

TRAVEL TIME AND MOBILITY

In this lab we will be mapping how far removed Humboldt truly is from the rest of California by making a drive time map from HSU campus to other places in the state.

We will do so by collectively creating a dataset, plotting the data, interpolating to create a surface, and turning that surface into a series of travel time isobars.

Data: Google Maps, ESRI

Tools: ArcGIS, AI

Only do step one in group, otherwise use already created data

1. First, go to our group google sheet to create some data. In the end we will need 200 points that show the drive time from HSU to various spots in the state. Use google maps to find the lat/long of a particular location in California and use the fastest route to find drive time. Convert drive time to minutes. Fill out the spreadsheet with places all over the state. If we each do 12 or 13 then we can complete the spreadsheet quickly. Don't be a leech.

https://docs.google.com/spreadsheets/d/1wuSWHjncT31R4a_xcisQyf2j4c_cc6c-GqN7TCZ6AFY/edit?usp=sharing

2. Open ArcMap. Import the .csv file to create a point shapefile. Add the states shapefile from the <https://www.census.gov/geo/maps-data/data/tiger-cart-boundary.html> to make sure your points are in the right place. Select California and create a new layer for just the state. Add the highways or major roads. <https://catalog.data.gov/dataset/usgs-national-transportation-dataset-ntd-downloadable-data-collectionde7d2> Clip roads by California. Add either cities or urban areas to provide context. Zoom to where you want to be and add a bookmark.
3. Interpolate the points to a surface. IDW works well with the default settings. Make sure your Z-value is time. This will create a continuous time surface for the state radiating away from Humboldt. If we are not getting full coverage over California then we need to go back and add some more points.
4. Contour the surface. Play around with contour intervals to find one that has nice balance between number of lines and spacing of data. Try 10,15, 20, and 30 minute intervals to see what works best. When you are finished. Clip the contour map by California.
5. Add whatever extra data you see fit. You could classify the roads into a hierarchy, add neighboring states to provide context, or add Federal lands, etc.

- Export to AI. Remove the small holes in the contours and other artifacts. You may want to smooth your lines a little to make the contours more gradual and less angular. Label place names and depending on how you are visualizing your data, the highways.

Here is a not so great example I made during my Masters back in 2011 that I've always wanted to redo.

Drive Time to MSU

