

Supplementary Material

Two years following the Barkley canyon population dynamic of juvenile of *Chionoecetes tanneri*

Pauline Chauvet*, Anna Metaxas, Marjolaine Matabos

* **Correspondence:** pauline.chauvet@ifremer.fr Supplementary Figures and Tables

1.1 Supplementary Figures

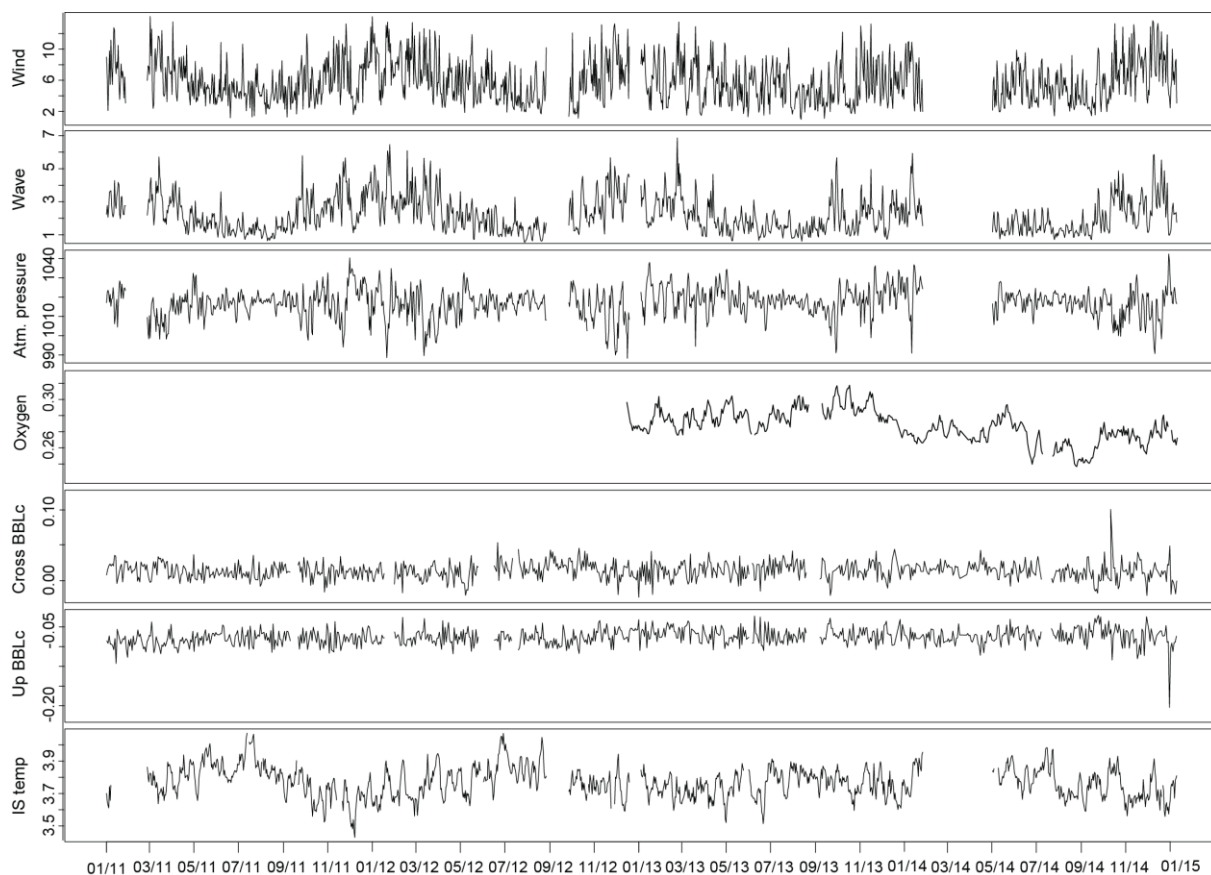


Figure 1: Time-series of some of the environmental parameters used for analysis. Wind (m/s), wave (m) and atmospheric pressure (atm in dbar) are given by la Perouse bank buoy from 1 January 2011 to 11 January 2015. In-situ temperature ($^{\circ}\text{C}$), up and cross Benthic Boundary Layer currents (BBLc) (m/s) were measured by ADCP 2MHz and oxygen (mL/L) was measured by an optode at 985 m depth at the axis station of Barkley canyon from 1 January 2011 to 11 January 2015. Wind strength and significant wave height followed the same seasonal pattern over 4 years of sampling with a decrease starting in April of each year, a minimum centered on July followed by an increase in October to reach a maximum in January. Atmospheric pressure and in situ temperature followed an opposite pattern.

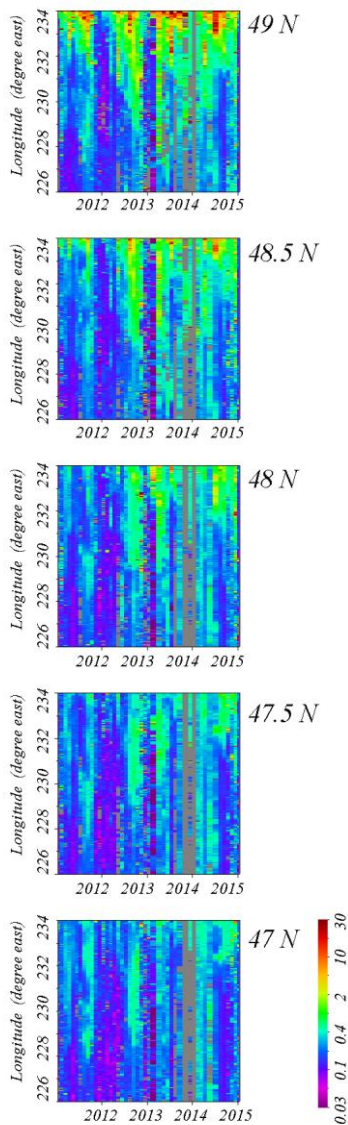


Figure 2: Surface Chlorophyll Concentration (mg/m³), Chlorophyll-a, Aqua Modis, NPP, 0.025 degrees, North East Pacific Ocean, off Vancouver coast, from 01 January 2011 to 11 January 2015. For each square there is the experimental monthly composite of chlorophyll with longitude from 226°E to 234 °E in function of time; from latitude =49°N (top square) to latitude = 47°N (bottom square). Data courtesy of NOAA NMFS SWFSC ERD. The highest concentration in surface chlorophyll was observed during late summer of each year and at slightly northern location than Barkley canyon (49° N versus 48.2°N). Winter 2013-2014 revealed a smaller decrease in concentration and summer 2014 showed higher concentration levels than the other years.

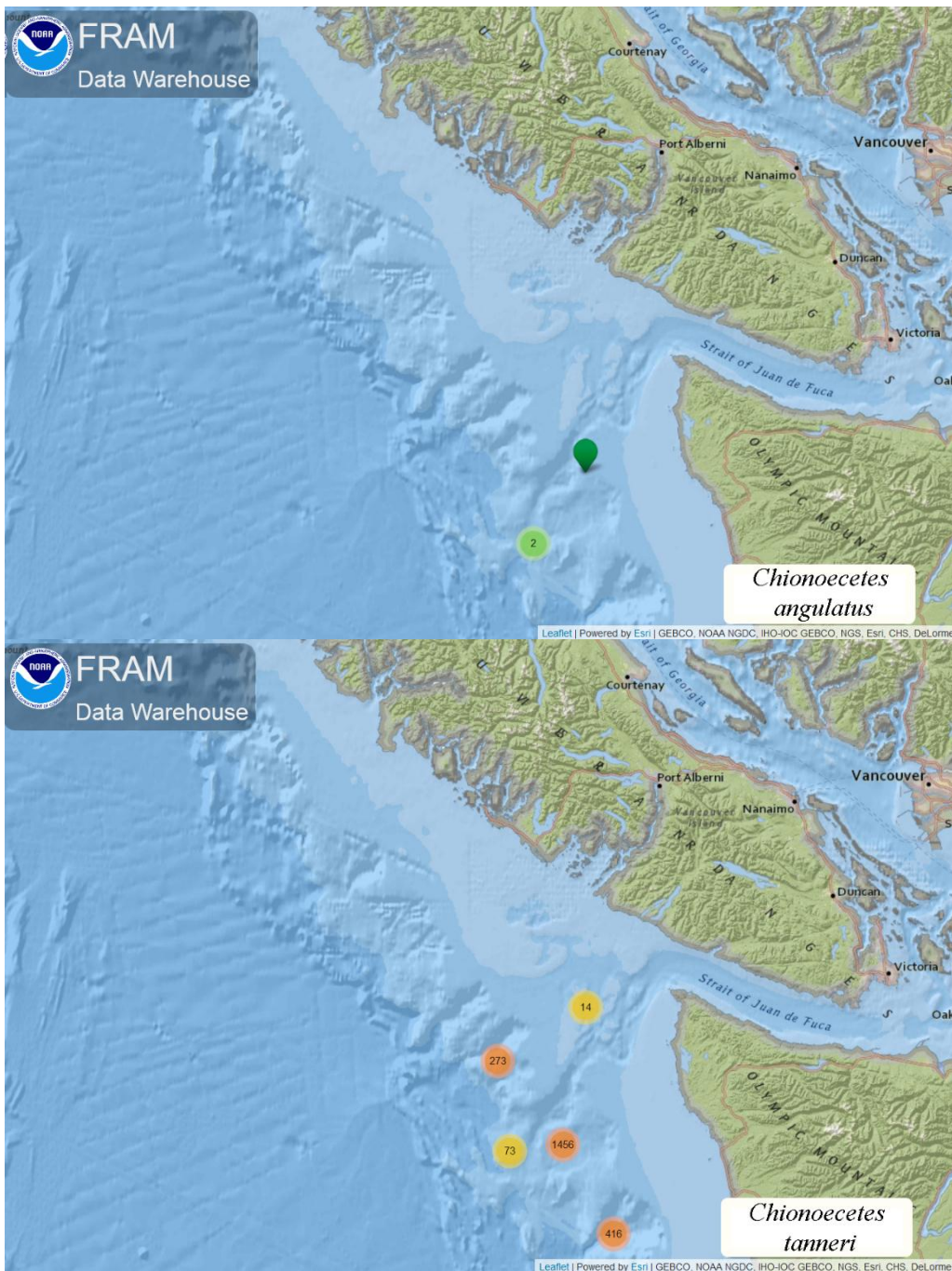


Figure 3: Map of *Chionoecetes tanneri* (bottom) and *C.angulatus* (top) caught by trawl survey from 1975 to 2016 furnished by the FRAM Data Warehouse based on all data collected by the NOAA Northwest Fisheries Science Center (NWFS) Fishery Resource Analysis and Monitoring (FRAM) division. West Coast Groundfish Bottom Trawl Survey, NOAA Fisheries, NWFS/FRAM, 2725 Montlake Blvd. East, Seattle, WA 98112.

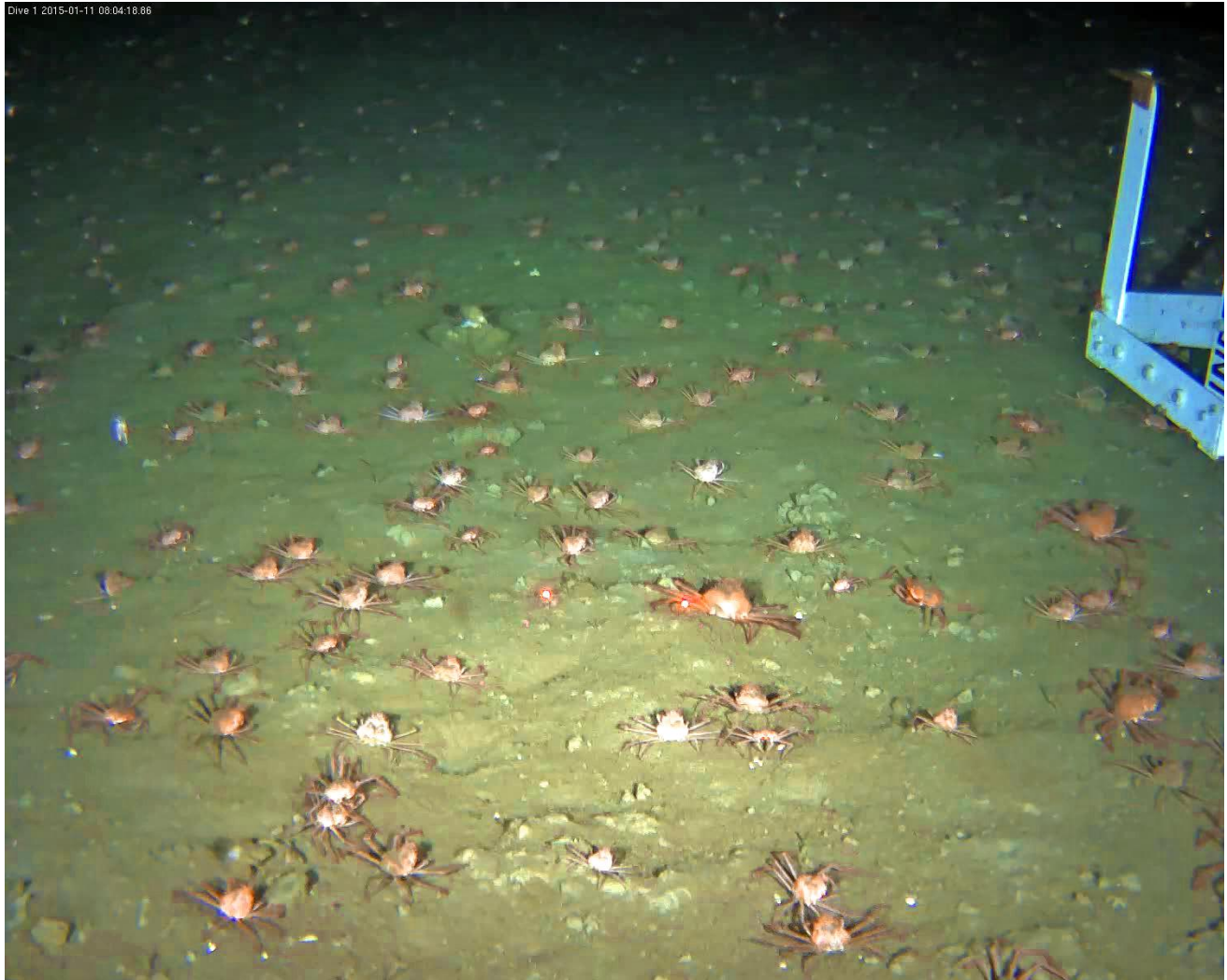


Figure 4: Snapshot of the video record the 11 of January at the axis of Barkley Canyon (985 m depth). The density of crab this day was unusually high comforting the hypothesis of migration events for this population. To see the video, please follow this link : <https://dmas.uvic.ca/SeaTube?resourceTypeId=1000&resourceId=23152&diveId=15398552&time=2015-01-11T10:00:10.000Z>