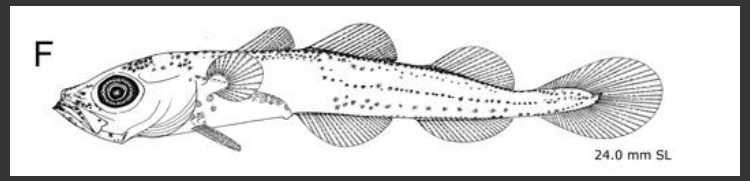
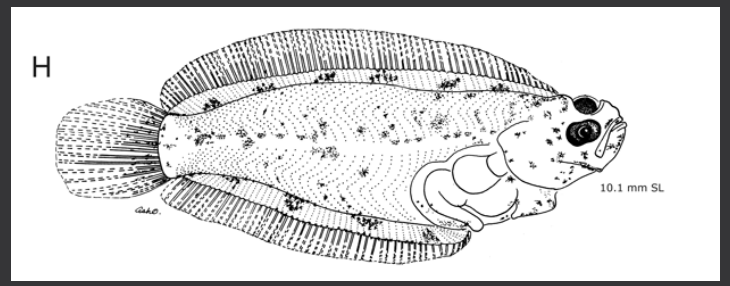
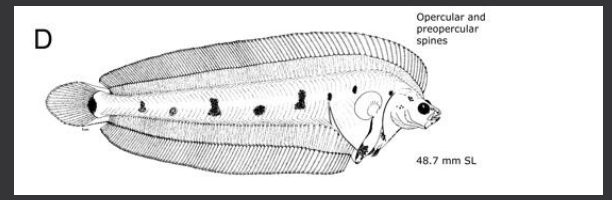






Environmental Relationships of Fishes

Spawning behavior of Bering Sea groundfishes and larval biogeography: flexibility and environmental associations

Laura Vary, September 30, 2021

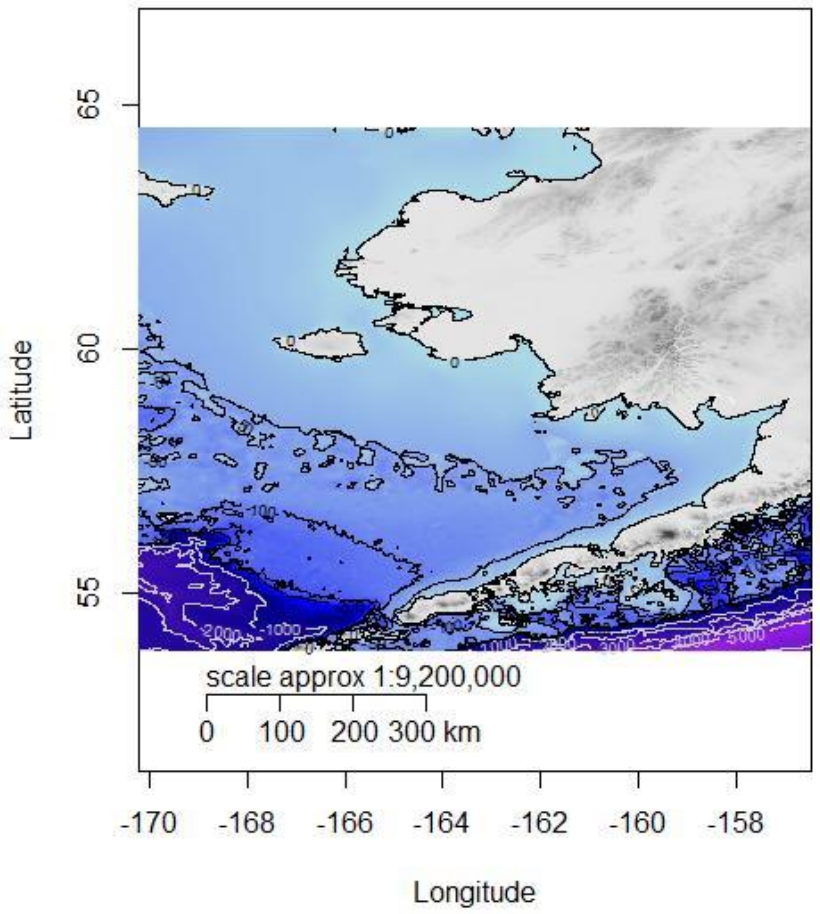
Source: Ichthyoplankton Information System, Alaska Fisheries Science Center

My Background

- Undergrad in marine ecology and organismal biology at UC Davis
- Largely qualitative background with a handful of R experiences
- Current MSc second year in Marine Resource Management in a quantitative research project
- Last year was 90% RStudio investigation, learning, and troubleshooting
- Highly recommended course by two lab mates – want to improve my quantitative skillset and work process

Background Research Information

- The Bering Sea is highly productive, supporting massive global fisheries, coastal communities, and large marine populations
- It is highly volatile, with pronounced environmental variability
- Spawning behavior is largely consistent in marine fishes and is typically fixed in either space or time to promote survival among eggs and larvae
- Climate change is occurring rapidly in this region
- Project Questions:
  - Is there flexibility in spawning behavior of spatially or temporally constrained species?
  - What types of water mass characteristics do larvae tend to be associated with?



Goals and Challenges

Goals:

- A repository including my workflow processes for all species, eggs and larvae, to share with my committee
  - Generalized additive models with variable coefficients: latitude, longitude, day of year, salinity, temperature
- A subset or separate repository with data cleaning processes of hydrographic data and subsequent incorporation into analyses
- A style guide with workflow map and naming conventions

Challenges:

- A lot (>100) of large files that may be difficult to clearly identify/organize, with no known naming conventions used by NOAA or AFSC
- Not super tech-savvy, still growing my expertise in coding languages and functionalities