.mp.PDFDocumentCreate("C:/project/newpdf.pdf")
newPDF.appendPages("C:/project/titlepage.pdf")
newPDF.appendPages("C:/project/mappages.pdf")
newPDF.appendPages("C:/project/indexpages.pdf")
newPDF.saveAndClose()
Python Map Automation

Jeff Barrette
Additional Resources

- **Map Books sample**
  - ArcGIS Online Map Automation group: [http://esriurl.com/8899](http://esriurl.com/8899)

- **ArcGIS Pro**
  - Layout Map Series: [http://esriurl.com/11486](http://esriurl.com/11486)
  - Create a map book with Python: [http://esriurl.com/12994](http://esriurl.com/12994)
  - Python Map Automation (arcpy.mp): [http://esriurl.com/12995](http://esriurl.com/12995)

- **ArcMap**
  - Data Driven Pages: [http://esriurl.com/13001](http://esriurl.com/13001)
  - Building Map Books with ArcGIS: [http://esriurl.com/12999](http://esriurl.com/12999)
Related Sessions

**Wednesday, July 12**

**Python: Introduction to Map Automation**
1:30pm - 2:45pm  
SDCC - Room 02

**Python: Map Automation in ArcGIS Pro**
3:15pm - 4:30pm  
SDCC - Room 02
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