GEOG380 Map Interpretation & Analysis FA 2018

Study guide for Test1

(Test1 on **Sep. 25, 2018** 6:00pm~6:40pm. About 15 questions for 100 points)

The followings are from the lecture notes (01~07) and the textbook. Please make sure you cover the bullet points and let me know if you have any questions. Good luck!

- What is the best order of processes in traditional cartographic communication? In your lecture note, they are described as five steps.
- Why a map is a model of the world?
- What are the differences between thematic maps and general reference maps?
- Describe whether each histogram in Figure 3.2 (see the lecture note or the textbook) shows normal distribution/negative skewness/positive skewness.
- What are the differences between bi-variate mapping and multi-variate mapping?
- How can you read a bivariate map from its legend (e.g., Color Plate 18.2)?
- How can you measure central tendency?
- What can you know from a histogram, a stem-and-leaf plot, and a dendrogram?
- How to understand a dendrogram: e.g., in Figure 18.20, how many clusters are there when combine clusters at a distance of 17?
- What is Inter Quartile Range (IQR)?
- Why is standardization important in dealing with spatial data?
- How can you measure the mean center of a given point dataset?
- Assume that you are a GIS specialist consultant for the Long Beach Fire Department. You are asked to inform them how many fire stations they should have in each area A and area B to cover the areas with best efficiency considering travel time and budget. FYI, the areas A and B are not adjacent. According to them one fire station can cover areas within 6 miles of distance from the station. They also provided you an empirical GIS point dataset that shows locations where fire occurred in the areas A and B. Using ArcGIS you just measured the mean center of the given points and the standard distance for the area A, and did the same measurement for the area B. Your results show that the standard distance of the area A is 5 miles and that of the area B is 8 miles. Then how many fire station(s) would you recommend the Fire Department to have for each area A and area B?
- How can you convert from DD to DMS and from DMS to DD?
- How can you measure a map scale?
- What are large-scale map and small-scale map?
- What are the properties of projection to be preserved or distorted?
- How are cylindrical, conical, and azimuthal projections different from each other?
- How can you choose the most appropriate projection to represent a certain location on the map in terms of projection type, case, and aspect? For example, what kind of aspect should be used if your study area on the map is near equator, middle-latitude, and polar areas?