Geog 671 Final Project

International Fishing Activities in the Pacific Ocean

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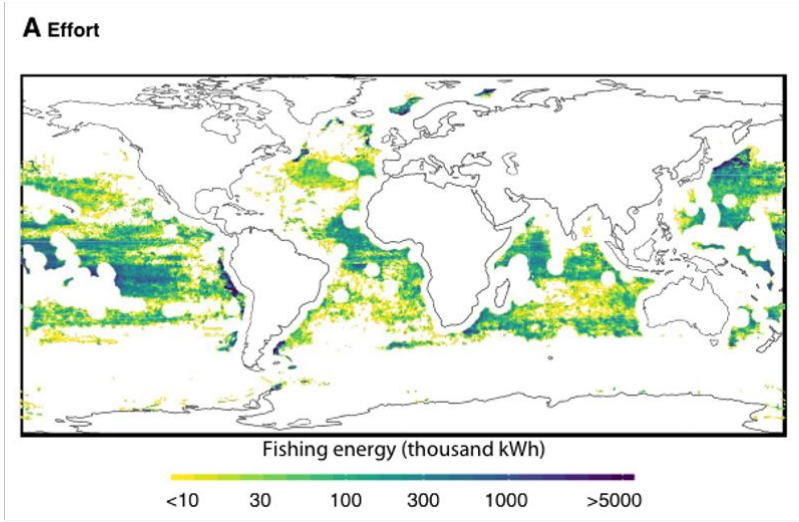
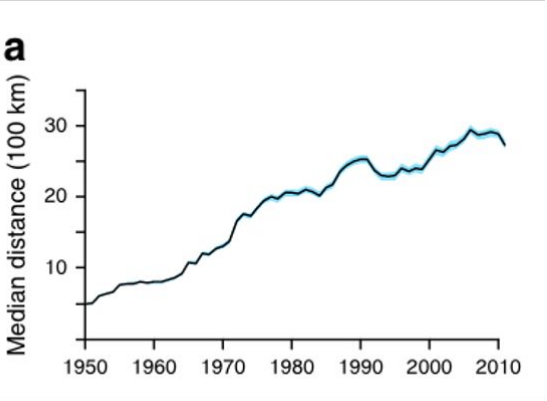
Modern fishing is a global enterprise





FAO area(s)	No. of shared fish species/ groups
61 (Northwest Pacific)	63
71 (West Central Pacific)	41
67 (Northeast Pacific)	25
77 (East Central Pacific)	28
87 (Southeast Pacific)	53
81 (Southwest Pacific)	37
21 (Northwest Atlantic)	47
31 (West Central Atlantic)	37
27 (Northeast Atlantic)	71
41 (Southwest Atlantic)	38
37 (Mediterranean)	40
47 (Southeast Atlantic)	44
51 (West Indian Ocean)	42
57 (East Indian Ocean)	43
48, 58, 88 (Southern Ocean)	8

Project Goals

- Visualize fishing distributions across the Pacific Ocean
- Allow users to explore which areas of the Pacific:
  - (1) have high fishing activity
  - (2) have diverse international fishing presence

Takeaways: fishing effort is widespread, across jurisdictions

Workflow / Tools Used

Basemap

- Stadia map through Leaflet

Data

- Existing on-hand data: fishing diversity, fishing effort (rasters)
- Acquired data: Exclusive Economic Zone boundaries (shp → json)

Interactivity

- Toggle bars: fade the raster layers in and out
- Mouseover on EEZs: highlights and provides info about country jurisdictions
- Click on raster cells: retrieve values for diversity and fishing effort

Problems

Spatial projections and extents

- Basemap in Web Mercator
- Rasters in Mercator, because of difficulties reprojecting and getting correct coordinates
    - Something to do with coordinate extent values, or 0 to 360 versus -180 to 180 longitudes

Hosting on Github

- Stadia basemap not happy

Next Steps

- For class
  - Fix EEZ highlighting to capture full EEZ boundaries
  - Fix basemap
- Eventually
  - Add in more info outside of the map (bar charts, networks, etc.)
  - Calculate statistics of raster cells inside EEZ boundary
  - Click on raster in ocean → network of arrows point to which countries fish there