

Applied Data Science Capstone Project

Recreation facilities density in Hong Kong Districts

Introduction

- ▶ The population of Hong Kong kept increasing in the past decades despite the already high population density.
- ▶ There are complaints about the lack of public facilities including hospitals, car parks, recreation facilities etc.
- ▶ In this project, I would like to find out which district in Hong Kong has the least number of recreation facilities normalized by the population of the district.

Data

- ▶ Recreation facility data (obtained from <https://data.gov.hk/en/geospatial-data>)
- ▶ Population data (also obtained from <https://data.gov.hk/en/geospatial-data>)
- ▶ Hong Kong district geojson file (obtained from http://opendata.esrichina.hk/datasets/eea8ff2f12b145f7b33c4eef4f045513_0)

Methodology

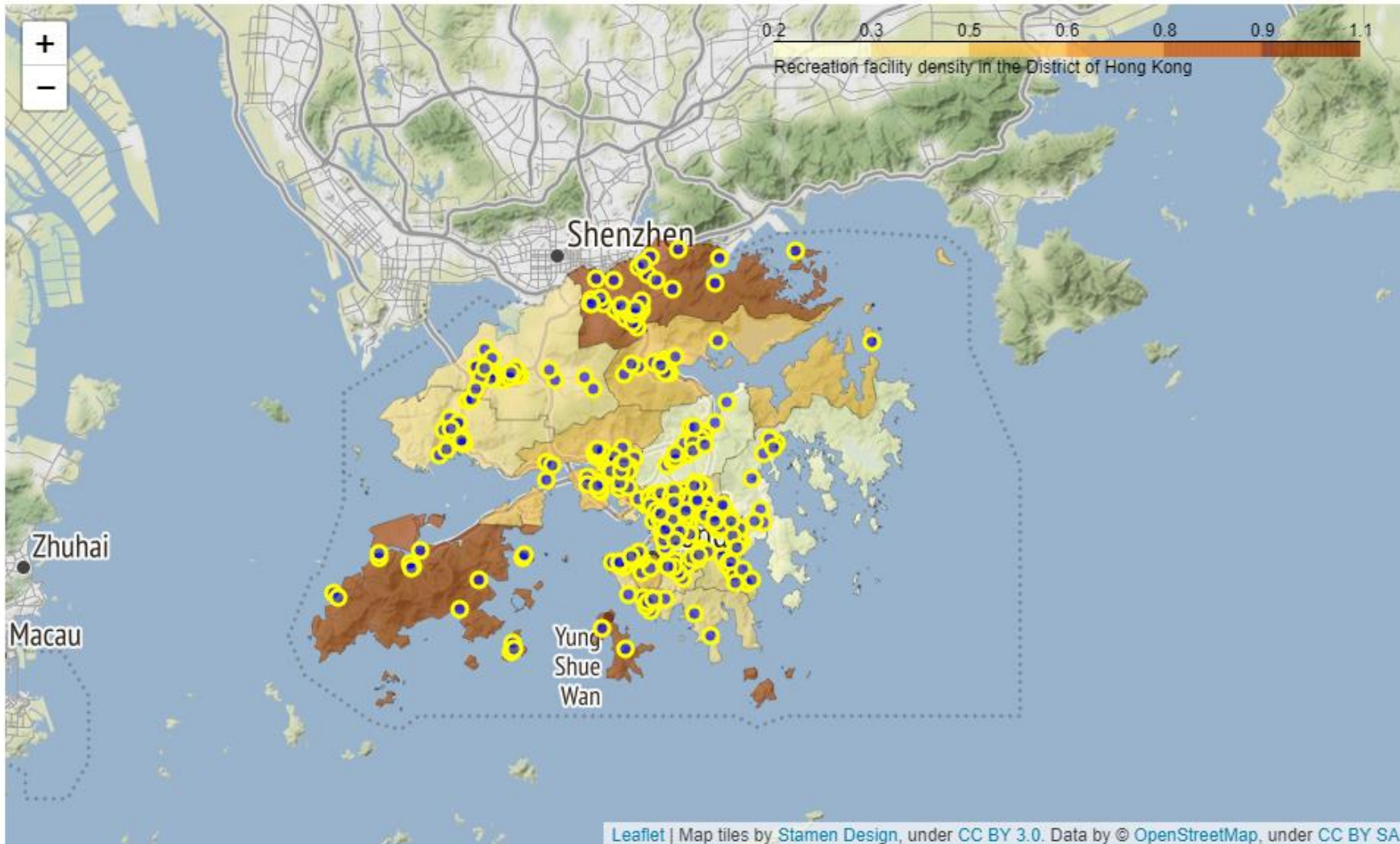
1. Get the recreation facility data and get the counting grouped by district
2. Get the population data stratified by district
3. Merge these data and calculate the number of facility per 10,000 population in each district
4. Use folium to plot a choropleth map showing the density of facilities in all districts
5. Find out the region with the lowest density

Result

- Tidied data frame showing the count of recreation facilities normalized by population number in every district in Hong Kong

	District	Count	Population	Count_per_10k_pop
2	ISLANDS	17	156801	1.084177
6	NORTH	34	315270	1.078441
3	KOWLOON CITY	32	418732	0.764212
0	CENTRAL & WESTERN	15	243266	0.616609
12	TSUEN WAN	17	318916	0.533056
16	YAU TSIM MONG	18	342970	0.524827
4	KWAI TSING	27	520572	0.518660
11	TAI PO	15	303926	0.493541
9	SHAM SHUI PO	19	405869	0.468131
5	KWUN TONG	30	648541	0.462577
14	WAN CHAI	8	180123	0.444141
17	YUEN LONG	24	614178	0.390766
13	TUEN MUN	18	489299	0.367873
10	SOUTHERN	10	274994	0.363644
15	WONG TAI SIN	15	425235	0.352746
1	EASTERN	19	555034	0.342321
8	SHA TIN	17	659794	0.257656
7	SAI KUNG	8	461864	0.173211

- Choropleth map showing the density of facilities in all districts, with the eastern region having the lowest density



Discussion

- ▶ Finding
 - ▶ The eastern area of Hong Kong is lacking recreation facilities the most.
- ▶ Limitations of the finding
 - ▶ Only public facilities were included while privately owned are not included
 - ▶ It is more difficult to find the complete list of locations of these facilities
 - ▶ Some of the facilities are complexes and there are multiple facilities within
 - ▶ Further studies may need to set weightings among the facilities to give a more complete picture
 - ▶ Some rural districts are in close proximity to the country parks
 - ▶ These districts may require less recreation facilities than the other districts
- ▶ Nevertheless, these findings serve as a starting point for us to look into the distribution of recreation facilities in Hong Kong

Conclusion

- ▶ We found that the eastern area of Hong Kong (Sha Tin and Sai Kung district) has the least number of recreation facilities normalized by the population, although further studies have to be made to strengthen the finding.