Climate NA Lab – Answer Key – Total Marks

Point values given in brackets **(x)

Q1: Mercator projection **(1)**

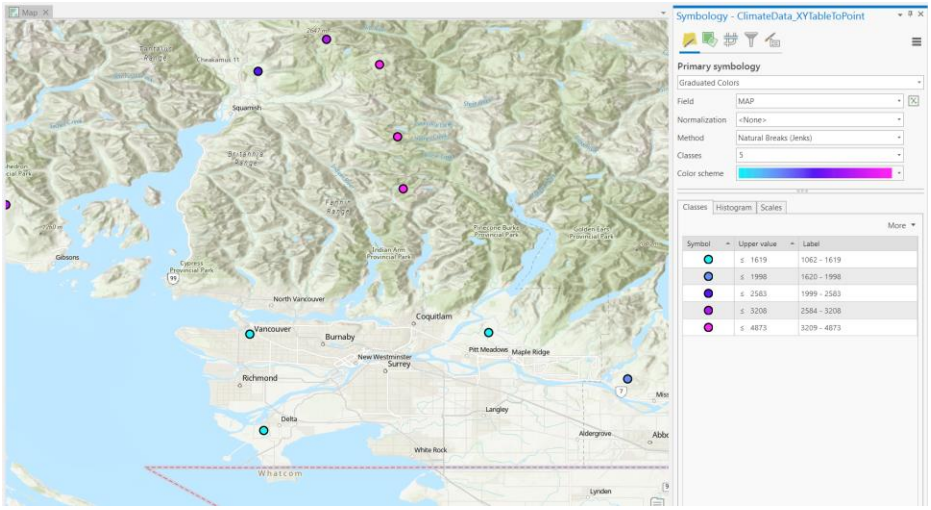
Q2: MAT 10-11, MAP 1200-1300 **(1)**

Q3: Climate normals represent typical/average climate conditions over a given period of time. They provide a baseline of past climate to compare present and future conditions. **(2)**

-They must include some variation of typical/average conditions and that these provide a baseline for comparison.

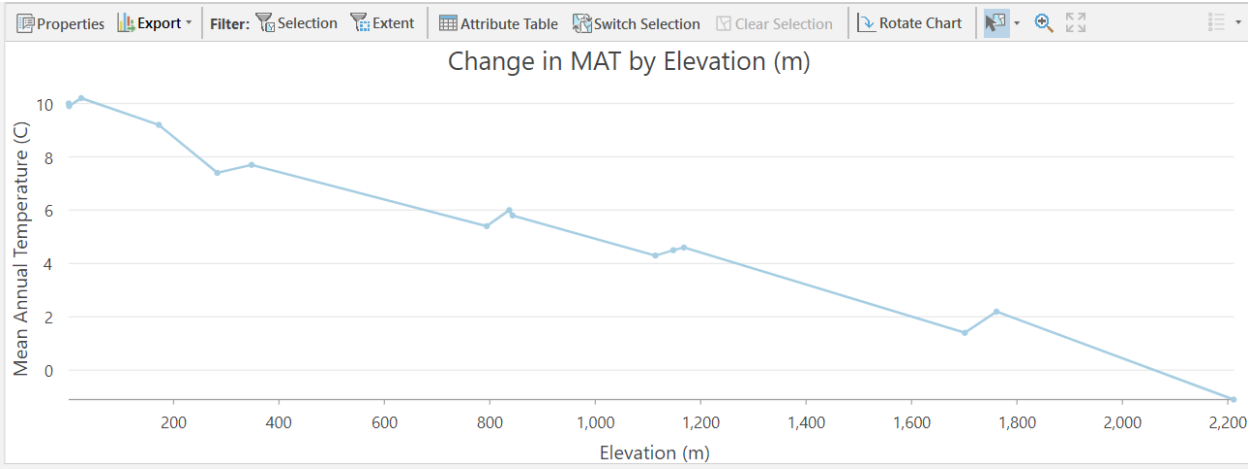
Q4: WGS 1984; Degree **(1)**

Screenshot of MAP **(5)**



Subtract 2 points if the symbology tab is not included or if they plot something that isn't MAP

Chart MAT and MAP **(6)**



3 points for each chart, should look something like above.
Subtract 2 points if they didn't change the title or x and y axis labels

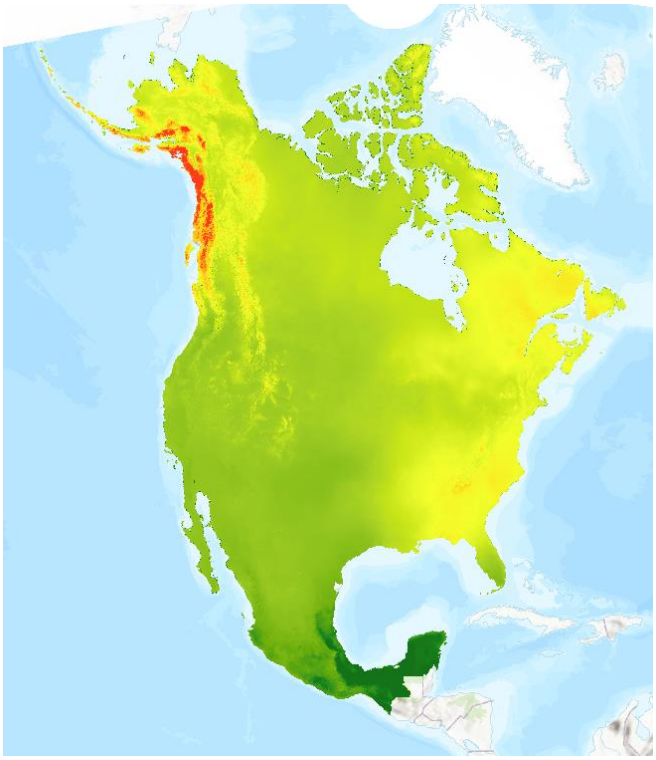
Q5: The poles show the most distortion. Area and shape are distorted. **(2)**

Q6: Mercator distorts area but preserves shape, the poles are larger in area compared to mid latitudes. Cylindrical preserves area but distorts shape, again the poles are stretched in the world projection. **(4)**

Q7: SSPs are the Shared Economic Pathways representing different greenhouse gas emission scenarios. SSP 4.5 is steady CO2 emissions until 2050 and net 0 emission by 2100. This creates an estimated 2-3 degree increase in global temperatures. **(2)**

Q8: MAT increases more as you go north/increase in latitude. The greatest changes in Canada are in the Arctic and sub-arctic/the territories (NWT, Yukon, Nunavut, northern Quebec). **(3)**

Screenshot of change in MAP **(3)**



Q9: Min = -548, Max = 1343. Negative change means that precipitation is decreasing. **(2)**

Q10: Canada shows overall increase in MAP. Greatest change is along the northwest coast of BC. There is also slightly higher increases expected in Atlantic Canada. **(3)**

Discussion (15 total)

-Change in MAP and MAT at selected location (1)
-Compare to overall change across Canada – is it anomalous? (2)

-Give example of climate change problem (1)
-Some argument for why the problem is important (5)
-Include peer review source (1)

-Give some possible solutions to problem (5)