



# NANOOS

NORTHWEST ASSOCIATION OF NETWORKED OCEAN OBSERVING SYSTEMS



## NVS Climatology App

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Data Explorer



Tsunami Evacuation Zones



Boaters



Tuna Fishers



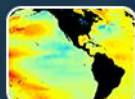
Shellfish Growers



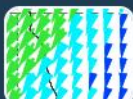
Beach and Shoreline Changes



Maritime Operations



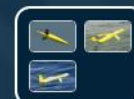
Climatology



High Frequency Radar



Cruises



Gliders



Help

### ADDITIONS & UPDATES

[View Last 3 Months](#)



#### HMSC Newport

Station is offline since 6/22 due to sensor malfunction. It will likely be a few months before station is back online.

Updated on 6 Jul 2017



#### OSU CB-06

New NANOOS shelf mooring deployed 6/10, 6 nm off Coos Bay / Cape Arago as relocation of now-decommissioned NH-10 mooring. Measures (in near-real-time) weather, temp. & salt (1.5 m), and currents. PMEL air & water CO2 and 1-m temp. & salt also deployed.

Added on 5 Jul 2017



#### OSU NH-10

The NH-10 mooring has been relocated to a new location offshore of Coos Bay, designated as CB-06. See the OOI CE02SHSM mooring for continued data near the NH-10 station location.

Updated on 5 Jul 2017



#### CMOP Saturn02

Mooring was redeployed in early June. NVS harvesting is now restored, with an updated weather and water sensor configuration for this multi-depth asset.

Updated on 23 Jun 2017



#### Taylor-PCSGA Dabob

Sensors are back online starting on June 14, after a gap due to instrument problems and maintenance.

Updated on 21 Jun 2017



#### NDBC Washington

Buoy deployed and data released on 5/31/2017; but continuous data transmission started on Jun. 5. Buoy location was updated (previous deployment position was 42.612 N, 130.537 W).

Updated on 7 Jun 2017





# NANOOS

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v5.4 Contact NANOOS

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In-Situ

NODC Ocean Atlas

Surface Salinity (Climate)

Satellite

NCDC OI SST

Water Temp. (Climate)

Water Temp. (Anomaly)

OSU AVISO Climate

Sea Level (Climate)

Sea Level (Anomaly)

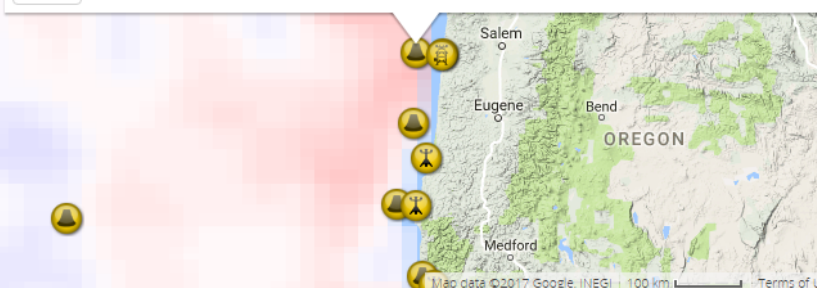
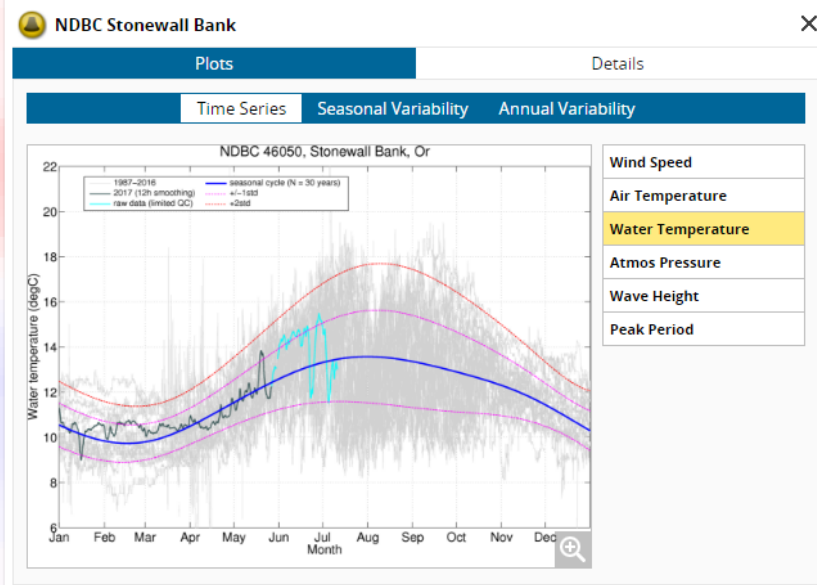
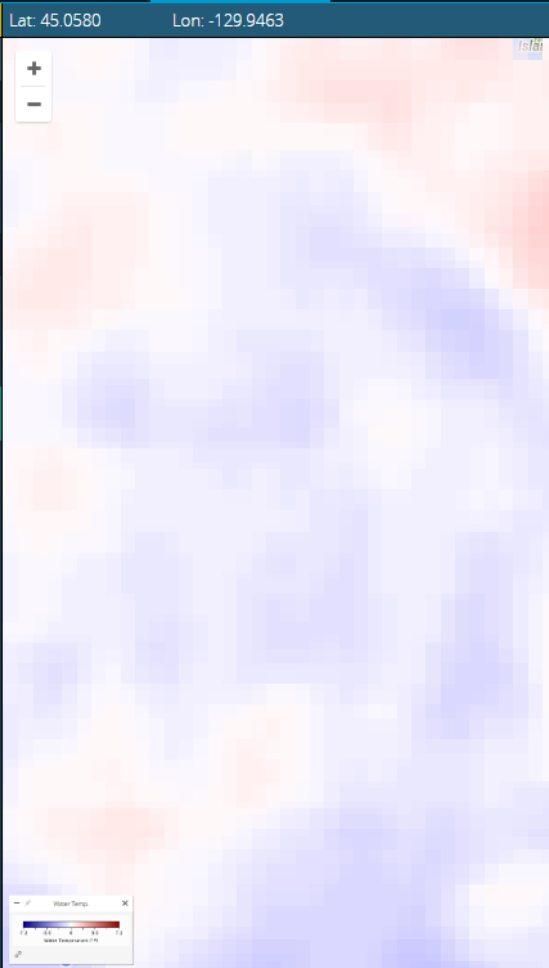
OSU MODIS Climate

Chlorophyll (Climate)

Chlorophyll (Anomaly)

Water Temp. (Climate)

Water Temp. (Anomaly)



14 June 2017 6:00 am PDT

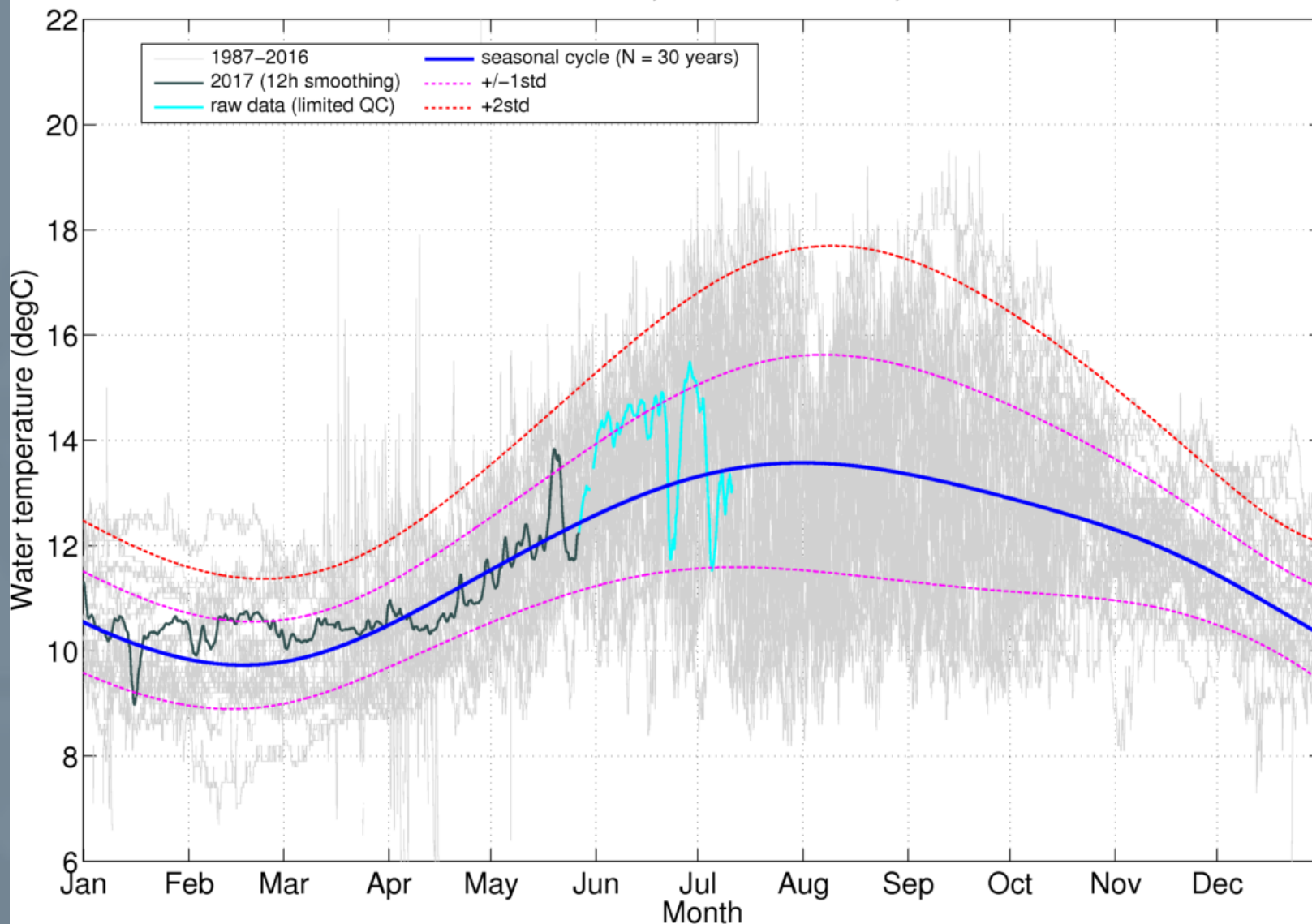
2013 2014 2015 2016 2017 2018

Water Temp.

Legend: J F M A M J J A S O N D



## NDBC 46050, Stonewall Bank, Or





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Remote Sensing

Lat: 44.6999

Lon: -126.7603

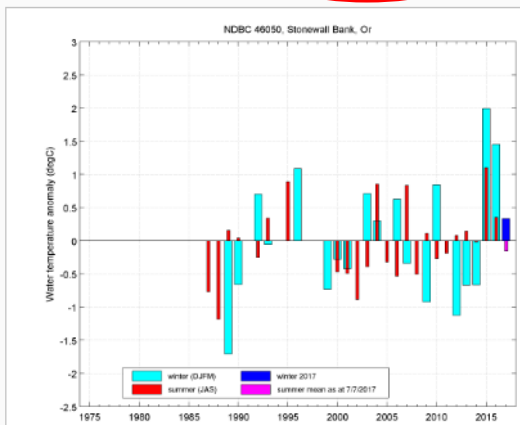
Terrain

Expand All Collapse All

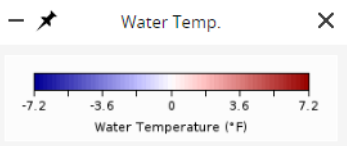
- In-Situ
  - NODC Ocean Atlas
  - Surface Salinity (Climate)
- Satellite
  - NCDC OI SST
  - Water Temp. (Climate)
  - Water Temp. (Anomaly)
  - OSU AVISO Climate
  - Sea Level (Climate)
  - Sea Level (Anomaly)
  - OSU MODIS Climate
  - Chlorophyll (Climate)
  - Chlorophyll (Anomaly)
  - Water Temp. (Climate)
  - Water Temp. (Anomaly)

NDBC Stonewall Bank

Time Series Seasonal Variability Annual Variability



- Wind Speed
- Air Temperature
- Water Temperature
- Atmos Pressure
- Wave Height
- Peak Period



12 January 2017 8:00 am PST



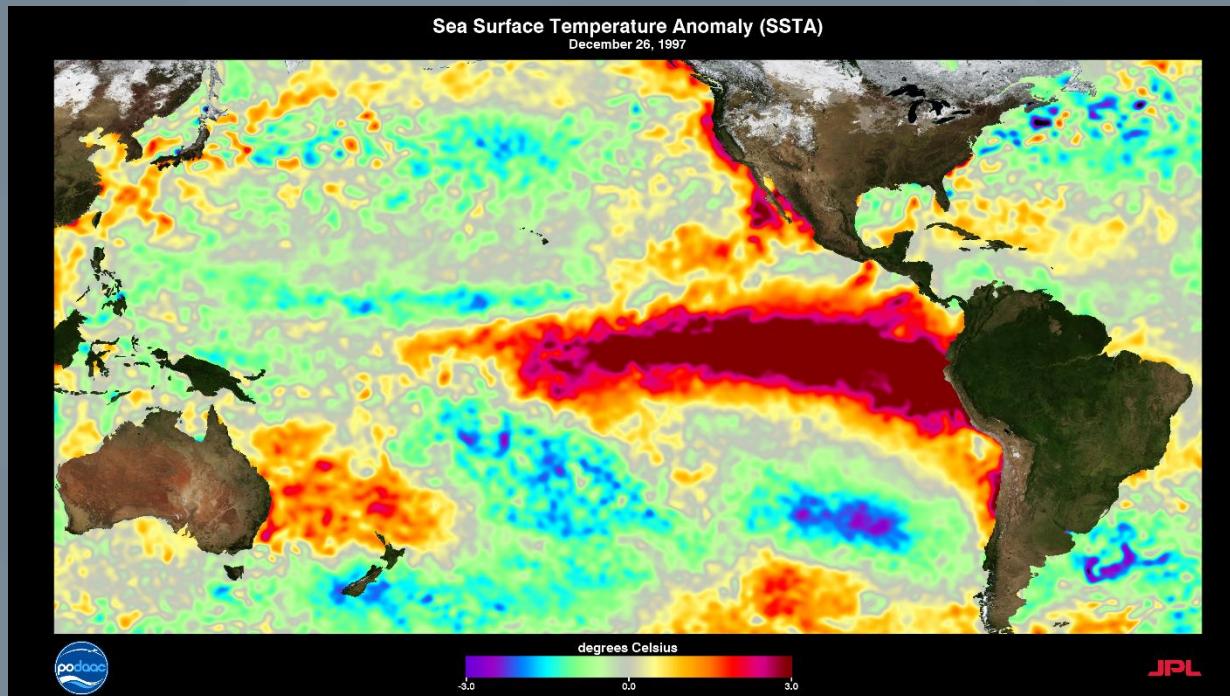






## 1997-98 El Niño

- The 1997-98 El Niño was the first major event that was observed extensively by satellites, including those that measured SST and sea surface height (SSH).







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Lat: 61.1856 Lon: -162.2461

Indices

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Climate Indices

MET

NINO 3.4

NPCC

PDO

Bakun Upwelling Indices

42°N 125°W Index

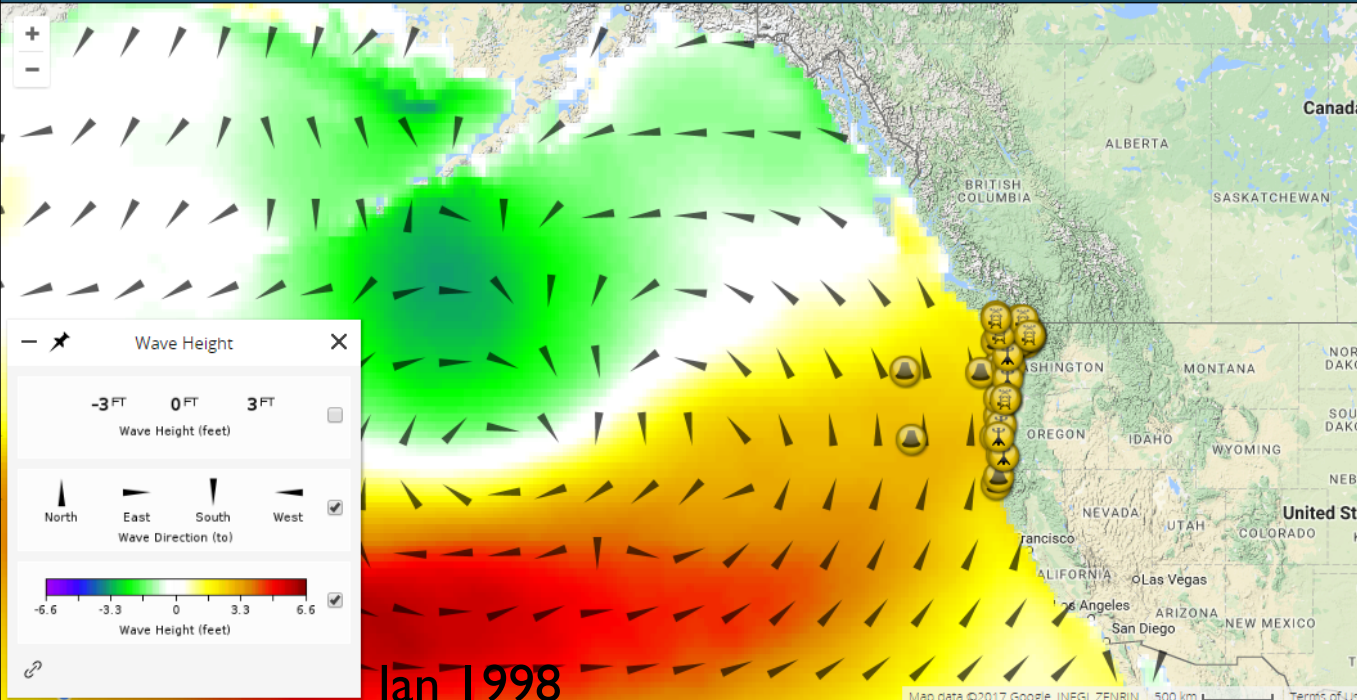
42°N 125°W Anomaly

45°N 125°W Index

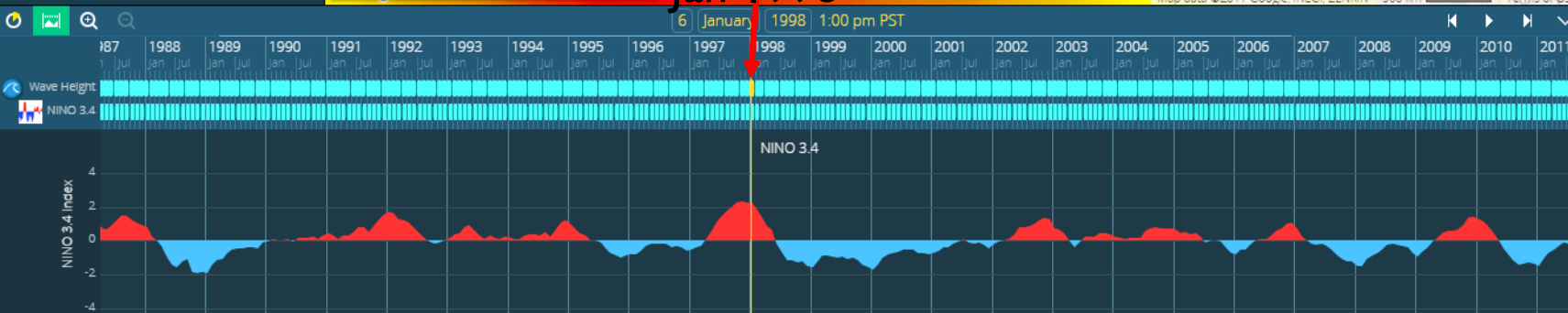
45°N 125°W Anomaly

48°N 125°W Index

48°N 125°W Anomaly



6 January 1998 1:00 pm PST







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Indices

Lat: 60.9731 Lon: -166.1133

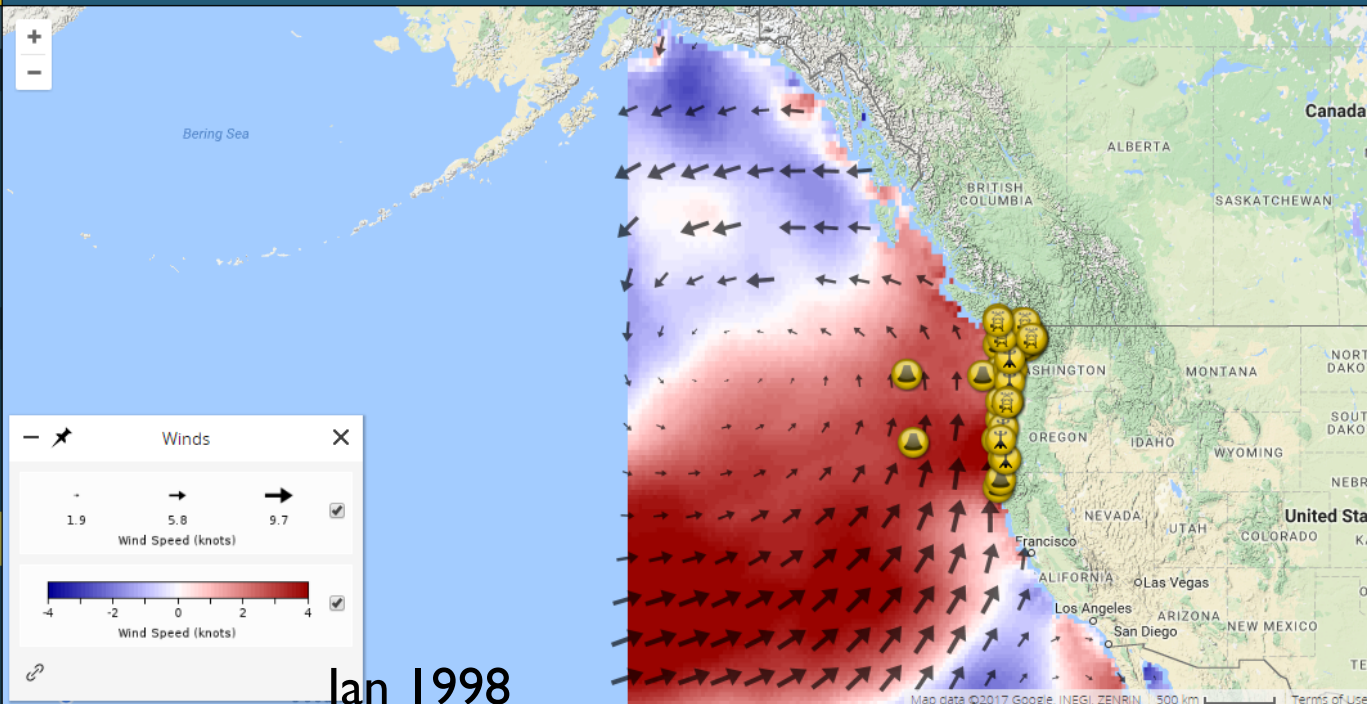
Expand All Collapse All

### Climate Indices

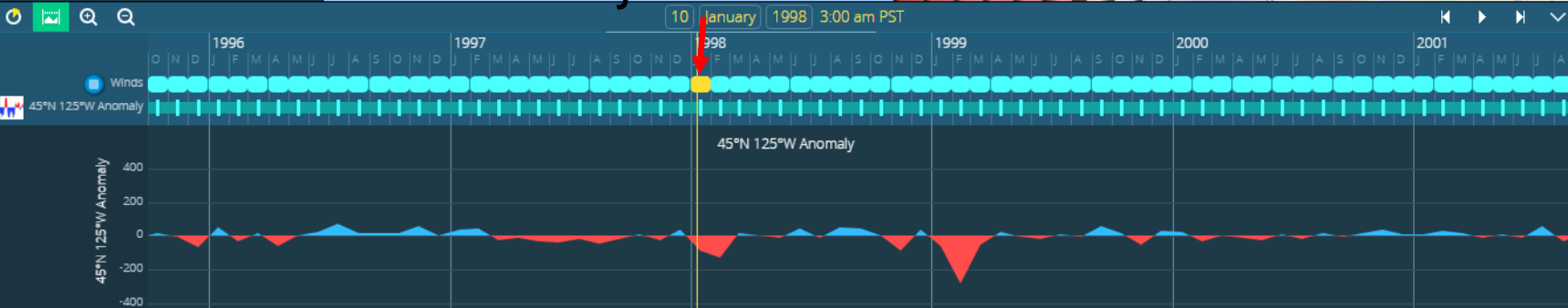
- MEI
- NINO 3.4
- NPGO
- PDO

### Bakun Upwelling Indices

- 42°N 125°W Index
- 42°N 125°W Anomaly
- 45°N 125°W Index
- 45°N 125°W Anomaly
- 48°N 125°W Index
- 48°N 125°W Anomaly



Jan 1998





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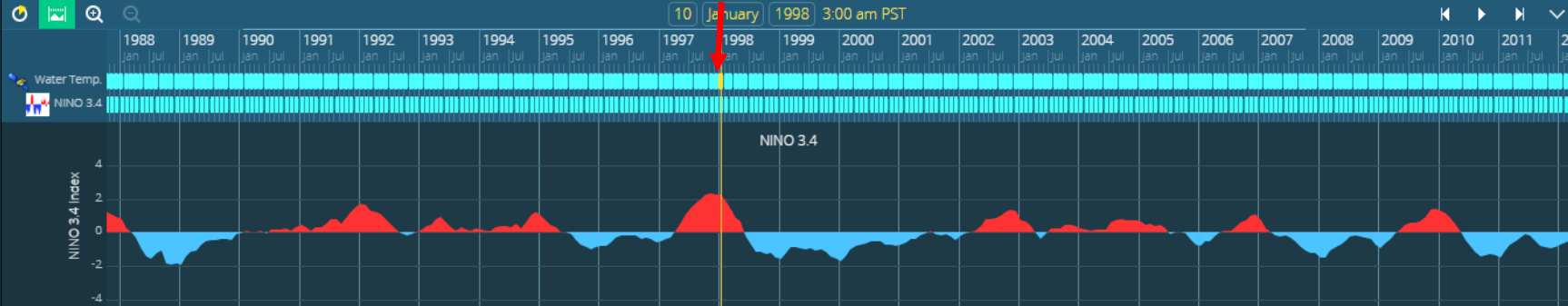
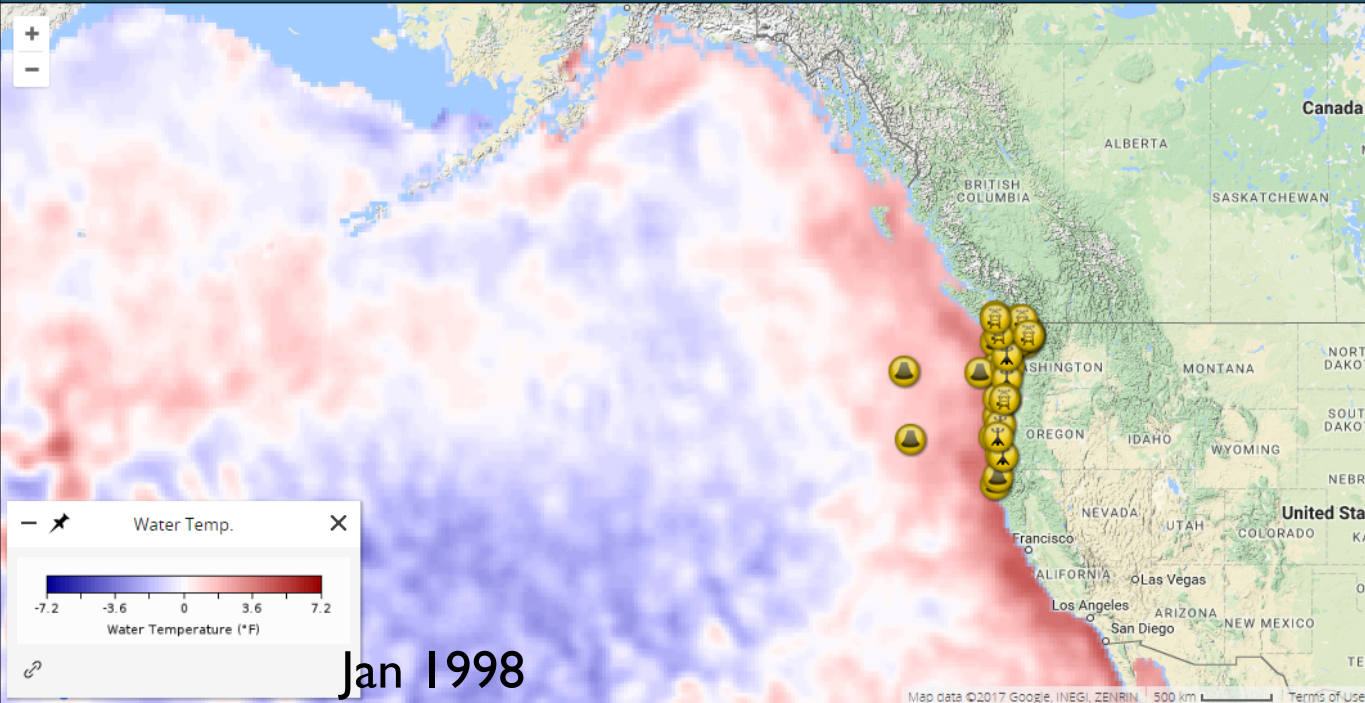
- Regions
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Remote Sensing

Lat: 61.1008 Lon: -152.4023

Expand All Collapse All

- In-Situ
  - NODC Ocean Atlas
  - Surface Salinity (Climate)
- Satellite
  - NCDC OI SST
  - Water Temp. (Climate)
  - Water Temp. (Anomaly)**
  - OSU AVISO Climate
  - Sea Level (Climate)
  - Sea Level (Anomaly)
  - OSU MODIS Climate
  - Chlorophyll (Climate)







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Remote Sensing

Lat: 60.2398 Lon: -170.3320

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In-Situ

NODC Ocean Atlas

Surface Salinity (Climate)

Satellite

NCDC OI SST

Water Temp. (Climate)

Water Temp. (Anomaly)

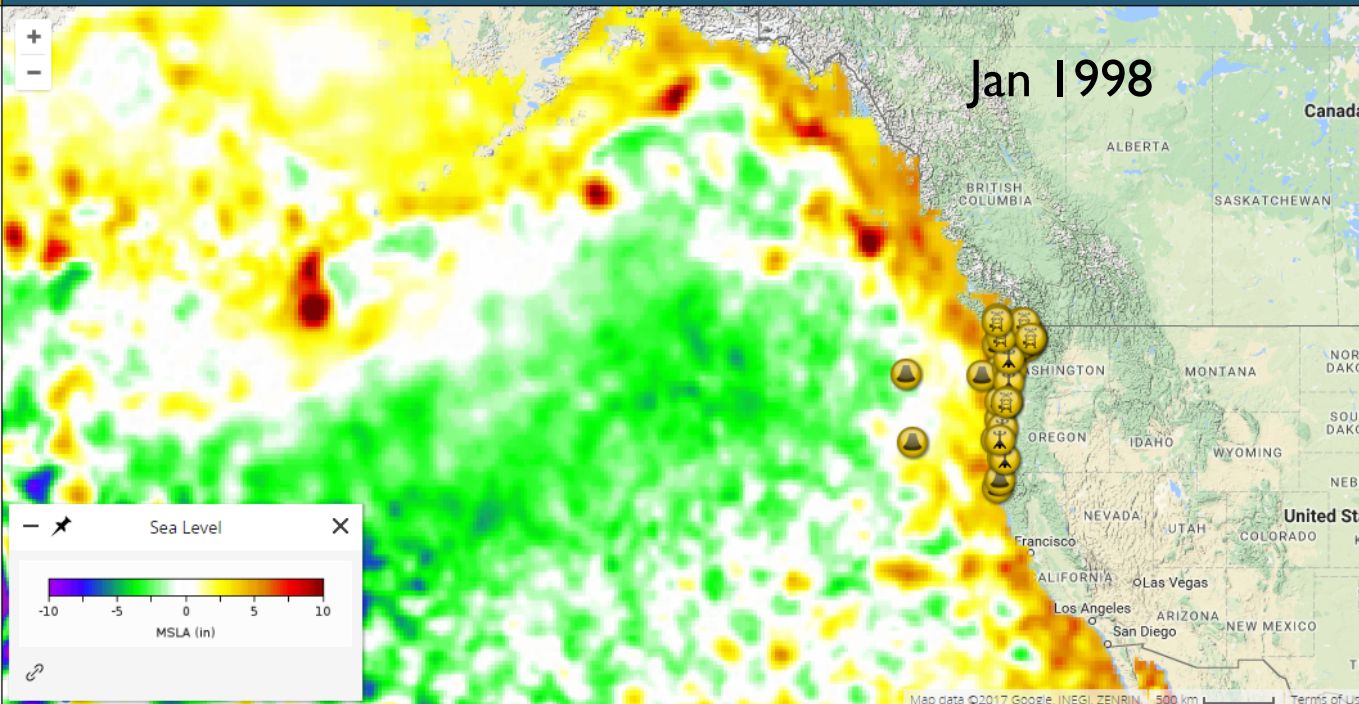
OSU AVISO Climate

Sea Level (Climate)

Sea Level (Anomaly)

OSU MODIS Climate

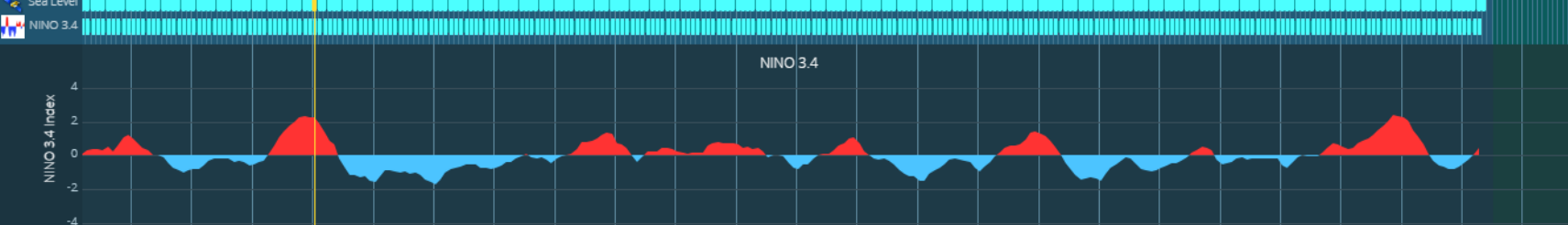
Chlorophyll (Climate)



13 January 1998 4:00 pm PST

994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

Sea Level NINO 3.4





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Remote Sensing

Lat: 53.6837 Lon: -137.7466

NDBC Columbia R Bar

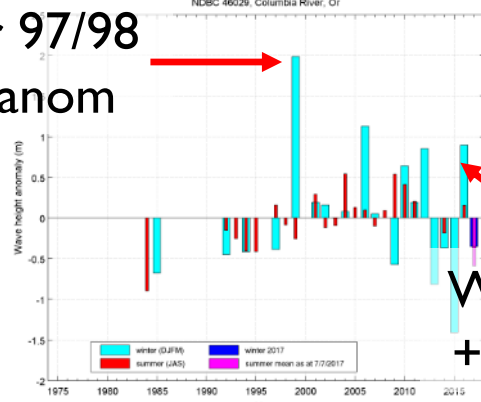
Plots

Details

Time Series Seasonal Variability Annual Variability

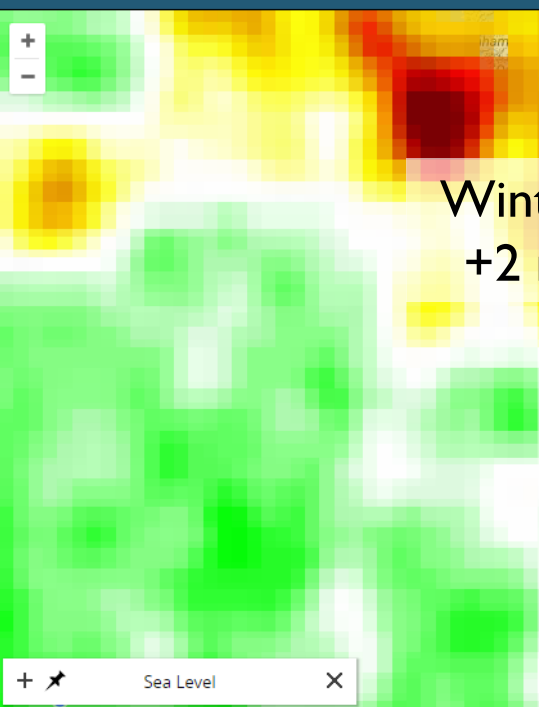
NDBC 46029, Columbia River, Or

Winter 97/98  
+2 m anom



Winter 15/16  
+0.6 m anom

- Wind Speed
- Air Temperature
- Water Temperature
- Atmos Pressure
- Wave Height
- Sea Level



Sea Level

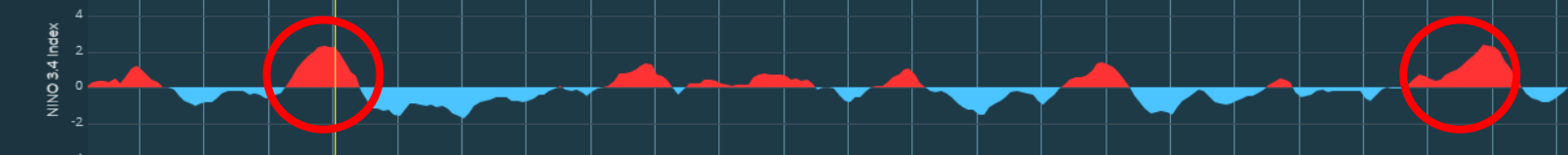
13 January 1998 4:00 pm PST

Sea Level

NINO 3.4

NINO 3.4

NINO 3.4 Index

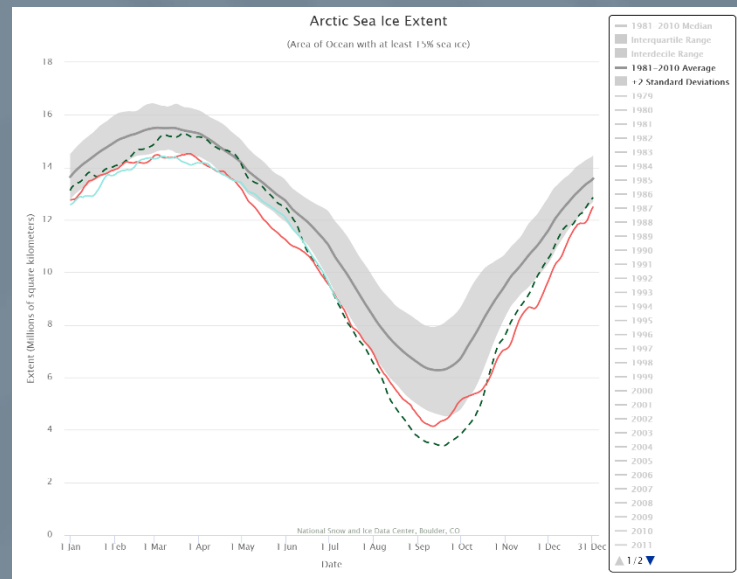






## New Features and Datasets

- Access to buoy data for previous years
- Additional climate indices
- Additional WOA datasets and levels
- Additional satellite and reanalysis fields
- Ability to download data via THREDDS and ERDDAP
- Others?



<http://nsidc.org/arcticseaicenews/charctic-interactive-sea-ice-graph/>



## Discussion Questions:

- Who here has used this app?
- If you have used it how/why have you used it?
- Are you using the app for research, teaching, presentations?
- Were you able to find the data/information you need? and if so, was it presented in a way that was useful? If not what can we do to improve your experience?
- Would you like access to the data used to generate the overlays and station plots?
- What types of data products and data delivery systems and file formats would be most beneficial to you?