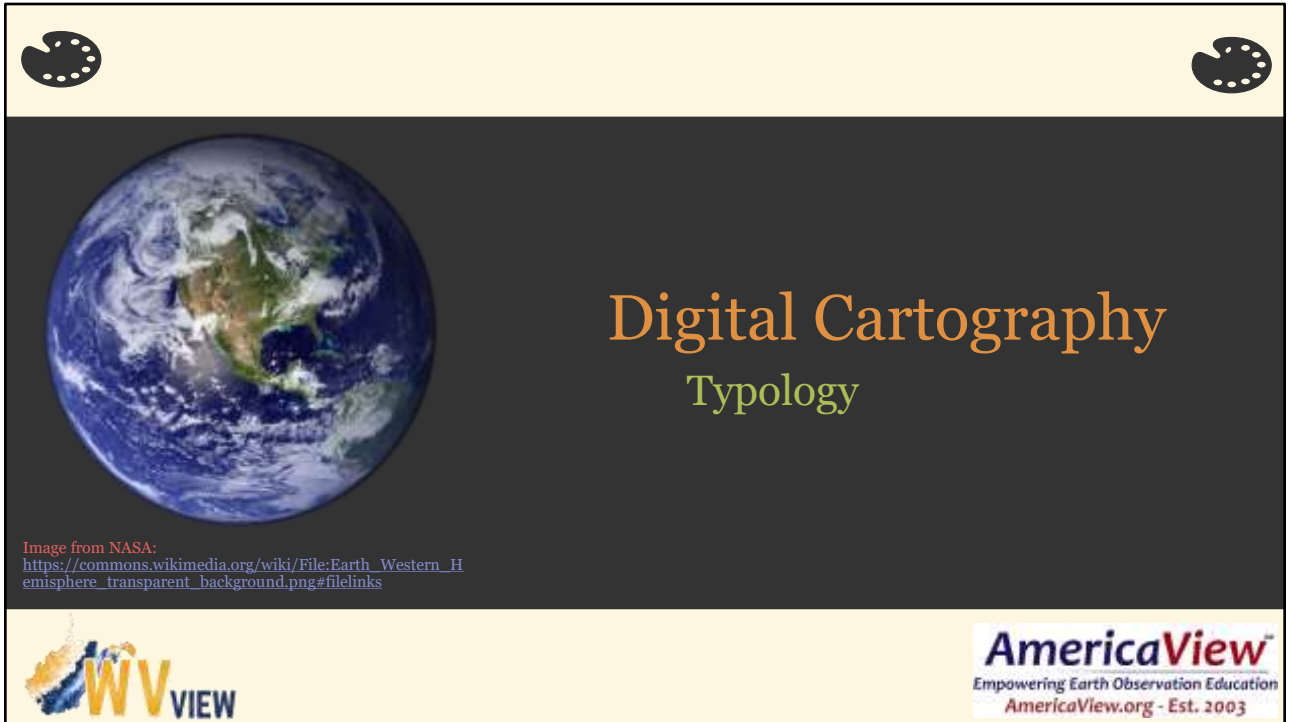




The slide header features a yellow top bar with two black palette icons. The main content area has a dark gray background. On the left is a satellite image of Earth showing the Western Hemisphere. To the right of the image, the title "Digital Cartography" is written in orange, and "Typology" is written in green below it. At the bottom left is the WV VIEW logo, and at the bottom right is the AmericaView logo with the tagline "Empowering Earth Observation Education" and "AmericaView.org - Est. 2003".

Image from NASA:
https://commons.wikimedia.org/wiki/File:Earth_Western_Hemisphere_transparent_background.png#filelinks

WV VIEW

AmericaView™
Empowering Earth Observation Education
AmericaView.org - Est. 2003

In this module, we will discuss issues associated with type on map layouts and also provides some advice for placing labels.



Module Topics



1. Characteristics of type and text
2. Labeling point features
3. Labeling line features
4. Labeling polygon/areal features
5. Label considerations in ArcGIS Pro and the Maplex Engine

These are the topics covered in this module.

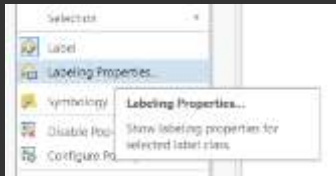
Typology



Map Text



- ❖ You should think about **text font**, **size**, and **positioning**
- ❖ Generally, the title has the largest font size



Text should be intentionally designed and placed.

Generally, the title is the largest text within the map layout and all other text are scaled relative to it.



- ❖ **Type Family** = group of type designs that reflect common design characteristics and share a common base name (Calibri, Arial, **Comic Sans**, Cambria, Courier New, Times New Roman, Verdana)
- ❖ **Type Style** = Roman (normal), bold, *italic* (Less common: condensed, expanded, light, and extra bold)
- ❖ **Type Face** = Family + Style (Gill Sans Ultra Bold)
- ❖ **Type Size** = height (11 pt, 14 pt, **18 pt**)
- ❖ **Font** = a set of all alphanumeric and special characters of a particular family, style, and size (Times New Roman 12 pt)

This slide describes the key characteristics of a font including the font family, style, face, and size. Take some time to read through these descriptions.

The type family defines the common design characteristics while the style differentiates Roman, bold, and italic renderings. The type face combines the family and style. Font size represents the size at which text will be rendered. Lastly, font combines the family, style, and size.



Case



- ❖ **Title Case** = lowercase letters with the first letter of each word set to upper case (except linking words like in, on, or, of, per, by, for, with, the, and, over, etc.)
- ❖ **Sentence case** = Only first word in the sentence is capitalized
- ❖ **UPPERCASE** = All caps

Title case involves capitalizing only the first letter of each word, except linking words.

Sentence case means to capitalize only the first letter of the first word.

Uppercase implies that everything is capitalized.



Lettering Form guidelines



- ❖ UPPERCASE LETTERING IS MORE PROMINENT VISUALLY, but words are usually harder to read
- ❖ Upper/lower case words usually easier to read, and used most often on maps
- ❖ All lower case rarely used on maps
- ❖ *Italic* or *slant* lettering should be used for hydrography and landforms

This slide provides some suggestions for using font style and case.



Lettering Boldness guidelines



- ❖ Use boldness differences to show **quantitative** differences
- ❖ Lettering that is too bold is often hard to read

Boldness can be used to note quantitative differences, such as to differentiate labels for larger cities from those for smaller cities or towns. However, letters that are too bold can be difficult to read.



Serif vs. Sans Serif



- ❖ **Serif** = has short extensions at the end of major letter strokes (This is a serif font).
- ❖ **Sans serif** = does not have serifs (This is a sans serif font).

Serif fonts have serifs, or extensions at the end of major letter strokes.

Sans serif fonts do not have serifs.



Lettering Style guidelines



- ❖ Use **serif** and **sans serif** together on a map
- ❖ Use style differences for different classes of **qualitative** features
 - **Serif** – natural features
 - **Sans serif** – anthropogenic features
- ❖ **Serif** is usually better for large blocks of text
- ❖ **Sans serif** is usually better for smaller pieces of text

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You can use serif and sans serif fonts together in the same map layout for different purposes and to show qualitative differences. For example, serif fonts are generally used to label natural features, such as rivers or mountains, whereas sans serif fonts are used to label anthropogenic features, such as cities or political boundaries. Serif fonts are generally easier to read when presenting a long block of text whereas sans serif fonts are better for short pieces of text.



❖ **Letter Spacing** = space between letters in a word

Here I have changed the letter spacing.

❖ **Word Spacing** = spacing between words

❖ **Kerning** = variation of spacing between adjacent letters

❖ **Leading** = vertical spacing between lines

Here I have changed the leading.
Here I have changed the leading.
Here I have changed the leading.
Here I have changed the leading.

Letter spacing refers to the spacing between letters in a word while word spacing relates to spacing between words.

Kerning relates to variation of spacing between adjacent letter combinations. Letter spacing adjusts spacing between letters consistently while kerning applies specific spacing depending on the letter combination in question.

Leading relates to spacing between lines of text.



Lettering Spacing guidelines



- ❖ Use extended lettering to show the areal/linear extent of a feature
- ❖ **Maximum extension** = when the word can no longer be read easily
- ❖ Use condensed lettering when faced with a “**poverty of space**”

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You can extend lettering to label areal or linear features. However, increasing spacing excessively can make labels difficult to read. You can also condense lettering when faced with a “poverty of space”. This occurs when there are many features and labels in the same region of a map and there are overcrowding issues.



Size



Example for Adobe Illustrator

❖ 1 inch = 6 picas = 72 points

Here, we provide a comparison of different font size measures. 1 inch of font height is equivalent to 6 picas or 72 points. Most graphic editing software packages allow you to use different size measures; however, most word processing software tools rely on points.



Letter Size guidelines



- ❖ Lettering visibility limit at normal reading distance
- ❖ Minimum size difference needed to distinguish one set of lettering from another
 - ❖ minimum = 20%
 - ❖ 2 point minimum from 6 to 12 point
- ❖ Size difference should be used to show **quantitative** differences

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Here, I offer some guidance for selecting font sizes. First, you should take into consideration the viewing distance. Maps that will be viewed from a greater distance generally require larger fonts, such as wall maps or those included in a presentation. In contrast, smaller fonts can be used when the viewing distance is closer, such as when generating maps for websites or printed documents.

If you are using size to differentiate different elements or labels, make sure that the size is distinguishable. Generally, a 20% difference in size is needed for the reader to differentiate by size. Or, for fonts between 6 and 12 points, a difference of at least 2 points is recommended. Remember that size differences are generally used to show quantitative as opposed to qualitative differences. For example, you could use size to distinguish larger rivers, countries, or cities from smaller features of the same type. In contrast, you may use style to differentiate by type.



You can also change the color of your text.

You can also change the color of font for visual effect or to establish visual hierarchy. We generally recommend limiting your color palette to a small number of unique colors that are intentionally selected. You can use color in place of style to highlight qualitative differences.

Labeling



General Typographic Guidelines



1. Avoid the use of decorative fonts.
2. Do not overuse *italics* and **bold**.
3. *Hydrographic features are often in italics.*
4. *Data sources are often in italics.*
5. The wide variety of features on general reference maps might require that you use bold and italics styles outside of these guidelines.
6. Avoid using more than two font families on a map.
7. If you use two font families, they should be distinctively different.
8. Serif fonts tend to be used for natural features.
9. Sans serif fonts tend to be used for cultural features.
10. All type should be readable at the intended reading distance and at the printed size. You may want to show sample maps to the intended audience.
11. Type size should correspond with the size or importance of map features.
12. Avoid font size differences less than 2 pnts as these can be hard to discern.
13. Critically evaluate and apply type specifications such as font family, font style, type size, letter spacing, word spacing, kerning, and leading.
14. Spell check your work.

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This slide provides some general suggestions for using type in map layouts. Take some time to read through these suggestions.



General Guidelines for Labeling Features



1. Generally, orient type horizontally (with some exceptions).
2. If graticules are used with curved parallels, orient text with parallels.
3. If labelling diagonal or curved linear or areal features, orient type with orientation of the feature.
4. Avoid overprinting or placing a block of type over a map feature such that the feature is obscured, and the text is difficult to read.
5. If overprinting is an issue, consider using a mask or a halo. Make sure that masks or halos do not draw too much attention.
6. If overprinting is an issue, consider using callouts. Make sure that the callout does not draw too much attention.
7. Ensure that all type labels are placed so that they are clearly associated with the features they represent.

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This slide provides specific suggestions for placing labels. Take some time to read through these suggestions. We will discuss specifics in the following slides.



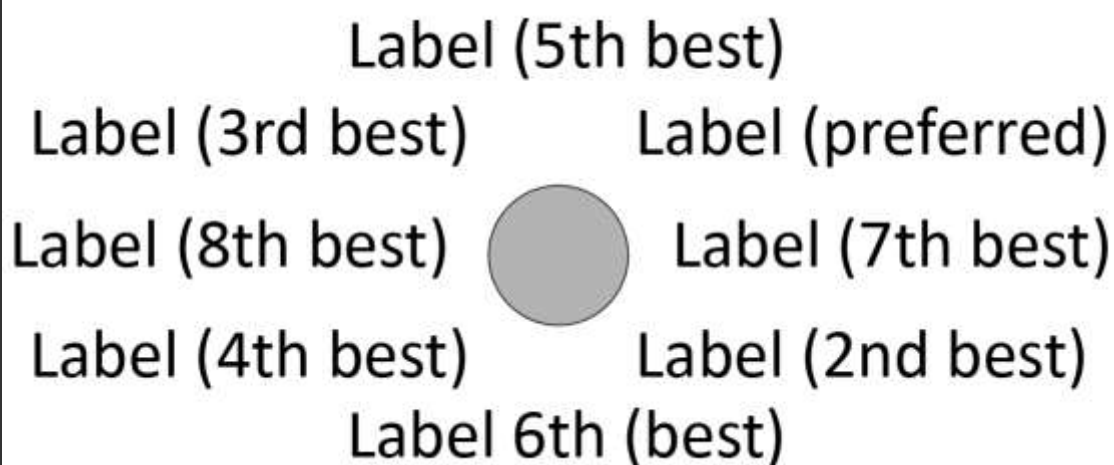
Labeling Point Features



1. Avoid overprinting.
2. Preferred positions shown on the next slide.
3. Do not allow other map features to come between a point symbol and its label.
4. Emphasize the association between the label and symbol, even if it means choosing a less preferred location.
5. If the sequence of preferred locations does not provide a suitable option, consider using a mask, halo, callout, or leader line.
6. Multi-line labels should be placed according to the sequence of preferred locations and horizontally aligned to emphasize the association between the label and point symbol.
7. Point symbols on land that are close to coastlines should be labeled entirely on land if possible.
8. Point symbols that touch coastlines should be labeled either entirely on land or entirely in water.
9. Avoid overprinting coastline with type.
10. Do not exaggerate letter or word spacing.

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This slide provides some guidelines for labeling point features. Note that some of these rules can apply to small areal features that are labelled like a point feature. There is not necessarily a correct way to label all features and deal with overprinting or crowding. Instead, many factors must be considered.



For point features, the preferred labeling position is to the upper-right of the point. The image on this slide shows the ranking of preferred positions. It may not always be possible to use the upper-right position due to crowding or overprinting. Again, many factors must be considered, and labels should be intentionally placed.



Labeling Line Features



1. Place type above line features. Type should be close to the line but not touching it.
2. If labelling features on both sides of a boundary, type can be above and below the line.
3. If feature has complex curves, follow the general trend of the feature and avoid labels that are too curvy and difficult to read.
4. Very long linear features can be labelled more than once. The use of multiple labels is preferred to the exaggeration of letter and/or word spacing to emphasize linear extent.
5. Text should be upright, not upside down. Text should read left to right.

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This slide provides some general guidelines for labeling line features, such as rivers and roads.



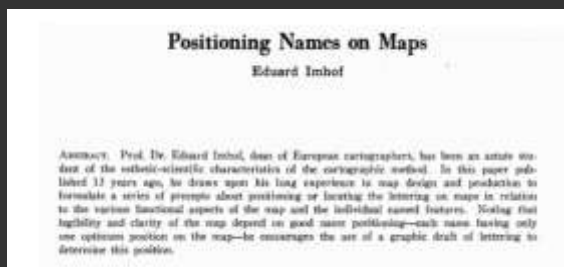
Labeling Polygon Features



1. Visually center the label within the feature.
2. Allow some space between the label and the feature boundary to avoid crowding.
3. Generally, label along the longest axis of the feature.
4. Consider using all-uppercase type, especially for larger features.
5. Letter and word spacing can be exaggerated to emphasize areal extent, especially if applied to all upper-case type.
6. Exaggerated leading can also be used to emphasize areal extent.
7. Areal features that are too small to contain a label should be labeled like point symbols.
8. Leader lines can be used to label small areal features.

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This slide provides suggestions for labeling areal or polygon features.



Imhof, Eduard. 1975. "Positioning Names on Maps."
American Cartographer 2(2): 128-144.

The next set of slides highlight some suggestions from "Positioning Names on Maps", a very influential publication by Eduard Imhof published in the *American Cartographer* academic journal in 1975. Most of the figures from the following slides were taken from this publication.



Type Position



- ❖ “The names should ... be easily read, easily discriminated and easily and quickly located.”
- ❖ “The name and object to which it belongs should be easily recognized.”
- ❖ “Names should disturb other map contents as little as possible.”
- ❖ “Names should assist directly in revealing spatial situation, territorial extent, connections, importance, and differentiation of objects.”
- ❖ “Names should not be evenly dispersed over the map, nor should names be densely clustered.”

Imhof, Eduard. 1975. “Positioning Names on Maps.” *American Cartographer* 2(2): 128-144.

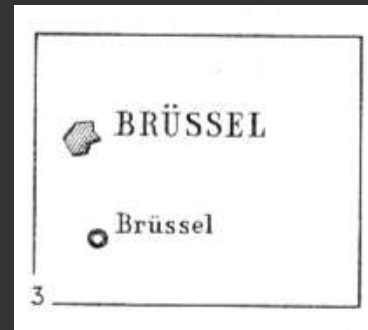
This slide highlights some general positioning suggestions from Imhof 1975.



❖ Point-like objects and concepts

- Points in geometric sense (control points, triangulation points)
- small objects whose map surface size is too small to place text inside them

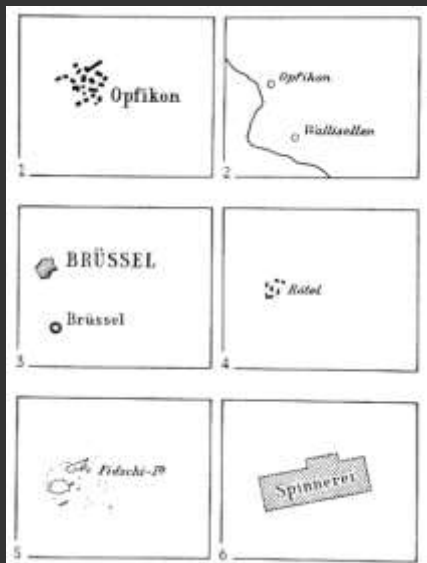
Imhof, Eduard. 1975. "Positioning Names on Maps." *American Cartographer* 2(2): 128-144.



Point labeling guidelines apply to point features and small, areal objects whose map size is too small to place text inside of their extent.

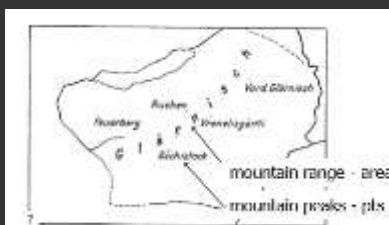


Position Designations



- ❖ Sometimes clusters have point designations (4, 5)
- ❖ Consideration of features as points depends on scale (6,7)

Imhof, Eduard. 1975. "Positioning Names on Maps." *American Cartographer* 2(2): 128-144.

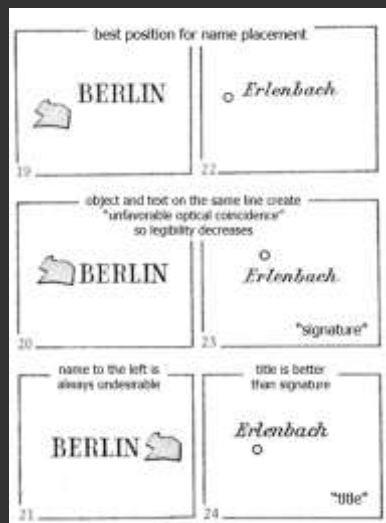


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You can also use point-based labelling for clusters. Deciding whether or not to treat a feature as a point or an area for labelling will partially depend on map scale.



Position Designations



- ❖ Label point features without breaks
- ❖ Not spread out
- ❖ Best position is upper-right

Imhof, Eduard. 1975. "Positioning Names on Maps."
American Cartographer 2(2): 128-144.

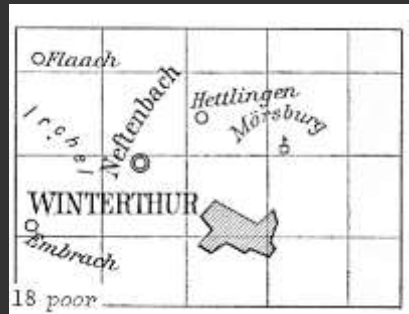
For points, try to not break up the text into multiple lines or interrupt the text with other labels or map features. Try to avoid spreading out the label and choose the upper-right position if possible. However, this may not be desired due to issues of overprinting or crowding.



Position Designations



- ❖ Align text with graticules
- ❖ Large-scale maps – horizontal to rectangular coordinates (16)
- ❖ Small scale – parallel to parallels (17)
- ❖ No oblique or curved names (18)



Imhof, Eduard. 1975. "Positioning Names on Maps." *American Cartographer* 2(2): 128-144.

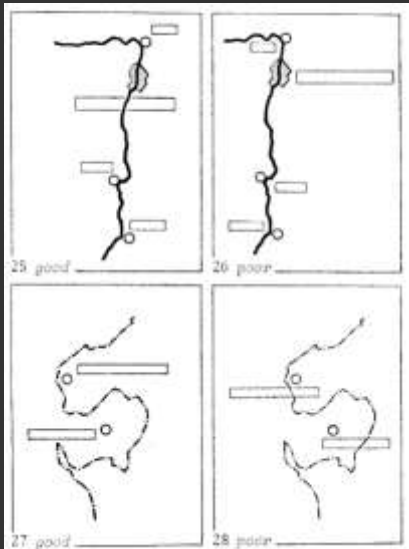


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When using graticules, it is advised to label features along the parallels, even if they are curved. This is more likely to be the case for smaller scale maps, such as continental scale maps using conic projections.



Places along Linear Features



- ❖ Place name on same side of linear feature as point
- ❖ For features that cross, place name over linear feature or to upper right

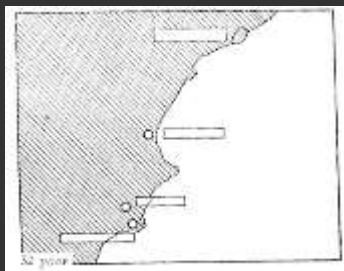
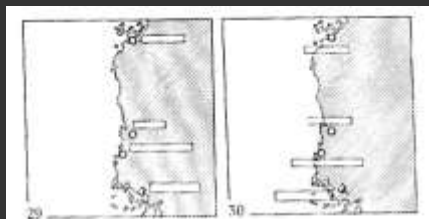
Imhof, Eduard. 1975. "Positioning Names on Maps." *American Cartographer* 2(2): 128-144.

29

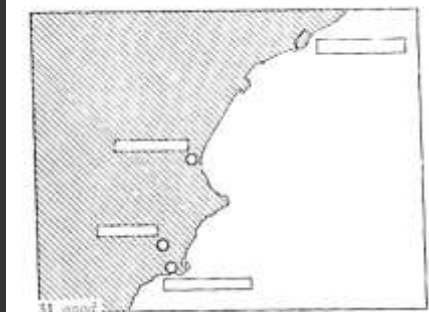
When labeling point features that do not cross a linear feature, place the label on the same side of the linear feature as the associated feature. If a feature crosses a linear feature, such as the city boundary in 25, then you can place the label across the linear feature. Note that it may not be desired to use the upper-right position in these cases.



Places on Coasts or Lake Shores



- ❖ Names of shore and coastal places placed entirely on water
- ❖ Names of places near shore but not on shore placed entirely on land
- ❖ No names split over land and water (30)



Imhof, Eduard. 1975. "Positioning Names on Maps." *American Cartographer* 2(2): 128-144.

30

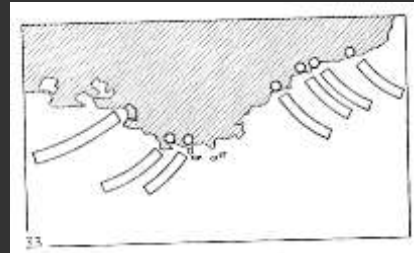
Labeling of point features near shorelines is generally dictated by the feature's position relative to the shoreline. Features that are on the shoreline should generally be labeled in the water whereas features not on the shoreline should be labelled on land. You should avoid splitting labels over land and water.



Places on Coasts or Lake Shores



- ❖ Small-scale maps with dense series of places and names
 - Place all names in ocean
 - Curve names away from the horizontal

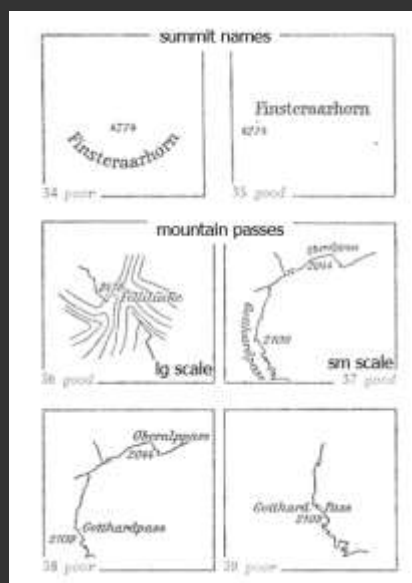


Imhof, Eduard. 1975. "Positioning Names on Maps." *American Cartographer* 2(2): 128-144.

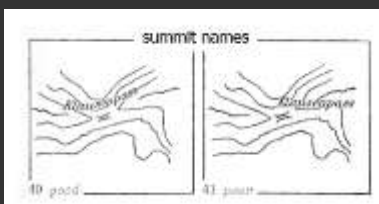
For small scale maps with many labels along coastlines, it is advised to place all names in the water and curved away from the horizontal.



Names for Mountain Features



- ❖ Summit names
 - ❖ Don't place name curved around summit (34)
- ❖ Mountain passes
 - Name the highest point in the pass on large scale maps (36)
 - Use linear position on small scale maps (37)
 - When route is known, place text along linear designation (40)



Imhof, Eduard. 1975. "Positioning Names on Maps." *American Cartographer* 2(2): 128-144.

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When naming mountain summits, do not curve the text around the summit. Instead, label like other point features. For mountain passes, you generally should place the name at the highest point in the pass on large scale maps. In contrast, you can use linear positioning guidelines when labeling mountain passes on smaller scale maps. When the route is known, you should place text along the linear designation.



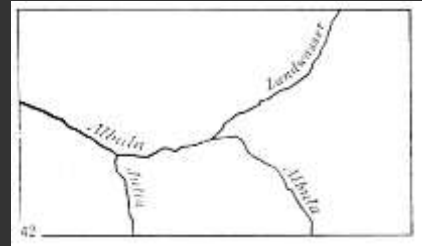
Linear Designations



❖ Lines or ribbon-like objects or concepts

- Streams, rivers, paths, streets, railroads, cables
- Equator, tropics, polar circles
- Boundary lines, migration paths, transportation lines

❖ Position is adapted to the linear form



Imhof, Eduard. 1975. "Positioning Names on Maps." *American Cartographer* 2(2): 128-144.

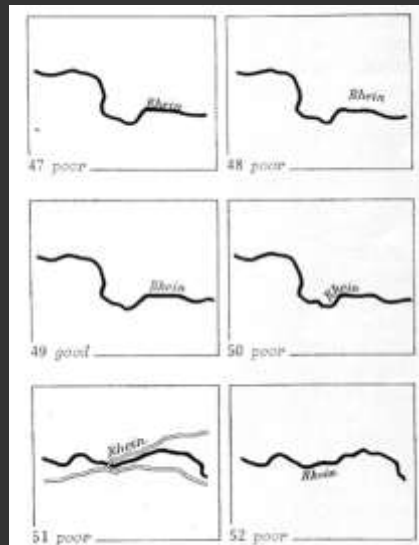
When labeling linear features, it is generally preferred to label along the general linear form of the feature while avoiding overly complex curves.



Linear Designations



- ❖ Place names along the lines
- ❖ Write names over lines (49) not under them (52)
- ❖ Conform to the curvature of the line
- ❖ Avoid complex curvatures (50)
- ❖ Place name in unoccupied spaces
- ❖ Horizontal or almost horizontal type is preferable
- ❖ Text should not “cling” to objects (47)
- ❖ Text should not be too far from objects (48)
- ❖ Don't place names on other side of intervening objects (51)



Imhof, Eduard. 1975. "Positioning Names on Maps." *American Cartographer* 2(2): 128-144.

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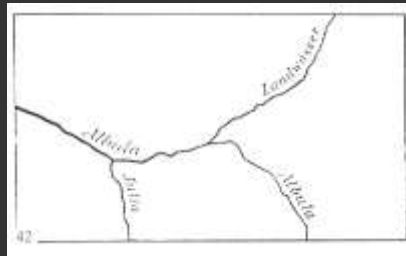
This slide provides some guidelines for labelling linear features.



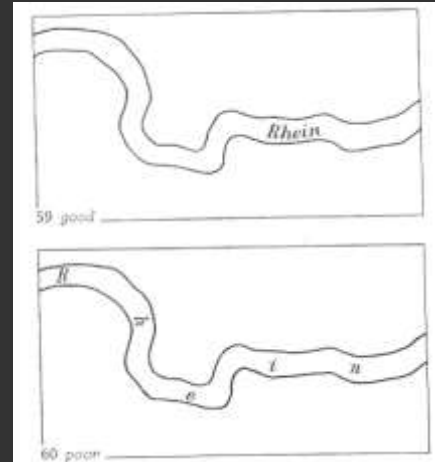
Linear Designations



- ❖ Type should be cohesive or, better, very slightly spaced
- ❖ Repeat designations at suitable intervals – esp. rivers before and after junctions (42)



Imhof, Eduard. 1975.
"Positioning Names on Maps."
American Cartographer 2(2):
128-144.



You generally want to avoid excessive letter spacing. For long, linear features, you can label features multiple times. For rivers, it is recommended to label features before and after junctions so that the correct name is not ambiguous.

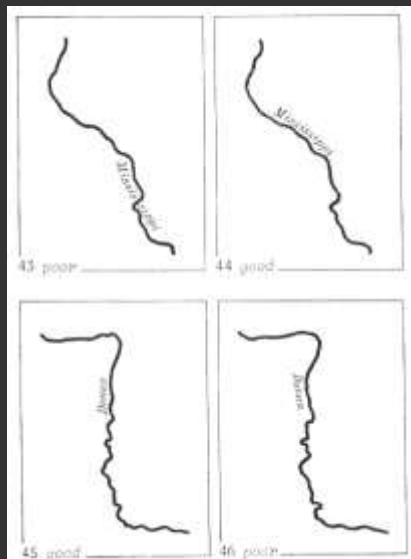


Linear Designations



- ❖ Names should not cross their objects (43)
- ❖ Place river names (44) where:
 - River bends least
 - River does not run vertically up and down
 - There are the fewest objects
- ❖ If river runs vertically
 - Write name with first letter towards bottom (45)

Imhof, Eduard. 1975. "Positioning Names on Maps." *American Cartographer* 2(2): 128-144.



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Labels for linear objects should not cross the objects. For naming rivers, avoid placement in bends, where the river runs vertically up and down, and label where there are the fewest objects and associated overprinting issues. If you must label along a vertical segment, write the label such that the first letter is towards the bottom.



Areal Designations



- ❖ Refer to areas of every type
 - Woods, fields, mountain ranges, glaciers, lakes, oceans, sections of countries, counties, states, regions
- ❖ Prerequisite -- map areas must be large enough so text can be placed in area
- ❖ First determine height and length of area
- ❖ Areas can overlap
 - higher order areas overlap lower order areas (54)

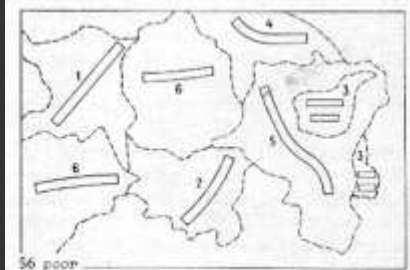
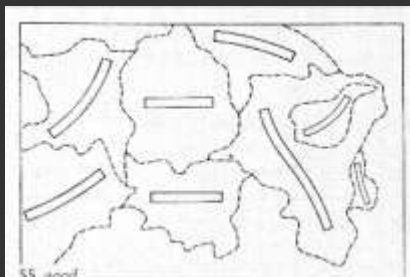


Imhof, Eduard. 1975. "Positioning Names on Maps." *American Cartographer* 2(2): 128-144.

We will now move on to discuss specific examples for areal feature labelling. First, the area of the feature must be large enough to place the label inside its extent. If this is not possible, then features can be labelled like points. You must also consider hierarchy when dealing with overlapping of features.



Areal Designations

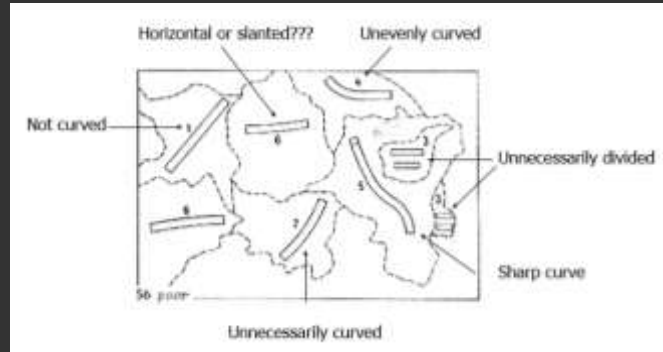
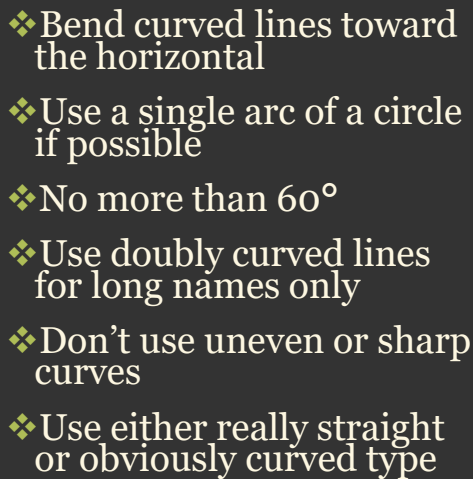


- ❖ Areal association often requires bending and spreading the name across horizontal axis of the area (55)
- ❖ Expand name towards boundaries of the area
- ❖ Leave 1½ letter spaces on either end
- ❖ Sometimes best to divide name into 2 or 3 lines (54, 56, 57)
 - Each division should be a whole word
 - Words in every line begin with capital letters

Imhof, Eduard. 1975. "Positioning Names on Maps."
American Cartographer 2(2): 128-144.

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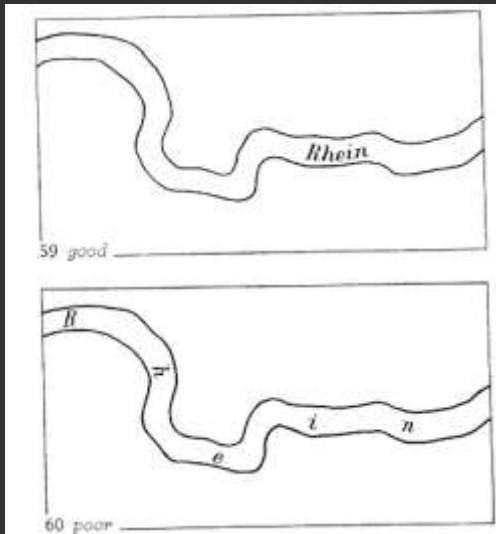
To fill the extent of an areal feature, you may need to use bending and spreading across the longest axis. However, you should leave space between the boundary and label. You can divide names into multiple lines; however, you should avoid splitting words and each line should begin with a capital letter.



When bending or curving areal labels, you should bend towards the horizontal, use a single arc of a circle where possible, and bend by no more than 60 degrees. You can use doubly curved lines for long names but avoid this for shorter names. Don't use uneven or sharp curves. Generally, you should use either straight type or obviously curved type.

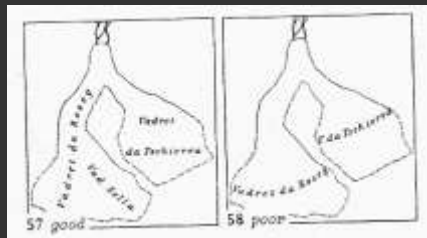


Areal Designations



- ❖ Align along long axis of features
- ❖ River names in areal features
 - should not be spaced out like areal names
 - should follow other linear rules

Imhof, Eduard. 1975. "Positioning Names on Maps." *American Cartographer* 2(2): 128-144.

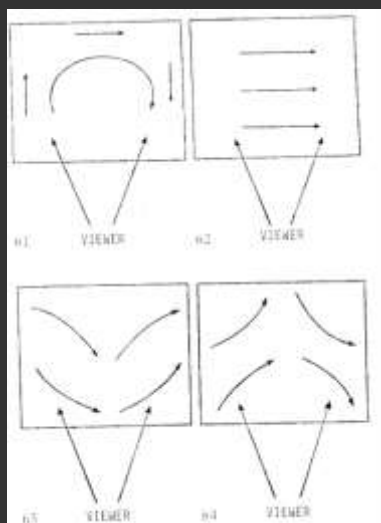


40

You should align features along their longest axis. If a large river is represented as a polygon as opposed to a line, you should not space out the text like other areal labels, and you should follow the linear feature labeling rules.



Determining the Lettering



- ❖ Type should stand as upright as possible
- ❖ Type should be written
 - right to left (62)
 - clockwise (61)
- ❖ Sloping names should be written
 - From left above to right below (63)
 - Or from left below to right above (64)
 - Not upside down

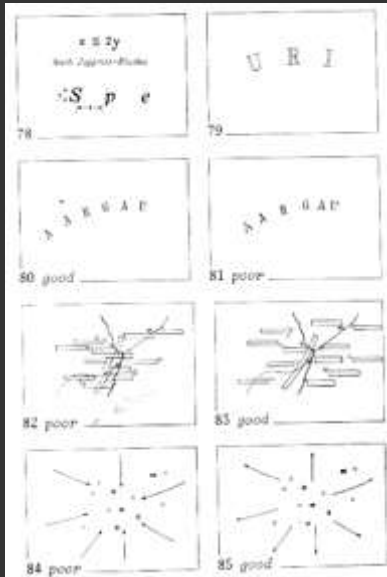
Imhof, Eduard. 1975. "Positioning Names on Maps." *American Cartographer* 2(2): 128-144.

41

Here are some general rules for dealing with lettering. Lettering should be written as upright as possible if labeling along a vertical feature. Labels should read from right-to-left or should read clockwise if curved. For sloping text, it should read from left above to right below or from left below to right above, and the text should never be upside down.



Type Spacing



- ❖ Type series should always be easily understood visually and read continuously
- ❖ Very extended names should always refer to large areas
- ❖ With large spacing, corresponding type is required
- ❖ Effect of type that is too strong can be mitigated with open type font (79)
- ❖ Spacing should be equidistant (80) and based on optical or visual spacing



Imhof, Eduard. 1975. "Positioning Names on Maps." *American Cartographer* 2(2): 128-144.

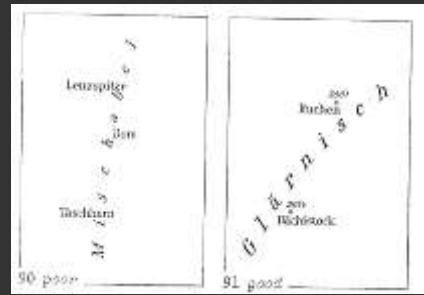
When deciding on appropriate spacing, a series of type or a single label should always be easily understood to be linked. Extended names should only be used for larger areas. When spacing is larger, you may also need to increase the type size. If the effect of type is too strong, this can be mitigated with an open type font (see example 79).



Overlapping Lettering



❖ Avoid type crossings at right angles



Imhof, Eduard. 1975. "Positioning Names on Maps." *American Cartographer* 2(2): 128-144.

Try to avoid crossing type at right angles, as this can make the labels difficult to read.



Total Impression of Lettering



- ❖ Avoid visual connection of two or more features through type placement



92 poor



93 poor



94 good

Imhof, Eduard. 1975. "Positioning Names on Maps." *American Cartographer* 2(2): 128-144.

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Try to avoid visual connections where multiple labels may be misinterpreted as a single label.

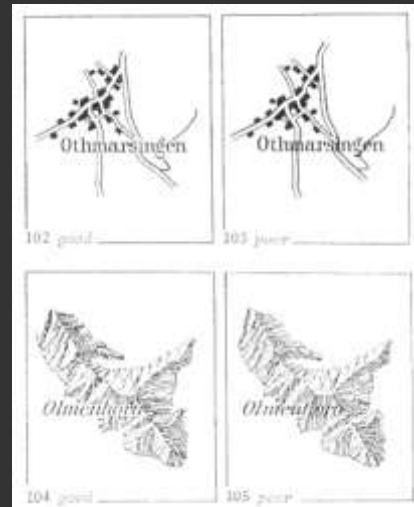


Combining Type with Other Map Content



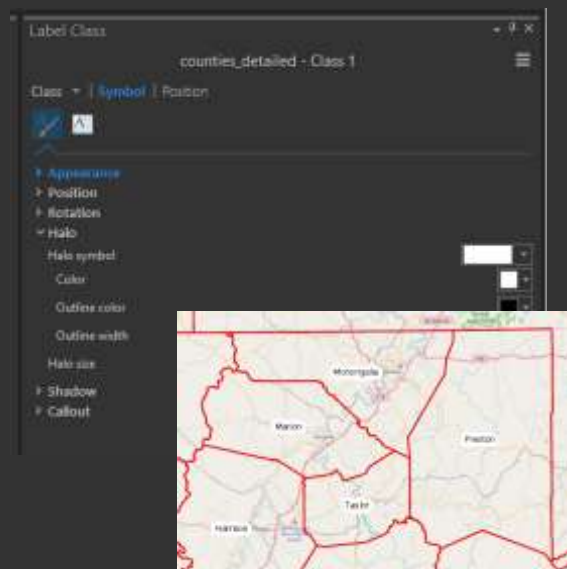
- ❖ If possible, avoid overlapping and covering names with other symbols
- ❖ Interrupt graphic elements (lines, hachures, etc.) where they go through names and dots

Imhof, Eduard. 1975. "Positioning Names on Maps." *American Cartographer* 2(2): 128-144.



Try to avoid overprinting map symbols with labels. This may require you to position the label such that it flows better with the map content.

Labeling in ArcGIS



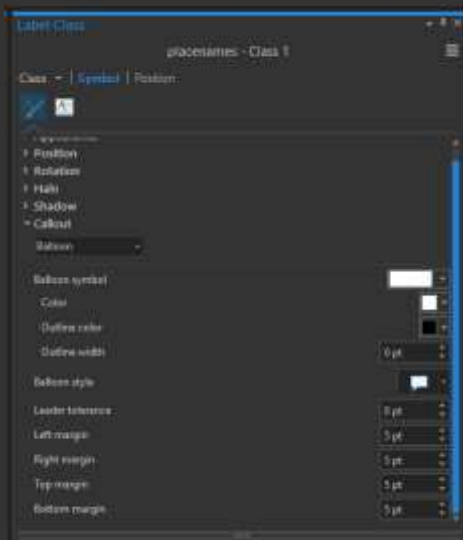
- ❖ Allows for offset from background
- ❖ May improve readability
- ❖ Should not overuse
- ❖ Can specify halo color and width
- ❖ Can specify outline color and width

We will now explore some labelling options in ArcGIS Pro specifically.

If labels are difficult to read, you can add a halo to allow greater offset from the background. However, try to avoid overusing this feature. When designing a halo, you can change the fill and outline color along with the outline width.



Callouts



- ❖ Can alleviate crowding
- ❖ Different types available: simple line, point symbol, background, balloon
- ❖ Can adjust the settings
- ❖ Not always necessary



48

Callouts will place the label in a callout box and can be used to alleviate crowding. There are multiple styles available including simple lines, point symbols, background, and balloon. Try not to overuse callouts.



Shadows



- ❖ May enhance contrast from background
- ❖ Can select color and X and Y offset



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Label shadows can be added to enhance contrast. The shadow can be placed relative to the text using defined offsets in the x- and y-directions. Again, try not to overuse halos, callouts, and shadows.



- ❖ Well-placed labels can make a map more understandable and useful
 - Maplex provides a special set of tools that allows you to improve the quality of the labels on your map
 - Define parameters to control the positioning and size of your labels; Maplex uses these parameters to calculate the best placement for all the labels on your map. You can assign different levels of importance to features to ensure that more important features are labeled before less important ones
- ❖ Maplex controls:
 - how labels should be placed relative to features
 - how labels can be modified or reduced to allow more label placement when the available space is constrained
 - how conflicts between labels are resolved

ArcGIS Pro uses the Maplex Labeling Engine to provide additional control over label positioning. This engine allows you to define parameters to control the positioning and size of your labels. These parameters are then used to calculate a placement for each label. You can assign levels of relative importance to different features to control which labels take precedence when determining positioning. The Maplex engine allows for control over label placement relative to features, how labels are modified or reduced in size to allow more label placement when available space is constrained, and how to resolve conflicts between labels. It also has presets for some common labeling needs, such as land parcels and contour lines.



- ❖ Advanced placement styles for polygons including styles that represent land parcels, rivers, and boundaries
- ❖ Special placement for lines that represent streets, rivers, and topographic contours
- ❖ Ability to offset labels from features
- ❖ Repetition of labels at a specified distance along a line or within a polygon
- ❖ Control of word and character spacing
- ❖ Alignment of labels to projection graticules
- ❖ Control of label placement zones
- ❖ Flexible placement to allow more labels to fit in an area
- ❖ Fine control of label stacking
- ❖ Label abbreviation and truncation
- ❖ Font reduction parameters for congested areas
- ❖ Control of whether a label may extend beyond a feature
- ❖ Enhanced weighting of features to determine label placement
- ❖ Control over the minimum feature size that will be labeled
- ❖ Placement of labels as background text
- ❖ Search tolerance to remove duplicate labels
- ❖ Ability to control the order in which the label fitting strategies are applied

This slide lists some of the labeling options available through Maplex. This engine may yield adequate results. However, additional editing may be necessary to meet your needs. In such cases, labels can be placed in ArcGIS using the Maplex engine then exported to a vector graphic for additional refinement. If saved to a vector graphic, the text elements and labels can be further edited by changing the font family, style, case, and size. You can also add or delete labels, rotate labels, and change colors. Labels can be moved or manually placed within the layout.

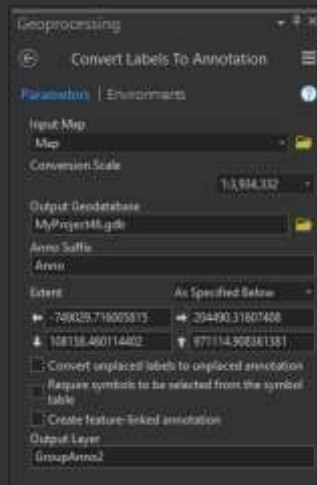
Lastly, it should be noted that labeling options are much more limited in 3D scenes. Placement within 3D space can be complicated using current ArcGIS tools. However, this is likely to improve in the future.



Annotation Layers



- ❖ Convert labels to annotations
- ❖ Stored in a geodatabase
- ❖ Spatially referenced
- ❖ Each feature has symbology: font, size, color, etc.



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In ArcGIS Pro, you can also generate annotation layers, which must be stored inside of geodatabase or within a feature dataset within a geodatabase. Labels can be converted to annotation layers. You can think of annotation layers as geolocated text with associated attributes and symbology settings. Annotation layers allow for greater editing and selection than labels.



This is the end of this lecture module.

Please return to the West Virginia View
Webpage for additional content.



Thanks! Hope you found this useful.