**Description in words**

The biophysical model used in this study is a Larval TRANSport Lagrangian model (LTRANS v.2b; (North et al. 2011)) that takes output from the Regional Ocean Modeling System (ROMS) (Song and Haidvogel 1994, Foreman et al. 2014) to predict how ocean circulation impacts passive particle dispersal on the Pacific Coast of Canada. The ROMS had a ~3 km horizontal resolution and 30 sigma layers in the vertical (Morrison et al. 2014, Foreman et al. 2014). Larvae were released by dividing the coast into a 20 x 20km grid and releasing 400 passive particles randomly somewhere in the grid. Larvae were released from the benthos every day during June and July for the years 1998 – 2007 and 2068 – 2077 (future projection). Larval positions were recorded daily for 120 days, allowing me to compare dispersal patterns for a large range of PLDs.

**Model fast facts**

**Ocean circulation model:** A larval transport (LTRANS) model applied on the Regional Ocean Modeling System (ROMS).

**How many particles released:** 400 particles released daily for 61 days. Release occurred randomly within every 20 x 20 km2 grid cell. Because release occurred randomly within 20 x 20 km2 grid cell, if you look at different resolution, won’t have same number of larvae releasing from each cell.

**Timing of particle release:** Released daily from June 1 – July 31(61 days) from 1998 – 2007 (10 years) and 2068 - 2077. Particles tracked for 120 days.

**Location of particle release/Spatial extent:** Covers most of Northern Shelf, Straight of Georgia, and Southern Shelf bioregions. Also extends a bit north and south of these areas (see shapefile) but for my thesis I am only using particles within BC. Particles released at the benthos.

**Spatial resolution:** 3 km horizontal resolution (unique vector every 3km). 13 vertical layers with distinct processes from surface to 250m depth.

**Temporal resolution:** Larval lat/lon position and depth recorded every 3 hours. But the data output I am using only has records daily.

**References:**

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