Incorporating Map Text

Map Text – is any type of descriptive information based on alpha-numeric characters. Map text is used to identify features or is used to communicate information on a map that is not tied to a feature.

Map Text Usage – map text can be found on 1) titles or subtitles 2) legends 3) text on features 4) text that describes areas 5) marginalia (the area outside of the map including credits, explanations, coordinate system, author, and anything else that requires clarification)

ArcMap uses three types of map text:
1) map graphics (or map annotation), 2) labels, 3) annotation (or geodatabase annotation)

Map Graphics (also referred to as Map Annotation)
- individually hand-drawn graphics that are manually placed with a text tool.
- map graphics are stored in the map document only.
- they can be individually edited with the drawing tool.
- map graphics is free-floating text that adds descriptive information to map areas that are not tied to a feature.
- map graphics can add descriptive information in the margins of the map.
- labels can be converted to map graphics (map annotation)

Labels
- are text generated by the ArcMap software.
- originate from attribute values in a table that is connected to the features.
- managed as a group by the software in a map. Labels are a property of a layer.
- all labels have the same properties (color, size, font).
- Labels are dynamic. i.e. all label properties change at the same time (ex. color, size, font)
- ArcMap attempts to avoid overlapping labels, but then not all labels are placed.
- users cannot edit individually labels.
- users cannot select individual labels.
- font size never changes when map is zoomed in or out.

Annotation (also referred to a Geodatabase Annotation)
- is actual data stored on disk. The data include text that can be added to a map.
- each piece of annotation is a feature (just like a point, line or polygon)
- annotation can be re-used in other maps.
- when annotation is added to a map, the layer of annotation can be turned on or off.
- typically annotation is created by converting labels to annotation
- can also create individual annotations in their own layer.
- annotation has a reference scale. So when you zoom in or out the anno gets larger or smaller relative to the reference scale.
- individual annotation features can be moved or edited.

When to Use Map Graphics
- when the map requires only a few pieces of text that must be manually placed.
- to describe areas not associated with a features.
- when you need individual control of text placement.
- a one-time map that doesn’t need to be saved or re-used.

When to Use Labels
- use for initial map text to label features quickly.
- use to explore attributes associated with features.
- when you don’t need to individually edit text.
- when you have a lot of features to label at once.
- it is good practice to prepare labels as best as possible and then convert them to annotation if needed.
When to Use Annotation

- when you need reusability of text as a layer of data
- when you need individual control of text placement
- use in final map presentation
- frequently originated from labels.

Summary of Text Types

<table>
<thead>
<tr>
<th>LABELS</th>
<th>MAP ANNOTATION</th>
<th>GDB ANNOTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Layer property</td>
<td>Graphic element</td>
<td>Feature class</td>
</tr>
<tr>
<td>Dynamic placement</td>
<td>User placed</td>
<td>User placed</td>
</tr>
<tr>
<td>ArcMap manages placement</td>
<td>Fixed placement</td>
<td>Fixed placement</td>
</tr>
<tr>
<td>Can't individually edit</td>
<td>Edit with draw tools</td>
<td>Edit in an edit session</td>
</tr>
<tr>
<td>Not reusable (unless layer file)</td>
<td>Not reusable</td>
<td>Disposable</td>
</tr>
</tbody>
</table>
GIST 3300 / 5300
Geographic Information Systems

Incorporating Map Text

- Graphics
- Labels
- Annotation
What is Map Text?

• Any type of descriptive information based on alpha-numeric characters
• Used to identify a feature or an area on a map
• Communicates information about features or areas not tied to a feature
Where do you see Map Text?

• Titles or subtitles
• Legends
• Text on features (street names, city names)
• Text that describes an area (not a feature)
• Marginalia (credits, explanations, coordinate system information)
Three Types of Map Text

• Map Graphics
  - individual graphics manually drawn in a map

• Labels
  - are connected to attributes
  - managed by software in a map
  - are dynamic!
    - all labels change properties together (color, size, font)

• Annotation
  - is a data layer of text that can be added to a map
  - can be turned on or off & used in other maps
Three Ways Text is Created

• Map Graphics
  - hand drawn with a text tool in map

• Labels
  - right click layer > Label Features in map

• Annotation
  - convert labels to annotation
    - right click layer > Convert Labels to Annotation
  - creates data on disk!
  - or manually create annotation
Map Graphics

• A graphic element in the map (like text on a PowerPoint slide)
• Saved in the MXD or map only
• Individually placed text, not tied to attributes
• Adds descriptive text for map areas
• Also called map annotation

Ex. No specific feature represents mountain ranges or bays, but these are areas needing identification
Map Graphics

- Use to identify areas that might or might not be a feature (Great Plains or Texas feature)
- Used as marginalia outside of map or on a feature
- Edit with the drawing tool bar or just double click

No Great Plains Feature
- just a area on map

Individually drawn on a feature
3 Ways to Create Map Graphics

• Create with Insert > Text

• Draw with drawing toolbar

• Convert labels to map anno > R click FC

Then individual graphics can be moved
Labels

- Text *generated by software*
- *Originate from attribute values*
- *Font size never changes when zoom*

**Right Click Layer > Label Features**

<table>
<thead>
<tr>
<th>OBJECTID</th>
<th>Shape</th>
<th>Id</th>
<th>Text</th>
<th>Shape_Length</th>
<th>Shape_Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Polygon</td>
<td>1</td>
<td>Palestine Foundry</td>
<td>1601.007198</td>
<td>146738.062158</td>
</tr>
<tr>
<td>2</td>
<td>Polygon</td>
<td>2</td>
<td>Palestine Light, Heat and Power</td>
<td>3229.403995</td>
<td>526834.483019</td>
</tr>
</tbody>
</table>
Labels

- Managed as a group and all are drawn together
- Can’t select or edit **individual** labels

- Labels are a *layer property* in a map document only
Labels

- *All labels have the same properties*
  - ex. same color, font, size, and other properties
Label Placement is Dynamic

- Labels are considered ‘dynamic’ because any changes occur to *all labels at the same time*.
- Label *positions change* when zoom in or out.
- Software attempts to avoid conflicts of overlapping labels, but then not all labels are placed.
Annotation

• Real Features! Same as data on disk. Not graphics.

• Can re-use anno in other maps like any other data layer

• Can create anno from labels
  - R click layer> ‘Convert to Annotation’ to create anno from labels

• or can create individual anno features from scratch

• If map is deleted anno is still stored on the disk
Annotation

• When you zoom in or out annotation get larger or smaller – relative to the scale at which it is created. Unlike labels that do not change size.

Reference Scale is the scale the annotation was created.
Annotation

• Individual annotations can be moved or edited just like any other point, line or polygon feature

• Edit with ArcMap Editing tools
  – Start editing
  – Then can move individual annotation features or create new anno features
When to Use Graphics

- Map Graphics
  - When you need only a few pieces of text
  - Need text to describe non-feature areas
    ex. Great Plains, Texas
  - Need individual control of text placement
  - Good for a one-time map & don’t need to save or re-use
When to Use Labels

- Use labels for initial map text – Layer Property
  - Need text quickly
  - Need to explore data and attributes
  - Don’t need to individually edit text
  - When you have a lot of features to label at once
  - Set up labels as best as possible to prepare to convert to annotation
When to Use Annotation

- Annotation
  - When you need reusability of text as a layer
  - Need individual control of text placement
  - Used in final map presentation (frequently started as labels)
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