Questions

1. Patterns and colors are essential to maps. Compare a search for Harvard University on two interactive maps (e.g., Google Maps, Bing Maps, Yahoo! Maps, Apple Maps, map.harvard.edu). Answer the following questions, making references to concepts explained in Ware such as pattern recognition and properties of color. Please include screenshots of the examples you are comparing.

    1. Which map promotes an easier visual search for buildings?
    It´s easier to identify the buildings you are looking for on the Bing maps. The deeper color of the buildings is in contrast with the lighter background, which makes the buildings stand out more. Even so, the more important buildings are outlined when hovered over, giving sharp contrast with the background. This seems to only be the case for the bigger buildings. The less important buildings are easier to distinguish on the map from Google. Where areas with buildings which are of lesser importance are drawn as lightly colored blocks on the Bing maps, on the Google maps those areas are filled with outlines of the buildings in them.

    2. Which map more effectively visualizes routes from a random point A to point B?
    In both maps the roads are displayed as white lines with grey outlines, while bigger roads and highways have deeper colors (yellow to orange in Google maps and lavender to purple in Bind maps). When zooming out, the smaller streets fade out to transparent grey lines, leaving the colored highways the only aspect of the map which is readily seen. Both maps focus on displaying the roads and succeed very well, the roads are the most outstanding part of the map, due to the deep colors used in contrast to the light colors of the background and due to the outline of the roads.

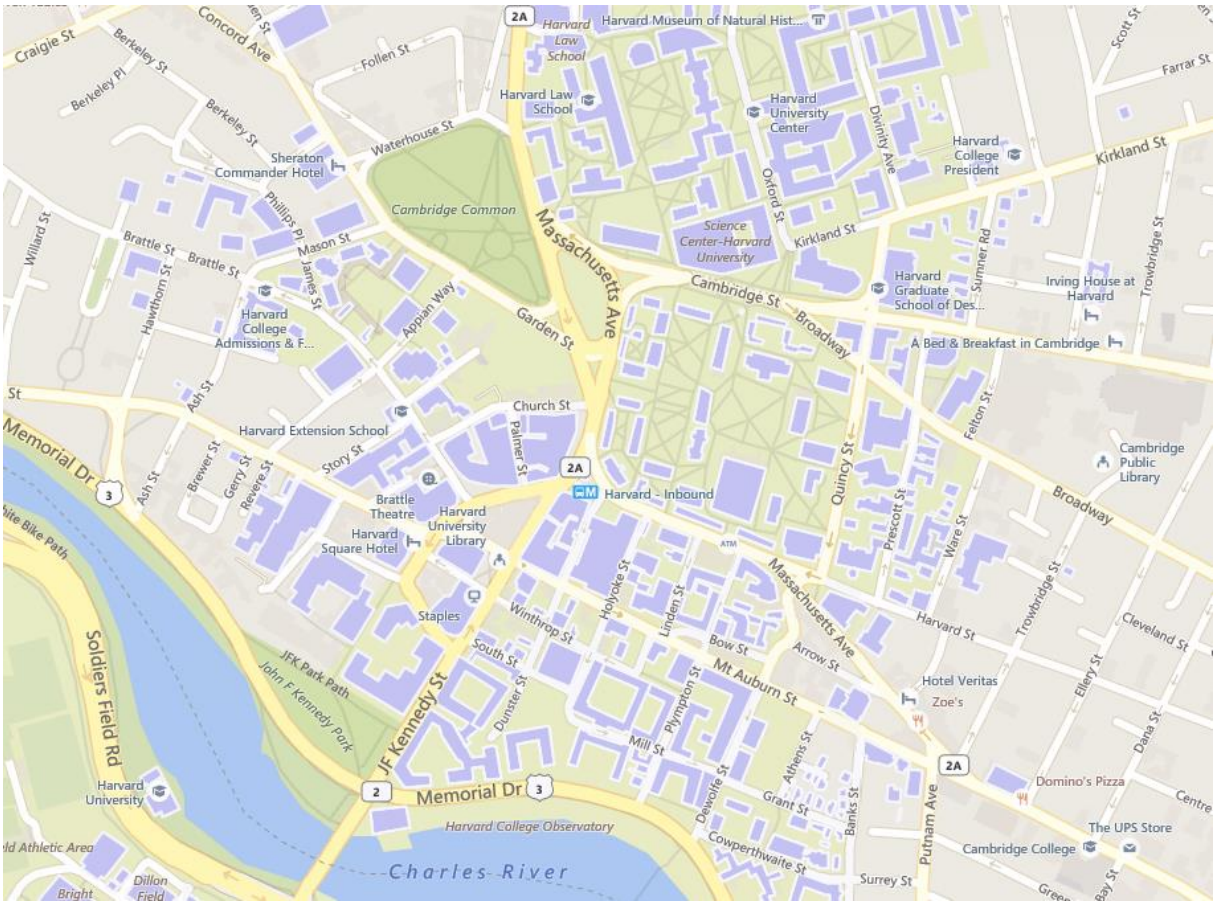
    3. Which map is an overall better visualization, and why?
    Both the maps are different: Google maps feels more natural with natural colors like yellow and brown, while the Bing map feels more formal with purples and greys. The background color of the bing map is light grey, making it stand out less against the grey outlines of the smaller roads, whereas in Googles map the background is almost white, which doesn't interfere with the color of the roads. Google maps also does a better job at highlighting the bigger roads, the bright orange stands out, where the purple of the Bing maps tends to fade away in the background.

2. Find a rainbow color map visualization on the web. Please include a screenshot and link of the visualization.

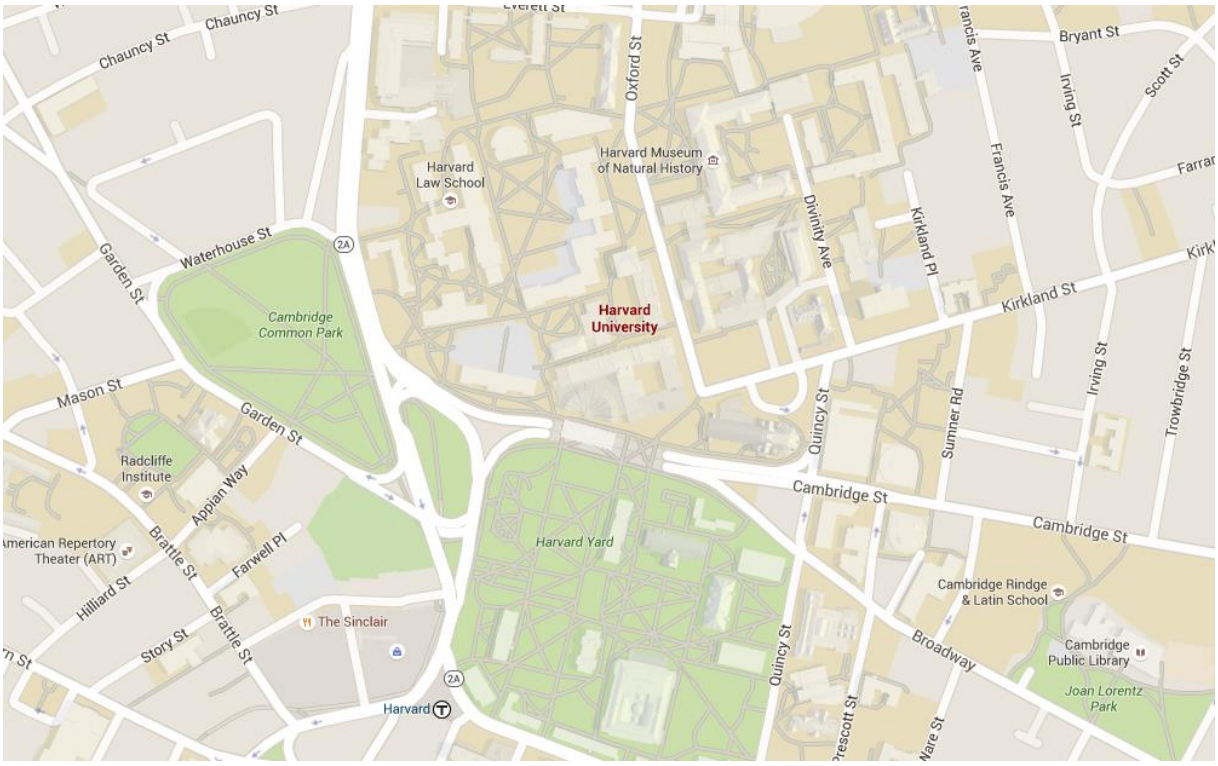
    1. Briefly summarize its intended objective and audience. Does it fail to successfully convey information? If so, why? Is there a good reason for this specific visualization to use a rainbow color scheme?
    The objective of this visualisation is to display the amount of ozone above the Antarctic pole over the years. Since the visualisation seems scientific (it has a difficult subject and it is detailed) the target

audience would probably be professionals or people with decent knowledge and interest on this topic. The information is successfully conveyed, after consulting the legend we can see where there is less and where there is more ozone. Even without consulting the legend we can guess the order of the colors, because intuitive colors where chosen to depict the levels of ozone, with blue being lower and red being higher levels. The reason for choosing a color map is because the saturation of the colors is used to let the topography of the Antarctic show through.

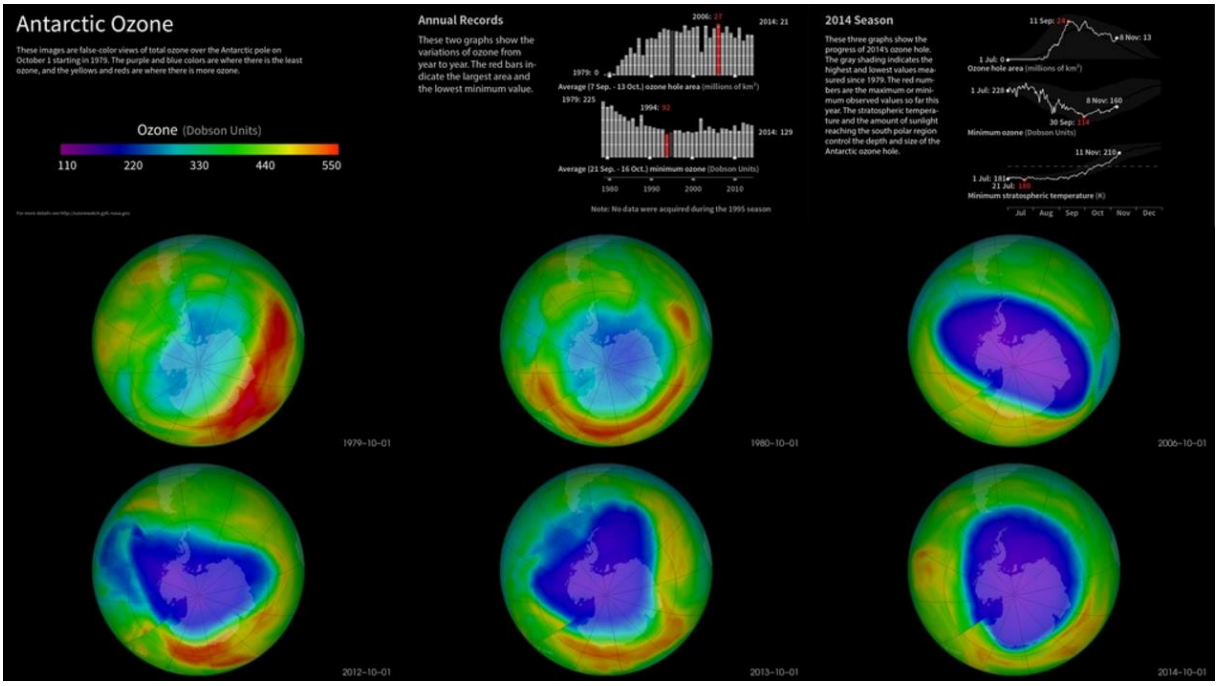
2. Propose an alternative color scheme to replace the rainbow color map
   Because the data is sequential (the ozone levels have a range with equal intervals), a single hue color scheme would suffice in conveying the data. Because the area above the Antarctic is made more luminous and less saturated, difficulties could arise when using a single hue color scheme (because the colors could interfere with the area above the arctic and been drawn lighter than they are). A multi hue color scheme could solve this problem, but Im not sure about it. Maybe a rainbow color scheme is the only good way make sure the displaying of the ozone levels is not affected by the underlying Antarctic or ocean.



Harvard on Bing maps.



Harvard on Google maps.



NASA Ozonewatch from: https://svs.gsfc.nasa.gov/cgi-bin/details.cgi?aid=30078