

The data file `usaW125N50D60.dat` contains the Digital Elevation Model for all of the continental United States. Apart from the first human-readable row, it contains 400 rows and 800 columns of packed 16-bit ints giving the height above sea-level for points ranging between

Latitude  $50^{\circ}$  N (inclusive) to  $20^{\circ}$  N (exclusive) and  
Longitude  $125^{\circ}$  W (inclusive) to  $65^{\circ}$  W (exclusive)

1. Display this information in a suitably sized window, using a reasonable atlas-style colour scheme to represent altitudes.

The data file `alphaplaces.txt` contains a list of all officially named places in the United States, along with their longitudes, latitudes, and populations.

2. Display an easily visible coloured dot on your map corresponding to every large city. You can decide what large means exactly, but be reasonable.
3. Wait for the user to click the mouse somewhere on the map. For each mouse click, report the corresponding latitude and longitude, and the name of and distance to the nearest large town.