

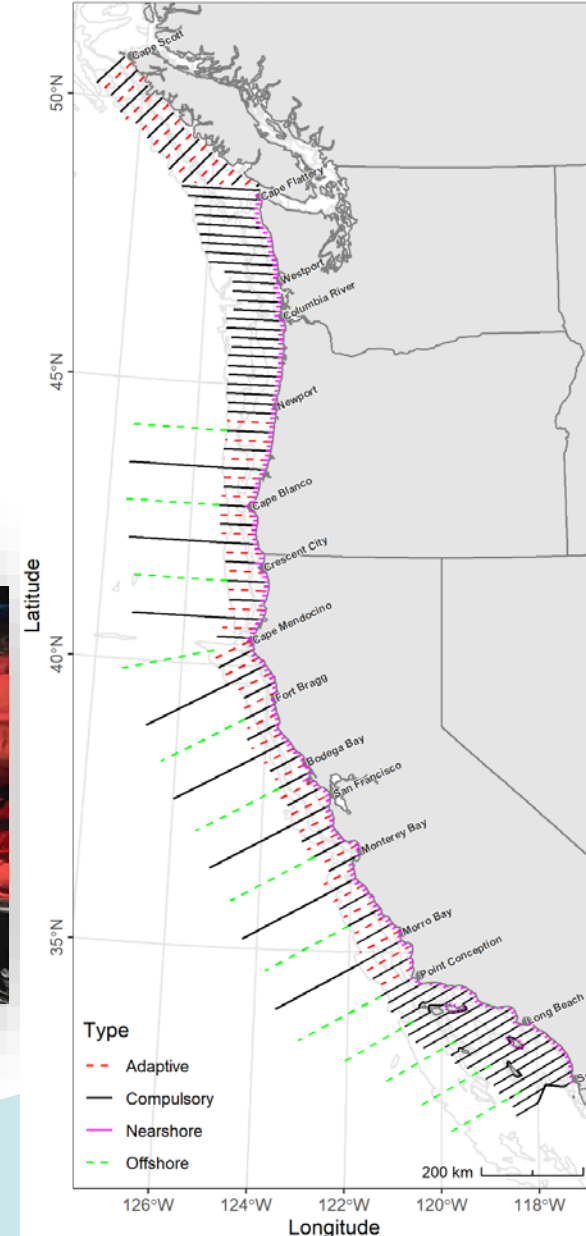
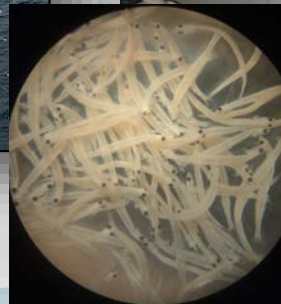


**NOAA**  
**FISHERIES**

Southwest  
Fisheries  
Science Center

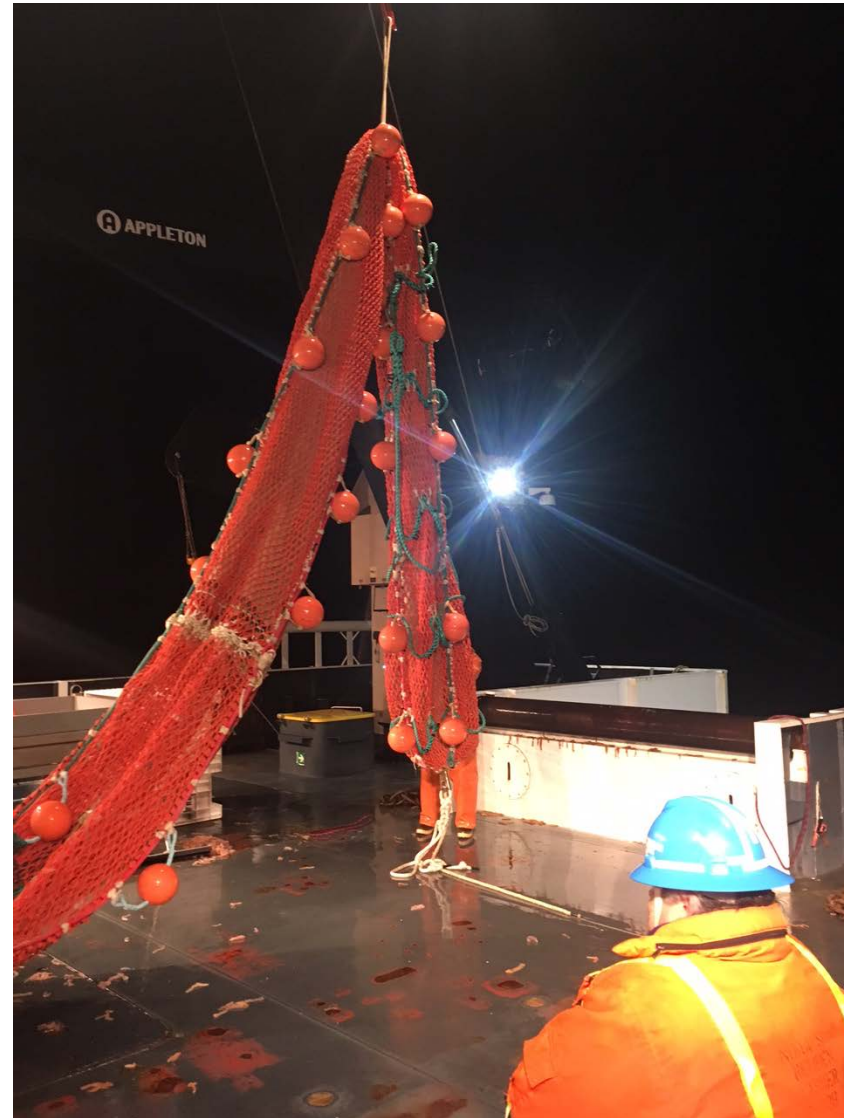
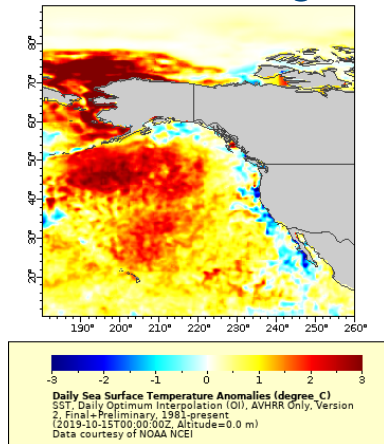
# NMFS Report SWFSC Activities Coastal Pelagic Species

Dale Sweetnam



# Presentation Outline

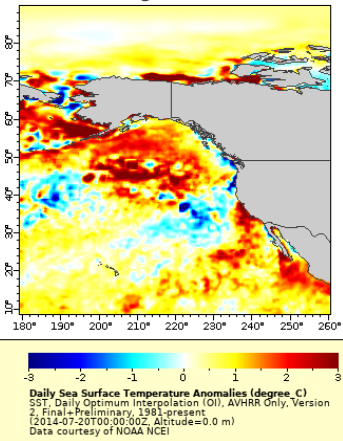
1. Marine Heatwave Update
2. CPS Research Update
3. Upcoming 2020 CPS Surveys
4. Upcoming CPS Meetings
5. Cooperative Research with Industry



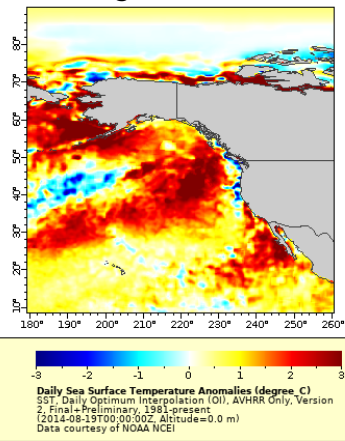


# Current MHW vs. "The Blob": SST anomalies

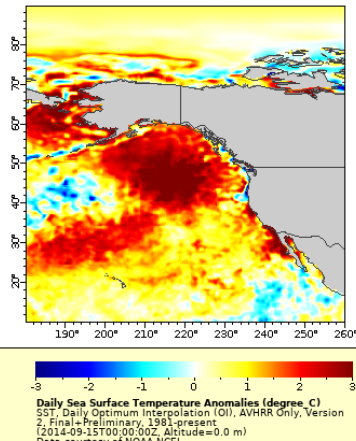
July 2014



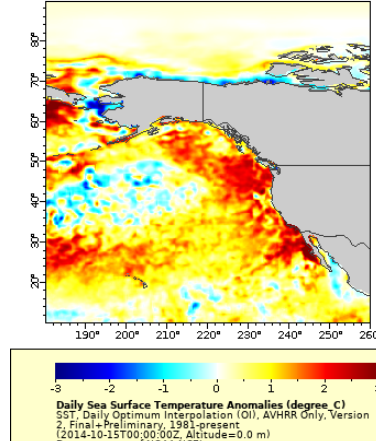
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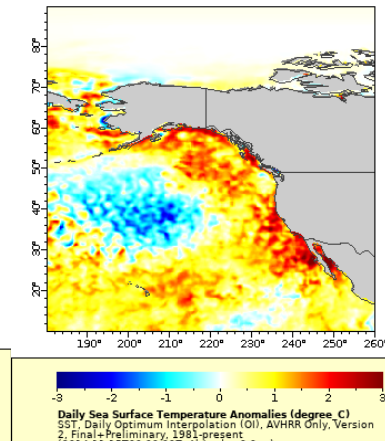
Sept 15, 2014



Oct 15, 2014

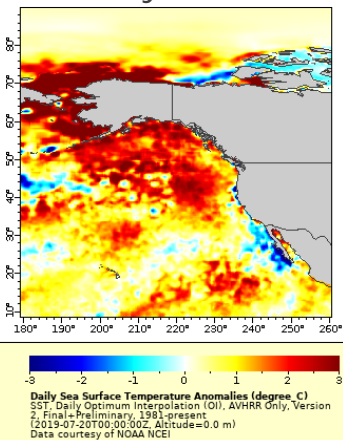


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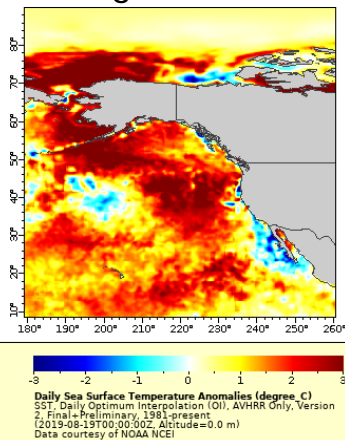


## Current MHW

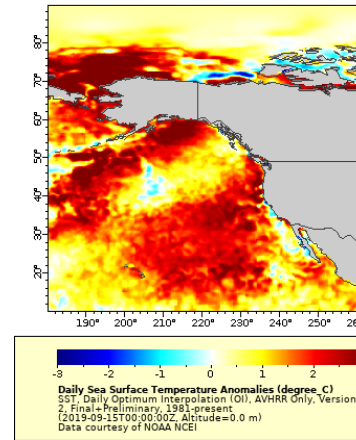
July 2019



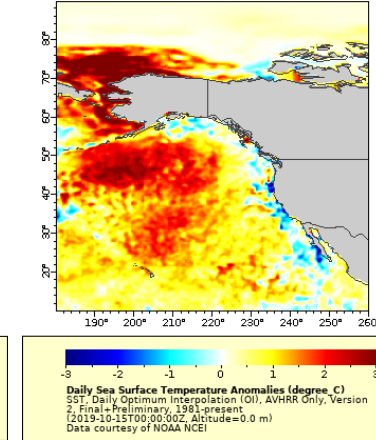
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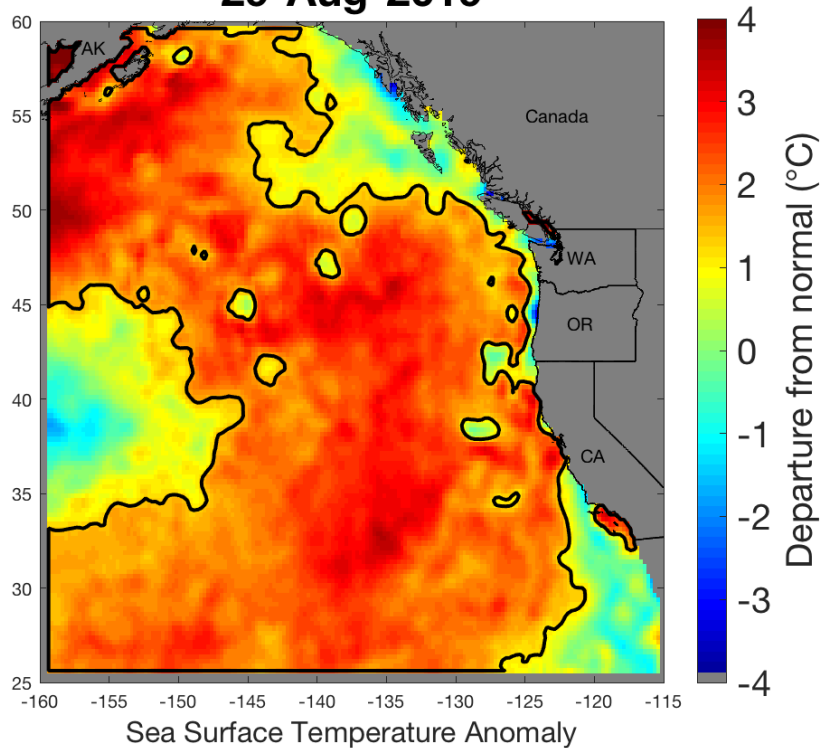
Sept 15, 2019



Oct 15, 2019



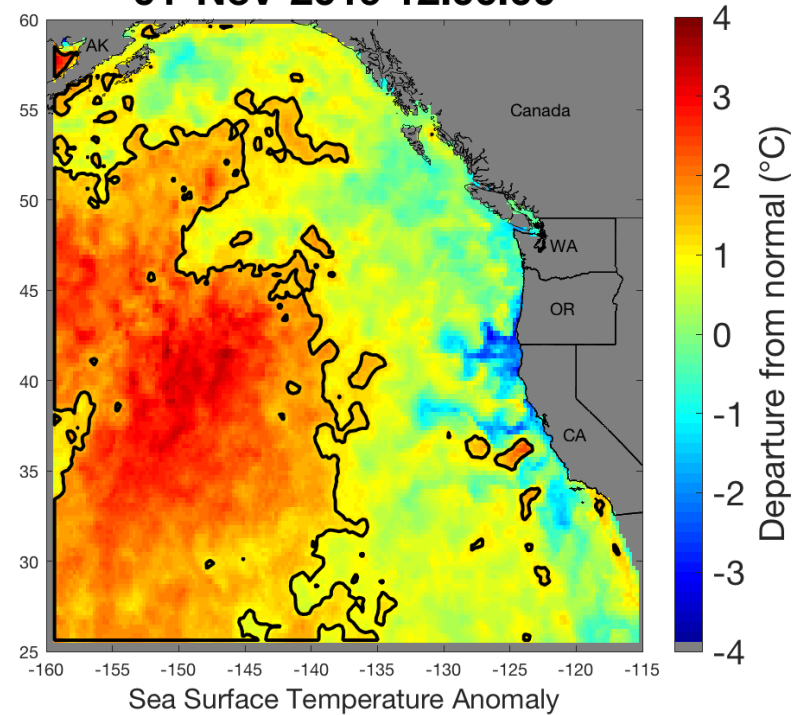
**29-Aug-2019**



The 2019 MHW at its maximum extent and intensity

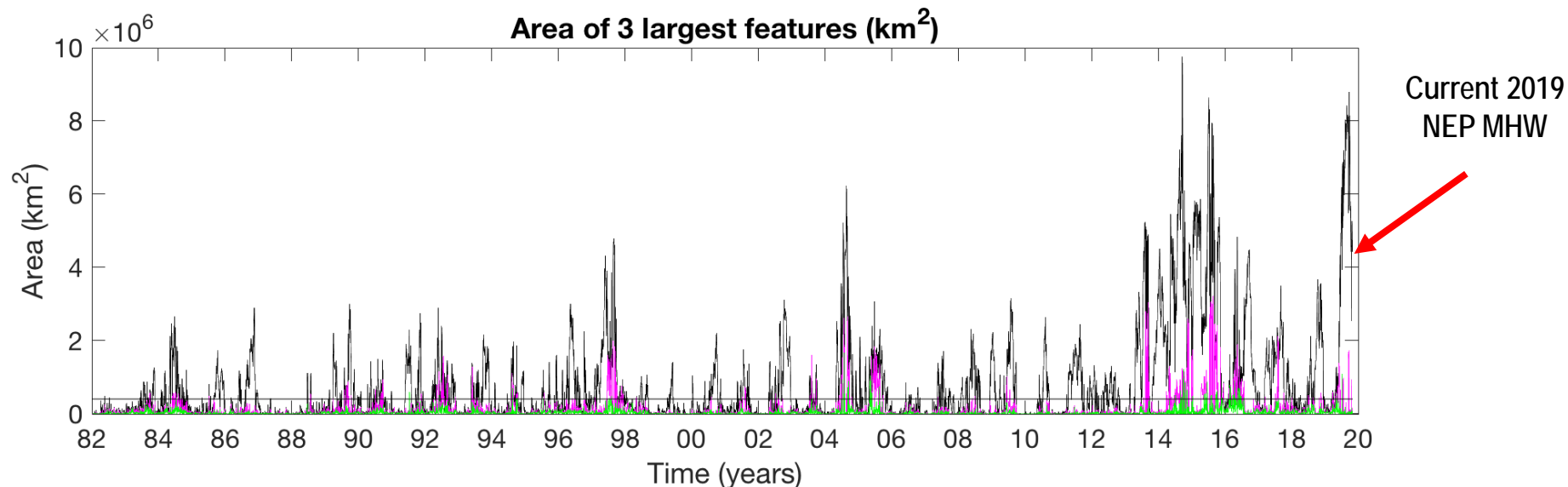
The MHW is still very big and very strong, but it is now much further offshore, with likely minimal coastal impacts.

**01-Nov-2019 12:00:00**



Leising, et al., in review

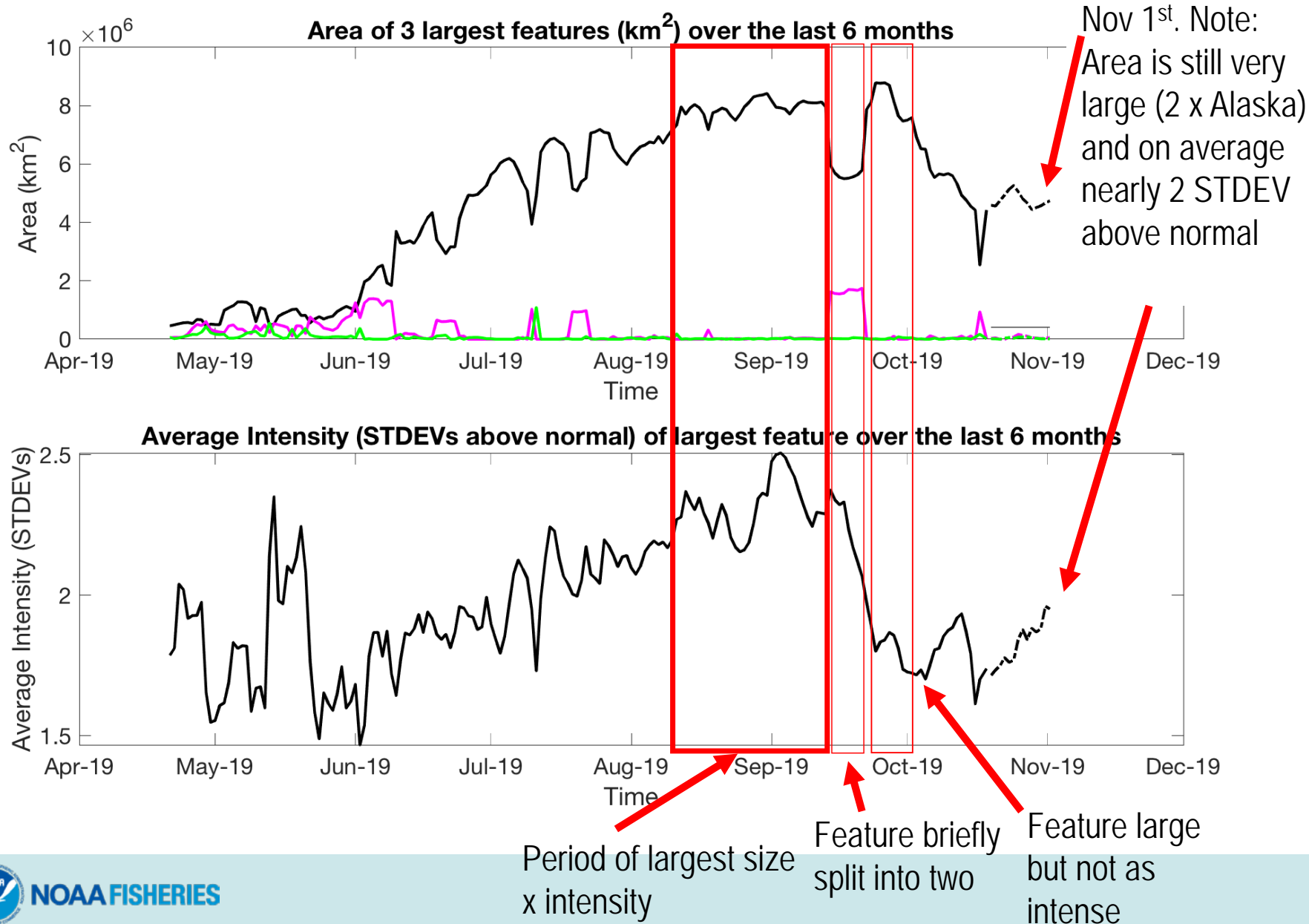
# Areal extent compared to past MHWs in the NE Pacific



Area of MHWs in the NE Pacific over time. The different colors denote times when there were multiple, spatially separate MHWs on any given day. The horizontal line is for reference at  $\sim 500,000 \text{ km}^2$ , the proposed threshold for the “regional” portion of declaring a MHW.

Leising, et al., in review

# Area and intensity over the last 6 months



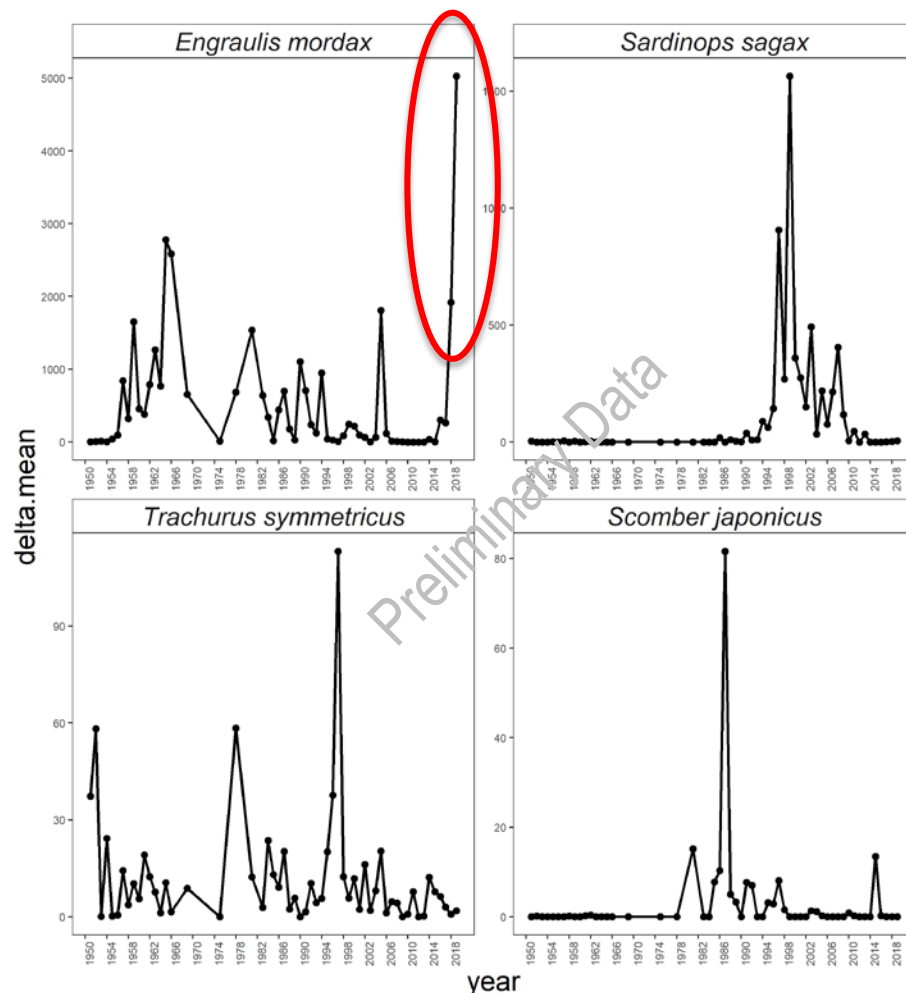
# Research Update

## 1. 2019 Spring CalCOFI Survey

- Northern Anchovy larval abundance was highest in 70 year history of CalCOFI
- Abundance levels were nearly double previous record highs in the 1960s



Mean delta abundances of ichthyoplankton from coastal pelagic species collected on CalCOFI lines 80 and 90

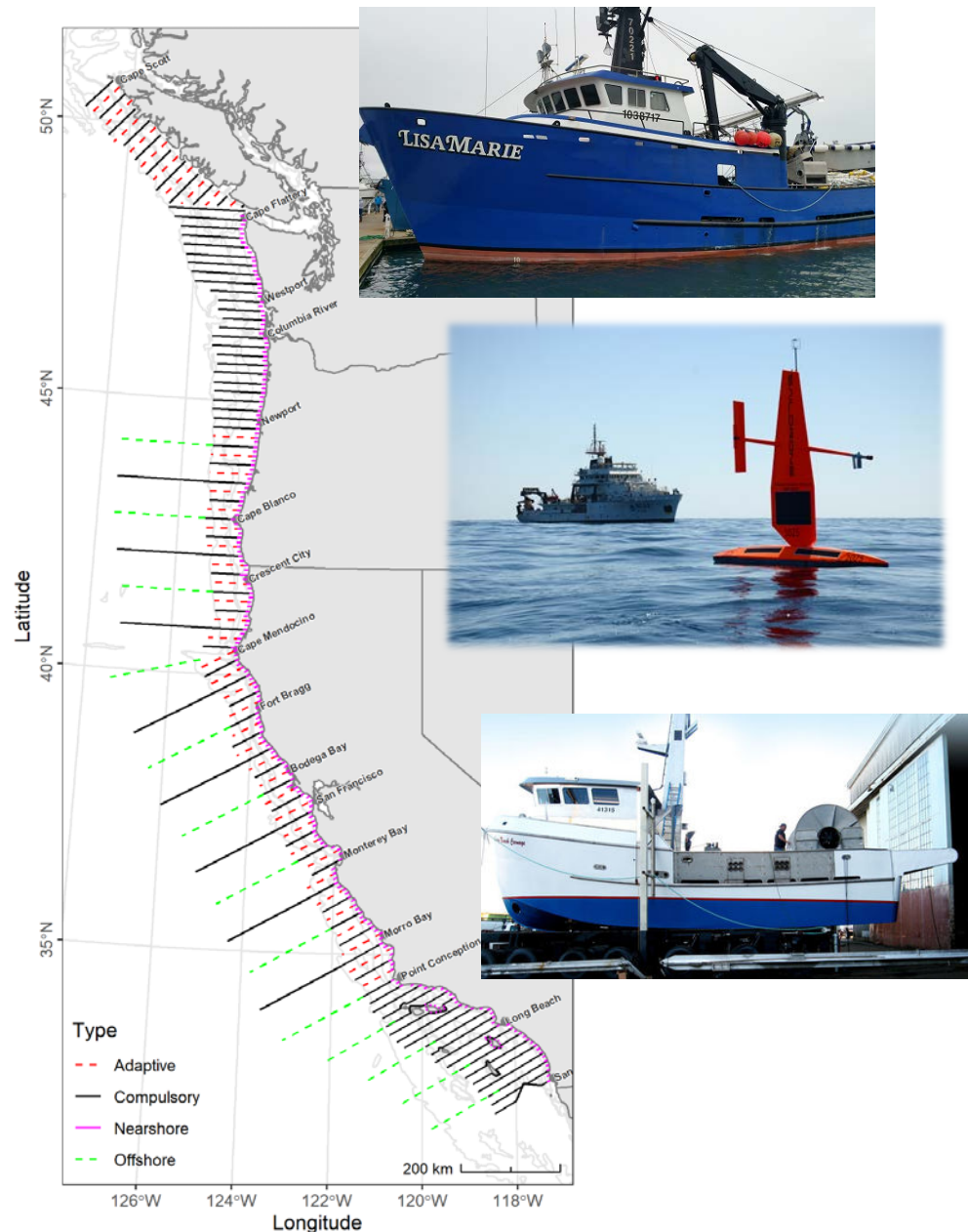




# Research Update

## 2. 2019 Summer California Current Ecosystem Survey

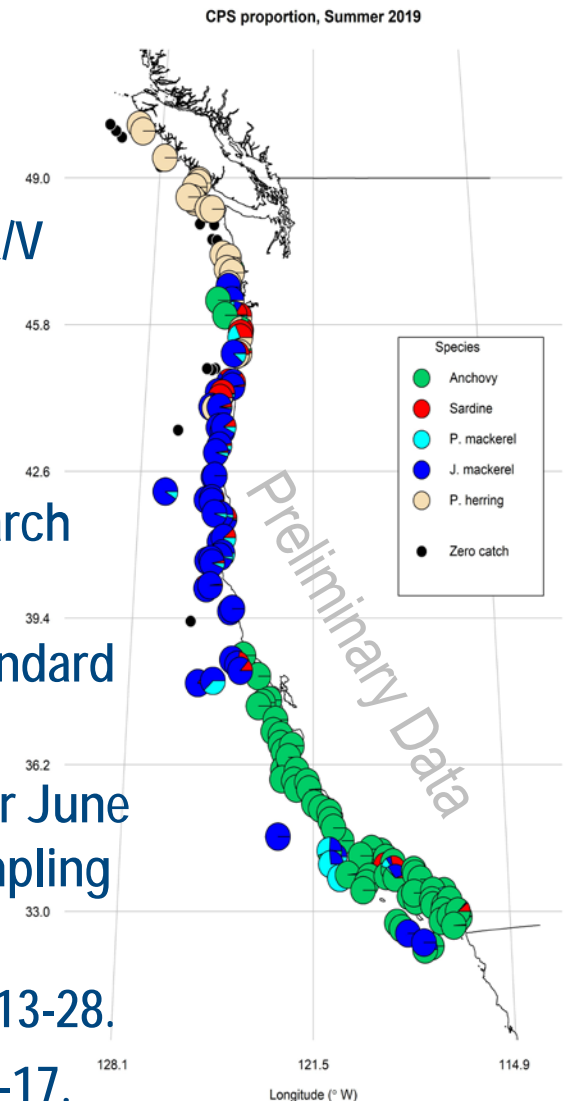
- 80-day survey completed BC to BC
- Nearshore acoustic sampling in PNW and SCB with industry vessels
- Saildrone sampling along the Central CA coast
- 2019 results have yet to be finalized
- SWFSC is encouraged that the use of industry vessels outfitted with similar acoustics and able to sample fish composition with purse seines appears to be the most comparable to the ATM survey to sample nearshore areas (see Agenda Item D.4)





# 2020 Upcoming Surveys

- Fall CalCOFI survey - left November 4 aboard the UNOLS R/V Oceanus and will return on November 19.
- Winter 2020 CalCOFI survey - January 4-28 aboard the FSV Reuben Lasker, then drydock for scheduled maintenance.
- Spring 2020 CPS ATM and DEPM survey - FSV Shimada March 25-April 18, 25 DAS.
- Spring CalCOFI survey - FSV Shimada April 23-May 9<sup>th</sup>, standard CalCOFI grid.
- Summer California Current Ecosystem Survey - FSV Lasker June 26-September 23, 80 DAS with Industry collaboratively sampling the nearshore.
- Summer 2020 CalCOFI survey - SIO vessel Sally Ride July 13-28.
- Fall 2020 CalCOFI survey - SIO vessel Sally Ride October 2-17.



Summer 2019

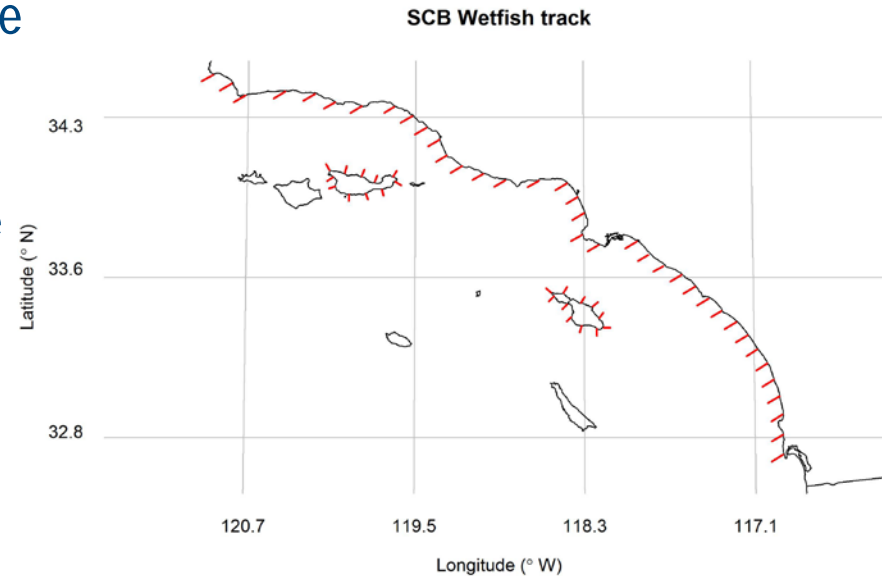
# Upcoming CPS Meetings

- The 2019 CalCOFI Conference (70<sup>th</sup> Anniversary) will be held December 4-6 at the SWFSC in La Jolla.
- The 20<sup>th</sup> annual Trinational Sardine and Small Pelagics Forum December 7-8 at the SWFSC in La Jolla.
- Pacific Sardine benchmark assessment and review (STAR) panel February 24-27 2020 at SWFSC La Jolla.
- The US hopes to hold a MexUS-Pacifico science bilateral meeting early in 2020. A prime topic of discussion will be joint collaborative acoustic surveys along the entire West Coast since INAPESCA's research vessel, Dr. Jorge Carranza Fraser (previously Bipo), is back on the West Coast.



# Cooperative Research with Industry

- SWFSC supports the two EFPs submitted by industry targeted at addressing nearshore sampling issues.
- SWFSC commends the CPS industry for being proactive and taking steps to make the stock assessment science stronger.
- SWFSC is working on establishing these collaborative industry/scientific research endeavors as a standard procedure for sampling nearshore areas.



A photograph of a sunset over the ocean, taken from the deck of a ship. The sun is low on the horizon, creating a bright orange glow and a long, shimmering reflection on the water. The sky is a mix of orange, yellow, and blue. In the foreground, the dark silhouette of a ship's railing and some equipment are visible. On the right side, a portion of a white structure with dark horizontal stripes is visible.

# Questions