Thursday, 5.45-8pm (7.30) – pizza 5.45-6.00pm

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Department of Geography, Earth, and Environmental Science (GEES)

Annual Career Night

What Can You Do With Your Degree?

Calling Students Interested in Pursuing a Career in Geography, Earth, and Environmental Science

- Meet UNBC alumni and other professionals from the government, private sector, and industry.
- Short presentations from speakers followed by a panel discussion session
- Come prepared to ask questions!

Pizza & Soft Drinks Provided

Speakers

James Adamson
Founder
Northwater Consulting

Vanessa Foord
Climatologist, Ministry of Forests, Lands, Natural Resource Operations and Rural Development

Shane Doddridge
Cultural Heritage Coordinator
Tŝilhqot'in National Government

Tyler Garden
Project Manager,
McElhanney, Prince George

Date

Thursday, Jan 26, 2023

Time

5:45 PM – 8:00 PM

Location

Lecture Hall
8-166, UNBC

Contact

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sirajul.Islam@unbc.ca

Ellen Petticrew
ellen.petticrew@unbc.ca

3333 University Way | Prince George BC, Canada | V2N 4Z9 | unbc.ca

Ancillary data

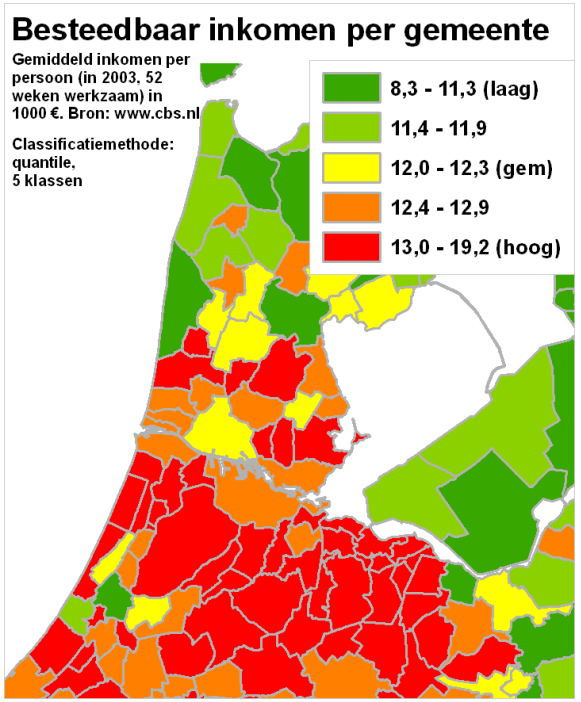
‘subordinate’ = Information required to explain the display contents

1. Title: often at the top

Geographic area

map purpose / content:
(if not general)
and date (if variable)

No need for the word ‘map’

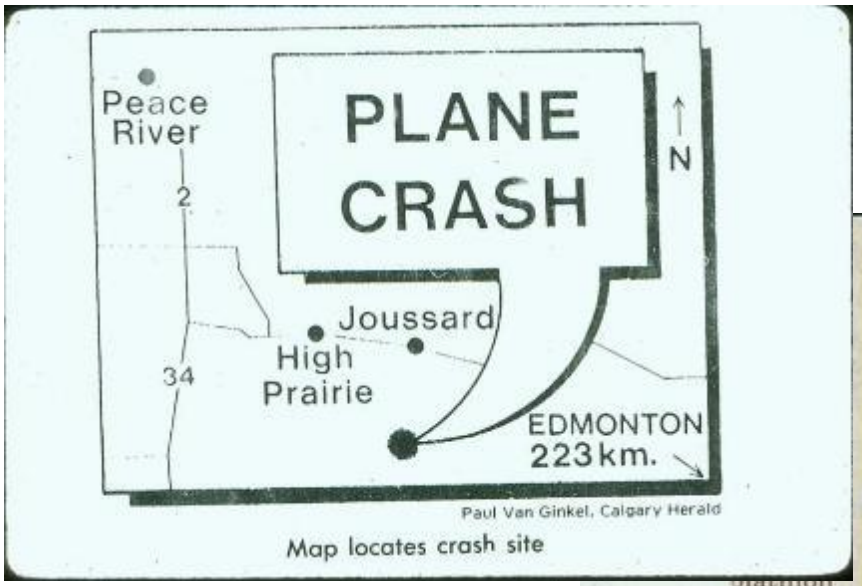


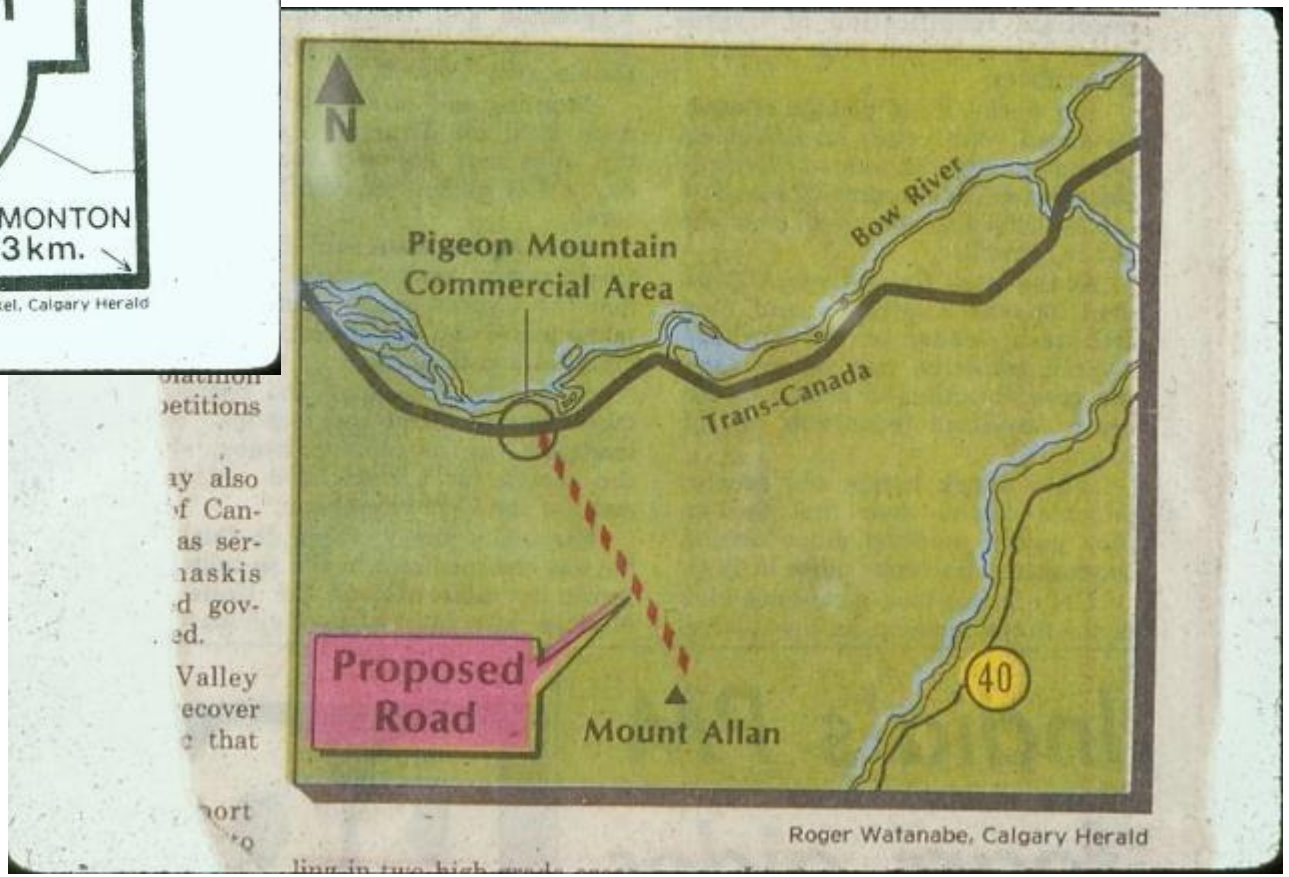
Title usually required – may be a caption in journal/magazine articles

http://www.wwu.edu/huxley/spatial/tut/what_all_maps_must_have.htm

2. **Scale** is **required** – it explains the amount of reduction

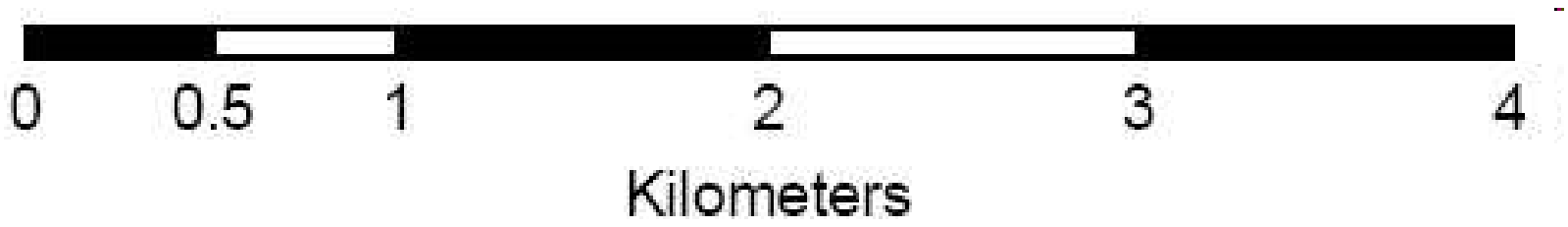
No scale – then it's a diagram, not a map





- Scale **must** be given on the map / display
- it is usually placed near the bottom of the map
- *Verbal statement*, ratio or graphic bar (best for output)

A



Kilometres …

- Use round numbers
- Subdivide as appropriate
- Use appropriate units e.g. 1km not 1000m

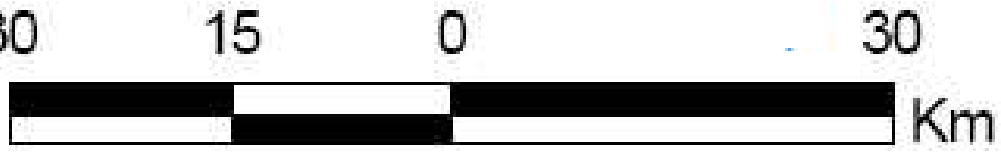
Examples of scale bar abuse (#1 ArcGIS error)

The least worst **Kms …**

A-

B

B-



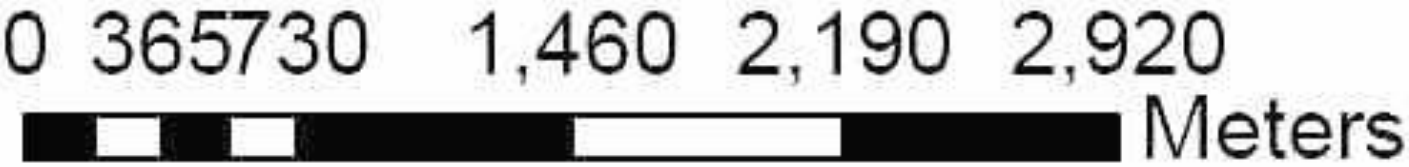
C

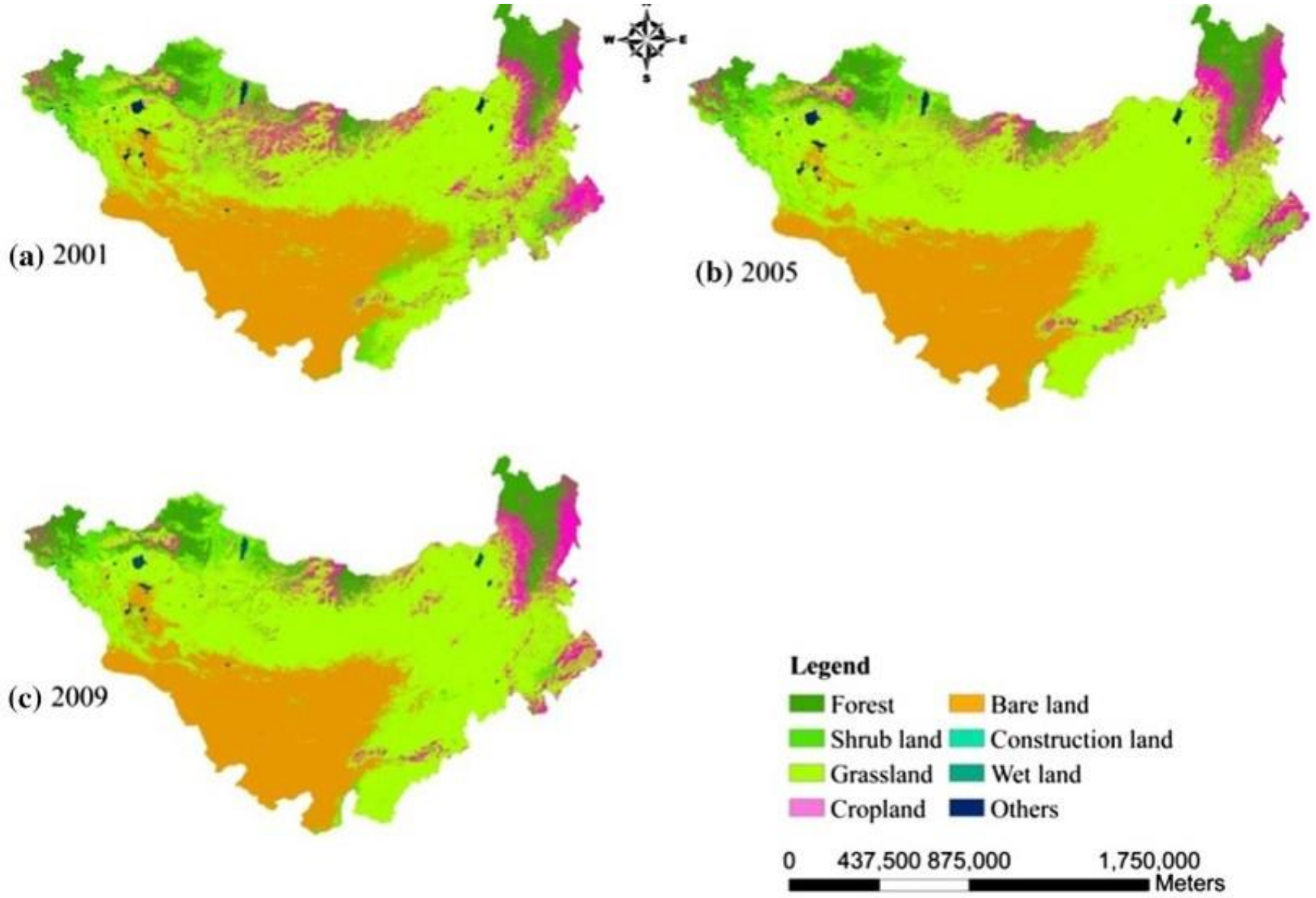

1 0.5 0 1Kilometers

D


100 50 0 100 200 300 Metres

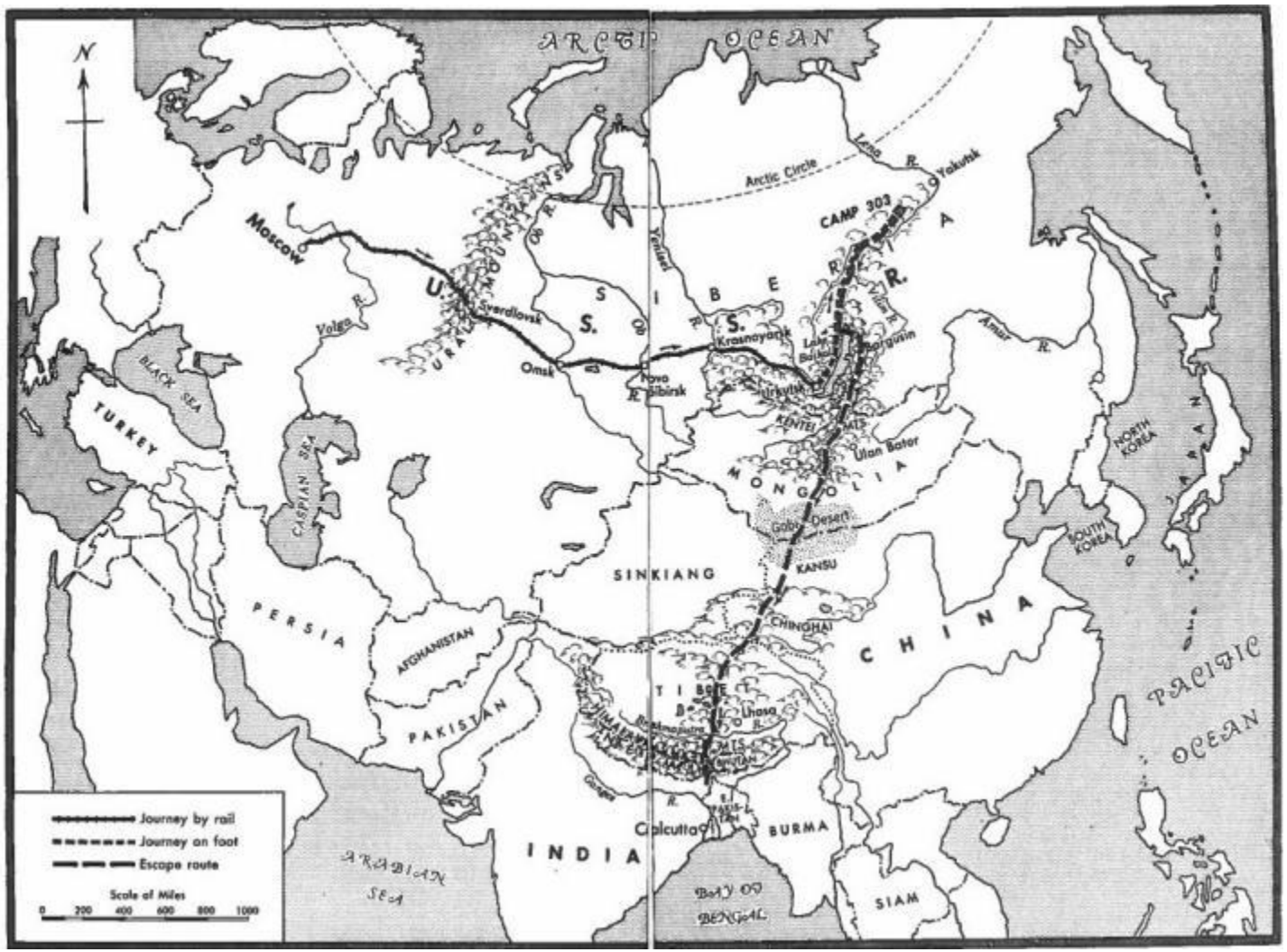
F


0 365730 1,460 2,190 2,920
Meters


(a) 2001
(b) 2005
(c) 2009
Legend
Forest
Shrub land
Grassland
Cropland
Bare land
Construction land
Wet land
Others
0 437,500 875,000 1,750,000
Meters

3. Direction

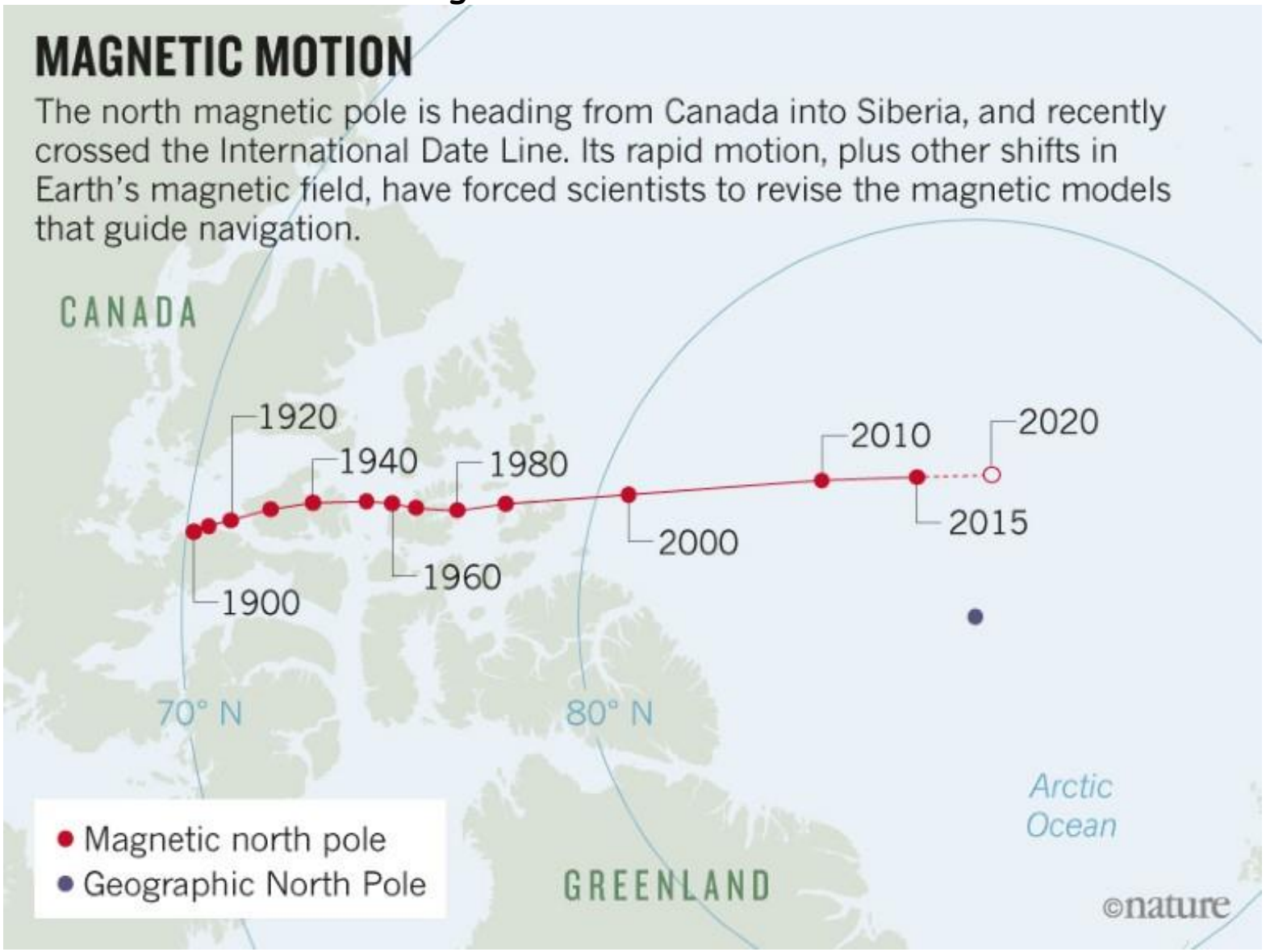
A North arrow is **optional** if it is clear that (true) North is to the top
If North is **not** to the top, a North arrow is required
A North arrow is wrong for some maps (GIS error #2)



Magnetic North

The compass points to the magnetic north pole, not the 'true' north pole

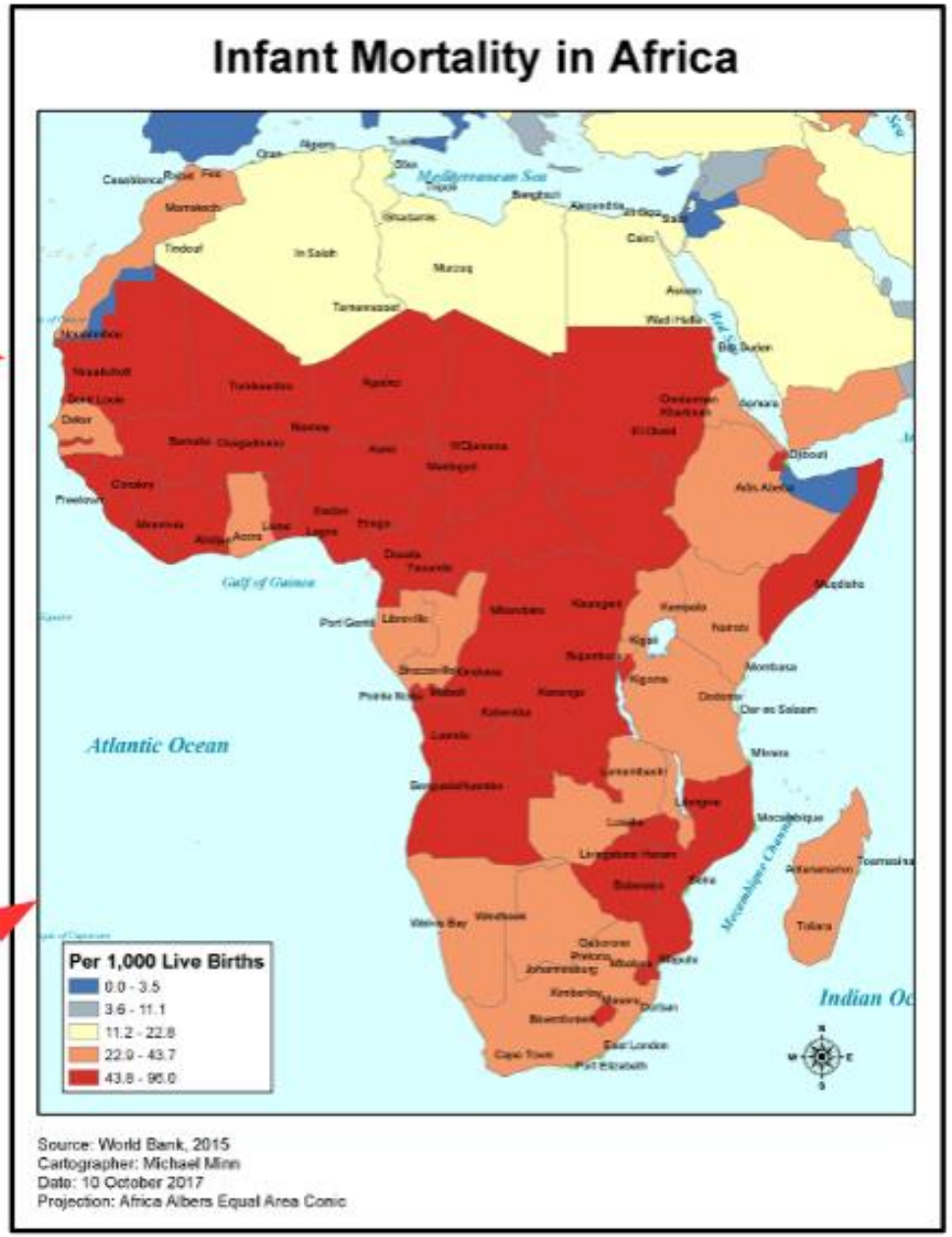
The difference between magnetic north and true north is the **declination**



4. Border – neatline

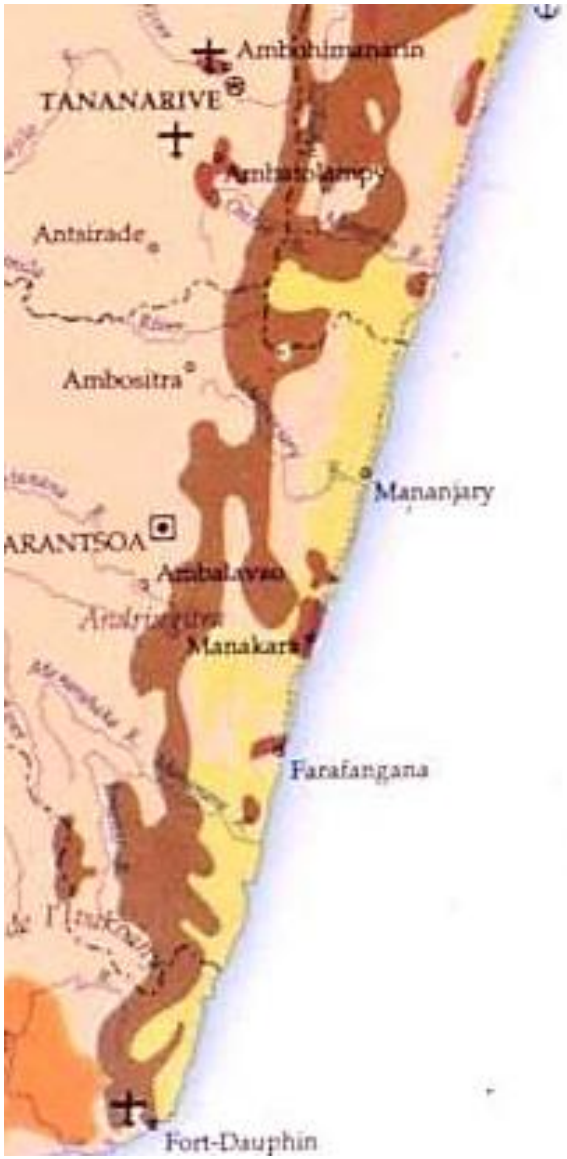
Page Frame Line

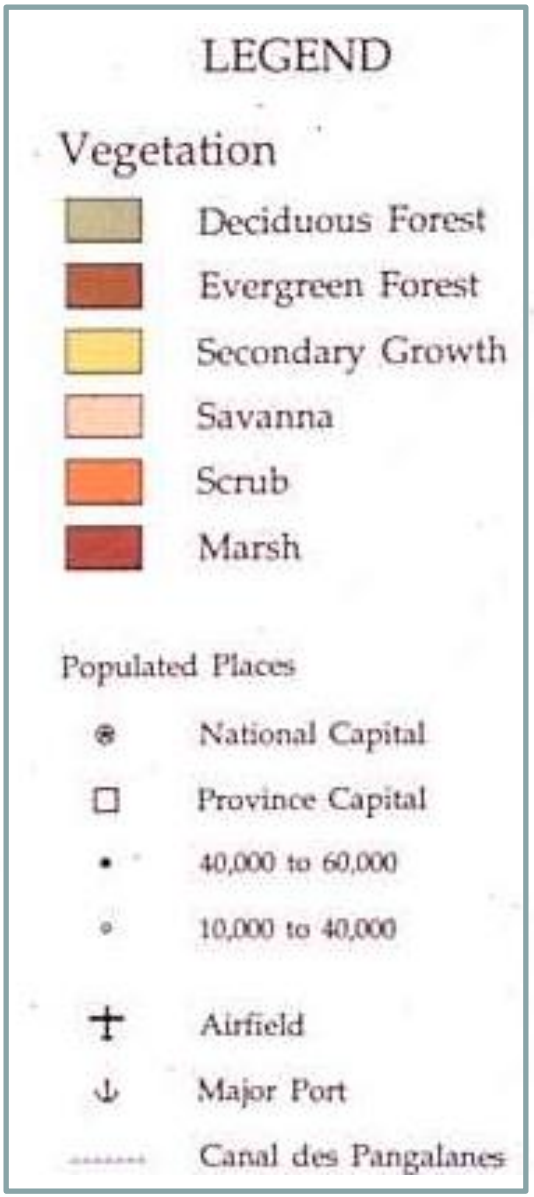
Neat Line



5. Legend

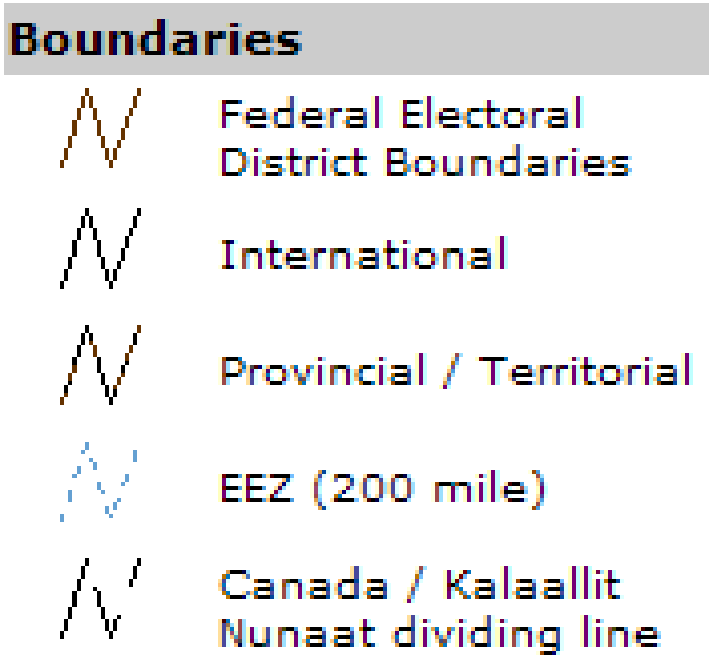
- Symbols should be in legend <u>unless</u> explained by lettering
- Symbols appear in legend **<u>exactly</u>** as on map, same size etc..
- Symbols on the left, labels on the right
- Boxes for area symbols
- Optional box for legend
- Capitalise the first letter

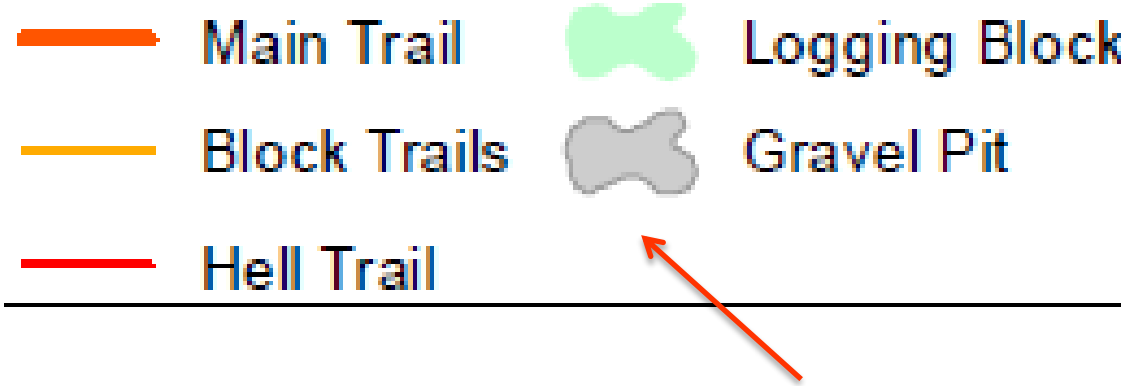




No 'ziggie-zaggies' … (early versions of ArcGIS)

Line symbols should be a straight or gently curved section





Alternate polygon design

Do not take software defaults - includes all layers

… no need to include the obvious e.g. lakes

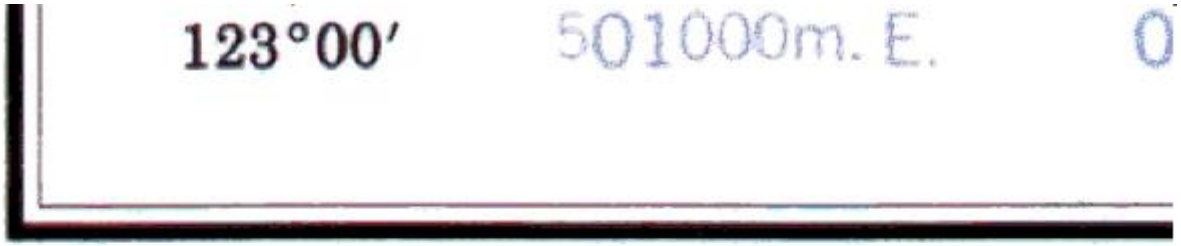
Legends

https://pro.arcgis.com/en/pro-app/latest/help/layouts/add-a-legend.htm

6. Data source

A set of statements usually at the bottom in small text explains how the data were derived, and when

Not required for common base data e.g. coastlines



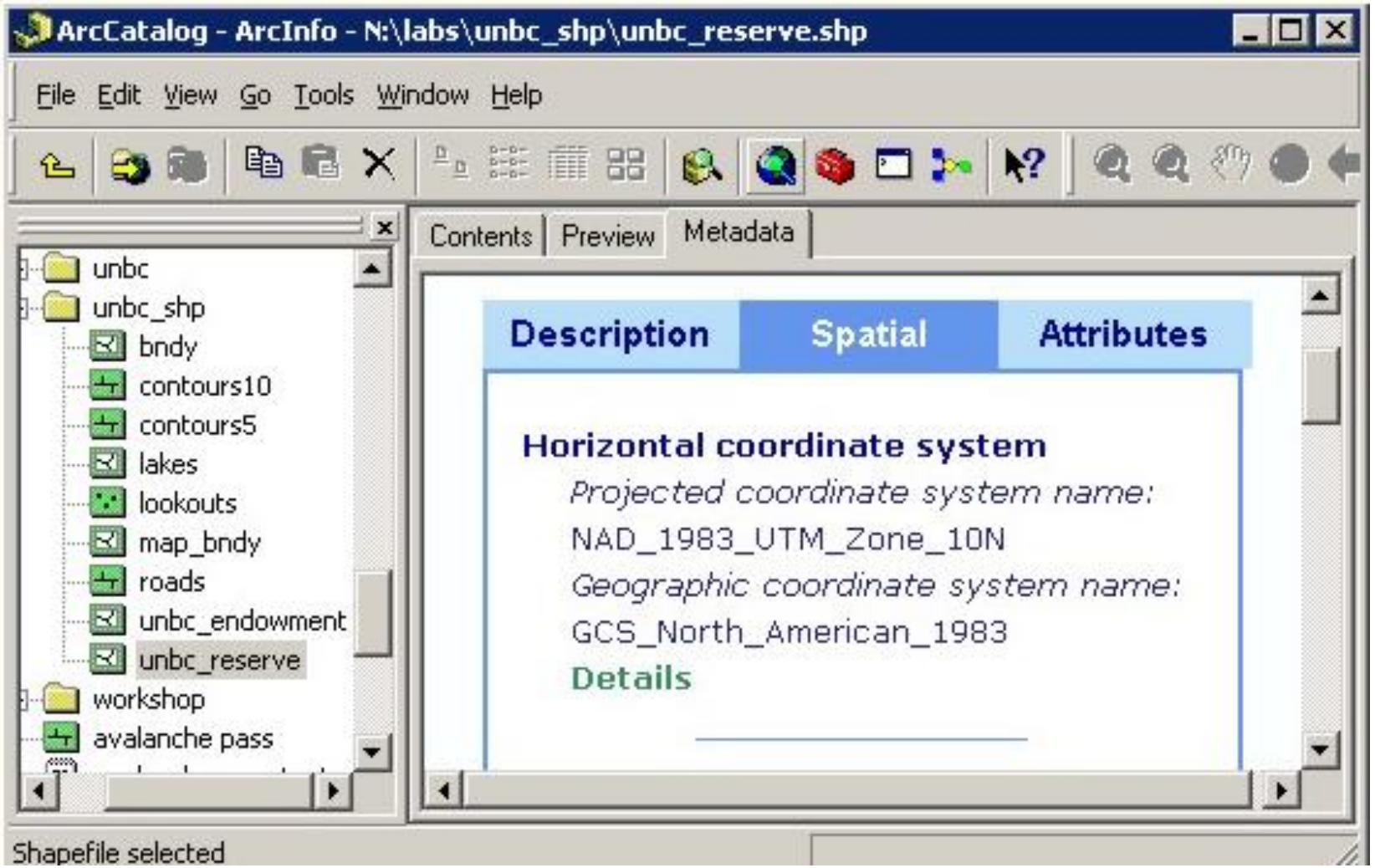
Produced by the SURVEYS AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND RESOURCES, from aerial photographs taken in 1980. Culture check 1982. Published in 1985.

e.g. 2020 version: Roads updated 2019

Data source: GIS / digital mapping: **'Metadata'**

Metadata = **'data about data'** – how, when, where etc.. (often stored in a text file)

Often do not need all these details – GIS error #3



7. Location

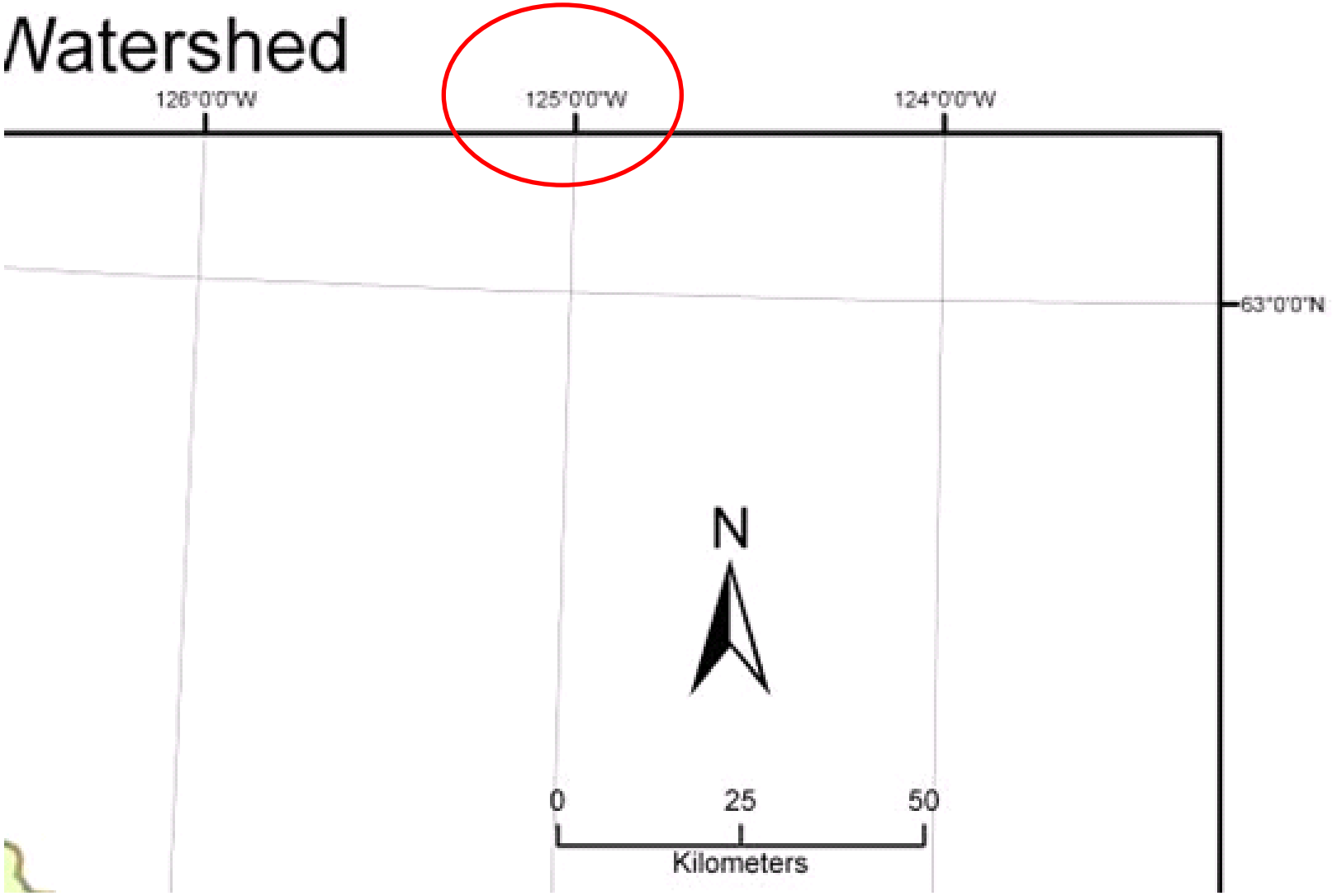
a. Direction / distance indicators (e.g. x kms to Edmonton)

b. Locator maps, including scale of locator /inset

c. Grids showing latitude and longitude

Locator map

Grid labels: common ArcGIS error #4 software default: silly graticule precision



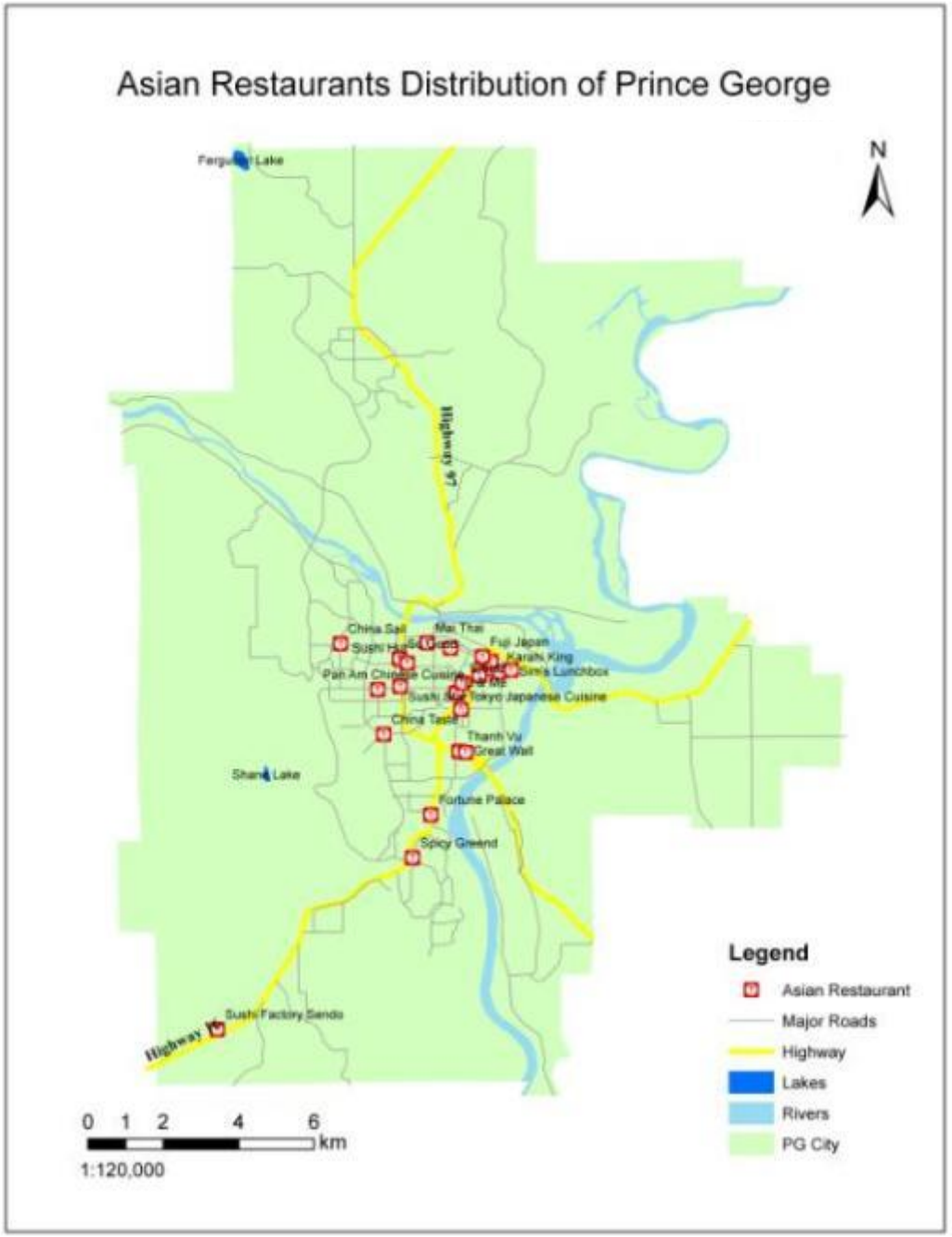
8. Overall Design Layout

Optional 'neatline' around the map as a whole and/or the legend

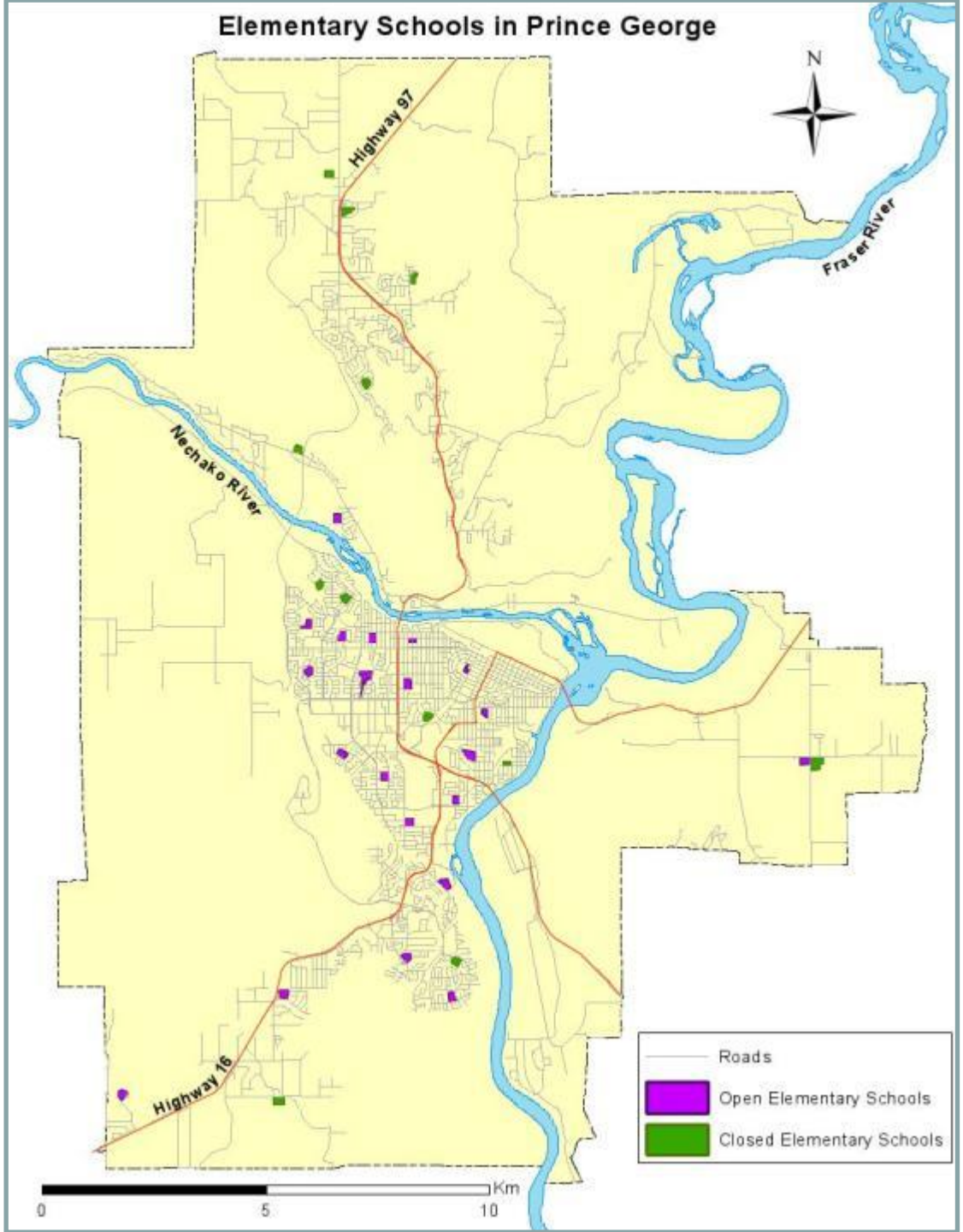
Use space wisely –don't waste white space

Maximise map content space – use white area for ancillary info

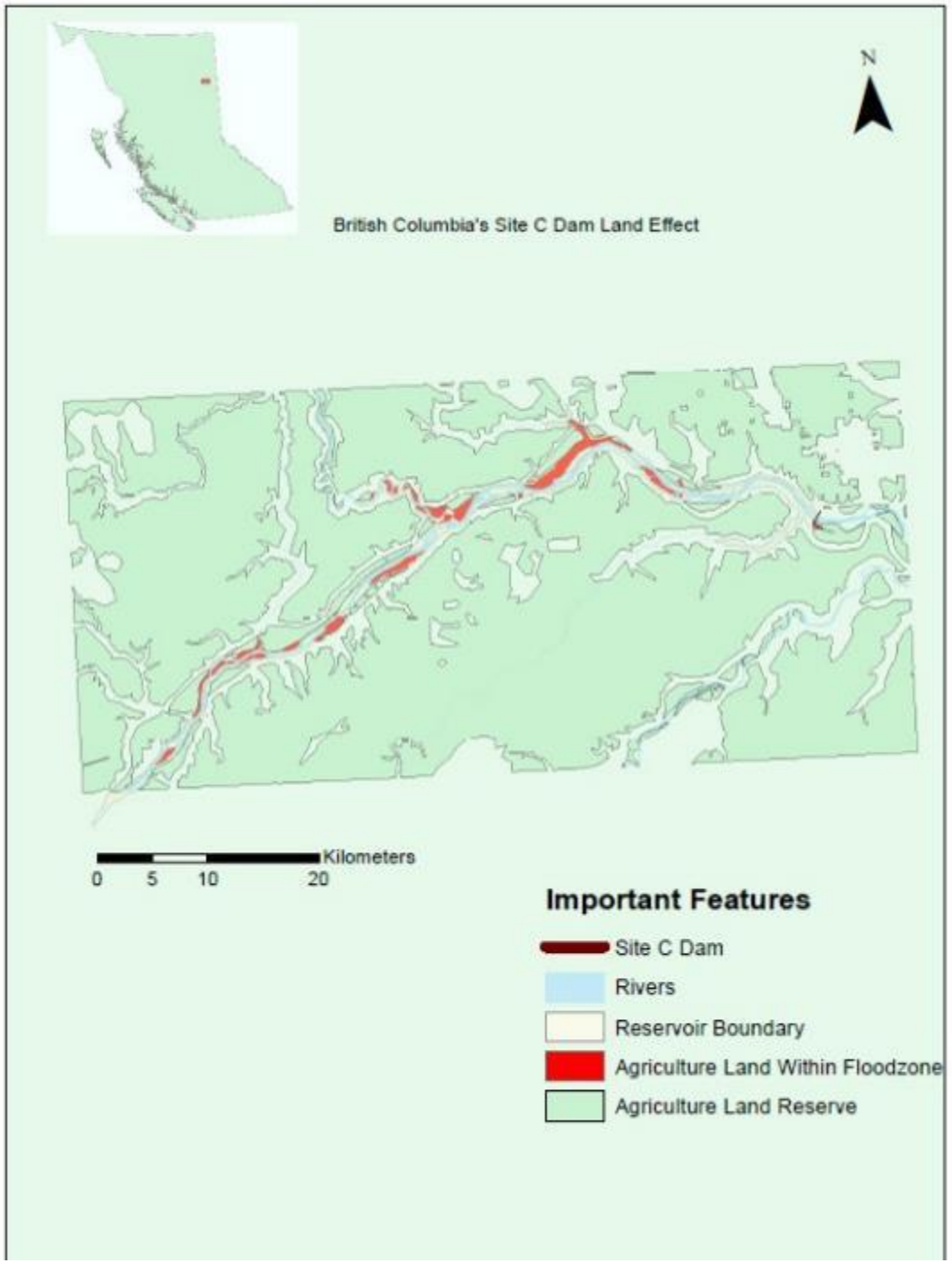
This map could be bigger



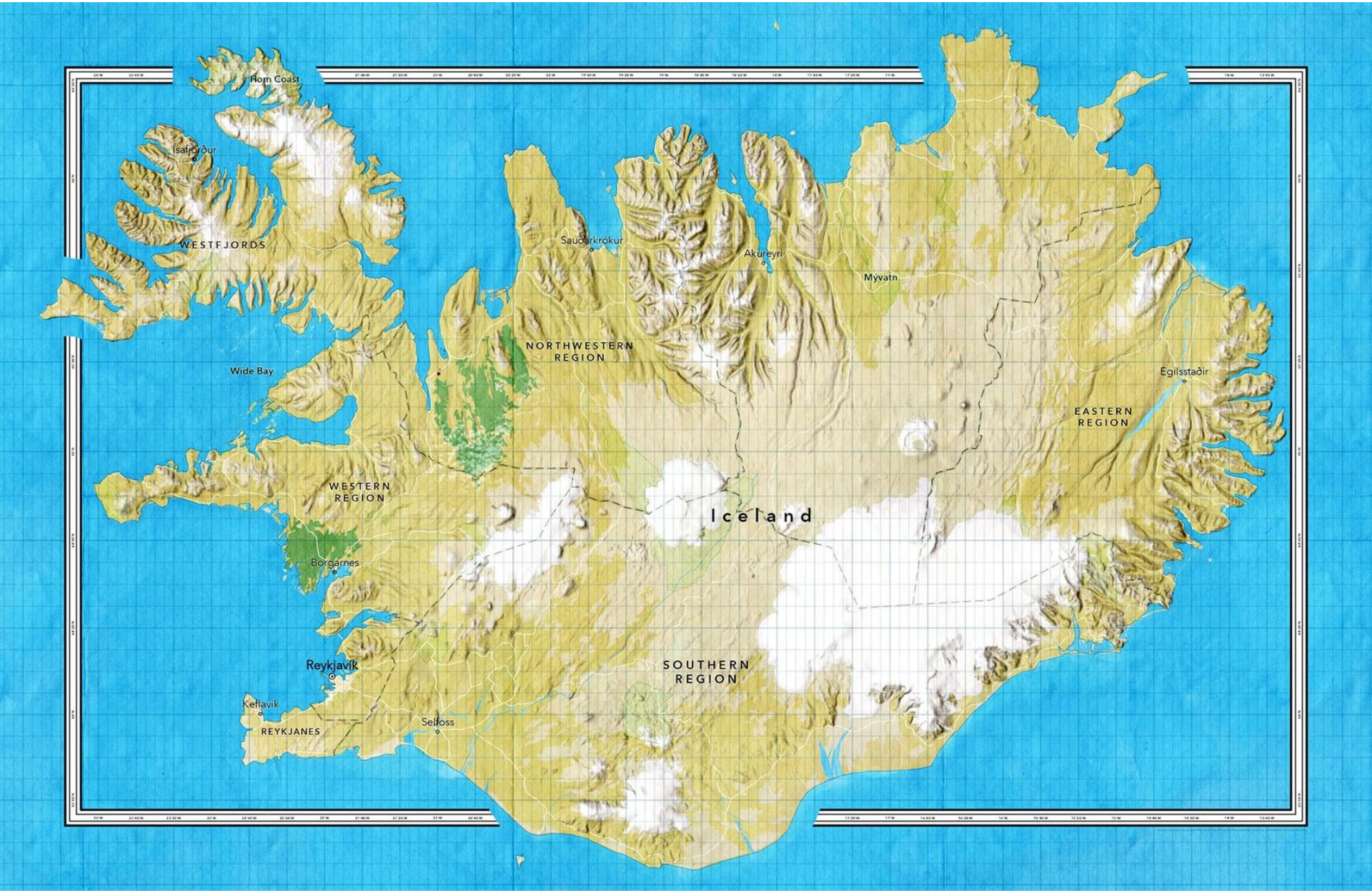
This one works …
… better



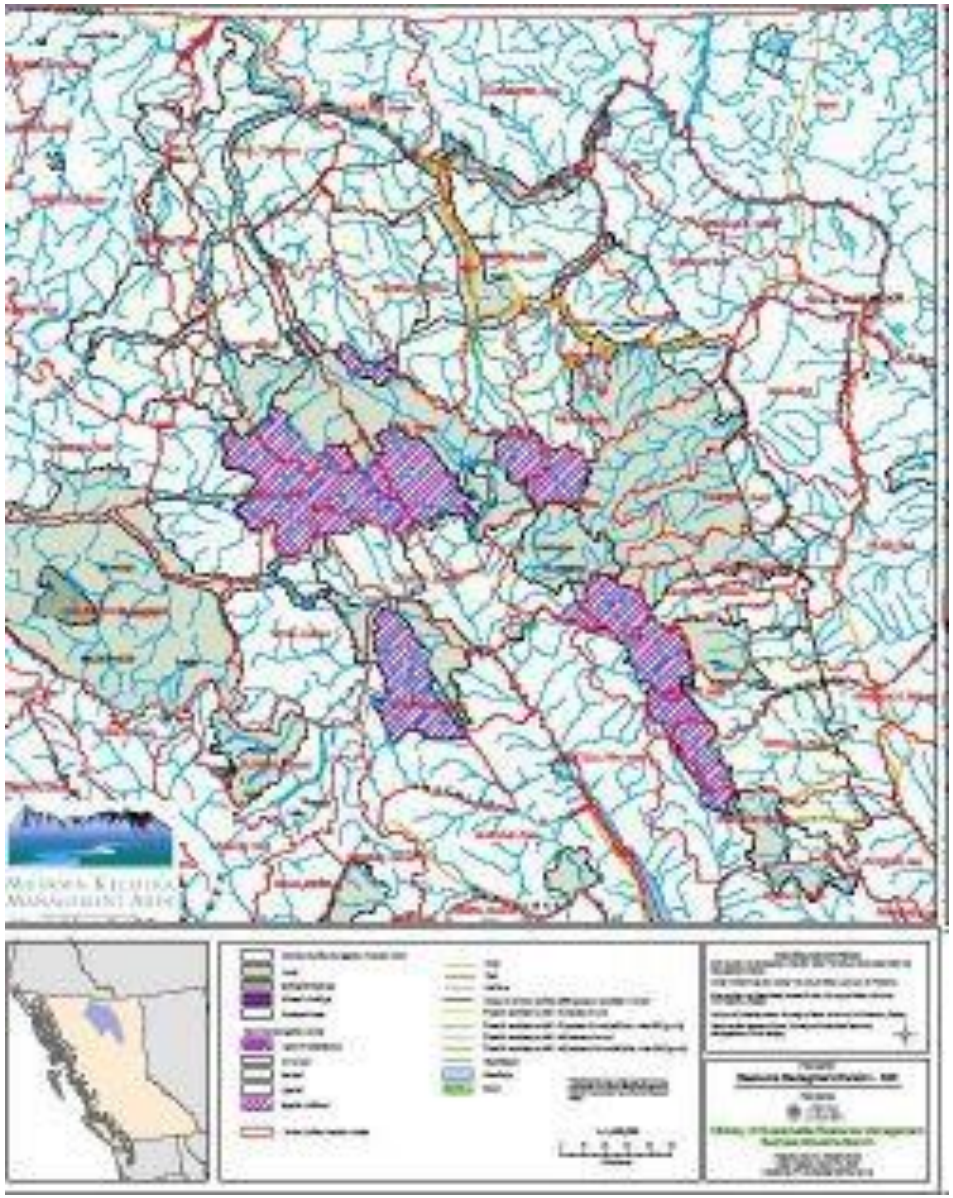
This could hardly be worse …



Over neatline ‘bleed’ to optimize use of space




BERLIN
West-
Berlin
Ost-
berlin
Spandau
Reinickendorf
Pankow
Weißensee
Lichtenberg
Zehlendorf
Köpenick
Potsdam



Layout

- **Rectangle ~3 x 2 preferred over a square**
- **<u>Landscape</u> v portrait**
- **Letter v tabloid v poster** (if printed)

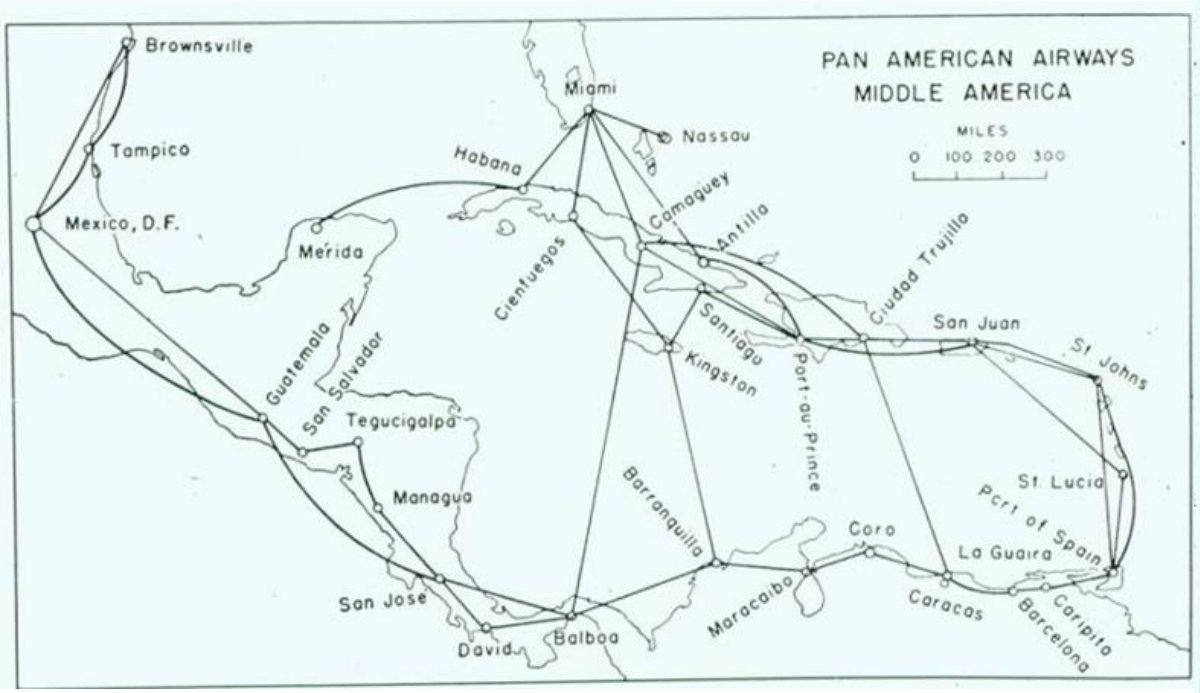
http://www.muskwa-kechika.com/resources/map6.asp

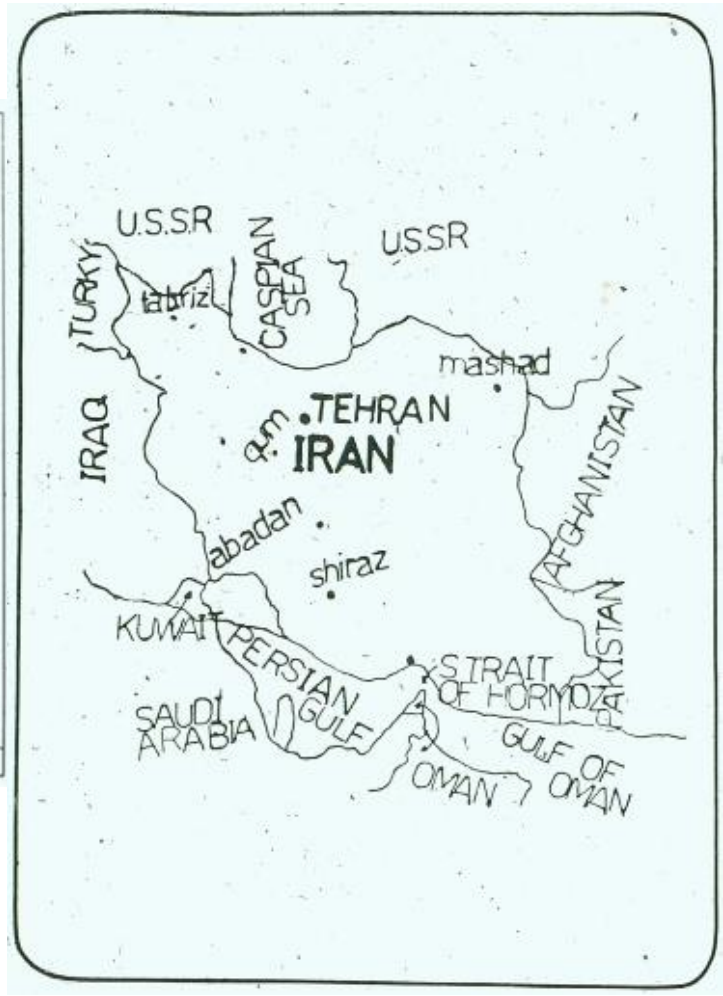
http://www.wwu.edu/huxley/spatial/tut/what_all_maps_must_have.htm

9. VISUAL HIERARCHY: a hierarchy of symbology should be used for the lettering, line weights and shading. More important features are typically larger and/or darker, less important/background information should be smaller and/or lighter. At the same time, do not "over weight" or "under weight" features.

10. **PURPOSE:** All maps have a purpose which should influence every element of the map and the map layout.

Absence of visual hierarchy – all layers have similar line weights





Visual levels make map data layers clear

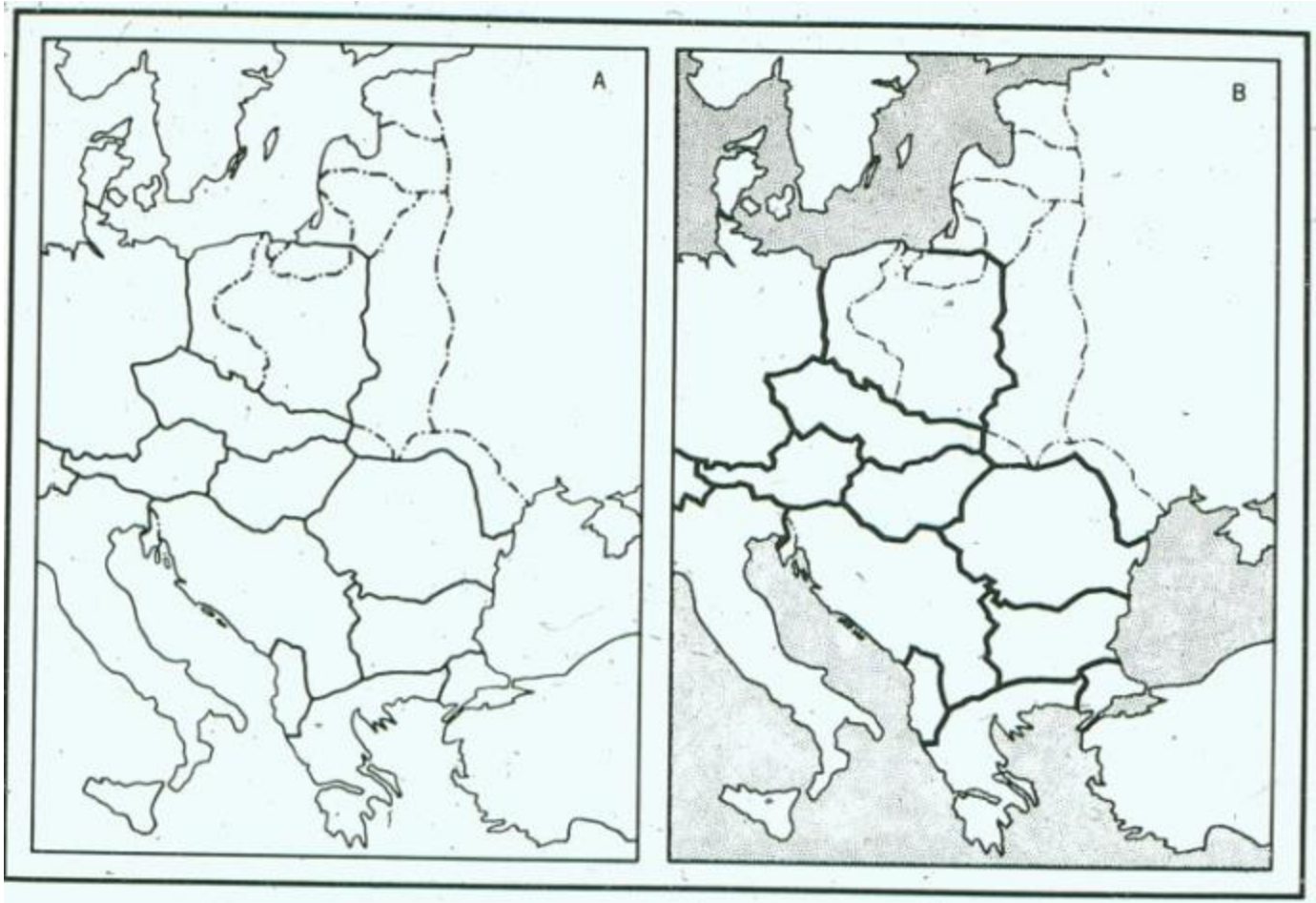
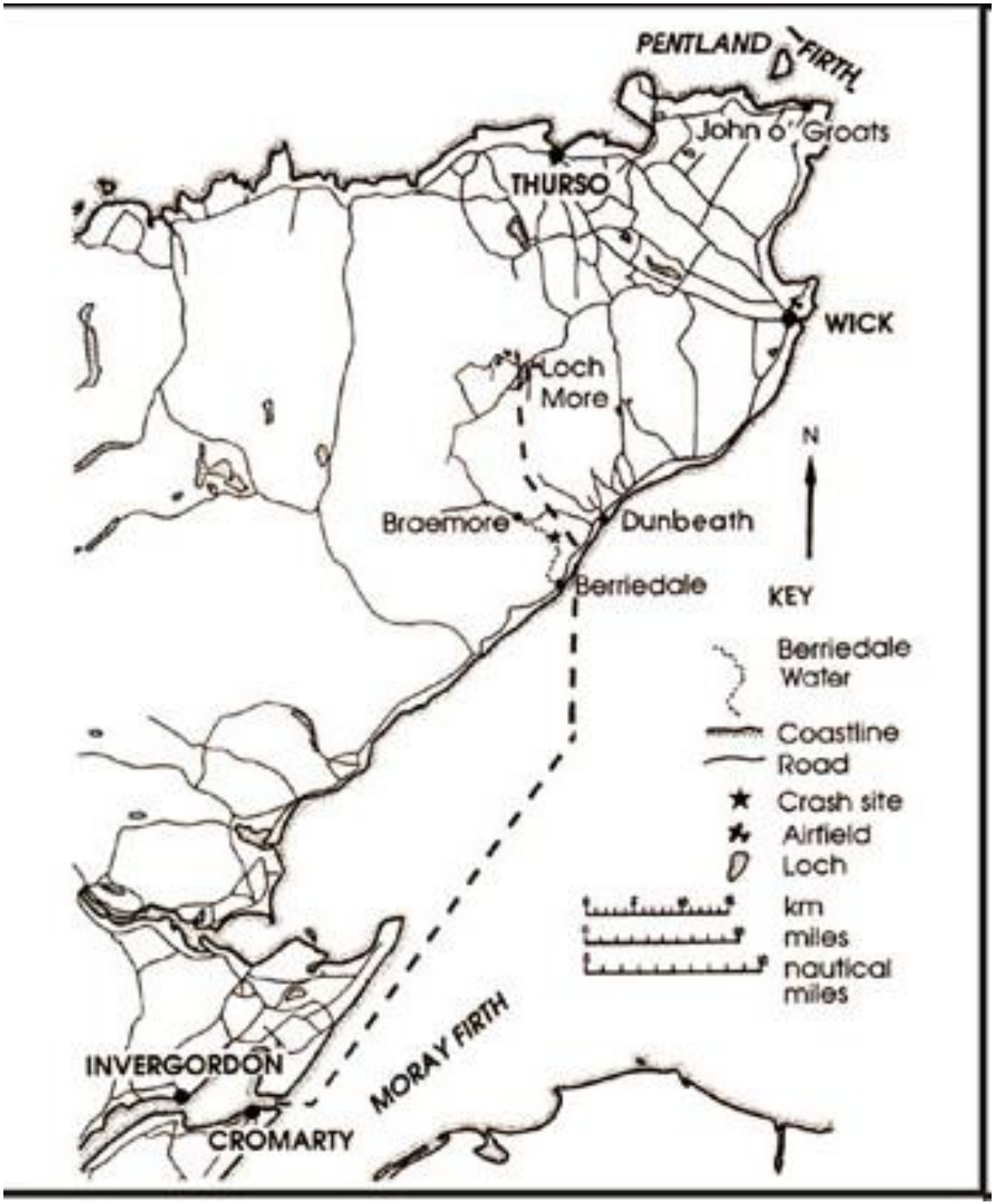


Figure 11.17 All elements in map *A* lie generally in the same visual plane. In map *B* the land has been made to appear above the water, and the more prominent boundaries have been made to rise above the visual plane of the land. Lines of the graticule on the water only would also tend to make the land appear above the water level.



Local interest map:

The plane crash and death of **Prince George**, 1942 (Queen's uncle)

The route of the S-25 Sunderland Mk III on 25th August, 1942

The plane crashed on a hillside due to inability of seaplane to climb

Good design involves:

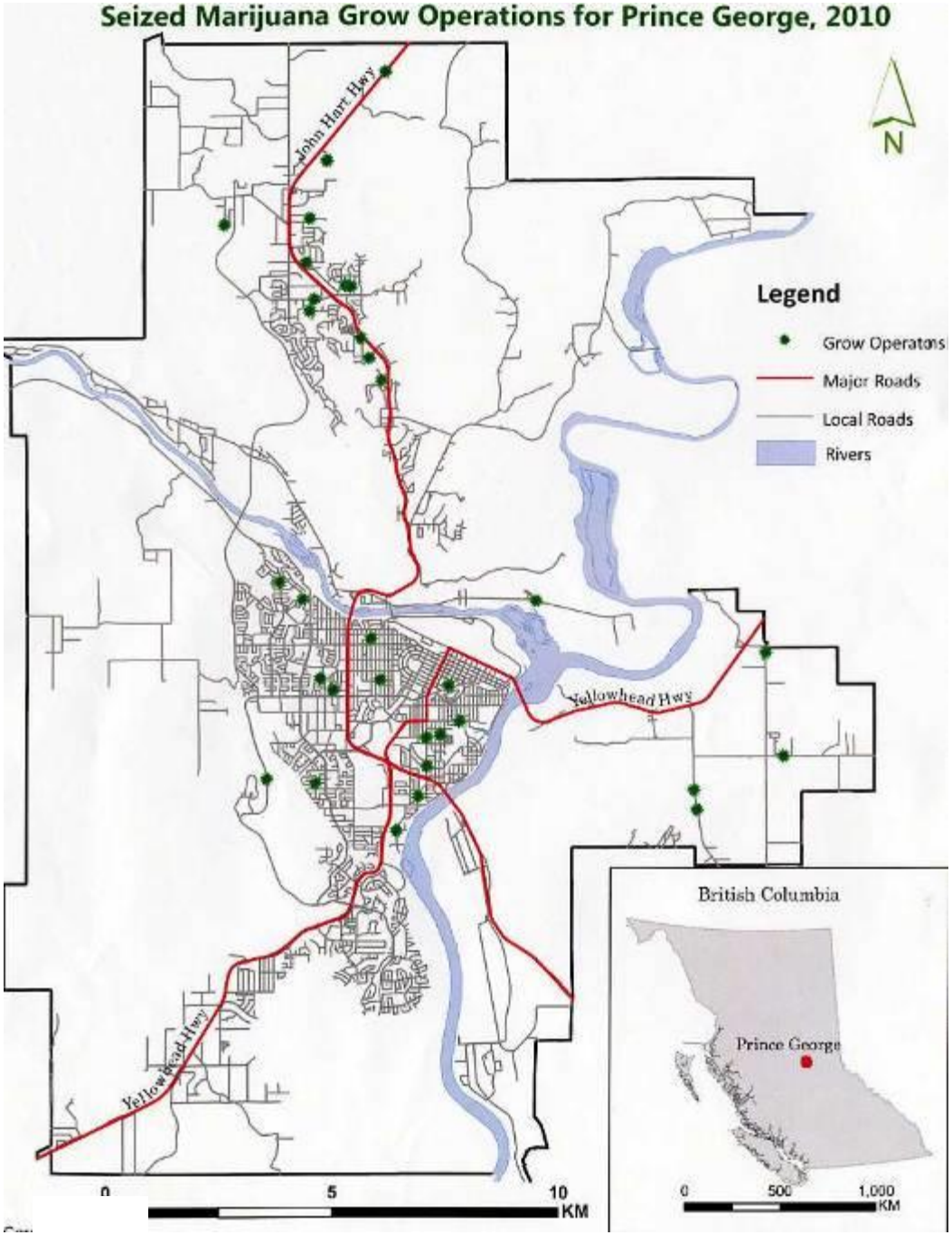
Visual hierarchy of layers and elements:

1. Contrast between map layers

2. Map features visually dominant over ancillary info

3. Thematic layers over base layers

4. Important features dominant (based on map purpose)



Visual levels

- **Water (blue) recedes**
- **Roads (red) advance**
- **Green points are solid**
- **Gray recedes**

Ancillary map content summary: visual position and prominance

	Item	Best Position
TITLE	what?	Prominent, near top
SCALE	how big?	Near bottom
LEGEND	what (details)?	On side, may be boxed
DIRECTION	which way is up?	Side
LOCATION	where?	Side ticks, or insert
SOURCE	where from?	Very bottom, inconspicuous
LAYOUT	Shape and space	Visual Balance, Neatline etc

Good summary for ancillary map information:
http://www.wwu.edu/huxley/spatial/tut/what_all_maps_must_have.htm

Summary of main ancillary info errors

- Too much white space, maximise map content

- Fit ancillary in the spaces, extra panel only if needed

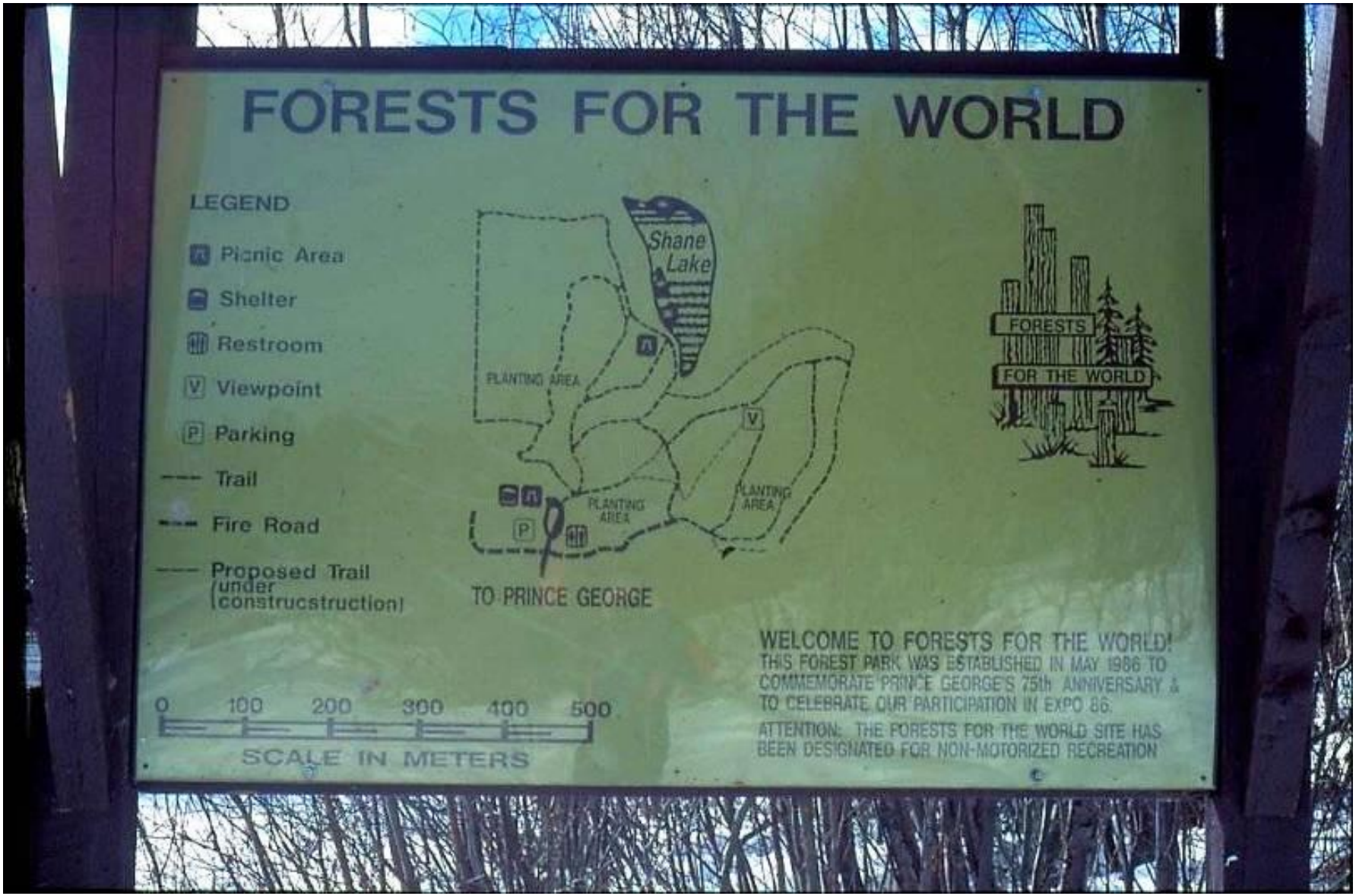
- Scale Bar – avoid silly subdivisions and numbers

- Coordinate ticks – remove false precision

- Legend – remove unneeded layers from legend

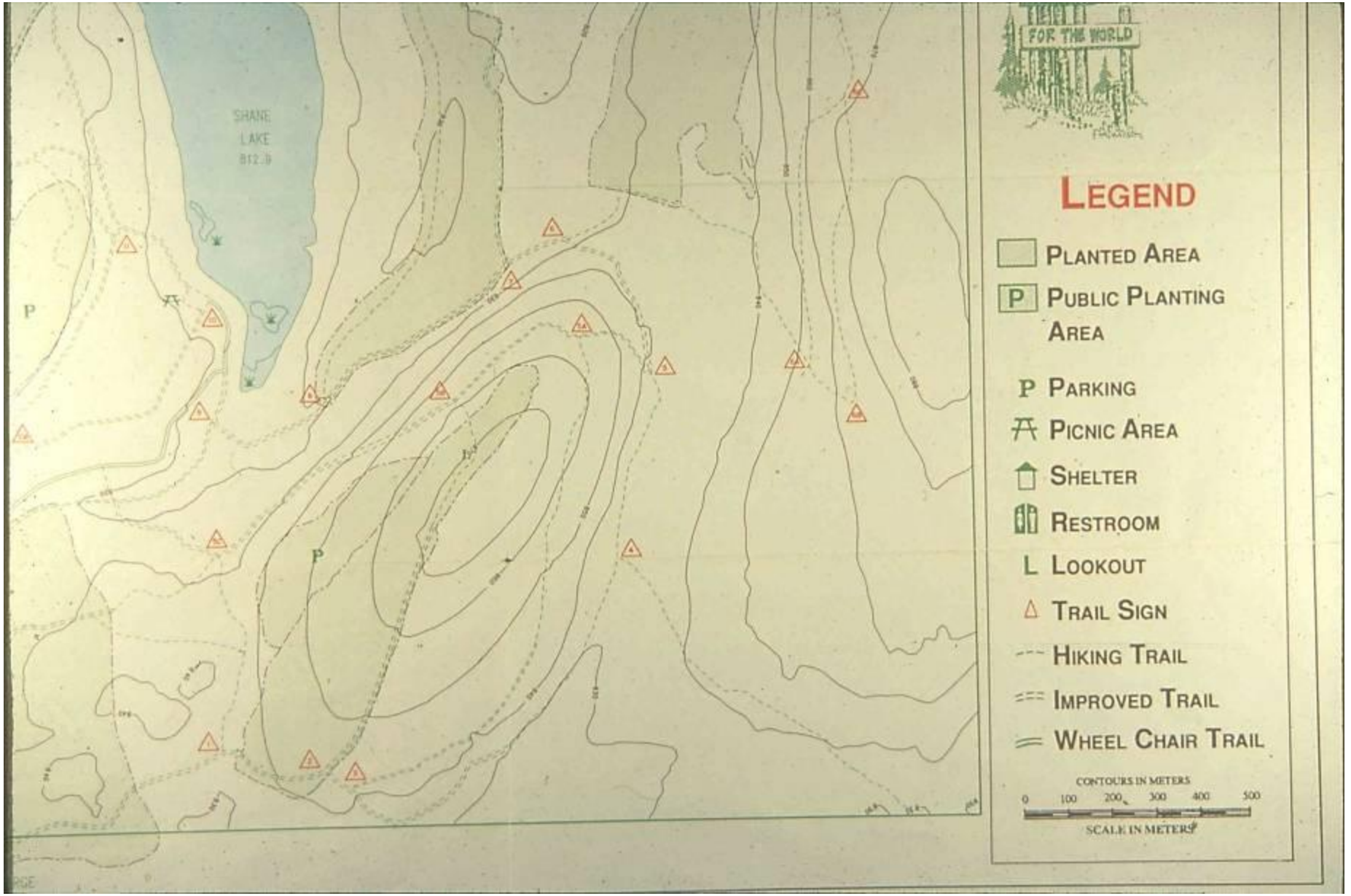
- Ancillary information too prominent, should be smaller

Design and ancillary information - local example
Forests for the World 1986-95



Scale bar size, north to the bottom

1993-96

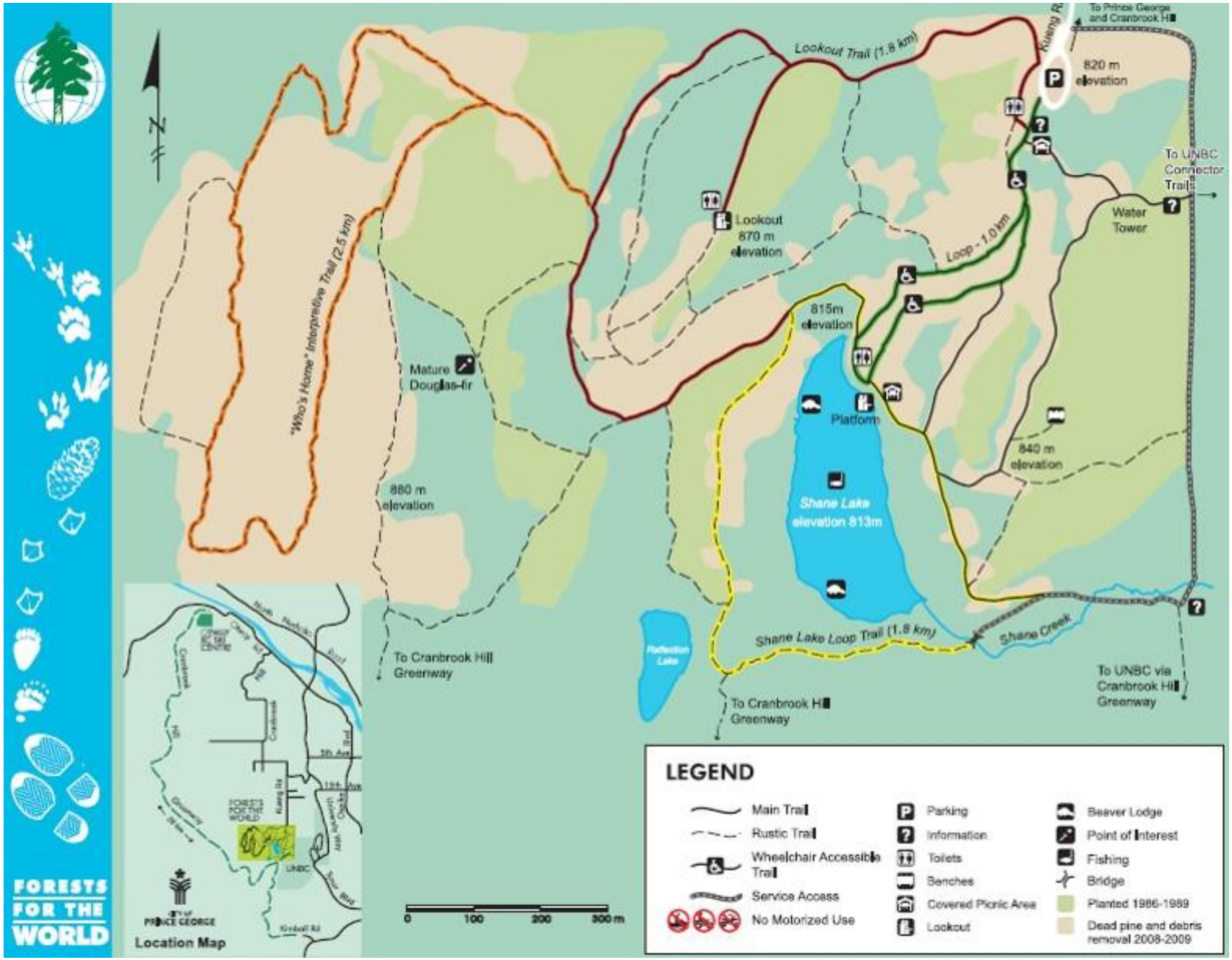


Scale bar size incorrect, north to the bottom, P and P

1997-

Redesigned by UNBC GEOG205 student, fall 1994

2010 – includes mountain pine beetle blocks



2013 – full use of ArcGIS options