NOAA West Watch

Reporting Regional Environmental Conditions & Impacts in the West

January 22, 2019

Call Agenda

- **Project Recap & Updates (Dan McEvoy)**
- Regional Climate and ENSO brief (Dan McEvoy)
- IOOS Nearshore Conditions brief (Jan Newton, Henry Ruhl, Megan Hepner)
- Discussion - Environmental conditions and impacts reporting (All)
  - Additional impacts to share?

Project Recap and Updates

- NOAA West Watch bi-monthly webinars are a project of the NOAA Western Regional Collaboration Team (NOAA West), in partnership with the Western Regional Climate Center with standing contributions from the three Integrated Ocean Observing System Regional Associations.

- Initiated in 2015, evaluated in 2016 and re-instated as a bi-monthly offering in 2018. Current goals:
  - Serve as forum for bring together NOAA staff and partners from across the agency and region to share information about regional scale environmental observations and impacts on human systems.
  - Help facilitate interdisciplinary connections and the exchange of information among agency staff and partners on regional climatic and oceanic conditions, particularly departures from normal.

These webinars are not formal public releases of data.

Project Recap and Updates

- This is the second webinar offering for Fiscal Year 2019 and the Western Regional Climate Center has taken over leading the webinars

- NOAA West has provided funding to the Western Regional Climate Center to offer three webinars in Fiscal Year 2019 (November, January & Spring/Summer timeframe). Next webinar: **TBD**.

- 2019 is a transitional year. The team is investigating options for permanent hosting. If no permanent host and/or operational funding is found, these webinars will conclude at the end of summer, 2019.

- Request: If you find these webinars helpful, or if you have ideas of in-region entities that may be open to taking on this webinar please let me know: (mcevoyd@dri.edu).

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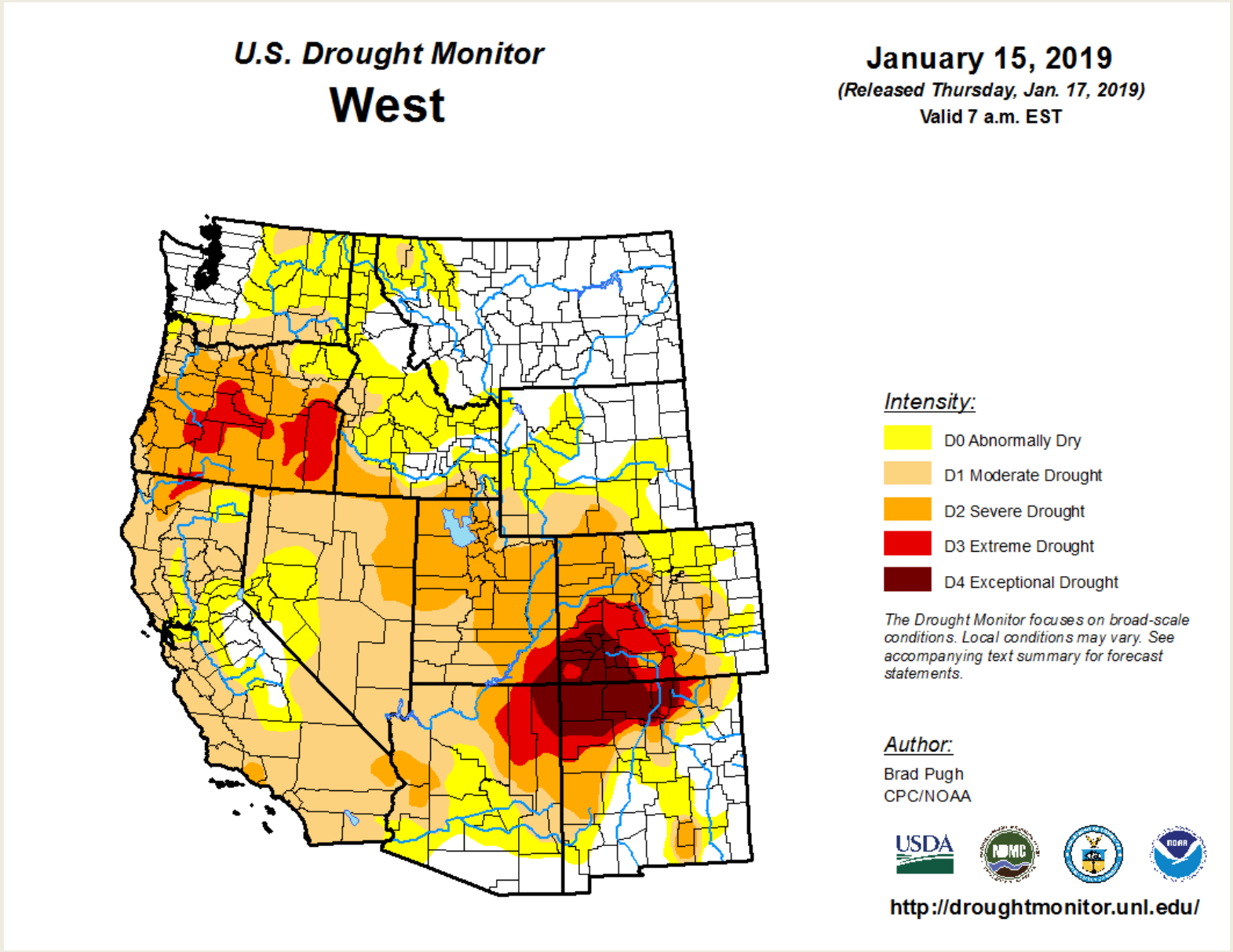
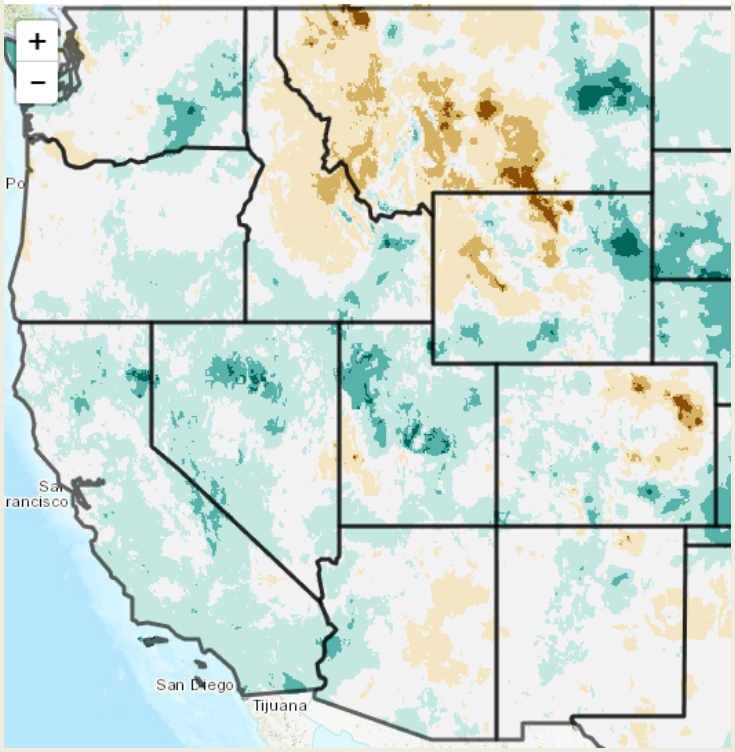
Current US Drought Monitor

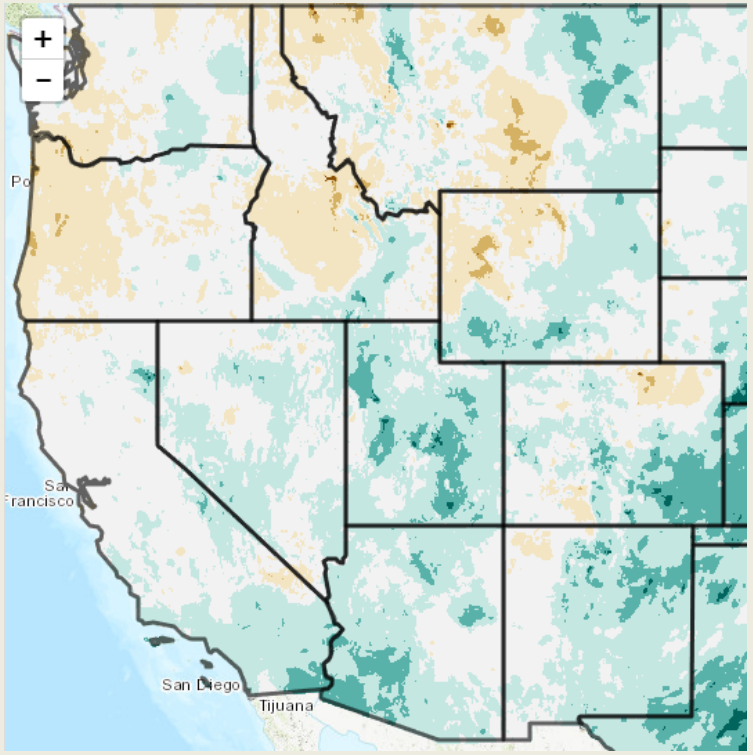


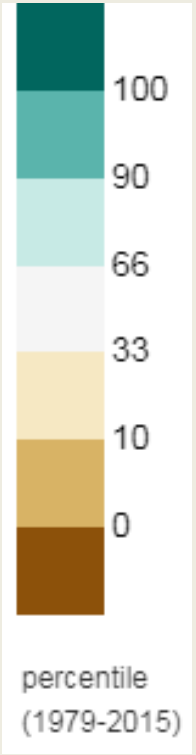
Precipitation

Precipitation Percentile
November 22 – January 20, 2019



Precipitation Percentile
October 1 – January 20, 2019

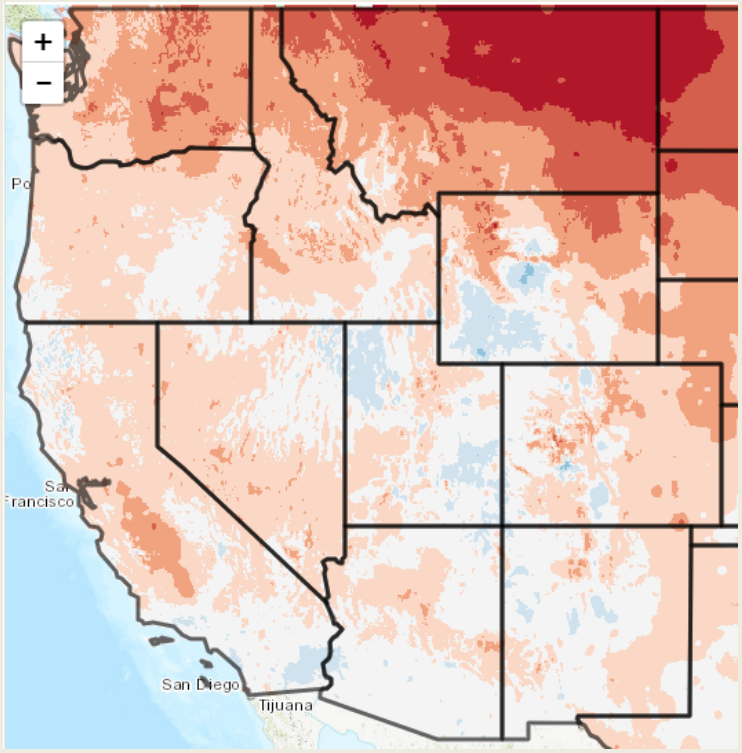




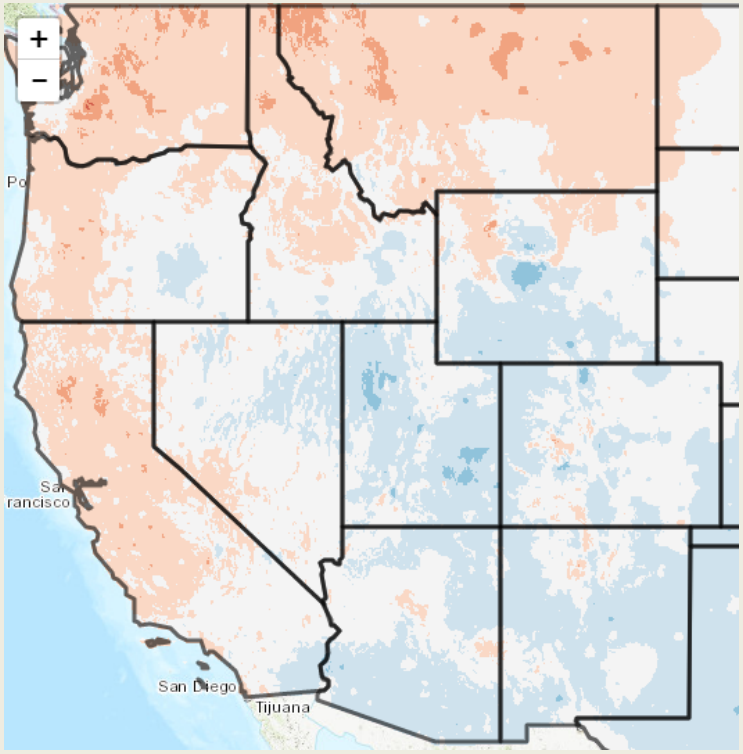
https://climatetoolbox.org/tool/Climate-Mapper

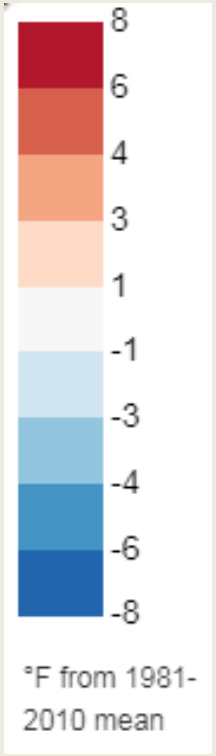
Temperature

Mean Temperature Anomaly
November 22 – January 20, 2019



Mean Temperature Anomaly
October 1 – January 20, 2019





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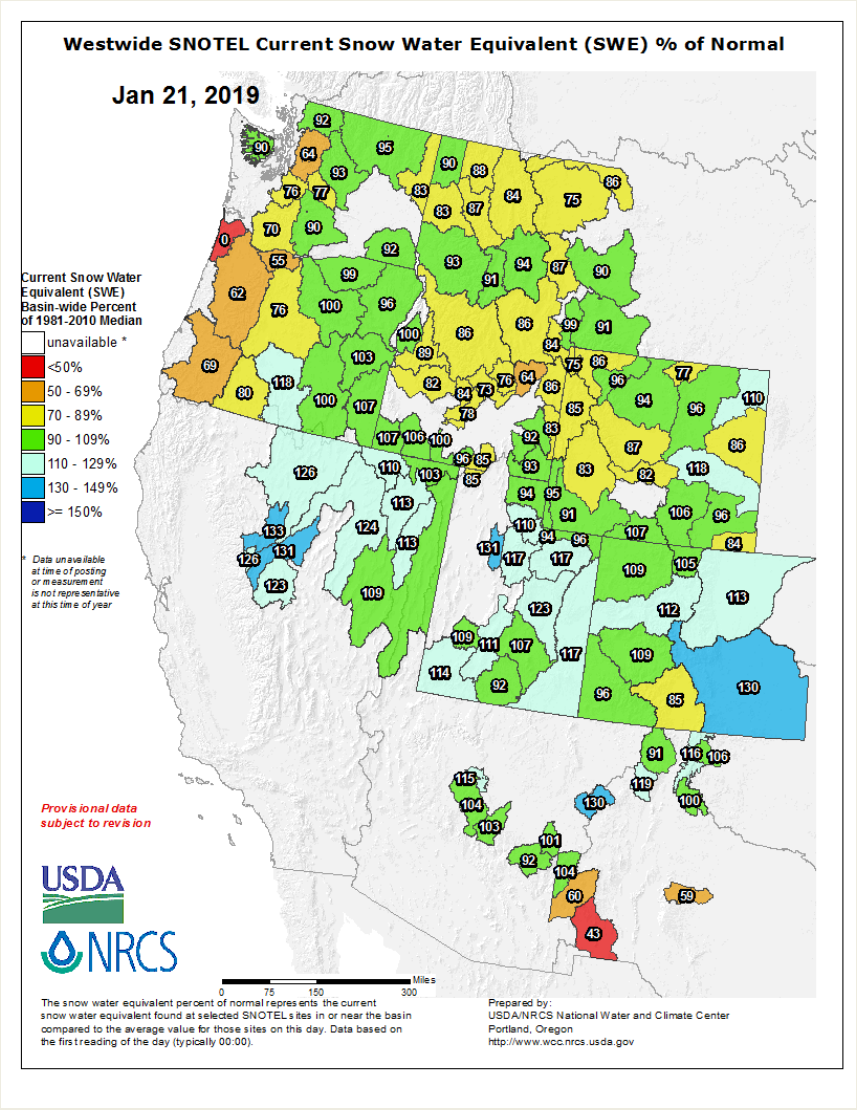
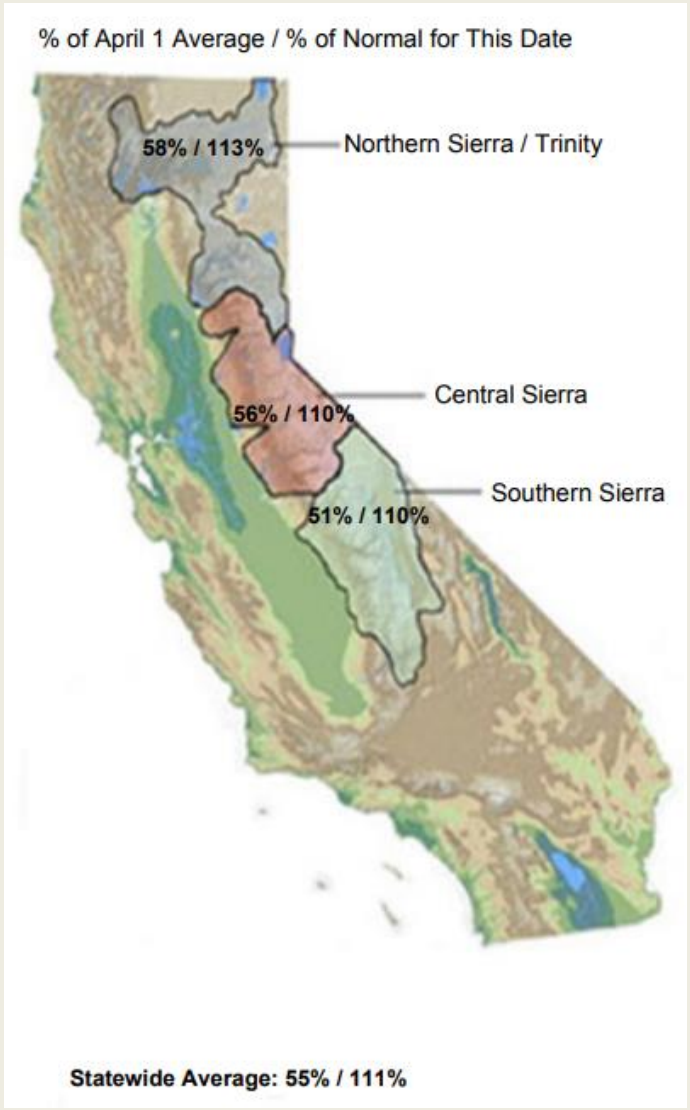
Snowpack





https://www.wcc.nrcs.usda.gov/snow/

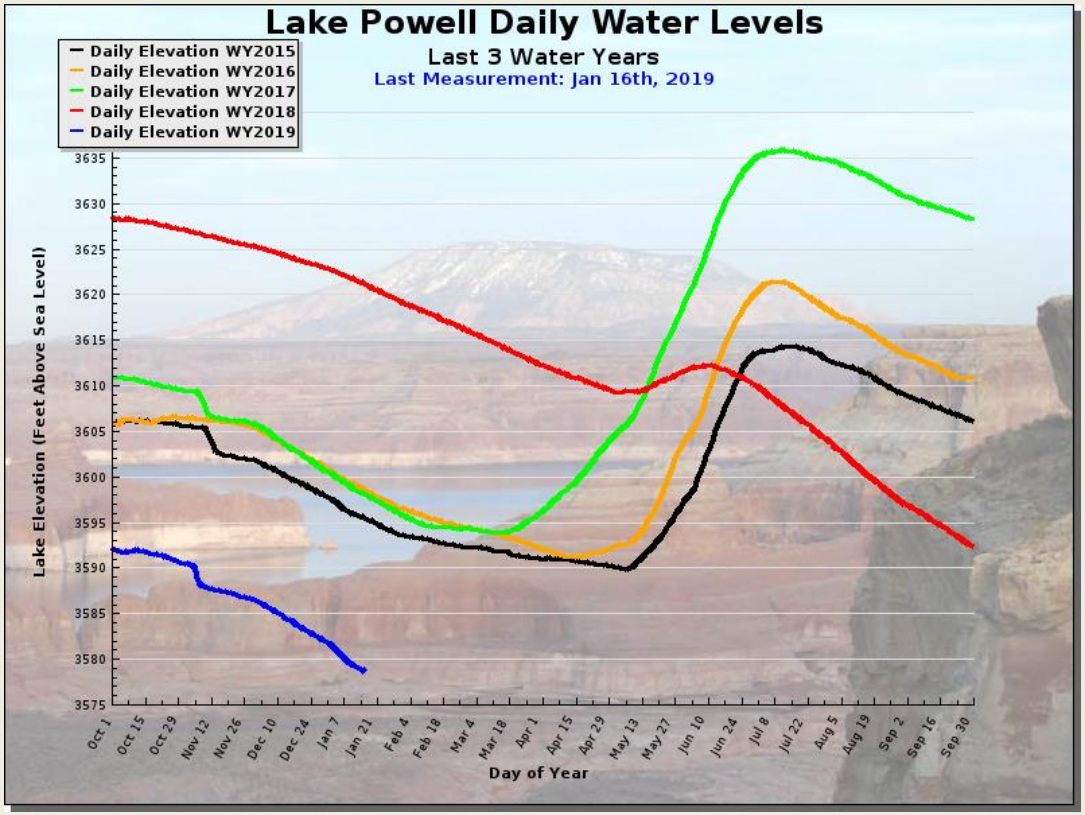
https://cdec.water.ca.gov/

Drought Hangover, CO River Basin

Hangover From 2018 Drought Likely To Deplete Spring Runoff

KUNC

https://www.kunc.org/post/hangover-2018-drought-likely-deplete-spring-runoff#stream/0



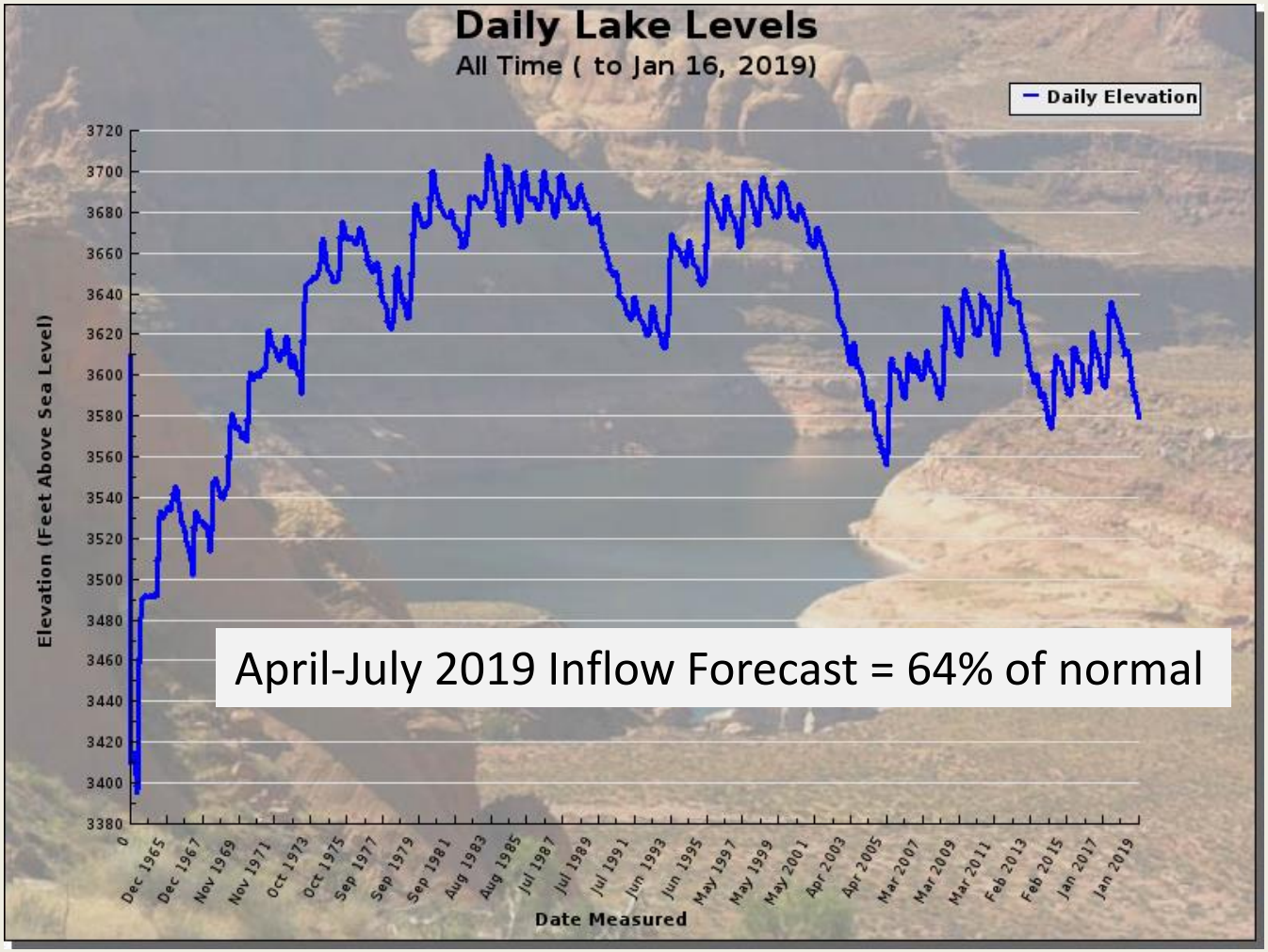
Lake Powell, September 2018

Photo: Luke Runyon/KUNC/Lighthawk

Graph: http://graphs.water-data.com/lakepowell/

Data: USBR

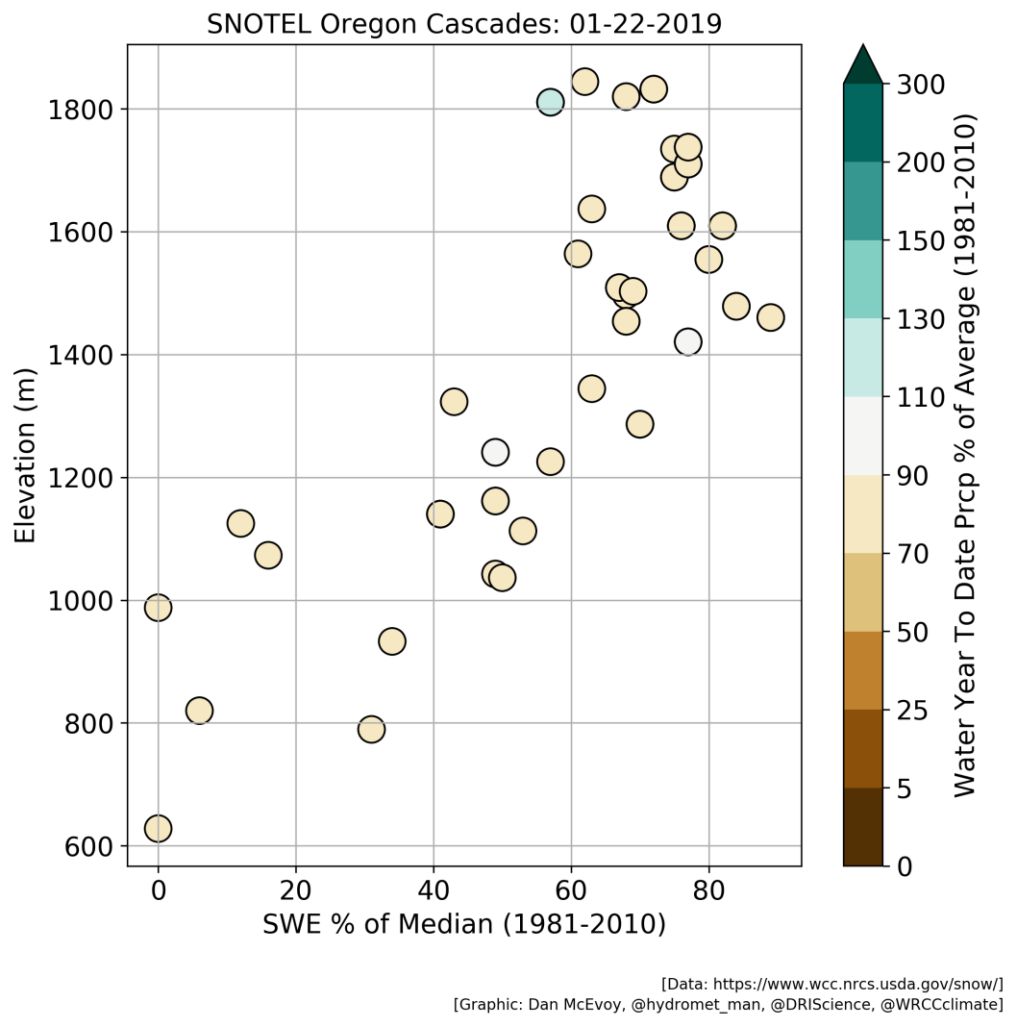
Drought Hangover, CO River Basin

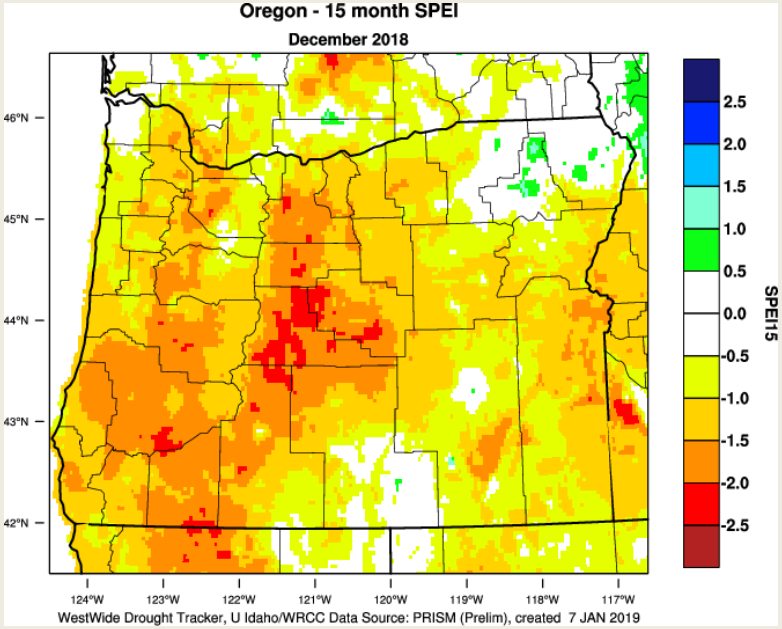


Graph: http://graphs.water-data.com/lakepowell/

Data: USBR

Drought Hangover, Oregon



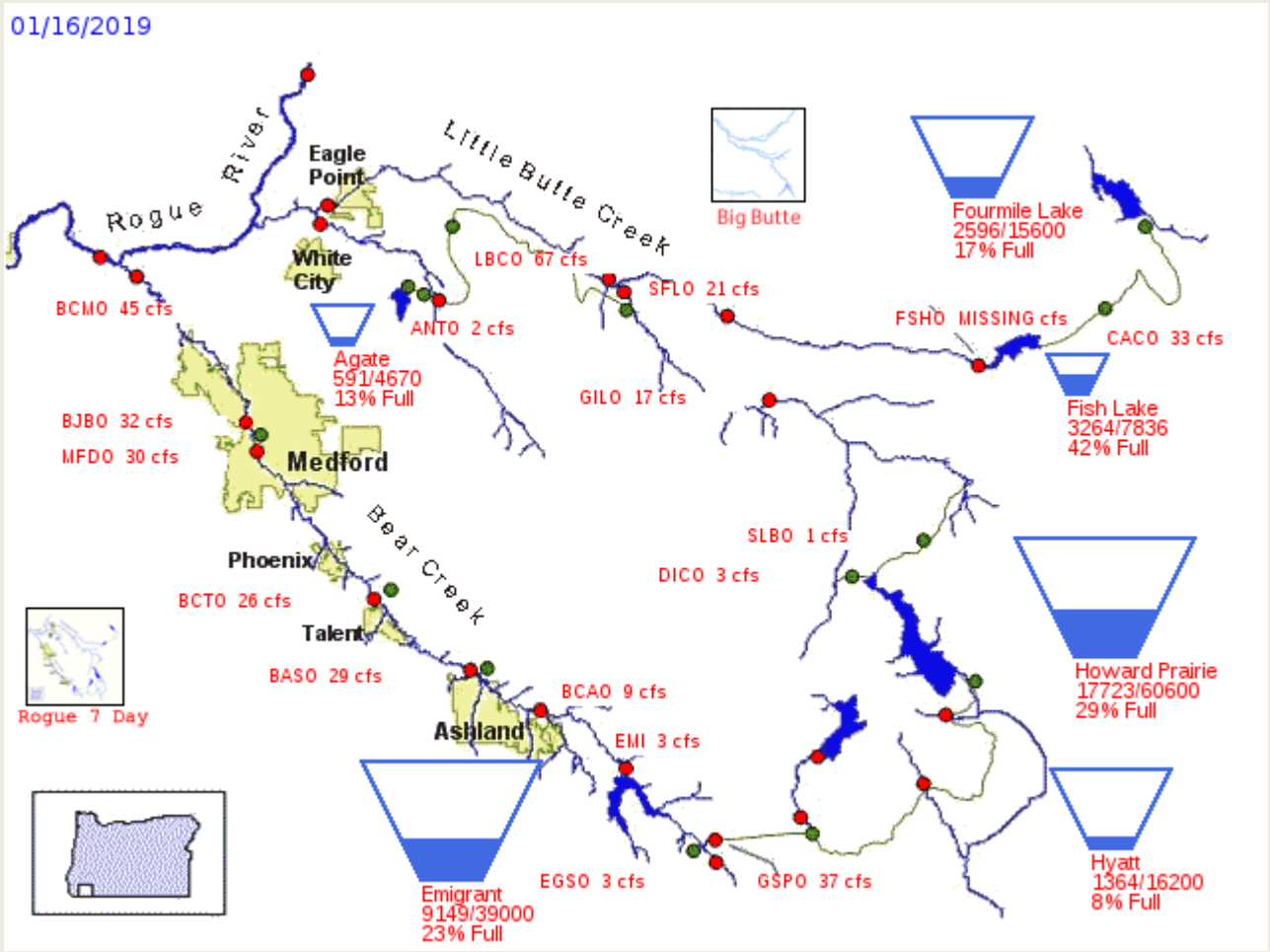


Second year in row:

- Poor snowpack
- Above normal temperatures

Drought Hangover, Oregon

Rogue River Basin, Southwest Oregon
Reservoir Levels



https://www.usbr.gov/pn/hydromet/

ENSO Status

- ENSO Alert System Status: El Niño Watch
- ENSO-neutral conditions are present.*
- Equatorial sea surface temperatures (SSTs) are above average across most of the Pacific Ocean.
- The patterns of convection and winds are mostly near average over the tropical Pacific.
- El Niño is expected to form and continue through the Northern Hemisphere spring 2019 (~65% chance).

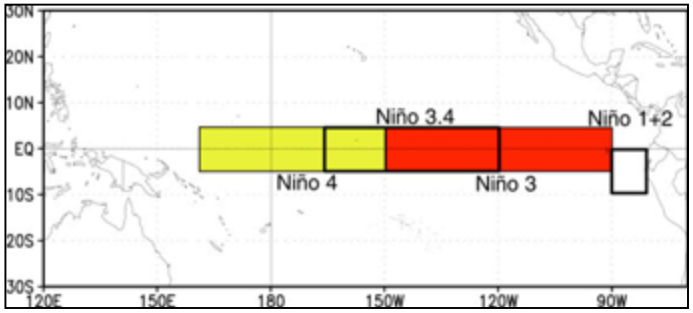
Credit: CPC

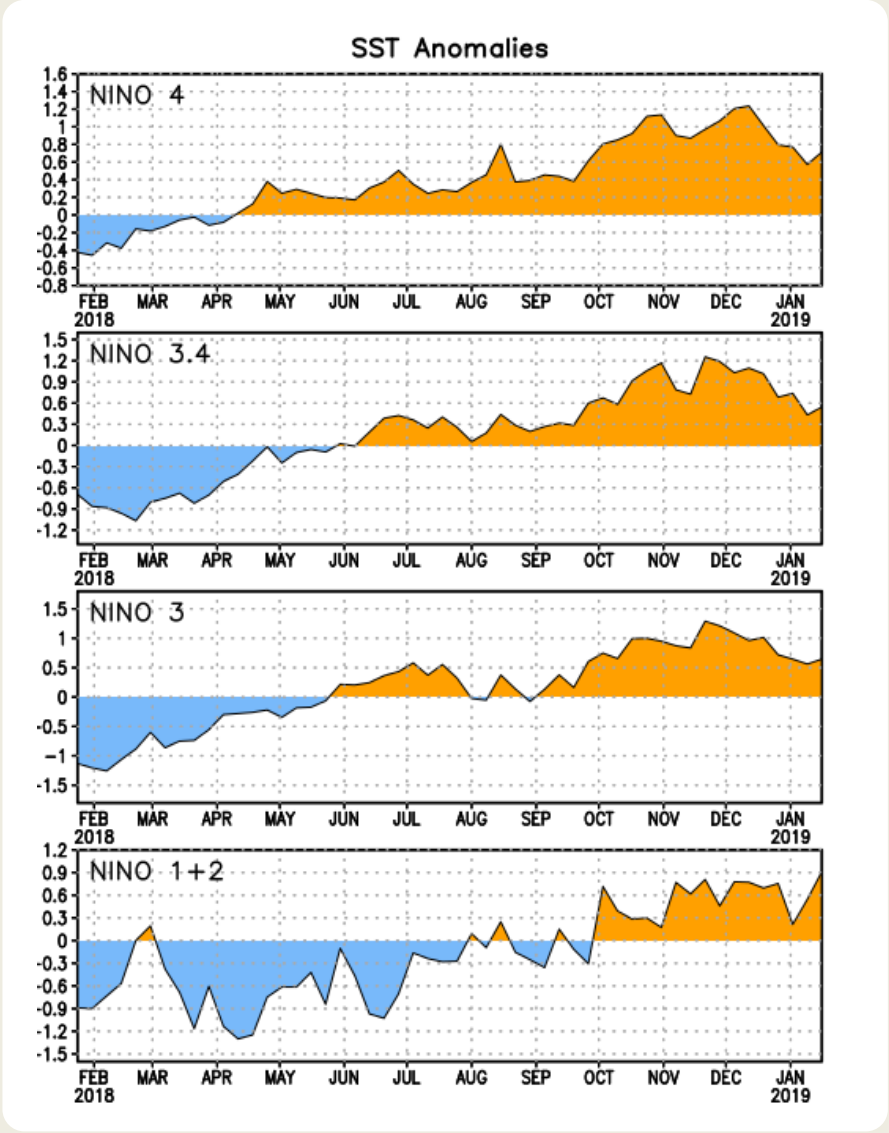
* Note: These statements are updated once a month (2nd Thursday) in association with the ENSO Diagnostics Discussion, which can be found here: http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/.

Niño Region SST Departures (ºC) Recent Evolution

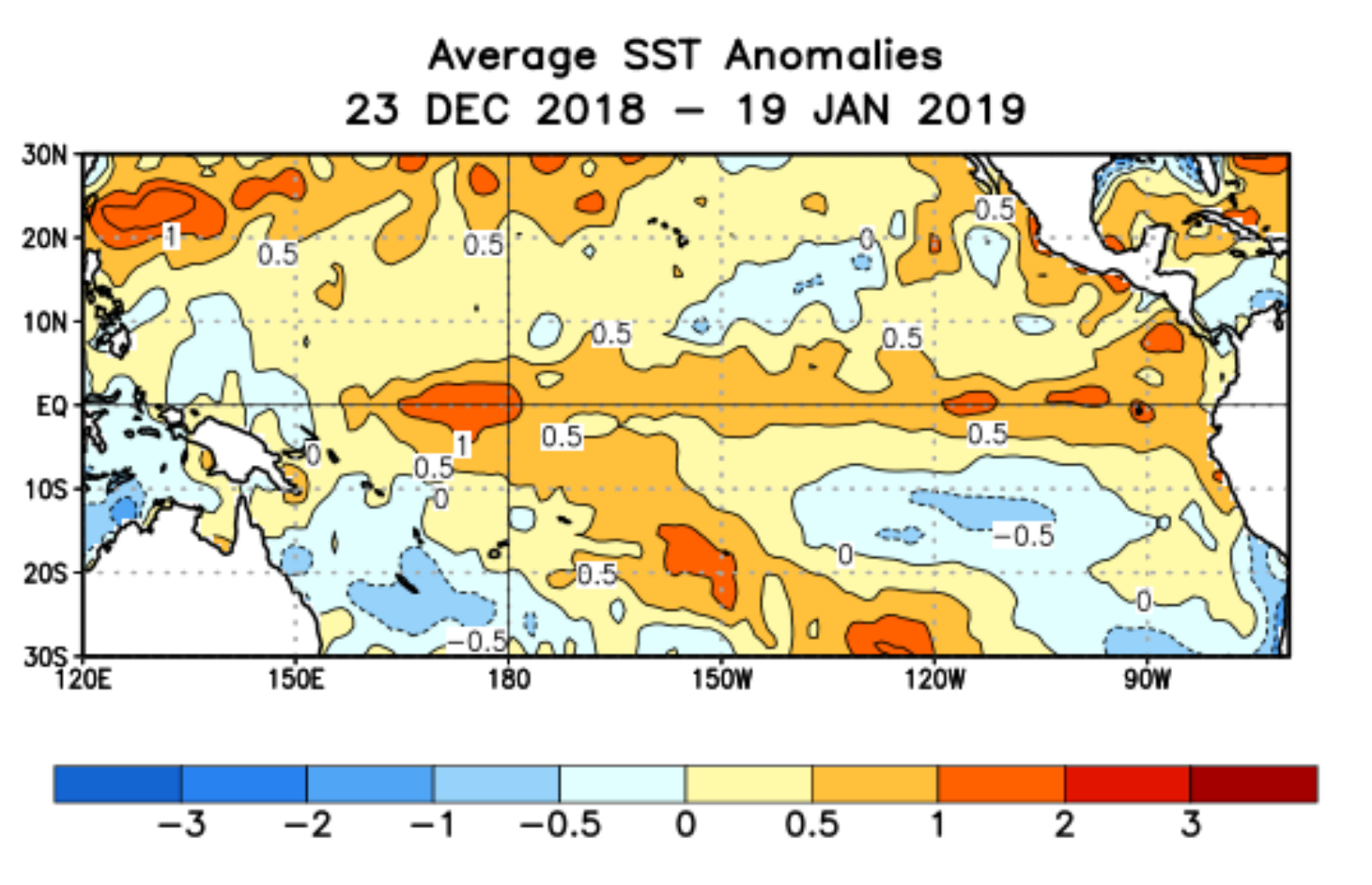
The latest weekly SST departures are:

Niño 4	**0.7ºC**
Niño 3.4	**0.5ºC**
Niño 3	**0.6ºC**
Niño 1+2	**0.9ºC**





Current Sea Surface Temperatures



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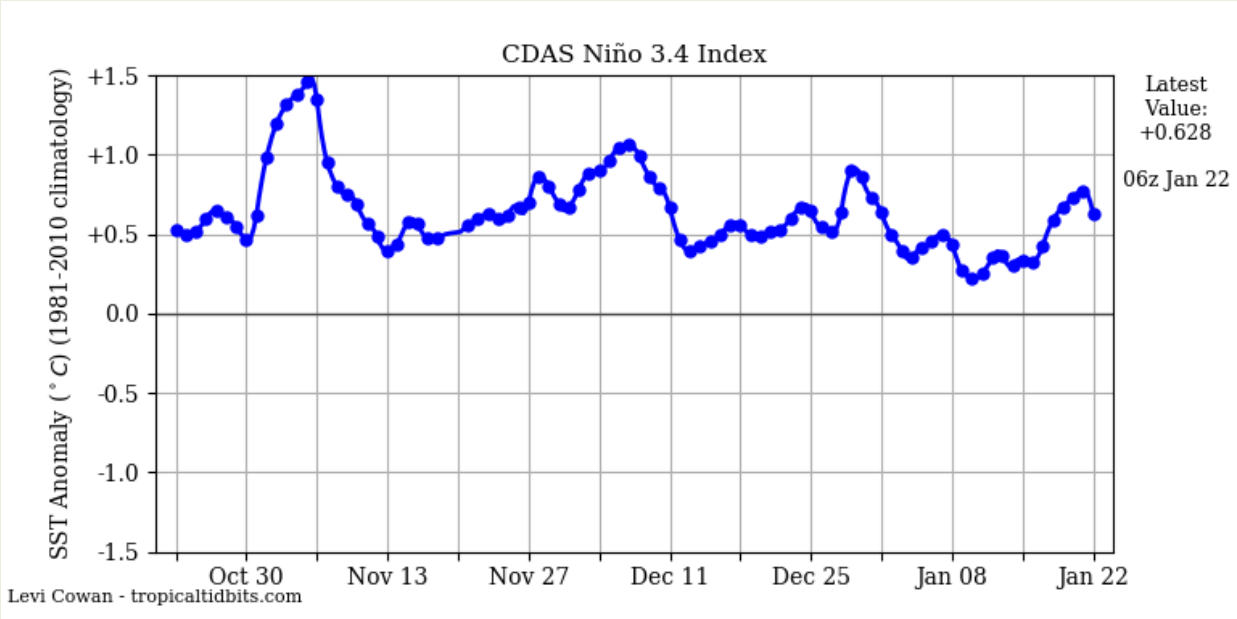
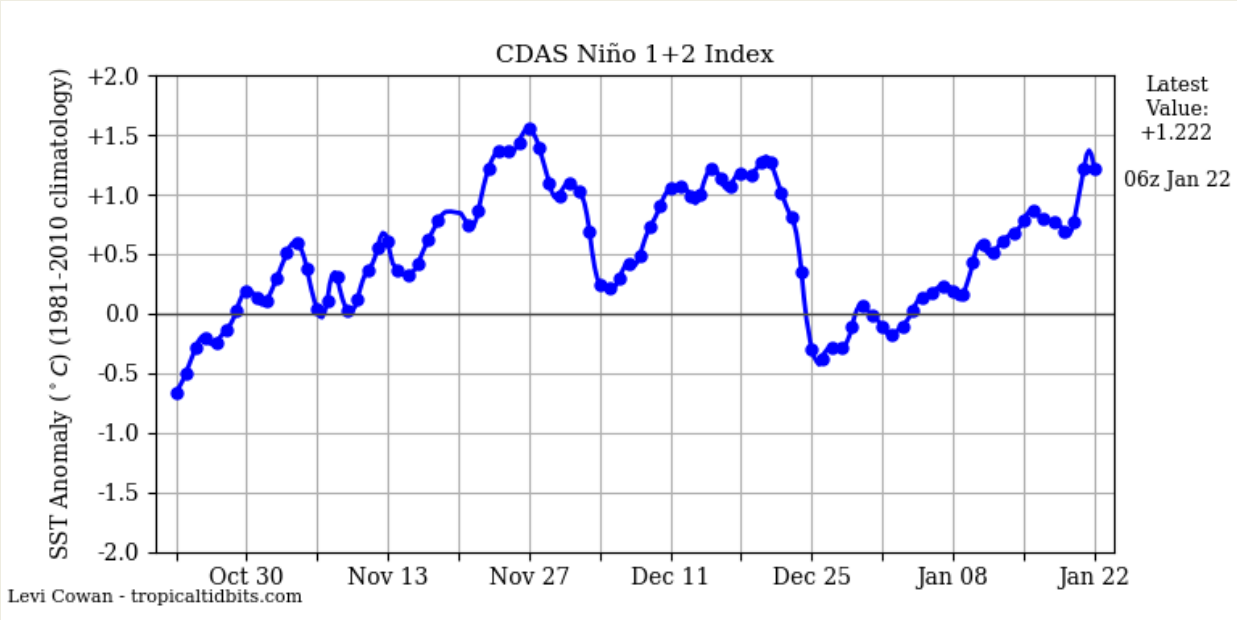
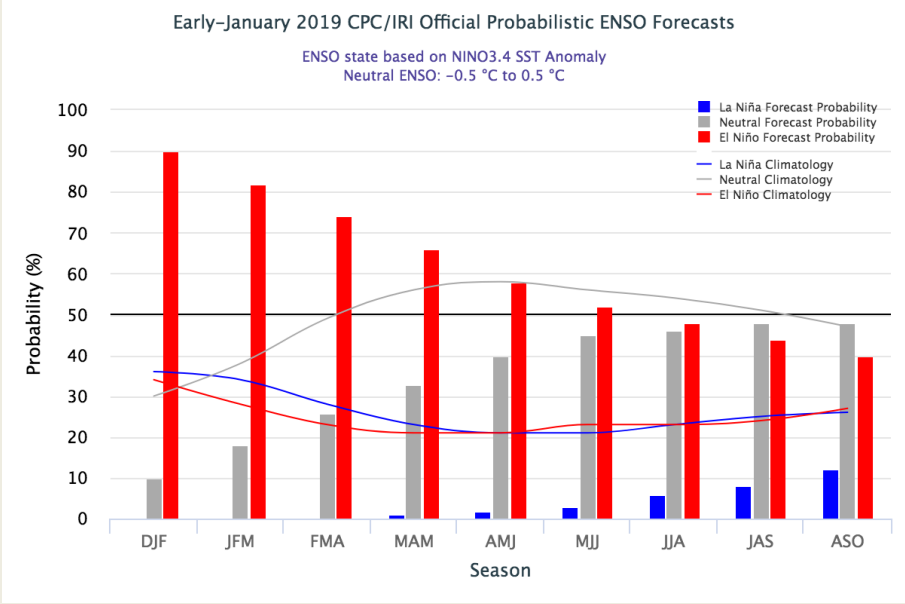
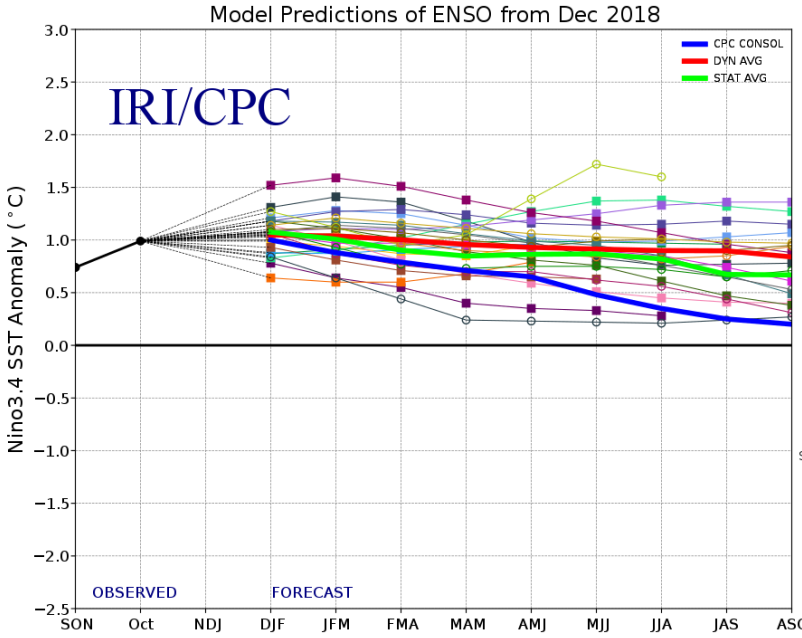




ENSO Forecasts



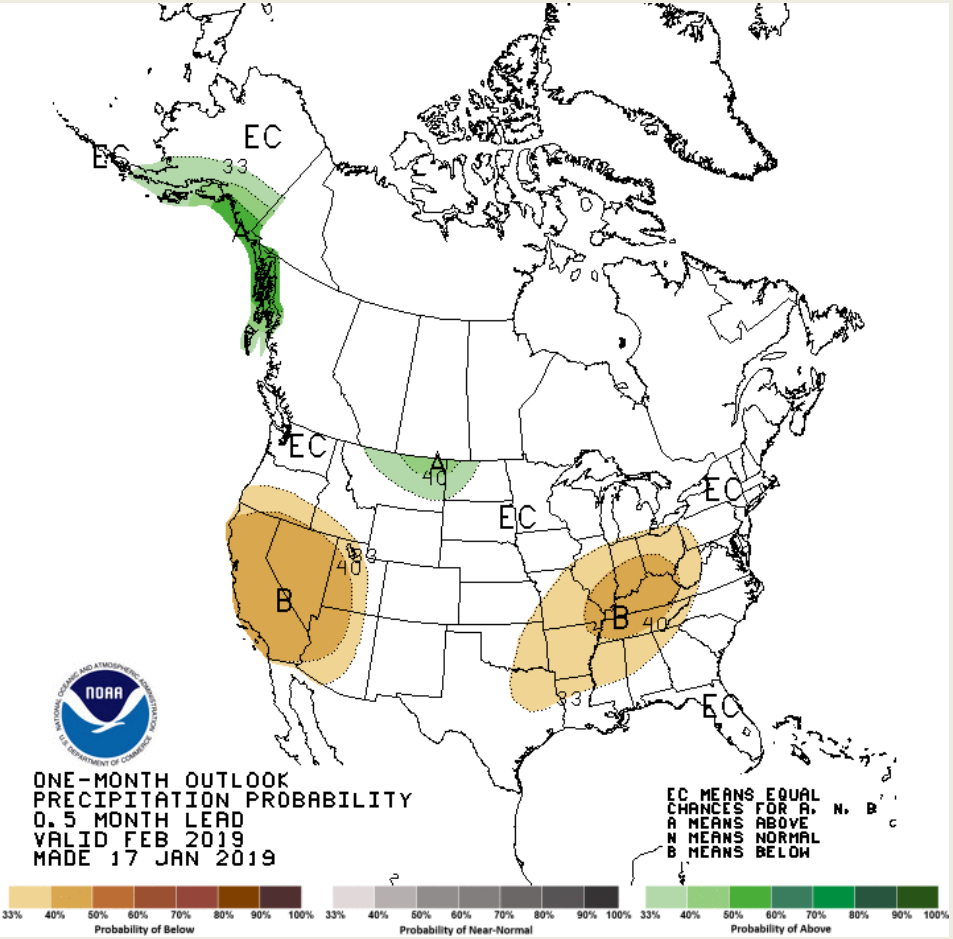


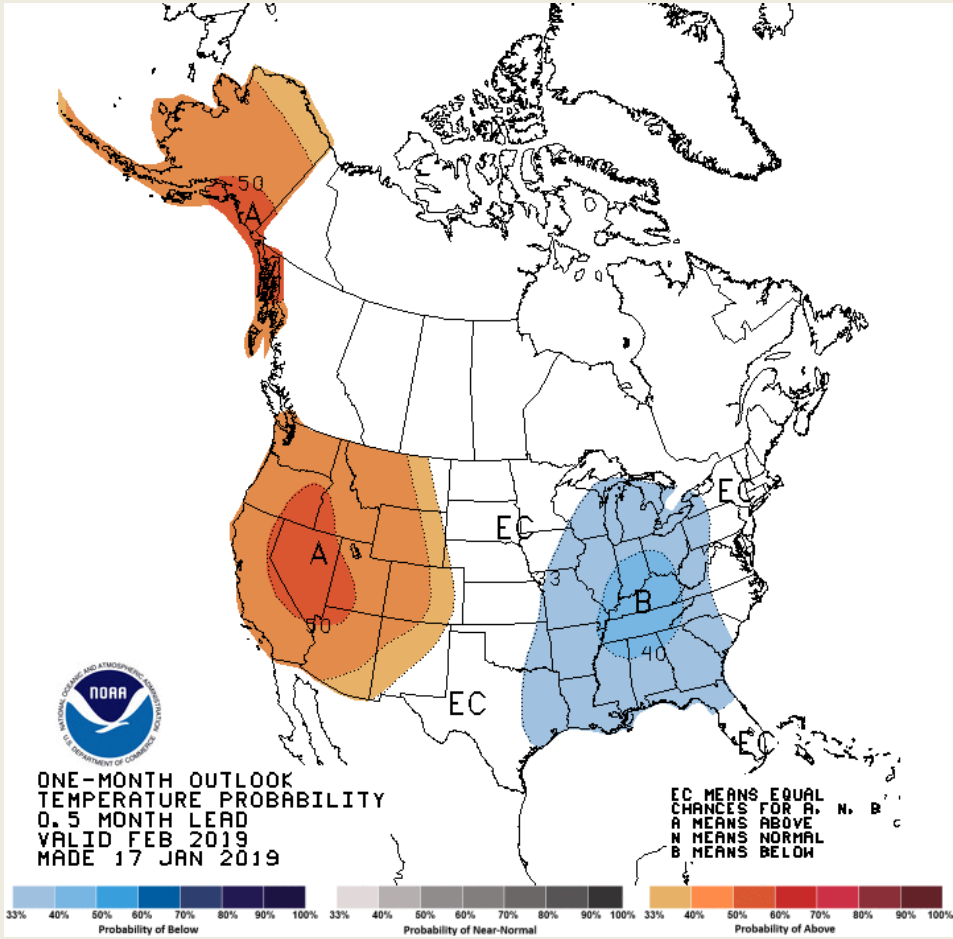
CPC/IRI El Nino forecast:

NMME models + other dynamical models + statistical models

Source: CPC/IRI

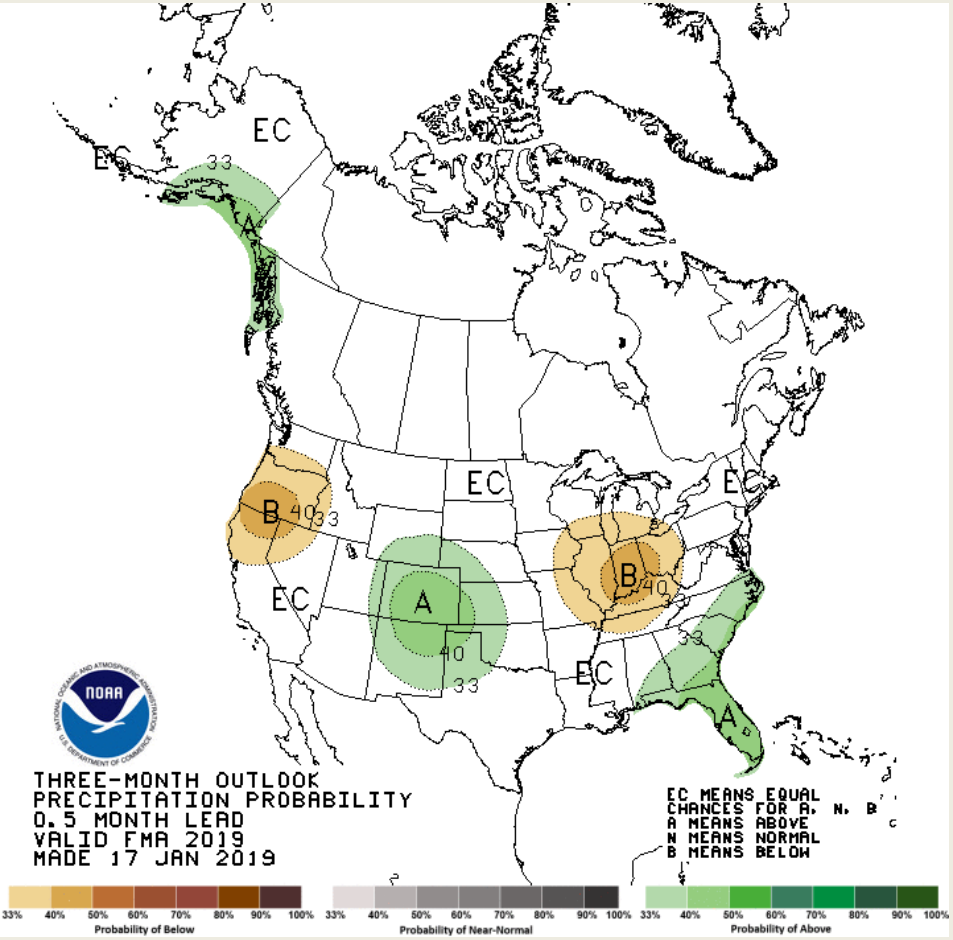
February U.S. Forecasts

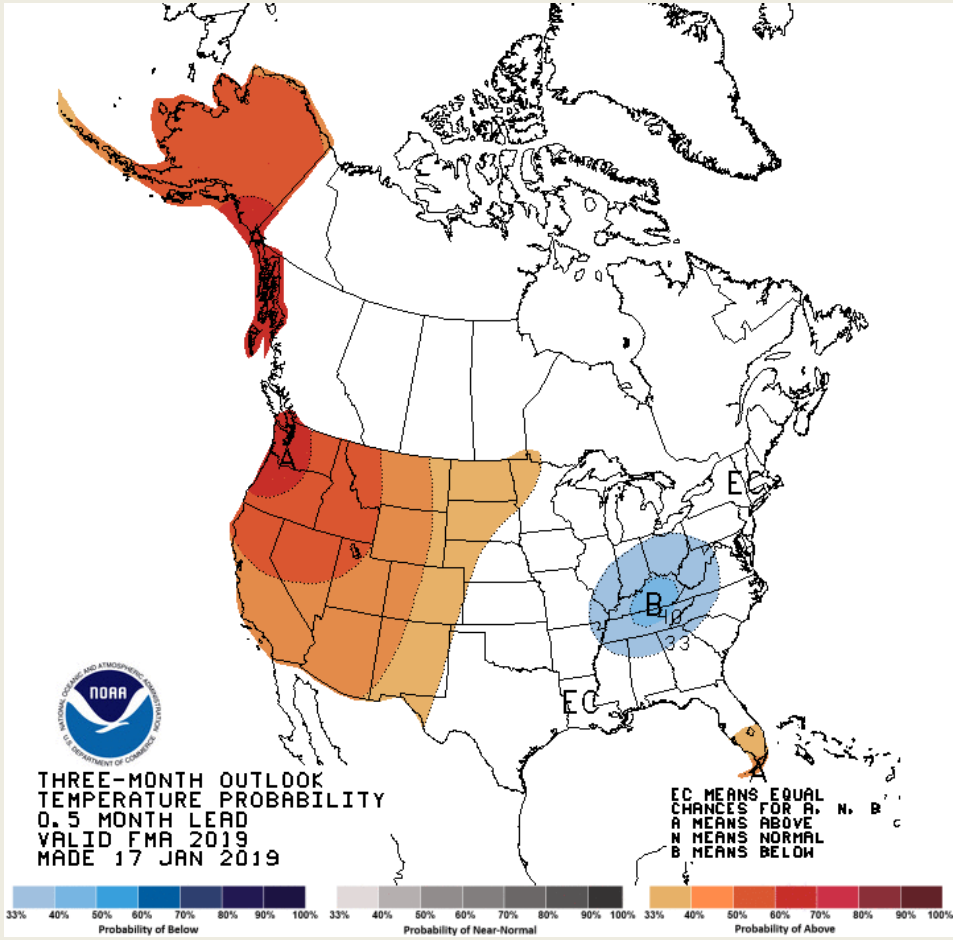




Source: NOAA/CPC

February-April Forecasts





Source: NOAA/CPC

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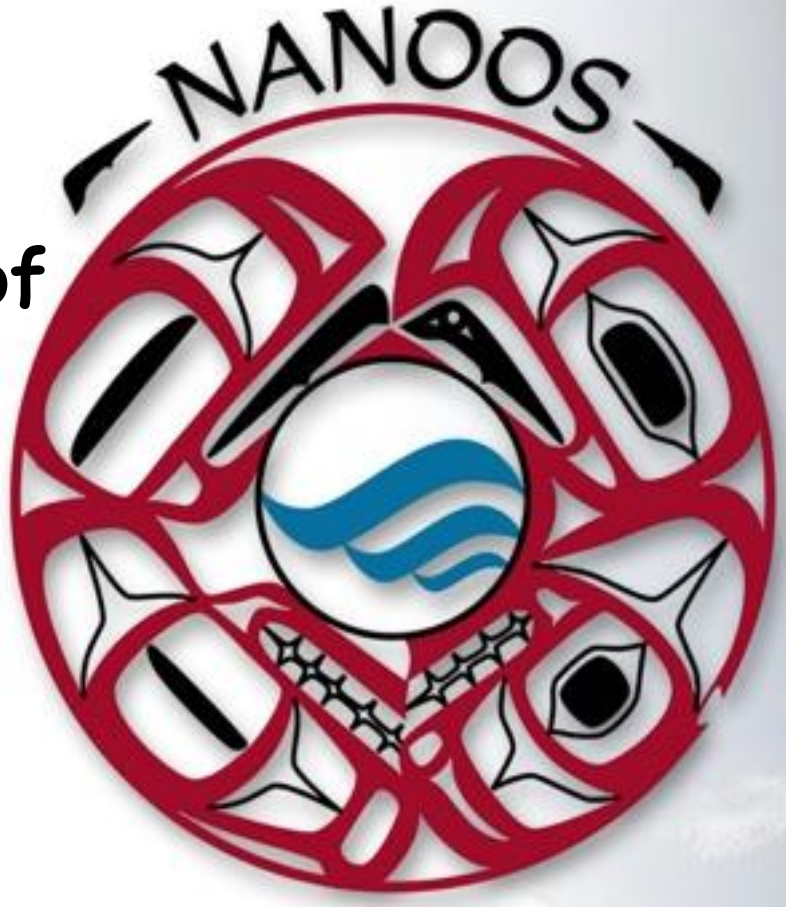
  - Future guest speaker or thematic issue of interest?

Northwest Association of Networked Ocean Observing Systems



NOAA West Watch Update 22 January 2019: Washington / Oregon Observations

Jan Newton, NANOOS Executive Director

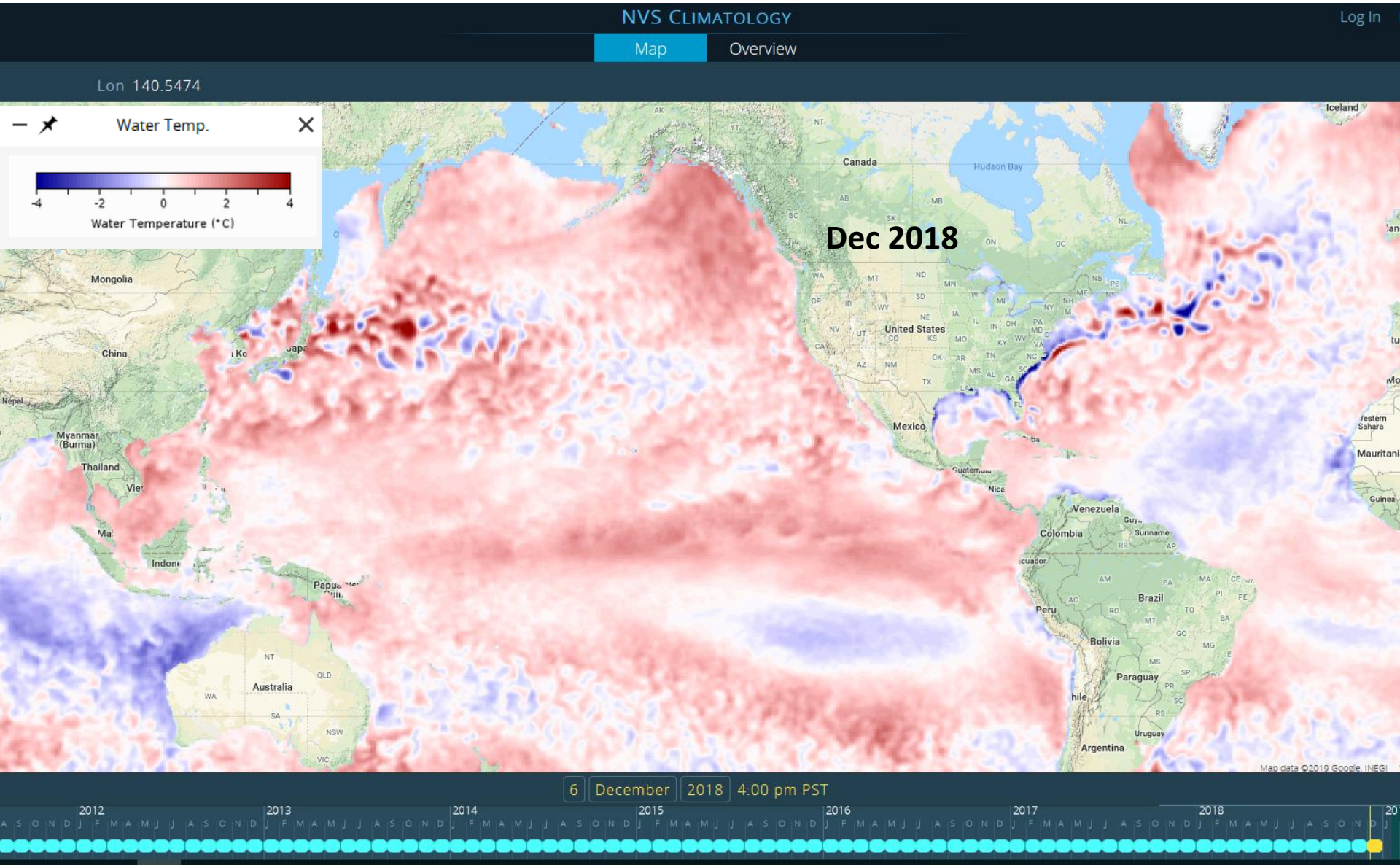
www.nanoos.org

IOOS Integrated Ocean Observing System

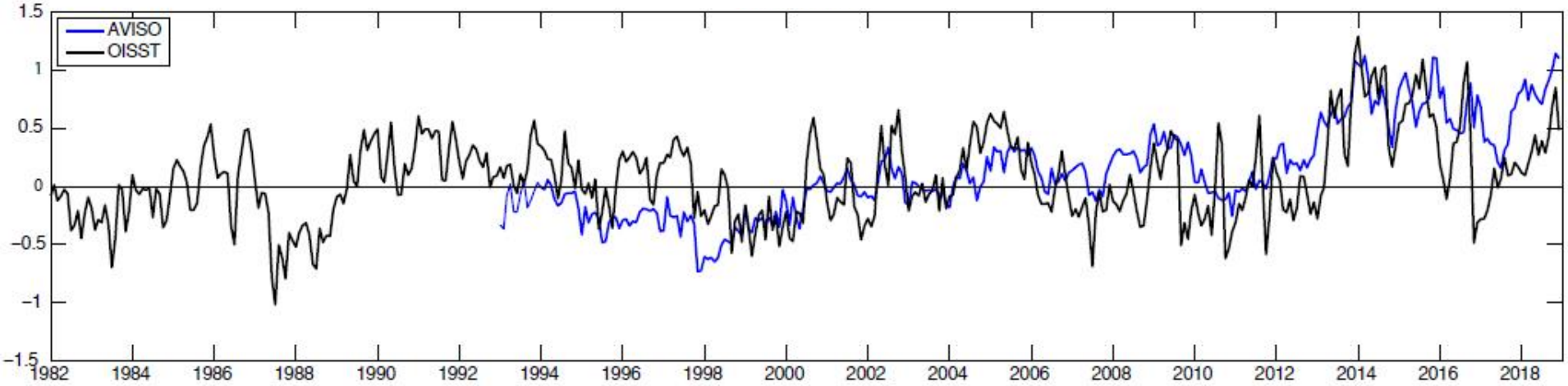
NANOOS: www.nanoos.org Climatology app

Sea Surface Temperature Anomaly

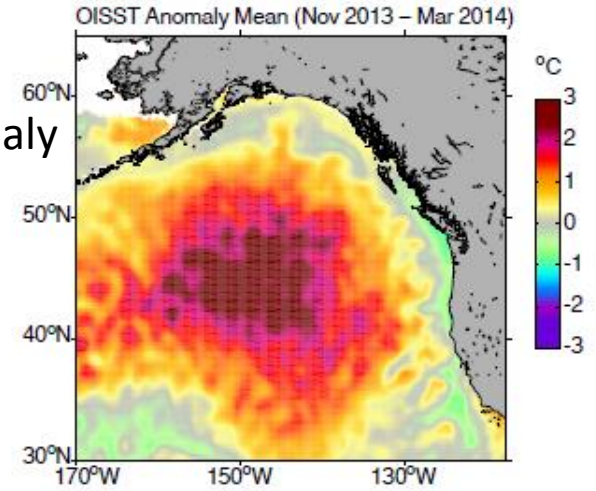
NCDC Optimum Interpolation SST



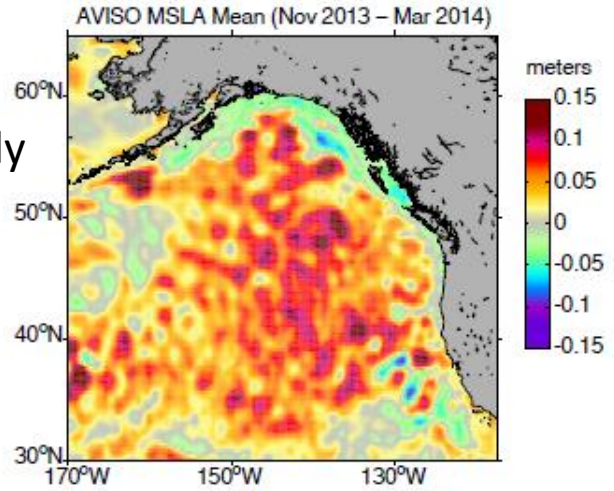
‘Blob’ Indices



SST anomaly



MSL anomaly

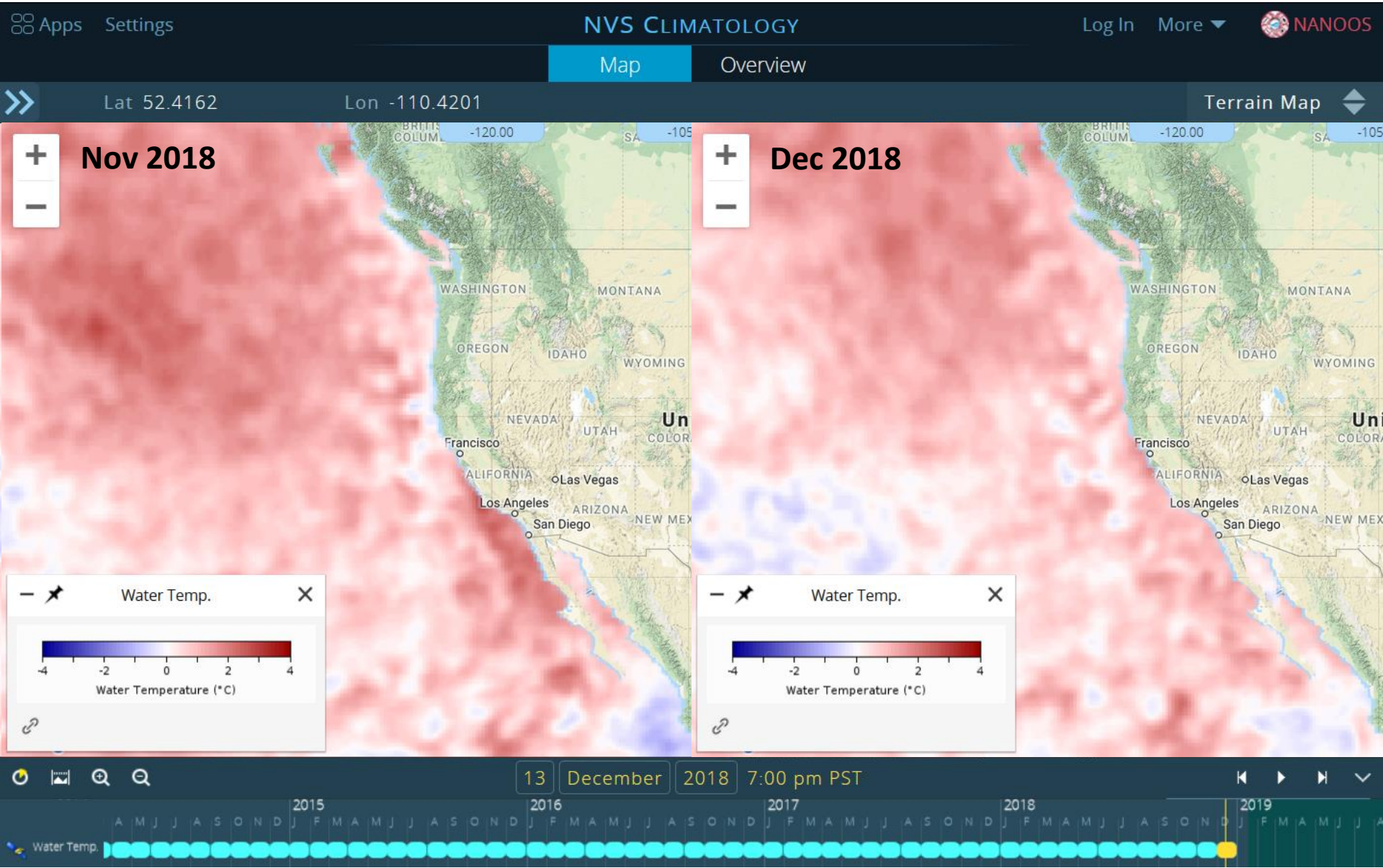


Figures and analysis by Dudley Chelton and Craig Risien, OSU

NANOOS: www.nanoos.org Climatology app

Sea Surface Temperature Anomaly

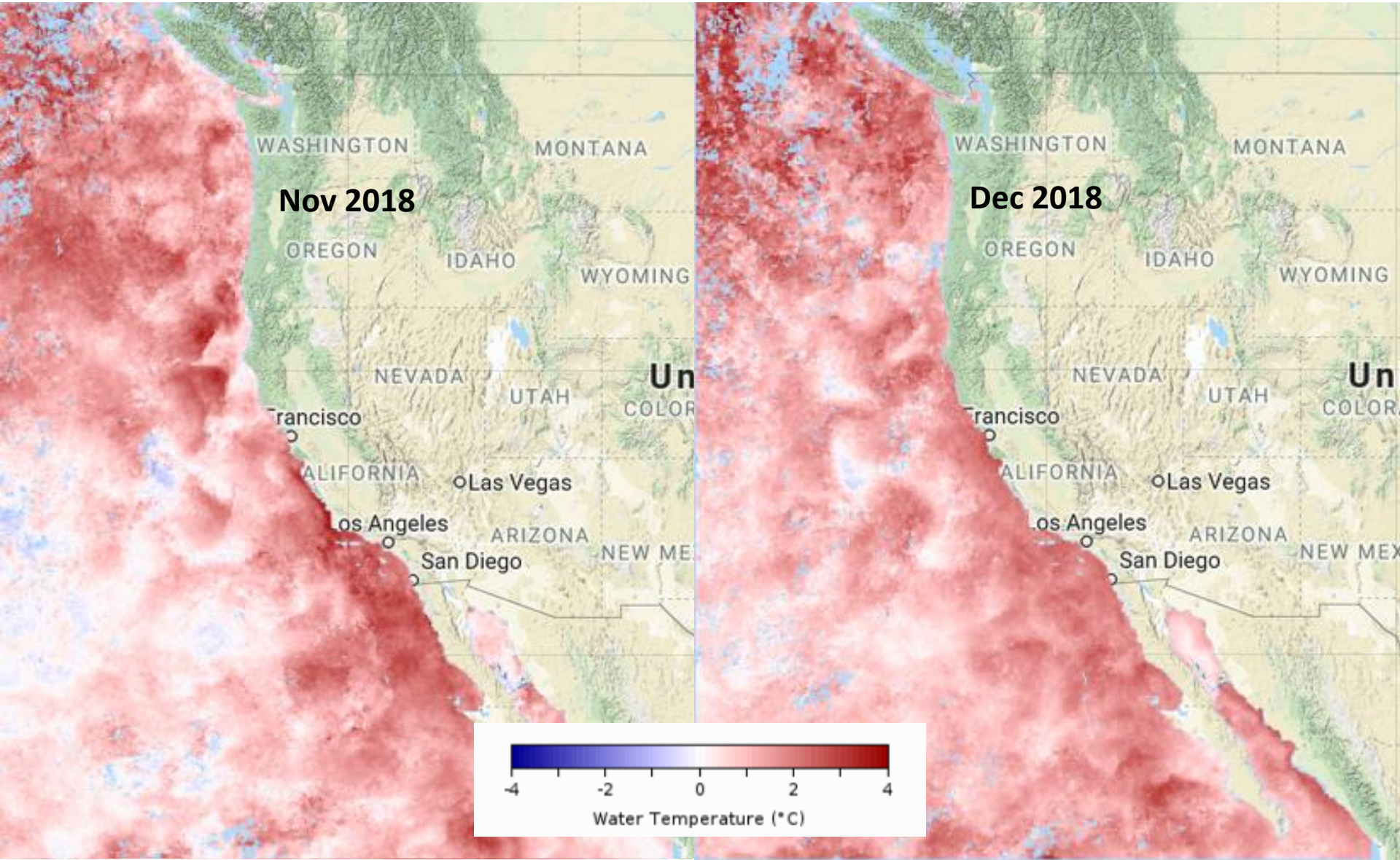
NCDC Optimum Interpolation SST



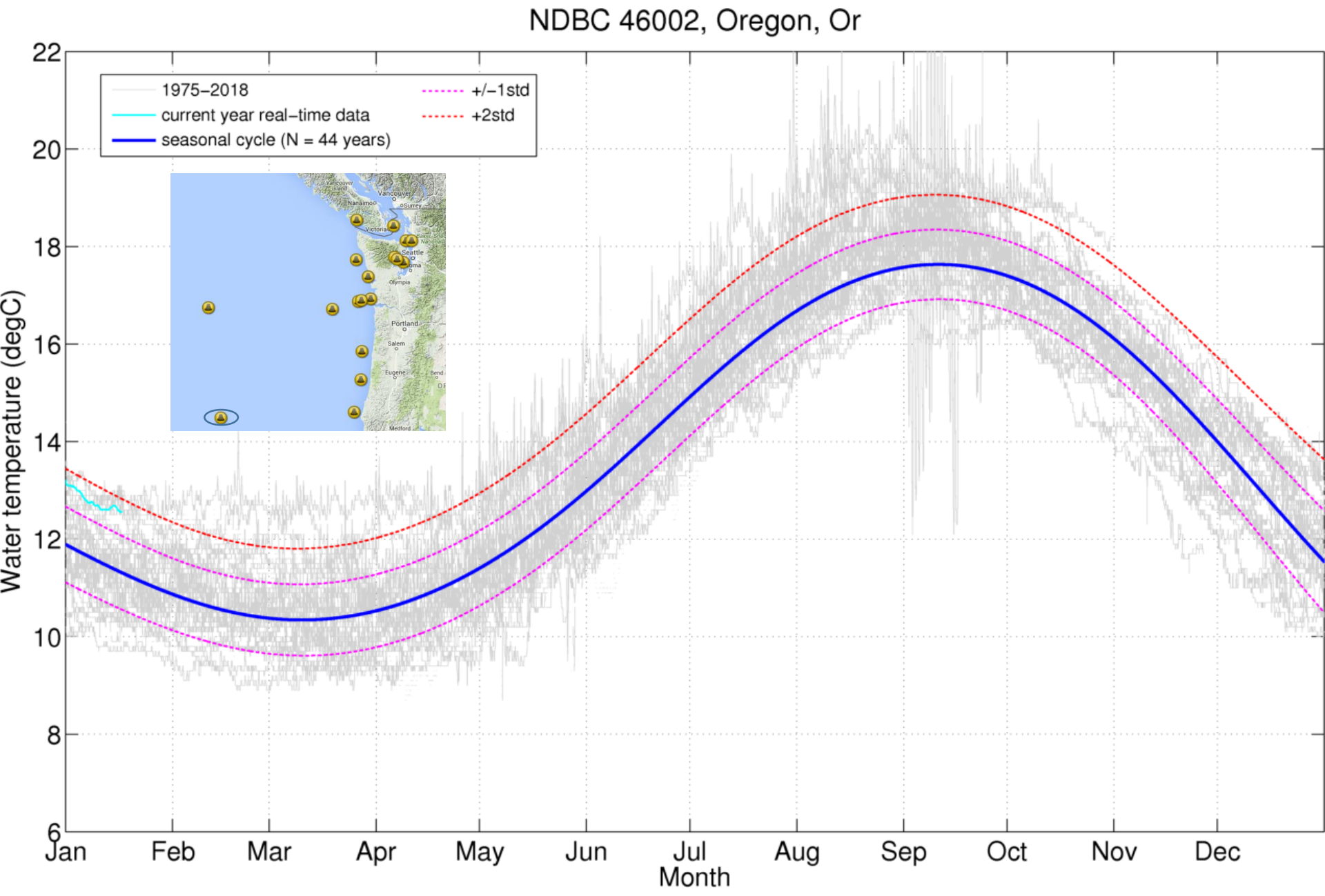
NANOOS: www.nanoos.org Climatology app

Sea Surface Temperature Anomaly

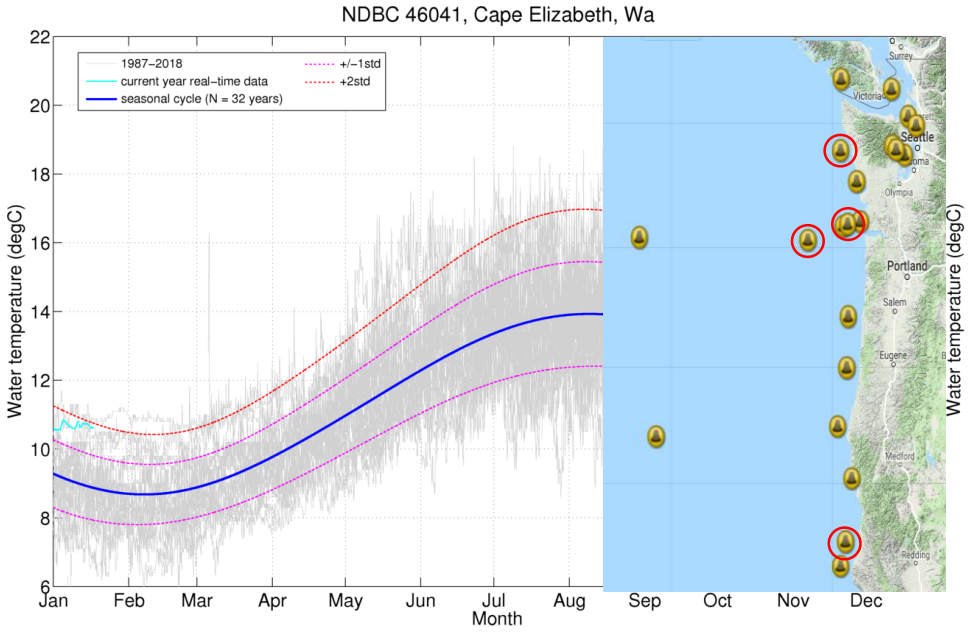
OSU Modis

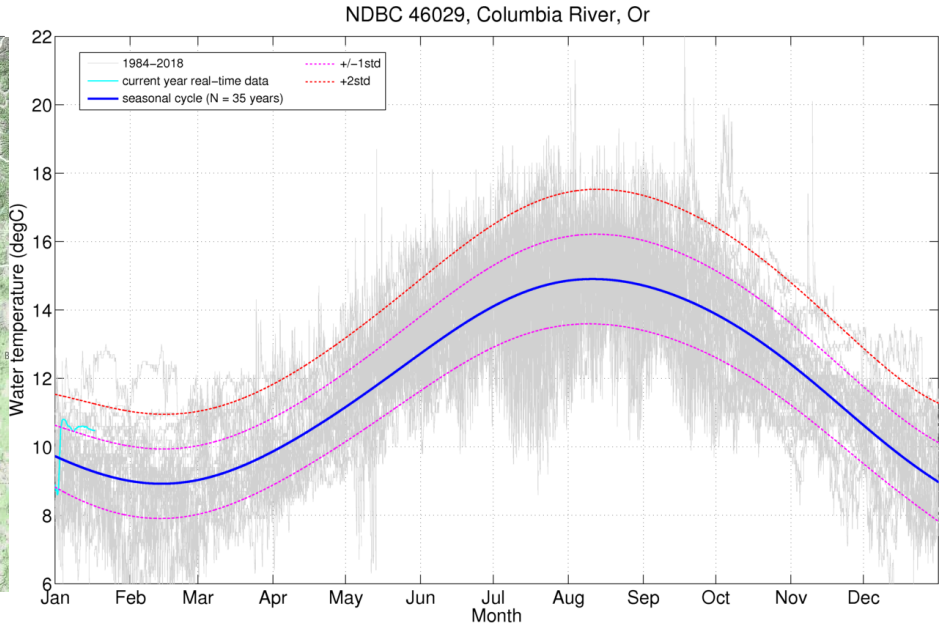


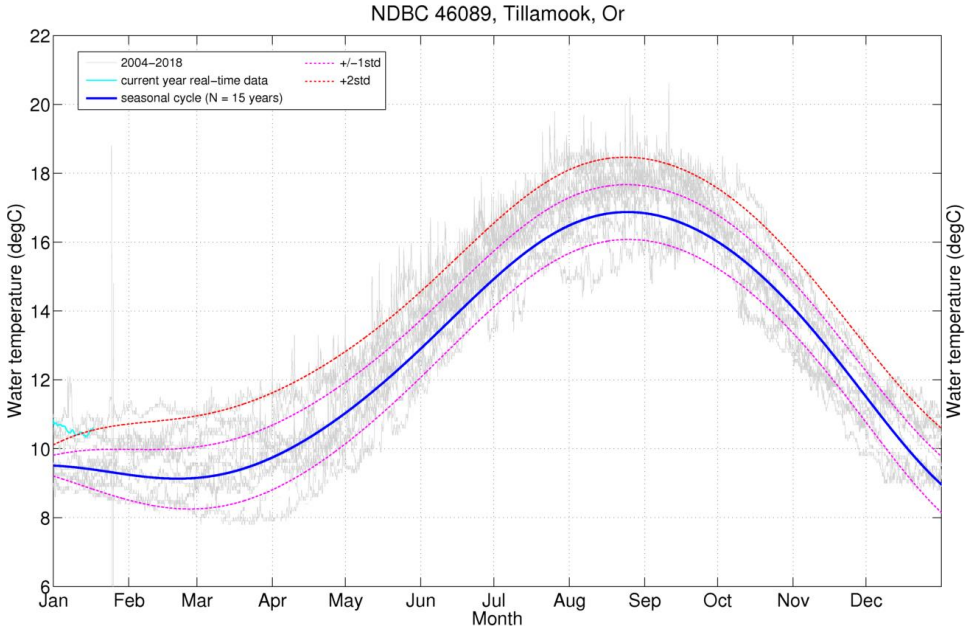
Sea Surface Temp

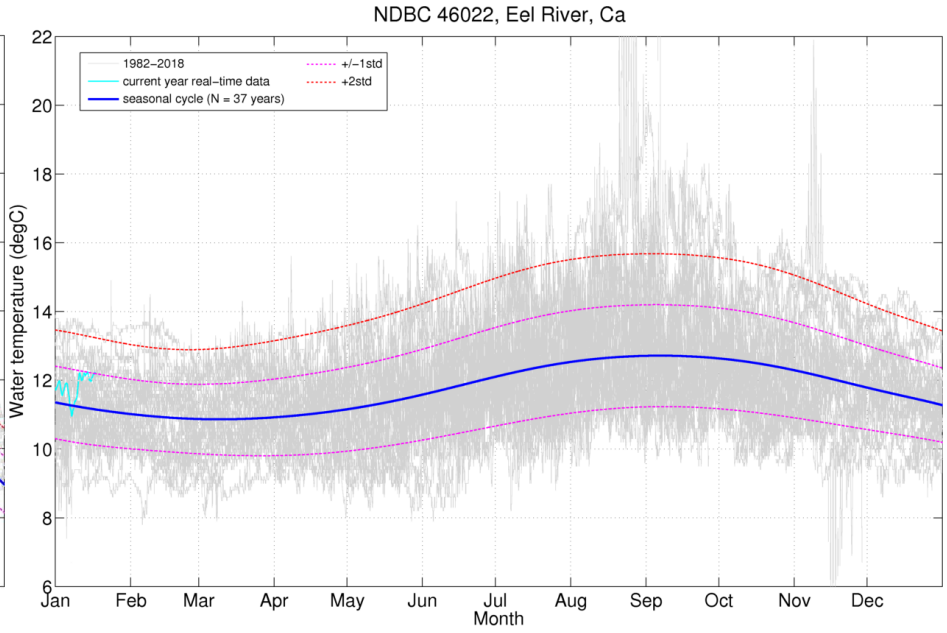


Sea Surface Temp



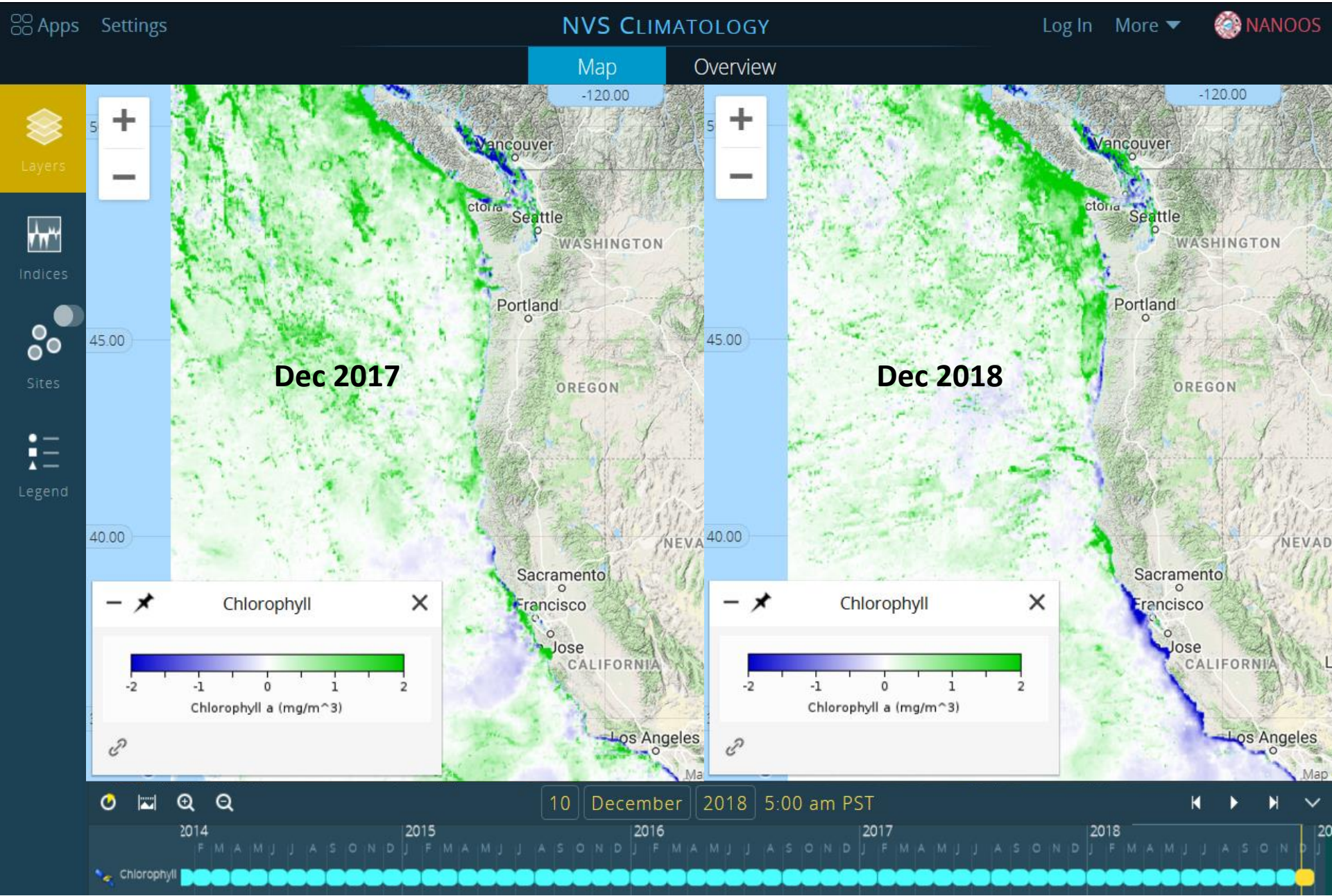






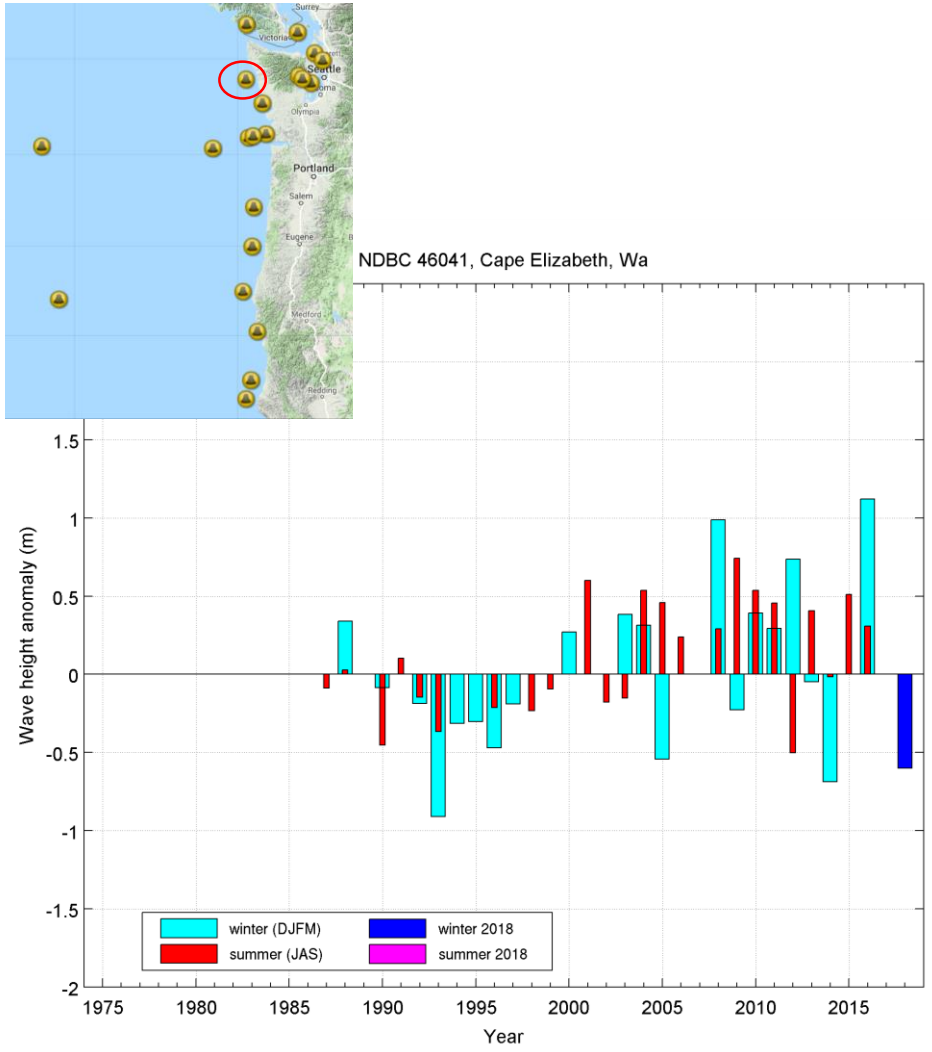
NANOOS: www.nanoos.org Climatology app

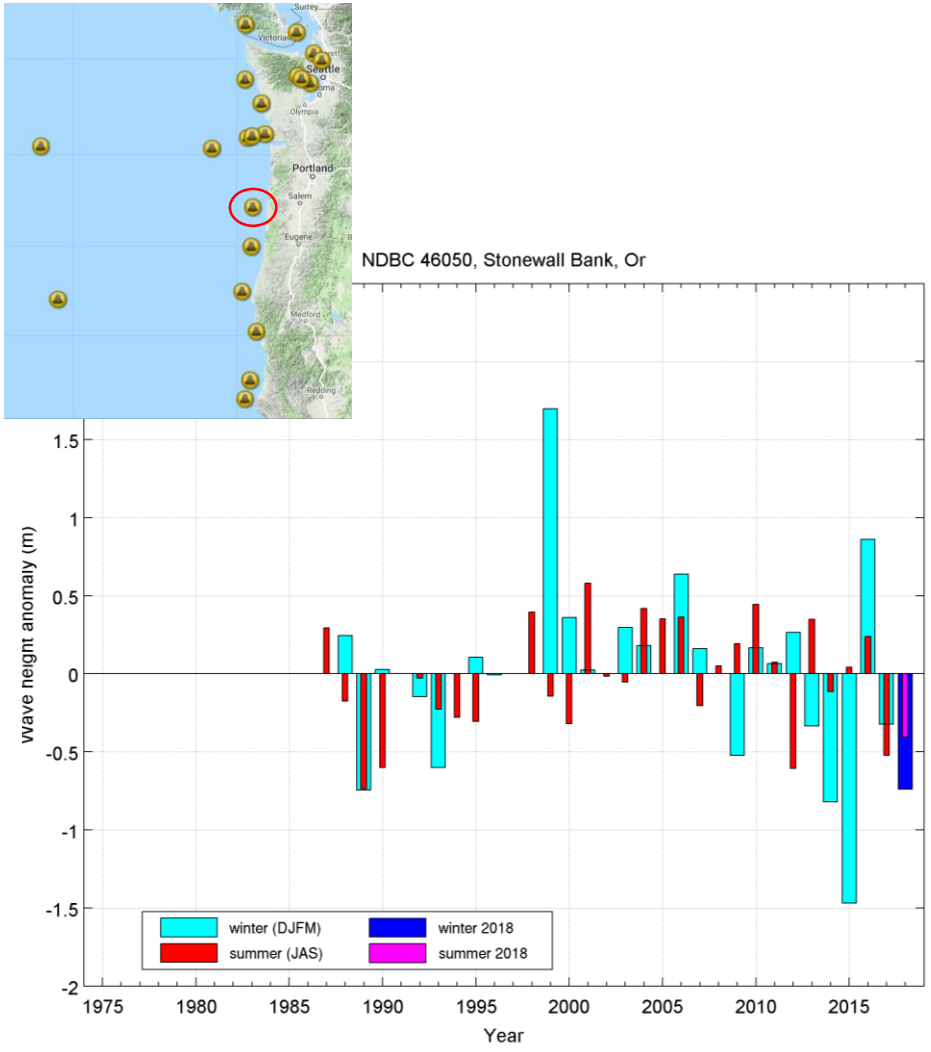
Chlorophyll Anomaly: *OSU Modis*



NANOOS: www.nanoos.org Climatology app

Wave Height Seasonal Variability





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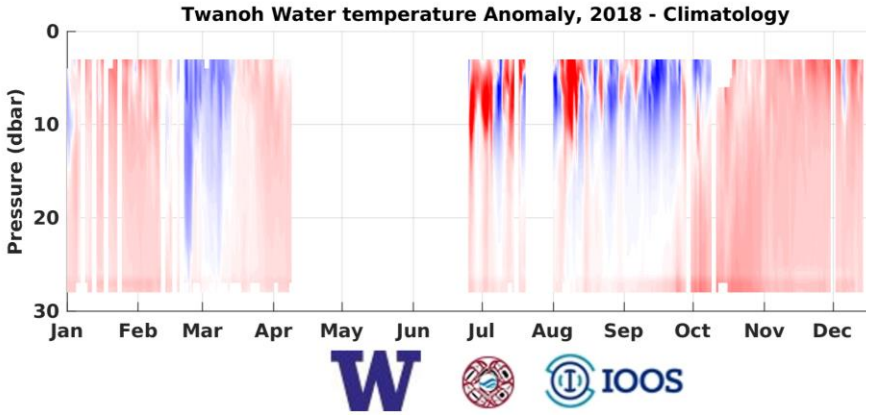
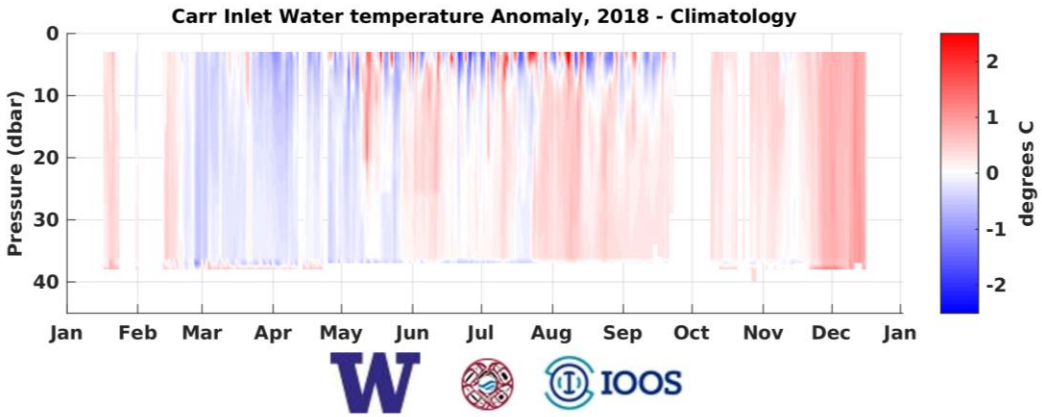
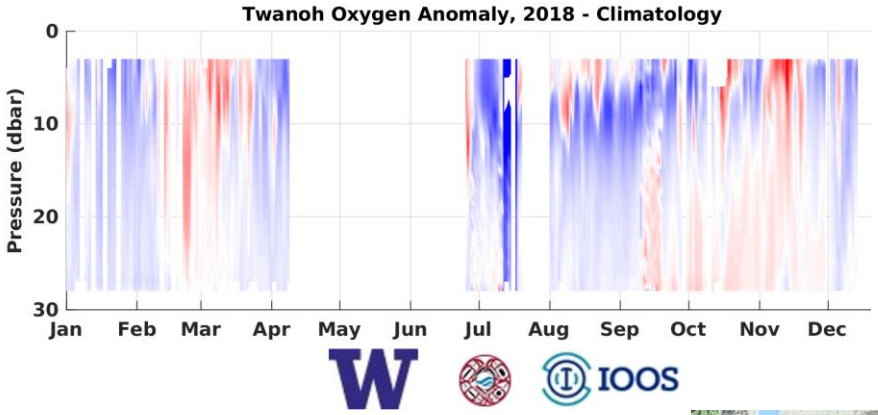
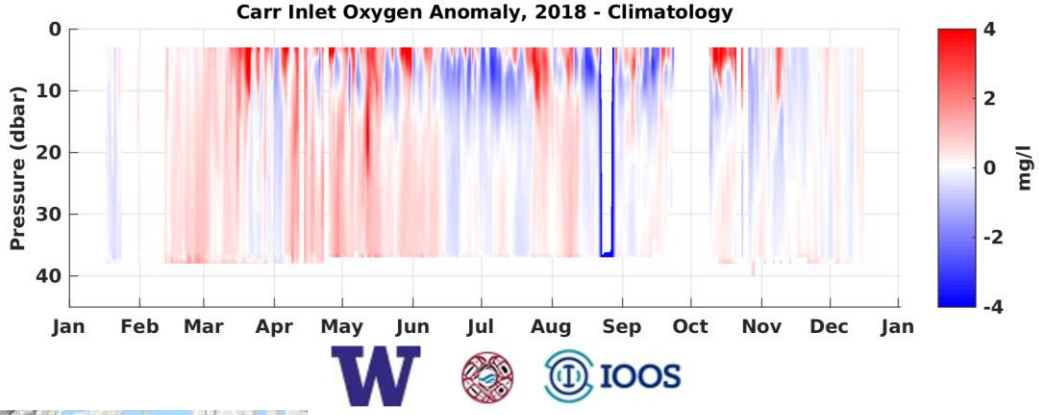


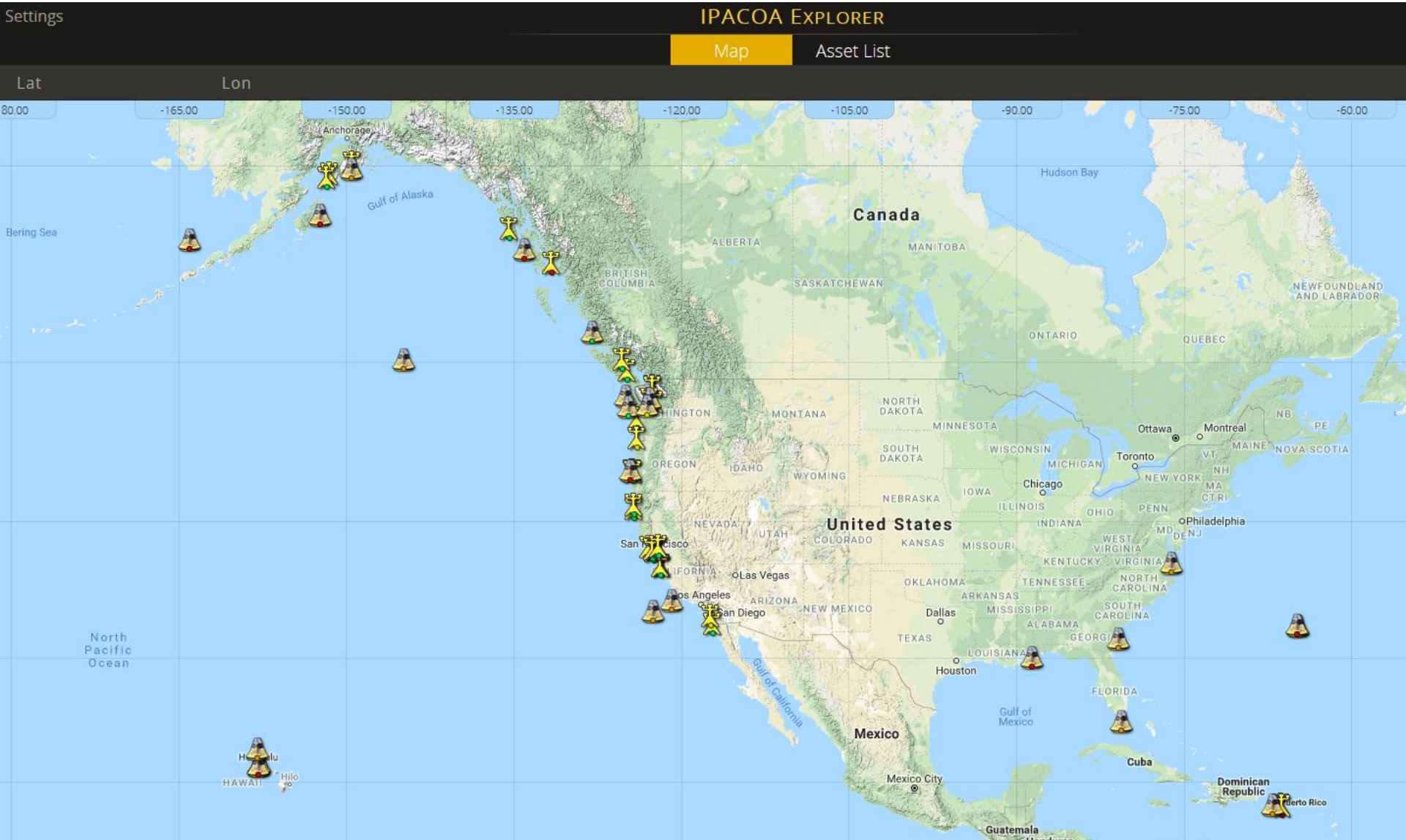






IOOS Partners Across Coasts OA

IPACOA (www.ipacoa.org)



IOOS Partners Across Coasts OA

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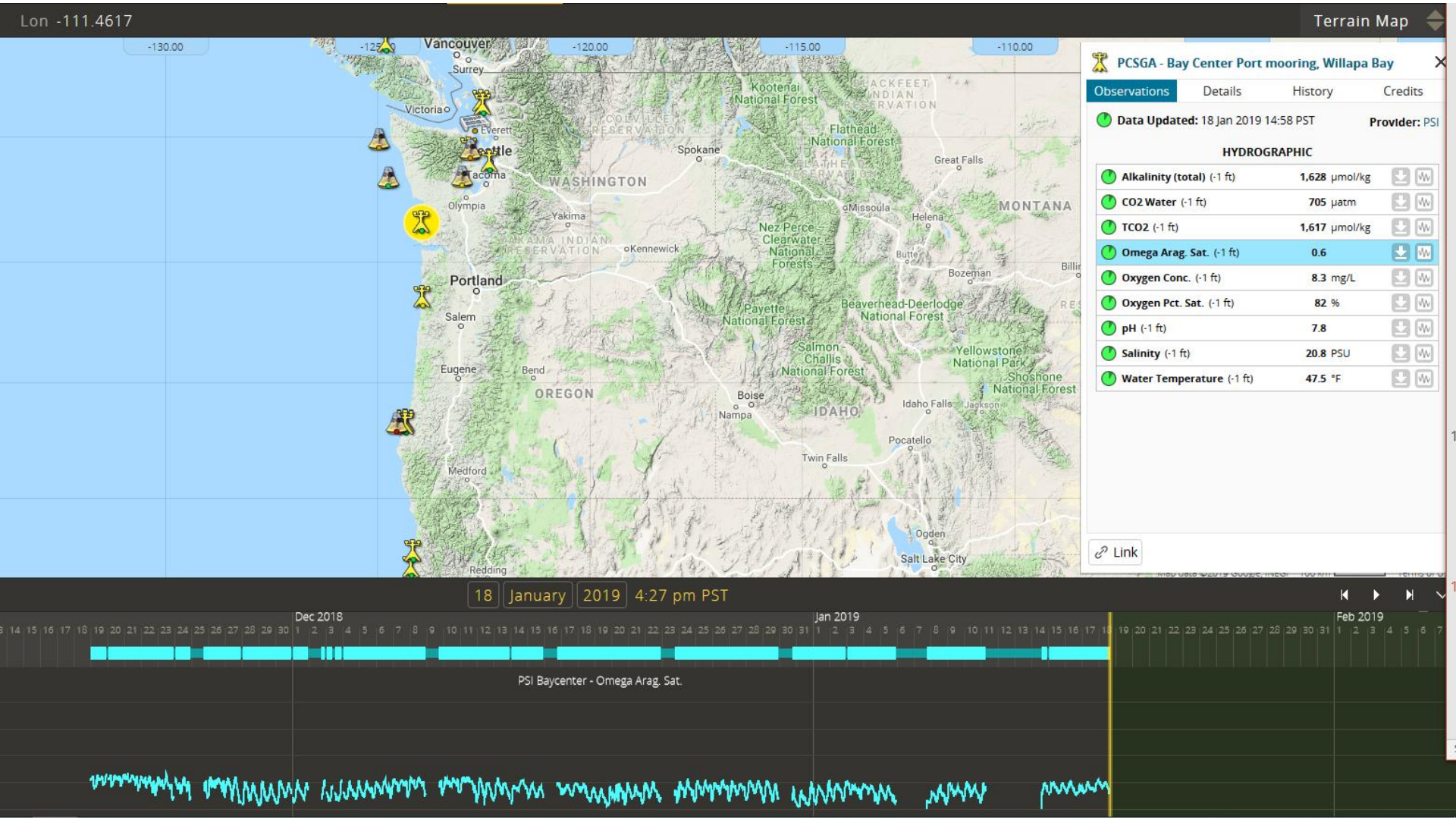
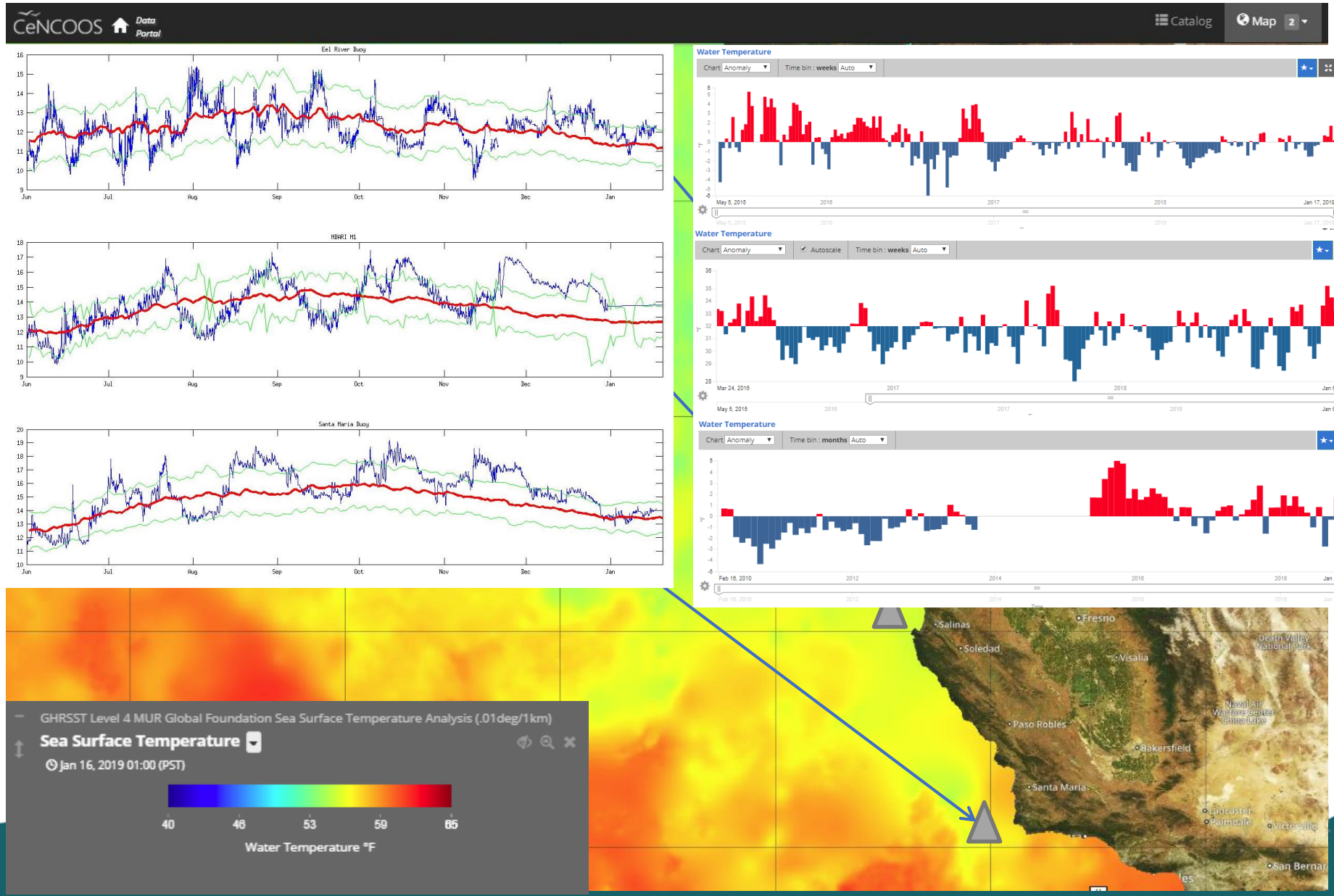


NOAA West Watch Update: Central & Northern California Update

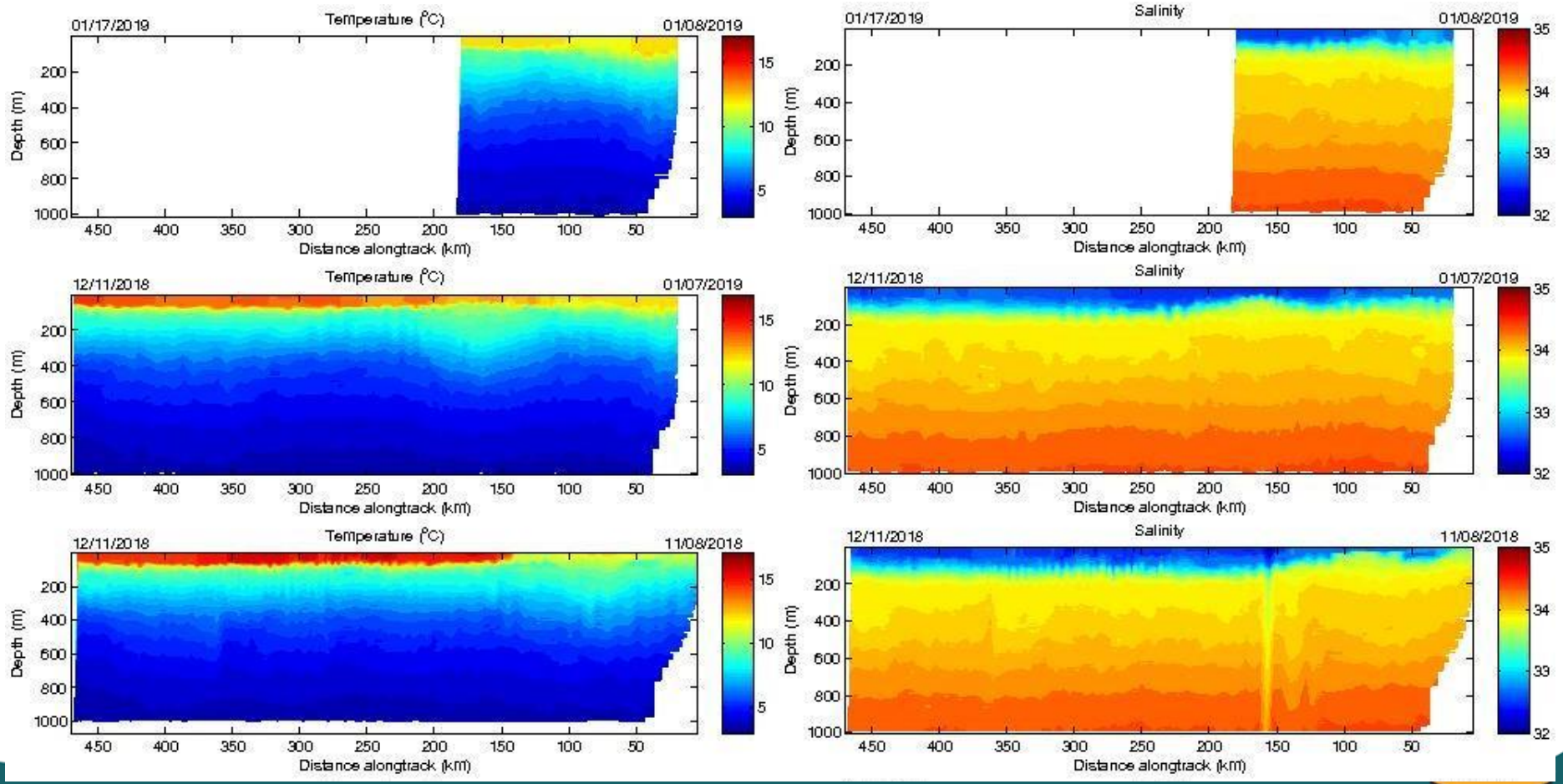
Presented by: Henry Ruhl, CeNCOOS Director

CeNCOOS Climatology



North Coast Undercurrent

- CA Undercurrent or Davidson Current Observed on Trinidad Glider Line



Rain Associated Low Salinity Events

CeNCOOS DATA PORTAL DATA LEARN ABOUT

Shore Stations

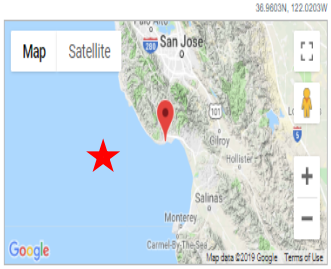
Home > Data > Technologies > Shore Stations

Santa Cruz Wharf Shore Station

Home | Station Details | Data Access

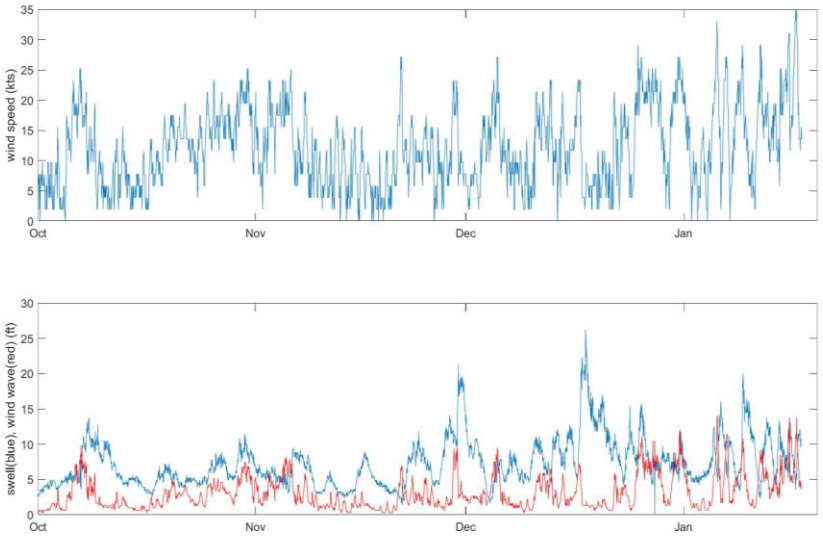
Latest Conditions 01/17/19 07:55 PM

Temperature	57.0 F
Salinity	30.7 PSS
pH	8.3
Dissolved Oxygen	100.30 %
Intake Depth	14.8 m
Turbidity	10.8 NTU



Salinity | -- Select Additional Parameter --

NOAA NDBC (46042)



Thank you!

Email Henry Ruhl at hruhl@mbari.org

CeNCOOS

NOAA West Watch Update: Southern California

Megan Hepner

January 22, 2019

www.sccoos.org

King Tides – Dec 25-27, 2018

Imperial Beach flooded Cortez street, a lot of storm surge

Five to eight feet of sand lost – Cardiff by the Sea (San Diego Reader)

King Tides – January 18-21, 2019

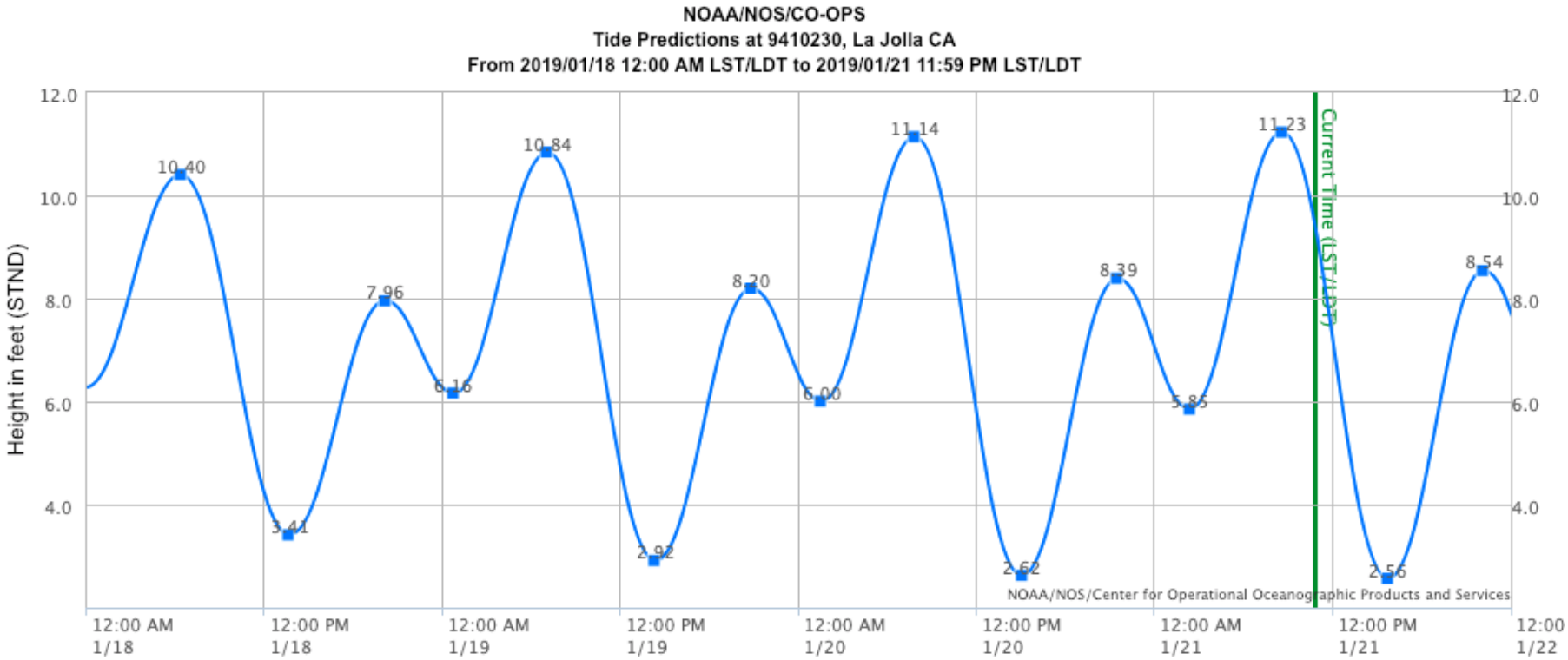
A surfer passes the damage to the railing of the Ocean Beach Pier during the king tide, peaking about 8 a.m. Jan 18 with an expected 7.3 tide. Photo by Chris Stone

King Tides – January 18-21, 2019

Waves from the king tide slam into the staircase at La Jolla Cove. Photo by Chris Stone

With a 7.3 high tide, waves crashed into the windows at the Marine Room in La Jolla at 8:30 a.m Jan 19. Photo by Chris Stone

NOAA Tide Predictions - La Jolla



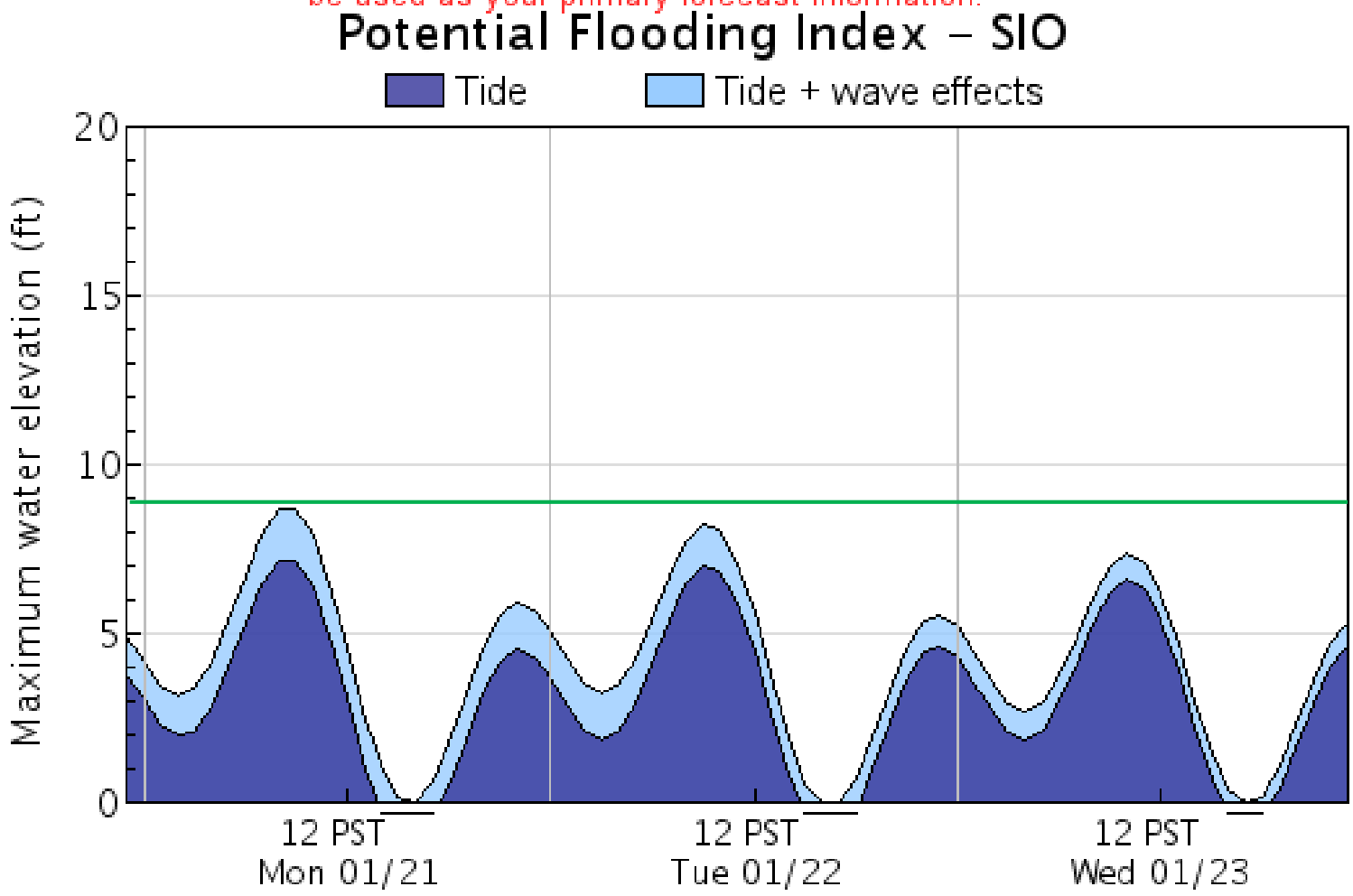
Warning: The predictions on this page refer to STND and not to the chart datum of MLLW; Therefore should not be used for navigation purposes.
Note: The interval is High/Low, the solid blue line depicts a curve fit between the high and low values and approximates the segments between.
Disclaimer: These data are based upon the latest information available as of the date of your request, and may differ from the published tide tables.

Station Datum (STND) = A fixed base elevation at a tide station to which all water level measurements are referred. The datum is unique to each station and is established at a lower elevation than the water is ever expected to reach.

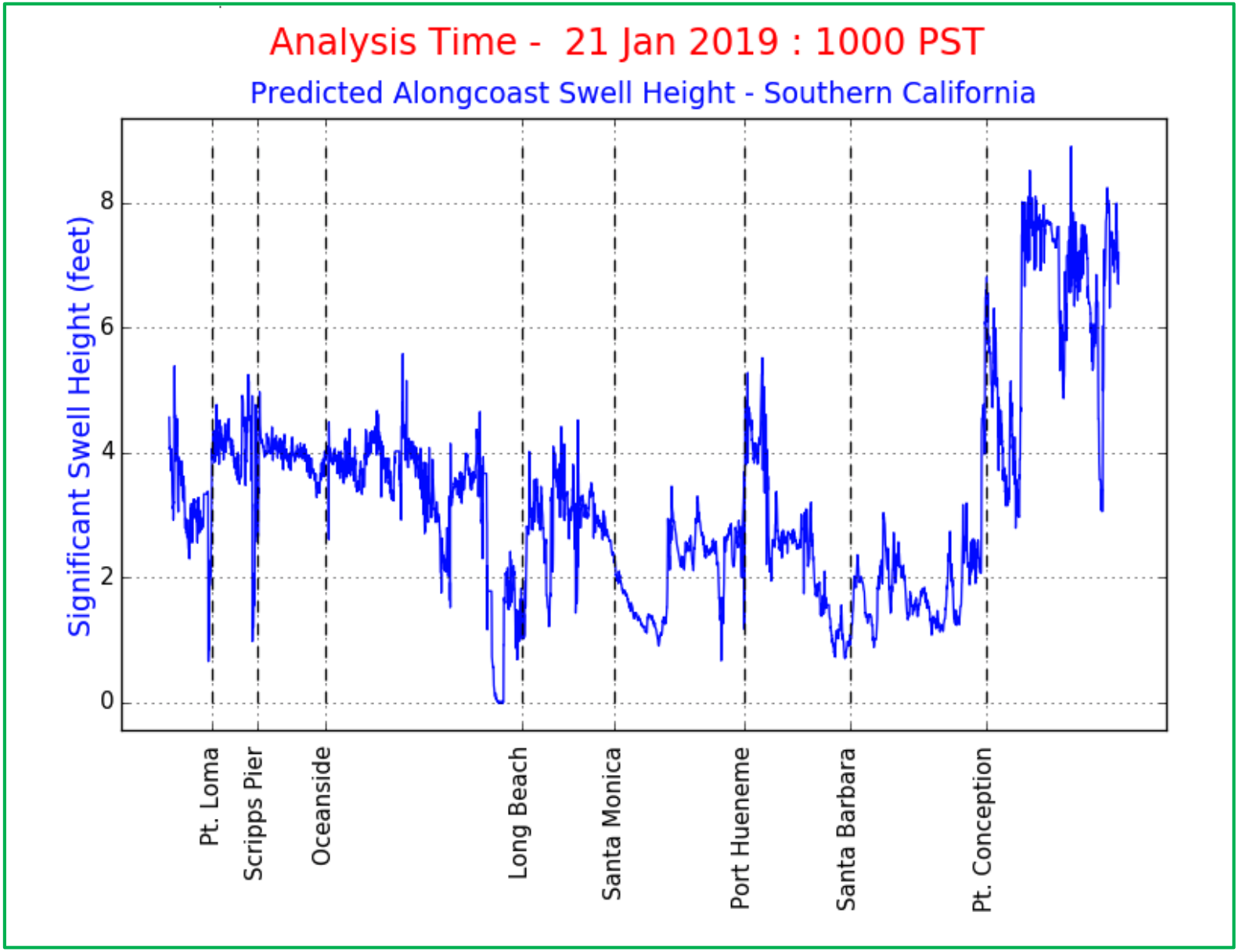
Flooding and Storm Surge Model

CDIP/SIO

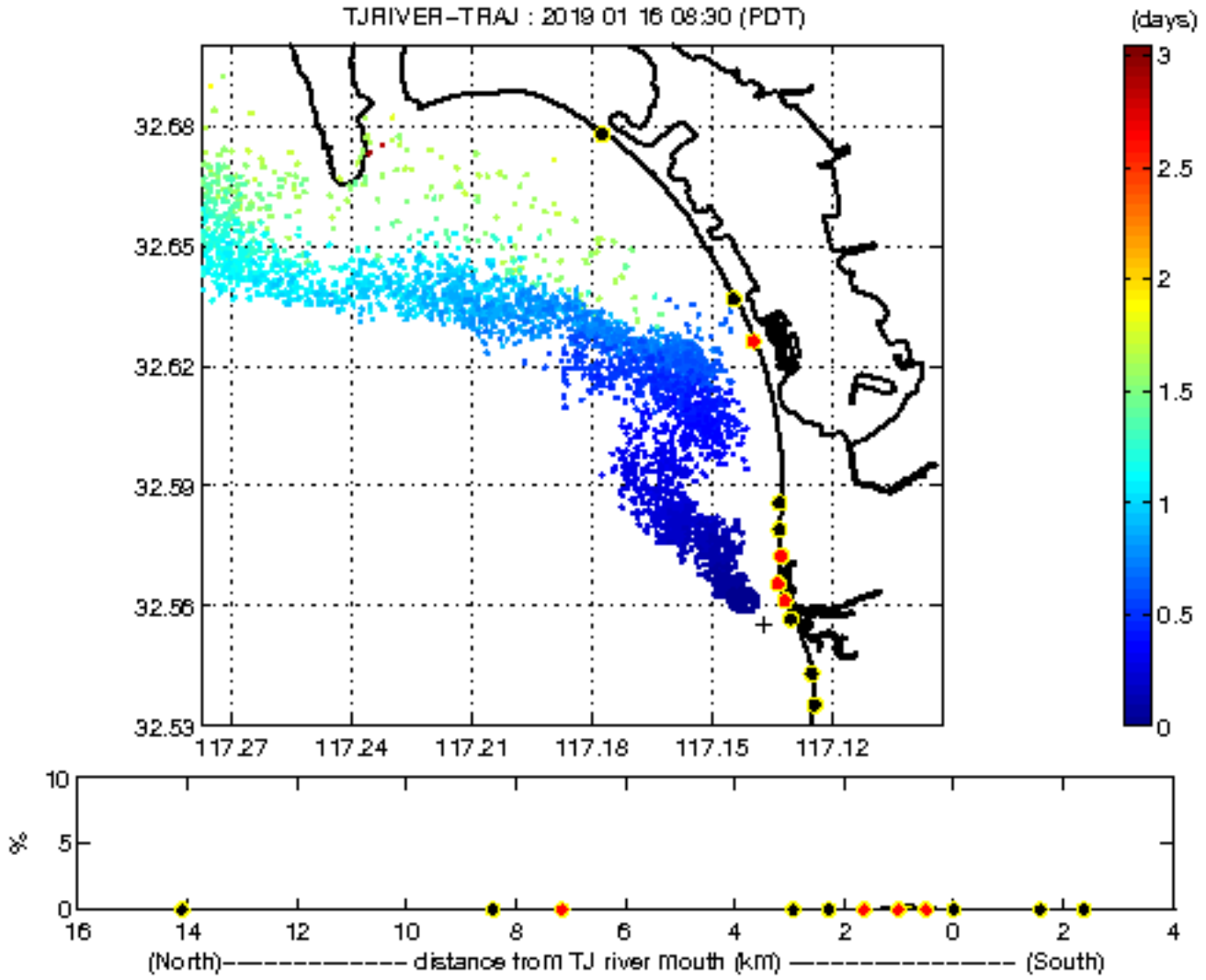
Water level elevation (relative to MLLW) forecasts use Stockdon (2006), are HIGHLY experimental, and should not be used as your primary forecast information.



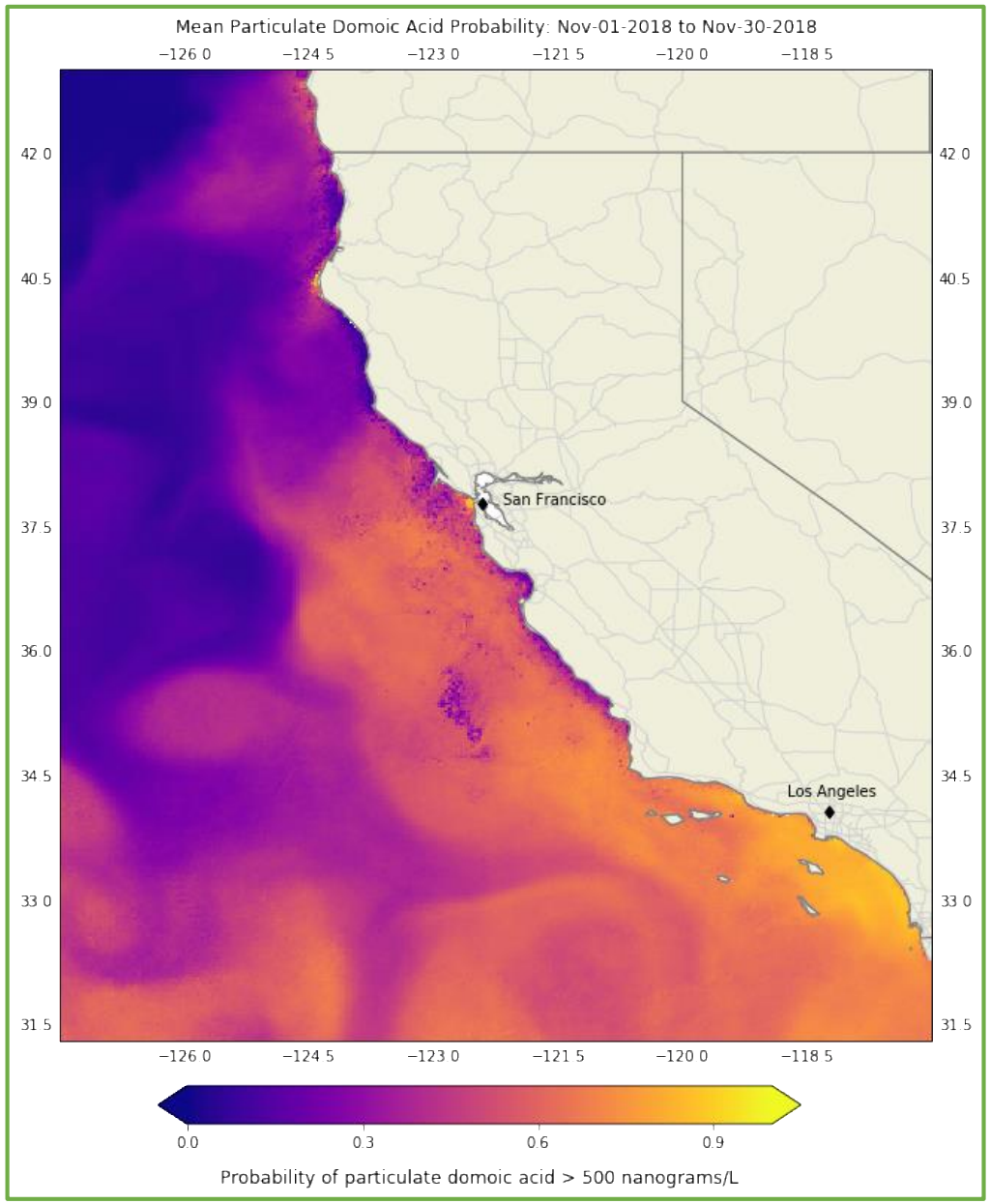
CDIP Sea and Swell Models



Tijuana River Plume Tracker

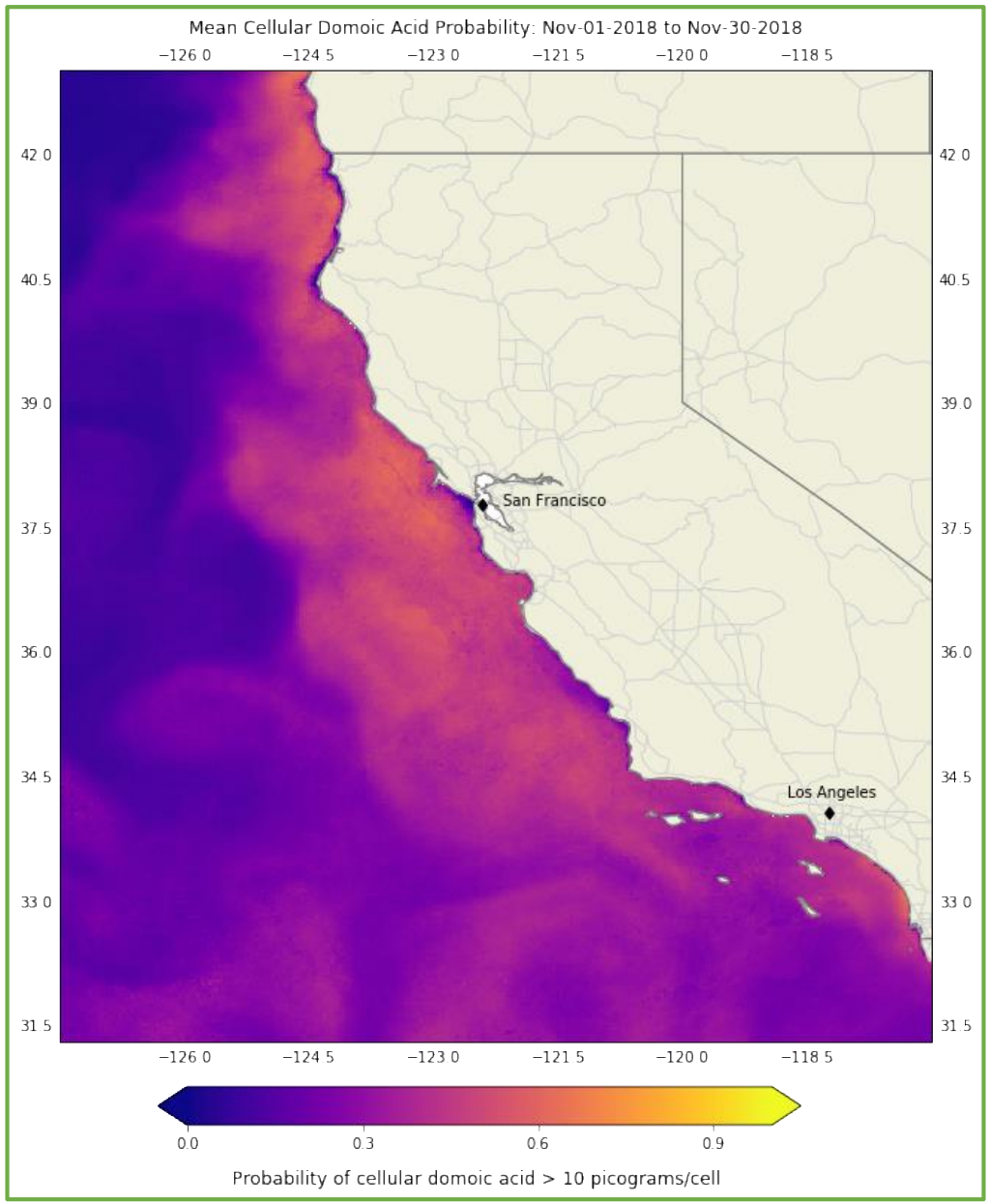


C-HARM Model



C-HARM predicted the highest likelihood of particulate domoic acid (pDA) production in the Southern CA Bight and the offshore region of central CA, and even higher probabilities in the nearshore zone of the North Coast than for October.

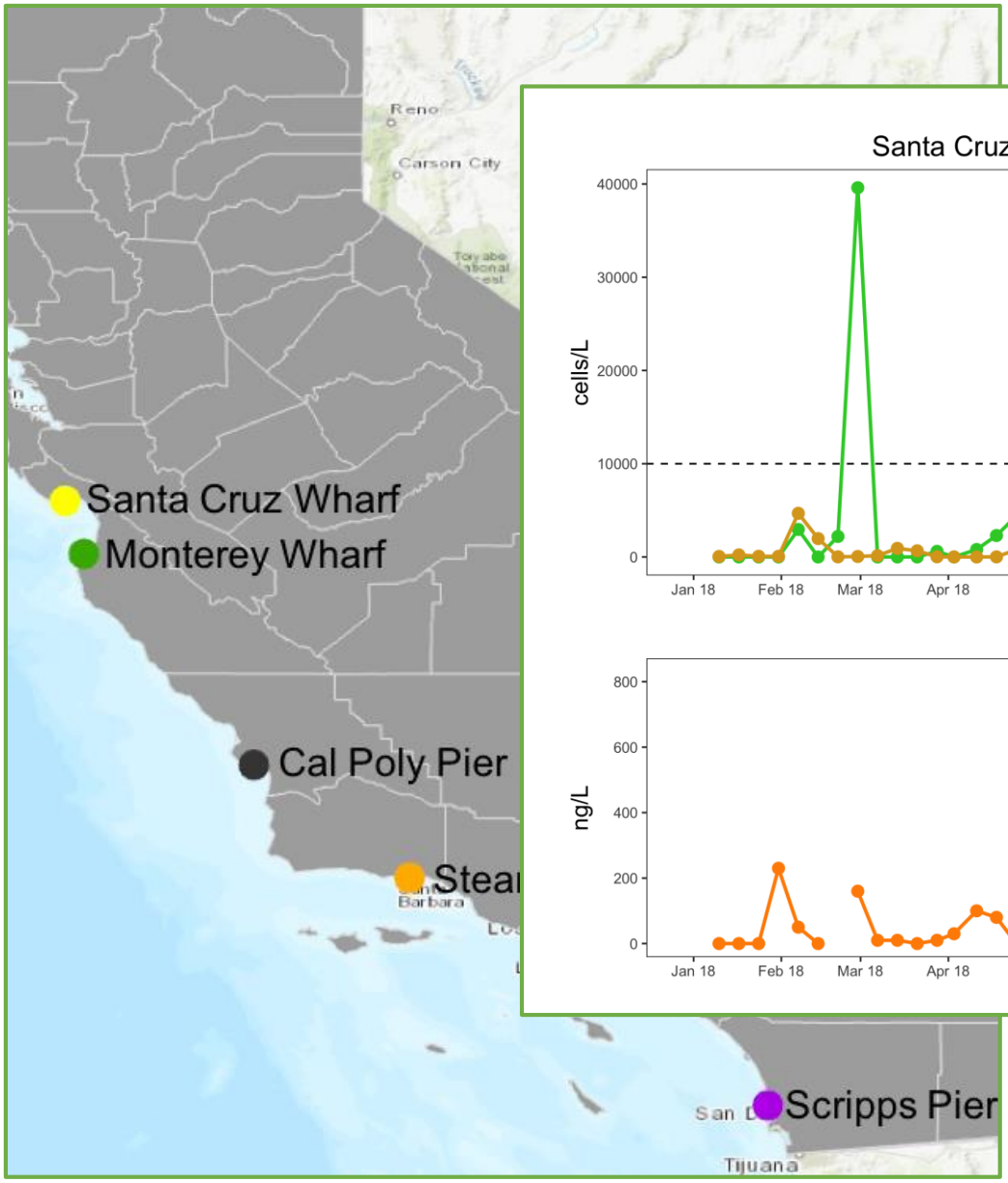
C-HARM Model

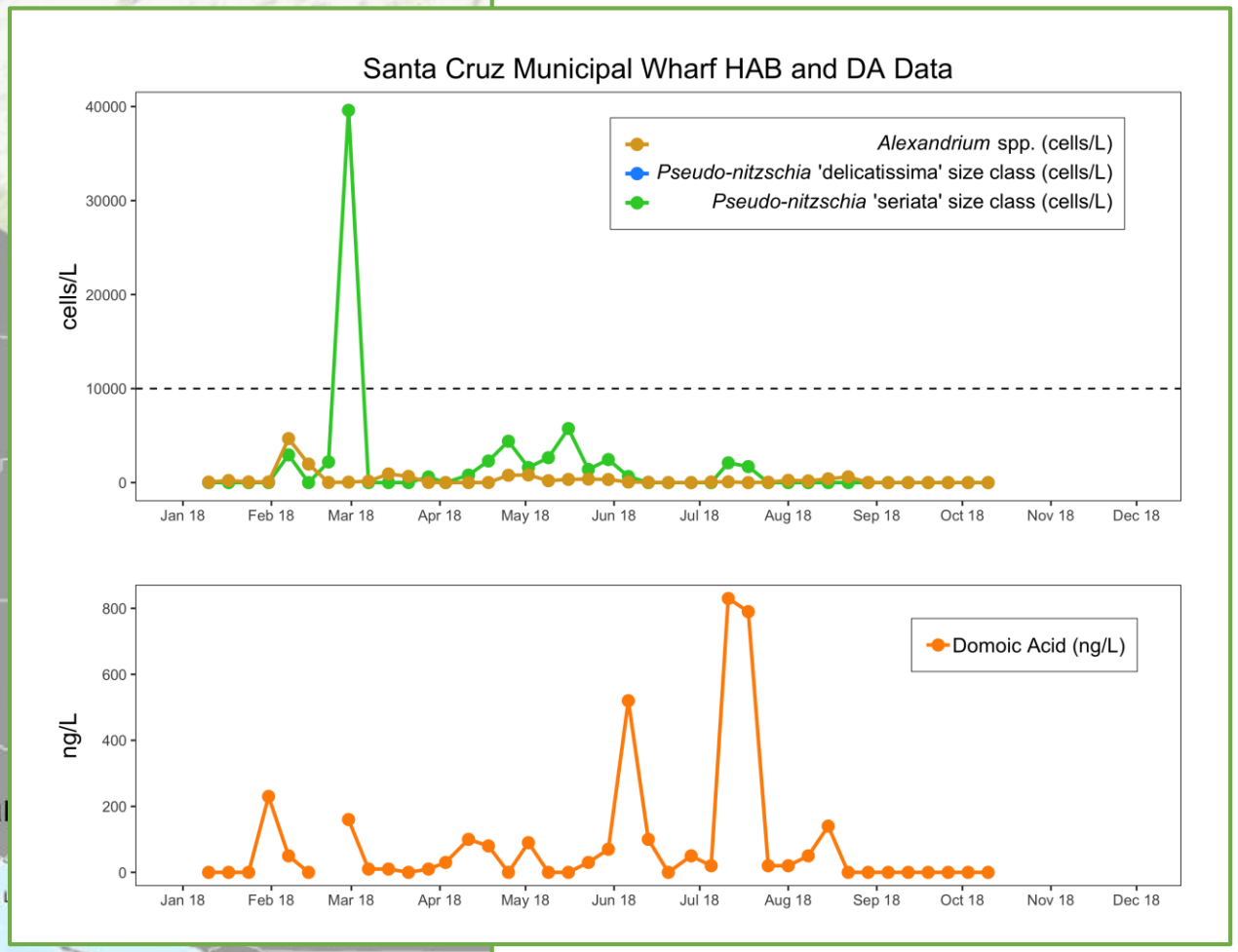


Cellular domoic acid (cDA) predictions, which should tell us where *Pseudo-nitzschia* cells are likely to be most toxic on a per-cell basis were elevated north of Pt. Conception, particularly the central and north CA coasts.

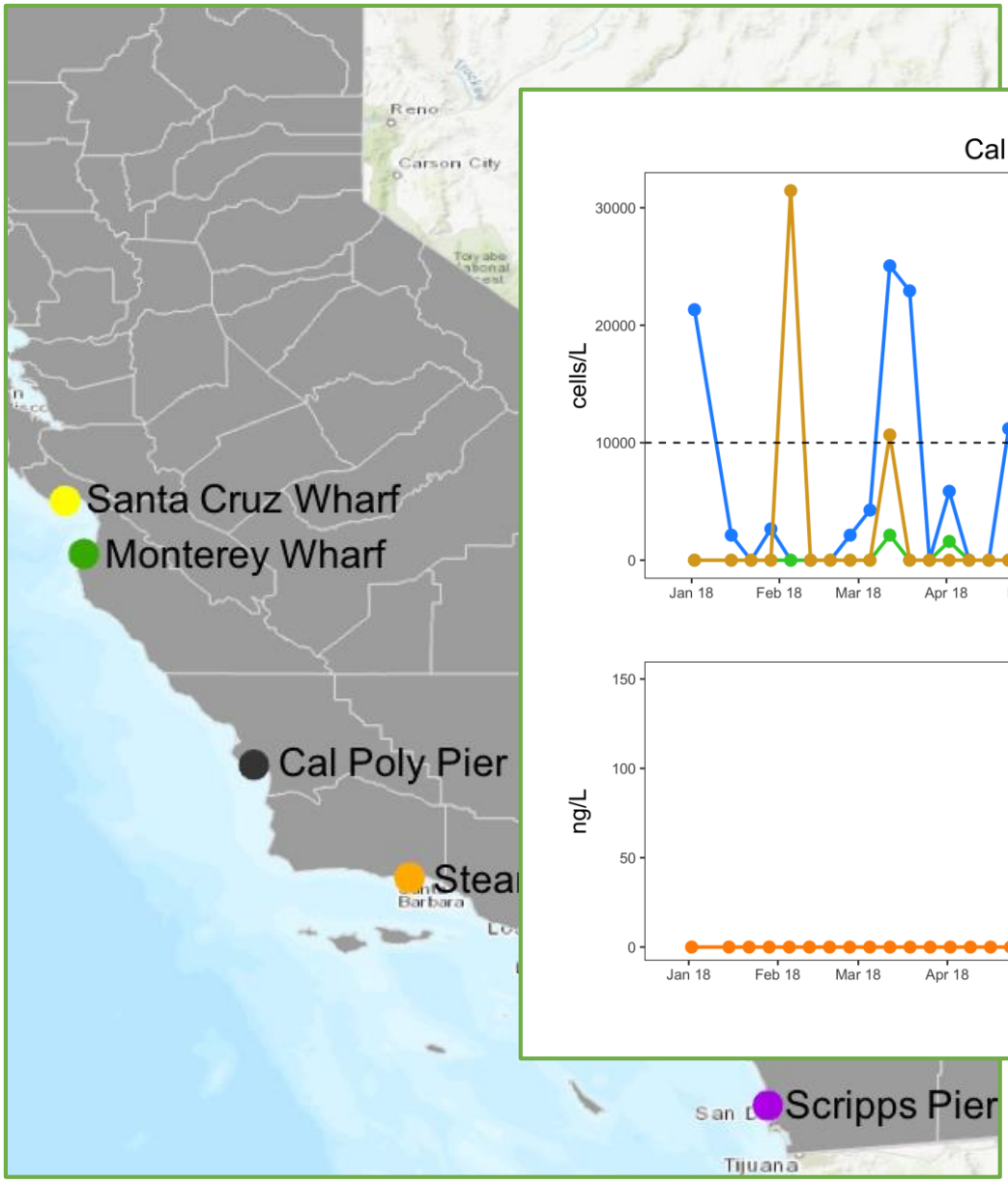
HABMAP Monitoring

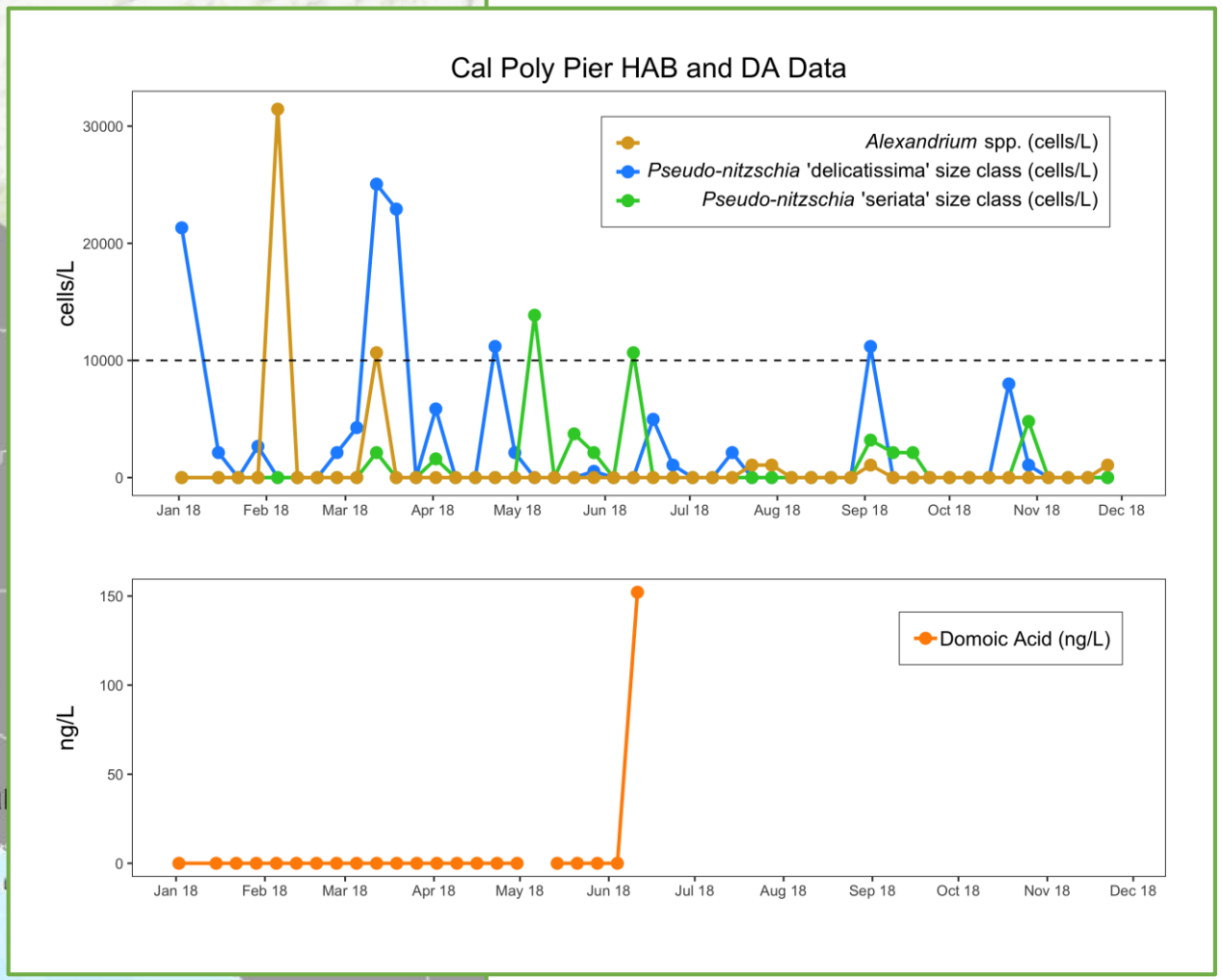
Santa Cruz Municipal Wharf



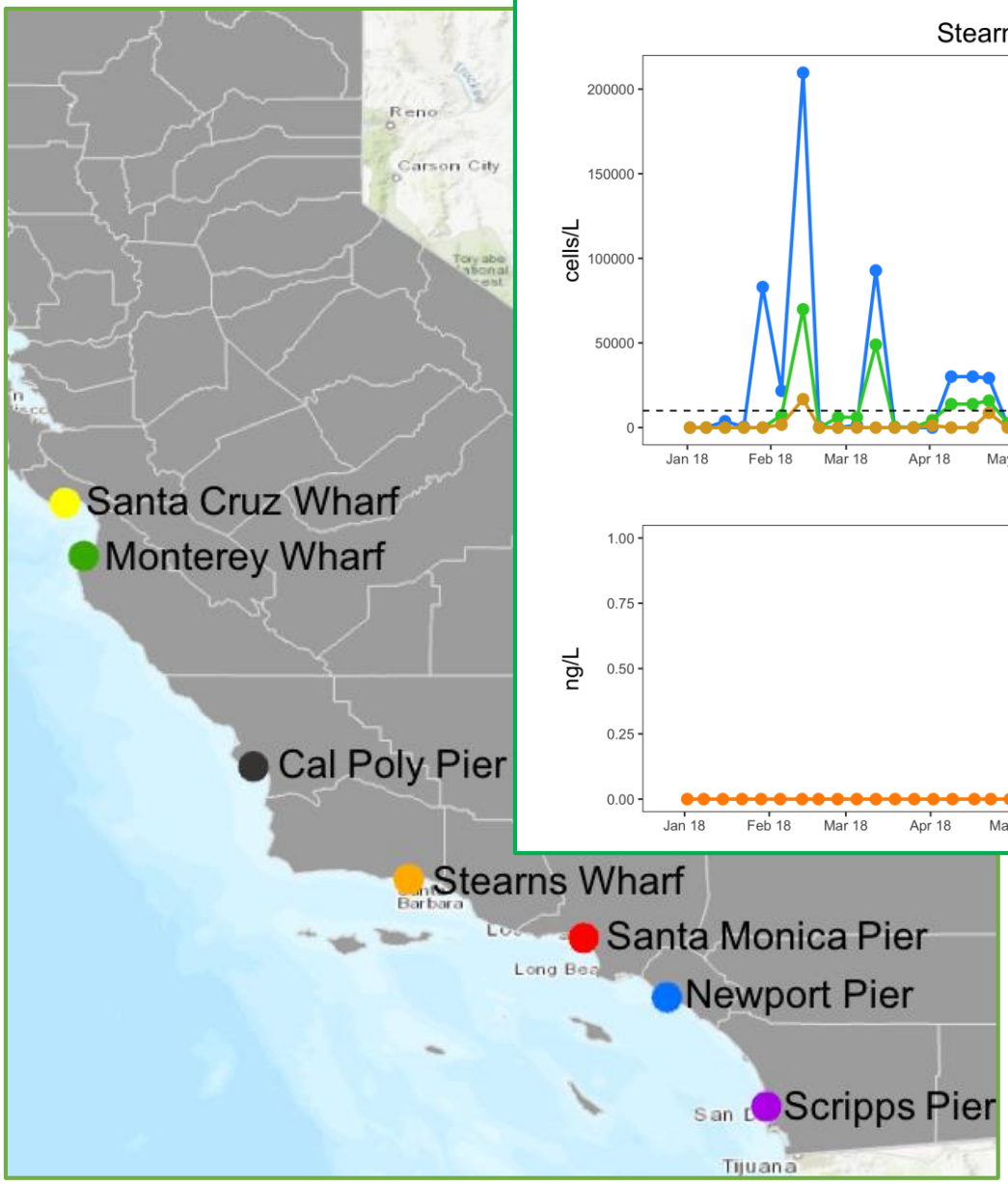


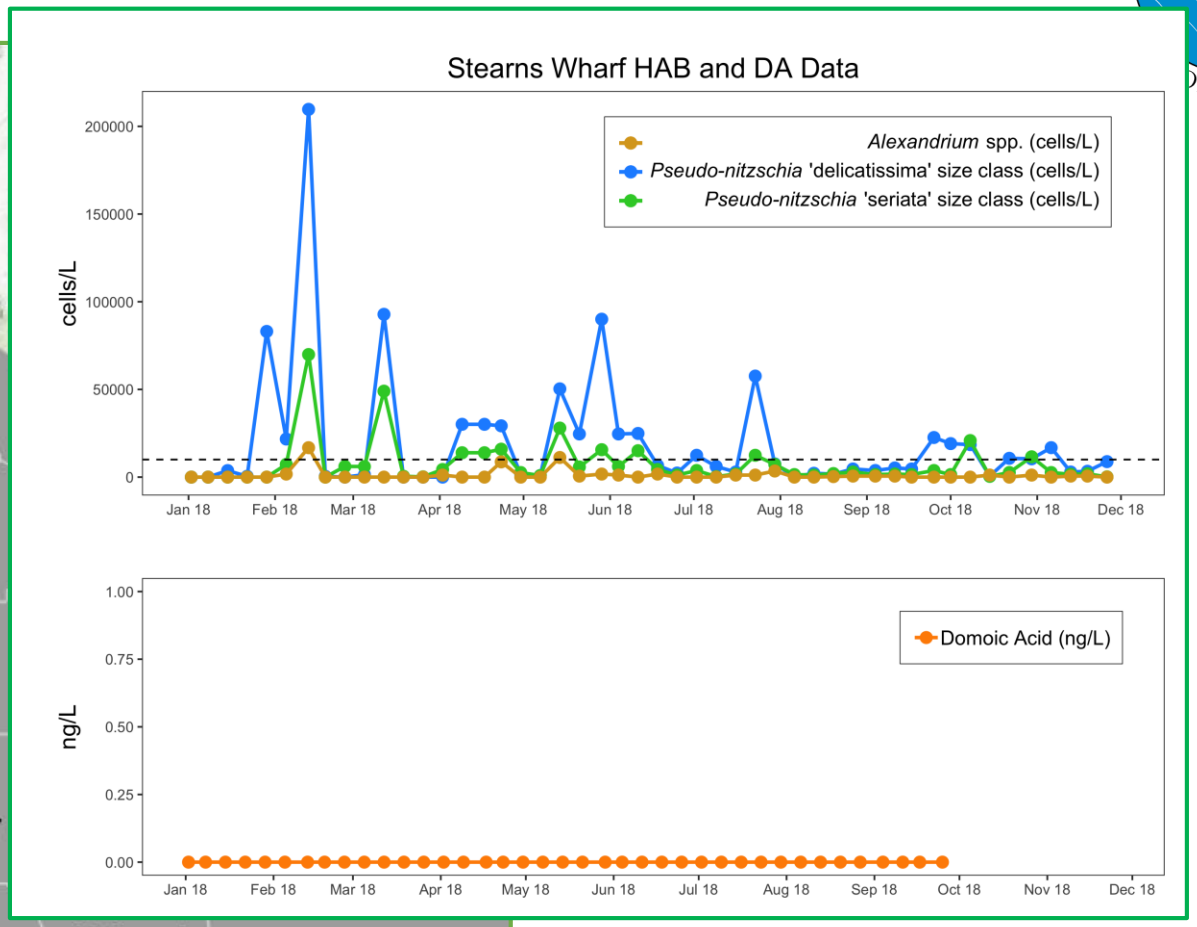
Cal Poly Pier





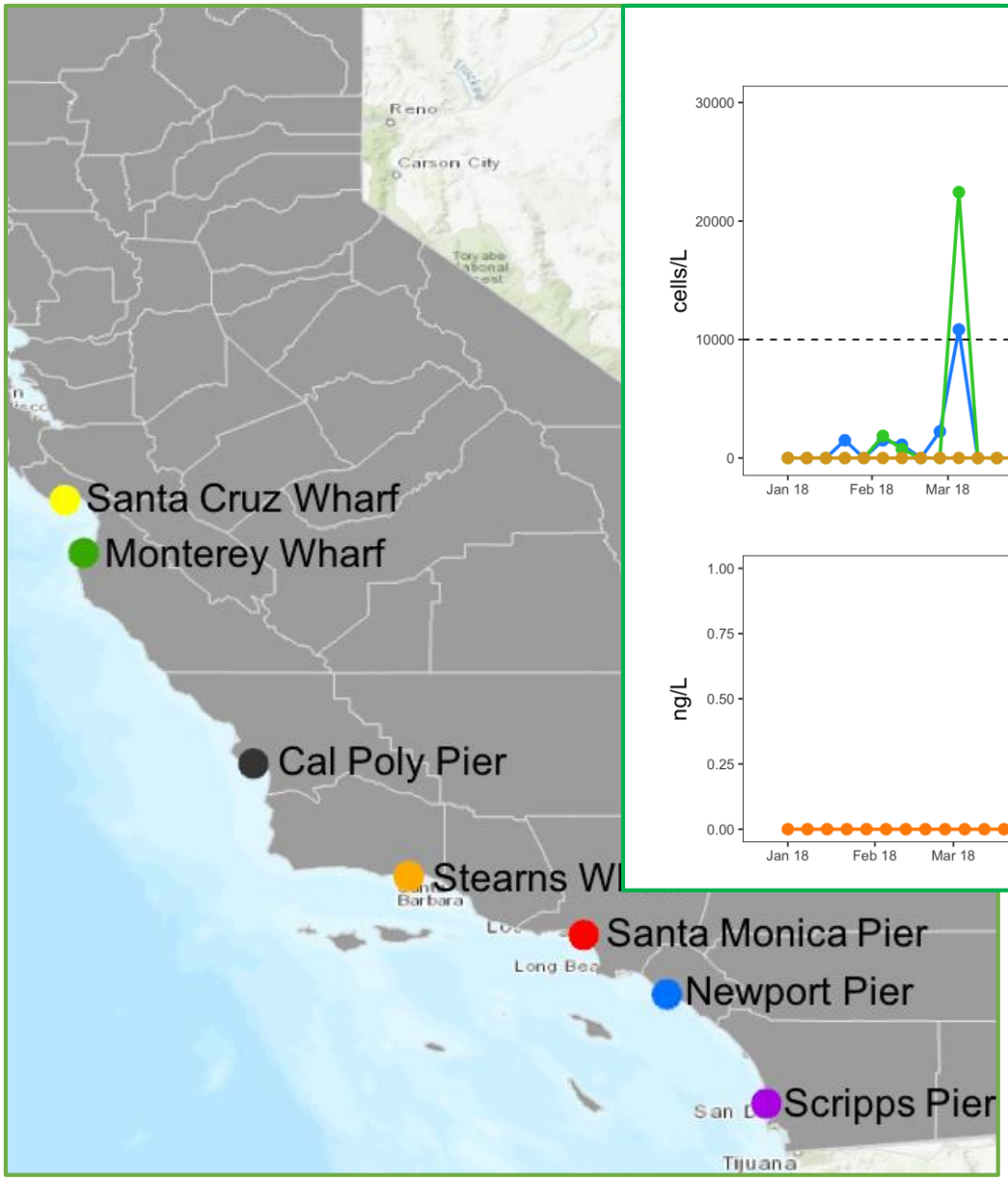
Stearns Wharf

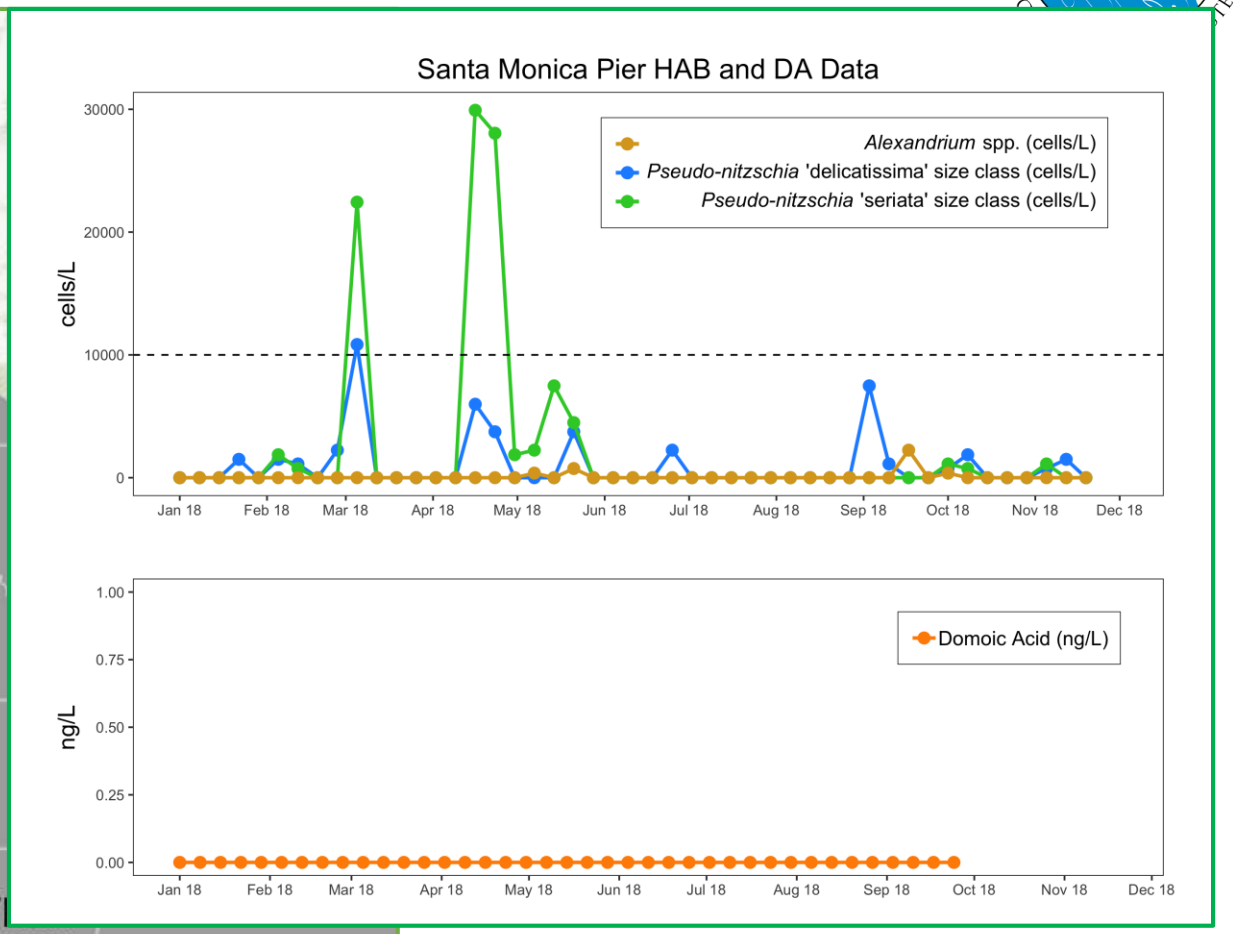




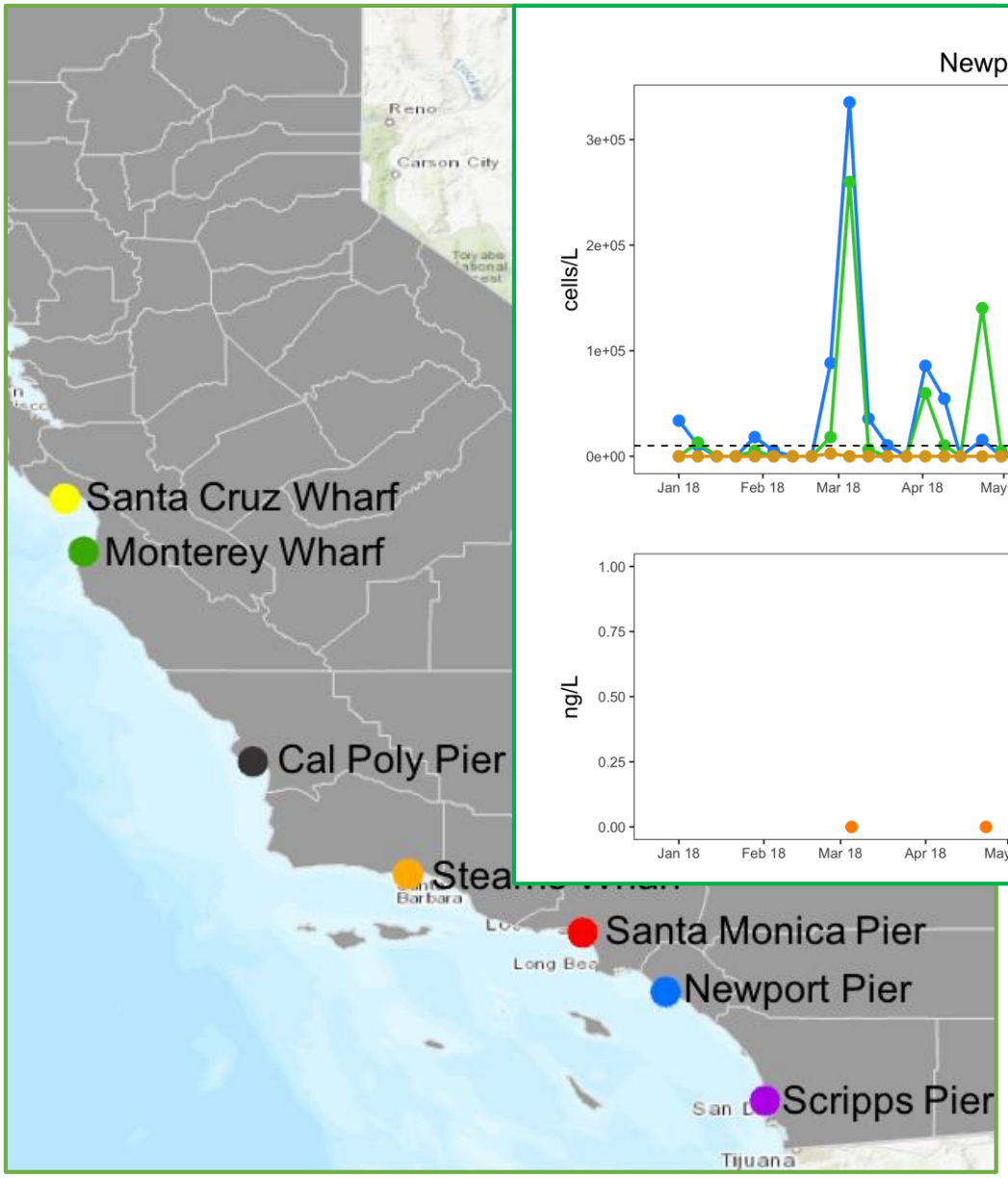
Pseudo-nitzschia 'delicatissima' (smaller size class-generally non-toxic) reached bloom levels in early November

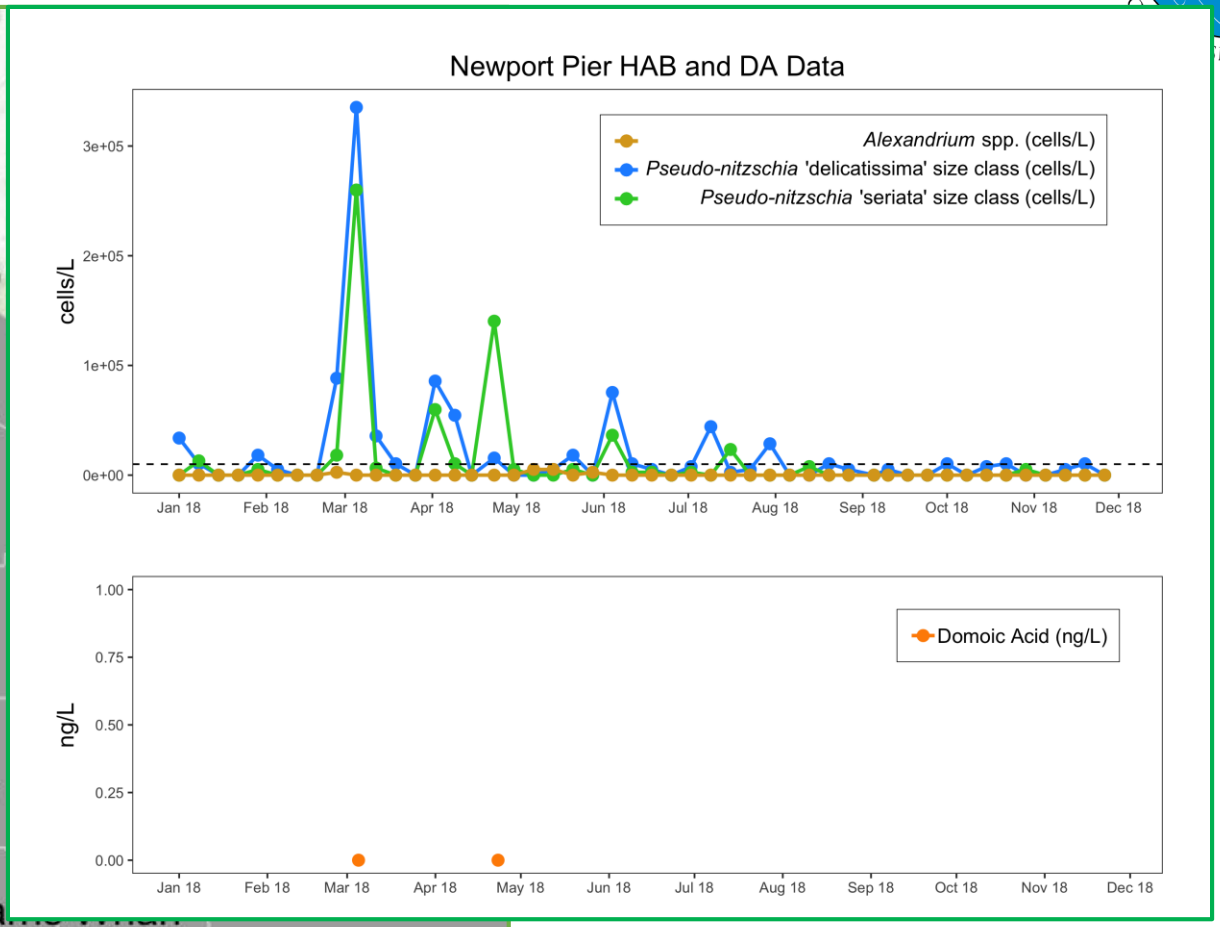
Santa Monica Pier





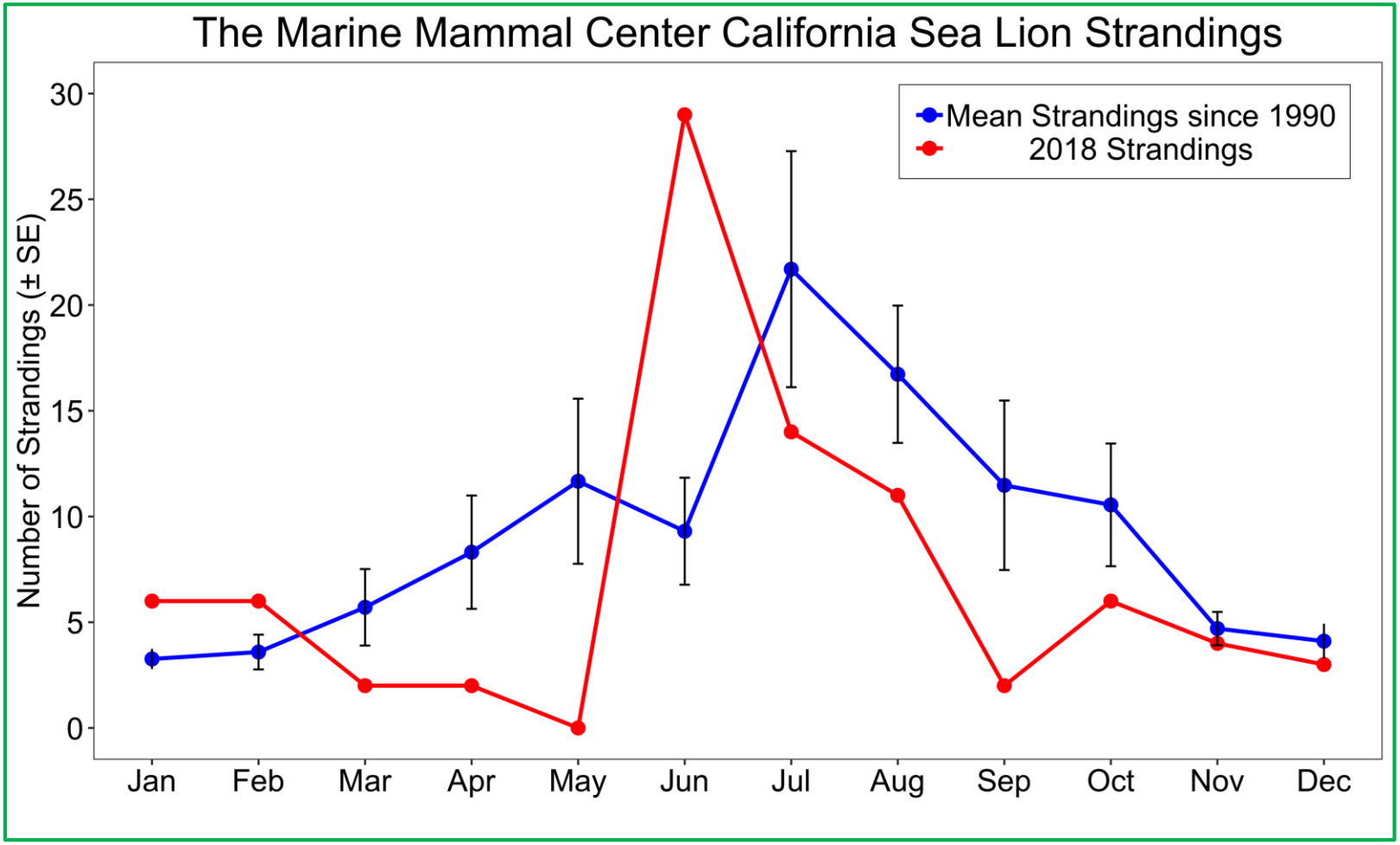
Newport Pier





Pseudo-nitzschia 'delicatissima' (smaller size class-generally non-toxic) reached bloom levels in early November

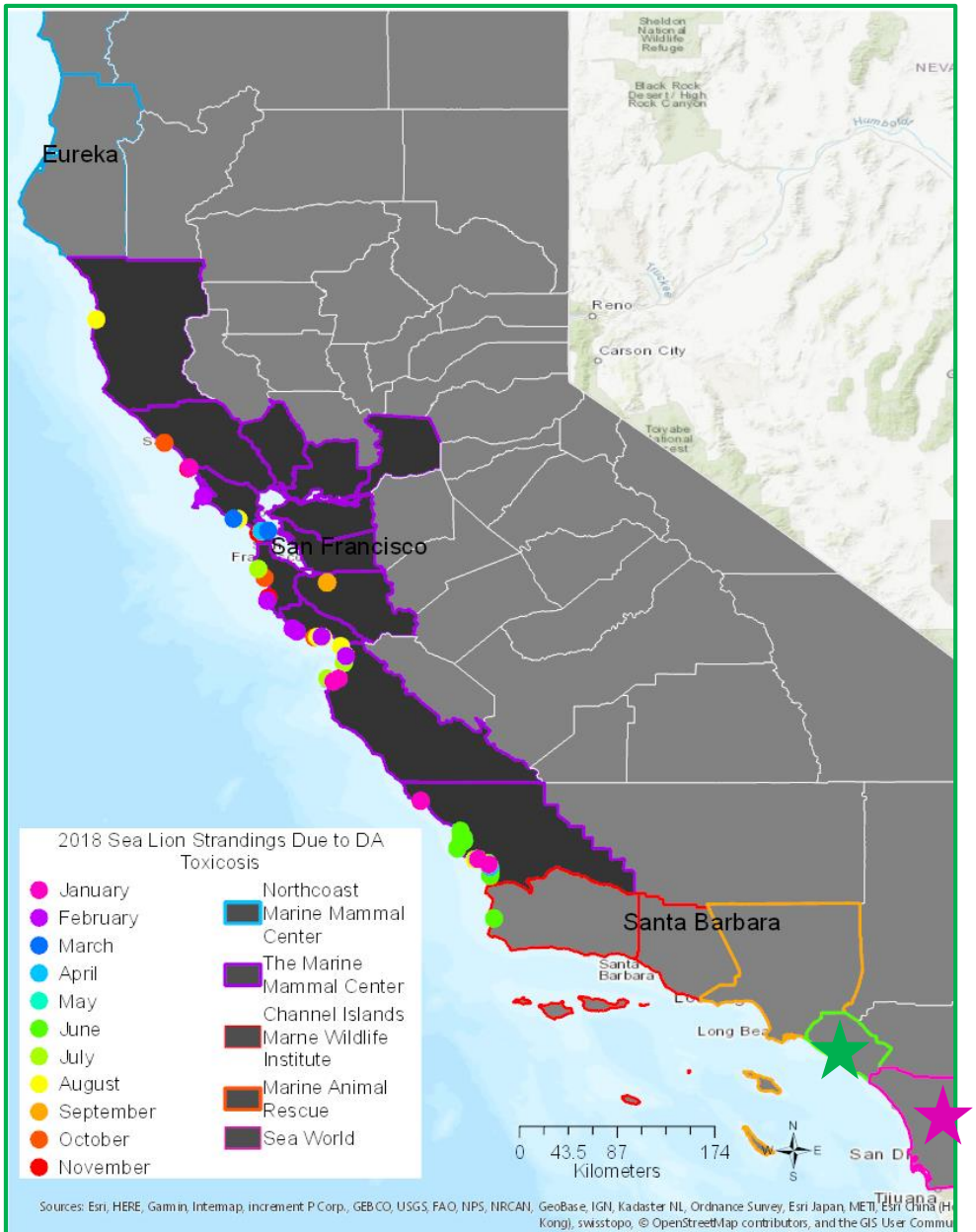
Sea Lion Strandings 2018



The Marine Mammal Center recorded 91 sea lion strandings due to Domoic Toxicosis, with a peak of 29 strandings in the month of June. 35 of the 91 sea lions were rehabilitated and released, the others either died in treatment or received euthanasia.

The Marine Mammal Center.

Sea Lion Strandings 2018



*In 2019 we will be adding the Pacific Marine Mammal Center and SeaWorld stranding data.

NOAA West Watch Update: Southern California

Megan Hepner

January, 22nd, 2019

www.sccoos.org

Call Agenda

- Project Recap & Updates (Dan McEvoy)
- Regional Climate and ENSO brief (Dan McEvoy)
- IOOS Nearshore Conditions brief (Jan Newton, Henry Ruhl, Megan Hepner)
- **Discussion - Environmental conditions and impacts reporting (All)**
  - **Additional impacts to share?**

Western Storm Impacts – Taos, NM Avalanche

- January 17 avalanche at Taos Ski Valley killed one skier and critically injured another

Photo: Morgan Timms/The Taos News

Western Storm Impacts – California

Debris slide in Los Angeles

Photo: Damian Dovarganes, AP

Downed trees in San Francisco

Photo: Jeff Chiu, AP

- Heavy rain and strong winds led to flooding, mud and debris flows
- At least five deaths reported

Call Agenda

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- Discussion - Environmental conditions and impacts reporting (All)
  - Additional impacts to share?
- **Next webinar: FINAL WEBINAR, date TBD**

THANK YOU!