

Map Lettering

'labelling'

General rule:

Lettering is an extension of the symbol itself, and should be 'automatically' attached to it in the mind of the reader, both in design and positioning: 'good lettering' is barely noticed

Lettering is like a soccer/hockey referee - if he doesn't make any mistakes, you don't notice him

Lettering – overview

Perhaps the most challenging part of digital mapping
[early computer maps were obvious by their lettering]

Consists of:

a. Typography – lettering design

b. Positioning – lettering placement

a: can be easily automated in GIS software

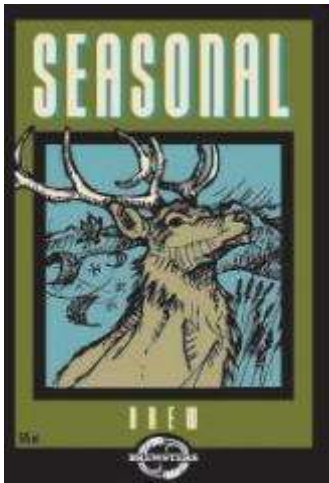
b: is more subjective - needs manual input

1. Visual Design Variables

a. Font (~shape)

- serif (e.g. Times)
- sans serif (e.g. Geneva)
- decorative (e.g. Joker)

Serif
Decorative

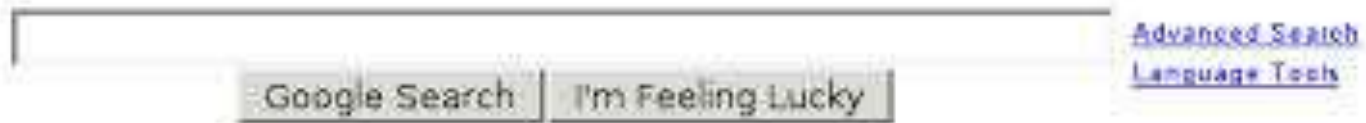


Sans serif



Serif 2015

Google™



Google
Canada

Sans-serif 2016



Font Humour



I shot the serif.

Eric Clapton: <https://www.youtube.com/watch?v=tRgcwT9X2J8>

Font Choice is mostly based on preference ..

... except for some nominal associations:

e.g. historical oldies

Stonehenge

Serif for natural features ?

Sans-serif for human features ?

Choice of Lettering fonts

Wide range of choices in software -as in MS Office

Legibility: good distinction between letters in the alphabet

Visibility: good contrast between lettering and background

Aesthetics: avoid ugly letter proportions and faces

Don't use Courier (typewriter) !!

Comic Sans ?



comic sans

still a better choice
than trump



SCARY EXAMPLE OF POOR FONT LEGIBILITY:

Would you sign your boys up for this league ?



Spruce City Minor Boys Softball

Ages 7 - 19

FINAL REGISTRATION

Call: Darlene 562-3119

Lorry 561-9171

157758

b. Form: *italic* or upright



- *Italics* are reserved for hydrographic features (rivers, lakes, etc.)

Why ?

Underlining is **not** generally used

Why?

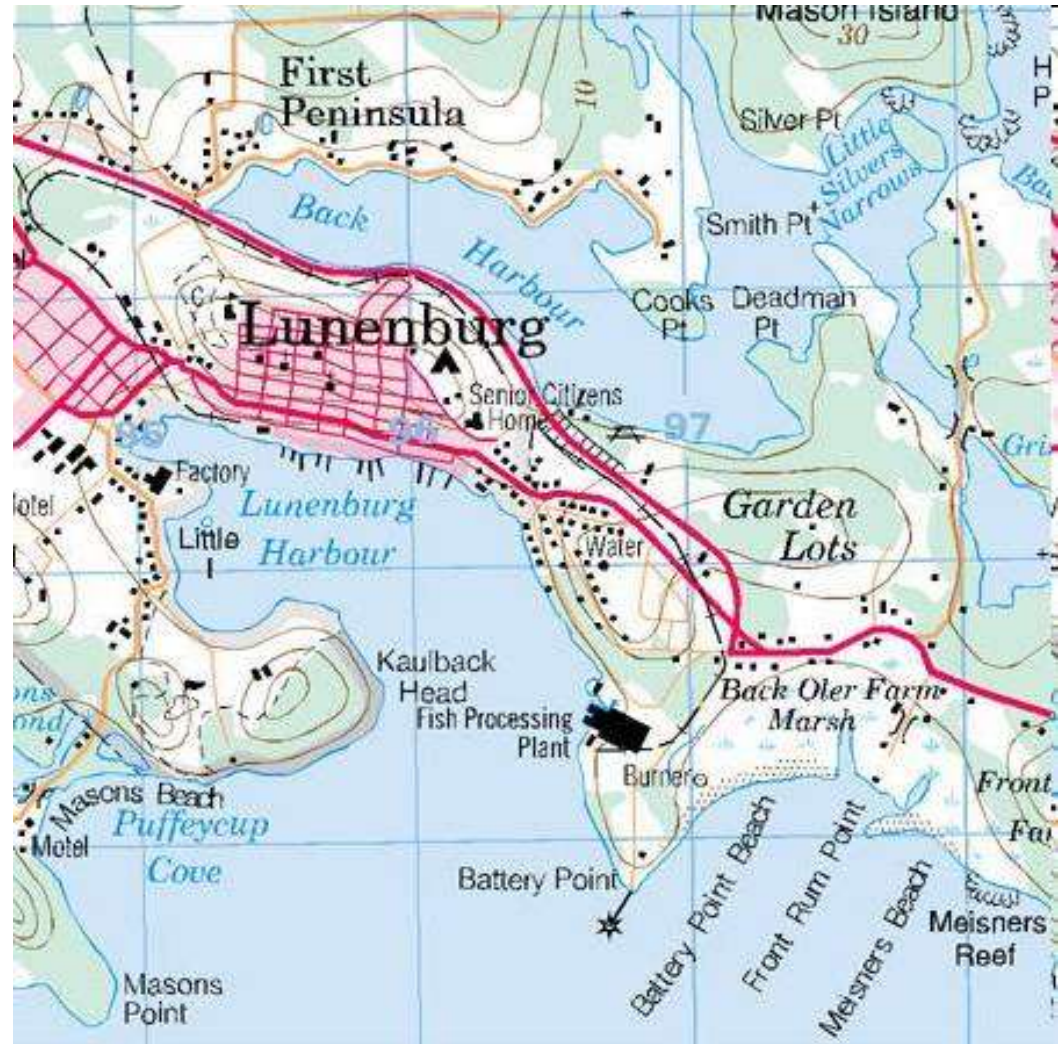


c. Form: bold or plain

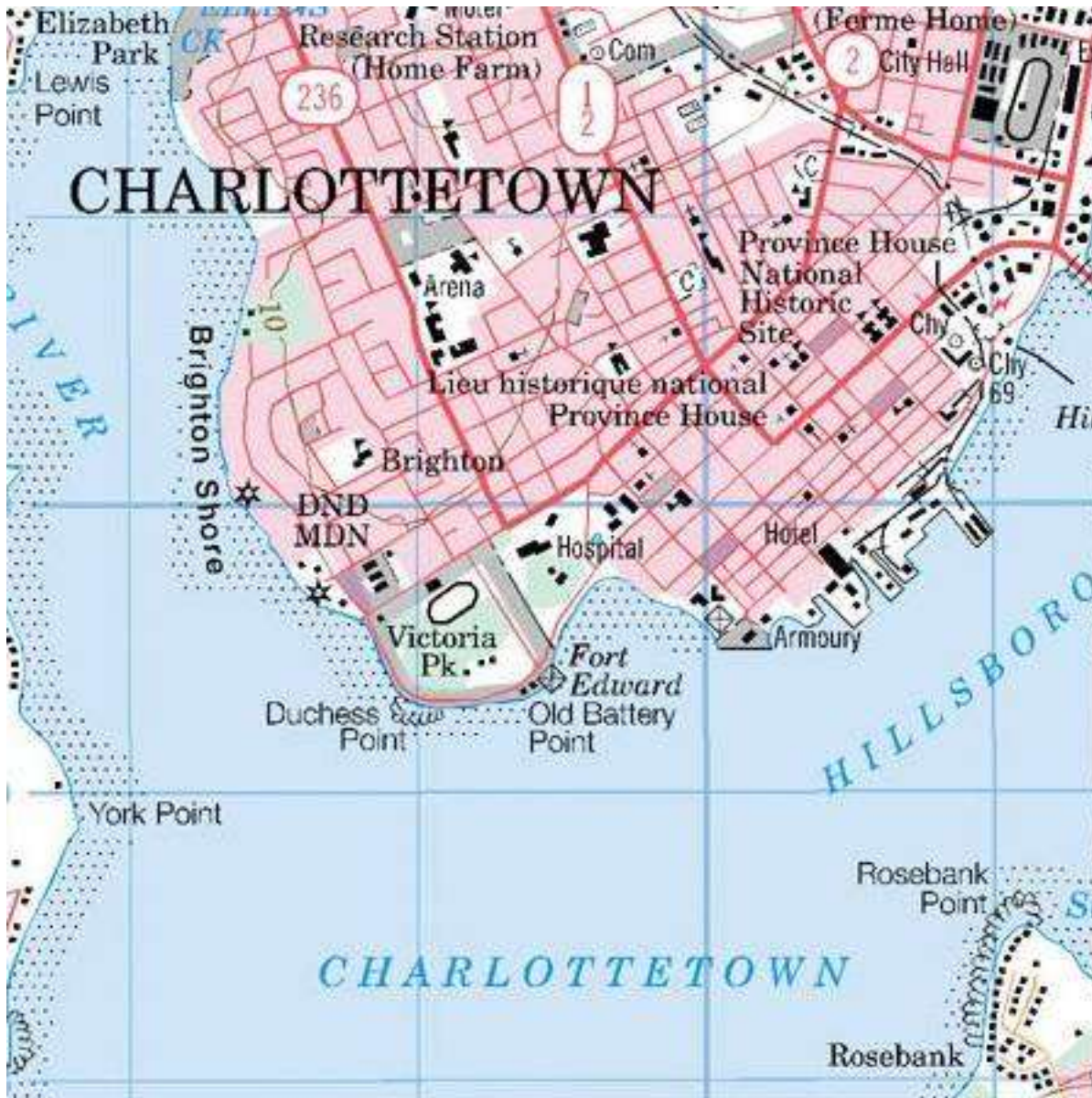
e.g. **Vanderhoof** Vanderhoof

Bold implies
prominence

-its more visible
... useful on dark
backgrounds



d. (Form) UPPER or Lower case



UPPER CASE
implies major
features

PRINCE
GEORGE

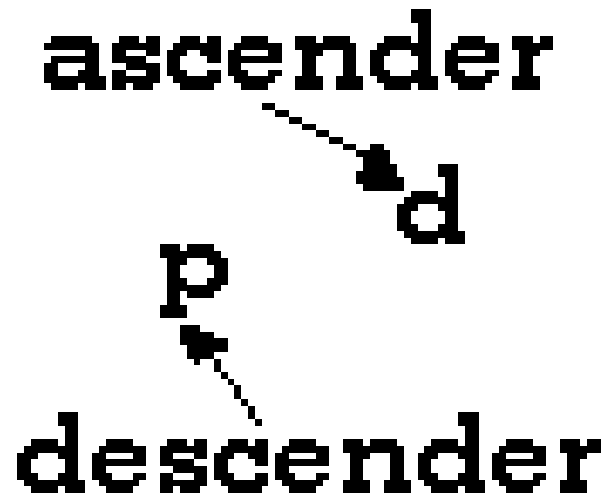
Prince George

Use UPPER case
sparingly - why ?

Why are map labels
and books mostly in
lower case ?

Use UPPER case sparingly - why ?

.. it is (13%) less readable than lower case due to the extra information provided by 'ascenders' and 'descenders'



The diagram shows the words 'ascender' and 'descender' in a monospaced, pixelated font. A dashed arrow points from the top of the letter 'd' in 'ascender' to the top of the letter 'p' in 'descender'. Another dashed arrow points from the bottom of the letter 'p' in 'descender' to the bottom of the letter 'd' in 'ascender'. This illustrates how the vertical range of lowercase letters (ascenders and descenders) provides additional visual information that is lost in all-caps text.

This is why we don't print books in UPPER Case and shouldn't use it in emails

(why are they called UPPER and lower 'case' ?)



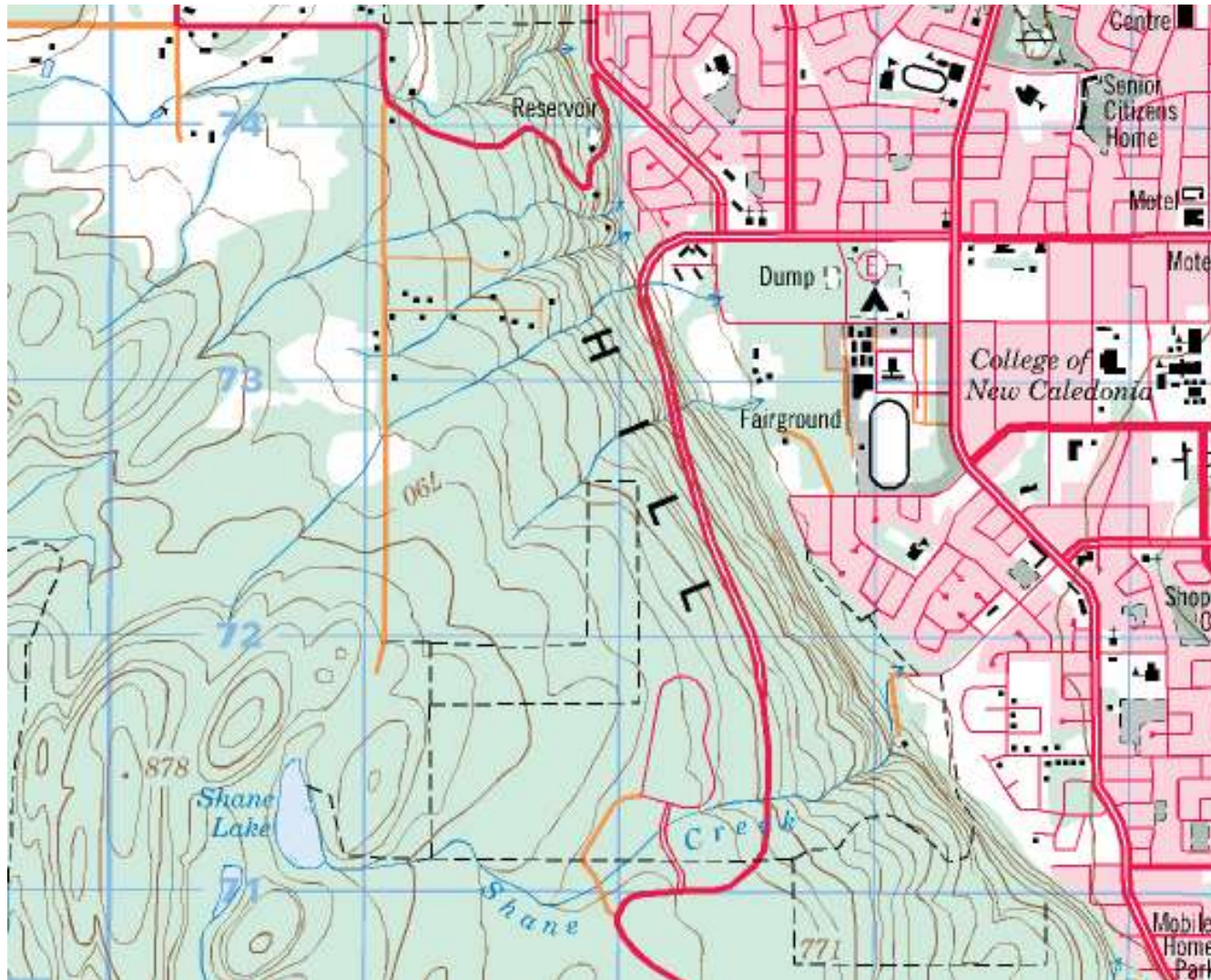
e. Colour (hue) : nominal / qualitative .. is used associatively

Blue: hydrography

Brown: contours

Black: standard

Red: important



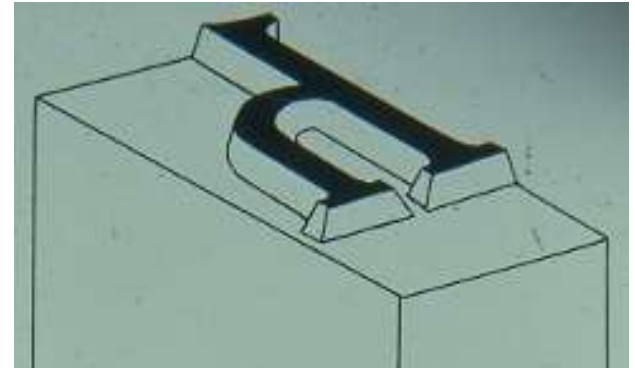
Quantitative Variables

a. **Size** : size denotes importance

It is commonly measured in 'points' (you knew this !)

72points = ~ 1" (inch)

minimum size = 6 points



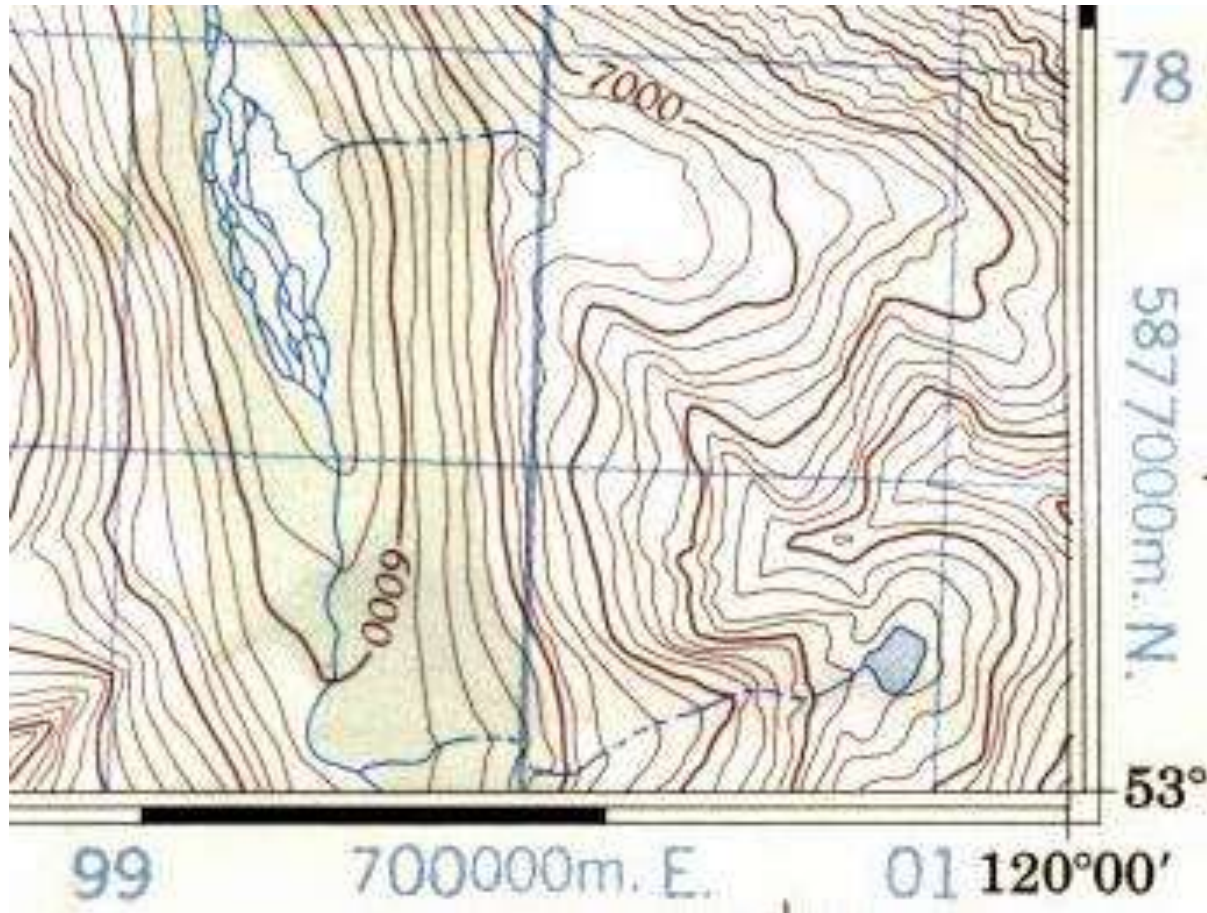
Larger size text is associated with larger or more important features (DUH!)

Large lettering should not be overpowering

Also: UPPER CASE and **Bold** imply some size/importance

Quantitative Visual Design Variables

b. Tone / chroma (colour): 'screened' lettering for background features (low saturation e.g. UTM digits)

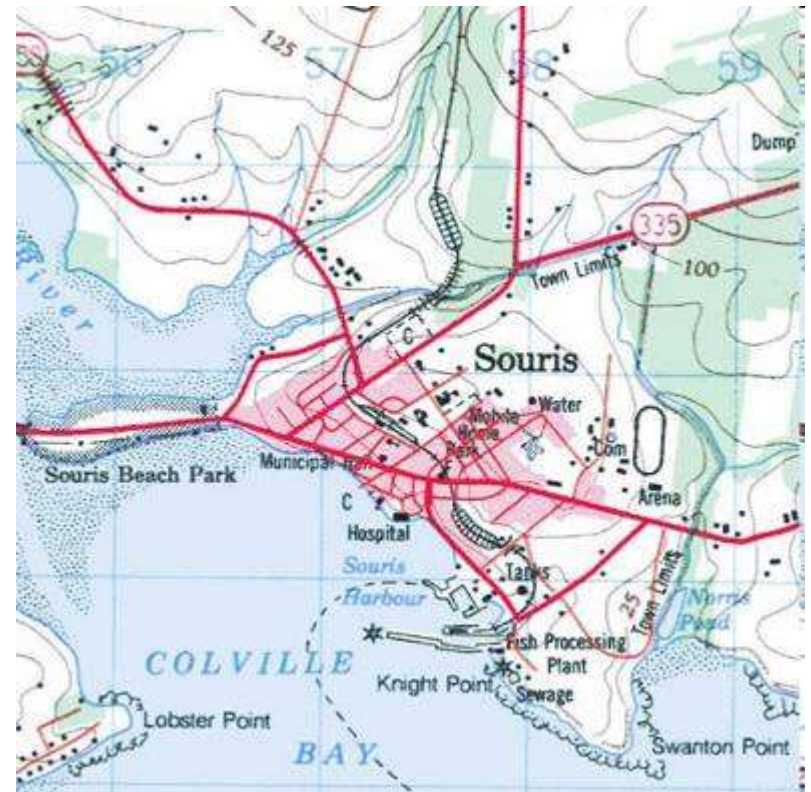
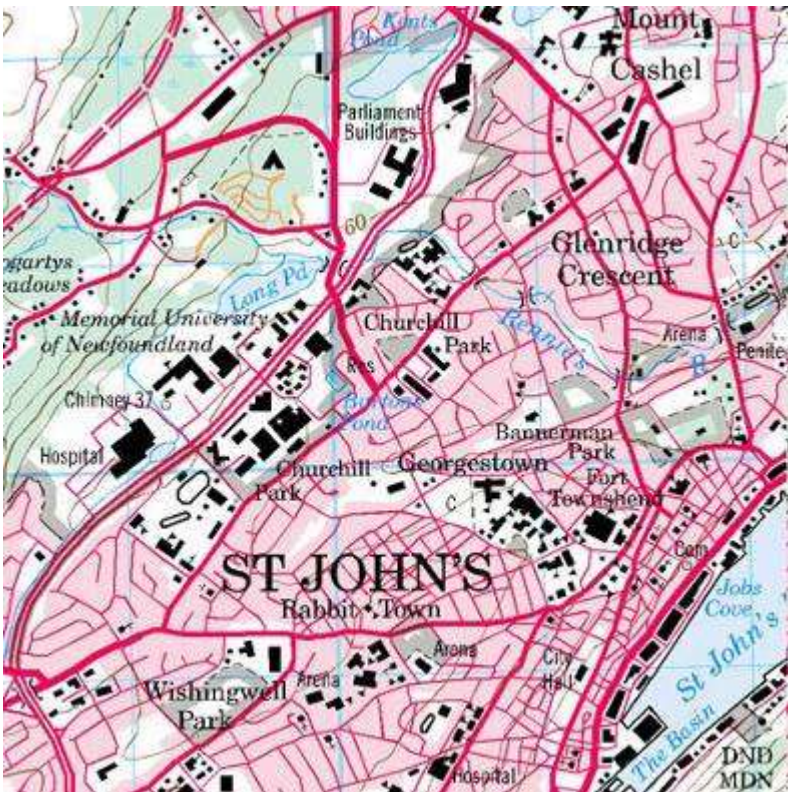


Choice of combinations of colour, fonts and form

Consistency: lettering within a class should be the same (e.g. all major rivers)

Contrast: should be higher between major classes than within a class type

Harmony: avoid many type faces (fonts); use different forms instead



2. General rules of Positioning

Positioning is an **extra** visual variable that symbols don't have:
- This can complicate digital mapping

General rules:

A> Minimize ambiguity as to what the name refers to

B> Choose minimum interference with other map elements:
lettering is movable - symbols are not

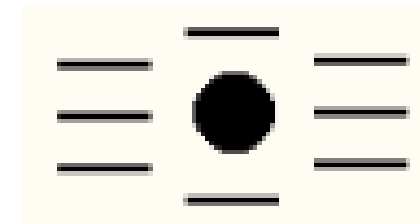
C> Horizontal lettering where possible, except:
..... if there is no space available (points) or
.....feature is not horizontal (areas/lines)

Points: ArcGIS default, top right label position

There are 8 possible positions for names.

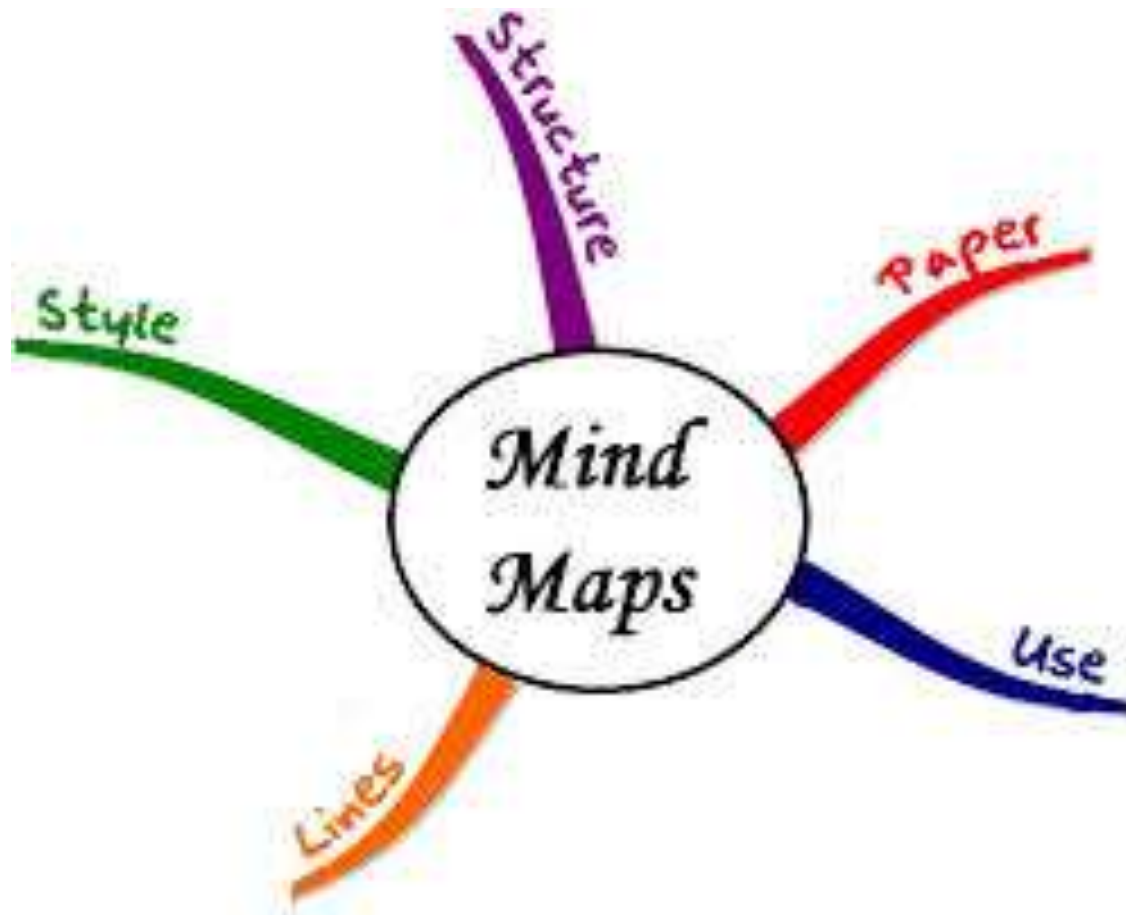
Top right is best default but not always

- Based on manual cartography methods

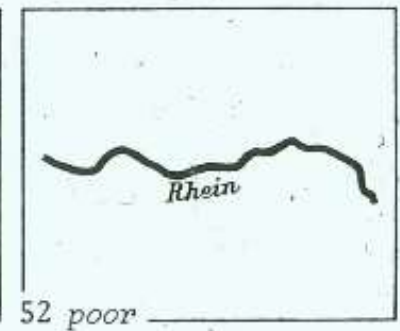
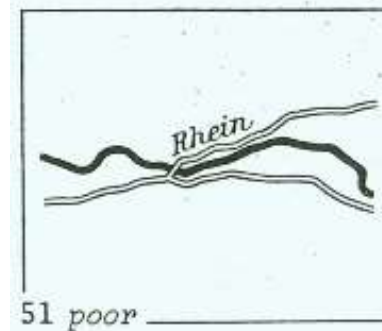
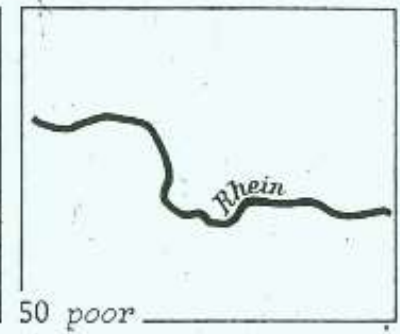
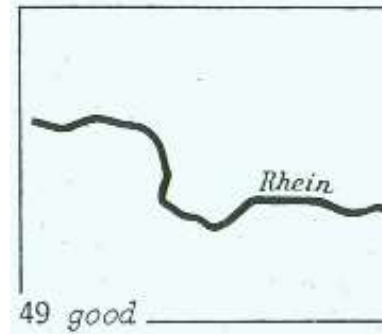
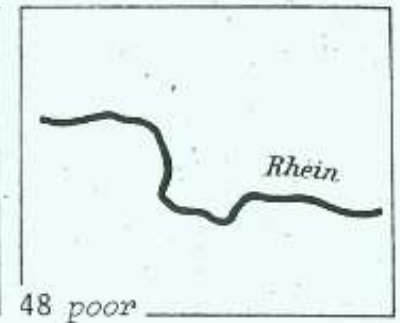
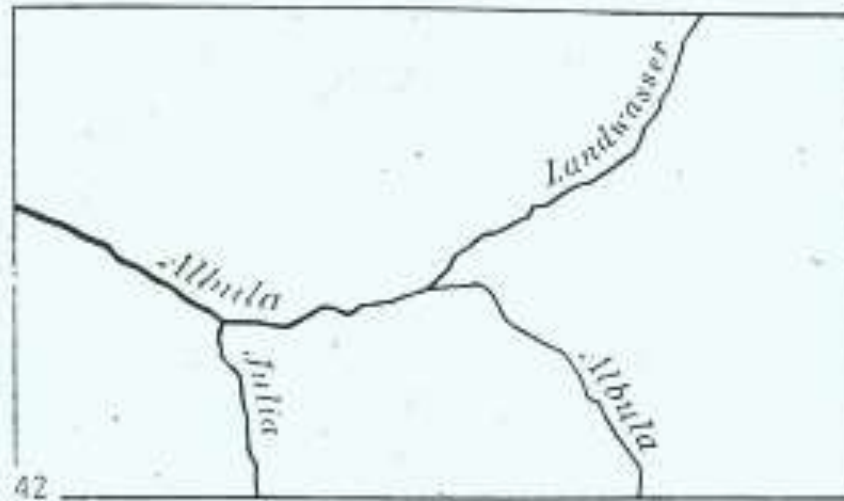


Line symbols labels

- A> Follow the orientation of the line (river, road, etc.)
- B> Find a relatively straight piece to label
- C> Label above the line, far enough away so descenders don't cross it



Line symbol labels



Examples from Eduard Imhof 'Swiss Guru'

Lettering should not be beyond the vertical ... the **only** exception (?) is contour lines, where lettering tops can 'point uphill' to show terrain form



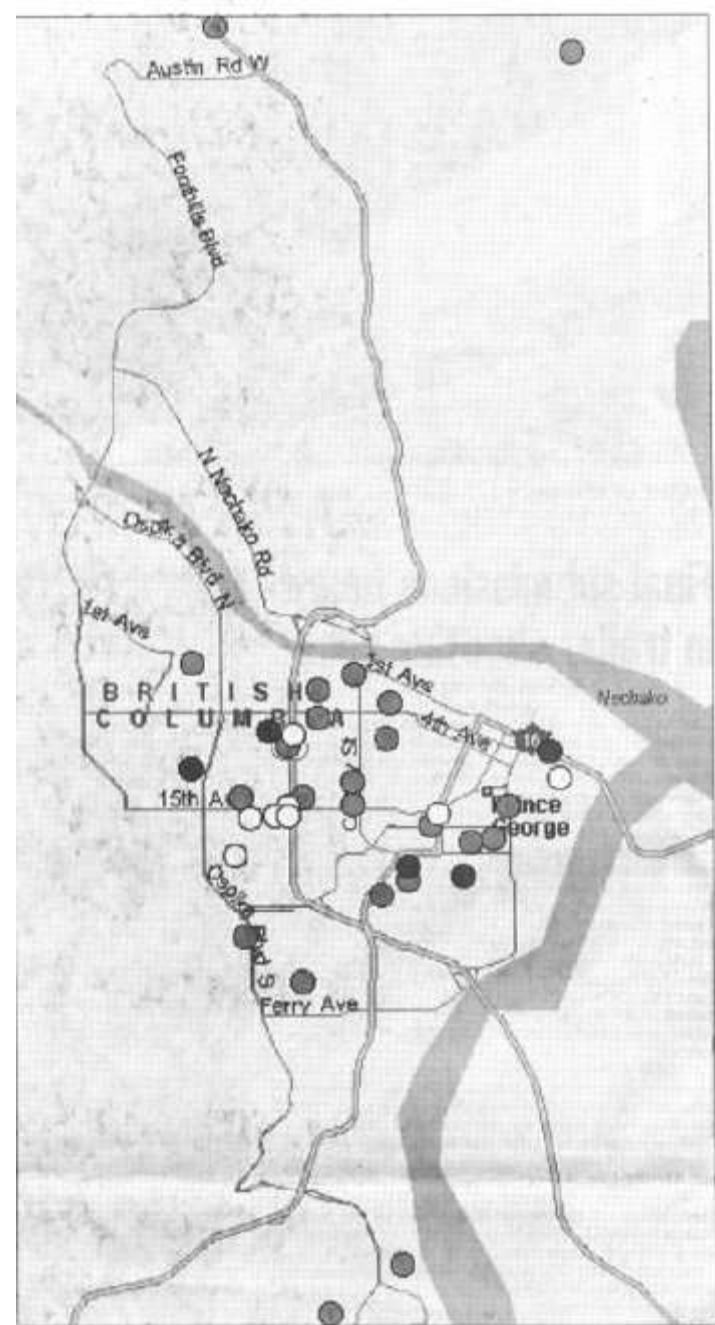
.... And never 'just a bit off vertical' which looks like an accident

FAIL!

2008 ->

what went right

what went wrong ?



Submitted graphic
This map shows the locations of recent break-ins in Prince George. Grey indicates residential break-ins; white is business and black is other. A residential break-in past the Prince George Airport is not shown.

Area symbols

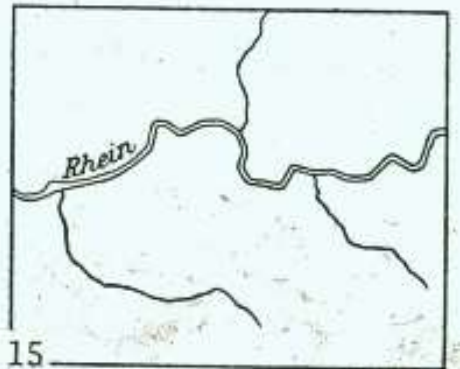
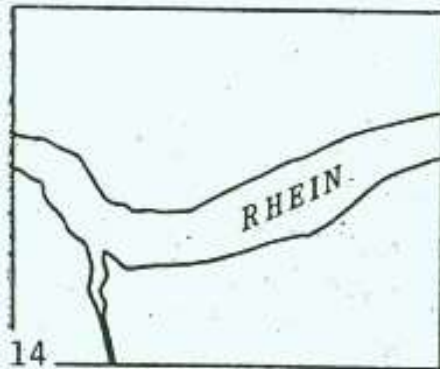
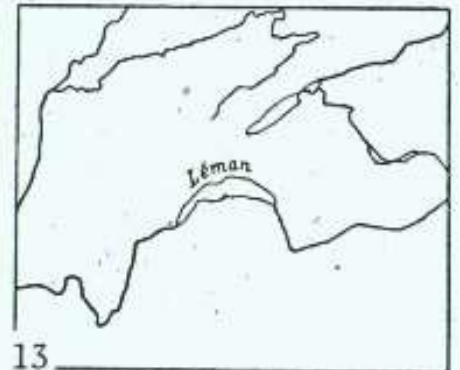
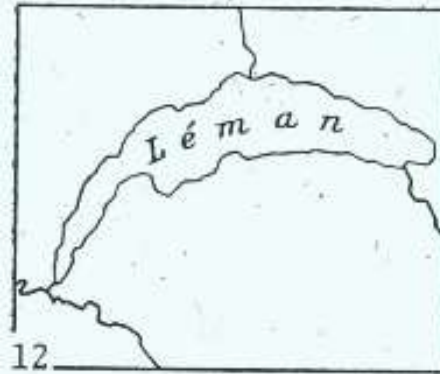
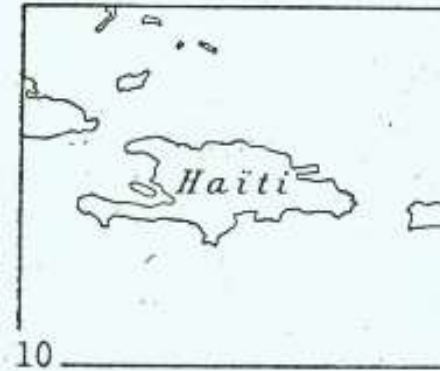
A> Lettering totally inside the area

a

B> If too small, label as if a point
Name should fit inside with minimum
1 letter width on either side

C> Orient lettering to fit area
shape, curve as needed

D> Space lettering if area is large,
but not $> 4 \times$ letter height, evenly
Serifs are useful in spaced names



Examples from Eduard Imhof



Default arcGIS lettering

- All labels on one line
- Some duplicates
- Crossing other features
- **don't accept shabby defaults**

Mount Robson Provincial Park

Berg Lake Trail



LEGEND

Facilities

	Ranger Cabin		Emergency Services
	Hiking		Campground
	Viewing		Meals, Gasoline
	Parking		Wilderness Camping
	Picnic Area		Telephone
	Information		Shelter - day use only
	Washrooms		Mountain Biking

Summary - positioning

Points

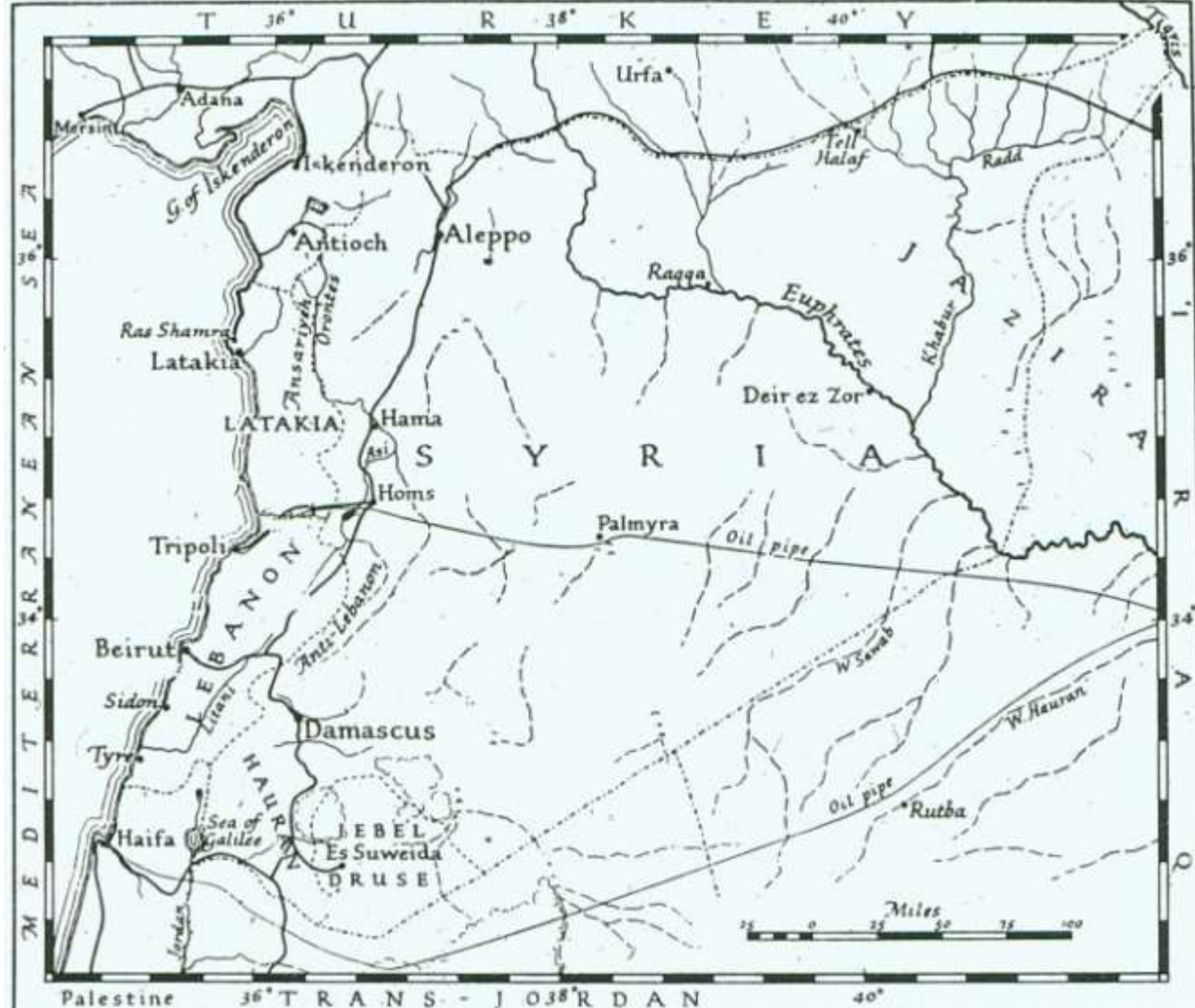
horizontal, close to the point

Lines

along/above line

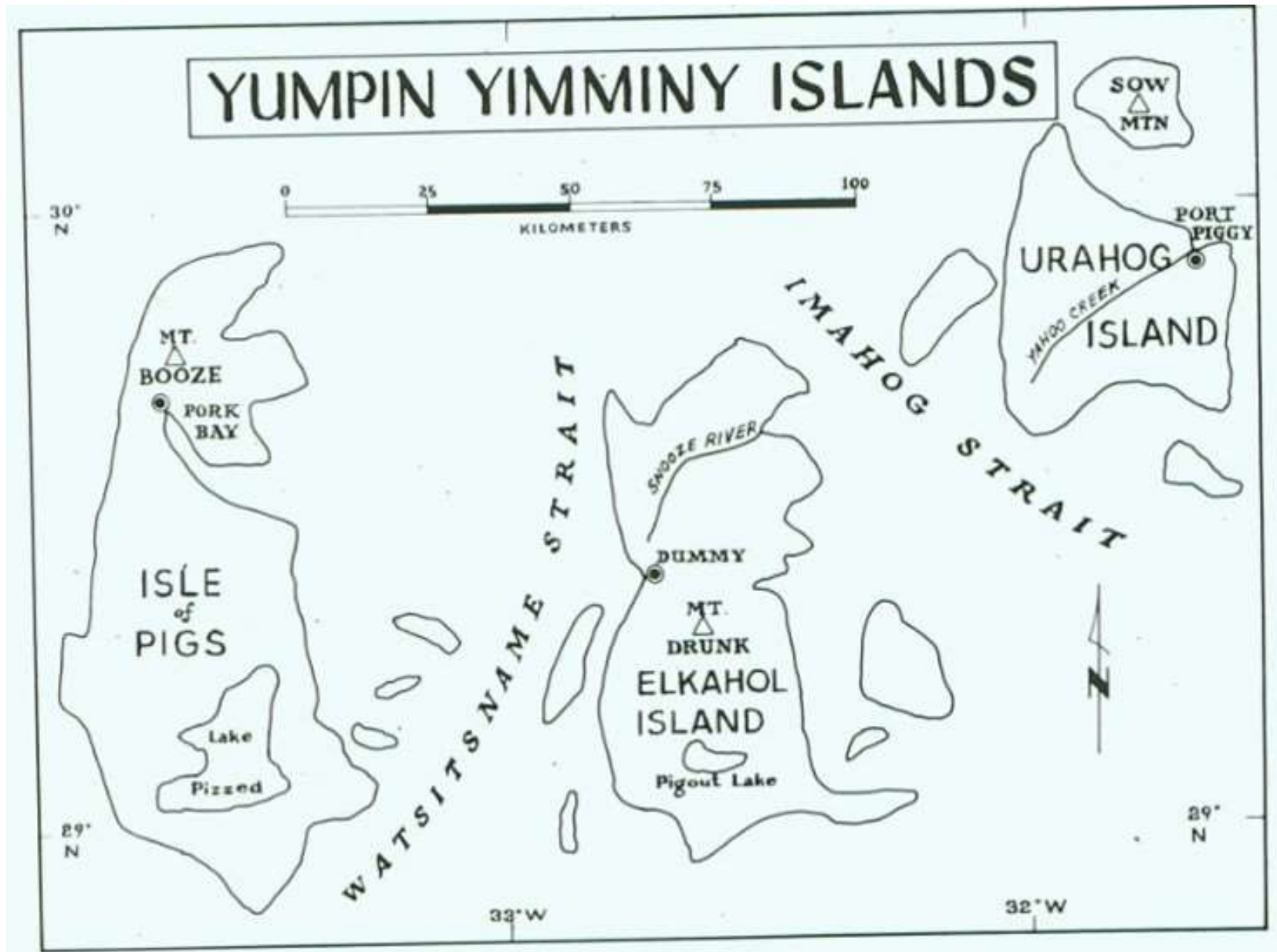
Areas

centred, showing orientation



Excellent example of hand lettering

Handlettering exercise - consistent classes with contrast



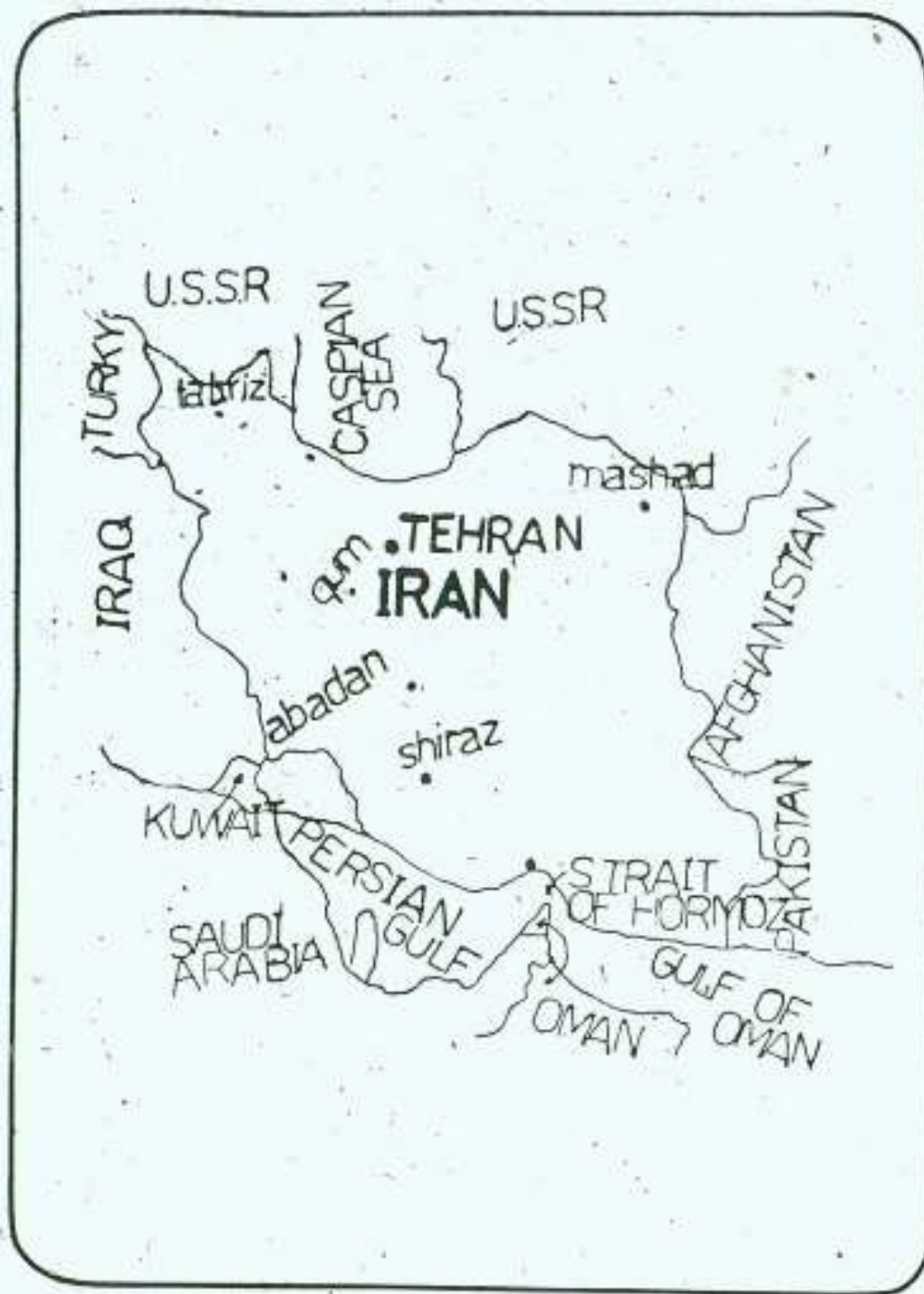
1978

(Iran hostage crisis)

What went wrong?

What went right ?

Murphy's Law proven



Part of a World map - following all the lettering rules

Lettering is like a hockey/soccer referee - if he doesn't make any mistakes, you don't notice him



ArcGIS lettering / labelling guide: (the main points are covered in the lab)

<https://pro.arcgis.com/en/pro-app/latest/help/mapping/text/labeling-basics.htm>

Toponymy: the study of placenames

English place name endings and meaning

by	village, town
Dal /dale	meadow / valley
ford	ford
hurst	wooded hill
knock	hill (gaelic)
minster	large church
pool	harbour
shaw	wood
stead	place
ster	farm

These can tell us about the local geography ... we have similar names in Canada, the indigenous names

Indigenous place name examples

Lheidli Confluence

Nagwentled Landslides

Nanaimo Big strong tribe

Kakwa Porcupines

Poboktan Burrowing Owl

Winnipeg Muddy Waters

<https://umaine.edu/canam/publications/coming-home-map/coming-home-indigenous-place-names-canada-pdf-download/>

Place name types in Canada

Listed based on merit: (my list - very unofficial)

1. Indigenous names based on geography / people
2. Early settlers or features
3. Home places elsewhere
4. Friends / sponsors / saints
5. Minor royal family members and explorers' cats

Canada's longest placename:

Pekwachnamaykoskwaskwaypinwanik Lake



"where the wild trout are caught by fishing with hooks."

Wales: longest placename in Europe 2nd longest in the world

Also known as Llanfair PG



Translation: "Mary's house in the hollow of the white hazel rapid whirlpool at the church of the red cave." (19th century 'Fake name')

World's longest placename



Translates as: "The summit where Tamatea, the man with the big knees, the climber of mountains, the land-swallower who travelled about, played his [nose flute](#) to his loved one



From Lake unknown to Lake Dave

All

Recently uploaded

How to get a feature named after yourself - Google map naming (New Zealand):
<http://www.youtube.com/watch?v=geOzPsitjJE>