This folder contains the necessary codes to process the data, conduct spatial analyses, and generate figures. To ensure all required layers and datasets are processed and created, please follow the numeric sequence provided below.

**Codes Overview:**

1. **Codes 1-2**: These codes will process the Kelp and MPA shapefiles and export the following files to the "Processed" folder:
   * clean\_kelp.gpkg
   * clean\_mpas.gpkg
2. **Code 3**: This code will perform spatial intersections and export the results to the "Outputs/Protection Status" folder:
   * intersected\_kelp\_mpa\_ecoregion.rds
   * intersected\_kelp\_mpa\_ecoregion.gpkg
3. **Code 5**: This code will generate protection statistics and export four CSV files to the "Protection Status" folder.
4. **Code 6**: This code will estimate the mean cumulative marine heatwaves for each period and create a raster with the mean values for each ecoregion, SSP scenario, and time frame. The following CSV files will be exported to the "Outputs" folder:
   * Mean\_MHWs.csv
   * Ecoregions\_mean\_MHWs.csv