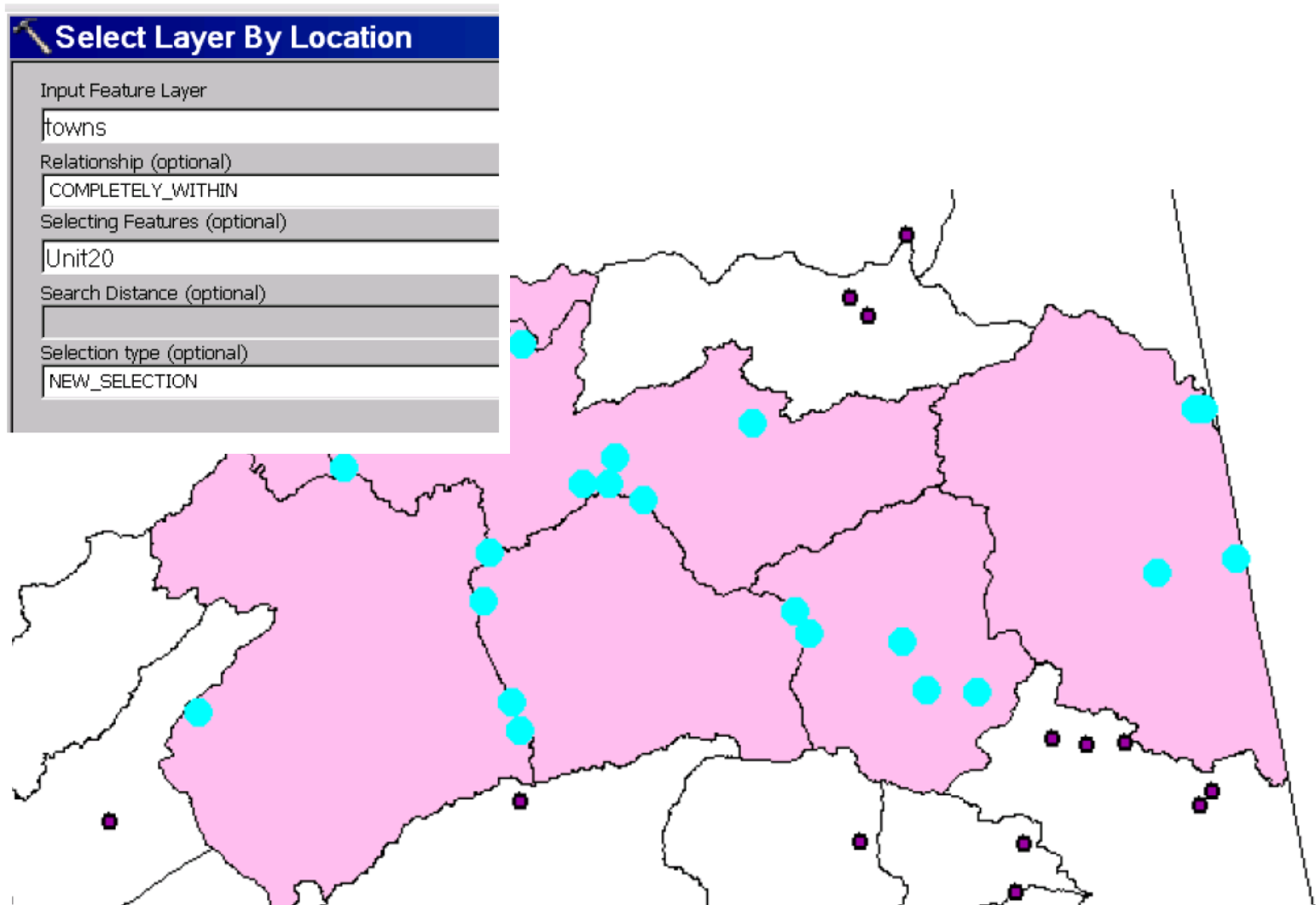


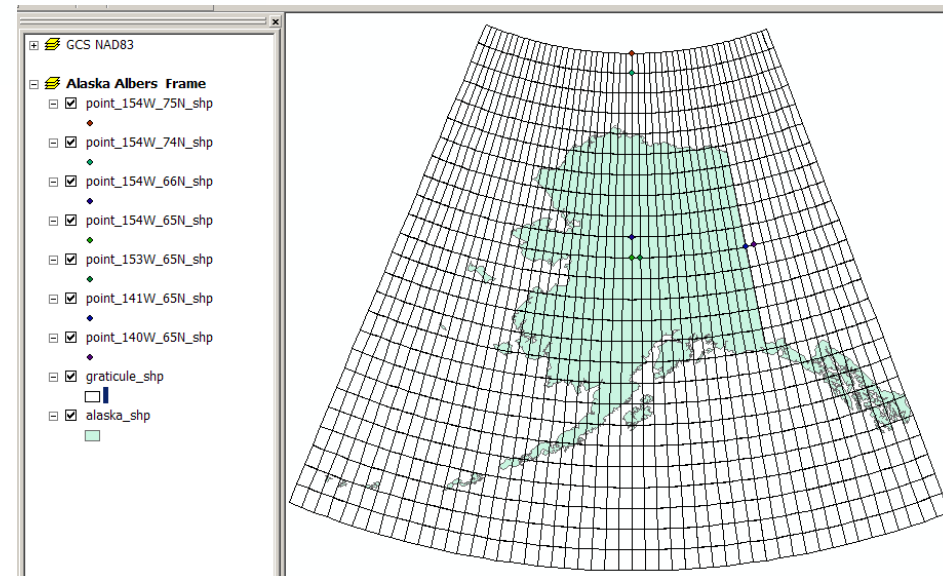
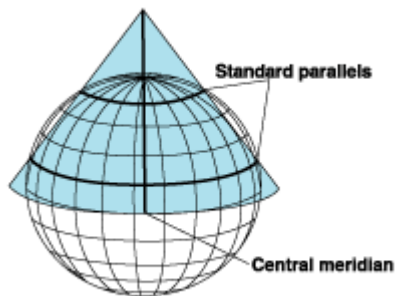
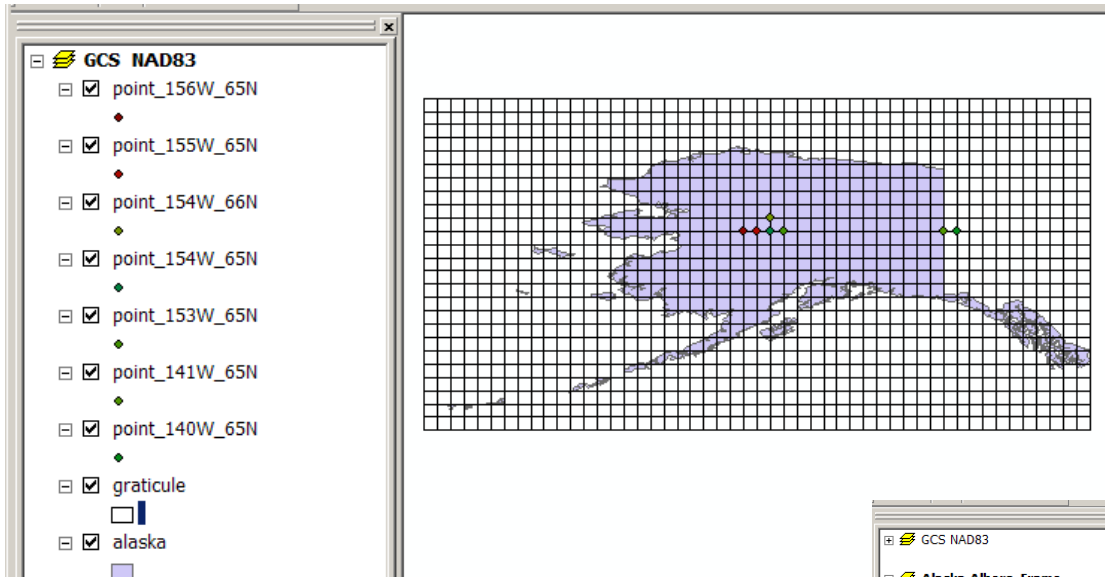
# Lab 1: Introduction to ArcGIS10.4



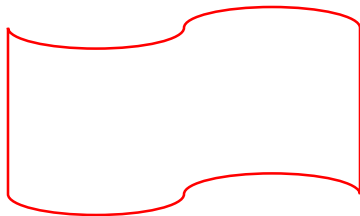
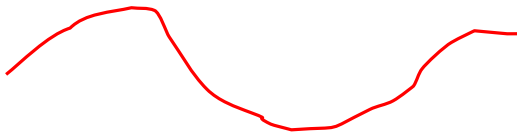
# Lab 2: Five Dimensions of GIS

- Point location
- Line length, Polygon Area
- Line measures (miles, km)
- Z (elevation or depth)
- Time

# Lab 3: Coordinate Systems



# Lab 4: Feature Formats



- Arc/Info Coverages
- Shapefiles
- Personal Geodatabase
- File Geodatabase

# Lab 5: GIS Tables and Charts

FireAreaHistory

SpecCause	Slope	Aspect	Elevation	AREA	LEN	Hectares
Lightning				0.122563	3.920177	
Lightning	0-25	North East	0501-1500	0.00016	0.085721	
LIGHTNING				0.003873	0.416638	
LIGHTNING				0.01497	0.735358	
LIGHTNING				0.006112	0.41884	
LIGHTNING				0.019671	0.936947	
				0.000368	0.22252	
LIGHTNING				0.014506	0.740776	
	0-25	Flat	0-500	0.000001	0.006498	
				0.000282	0.073666	
Lightning				0.000495	0.173382	
Lightning	0-25	Flat	0501-1500	0.000057	0.044441	
Lightning				0.000269	0.094918	
Lightning				0.022251	1.082527	

Calculate Geometry

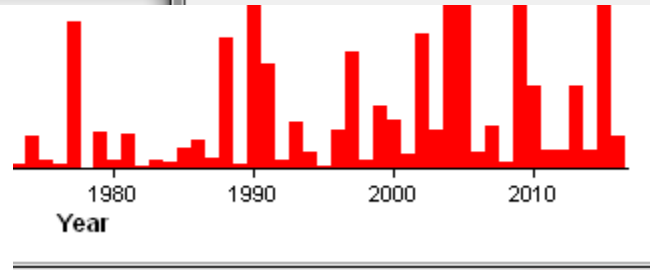
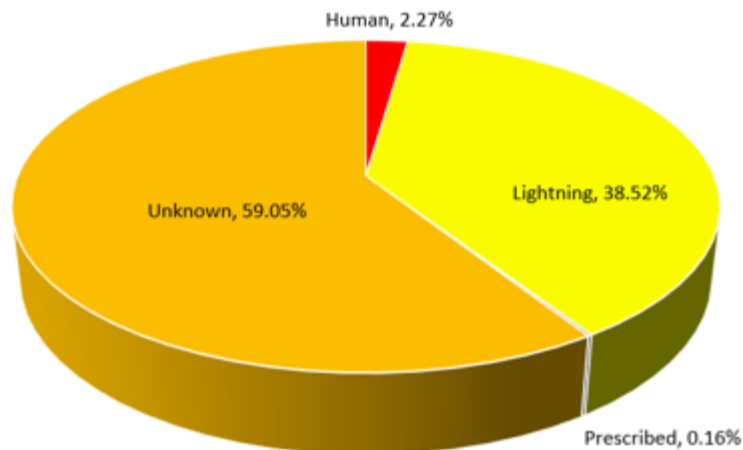
Property: Area

Coordinate System

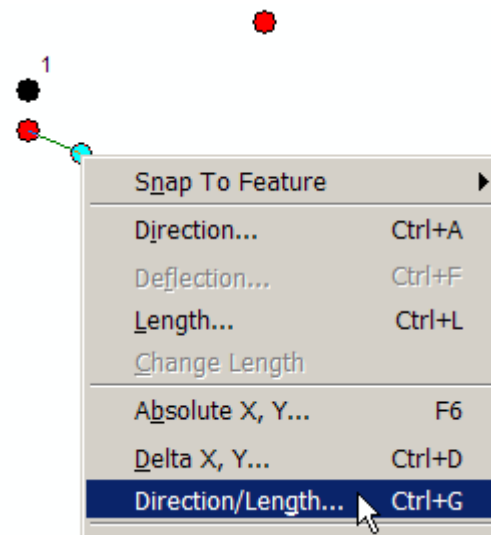
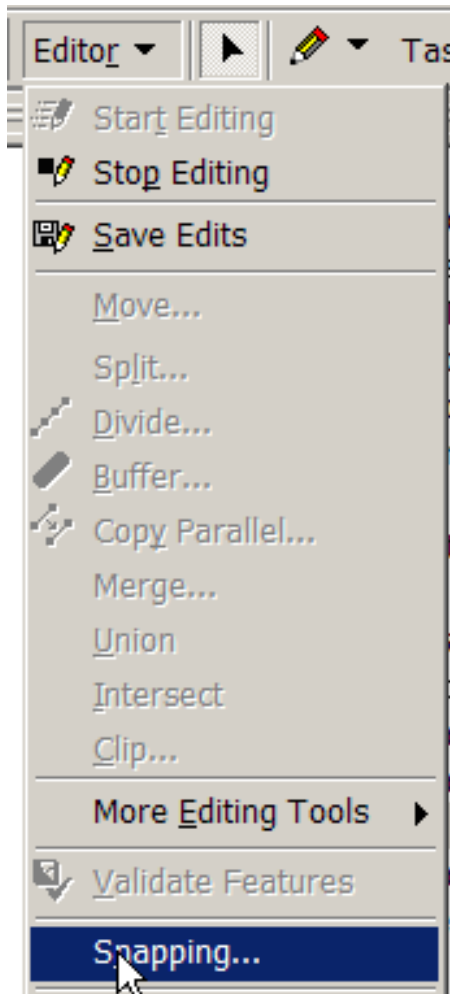
Use coordinate system of the data source  
PCS: NAD 1983 Alaska Albers

Use coordinate system of the data frame:  
PCS: NAD 1983 Alaska Albers

Units: Hectares [ha]



# Lab 6: Editing Shapefiles



# Lab 7: Geodatabases

The screenshot shows the 'Database Properties' dialog box with the 'Domains' tab selected. It contains a table of domain definitions and a 'Domain Properties' section.

Domain Name	Description
size_class	coded domain for small/medium/large classes
Acres	range domain for pond area in acres

Domain Properties	
Field Type	Double
Domain Type	Range
Minimum value	0.1
Maximum value	1000.0
Split policy	Default Value
Merge policy	Default Value

The screenshot shows a dropdown menu for the 'Size\_Class' field. The menu is open, showing the following options: '<Null>', '<Null>', 'Small', 'Medium', and 'Large'. A mouse cursor is pointing at the 'Medium' option.

The screenshot shows the 'Validate Features' dialog box. It displays an error message: 'Field Acres attribute value 0.01 is not within range of 0.1 and 1000.' There is an 'OK' button at the bottom.



# GIS Problem Solving Exams

## Oct 23-25 Lab Sections

Table Of Contents

Layers

- Rivers\_and\_Streams
- Timber\_Inventory
- FireAreaHistory

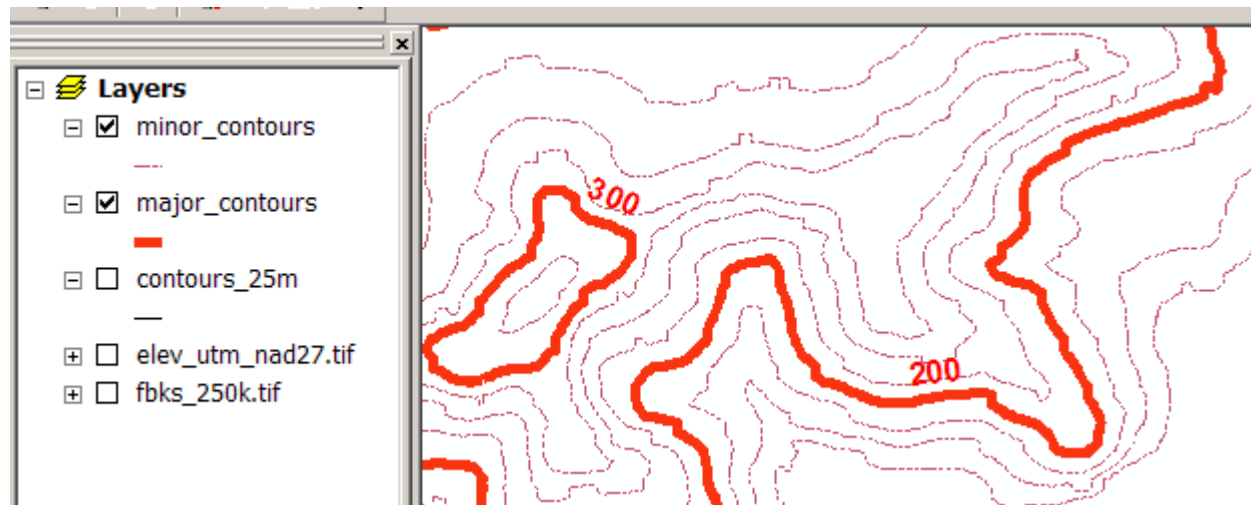
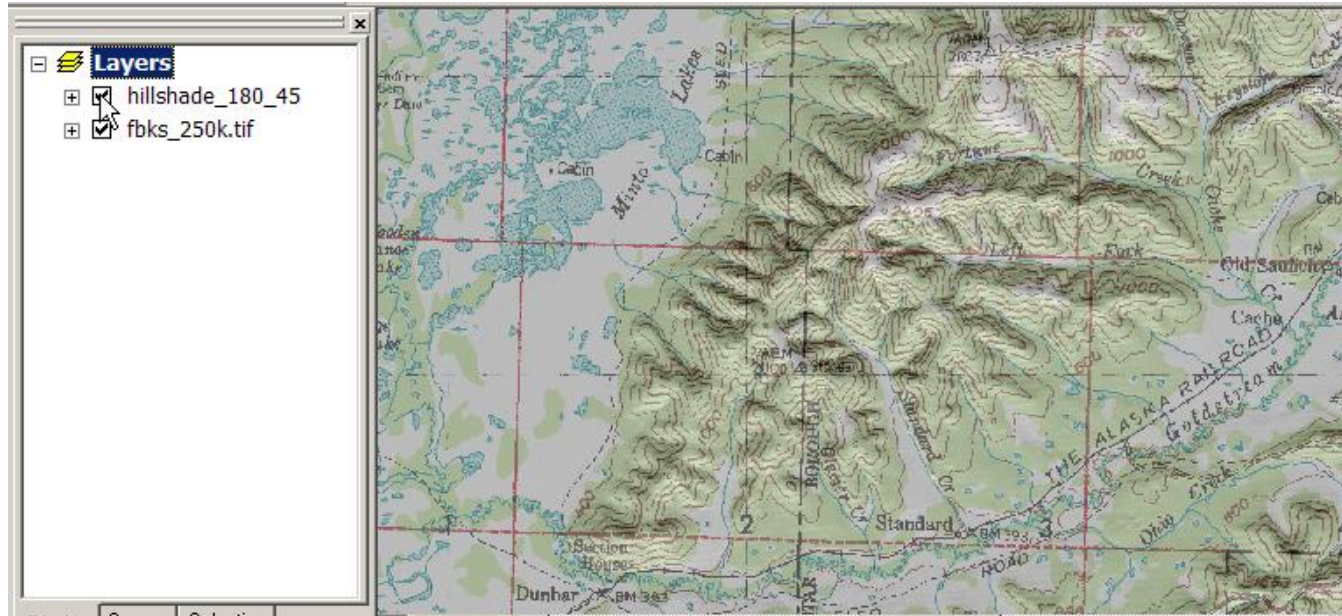
Table

FireAreaHistory

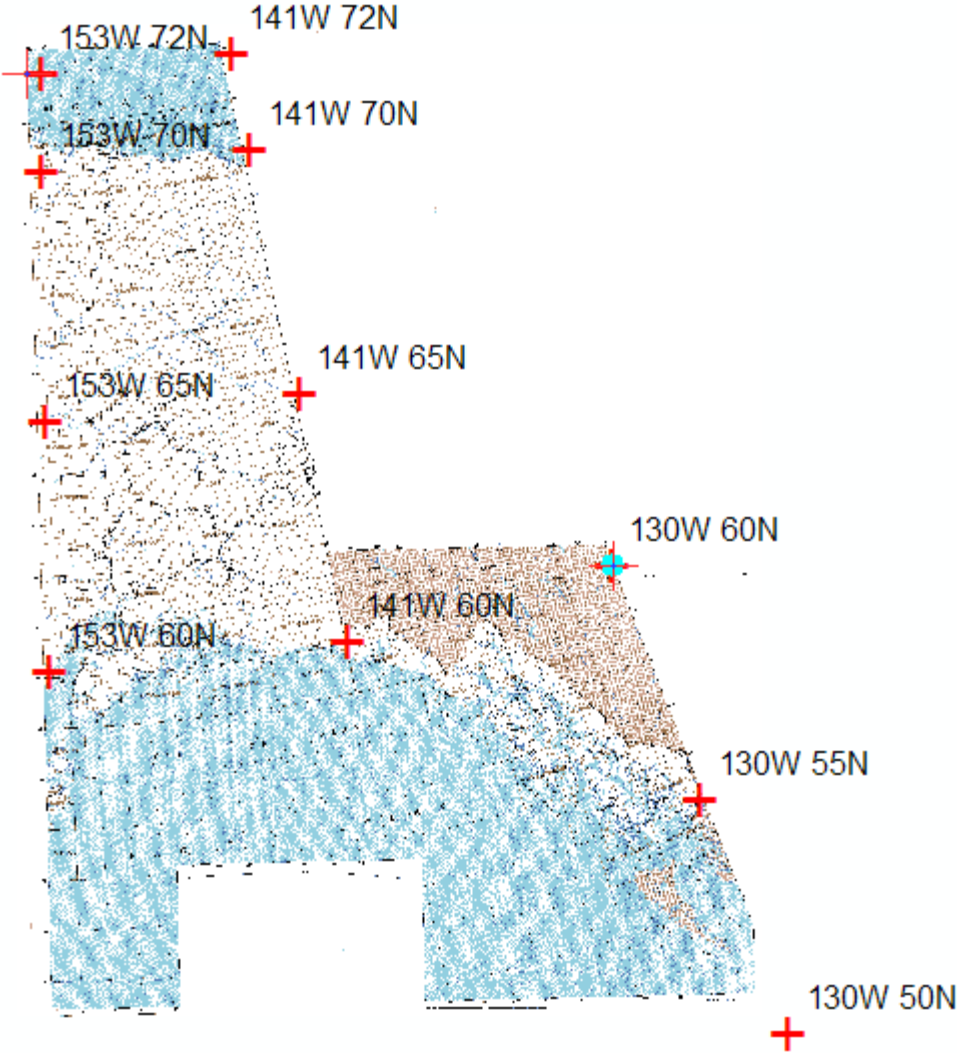
	Shape	FireName	FireYear	CalcAcres	PerimDate
	Polygon	Stuart Inert	2015	743.5	5/6/2015
	Polygon	CAL 1	2015	124.2	5/6/2015
	Polygon	Bolgen Creek	2015	535.4	5/17/2015
	Polygon	Stuart Inert 2	2015	1340.9	5/8/2015
	Polygon	YTA Moose Creek RX 2015	2015	347.6	5/11/2015
	Polygon	Little Montana Creek	2015	1046.2	7/3/2015
	Polygon	Hickey Creek	2015	33131.3	7/15/2015
	Polygon	Nikolai Slough	2015	5802.2	7/17/2015
	Polygon	Machine	2015	80.1	5/26/2015
	Polygon	FWA Small Arms Complex RX 2015	2015	1828.6	5/20/2015
	Polygon	Little Swift Creek	2015	1535.9	6/29/2015
	Polygon	DTAE Jarvis Creek RX 2015	2015	521.8	5/22/2015
	Polygon	DTAE Wills SAC RX 2015	2015	82.3	5/26/2015
	Polygon	Crater	2015	97.2	6/24/2015



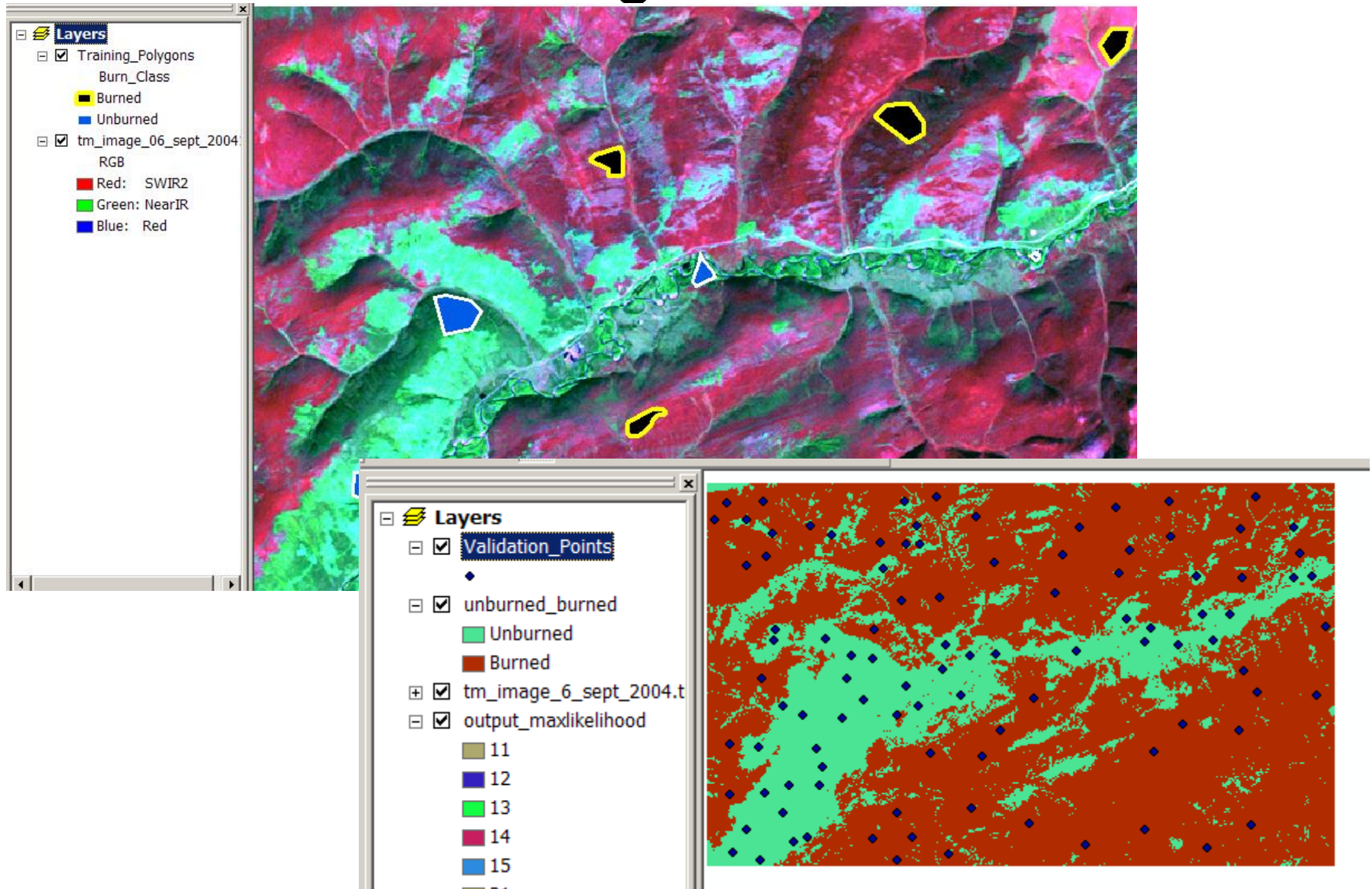
# Lab 8: Elevation Rasters



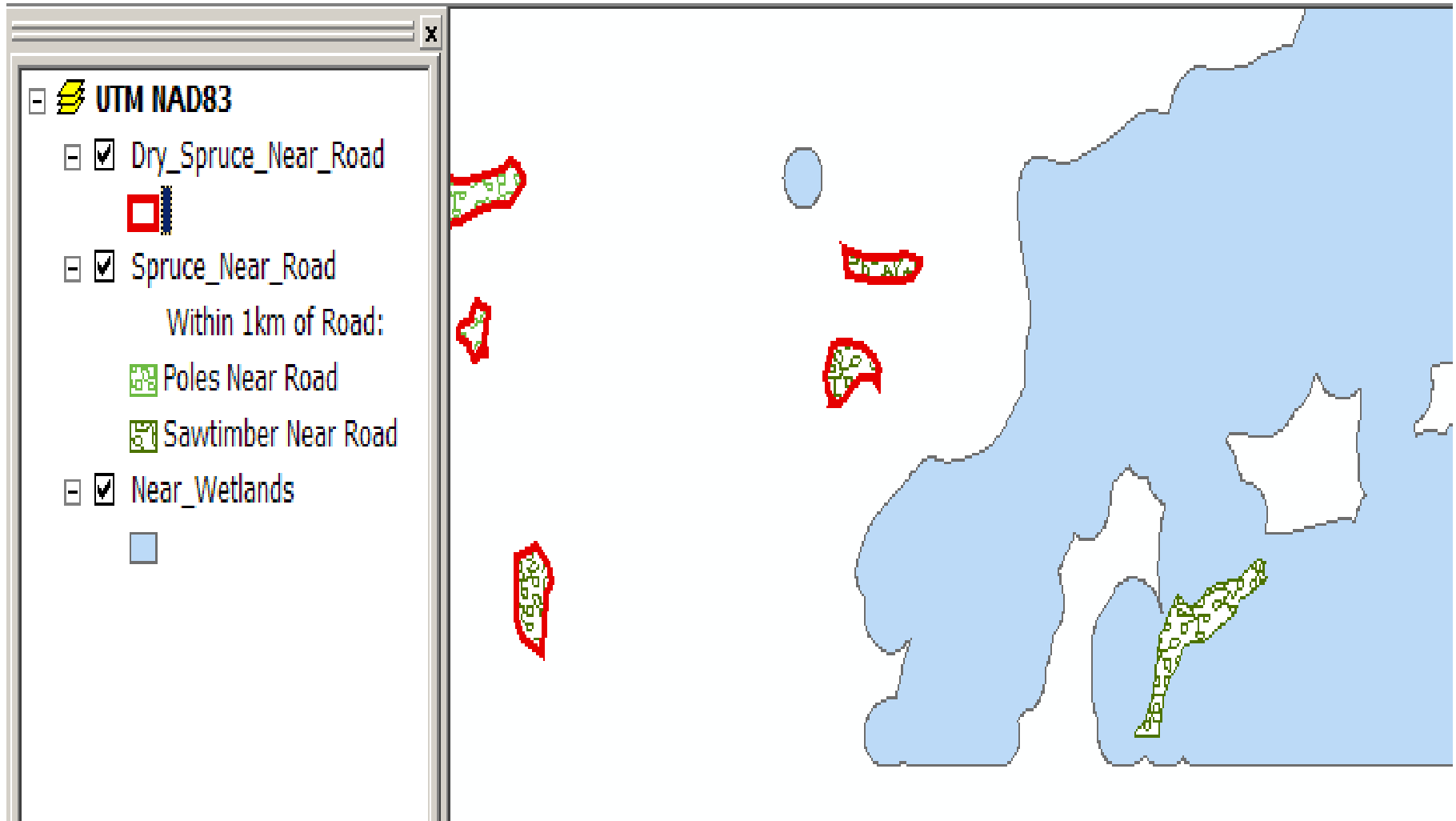
# Lab 9: Image Georeferencing



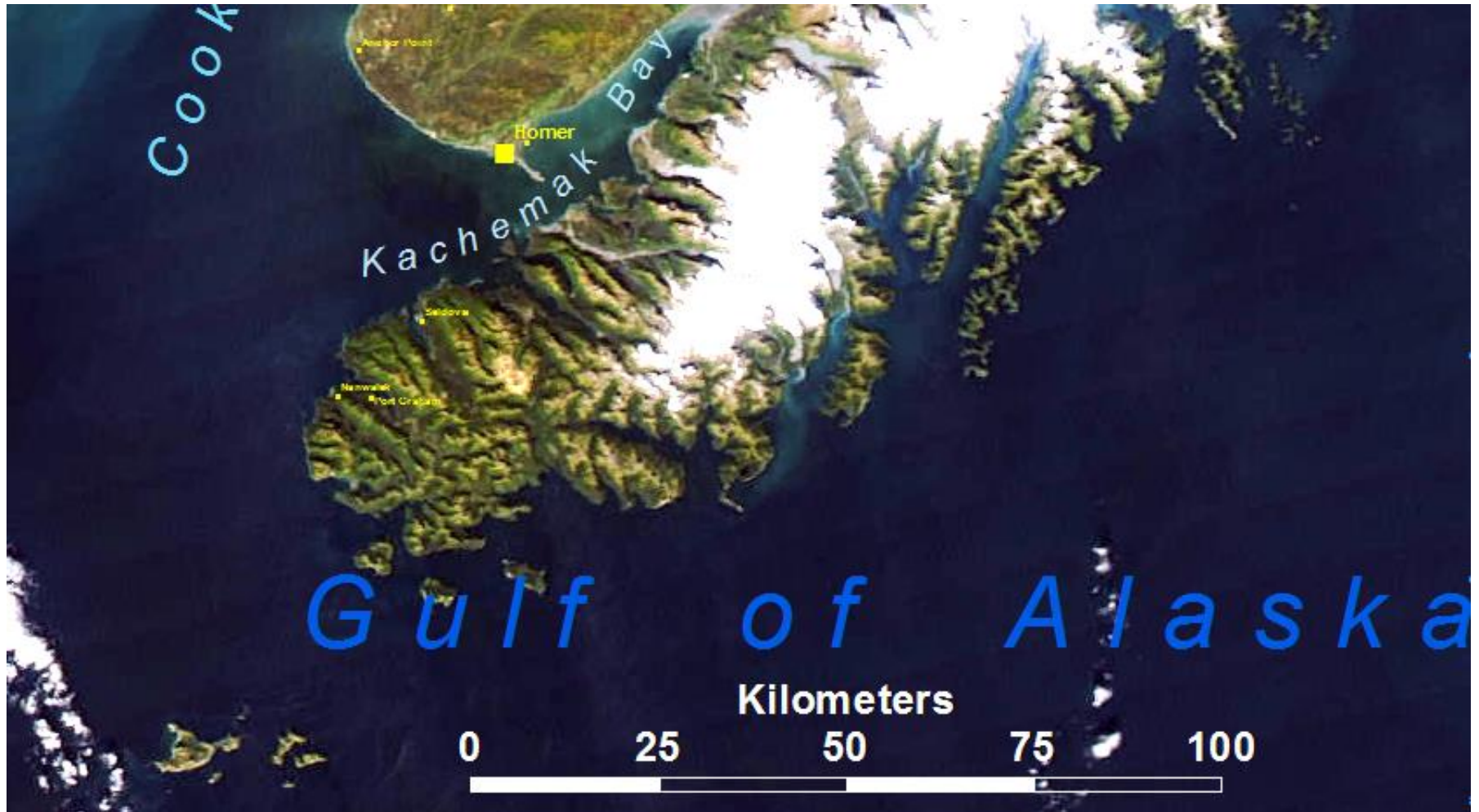
# Lab 10: Image Classification



# Lab 11: Feature Analysis



# Lab 12: Map Layout



# Last lab: GIS Final Exam

The unzipped themes are as follows:

**Halibut**---locations in longitude/latitude NAD27 of halibut on bottom.

**Depth Contours**---A line theme of depth to ocean bottom contours in UTM zone 6, NAD27.

Use ArcGIS to fill in the following table:

Month	Mean Depth
January	
February	
March	
April	
May	
June	
July	
August	

**Outline your conceptual solution steps:**

The tidal lines are in UTM, Zone 6, NAD27.

The shorebird points are in longitude/latitude, NAD27

Determine the mean distance to the low tide line for the following species

	<b>Mean Distance (m) to Low Tide Line</b>
<u>Black Oystercatcher</u>	
Dunlin	
Ruddy Turnstone	