Introduction to GIS

Lab 2: Geo-visualization

Lecturer: Dr. Yan Yingwei

Exercises:

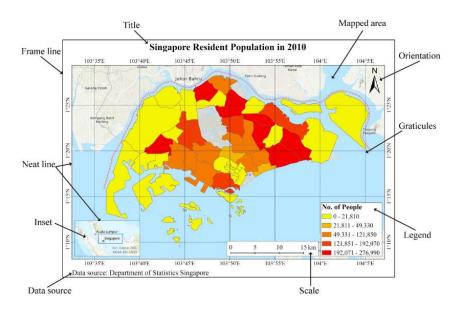
Part I: Field Calculation and Choropleth Mapping

Please follow the document of Exercise 1 and Exercise 2 and answer the following questions.

Q-1 Continuing from the steps above, please design a professional (with appropriate and necessary map elements) and aesthetically pleasing choropleth map. Export the map to a Tiff file (300 dpi) and insert the map into your Word document (3 marks). In addition, please identify the subzone with the lowest population density and provide its name and value (1 mark).

In the lecture, I instructed to use the link below for the assignment. A relevant map example that can be considered good has been provided and a video regarding how to create this map is available. Please DO check these StoryMap links provided on the lecture slides.

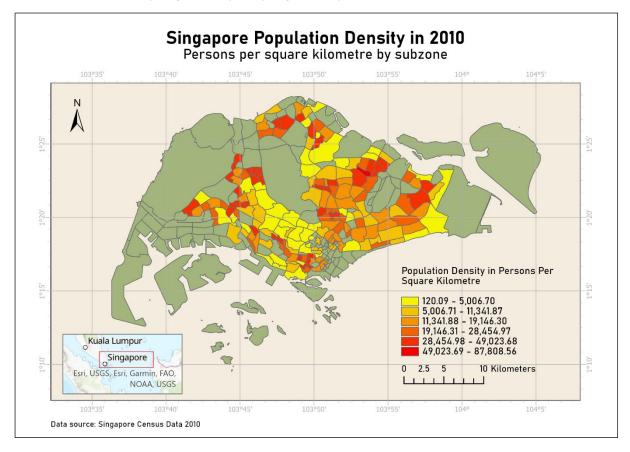
https://storymaps.arcgis.com/stories/dd1cf50a17914df8a02146e3e5264923



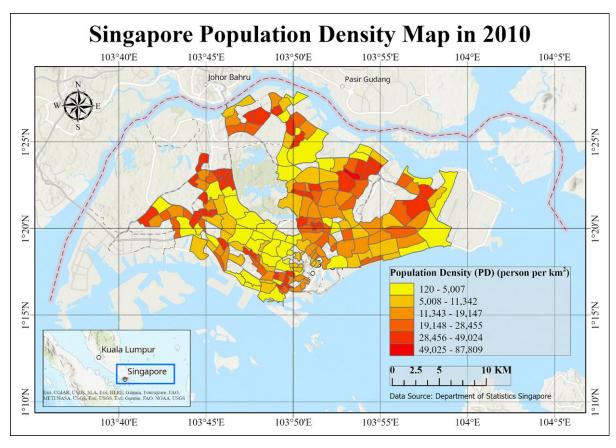
• Common issues include:

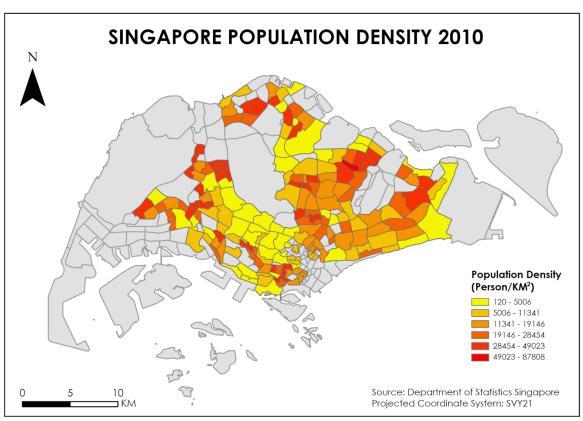
- Without a scalebar or legend; this can be considered as a low-quality map directly, meaning that the student did not even pay attention to the most basic elements.
- Without a neat line (frame line is optional)
- o The title is too small and not in the same line
- Without a comma (thousand separator) being placed every third digit to the left of the decimal point (for numbers with 7 or more digits (e.g., 1,000,000)).
- o Lacks Year information (2010)
- o The legend values and the legend colour ramp are too separated
- There should be no decimal places in the legend values, as it is about population, we should not have e.g., 1.5 people.
- Without a proper legend description/name (e.g., Population Density (per sq km))

- o The map is unbalanced (please refer to the lecture slides),
 - The main content (main layer) is small and the items (e.g., legend, scale bar, north arrow) are too large
 - The focal element is not placed near the visual (optical) center which is a little above the map's geometric center (please refer to the lecture slides)
- The position of the legend or other items is problematic (e.g., north arrow or legend being partially placed out of the neat line or frame line)
- o ...
- Converting the values on the legend to ordinal date is ok, e.g., very low density, low density, medium density, high density, very high density



The one above is generally good, but the number of people should be converted to integers.





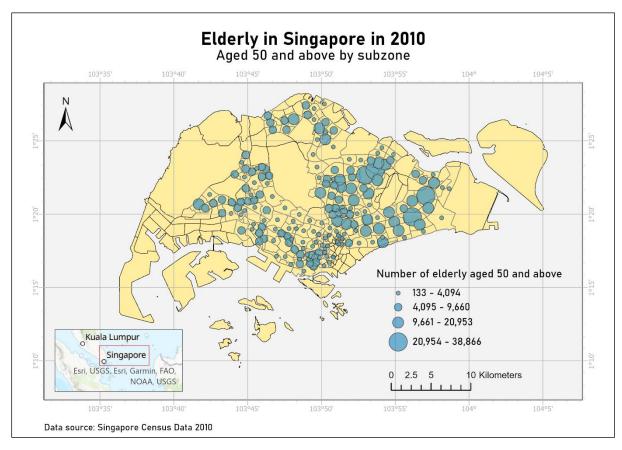
The one above is good but better to use thousand separators for the values.

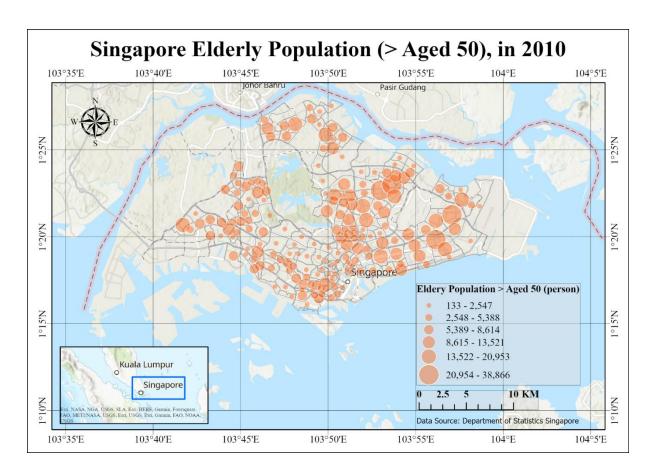
LOWER SELETAR, 120 people per square kilometer (The value should be an integer as we should not have e.g., 1.5 people, and the unit is necessary).

Q-2 Please design a **Graduated Symbol map** based on the Subzone_2010_Joined layer with appropriate and necessary map elements. This map should reflect the populations of elderly people (**aged 50 and above**) for different subzones in Singapore. Export the map from the layout view to a Tiff file (300 dpi) and insert the map into your Word document (3 marks). In addition, please identify the subzone with the highest number of elderly people and state its name and value (1 mark).

Note that the demographic information is included in the attribute table. For example, the field a2024 refers to the number of people whose ages are between 20 and 24.

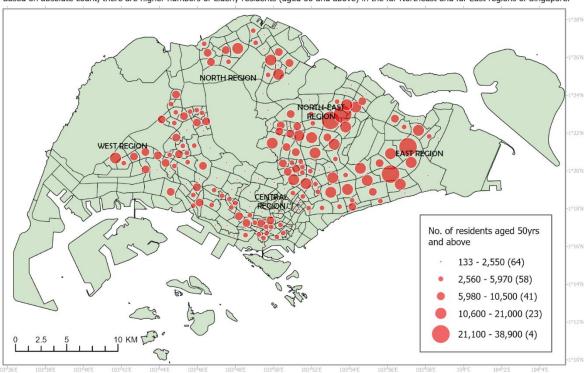
- See Q1 for the common issues, additional issues for this question include:
 - Without a proper legend description/name (e.g., Population aged 50 and above)
 - Too much circle overlap and thus cannot see the subzones below the circles (unless transparency is applied)
 - o Too much circle overlap in the inset (if there is an inset)
 - o The subzone layer is lacking or the subzones cannot be seen
 - The circle sizes are too similar to differentiate.
 - o ...
- The map must be a graduate symbol map, it is wrong if a choropleth map or other non-graduated symbol map was submitted
 - However, a proportional symbol map is acceptable, which is a variation of the graduated symbol map, please refer to the lecture slides.





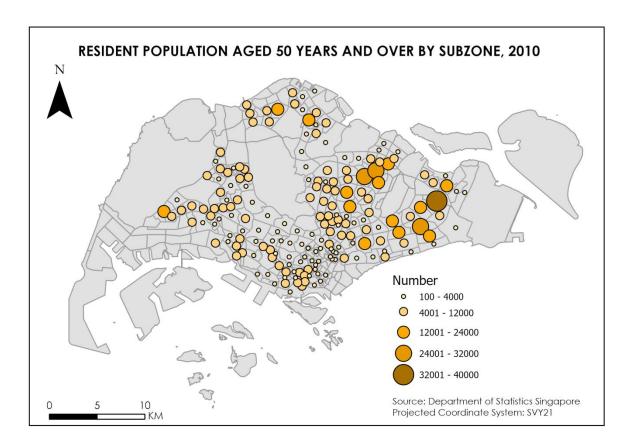
Distribution of Elderly Population by Subzone in 2010

Based on absolute count, there are higher numbers of elderly residents (aged 50 and above) in the far Northeast and far East regions of Singapore.



Source: Contains information from Resident Population by Subzone Area, 2010, accessed on 6 Sep 2021 from data.gov.sg which is available under the terms of the Singapore Open Data License version 1.0.

The one above is good but better to slightly enlarge the title.



The one above is good but better to use thousand separators for the values and add some transparency to the circles.

(1) TAMPINES EAST, 38,866

Please send your inquiries on the marking to your respective TA who assist with the marking as shown in the table below within 7 days from today. Please Cc me.

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Student	Lab 01 Assignment
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ALESHA SYAMILAH BINTE MOHAMED AMIN	Diane
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AMANDA GWEE SU-EN	Diane
AMILYN HOON XUE HUI	Diane
ANSEL LIM WEI XUAN	Diane
ASHER NGOH	Diane
AUDREY NG SONG RONG	Diane
BAY CHING HWEE	Diane
BONG CHIN HONG VINCENT	Diane
BRIAN ALEXANDER FRANCIS	Diane
CHAN YEN CHIOK ZACHARY	Diane

CHANC VII VIIANI	Diana
CHANG YU XUAN CHAO FAN EN, NICHOLAS	Diane Diane
CHARLENE SEE	Diane
CHARLOTTE LIM ENG JIE	Diane
CHENG JING JIE	Diane
CHEUNG HON LAM	Diane
CHLOE FRANCES CHANG XING EN	Diane
CHONG JO EE	Diane
CHONG KAI JIE	Diane
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DELTON CHENG XU ZHI	Diane
DOUGLAS TEO ZHI HUI	Diane
ELIJAH TAING JUN WEI	Diane
ELISHA FOO ZHI EN	Diane
ELIZABETH LOO TEE INN	Diane
ELIZABETH YU-MIN KWAN	Diane
ELLA ZHANG ENJIA	Diane
ELYANA SYAZANA BINTE MOHD RIDWAN	Diane
ETHAN TAN YI HAO	Diane
EXLEY YUN	Diane
FONG YUE	Diane
FOO THANAKON	Diane
FRANCIS CLARISSA	Diane
GABRIEL KUAN WEN JIE	Diane
GABRIEL TAN TENG LIANG	Diane
GOH RUIQI SEANNA	Diane
GOH WAN XUAN TRINI	Diane
HANNAH DEBORAH PANG	Diane
HARITH ZAYDAN BIN IMRAN	Diane
HAZEL LIEW SIAN KUIN	Diane
HEE FAITH	Diane
HO ZHIHUI	Diane
JAMES PHILIP DE VERA CABATBAT	Diane
JANEBELLE KOH	Diane
JANESSA LOW KAI HUI	Diane
JENELLE CHUNG JING LIN	Diane
JEROME KWEK WING KIT	Diane
JOA SANG AMY MIUYI	Diane
JOAN LIEW YU MIN	Diane
JORDAN TEO QI DIAN	Diane
JOSHUA WEE	Diane
KATO DAISUKE	Diane
KEEFE CHUA JIE XUN	Diane
KEK ZI YAN, AMANDA	Diane
KOH YE KANG JAVIER	Diane
KWAN ZHENG HONG	Diane

LEE KAI XIN CELEST LEE RU XUAN Diane LEE XUAN JIN Diane LEE ZI XUAN Diane LEO TAN YONG KANG Diane LI JIA YI LIJIA YI LIM MIN EN, SUSANNA LING YI-EN IAN AXU DONG MAK SHI XUAN MATTHEW NG HUI CHIEH MICHAMADA AFIQ BIN MOHAMED ROSLI NG CI XIN NG WEN XUAN XU DONG NG WEN XU DONG NG WEN XU DONG NG WEN XU DONG NIKKI YAP YI XUAN XU DONG PARVATHY VARMA XU DONG PARVATHY VARMA XU DONG POON WEI NI REENIE QUEK CHUI QING RAYNOR FONG RUIBIN REUBEN LUI TYE HERNG XU DONG REYHERN M RAZALI XU DONG REYHERN M RAZALI XU DONG SAW YUN YA XU DONG SEE QI-EN SHAWN LIM LE YANG XU DONG SOH TZE NING XU DONG SOH TZE NING XU DONG SOH TZE NING XU DONG SOH ZU DONG SOH ZU DONG SOH ZU DONG SONG RUIHAO XU DONG SONG RUIHAO TAN KIAS SHUANG BAOYAN TAN KI	LAM REGAN	Diane
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SONG RUIHAO SUMAIYA AZAD Baoyan TAN JAY LEN TAN KANGDE ANDREW TAN KIA SHUANG Baoyan Baoyan Baoyan	SOH WOON HAO KENNETH	Xu Dong
SUMAIYA AZAD Baoyan TAN JAY LEN Baoyan TAN KANGDE ANDREW Baoyan TAN KIA SHUANG Baoyan	SOH ZHU EN JOANNE	Xu Dong
SUMAIYA AZAD Baoyan TAN JAY LEN Baoyan TAN KANGDE ANDREW Baoyan TAN KIA SHUANG Baoyan	SONG RUIHAO	Xu Dong
TAN KANGDE ANDREW TAN KIA SHUANG Baoyan Baoyan	SUMAIYA AZAD	Baoyan
TAN KANGDE ANDREW TAN KIA SHUANG Baoyan Baoyan	TAN JAY LEN	Baoyan
TAN KIA SHUANG Baoyan	TAN KANGDE ANDREW	-
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TAN LU JIE LUCAS Baoyan		-

TAN YI JUN KEITH	Baoyan
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TAN YU JIA	Baoyan
TAN YU KAI LIONEL	Baoyan
TANG HAO MING WHELAN	Baoyan
TANG KAI EVAN	Baoyan
TARA LINGARAJ	Baoyan
TARNOVSKAYA ALISA	Baoyan
TEO KAI WEI	Baoyan
TEO YUN YEW JARRETT	Baoyan
TEOH WEN XUAN	Baoyan
TUNG ZHI YONG, IAN	Baoyan
WAYNE WONG HOI YIN	Baoyan
WEE JING WEN	Baoyan
WEE YI XUAN	Baoyan
WEEKS JAMES JOSEPH	Baoyan
WONG SAM TOU	Baoyan
WONG WEI	Baoyan
YANG LITING	Baoyan
YANNI GAN	Baoyan
YAP WAN ING LORRAINE	Baoyan
YASHWINI D/O NELAVANNAN	Baoyan
YASMEEN MARIE LUTFI	Baoyan
YEOW ZONG WEI	Baoyan
ZHUANG XINYUAN	Baoyan
ZIKRY NASRULLAH BIN ZAIRUL AZIDIN	Baoyan