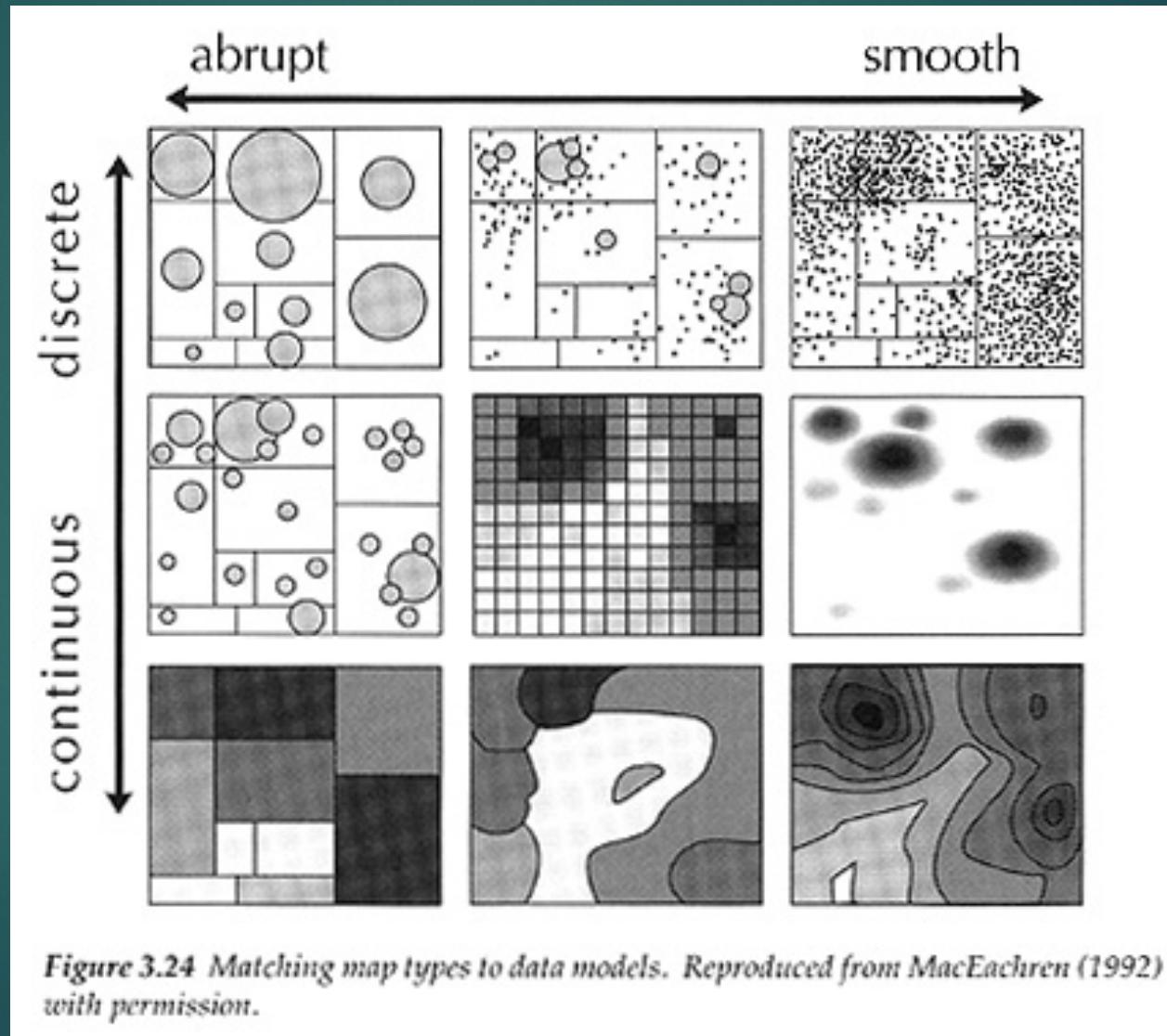
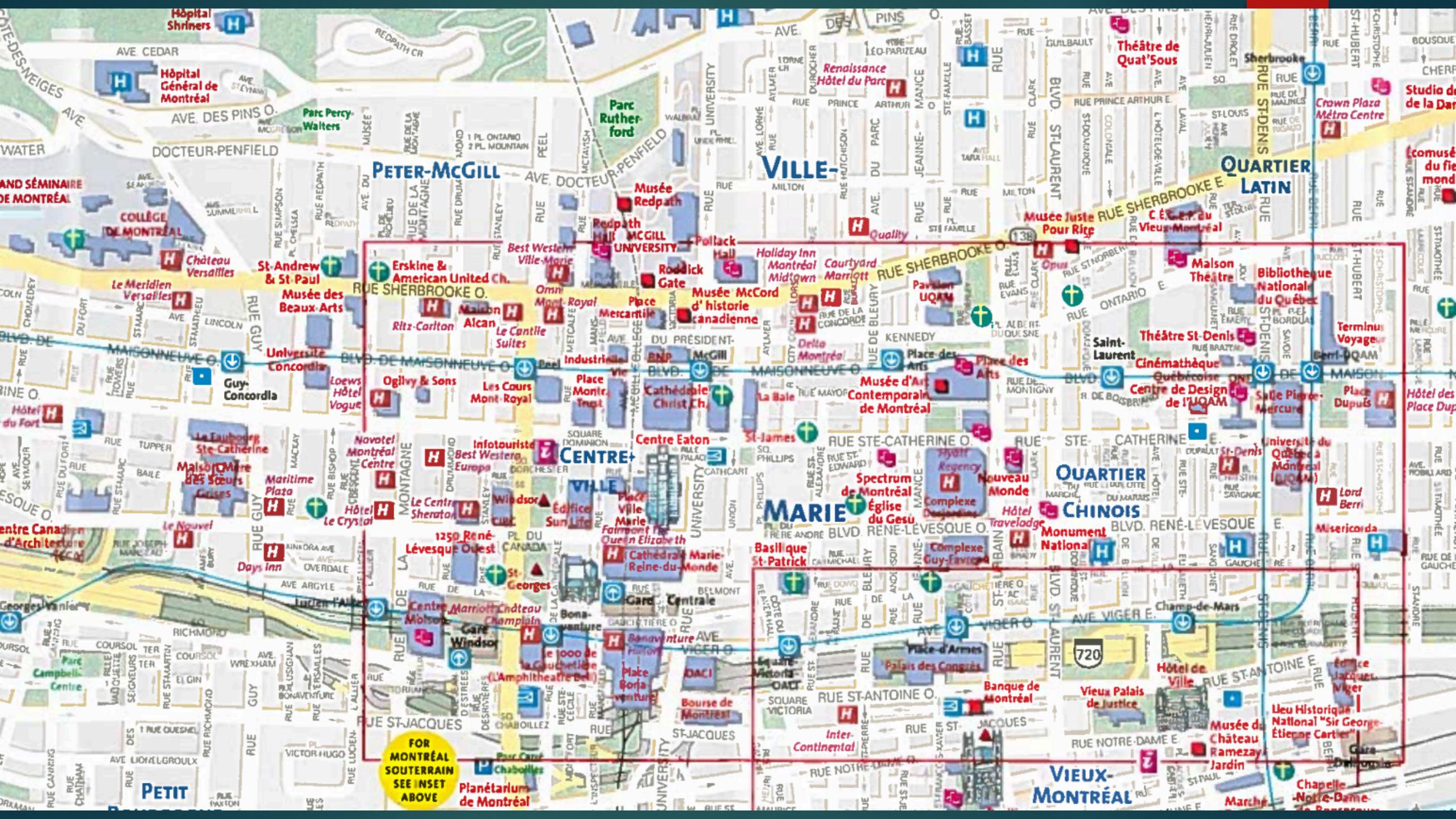
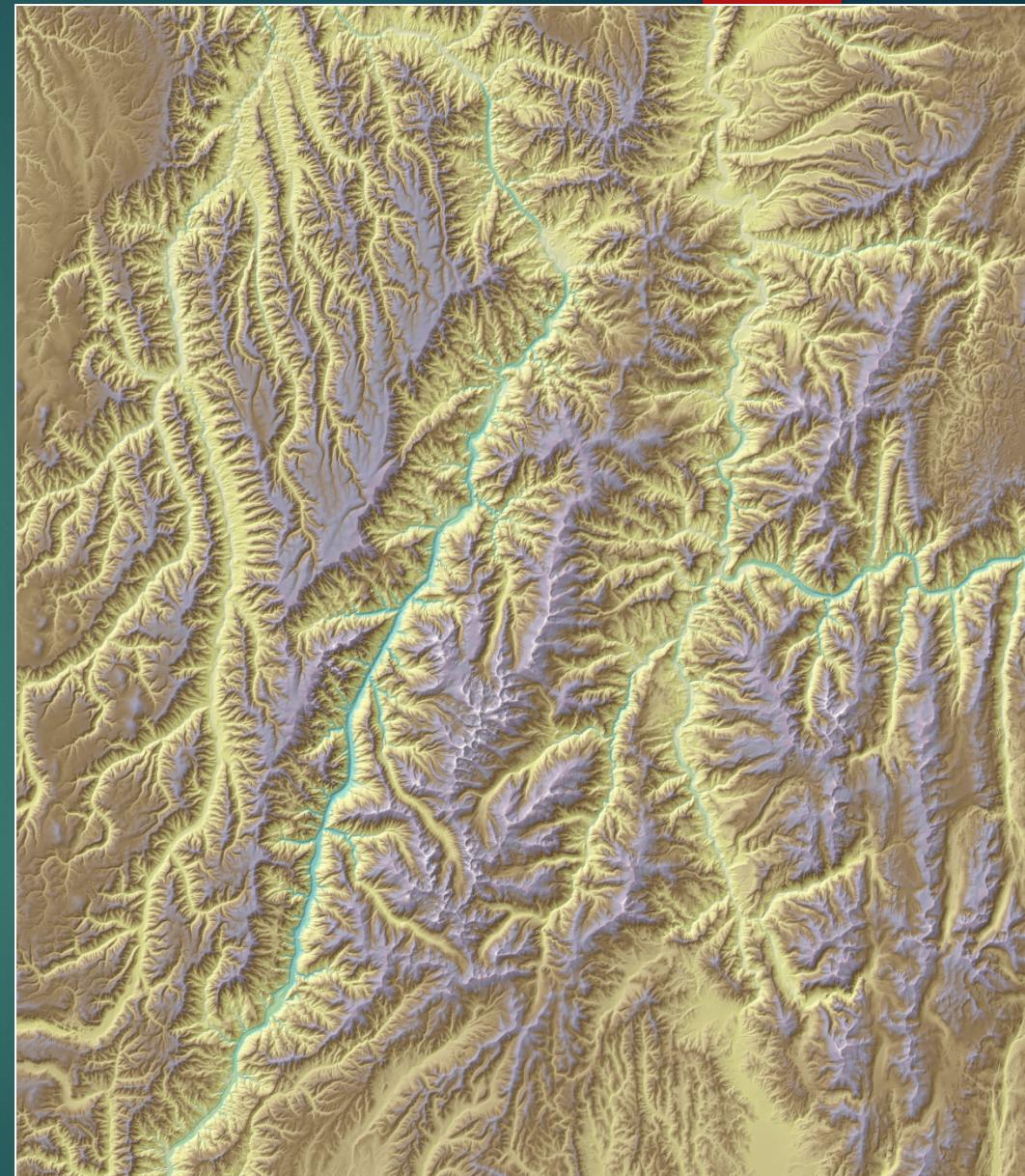
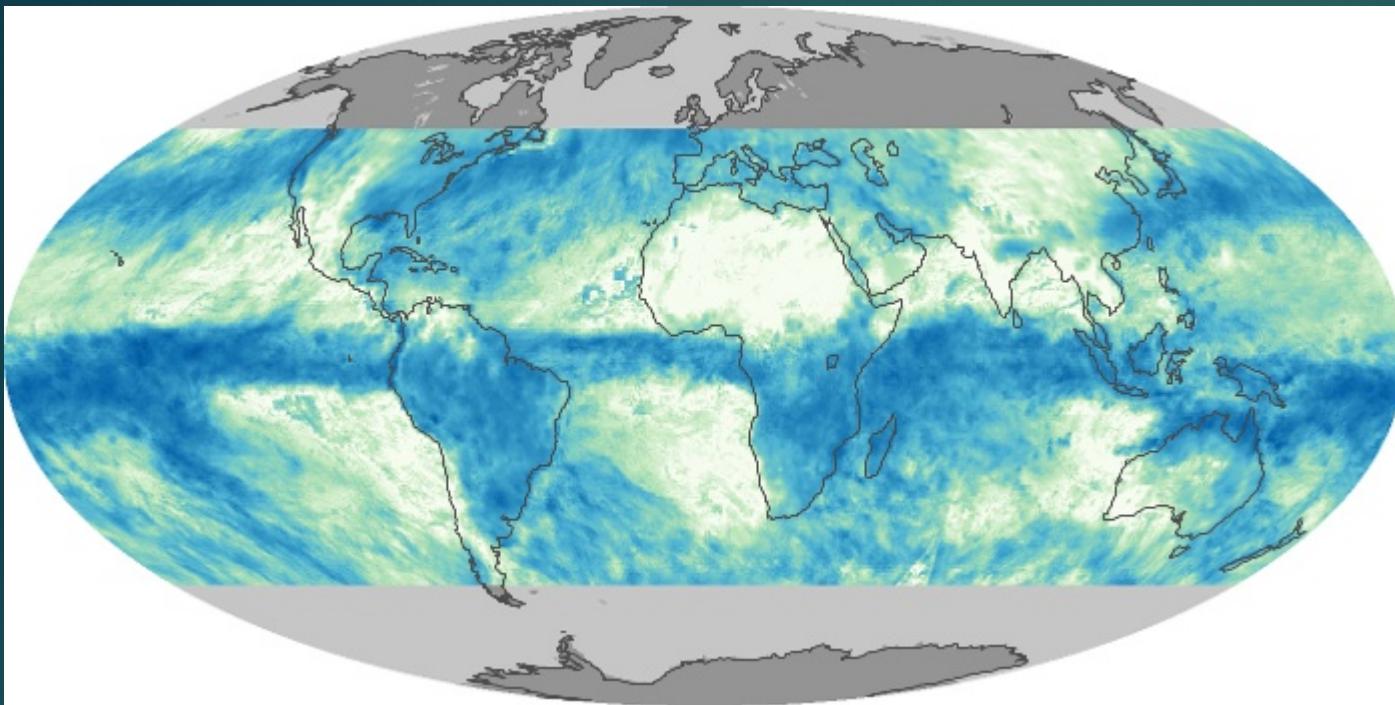


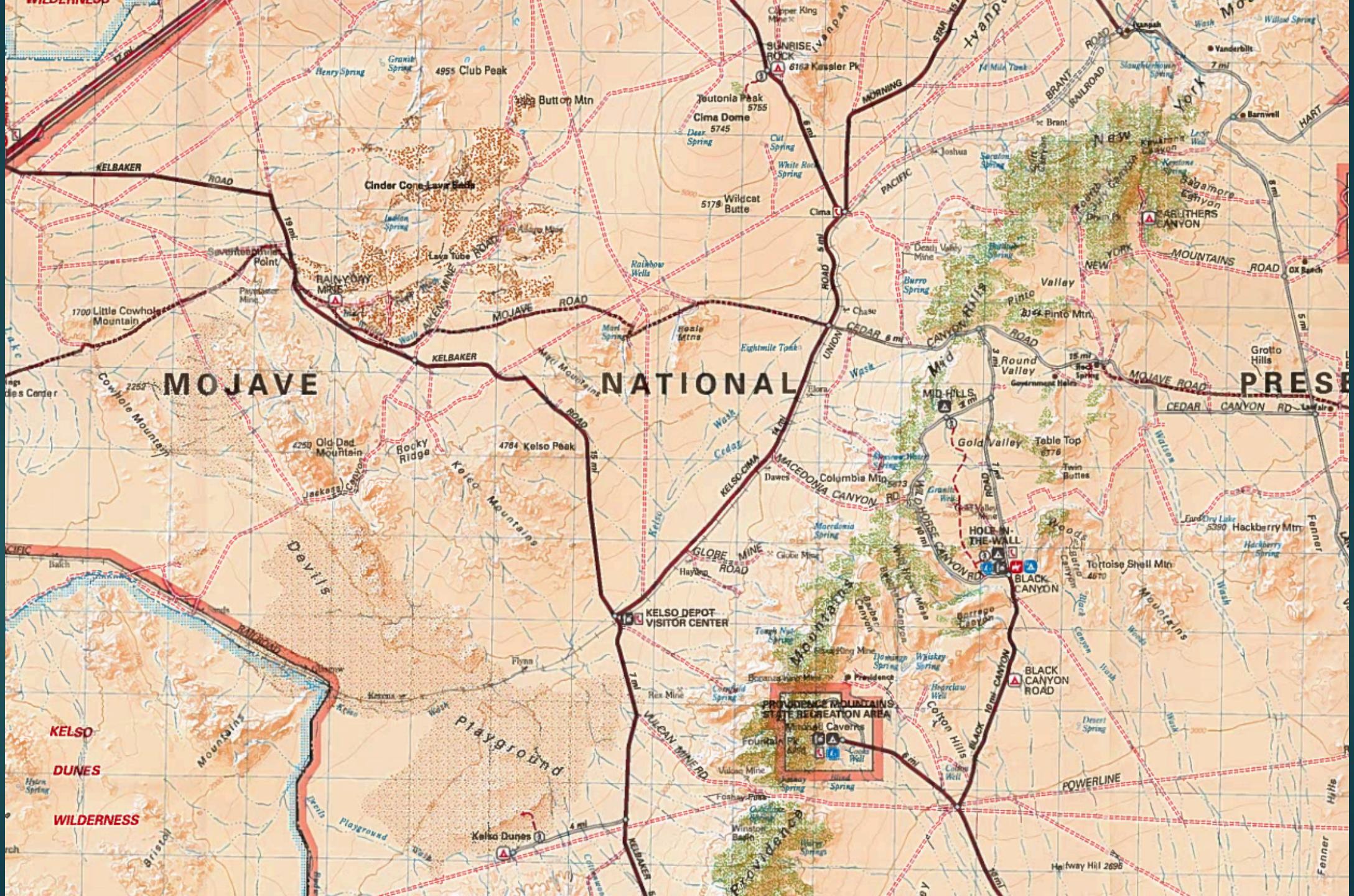
Geography Tea Talk
Daniel Coe
4pm in Lillis 282
TODAY

Continuous fields vs. Discrete objects









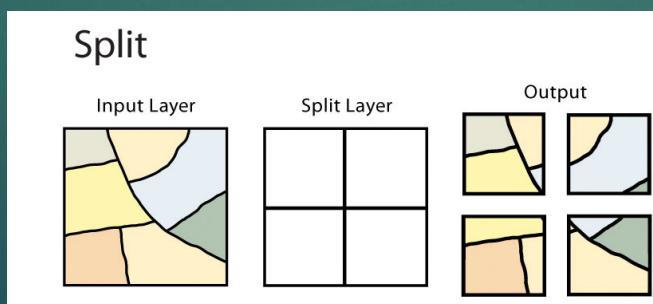
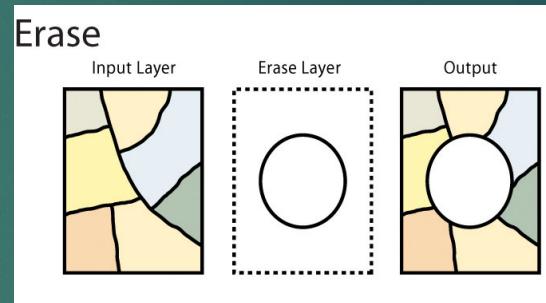
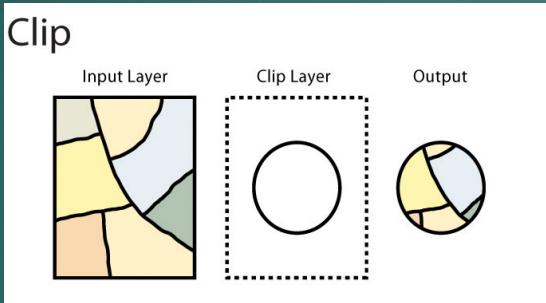
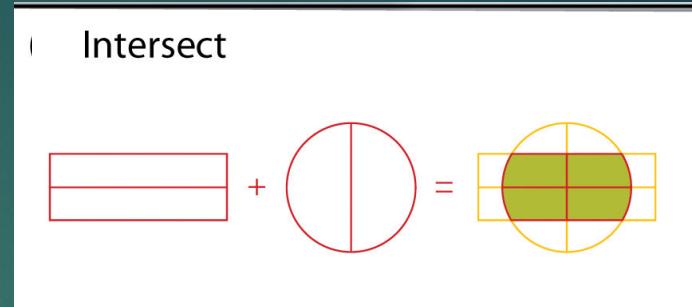
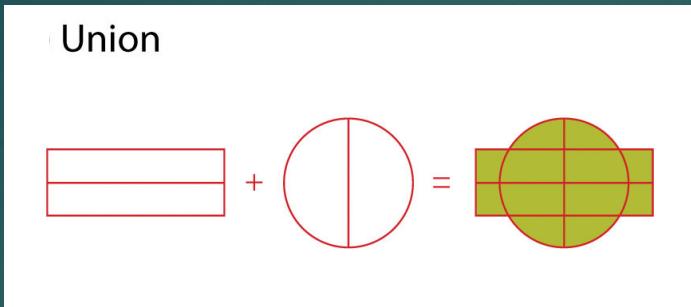
Vector Operations

LECTURE 4: WEEK 3

GIS Operations can be divided into two categories

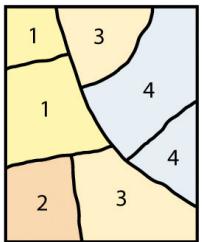
- ▶ Overlay
- ▶ Proximity
- ▶ These are related...
 - ▶ You can use overlay analysis to help do proximity analysis...
- ▶ Let's go over Overlay analysis first...

Vector Ops

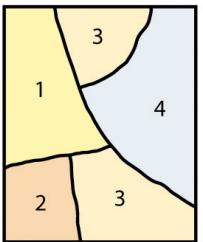


Vector Ops (con't)

(a) Dissolve

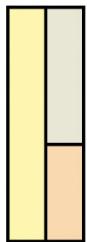


A.



B.

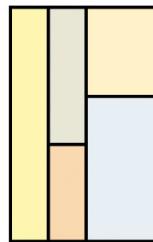
(b) Append



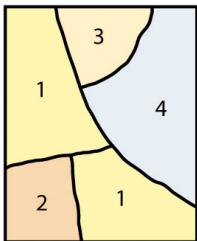
Append



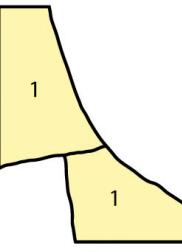
=



(c) Select

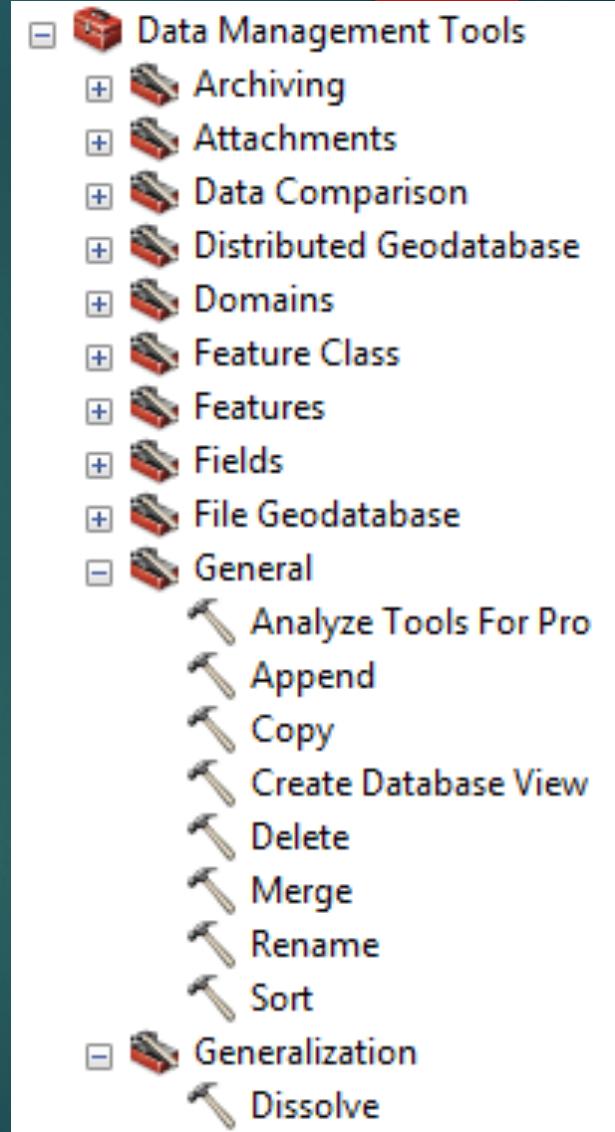
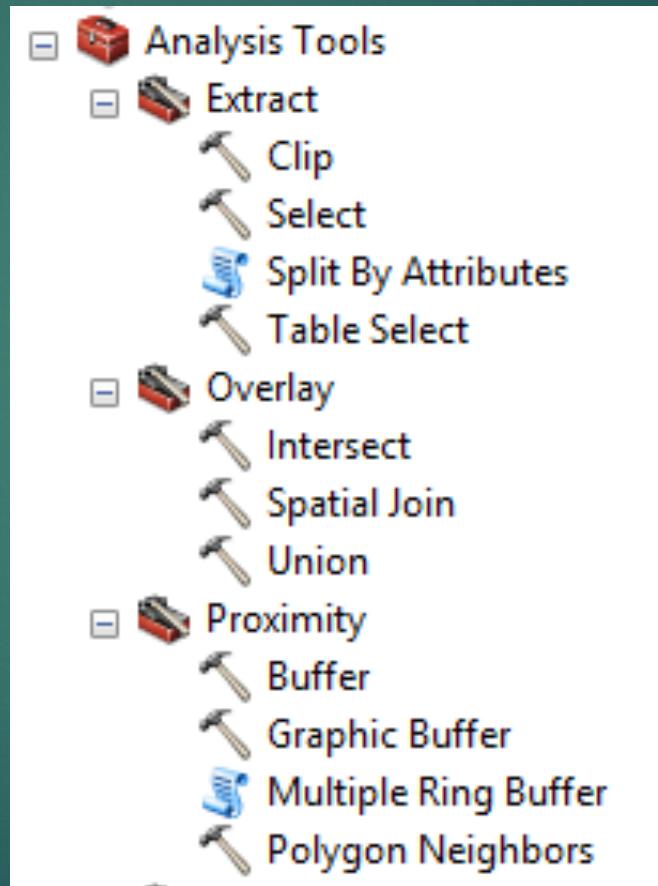
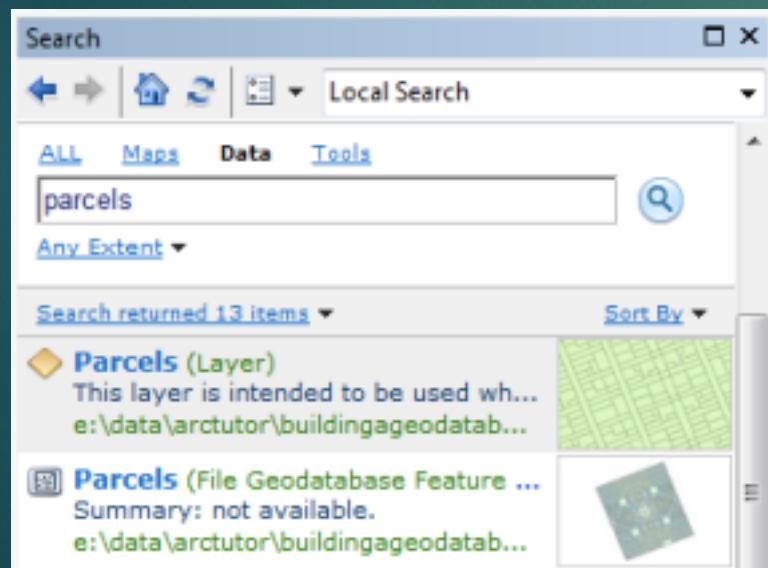
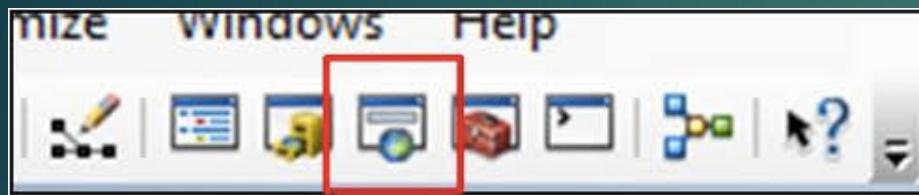


A.



B.

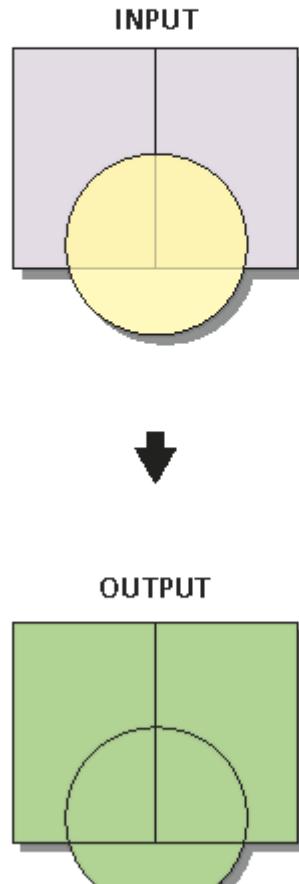
Data Management & Analysis Tools in ArcGIS



I often use the search to find the tools I want as opposed to looking through all of the toolboxes

Union

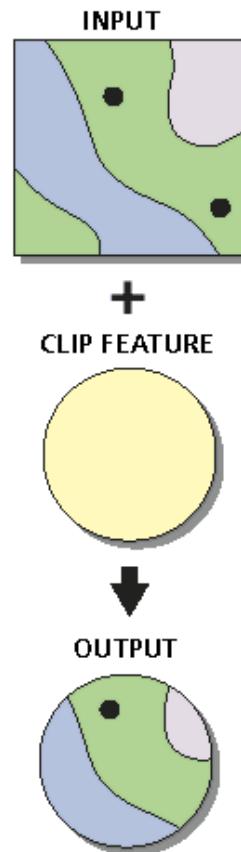
Computes a geometric union of the input features. All features and their attributes will be written to the output feature class.



Clip

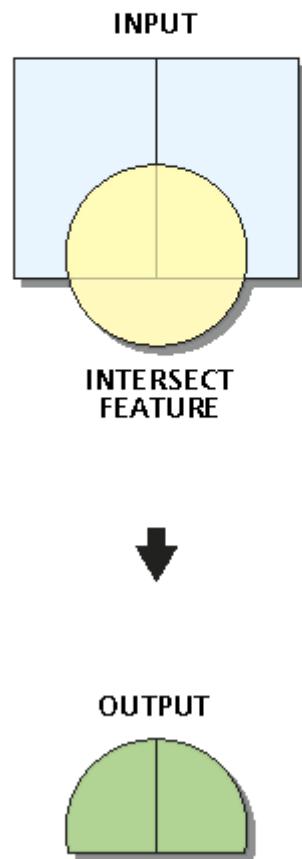
Extracts input features that overlay the clip features.

Use this tool to cut out a piece of one feature class using one or more of the features in another feature class as a cookie cutter. This is particularly useful for creating a new feature class—also referred to as study area or area of interest (AOI)—that contains a geographic subset of the features in another, larger feature class.

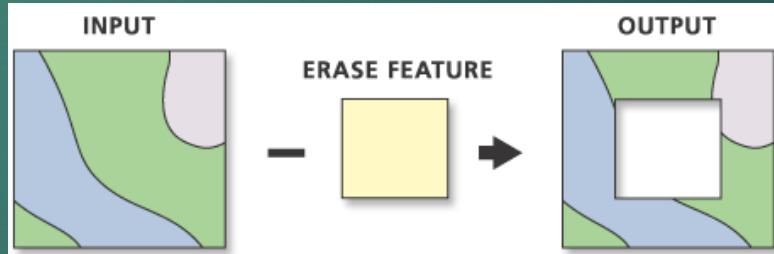


Intersect

Computes a geometric intersection of the input features. Features or portions of features which overlap in all layers and/or feature classes will be written to the output feature class.



Erase – opposite of clip



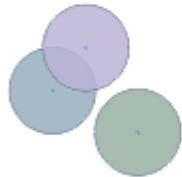
Buffer

Creates buffer polygons around input features to a specified distance.

INPUT



OUTPUT DISSOLVE TYPE:
NONE



OUTPUT DISSOLVE TYPE:
ALL

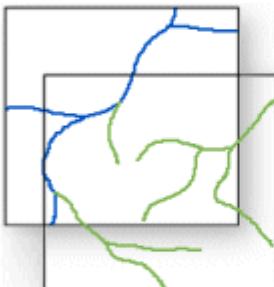


Append

Appends multiple input datasets into an existing target dataset. Input datasets can be point, line, or polygon feature classes, tables, rasters, annotation feature classes, or dimensions feature classes.

To combine input datasets into a new output dataset, use the Merge tool.

INPUT



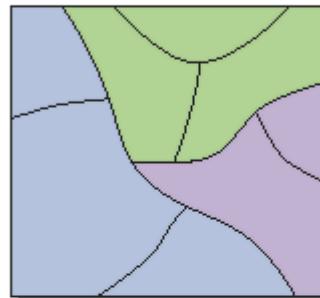
OUTPUT



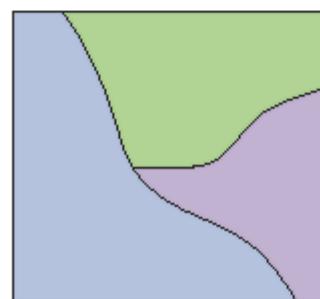
Dissolve

Aggregates features based on specified attributes.

INPUT

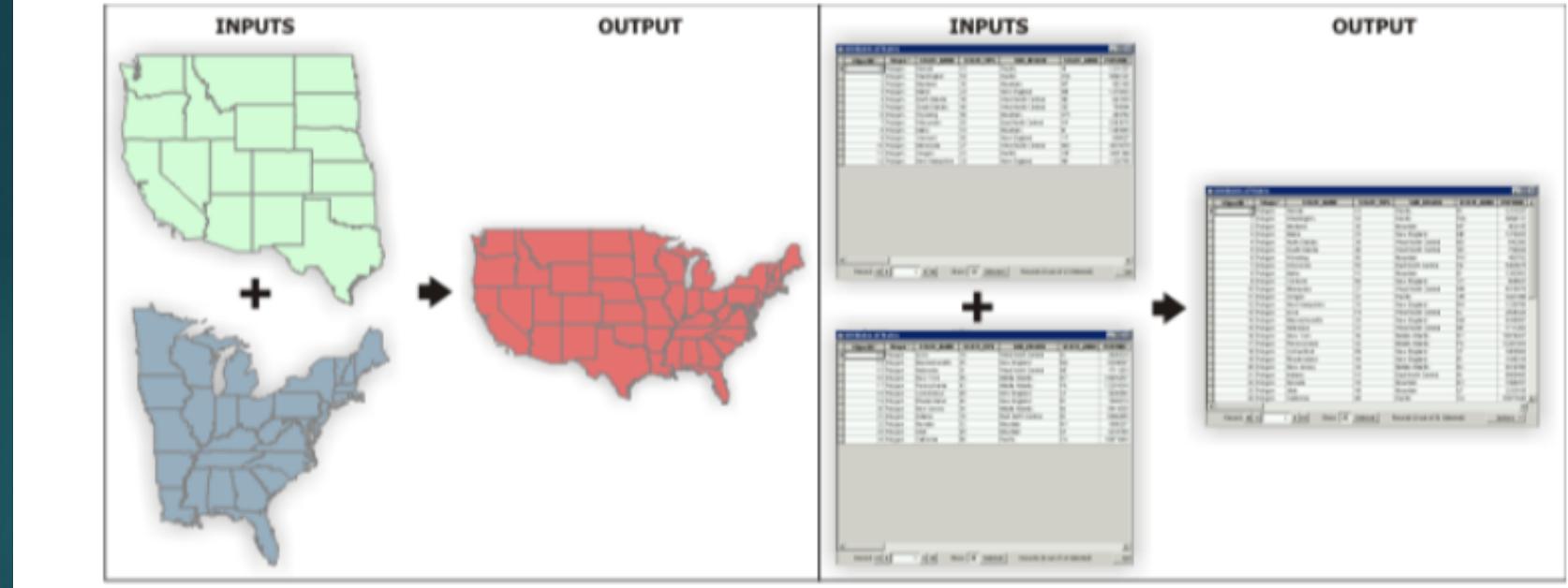


OUTPUT



Merge vs. Append

Illustration

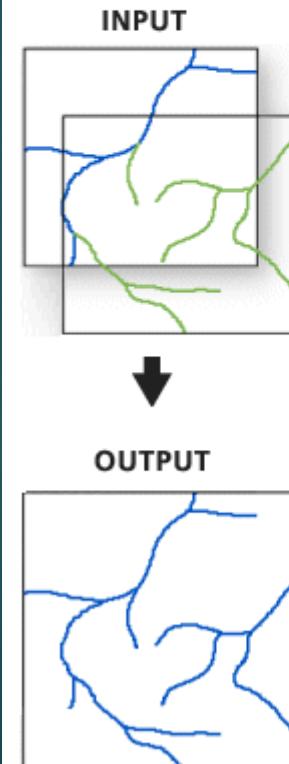


The attribute table
changes as well!

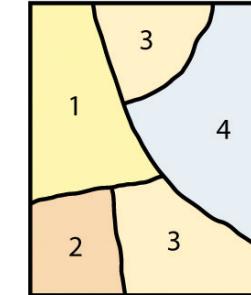
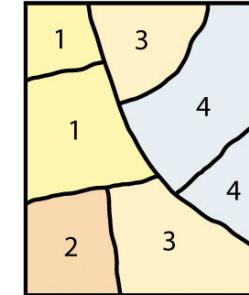
Append

Appends multiple input datasets into an existing target dataset. Input datasets can be point, line, or polygon feature classes, tables, rasters, annotation feature classes, or dimensions feature classes.

To combine input datasets into a new output dataset, use the Merge tool.

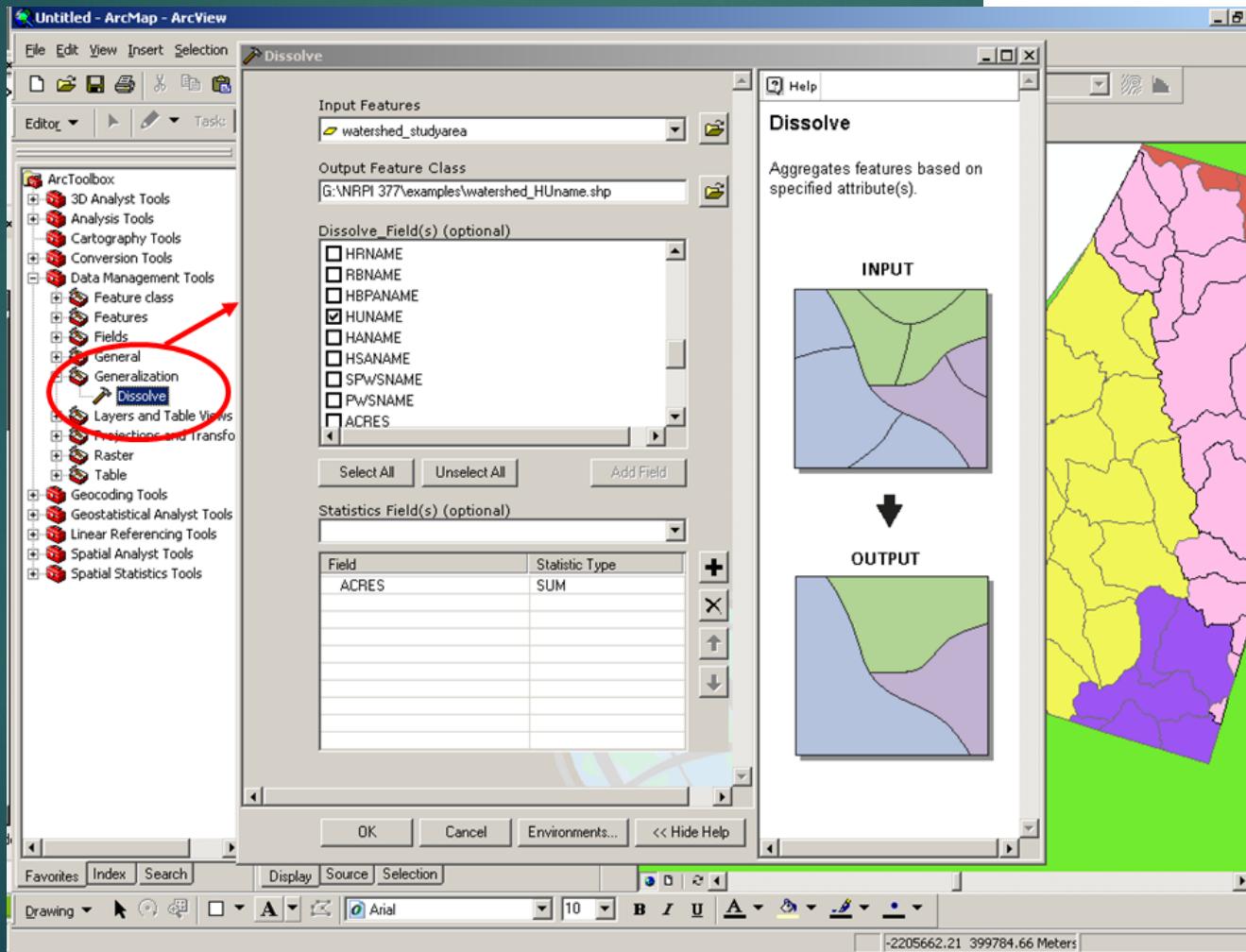


Dissolve



A.

B.



Dissolve by “State_Name”

Attributes of Counties.shp

Name	State_name	Area	Pop1990
Lake of the Woods	Minnesota	1784.0634	4076
Ferry	Washington	2280.2319	6295
Stevens	Washington	2529.9794	30948
Okanogan	Washington	5306.1800	33350
Pend Oreille	Washington	1445.0286	8915
Boundary	Idaho	1279.2987	8332
Lincoln	Montana	3746.0908	17481
Flathead	Montana	5232.0306	59218
Glacier	Montana	3124.4572	12121
Toole	Montana	1943.2598	5046
Liberty	Montana	1485.9458	2295
Hill	Montana	2917.3611	17654
Sheridan	Montana	1686.5827	4732
Divide	North Dakota	1279.9633	2899
Burke	North Dakota	1121.4170	3002
Renville	North Dakota	883.7720	3160

Will only return one row per state. What about the population and area?

Summary Statistics

- ▶ Sum
- ▶ Average
- ▶ Median
- ▶ Mode
- ▶ Range
- ▶ First (text or number)
- ▶ Last (text or number)
- ▶ Count (text or number)

When I dissolve counties by state:

Take the **sum** of land.
Take the **range** of incomes
Take the **first** state postal code...

What else?

Vector Ops Activity

1. INTERSECT (SELECTION)
2. CLIP
3. ERASE
4. DISSOLVE