**2019 ITAE Field Asset Overview**

*Pop-up Float*

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| --- | --- | --- | --- |
| **Principal Investigator** | Dr. Phyllis Stabeno | **Requesting Organization** | NOAA’s Pacific Marine Environmental Lab  Seattle, WA |
| **Mission Name** | Oceanographic Controls on Pollock migration | **No. of Assets** | 16 |
| **Duration** | July 2019 – July 2020 | **Data Mission Days** | Up to 2 years |
| **Launch Location** | N/A | **Recovery Location** | Not applicable, no recovery |
| **OPAREA** | Bering Sea | | |

Background

**How do bottom-up mechanisms (e.g. temperature and light) control the seasonal feeding migration of pollock over the Bering Sea shelf?** The Pop-up floats will be used to help capture seasonal changes in bottom temperatures and the vertical structure of light in the water column in a large-scale grid ranging from just south of M8 to just south of M5. The data will be paired with temperature, PAR and ADCP measurements from M8 and M5, and acoustic fish biomass data from seafloor-mounted upward-looking echosounders (SMEs). Bottom temperature, light availability and current measurements will be used to fill in knowledge gaps on the seasonal migration of pollock over the shelf in relation to the cold pool and ambient light.

Mission Overview

A grid of pop-up floats will be anchored in two main transect lines running perpendicular to the shelf to determine the spatiotemporal variability of the cold pool over an entire year. A subset of these floats will also include PAR sensors to determine the spatiotemporal variability of available light along the bottom of the shelf. Deployments will take place on the OS19-03 and the OD19-08 cruises.

Objectives

* Load 5 Pop-ups (3 w/ PAR) on R/V Ocean Starr early July 2019
* Ship 11 Pop-ups (1 w/ PAR) to NOAAS Oscar Dyson early September 2019
* Deploy 5 Pop-ups from R/V Ocean Starr on OS19-03 return leg to Dutch Harbor, AK early October 2019
* Deploy 11 Pop-ups from NOAAS Oscar Dyson on OD19-08 Fall Mooring Cruise in late September/ early October 2019
* Pop-ups collect cold pool bottom temps and PAR measurements, release periodically throughout late winter/spring 2019
* Late Spring/ summer 2019 data transmits back to PMEL, provides first look at cold pool conditions from the winter of 2019
* Continue receiving surface drifter data for up to 2 years, develop automated user interface for Pop-up database, have data included in the National Data Buoy Center and NWS sea surface measurement input.

Sensor Table

|  |  |  |
| --- | --- | --- |
| **S/N** | **INSTRUMENTATION** | **Total Units Required** |
| Pop-up S/N 208, 209, 211, 216 | Temp + PAR | 4 |
| Pop-up S/N 210, 212, 213, 214, 215, 217, 218, 219, 220, 221, 222 223 | Temp only | 12 |

Acknowledgements

Programs:

Innovative Technology for Arctic Exploration (ITAE)

NOAA’s Arctic Integrated Ecosystem Research Program (AIERP)

NOAA’s Ecosystem-Fisheries Oceanography Coordinated Investigations (EcoFOCI)

R/V Ocean Starr

NOAAS Oscar Dyson

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Map

\*\*Calvin will provide deployment locations

(As available, **only as an attachment in an email to heather.tabisola@noaa.gov**, please provide a map of your operating region, or planned cruise track in both of the following formats;

* PNG
* Excel or CSV file(s) of Lat/Longs in degrees decimal minutes AND decimal degrees)