These netCDF files contain data from ROMS regional ocean model experiments subset for the Gulf of Maine region. Each contain 12 months starting in January, ending in December. Latitude (lat) and longitude (lon) in the model are two-dimensional in (y,x) named (eta\_rho, xi\_rho). The y,x are not oriented N/S/E/W, but are rotated to follow the NE US coast line.

Each file contains the climate from the control experiment (cntrl) which represents the 1976-2005 climate. Each file also has anomalies (scaled to 2050) where the climate change signal from 3 CMIP5 models was added to the CTRL forcing (gfdl2050, ipsl2050, hadgem2050). These are the downscaled projected changes (relative to 1976-2005) for the 2050 climate in the GOM.

**There are 4 single level files:**

sss.ROMS.2050.GOM.anom.nc :Sea Surface Salinity (PSU)

sst.ROMS.2050.GOM.anom.nc :Sea Surface Temperature (deg C)

botSalt.ROMS.2050.GOM.anom.nc :Bottom (<300m depth) Salinity (PSU)

botT.ROMS.2050.GOM.anom.nc :Bottom (<300m depth) Temperature (deg C)

**There are 5 multilevel files with 18 depths**

(10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 125, 150, 175, 200, 225, 250, 275, 300 meters):

These files also contain the model bathymetry for GOM.

temp.depth.ROMS.2050.GOM.anom.nc :Ocean Temp (deg C)

salinity.depth.ROMS.2050.GOM.anom.nc :Ocean Salinity (PSU)

U.velocity.depth.ROMS.2050.GOM.anom.nc :Ocean Zonal Velocity (cm/s)

V.velocity.depth.ROMS.2050.GOM.anom.nc :Ocean Meridional Velocity (cm/s)

velocity.depth.ROMS.2050.GOM.anom.nc :Ocean Velocity Magnitude (cm/s)

:Use velocity magnitude when interested in

:changes in total velocity instead of U,V

:components. Velocity is computed from 5 :day average U, V

**One additional file** is for dissolved inorganic carbon. It was not produced in the ROMS downscaled experiments since they did not have BGC processes. This is from the Ensemble Mean CMIP5 BGC models on a 1 degree x 1 degree grid.

dic.CMIP5.ensmn.2050.GOM.anom.nc :dissolved inorganic carbon and surface

:(10^-2 mol m^-3)

Contains the Jan-Dec historical climate (climhist) and 2050 anomalies (anom2050) and lat and lon.

You can check your results with the files in the [Images](https://drive.google.com/open?id=1-QfjtcWKIUcp6aDt4XWiBjtD1CngpP4G) directory to see if you are reading the data correctly. Send questions to Jamie Scott (james.d.scott@noaa.gov).