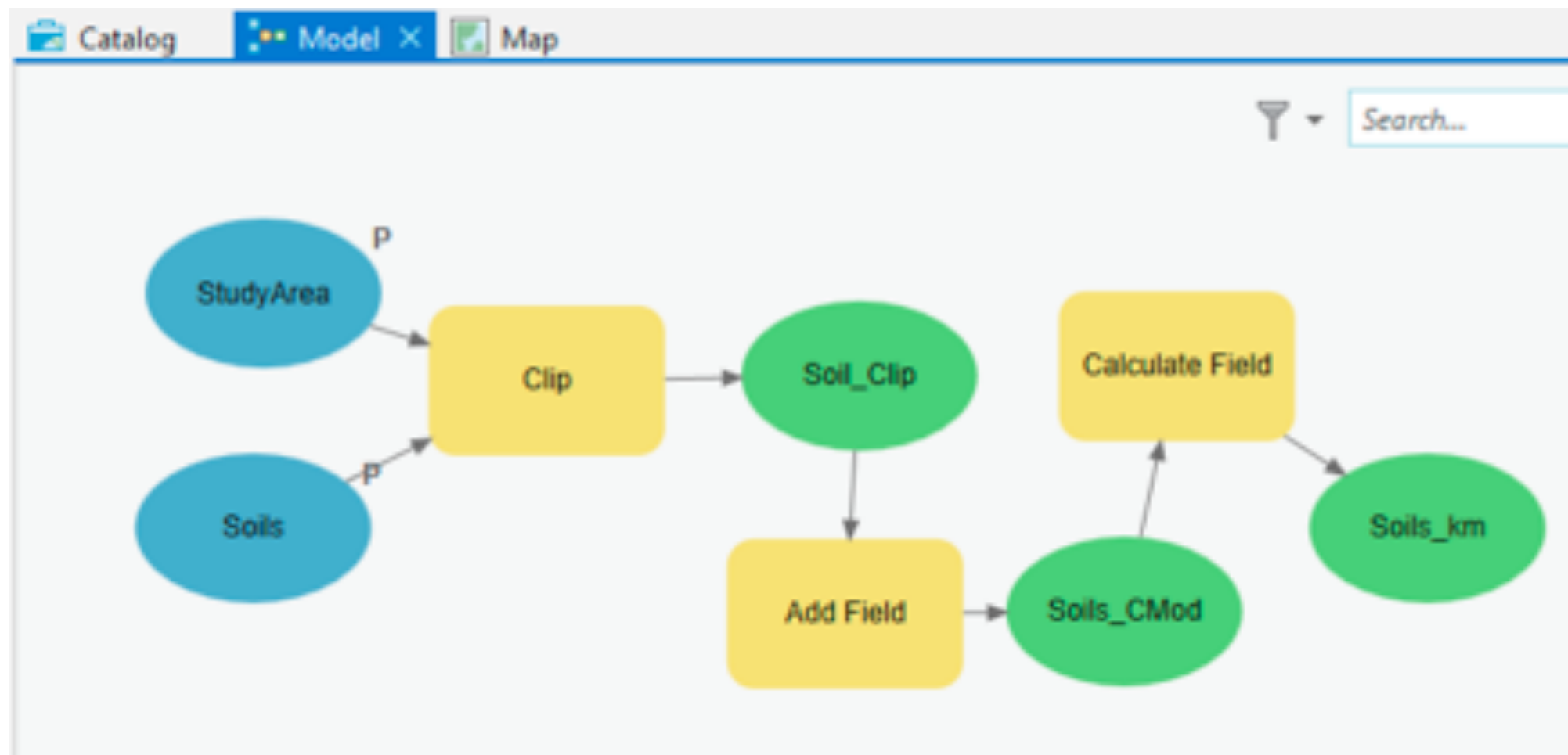
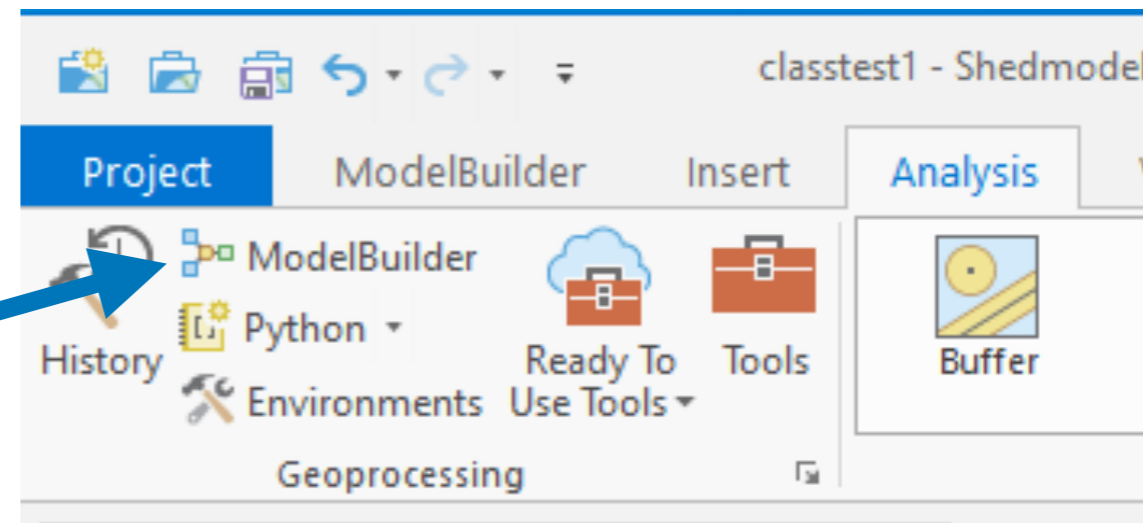


Model Builder

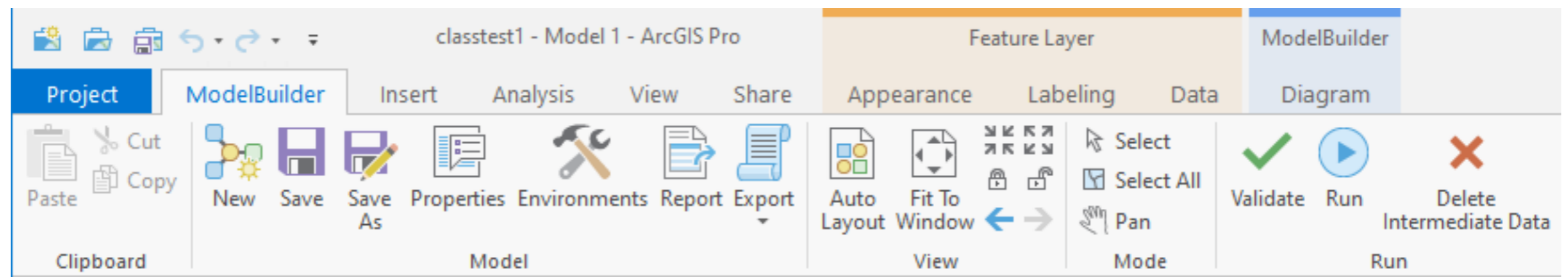
Automate Workflows in ArcGIS



**Double-click
Widget in the
Analysis Tab**

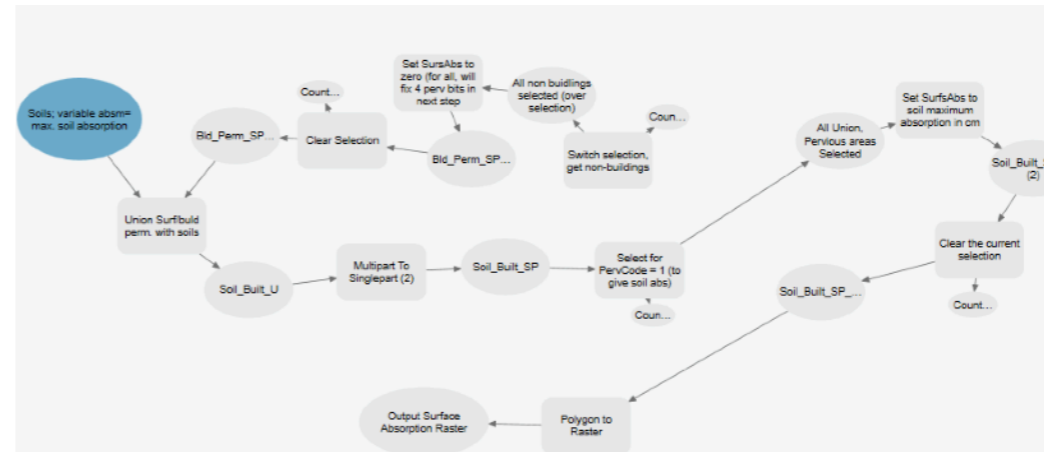


Opens a Toolbar, blank Model Canvas:

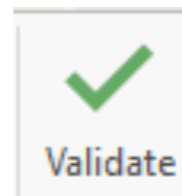


Steps

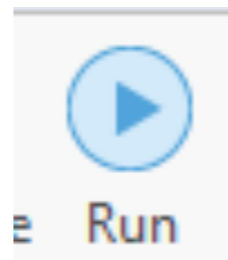
Build a Model



Validate/Debug
the Model

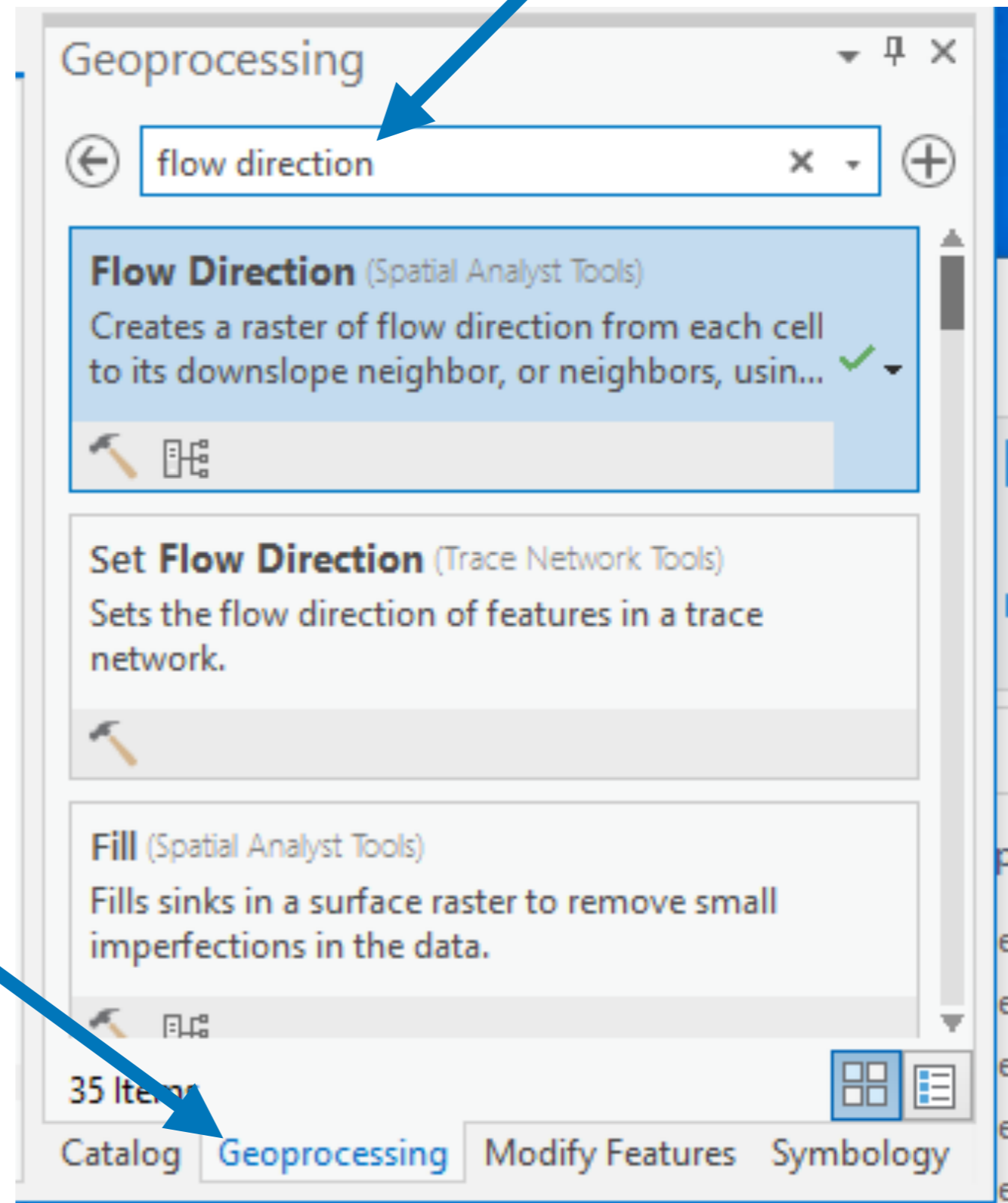


Run the Model



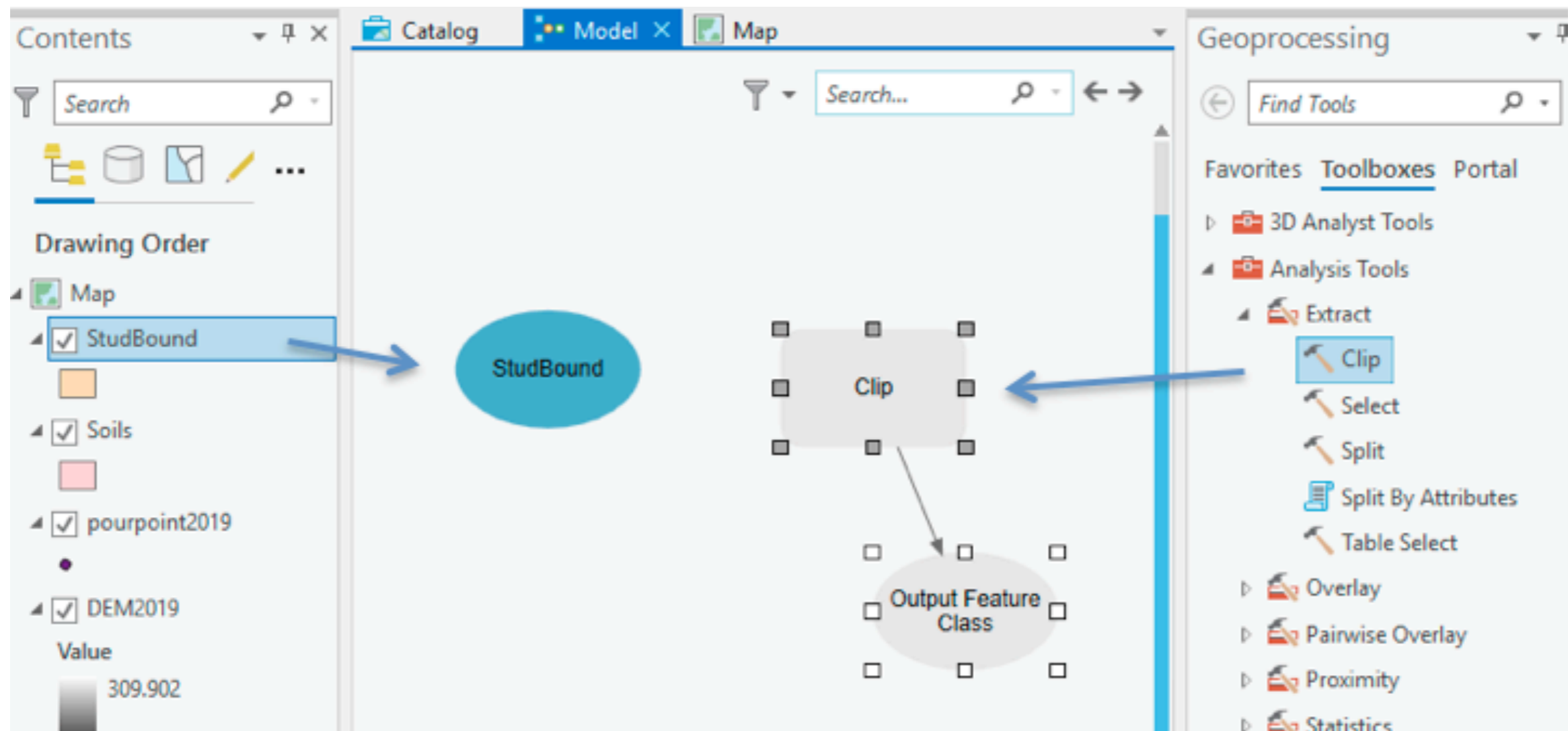
To Build a Model

With Geoprocessing
tab active, type part
of a tool name to
discover/display
tools



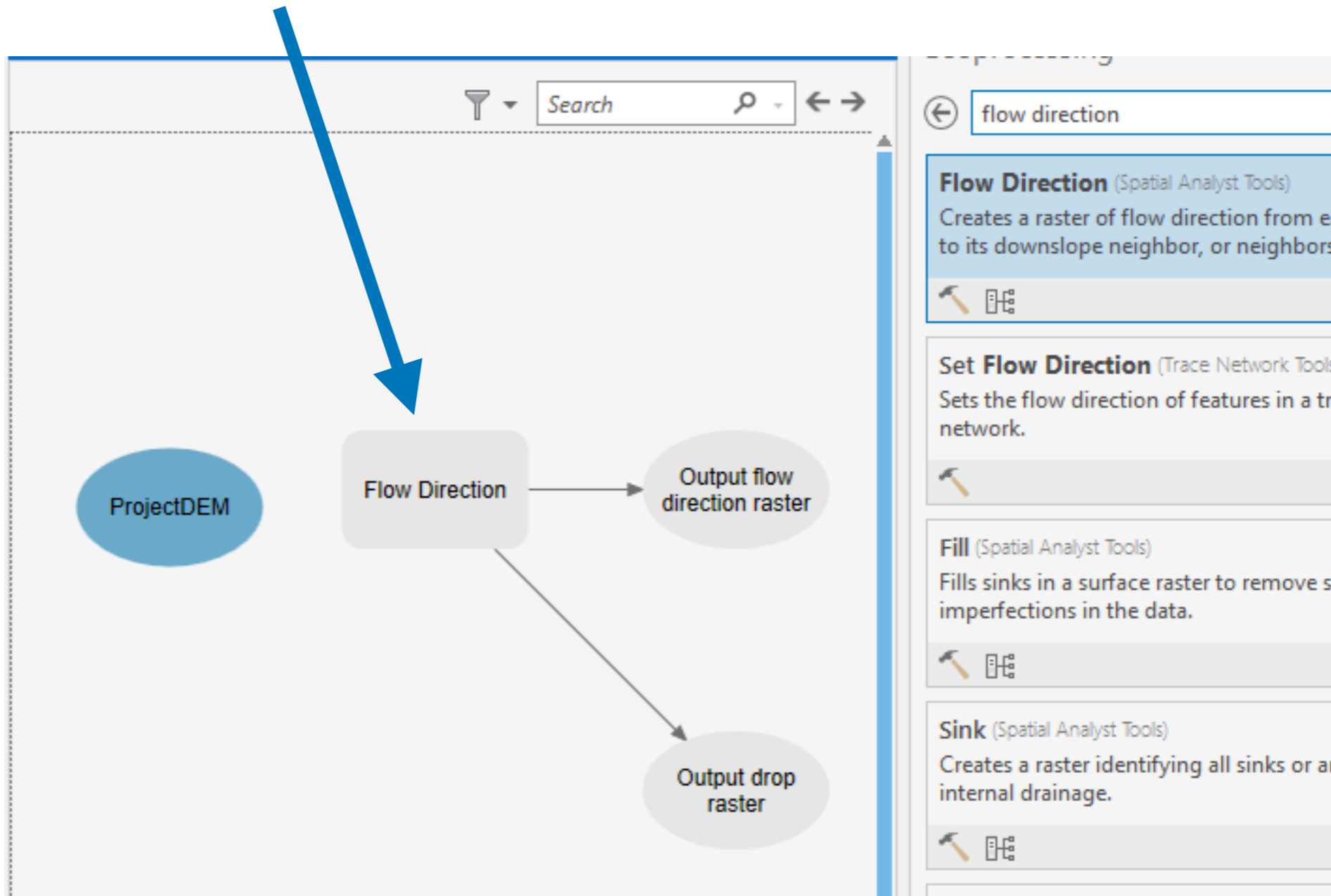
To Build a Model

Drag Tools, Data to canvas



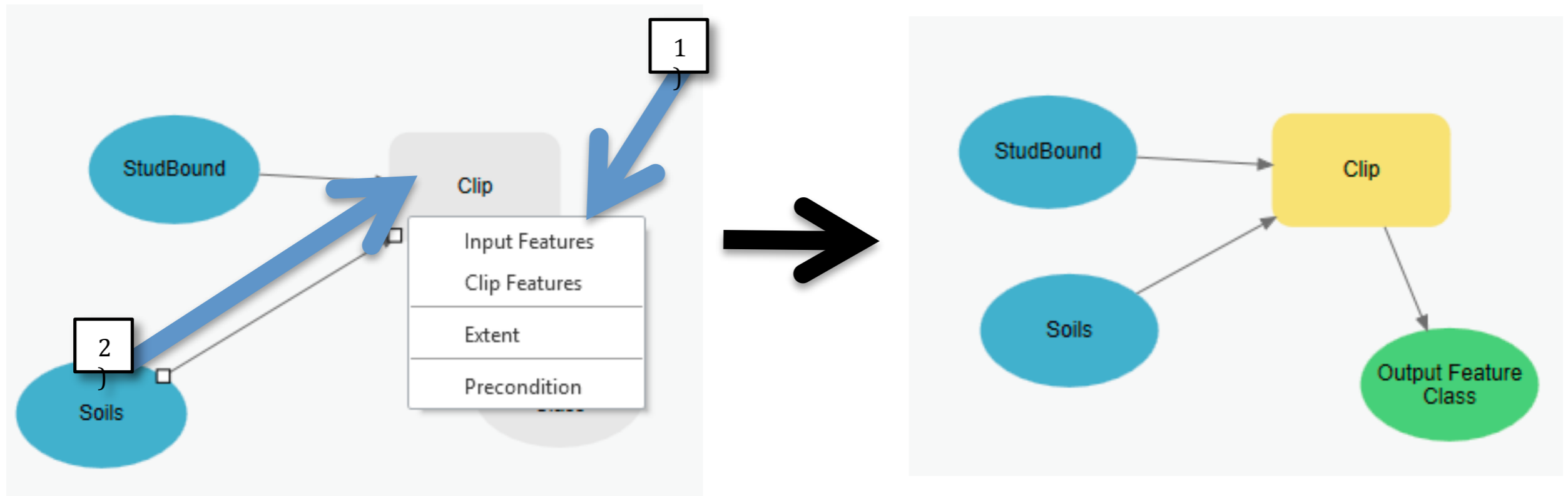
To Build a Model

Geoprocessing tool, outputs will be gray until inputs specified

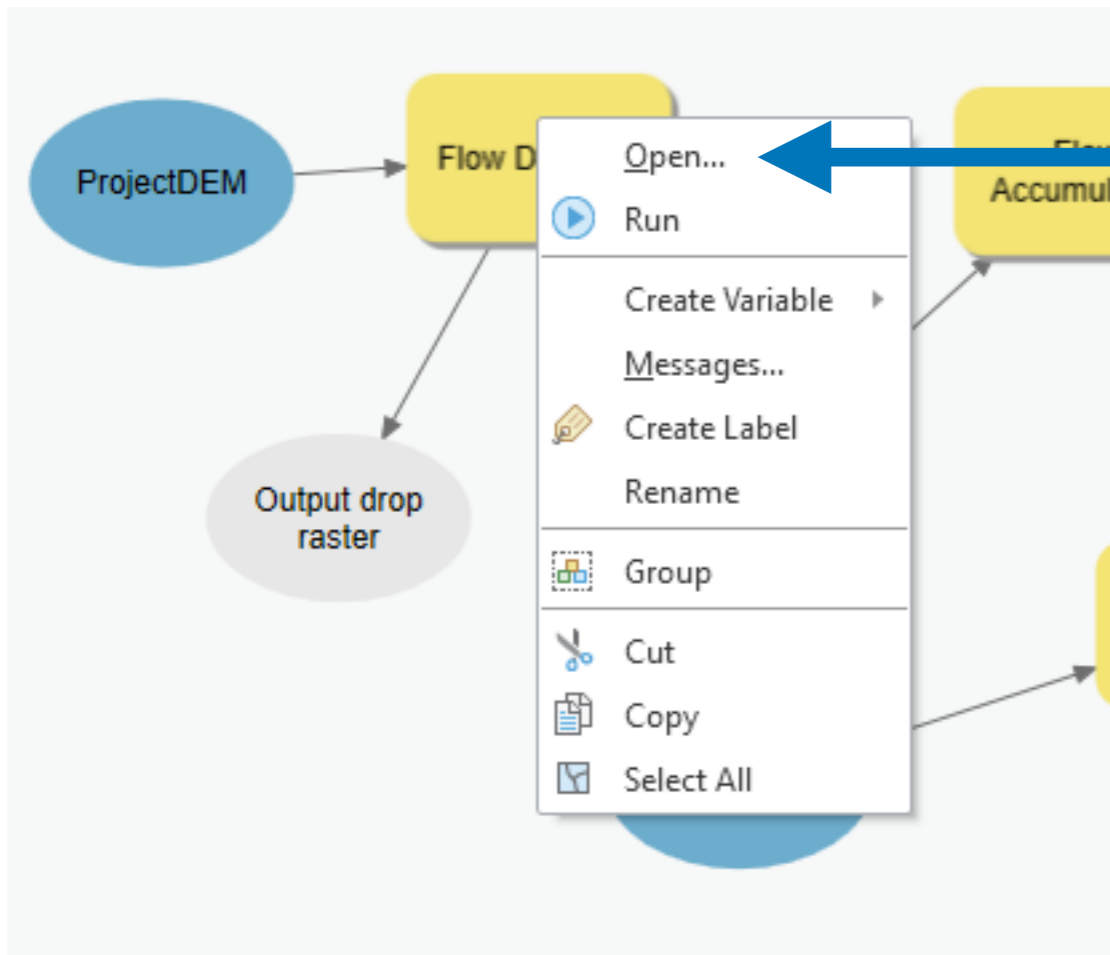


Click-drag-connect between data layers and operations,
then select among inputs

You can also right click on a connected shape,
change inputs, names, variables



To modify tool inputs



Right click on tool, then Open.....

...displays a window to set inputs, outputs, tool parameters

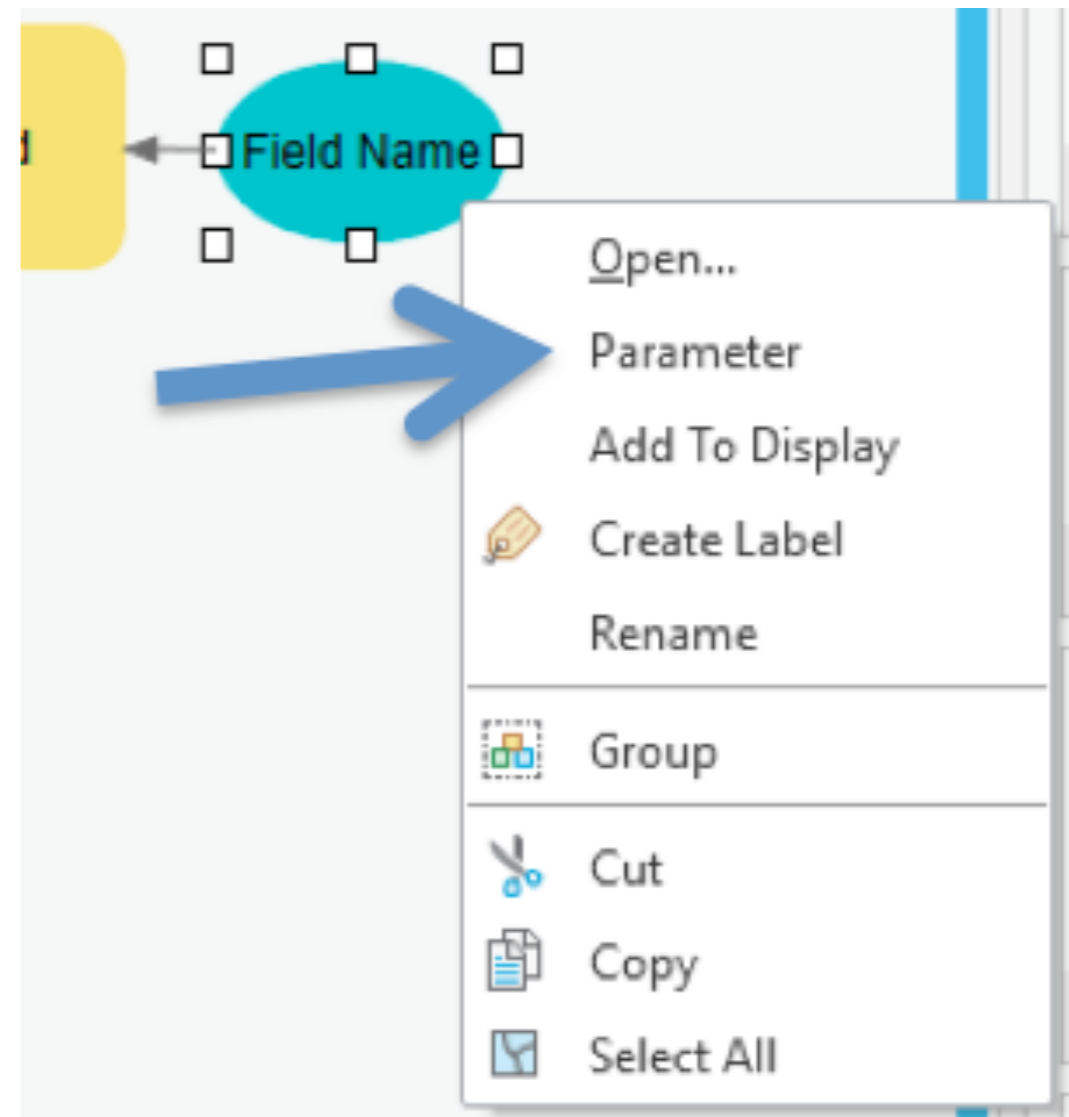
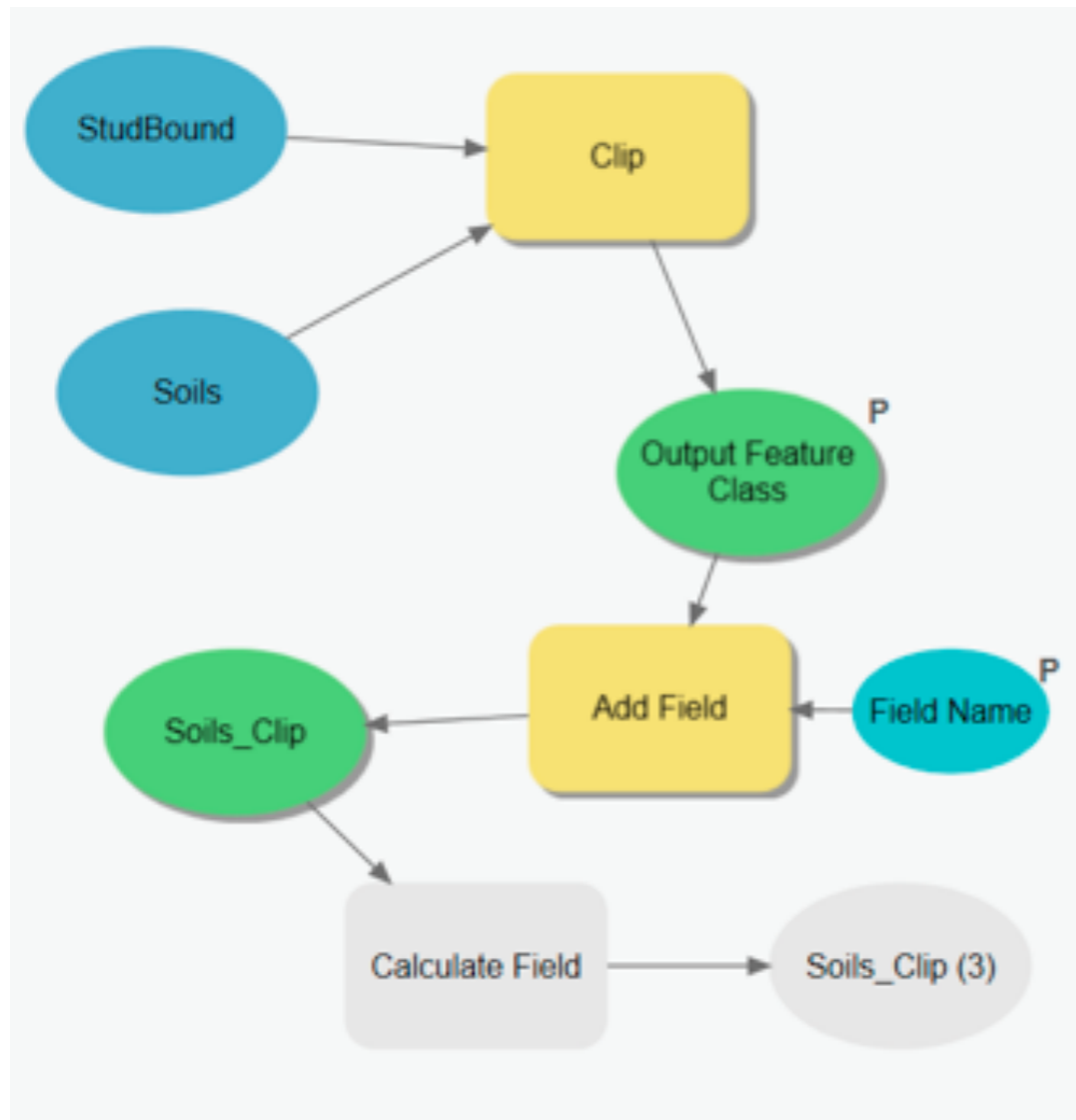
The 'Flow Direction' dialog box is shown, with tabs for 'Parameters', 'Environments', and 'Properties'. The 'Parameters' tab is active. It contains the following fields:

- Input surface raster: ProjectDEM:1
- Output flow direction raster: FlowDir_Proj3
- Force all edge cells to flow outward:
- Output drop raster: (empty)
- Flow direction type: D8

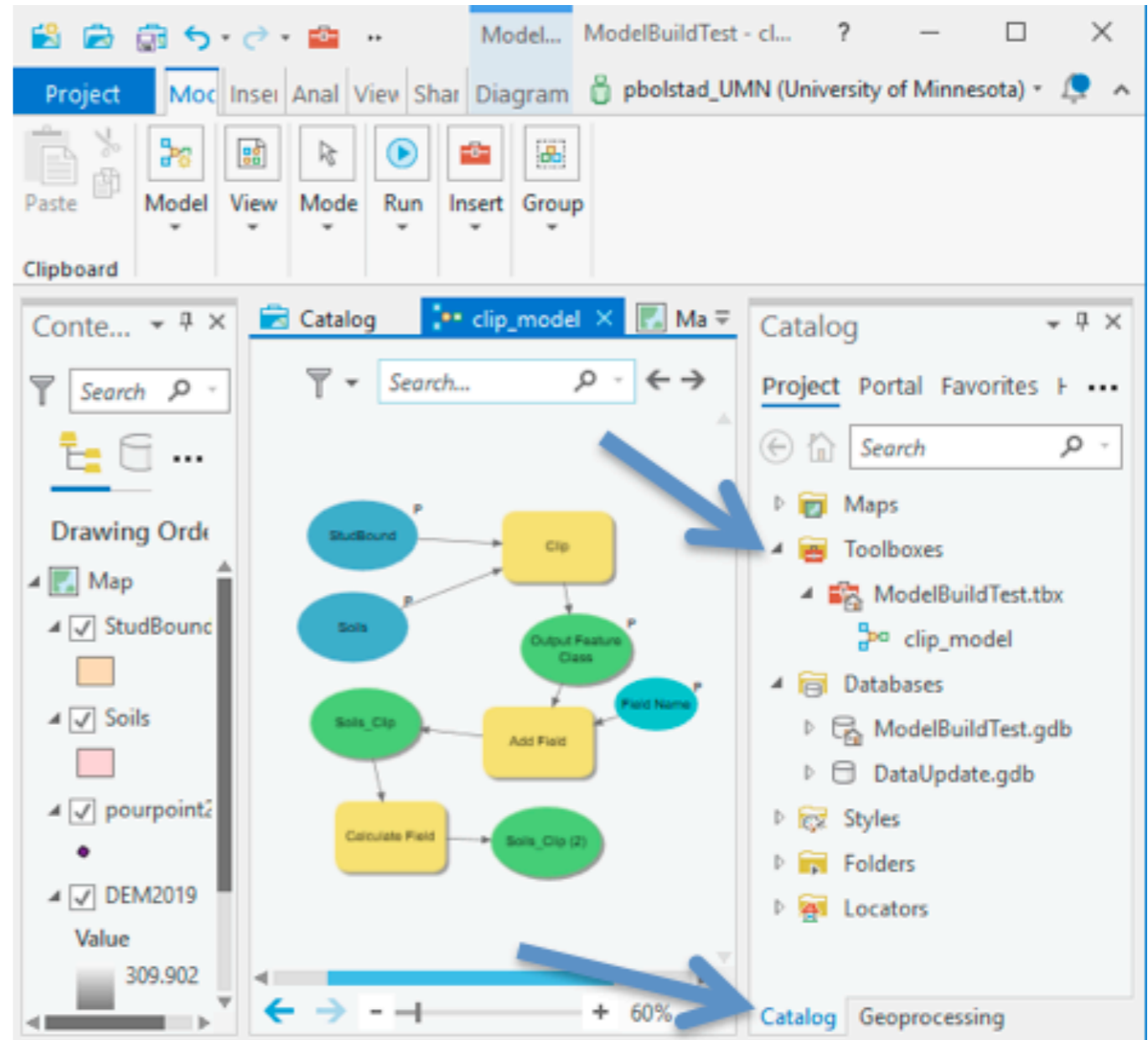
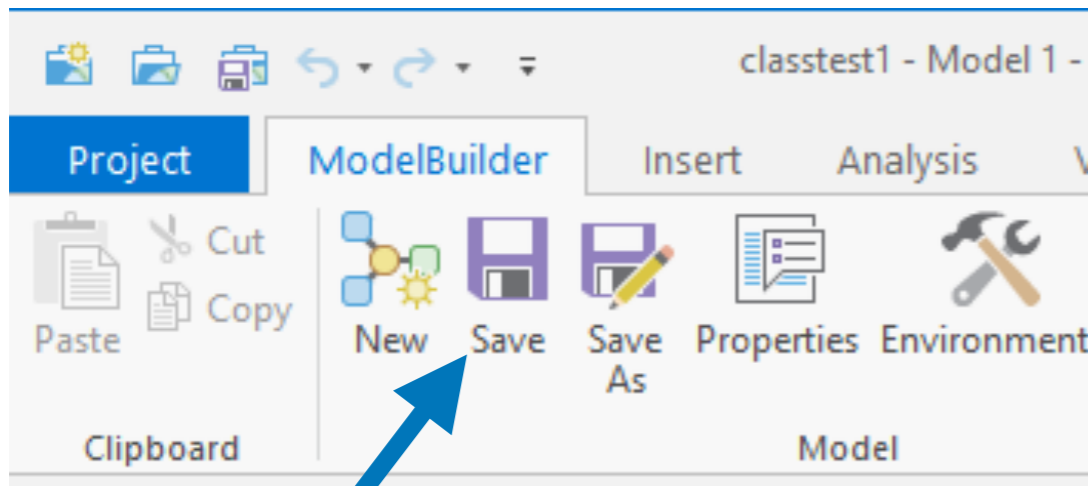
An 'OK' button is at the bottom right.

**Bubbles are Colored
when All Required
inputs, tool parameters
are specified**

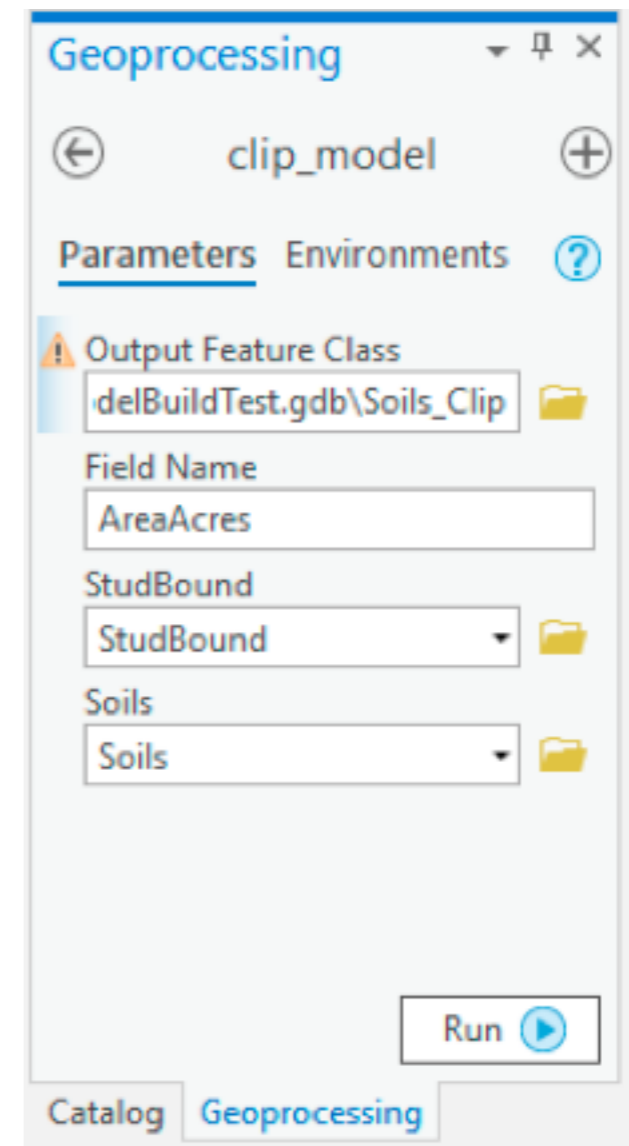
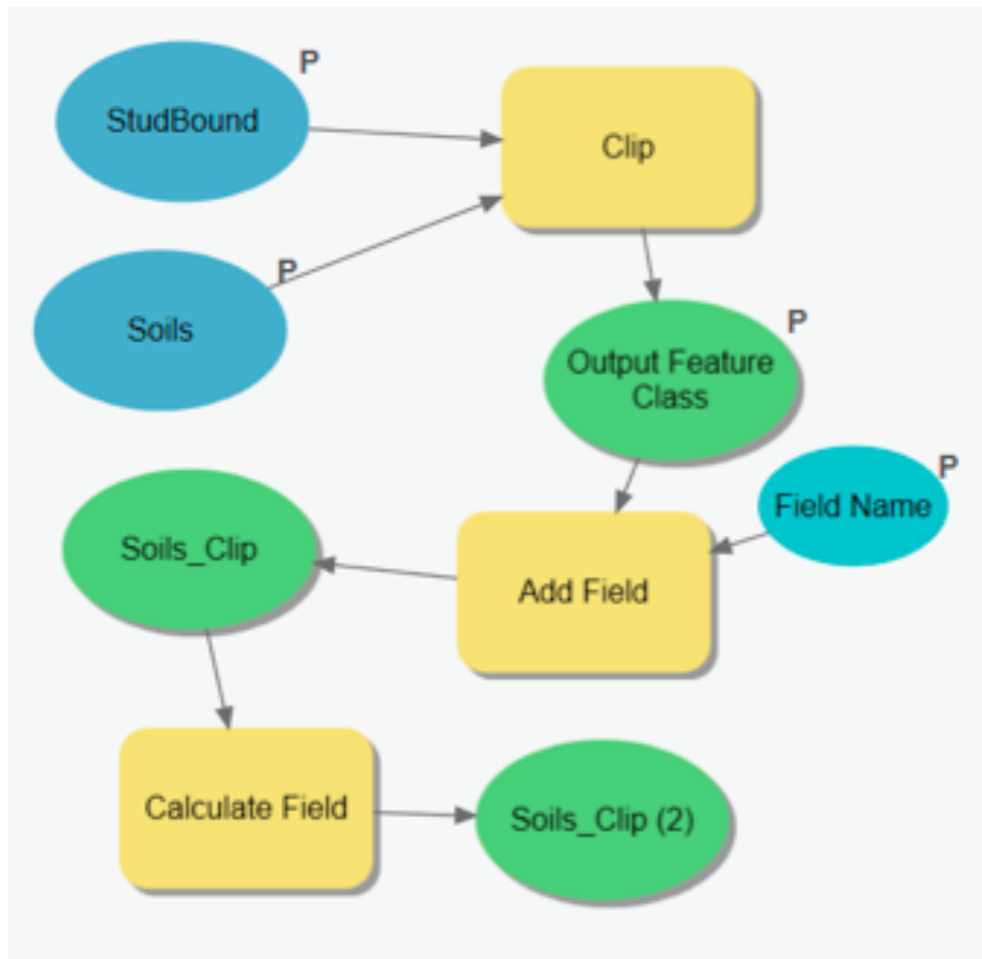
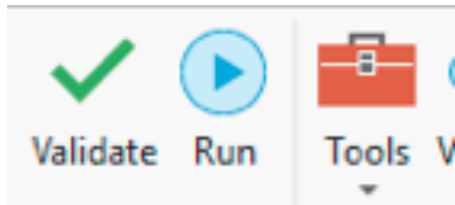
**You can right click on an input
bubble, and set a value as a User
Input Parameter - require user to
specify it when running tool (you
don't need to do this here)**



Models are saved in a project toolbox within the ArcGIS project



Validate the Model



Run the Model

Model Progress Window

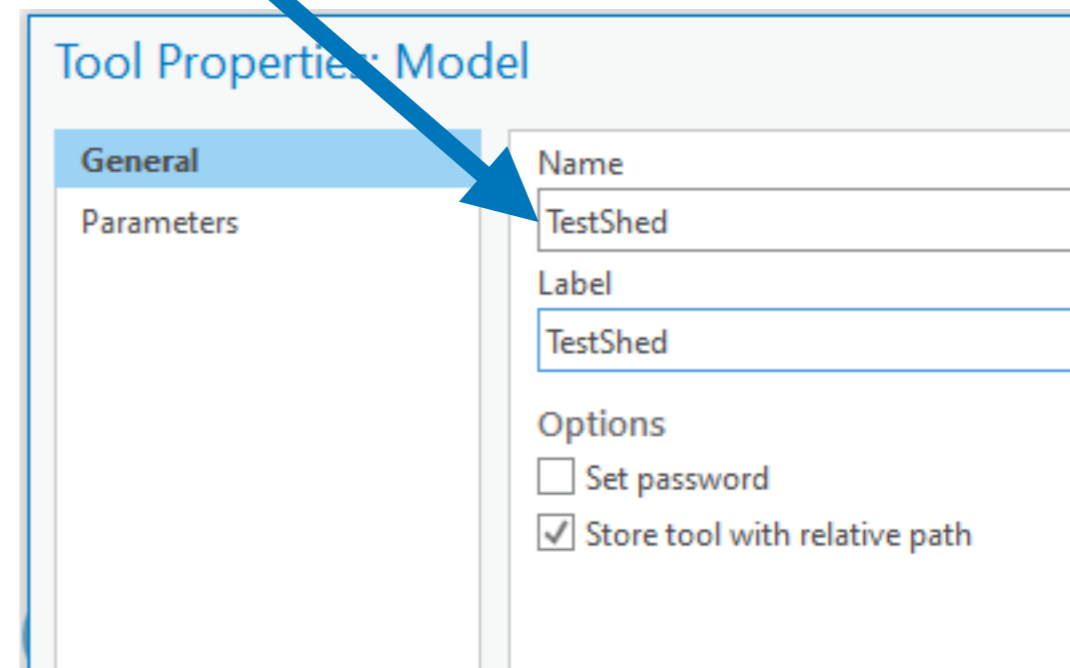
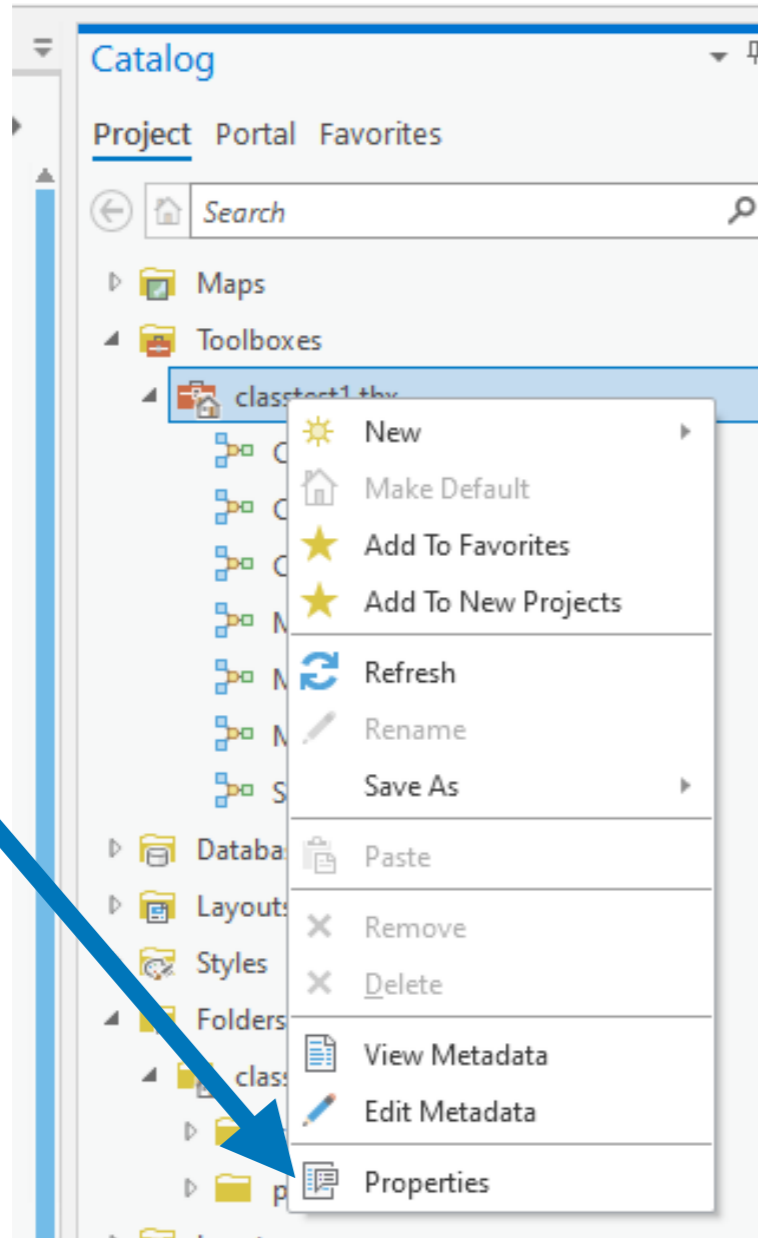
```
Model 1
Processing 2 of 2
Done

Executing (Flow Direction): FlowDirection ProjectDEM C:\Users\paulbolstad
\Desktop\p20\classtest1.gdb\FlowDir_Proj3 NORMAL # D8
Start Time: October 12, 2020 9:21:40 AM
  2020-10-12T09:21:52.296: Initialization Phase ...
  2020-10-12T09:21:52.731: Completion Phase ...
Succeeded at October 12, 2020 9:21:54 AM (Elapsed Time: 14.37 seconds)
Executing (Flow Accumulation): FlowAccumulation C:\Users\paulbolstad
\Desktop\p20\classtest1.gdb\FlowDir_Proj3 C:\Users\paulbolstad\Desktop\p20
\classtest1.gdb\FlowAcc_Flow3 # Float D8
Start Time: October 12, 2020 9:21:56 AM
  2020-10-12T09:22:03.341: Initialization Phase ...
  2020-10-12T09:22:04.230: Completion Phase ...
Succeeded at October 12, 2020 9:22:05 AM (Elapsed Time: 9.53 seconds)

 Close on completion
```

Use (often cryptic) error statements to diagnose, debug model

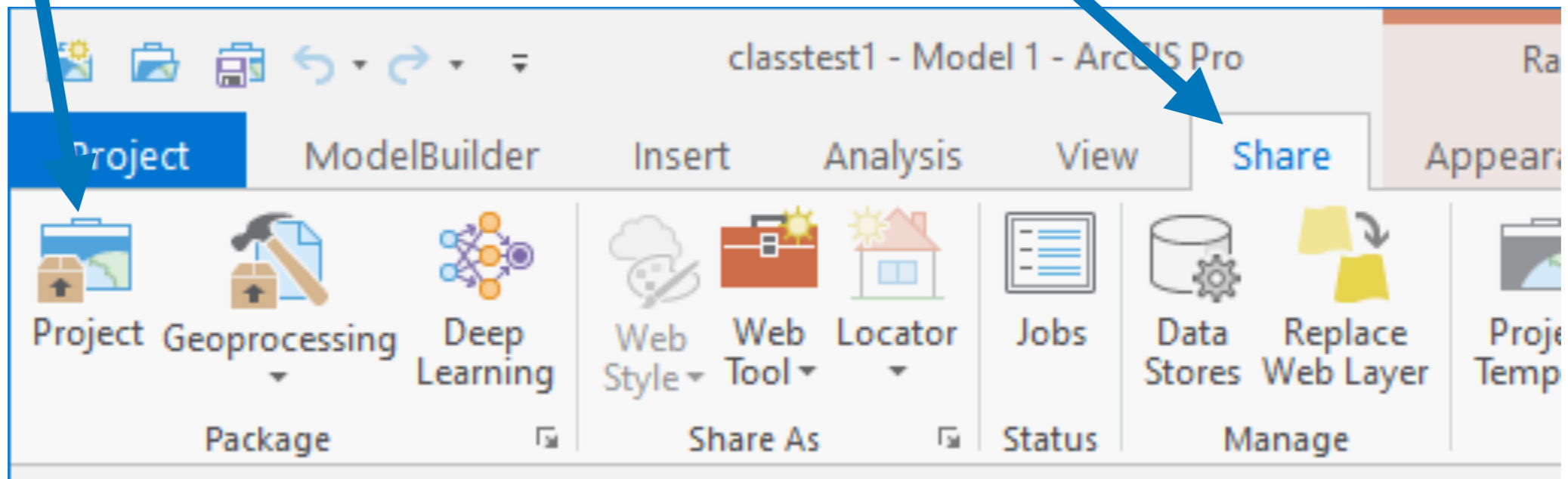
To rename/re-label model, right click on model in the catalog to view, change properties



Saving a Project Package

Under Share Tab (top bar),

then
Project Package



Saving a Project Package to Turn In

- Package Project tab/tool in the right panel
- Save package to a file
- Set the name/location
- Specify summary, tags
- Check to include Toolboxes
- Analyze, fix errors, warnings, then Package

Package Project

Share classtest1 As A Project Package

Package Attachments

Start Packaging

Upload package to Online account

Save package to file

Item Details

Name

C:\Users\paulbolstad\Documents\ArcGIS\cla

* Summary

* Tags

Share outside of organization

Include Toolboxes

Include History Items

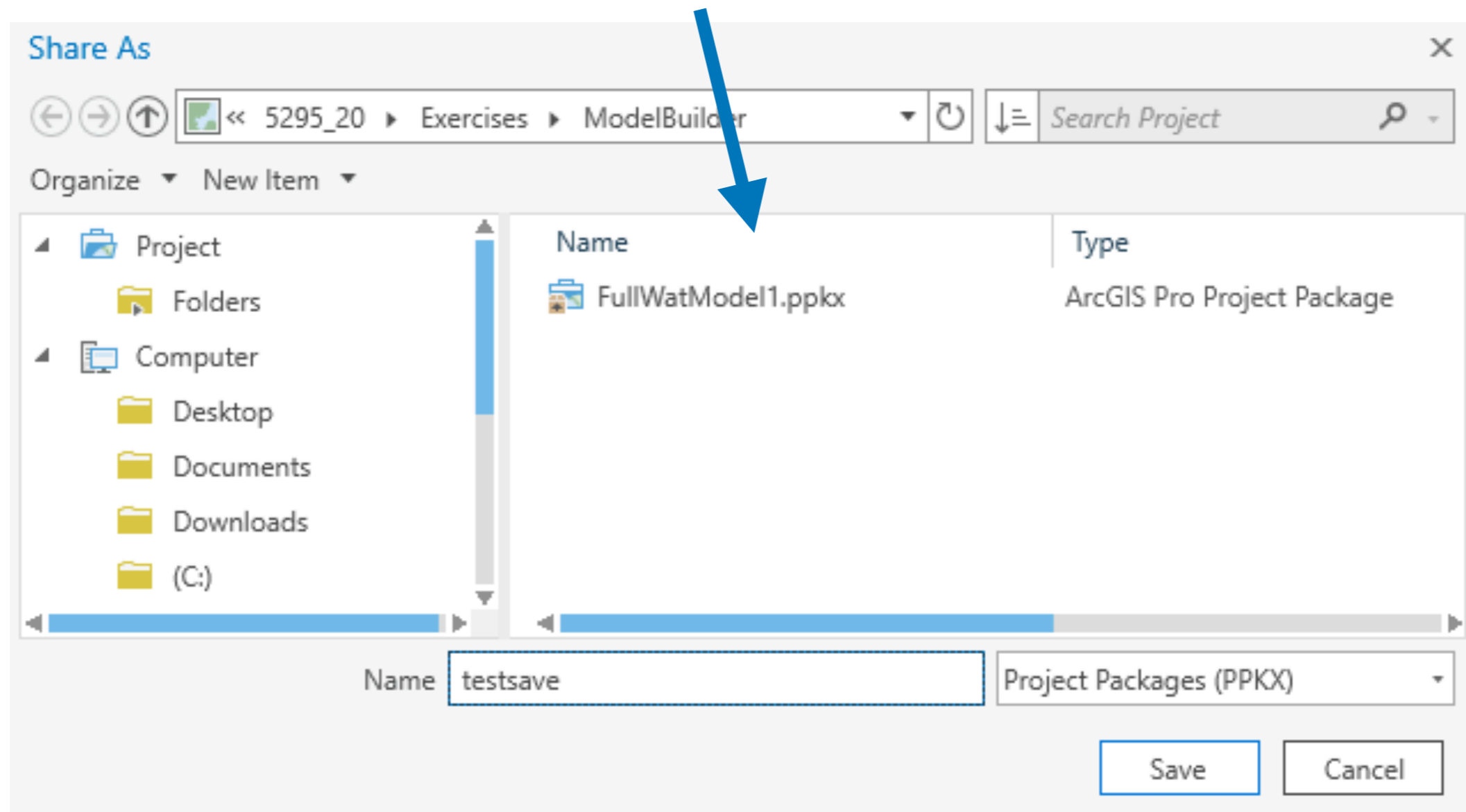
Finish Packaging

Analyze Package Jobs

Catalog Geopro... Modify... Symbo... Packag...

Saving a Project Package

Creates a .ppkx file, note where you put it



Zip, then turn this package file in - beware extra data

Assignment: Create a model to calculate watersheds from a set of pour points

Use the data in the L: drive, same as last week

Create a new project, drag the data to your computer desktop anew, and create your model

The following should be in your final package geodatabase:

- input DEM
- input pourpoints layer
- output raster watersheds
- output vector watersheds
- output vector flow lines