GEOG205 Winter 2023 Map Project (25%)

➢ The project outline is completely open if you have specific ideas of your own.

➢ The purpose is to create a map of your choosing from data import to finish.

➢ Use this chance to make a map to show an area / theme that is useful or meaningful to you .... or an area relevant to another course. You can use the three assignments as 'models' of the type of map you might produce: 1. Location, 2. Thematic, 3. Topographic; check the examples included below of some previous project maps; more will be shown in lectures, notably March 7.

➢ Final product is a **tabloid (11 x 17") or letter (8.5 x11") page size map**, submitted along with a **1-2 page description / rationale** behind your area and design - why you chose this area, what you are showing, and design principles.

➢ This map should embody the principles and processes learned during the course. Do <u>NOT</u> use any **rasterized vector map** as background in your final output. It IS OK to include a raster layer e.g. world hillshade but not world topographic map.

➢ You should endeavour to access and assemble the data you need in this first week's lab time ... confer with your TA as needed.

First steps

1. Which **map type**: Location, Thematic or Topographic ?

2. **Geographic area**: BC, Other province, Other countries ?

3. **Scale**: Municipal, Local, Regional, National, Global.

4. Goal: collect data March 13-17, design Mar 20-24, output Mar 27-31, report April 3-6

Selected data available:

Canada - all map NTDB **vector** layers at 1:50,000

BC - provincial TRIM layers, by AOI (area of interest - online)

BC - Vegetation resource inventory (VRI) - forest cover and related thematic layers

PG - all city layers including DEM, contours and orthophotos (and other BC cities)

Census Canada: https://library.unbc.ca/collections/data-statistics

Other - the list could be endless .. you are not limited by the above

See for example: https://en.wikipedia.org/wiki/List_of_GIS_data_sources

If you have no distinct other plans, you could follow this default template below:

Topographic: Select a dataset from the NTDB (anywhere in Canada) at 1:50,000. Redesign the elements to suit your focus, and distinguish it from the standard NTS design, e.g. add shaded relief - generated from the contours/DEM, or downloaded, and labelled features (e.g. lab 4).

Thematic: find an interesting dataset theme from the Statistics Canada website, download the .csv and join to the cartographic admin. Boundaries as you did in Lab 3 and 5. Add labels etc..

Datasets available from GIS LAB (partial list): https://gis.unbc.ca/support/access-datasets

Table Of Contents
- In the Lab:
  - BC TRIM
    - QGIS:
    - ArcGIS Pro:
  - Open Street Map
    - WMS Tiles
    - Vector Features
  - BC DEM (1:20,000)
  - World DEM (3")
  - World Administrative Boundaries
- External Sources:
  - Municipal Data
    - Prince George
    - Kamloops
  - Earth Explorer
  - Open Data Hub
  - British Columbia Data
  - National Topographic System (Canada)

Report: 5%   1-2 pages 1.5 spacing suggested

➢ Rationale for choice of area and map type
➢ Brief summary of layers used and source
➢ What we are looking at on display
➢ Design principles - what you tried to show
➢ Properly written, not an essay, but avoiding typos and poor grammar

Map: 20% … 5% for each of these items: - see the last page for more detail

➢ Symbolization,
➢ lettering,
➢ ancillary information,
➢ complexity – overall layout

Sample maps from 2021 – the first has a rather brief description, while the second is more than adequate. Both are solid mapping projects, with some minor flaws (A to A+), except that .. Oh no, they mistyped the title !!

A. Sunshine Coast Trail

I dream about hiking the sunshine coast trail this summer and decided to switch my initial map project plan to map the trail. This was a fun project and I'm glad I chose to focus on something that offered a mini escape from my office. I chose a topographic map to show the mountain range the trail follows. The layers for DEM, hill shade, and contours were downloaded from the federal website. The lakes came from the provincial data. The trail data was downloaded from Alltrails.com and the hut locations were found on google maps and add through a csv file. The map shows the trail as well as the location of all 11 huts. The sunshine coast trail is the longest hut to hut trail in Canada. It also shows the towns of Powell River, Lund, and Saltery Bay. I tried to show the mountains that the trail climbs as well as the locations and distances between huts.
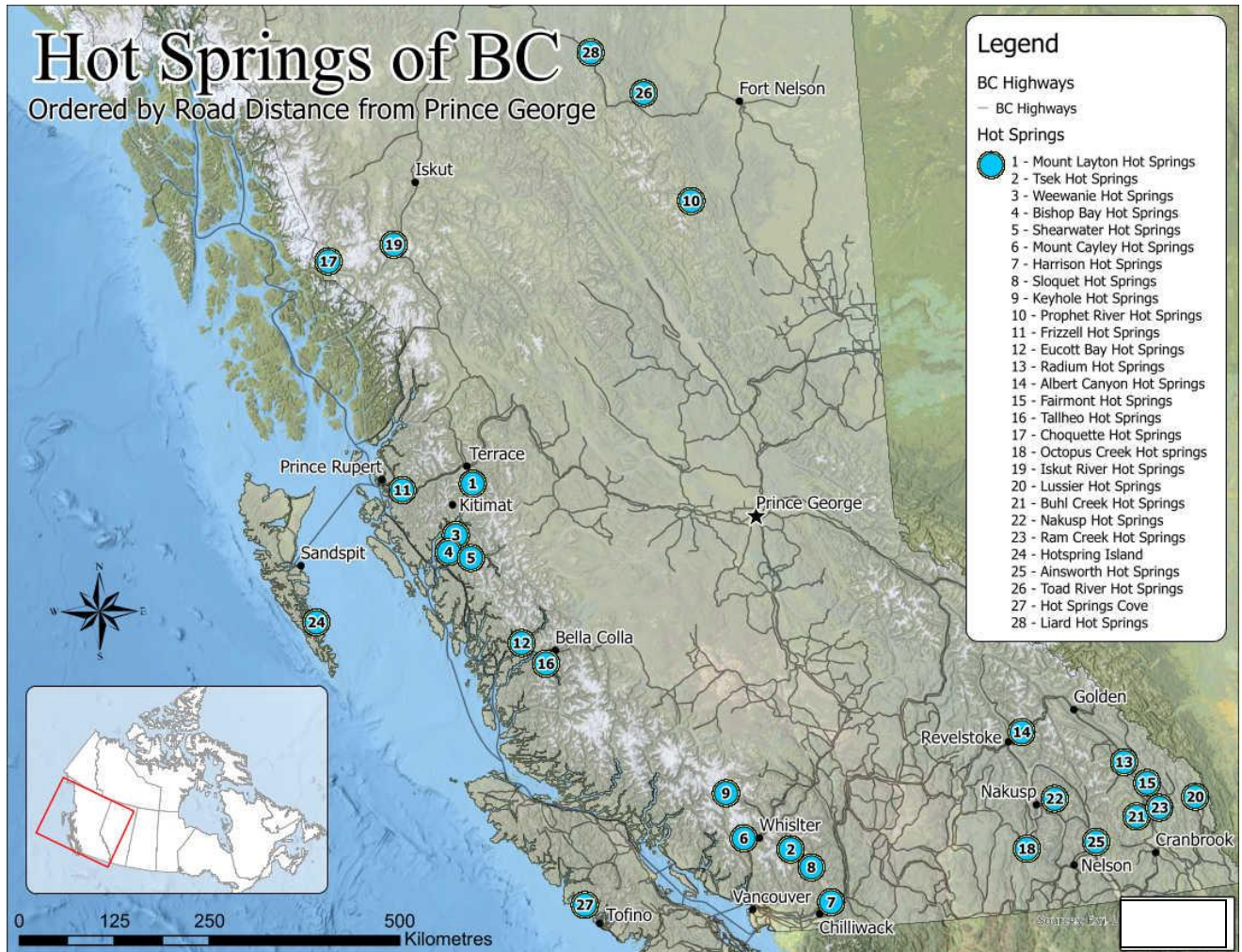
B. Hotsprings of BC

For my final project I've decided to creating a map outlining the hot springs in British Columbia. About six years ago I took a short camping trip to Liard Hot Springs and decided to use this project to research another trip. This short report outlines my design decisions ranging from map type to design principles.

This form of map made the most sense because my plan was to have points showing hot spring location across British Columbia. While gathering data I did include attributes like *distance from PG* and *price (adult)* in case I wanted to include some thematic elements. I've focused on the province of British Columbia but taken a little off the top and bottom where no data was present.

I've used several layers, the first the *BC Boundaries* in the organization portal which I've used to outline British Columbia and draw the reader's eyes to the province without overkill. The effect is slight and I feel does a good job showing that BC is the focus. I've also included the *BC highways* shapefile located in the organization portal. Since my map is hot springs by road distance from Prince George, I thought it was important to include roads. I've made this layer noticeable but not enough to draw the readers eyes away from the hot spring symbology. The last two layers are from data I've collected from research; the first is hot spring locations and the second close city locations. The data I gathered was placed into an excel file which I'll include with my final submission.

The symbology for hot spring locations is a bright blue circle which contrasts with the rest of the map, making it obvious that these symbols are the focus of the map. The symbols for hot springs also include a number label which indicates closest to furthest distance from Prince George by road and the name of each hot spring is included in the Legend in the top right. I've included cities that are close to the springs and put special emphasis (star symbol) on Prince George, the starting point of all distances measure. In the bottom left of the map I've included a scale bar with appropriate divisions, a map locator showing the map extent within Canada as well as a compass rose which, although unnecessary, I thought looked nice. I also decided to use the National Geographic base map without the reference layer. My thinking was that since my map is about hot springs, a natural occurring element of our geography, I should include a base map that shows the natural landscape without being too distracting. This base map also has pleasant greens and blue. It's also interesting to see the majority of the springs exist along mountain ranges.

The design principles of my map are to maintain a simple effective design while making the *story* of the map obvious. The symbolism has sufficient contrast and the color for the hot springs is relatable to the content. The labelling is clear and using the hot spring ID as the label reduced a lot of clutter. I also think that the figure-ground effect is helped by having the boundary layer lightly coloured and transparent. I feel the layout of the map is also logical, drawing the readers eyes from left to right seeing the locator, map then legend. Overall, I really enjoyed this project and feel that I've successfully created a visually pleasing map that effectively relays the information I set out to show.

Hot Springs of BC
Ordered by Road Distance from Prince George

Legend

BC Highways
— BC Highways

Hot Springs
1 - Mount Layton Hot Springs
2 - Tsek Hot Springs
3 - Weewanie Hot Springs
4 - Bishop Bay Hot Springs
5 - Shearwater Hot Springs
6 - Mount Cayley Hot Springs
7 - Harrison Hot Springs
8 - Sloquet Hot Springs
9 - Keyhole Hot Springs
10 - Prophet River Hot Springs
11 - Frizzell Hot Springs
12 - Eucott Bay Hot Springs
13 - Radium Hot Springs
14 - Albert Canyon Hot Springs
15 - Fairmont Hot Springs
16 - Tallheo Hot Springs
17 - Choquette Hot Springs
18 - Octopus Creek Hot springs
19 - Iskut River Hot Springs
20 - Lussier Hot Springs
21 - Buhl Creek Hot Springs
22 - Nakusp Hot Springs
23 - Ram Creek Hot Springs
24 - Hotspring Island
25 - Ainsworth Hot Springs
26 - Toad River Hot Springs
27 - Hot Springs Cove
28 - Liard Hot Springs

Further examples of previous GEOG205 project maps are in the 'Projects' lecture (Mar 9) … but don't copy their mistakes ☺

Grading rubric ('checklist') see next page

GEOG205 Winter 2023 (25%) Map project evaluation = 5% for each subheading

> **Report: 1-2 pages 1.5 spacing suggested**
> Text description / rationale: Well written, avoid typing/grammar errors
> Clarity of why you chose this area and topic (map type) – interest and initiative
> Brief summary of data used and their source (no need for 'from the GIS Lab')
> Design principles -what you have tried to show
> Description of any data processing (if you had to do more than just input layers)

> **Symbolisation**
> Are the symbols suitably designed – colours, size, pattern, shape etc..
> Consider each of points, lines, and areas
> Is there sufficient contrast and none are overwhelming ?
> Are the data suitable resolution for the mapping scale selected
> Is anything missing – layers or features ?

> **Lettering**
> Are the lettering types suitable - font, size etc.. (e.g. italics for water)
> Do they contrast between classes and stay consistent within classes
> Are they positioned according to the general rules e.g. river names above/along lines
> Points horizontal where possible, and clearly linked to their point symbols
> Areas oriented to reflect the area, possible spread out
> Should be minimum 5-10 labels applied; check also legend / title- lettering choices

> **Ancillary information**
> Is title suitable – concise but complete; clear but not overwhelming, no word 'Map' ?
> Scale bar – simple numbers ? Good size/ subdivisions
> Legend – only include required items / modest size - not dominant;
> Data sources given for thematic and specific layers (not general layers)
> North arrow not always required, but if used, is it correct ?
> Neatline and locator map if needed.

> **Overall Layout and complexity**
> Is the page area well used – limited white space
> Placement of ancillary items in suitable locations - and subordinate to the map content
> Attention to figure-ground / visual hierarchy – layers as background and foreground
> Overall balance and general appeal – does the map presentation attract the user
> Is it reasonably complex (but not cluttered), and interesting topic ?