

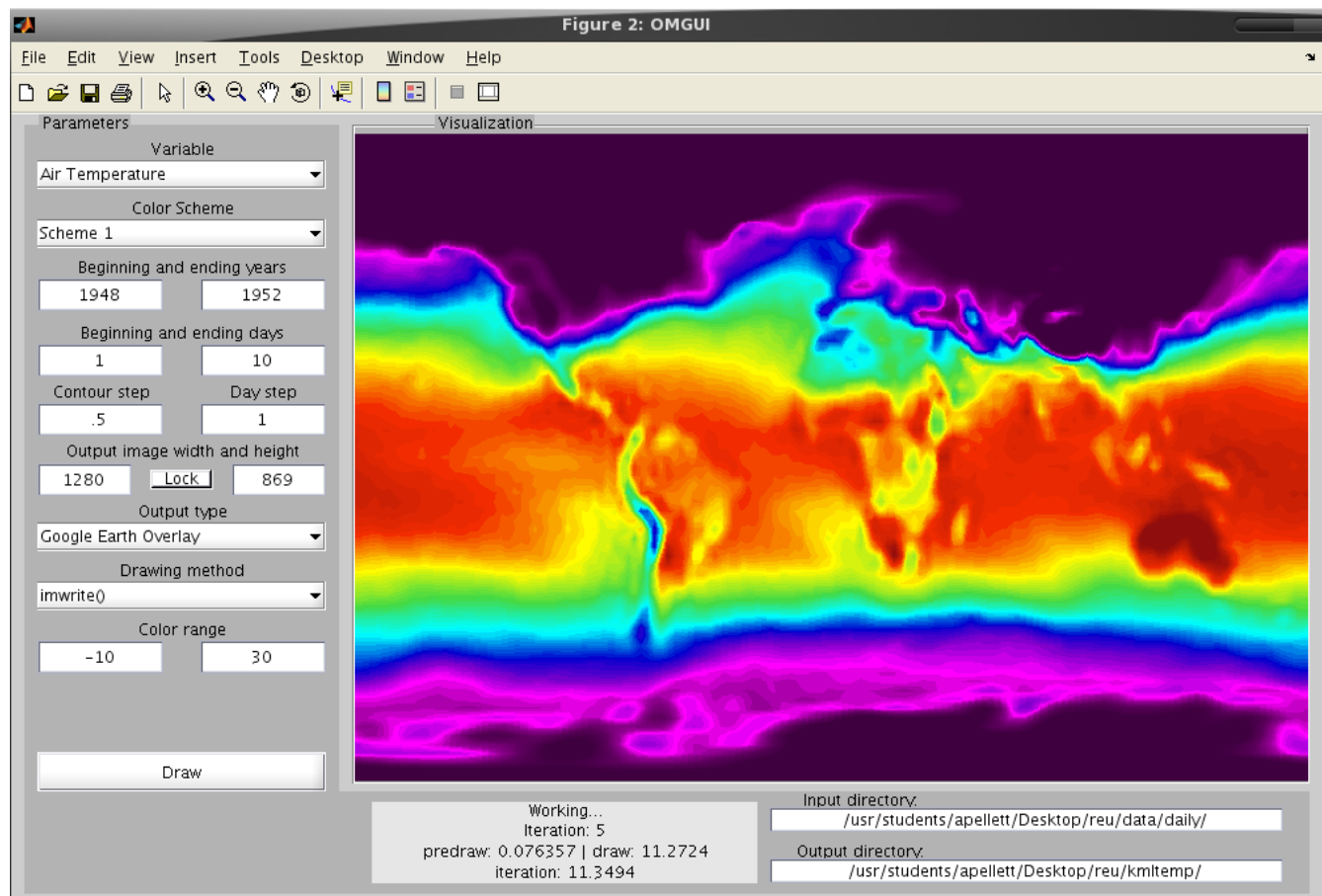
Geological Data Visualization Week 5

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Progress

This week was spent tweaking and adding features to the GUI. The GUI is now capable of producing images of a variety of different NCEP data sets (air temperature, precipitation, etc.) given their NCEP daily reanalysis netCDF files. The GUI accepts inputs for year and day ranges, and implementation of an hour range input is currently under development. This will allow data from the 6 hourly data sets to be plotted.

Output can come via a few different methods. Images can be output using the faster `imwrite()` method, which leaves some artifacts from interpolation, or the slower `print()` method. While the `print()` method takes a DPI argument that affects the resolution, the `imwrite()` method can be interpolated to any specific dimensions. An option to lock the aspect ratio has been added for use with the `imwrite()` method, with hopes that by maintaining the aspect ratio, there might be fewer artifacts and/or a quicker draw time. The GUI can also output AVI video, which is a standalone alternative which doesn't depend on Google Earth.



The GUI now also includes a status text box that displays run time statistics about the most recent completed iteration. The box also lets the user know that the program is currently doing work, and shows overall statistics after all images are drawn.

Remaining work includes getting the color bar to be drawn off to the side of the AVI video (extending the frame) so that no regions of data are blocked out. I am also still trying to find a better method of interpolation, or any additional processes that can be used to make it look better. Also, an hour range needs to be implemented so the program can generate output given the raw 6-hourly data.