

# Useful methods for ArcMap 9.3

## 1. Add Layer

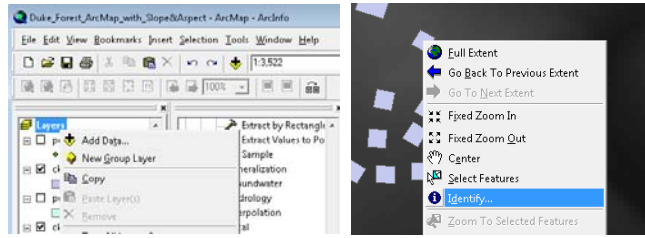
- a. Right click "Layers" in left box menu
  - i. Select 'Add Data'

## 2. Determine info about feature (object)

- a. Right Click feature
  - b. Select 'Identify'

## 3. ENABLE SPATIAL ANALYST TOOLS

- a. ArcToolbox (red tool box) > Extensions
- b. Check the box for "Spatial analyst"
- c. NOTE: THIS IS NEEDED FOR SLOPE, ASPECT, EXTRACT, ETC.

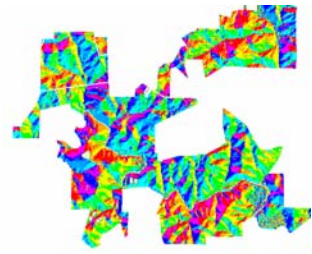


**How to:**  
 Toggle panes such as Table of Contents, ArcToolbox, or Command Line Window:

1. Click "Window" button
  - o (see main toolbar)
2. Select either
  - o "Table of contents",
  - o "ArcToolbox", or
  - o "Command Line"

## 4. Slope

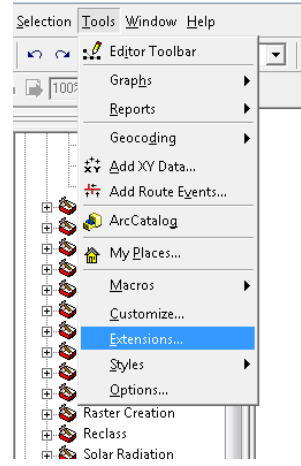
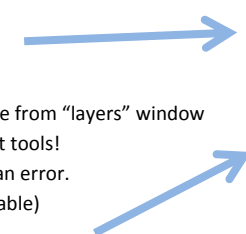
- a. Open ArcToolbox (red tool box button)
- b. Spatial analyst tools > Surfaces > Slope
- c. Enter Raster Data
  - i. Can just click and drag raster of choice from "layers" window
- d. Note: You'll need to have enabled Spatial analyst tools!
- e. Note: the raster might be too big and you'll get an error.
  - i. Use Extract by mask to help (if applicable)



Aspect Map of map subset

## 5. Aspect

- a. Open ArcToolbox (red tool box button)
- b. Spatial analyst tools > Surfaces > Aspect
- c. Enter Raster Data
  - i. Can just click and drag raster of choice from "layers" window
- d. Note: You'll need to have enabled Spatial analyst tools!
- e. Note: the raster might be too big and you'll get an error.
  - i. Use Extract by mask to help (if applicable)

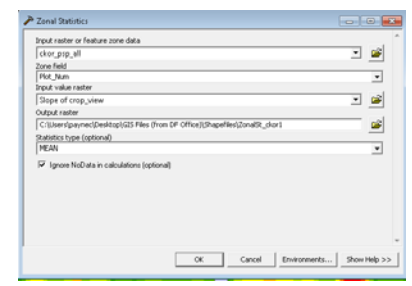


## 6. Obtain subset of Map (Extract by Mask)

- a. Use: can copy a subsample of a large raster based on only parts that are covered by an overlying feature/layer (or simply another feature of your choice)
- b. Open toolbox (red tool box button)
- c. Spatial analyst tools > Extraction > Extraction by Mask
- d. Select Raster layer to subset and overlying layer to 'clip out' the underlying subsets

## 7. Extract Values to a point

- a. Use: for example to extract the elevation, slope, aspect, etc. of a raster data for the specific point where overlying points in another layer exist
- b. Open toolbox (red tool box button)
- c. Spatial analyst tools > Extraction > Extract Values to Points
- d. Note: not for polygons. Instead see: <http://gis.stackexchange.com/questions/40536/extract-raster-value-into-polygon-attribute>
  - i. For an average of the underlying raster values for an overlying feature, use Zonal statistics Tool
    1. Spatial Analyst Tools > Zonal > Zonal Statistics and select the Mean statistic
    - ii. To see as table of values use "zonal statistics as table" tool
      1. Note: this is saved as a table that can only be viewed by selecting the "Source" tab at the bottom of the Table of Contents window pane.
      2. Right click the table you created and select "Open"



## 8. Measure Distance

- a. Manually
  - i. Open "tools" toolbar (if not open – it may be hiding as a floating toolbar window)
    1. To open: right click top-most tool bar (containing "file" etc.), scroll to find "tools" and click to check
  - ii. Select "Measure" tool (looks like ruler)
    1. To measure a distance, draw a line.
    2. To measure an area, click 'Measure An Area' then draw a polygon.
    3. To measure a feature, click 'Measure A Feature' then click a feature.
    4. NOTE: use "snap to Feature" button to have mouse get 'stuck' to features (aka objects) for easier measuring
- b. Determine Closest of one feature (or point/shape/polygon layer) to that of another (or of all of one feature layer to closest (or many) of any/all features(s) of another layer(s))



## 9. View attribute table for feature

- a. Right click feature in Table of contents ("layers" pane) and select "Open Attribute Table"
- ii. Analysis Tools > Proximity
  1. Generate Near Table (can find nearest feature in general)
  2. Buffer (Identifies / finds points / distances for features within a set buffer area around your feature of interest (FOI))

FID	Shape	OBJECTID	ID	Existing	Type	Plot	Photo	Slope	Slope Area
1	Polygon	1	1	Yes	Hardwood	42	2000	1700	280000
2	Polygon	2	2	Yes	Hardwood	36	430	44000	17000
3	Polygon	3	3	Yes	Hardwood	36	300	3000	10000
4	Polygon	4	4	Yes	Hardwood	36	300	3000	10000
5	Polygon	5	5	Yes	Hardwood	36	300	3000	10000

## 10. Locate feature on map from list

- a. Open attribute table. Then click the grey square on the left of the row to highlight the row of the feature in the table you want to locate in the map.
  - i. This will highlight the feature on the map the same color (cyan) as the highlighted row in the attribute table