

## Tax Map Production

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JUNE 4, 2020



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## 0.0.1 TAX MAP PRODUCTION

### PROBLEM AND ANALYSIS

#### Background

Equalization department (EQ) has an annual responsibility to produce a printed version of maps that show all of the tax parcels in the county for every tax year. The GIS Services Department (GIS) has traditionally provided this as a service to Equalization.

#### Statement of Problem

Annually, after March Board of Review, a tool is needed to create updated parcel maps for printing by Equalization and the local units.

#### Analysis

**Tax Map Production Workflow** will facilitate: Creation of new tax maps for each new tax year.

#### People Involved in the Workflow

- GIS Analyst
- EQ Mapper

#### Stages of the Workflow

- Data Updates
- Map Production Testing
- Map Style Refinement
- Map Production

# Tax Map Production Summary

The **Four Stages** of the workflow:

## 1. Data Updates Tax Roll Rollover:

- Update ACParcelsPublishing FDS from ACParcelsEditing FDS
- Prepare ACParcelsEditing FDS for the next year of use
- Add or delete quarter section index frames

## 2. Map Production Testing:

- Execute Tax Map Builder ArcPy Script on test units
- QA QC to verify updates

## 3. Map Refinement

- Symbols
- Labels
- Layer Order

## 4. Map Production:

- Execute Tax Map Builder ArcPy Script on all units
  - QA QC results
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# Technologies Used in The Tax Map Workflow

## ArcGIS Enterprise

SQL Server Source Data:

➤ ACPro.SDE

## ArcGIS Desktop

ArcPy tools produce map pages using Data  
Driven Pages (DDP) functionality

## Production Data

➤ ACCadastral.gdb (File GDB Created From  
ACPro.SDE)

## Python

A Python interpreter to tune the TaxMap-  
Tool.py script

## Adobe Acrobat

Combine pdf pages into books by unit

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## D A T A   U P D A T E   P R O C E D U R E

Run DB maintenance routine on AC\_Pro.sde first

### Updates to AC\_Pro.sde

Datasets involved:

- ParcelEditing
  - ParcelPublishing
  - TaxMapIndexFrames
  - TaxMapLayers
  - TaxMapUnitBounds
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# Update Procedure

## Parcel Editing and Parcel Publishing

Annually, the ParcelEditing feature dataset (FDS) is used to update the ParcelPublishing FDS.

### For each FC in ParcelPublishing

**Append and Clear:**load from Editing to Publishing and delete all from Editing

**Replace Pub:** Delete all in Publishing and load all from Editing and leave all in Editing

Data Update Relation		
FC in ParcelEditing	FC in ParcelPublishing	Update Procedure
AC_COGO_LnEdits	AC_COGO_Ln	Append and clear
AC_DimensionsEdits	AC_Dimensions	Replace Pub
AC_Gap_OverlapEdits	AC_Gap_Overlap	Replace Pub
AC_PointsEdits	AC_Points	Replace Pub
AC_Splits	AC_Parcels	Replace Pub
AC_SubBlocksEdits	AC_SubBlocks	Replace Pub
AC_SubdivisionsEdits	AC_Subdivisions	Replace Pub
AC_SublotsEdits	AC_Sublots	Replace Pub
AC_TiebarsEdits	AC_Tiebars	Replace Pub

## TaxMapIndexFrames

As this is the index layer for the DDP, Quarter Section frames must be added or removed to account for added or removed subdivision features at this time.

## TaxMapLayers

Layers that are derived from other fcs for cartography purposes

- AC\_M\_Rd\_Lbl is a subset of AC\_Roads used only for less busy labeling
- AC\_MapID\_RR is a subset of AC\_Parcels used only for Railroad Labeling
- AC\_Road\_ROWS\_Tax is an aggregation of AC\_Road\_ROWS by unit

## TaxMapUnitBounds

Layers extracted from AC\_Units for bounding polygons in the locator Data Frame

## Workspace Folder Setup

Inside of J: ➡ Apps ➡ Python ➡ TaxMaps:

Copy the folder: **TaxMapsWorkspaceTemplate**

Into the years folder and rename to: **YYYY**

## Production Data Creation

In the source folder, create a new file GDB named AC\_Cadastral. Copy the following FDSs from AC.Pro.sde:

- AdministrativeArea
- CadastralReference
- Hydrology
- ParcelPublishing
- Roads
- TaxMapIndexFrames
- TaxMapLayers
- TaxMapUnitBounds

## Map Production Setup

(In the new workspace folder)

Add a field to AC\_Parcels InUnit text 1 characters

Add a field to AC\_Subdivisions InUnit text 1 character

Add a field UnitText text 2 characters and calculate as 1st two digits of the unit number to:

- AC\_Parcels
- AC\_Road\_ROWS\_Tax
- AC\_Subdivisions
- AC\_Units

Update the tax year in the 2 .mxd s

## In ArcGIS Desktop

Use ArcMap Catalog to navigate to:

workspace folder ➡ processing ➡ Toolbox ➡ TaxMapTools.tbx

Right Click on the tool in Catalog and select properties.

Set the path to the script file in the tool for the current year.

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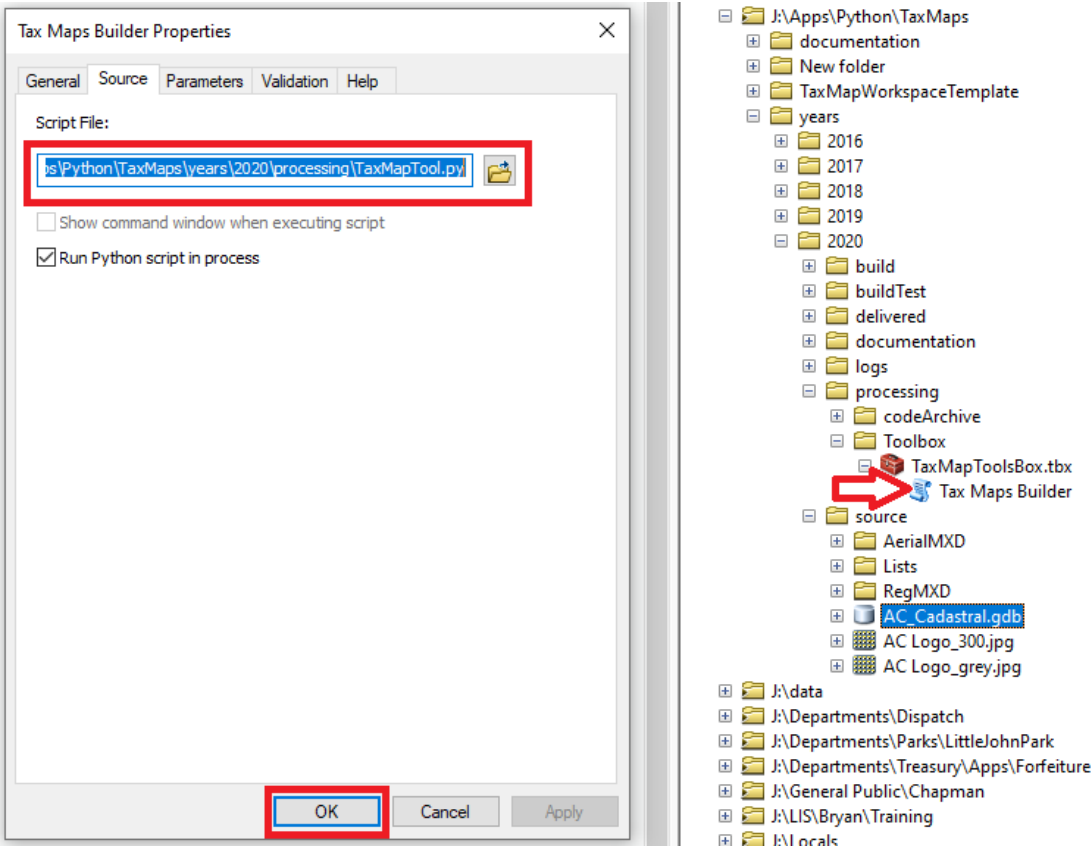


Figure 0.1: Set Path to Script

## Launch the Tax Map Builder Tool

Double click on the **TaxMapBuilder** script

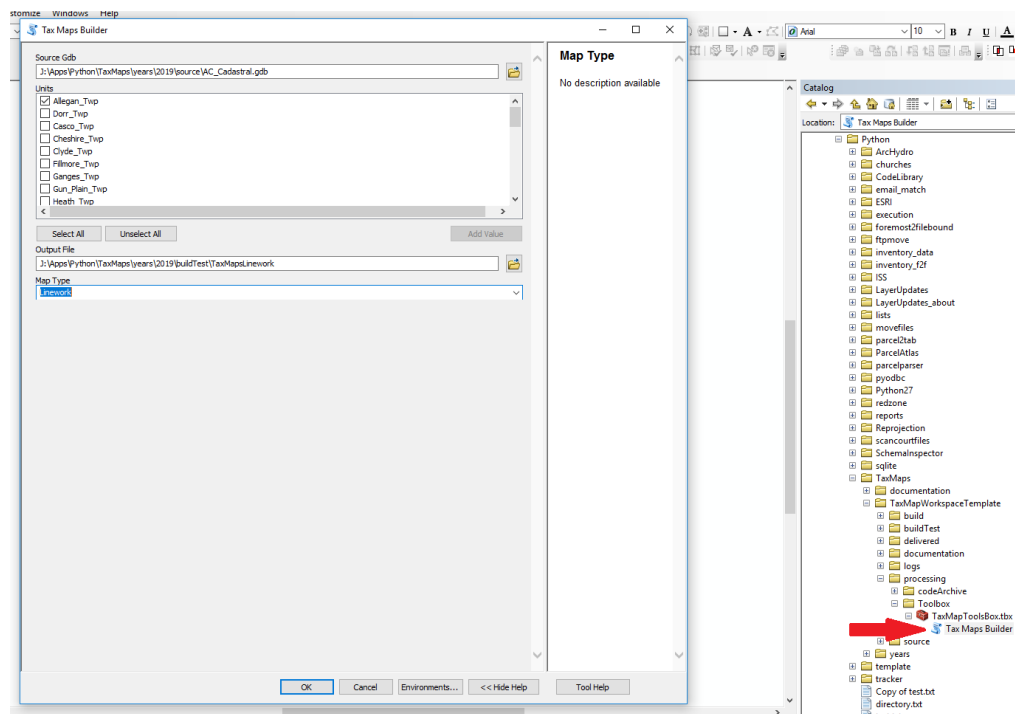


Figure 0.2: Tax Map Builder UI

## Execute the tool

Make selections in the tool from the appropriate locations in the workspace folder.

- Choose any combination of units to produce
- Select output location
- Choose aerial or linework type maps

## Map Refinement

Test groups of maps should be produced.

Any style improvements that can be made should be done at this time.

## Map Production

Use ArcMap Catalog to navigate to:

workspace folder  $\Rightarrow$  processing  $\Rightarrow$  Toolbox  $\Rightarrow$  TaxMapTools.tbx

Double click on the **TaxMapBuilder** script

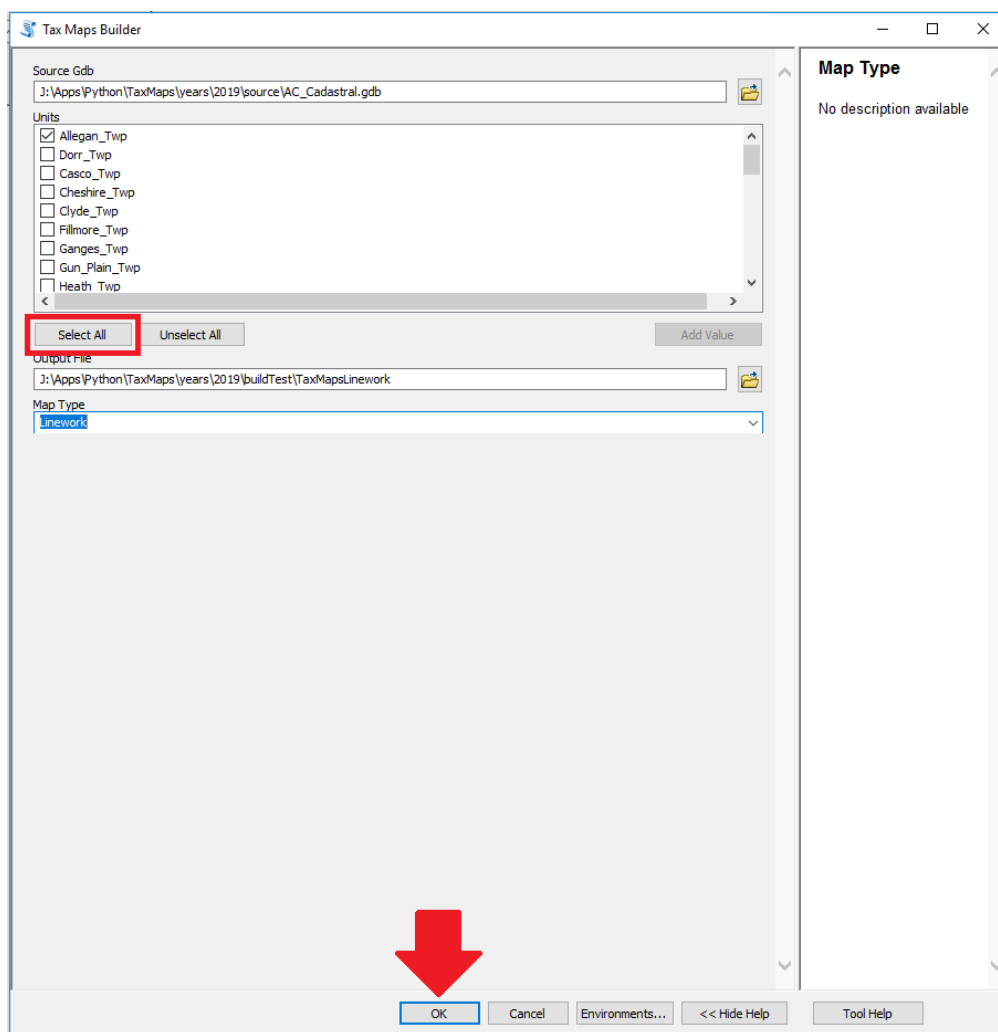


Figure 0.3: Tax Map Builder UI

Select All Units and Press OK

## Create Books from Pages





For each unit, organize the pages into the TaxMapUnitFolders.

Move the pages to the appropriate pdf folders inside the delivered folder of the workspace.

Combine all of the individual map pages into books using Adobe Acrobat and save to the PDF\_Book folder.

## Share the map books with Equalization

Copy the entire TaxMapUnitsFolder to:

J:  Departments  Equalization  TaxMaps  TaxMap Archive