SEE BELOW FOR MY PROJECTS

Thank you for taking a look at my projects! I have included 4 of my projects:

1. FishFinder
    - An analysis I ran on ocean depth data to find new fishing spots
2. Eagle Scout Project
    - Pictures of my Eagle Scout Project where I built bookcases for my church choir
3. Chess
    - A fully functional game of chess I coded
4. Roulette
    - My independent discovery of the Martingale Strategy, a well known gambling strategy

This aims to show you a very high-level overview of my projects; if you would like to see the entire projects please look at the rest of my GitHub, I have included all the code there.

FishFinder

FishFinder was a project I started in the summer to find new fishing spots from online bathymetric (ocean depth) data. I discovered data (https://www.ncei.noaa.gov/maps/bathymetry/) provided by NOAA (the National Oceanic and Atmospheric Administration), and manipulated it in code (python) to create custom images of the ocean floor. I found shipwrecks, reefs, and even new spots I don't recognize!

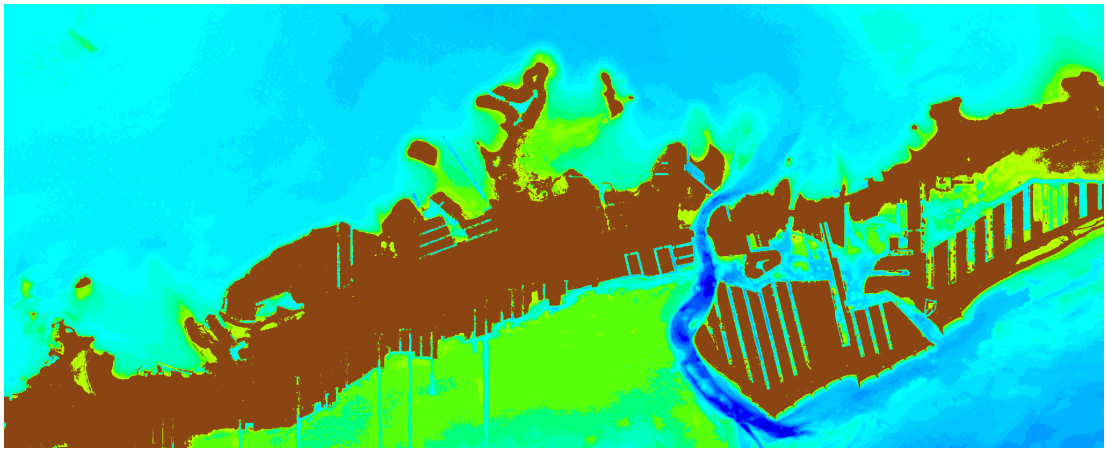


Image I produced from data of an area in the Florida Keys where I fish in the summer. The brown shows land, the green shows shallow water, and the blue shows darker water.

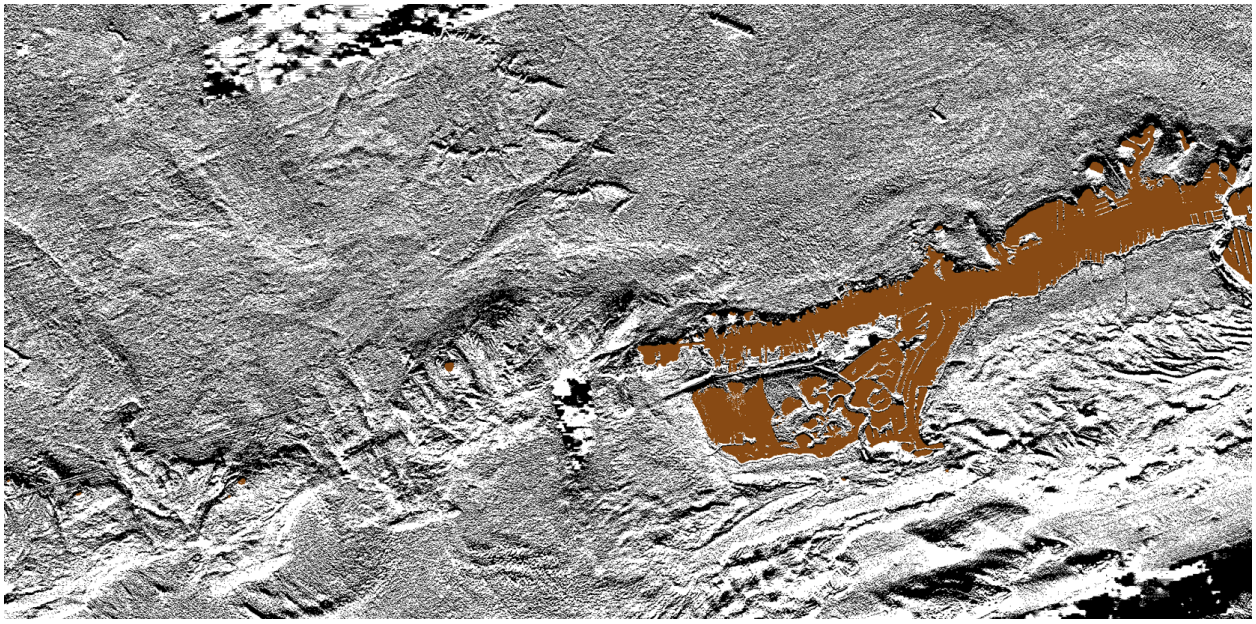
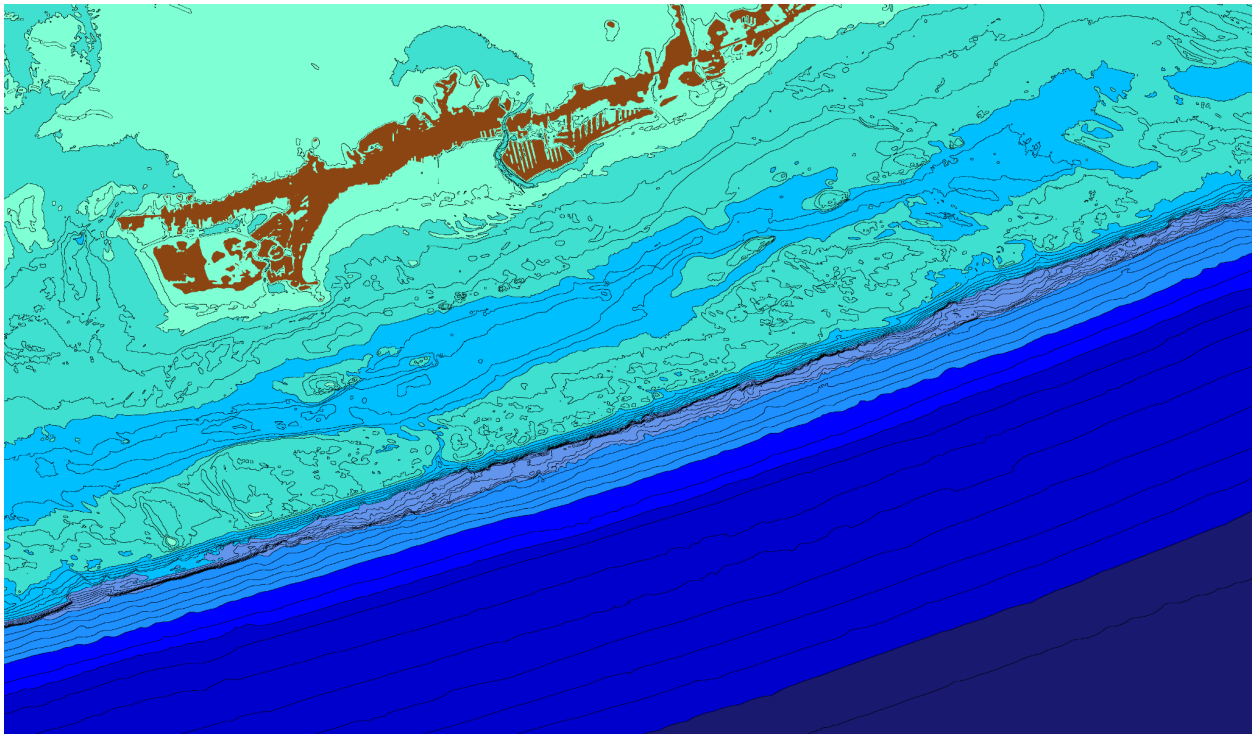
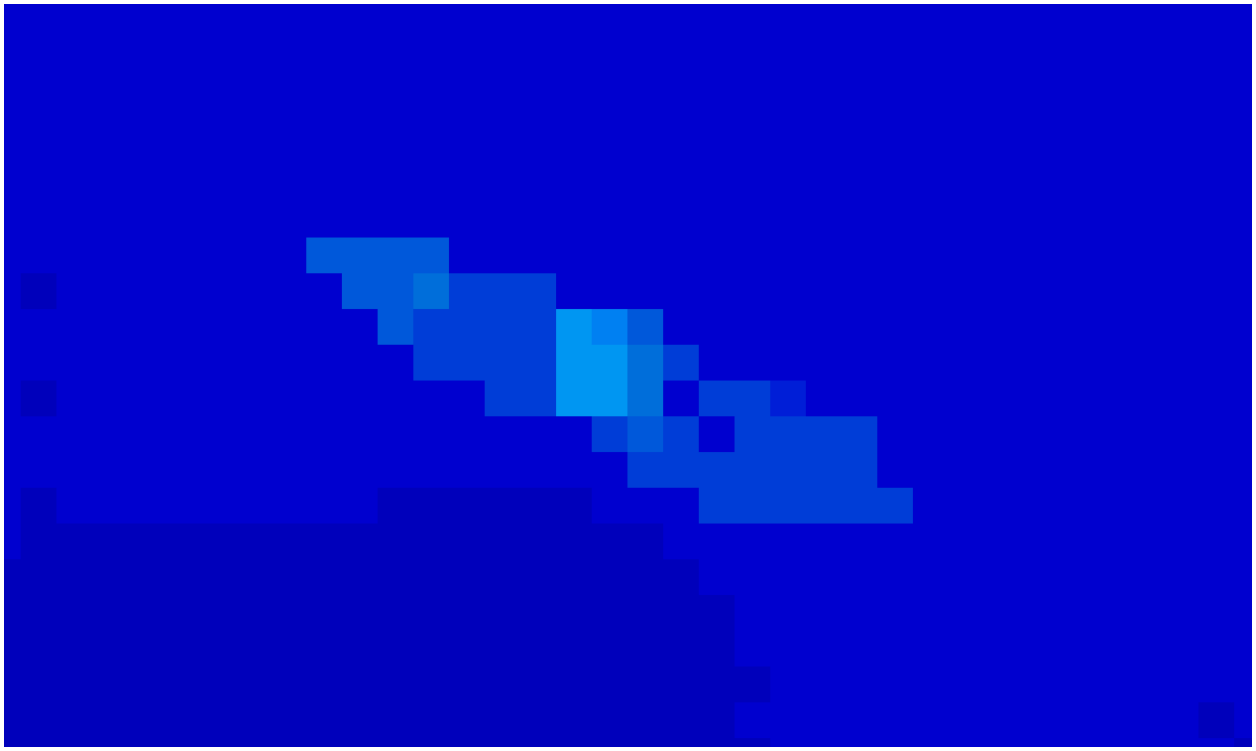


Image I produced showing depth changes. Texture shows depth change - the spots best for fishing!



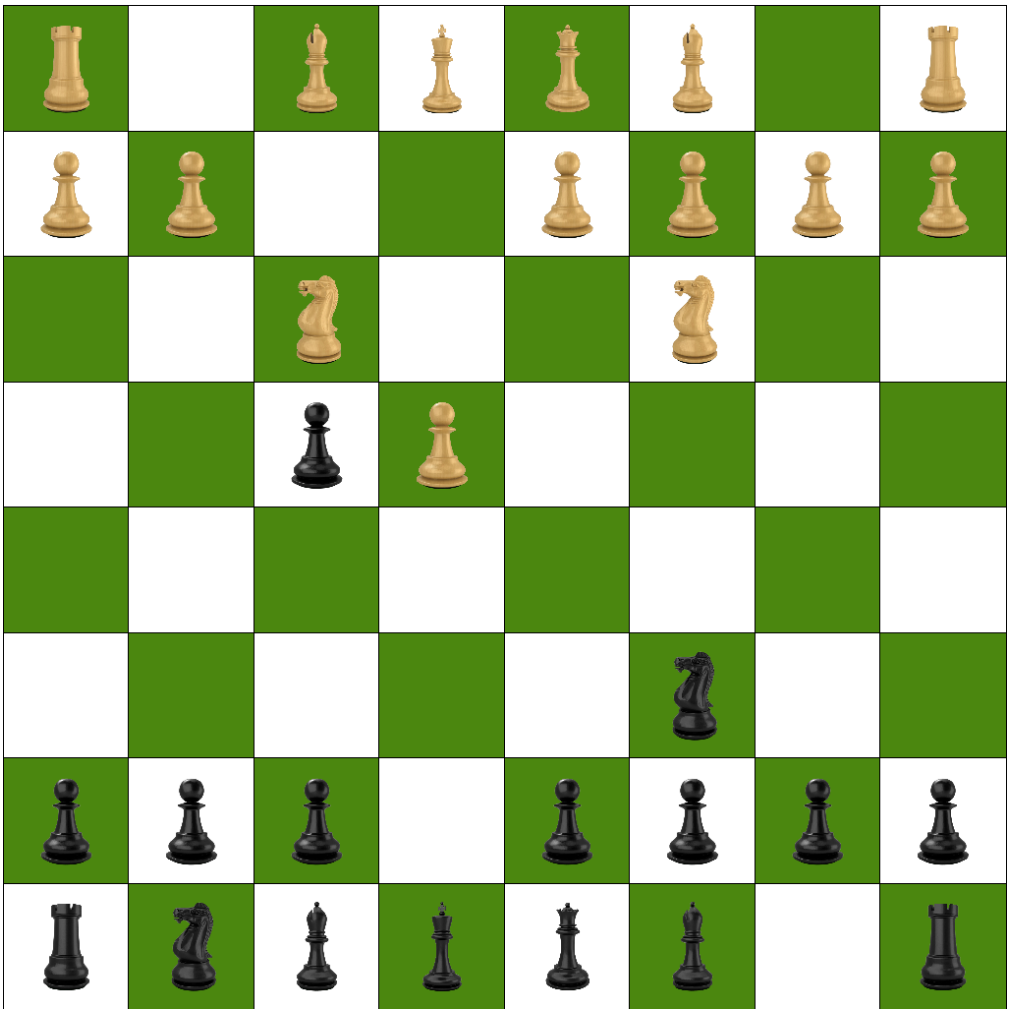
One of my contour mapping algorithms ran on data from a reef area I fish often. This contour map implemented rolling averages and gaussian distributions to avoid excessive granularity in my contour lines.



A shipwreck I captured in one of my images (the Thunderbolt). A very popular site for SCUBA diving and fishing in Marathon in the Florida Keys.

Chess

Chess is my fully functional game of Chess I coded in Java. This chess code was my first ‘major’ coding project, and began to help me understand the power of code. Chess – among other coding projects – helped me build the skills I needed to make FishFinder.



An image of my chess game in a variation of the king's gambit – one of my preferred chess openings.

```
62    public Board(Board a)
63    {
64        chessBoard = new Square[a.getRow()][a.getCol()];
65        for(int r = 0; r<chessBoard.length; r++)
66        {
67            for(int c = 0; c<chessBoard[0].length; c++)
68            {
69                chessBoard[r][c] = new Square(a.getSquare(r, c));
70            }
71        }
72    }
73    public void draw(Graphics g, int width, int height, int border, int titleBar, int rightBorder)
74    {
75        for (int row = 0; row < numRows; row++)
76        {
77            for (int col = 0; col < numCols; col++)
78            {
79                chessBoard [row][col].draw(g, width, height, border, titleBar, rightBorder);
80            }
81        }
82    }
```

A short section of code in my ‘Board’ Class. Java syntax is complex to understand and more laborious to work through than python, but using it in this project helped me to appreciate the concise nature of python and the power of the associated packages, like NumPy, Pandas, MatPlotLib, SciPy, etc.