



Esri International User Conference | San Diego, CA
Technical Workshops | July 12, 2011

Labeling and Annotation Basics

Natalie Vines

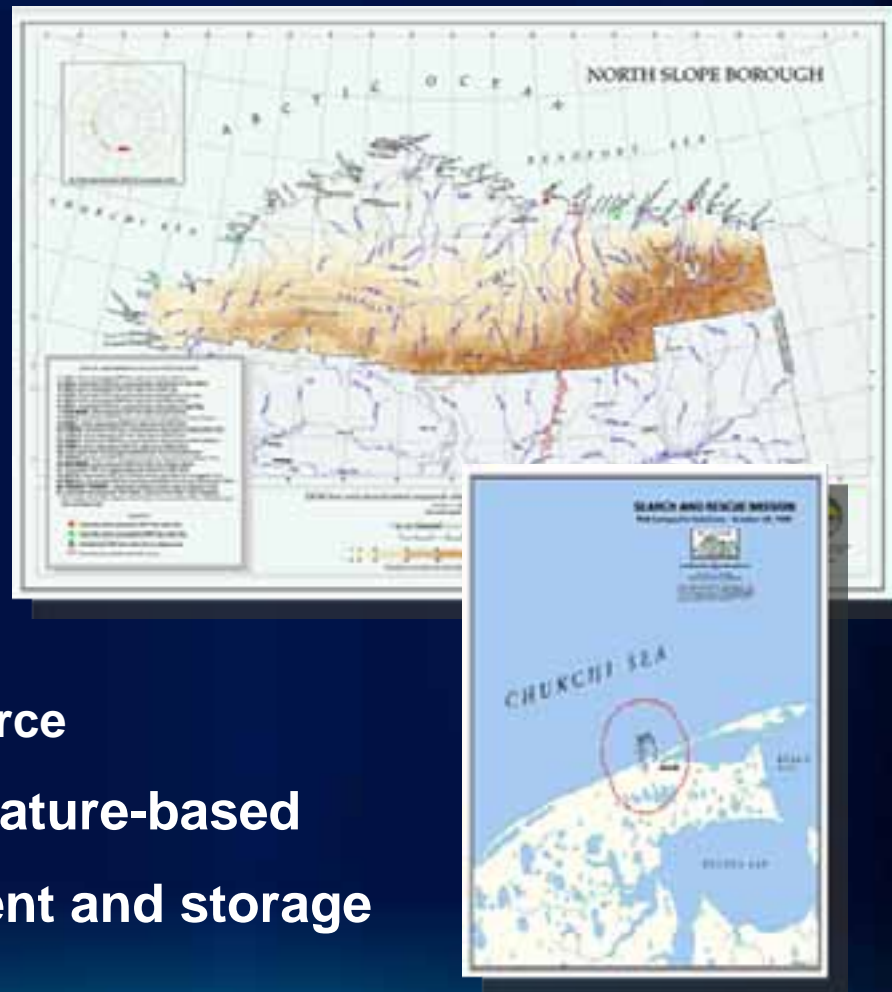
Samantha Keehan

Overview

- **Define labels & annotation**
- Work with labels
- Convert labels to annotation
- Work with annotation
- Questions

Map has variety of textual information

- **Descriptive**
 - Names, title, legend
- **Positional**
 - Grids, graticules
- **Analytical**
 - Charts, tables
- **Metadata**
 - Disclaimer, data source
- May or may not be feature-based
- Plan for text placement and storage

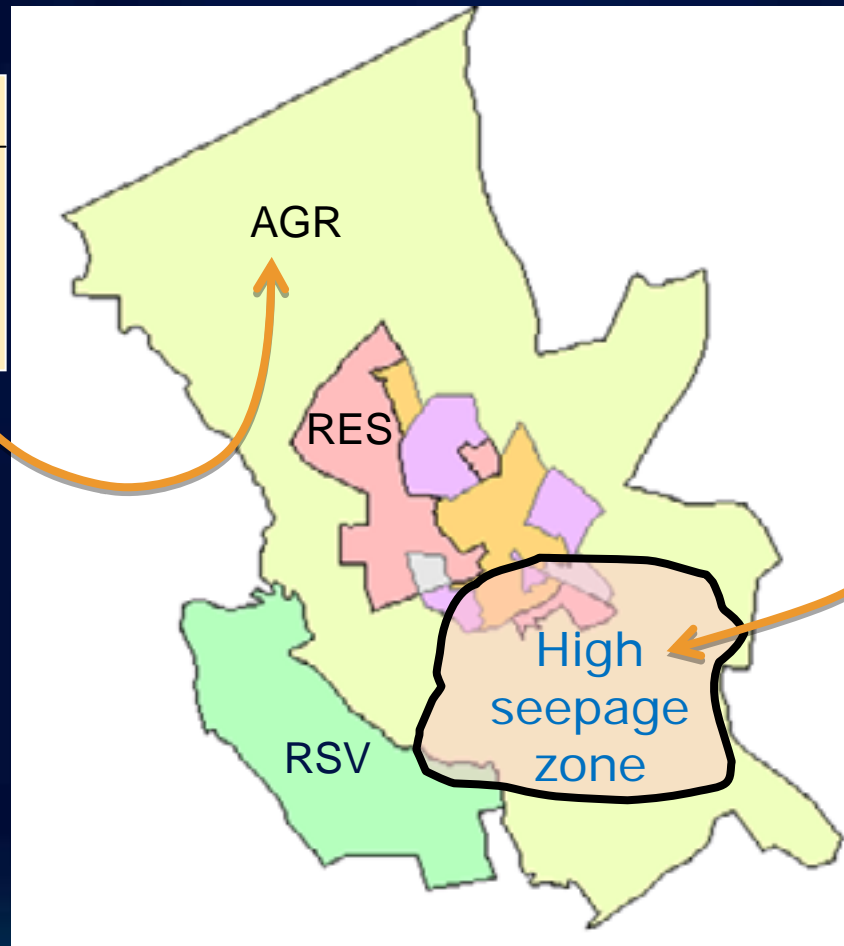


Feature-based vs. not feature-based text

Landuse

ID	L-Use	
1	RSV	
2	RES	
3	AGR	

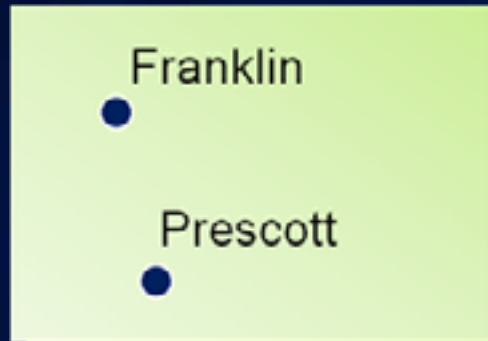
Feature-based



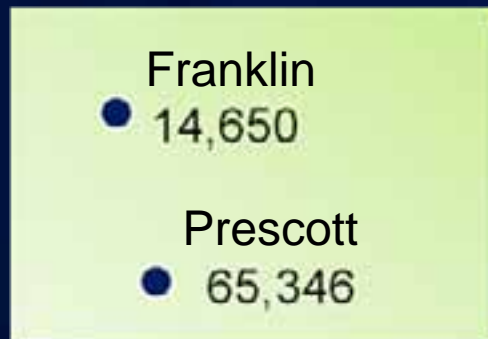
Not feature-based

Feature-based text can be based on:

Single
attribute



Multiple
attributes



Population

City Name

	Name	Pop_2011
	Franklin	14,650
	Prescott	65,346
	Leland	37,562

Two orange arrows point from the labels 'City Name' and 'Population' to the 'Name' and 'Pop_2011' columns of the table, respectively.

Labels or annotation?

Labels

Dynamic

Managed as a group

Linked to a feature

Layer property

Stored in map document
or layer file

Annotation

Static

Managed individually

Stored in map document
or in GDB

Can be a graphic or a feature

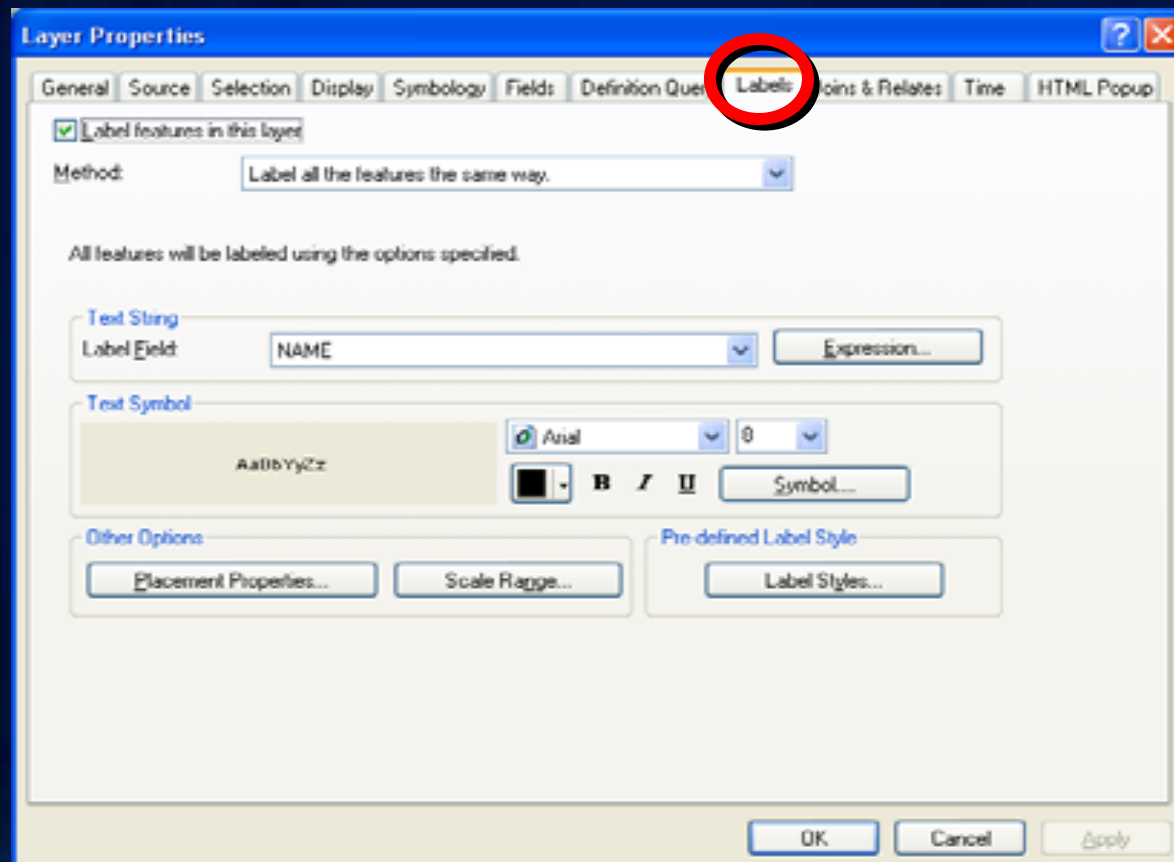
May or may not be linked
to a feature

Overview

- Define labels & annotation
- **Work with labels**
- Convert labels to annotation
- Work with annotation

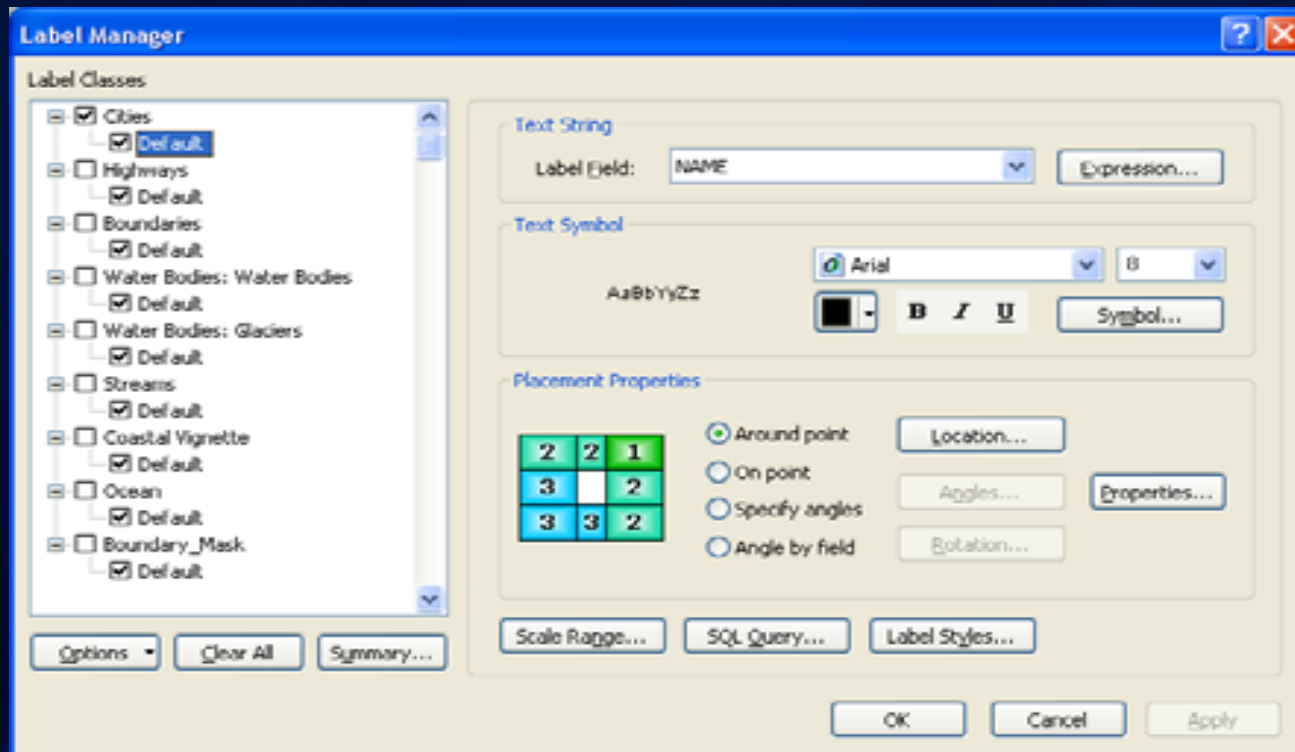
Label management

- Layer Properties dialog
 - Manage labels one layer at a time



Label management

- Labeling toolbar
- Label Manager
 - Manage all labels within the data frame



Label Placement

- Placement properties change depending on type of feature

Placement Properties

2	2	1
3		2
3	3	2

☒ Around point Location...

☐ On point Angles...

☐ Specify angles Rotation...

☐ Angle by field

Point

Placement Properties

Orientation

☐ Horizontal

☒ Parallel

☐ Curved

☐ Perpendicular

Position

☒ Above

☐ On the line

☐ Below

Offset: 0 map units

Line

Placement Properties



☒ Always horizontal

☐ Always straight

☐ Try horizontal first, then straight

☐ Only place label inside polygon

Polygon

Label field

- Label using any attribute field
- Label from joined tables

Name



Square KM



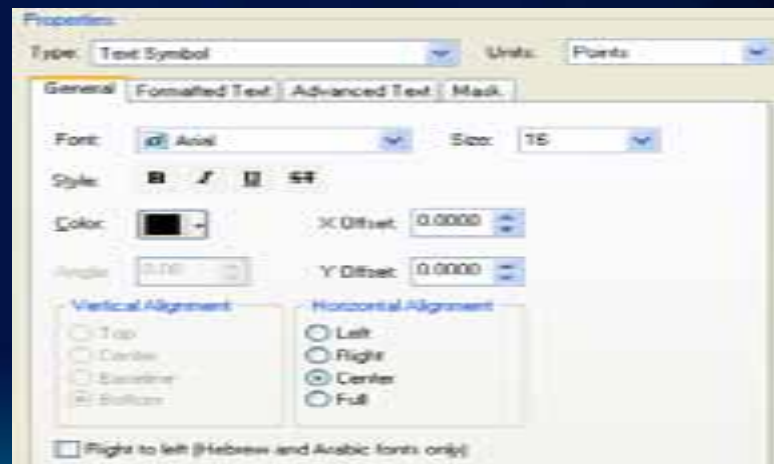
Symbols & styles

- Font, size, color
- Bold, underline, italic
- X/Y offset from feature
- Vertical & horizontal alignment
- Uppercase, lowercase
- Shadow, halo, background fill

Predefined symbols

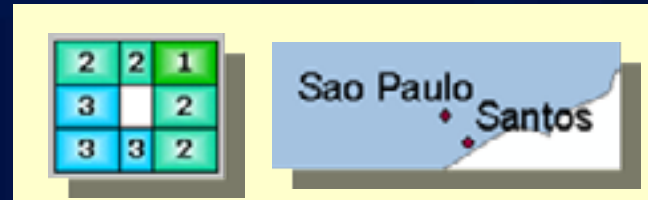


Custom symbols

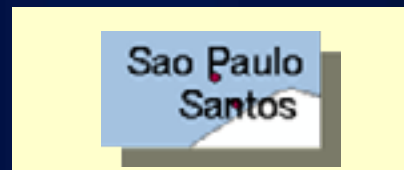


Point placement

- Predefined scheme



- Directly on point



- Hierarchy of angles
- Based on attribute field



Line placement

- Orientation
 - Horizontal
 - Parallel
 - Curved
 - Perpendicular
- Position
 - Above line
 - On the line
 - Below line
 - Define offset units



Horizontal
on line



Parallel
below line



Curved
above line,
offset

Polygon placement

- Horizontal
- Straight
- Try horizontal first, then straight



Scale range

- Scale at which labels will display

Zoomed in



Scale < 1:2,000,000

Zoomed out

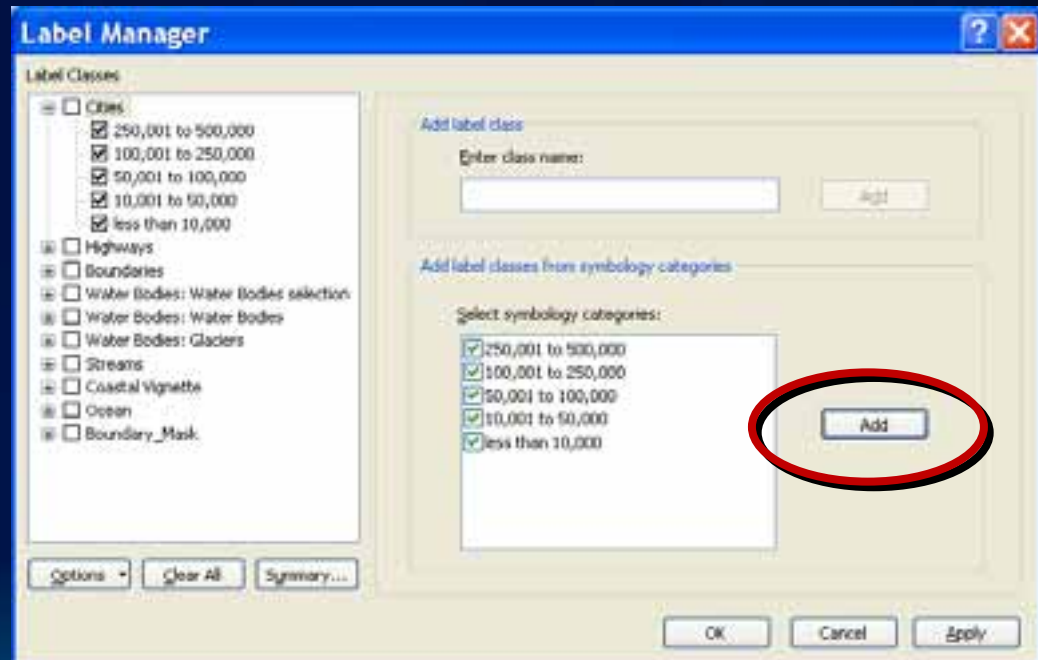
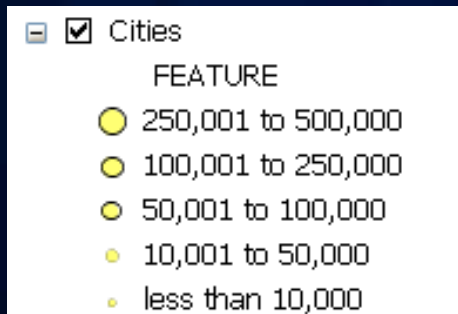


Scale > 1:2,000,000

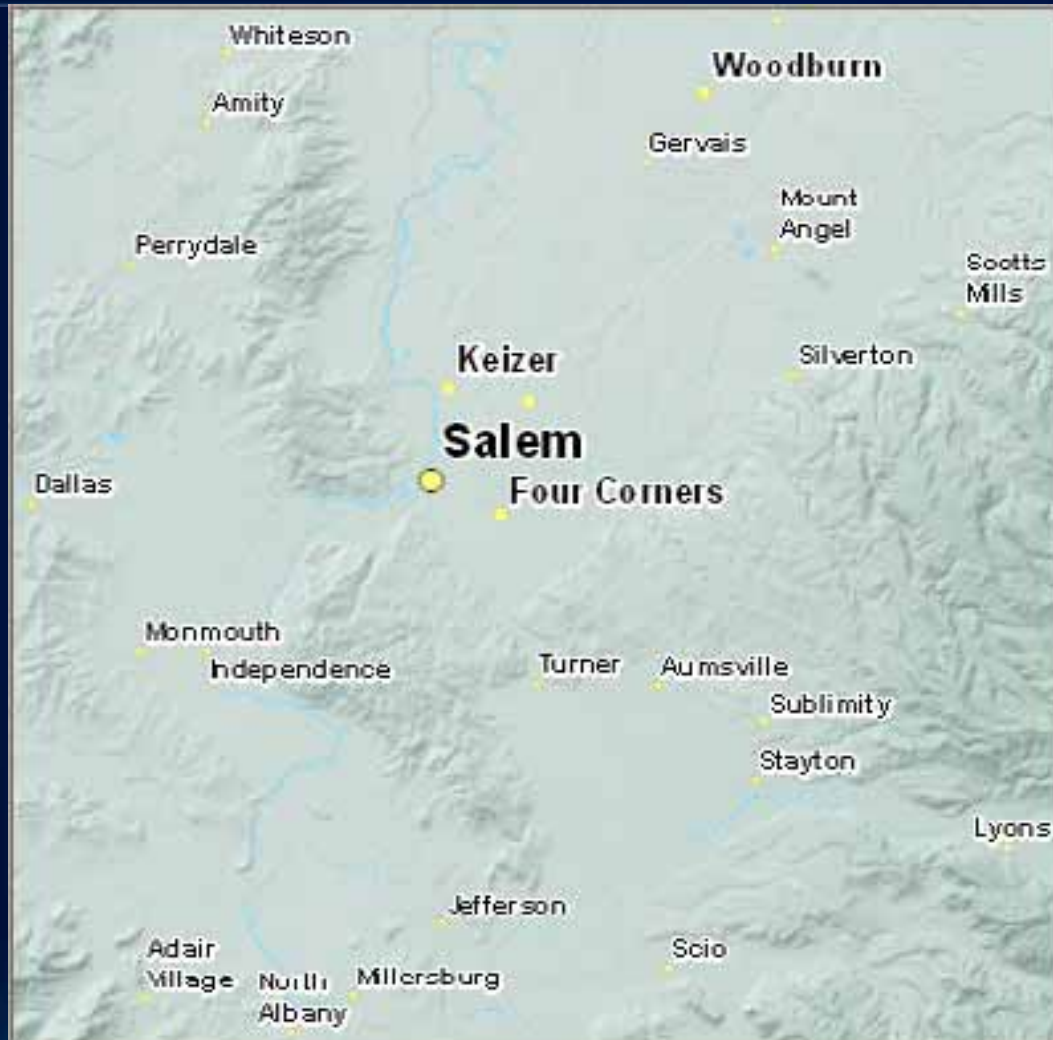
Label classes

- Label features in same layer differently
 - Define with SQL Query
 - Use existing feature symbol categories

Symbol categories

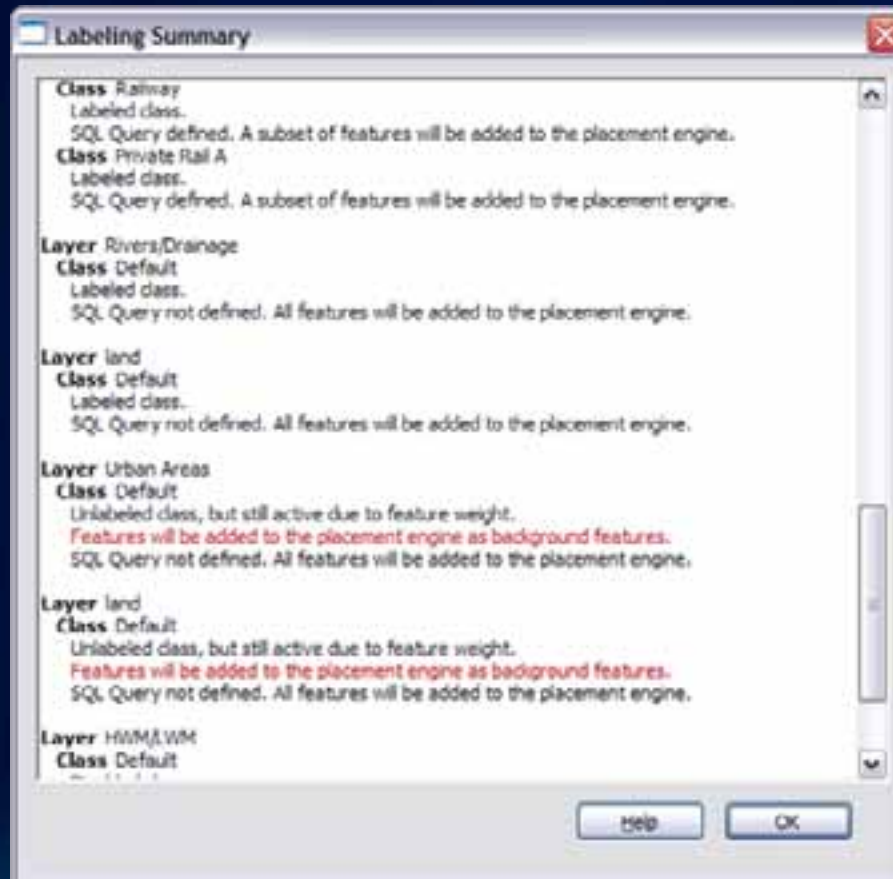


Label classes



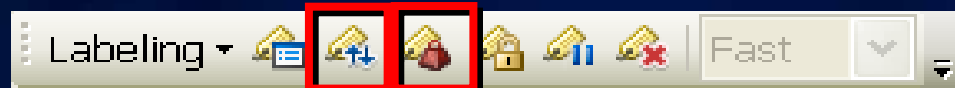
Label Summary

- Highlights potential problems in labeling properties



Label Priority & Weight Ranking

- Objects with higher rank or weight will not be obscured



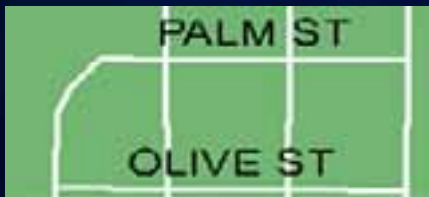
Label with VBScript or Jscript expressions



- Stack labels
`Replace([NAME], " ", vbNewLine)`



- Round numbers
`Round([AREA], 1)`



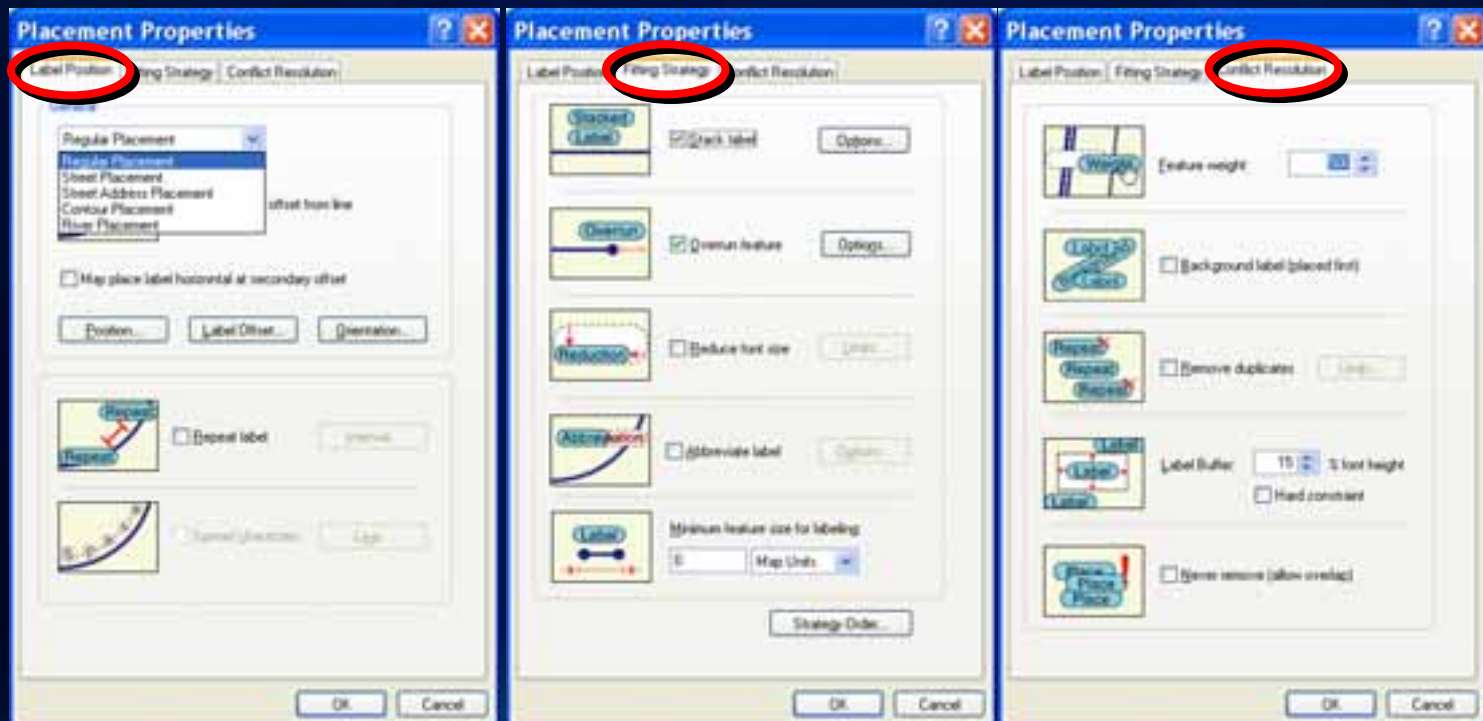
- Change case
`UCase([STREET])`



- Label multiple field values
`[CITY] & ", " & [CNTRY]`

Maplex Label Engine

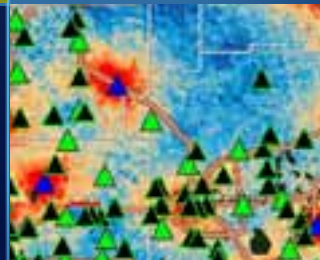
- Advanced high-quality cartographic text placement engine
- Requires Maplex extension



DeKalb County Board

Fulton County Dept. of Health and Wellness/District 3, Unit 2, 04

Labeling Demonstration



Overview

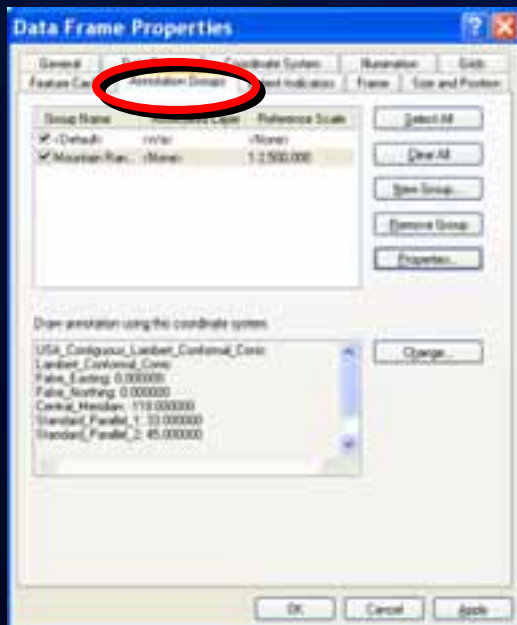
- Define labels & annotation
- Work with labels
- **Convert labels to annotation**
- Work with annotation

Set up labels, convert to annotation



Annotation storage - In the map

- Use in a single map document
- Stored as graphics, create and edit with Draw toolbar
- Organized into Annotation Groups



Annotation storage - In a geodatabase

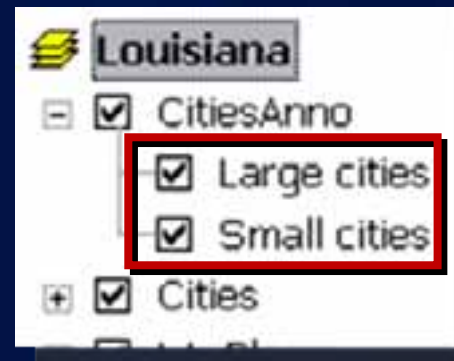
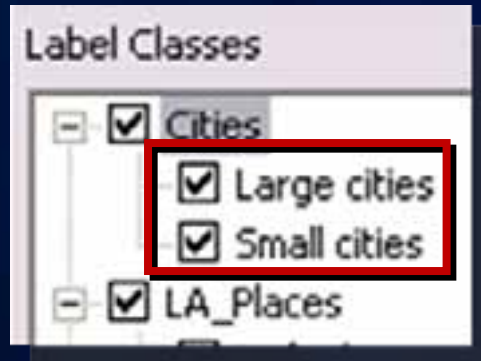
- Use in multiple map documents
- Store additional feature attributes
- Display in ArcMap TOC
- Layer properties you can set
 - Transparency
 - Draw order
- Standard or feature-linked



Appears in ArcCatalog
Catalog Tree with Layer name

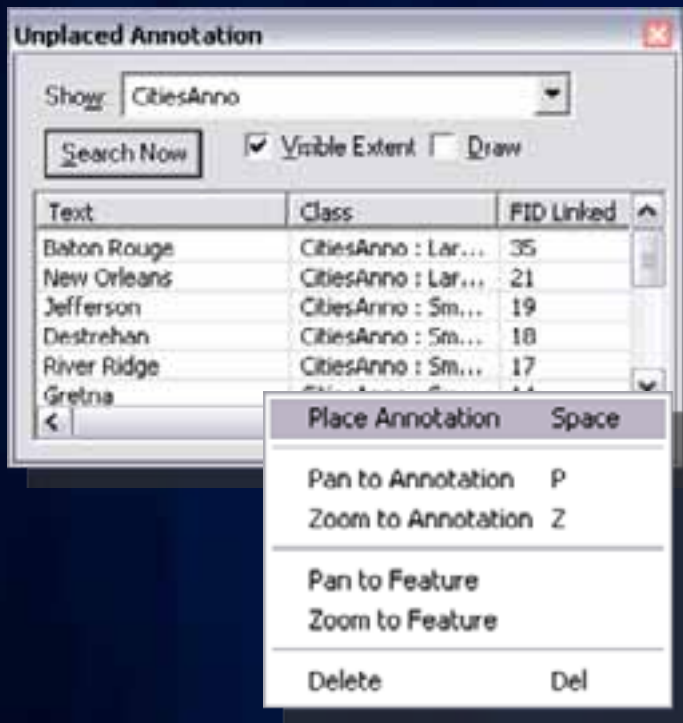
Annotation classes

- In GDB, Label class converts to Annotation class
 - No need for multiple annotation FCs
 - Define separate, independent properties



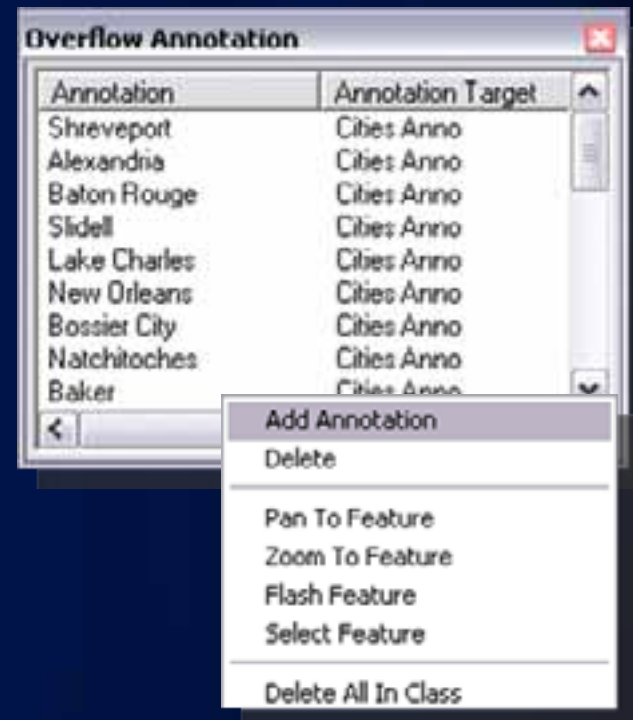
Unplaced annotation

- GDB annotation FC



Stored in anno FC

- Map annotation group



Stored in map

Overview

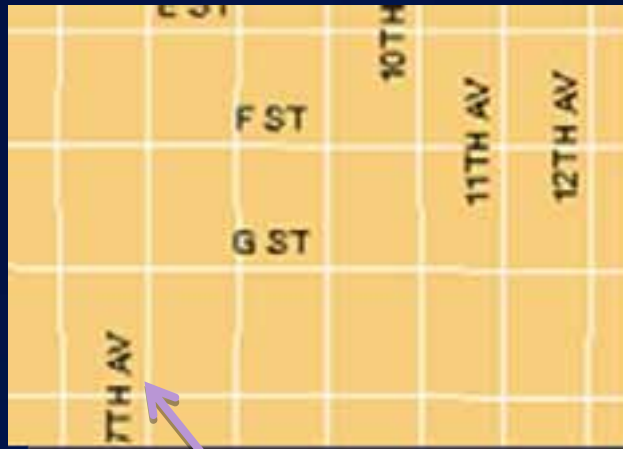
- Define labels & annotation
- Work with labels
- Convert labels to annotation
- **Work with annotation**

Edit annotation

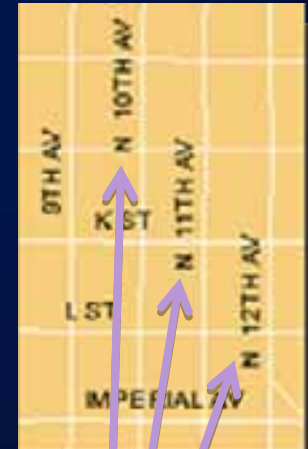
- Better control over individual text elements



Want 3 lines, not 4



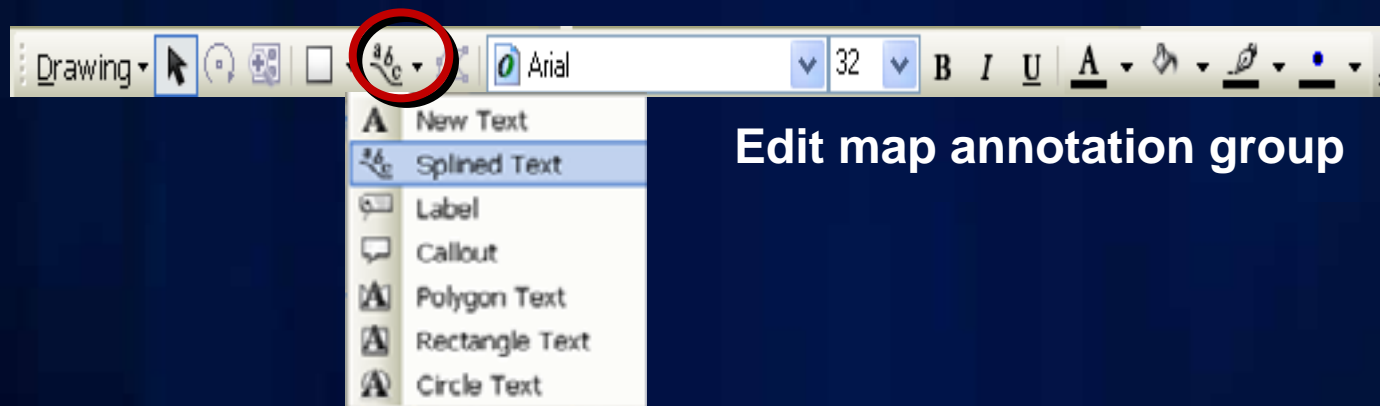
Want to move up



Want to change alignment

Use correct toolbar

- Create new annotation
- Edit existing annotation

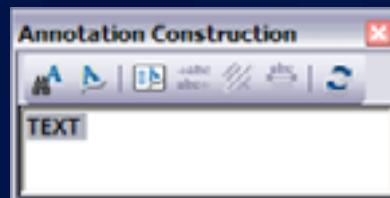


Editing geodatabase annotation

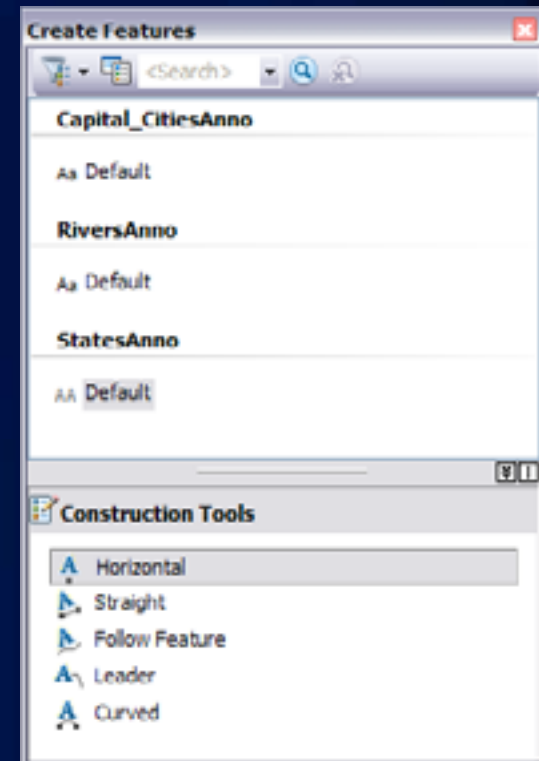
- Central location for creating & editing annotation
- Integrated with feature editing environment
 - Use snapping, select by attribute



Edit Annotation
tool on the main
Editor toolbar

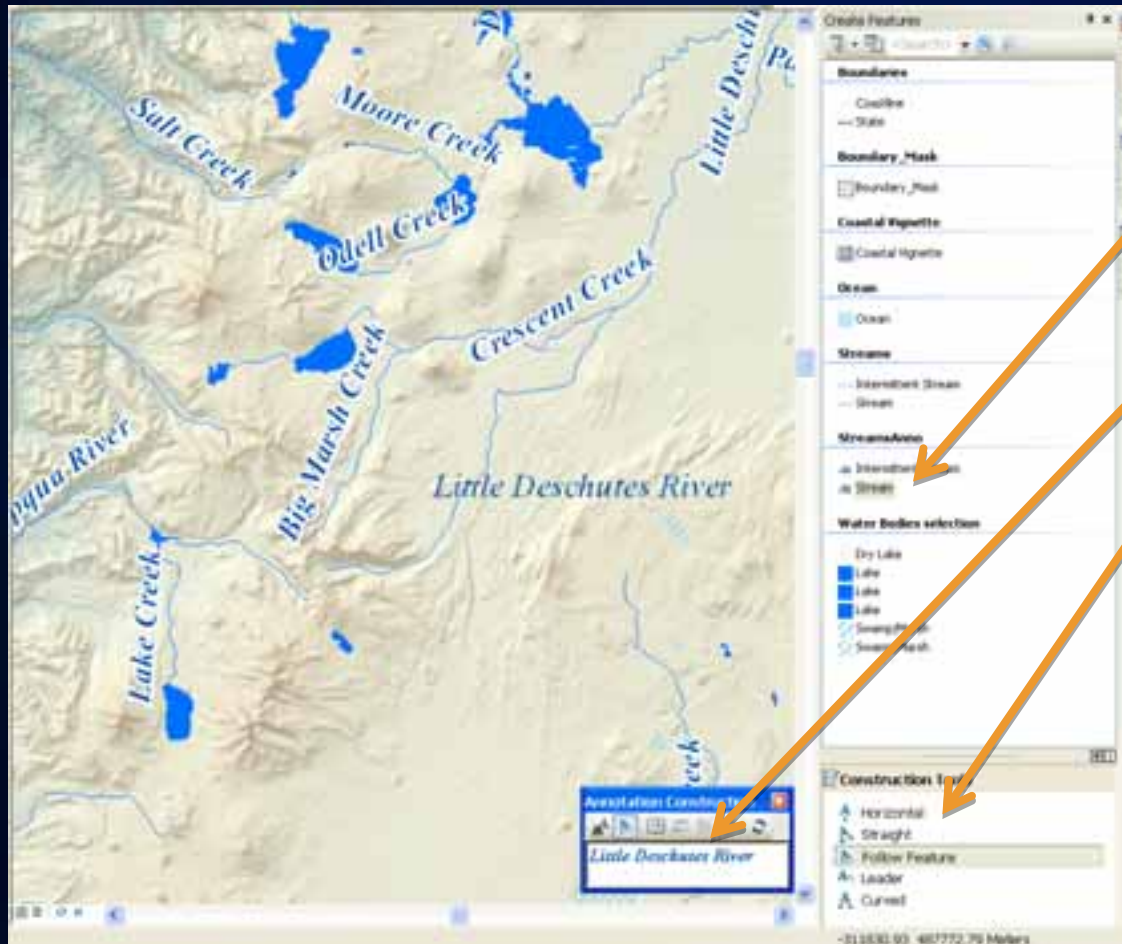


Enter text for next construction



Feature templates
for efficient feature
creation

Create new annotation

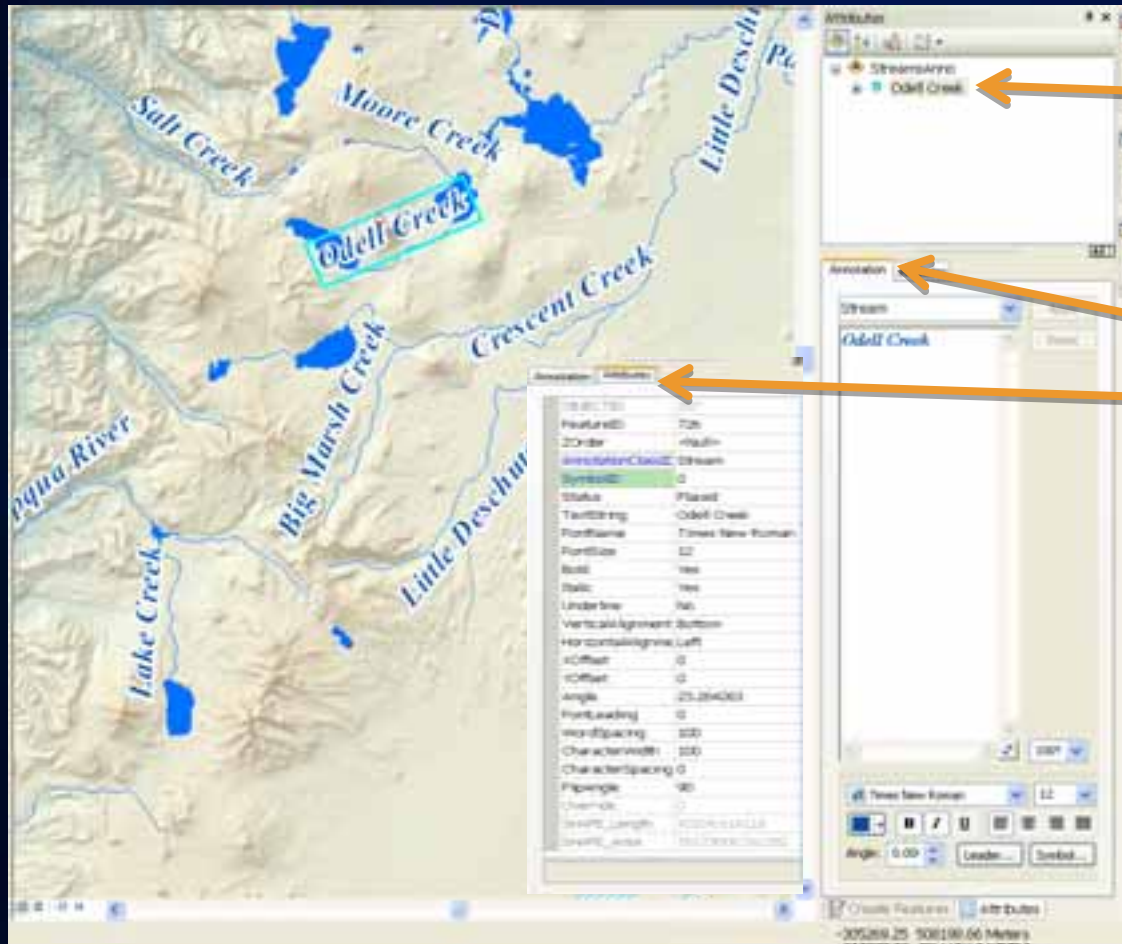


- Choose target

- Add text and construction type

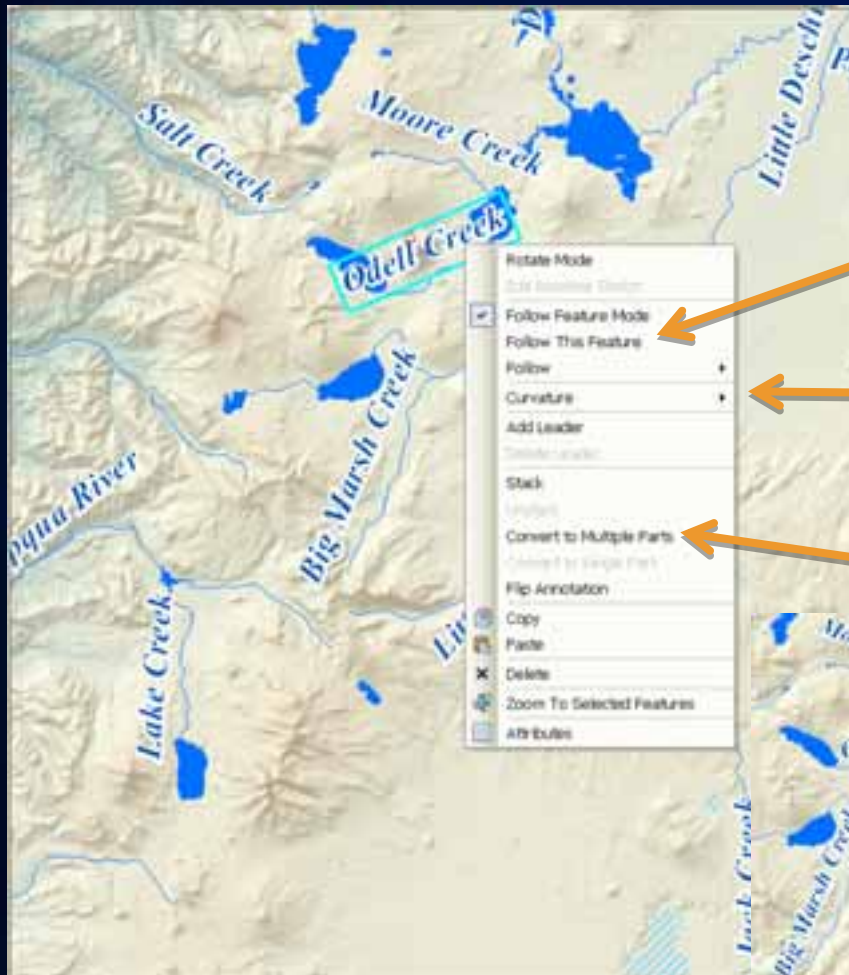
- Click to place

Edit existing annotation



- Choose target or targets
- Change properties or attributes in table

Edit existing annotation



- Choose which feature to follow by pointing to it

- Horizontal, straight, or curved

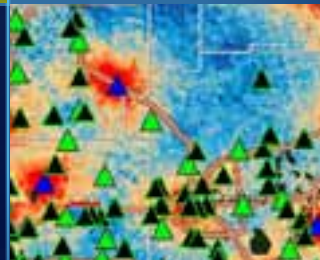
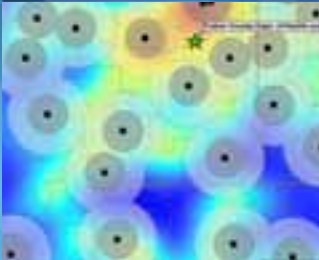
- Create multiple parts and move individually



DeKalb County Board

Fulton County Dept. of Health and Wellness/District 3, Unit 2, 04/04/2014

Annotation Demonstration



Summary

- Labels are dynamically placed text by a label engine
- Labels can be converted to annotation
- Annotation can be stored in the map or geodatabase
- Annotation can be manually edited

Related Presentations

- **Creating Great Labels Using Maplex**
 - Tuesday 3:15pm Room 6F
 - Thursday 1:30pm Room 6F
- **Managing and Editing Annotation**
 - Wednesday 8:30am Room 4
 - Thursday 10:15am Room 6C
- **See us at the Mapping and Visualization Island at the ESRI Showcase**
- **Check out the Esri Press *GIS Tutorial 3: Advanced Workbook***

Questions?

Thank you for attending!

Please fill out the online survey:

www.esri.com/sessionevals



esri