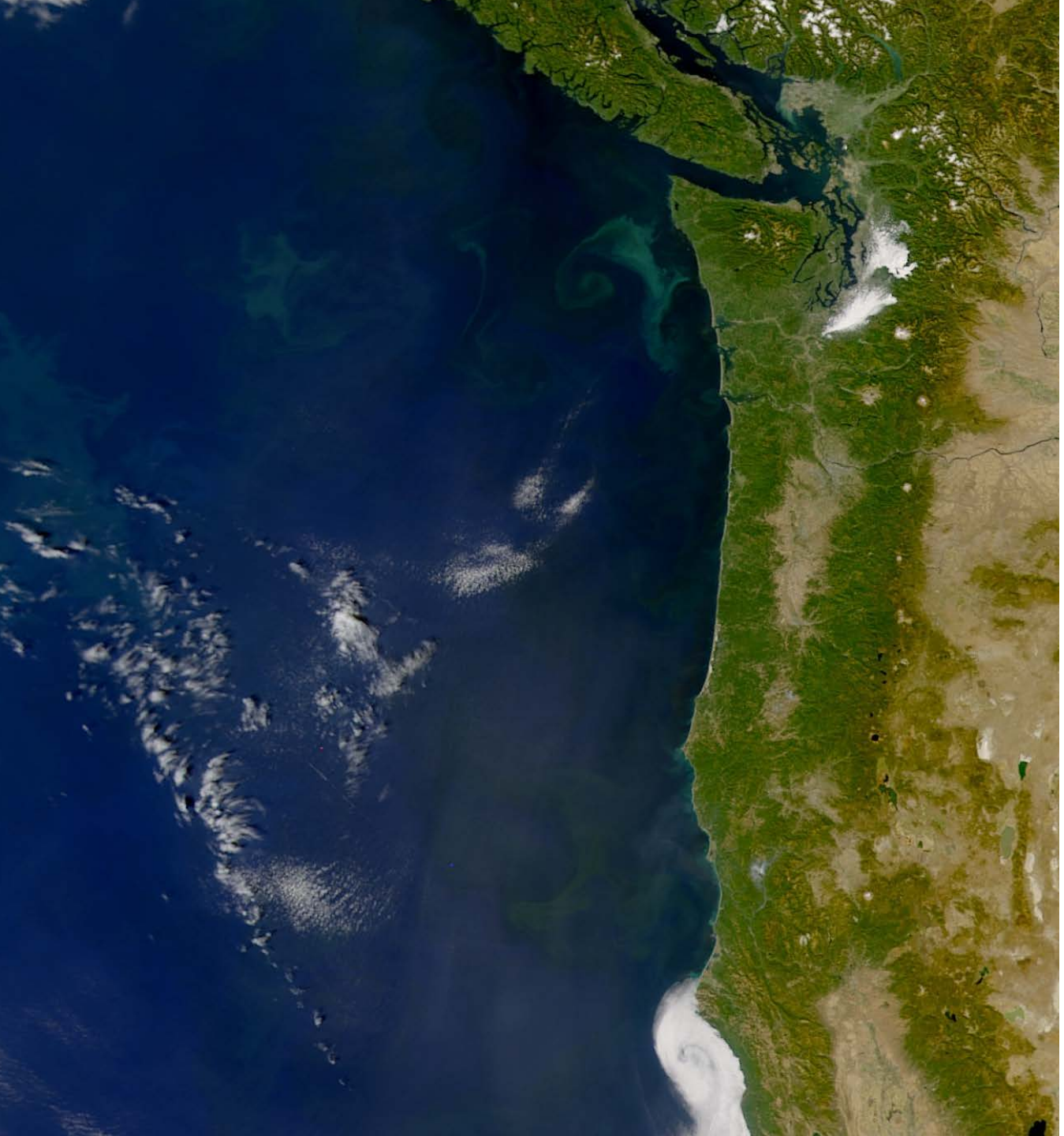


NANOOS:

Linking observations to provide safe maritime applications to Pacific Northwest stakeholders as part of U.S. IOOS

Jan Newton
NANOOS Executive Director

NANOOS

IOOS
Integrated Ocean Observing System

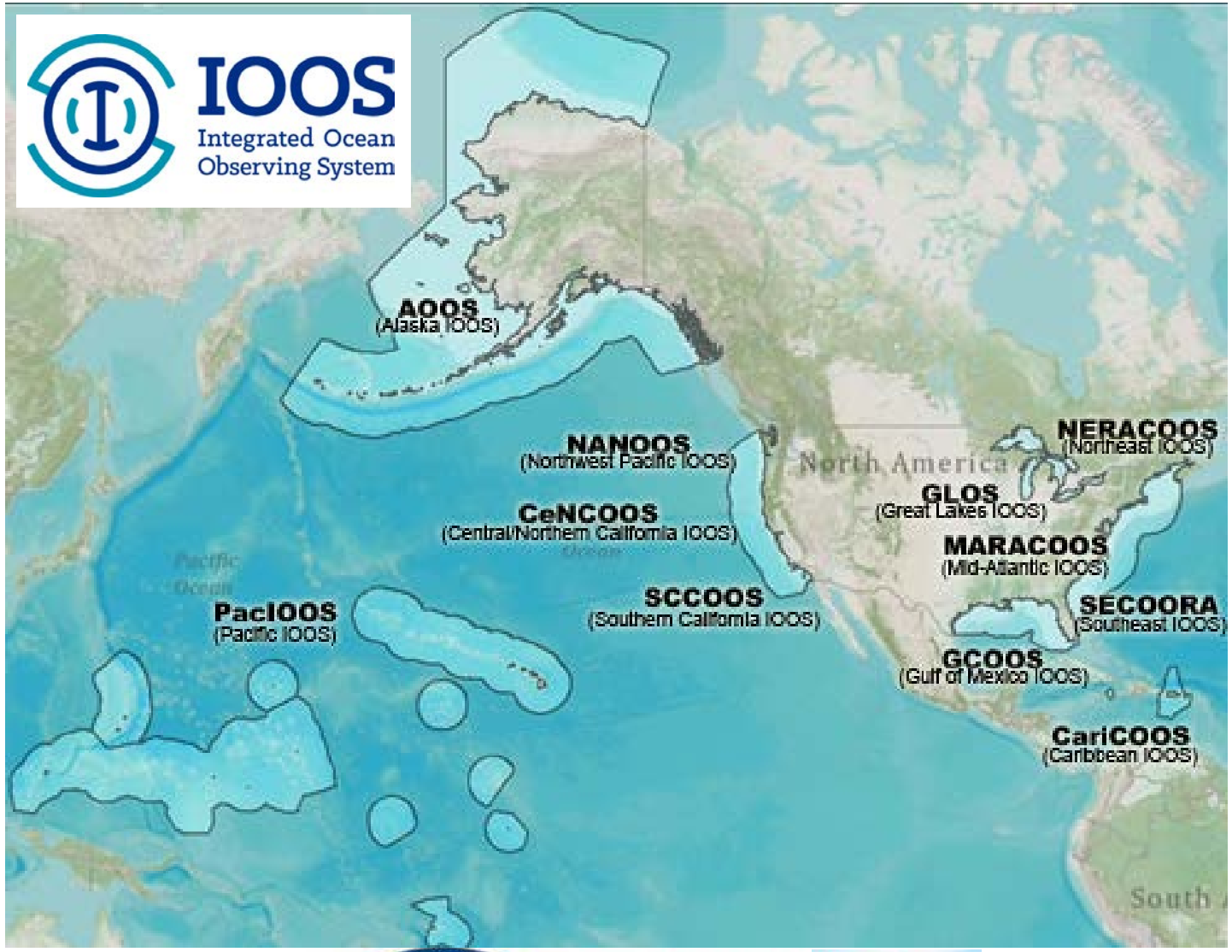
What is IOOS?

- The Integrated Ocean Observing System (IOOS) is a **national-regional** partnership working to provide **new tools and forecasts** to improve safety, enhance the economy, and protect health.
- **Integrated ocean information** is available in near-real-time, as well as retrospectively.
- **Easier and better access** to this information is improving our ability to understand and predict coastal events (e.g., storms, waves).
- Such knowledge is **widely used and needed**…
  including for maritime operations!

Where is IOOS?

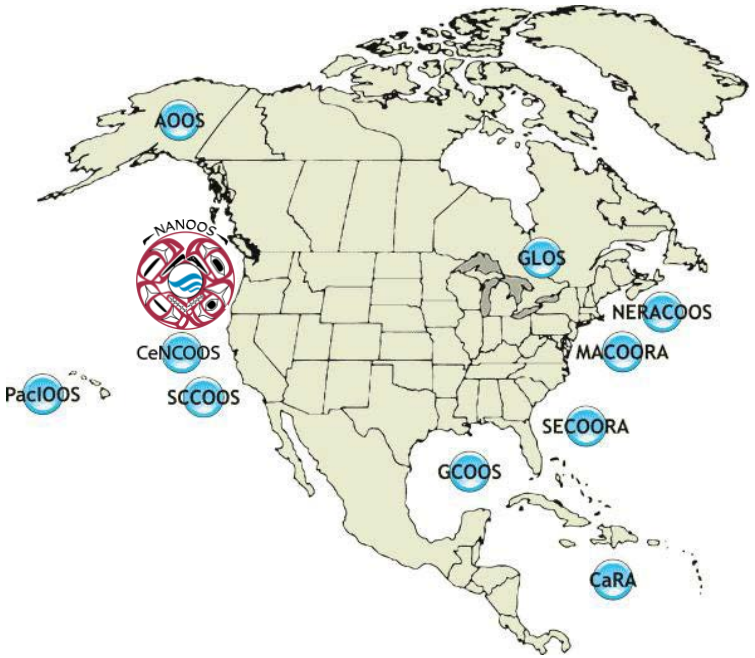
Coastal IOOS:

17 Federal Agencies; 11 Regional Associations



IOOS
Integrated Ocean Observing System

CONSISTENT NATIONAL CAPABILITY



assure

Regional Associations

engage

Observations

Forecasts/Modeling

Data Management

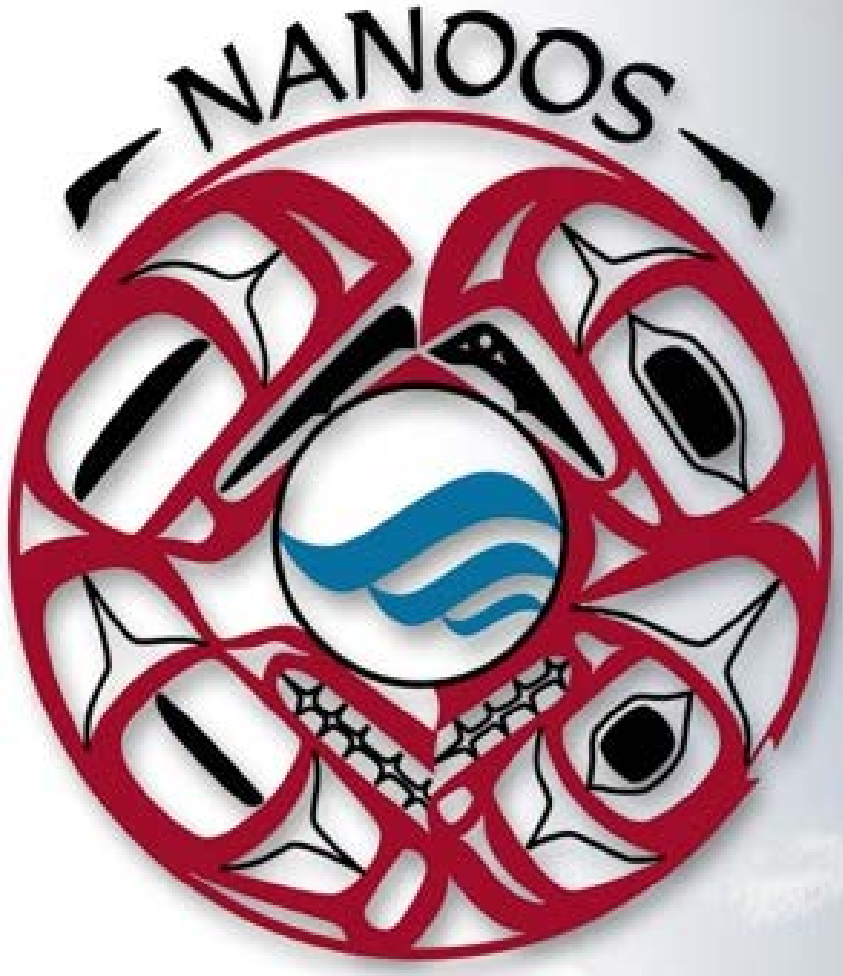
User Products

Outreach and Education

Leverage and Link

DIVERSE LOCAL STAKEHOLDERS

Northwest Association of Networked Ocean Observing Systems



The Integrated Ocean Observing System (IOOS)
Regional Association for the Pacific NW

IOOS Integrated Ocean Observing System

www.nanoos.org

Started by defining the region, the users, their needs:

Coastal ocean:
Northern extent of California Current
Winds, topography, freshwater input, ENSO & other climate cycles

Major inland basins:
Puget Sound-Georgia Basin, Columbia River
Urban centers, nearshore development, climate variation

Coastal estuaries:
Willapa Bay, Grays Harbor, Yaquina Bay, Coos Bay, +20
Resource extraction, development, climate

Shorelines:
Rocky to sandy, dynamic: storms, erosion
Winds, development, climate

Major rivers:
Columbia River (~75% FW input to Pacific from US WC)
many rivers (e.g., Fraser, Skagit) via Strait Juan de Fuca
Dredging, water regulation, climate change

NANOOS Region User Groups:

Maritime: shipping, oil transport/spill remediation
Fisheries: salmon, shellfish, crab, groundfish, aquaculture
Environmental management: HABs, hypoxia
Shoreline: erosion, inundation
Hazards: Search and rescue, national security
Educators: formal, informal, research
Marine recreation: boating, surfing, diving

The PNW maritime community needs real time data and accurate forecasts of waves, wind, tides and currents:

*"Ships crossing the Columbia River Bar face **one of the most dangerous harbor entrances in the world**. The Columbia River Bar Pilots rely on weather forecasts, real time buoy data along with wave and current models when determining safe times for ships to cross the bar. **NANOOS provides an excellent location for us to see and compare all the available data sources**."*

- Captain Dan Jordan, Columbia River Bar Pilots

*"**NANOOS provides critical life safety information** to the public, aiding coastal communities to reduce risk."*

- Jonathan Allan, Coastal Geomorphologist
Oregon Department of Geology and Mineral Industries

IOOS | Integrated Ocean Observing System

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NANOOS

Welcome to NANOOS, the Northwest Association of Networked Ocean Observing Systems. NANOOS is part of IOOS and provides information and products related to weather and ocean data.

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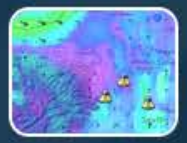
NVS

v5.3 | Contact | NANOOS

Powered by Vizer

(All NANOOS assets and data streams)



Data Explorer

Tsunami Evacuation Zones

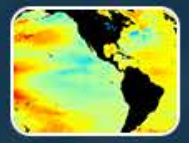
Boaters

Tuna Fishers

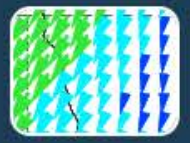
Shellfish Growers

Beach and Shoreline Changes

Maritime Operations



Climatology



High Frequency Radar

Cruises

Gliders

Help

NVS for specific user groups with targeted subsets of the data

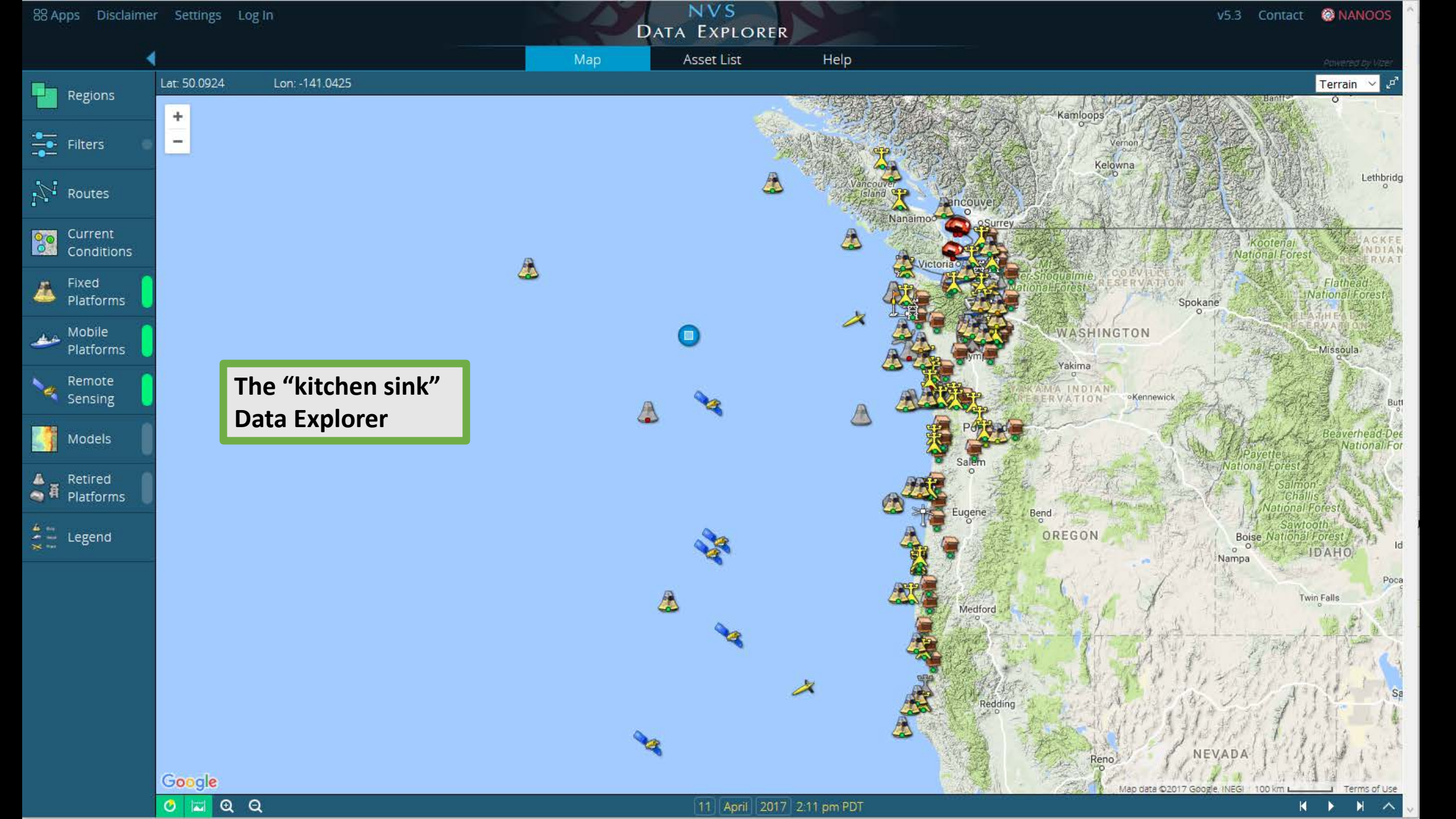
Additions & Updat

View Last 3 Months

CMOP Saturn04
Sensor configuration updated on NVS. Station now serving only temperature and salinity, at the two depths.
Updated on 7 Apr 2017

CMOP Saturn02
Currently offline. Redeployment is being planned for late Spring or Summer.
Updated on 6 Apr 2017

CMOP Saturn07
Currently offline. Redeployment is being planned for late Spring or Summer.
Updated on 6 Apr 2017


Apps
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DATA EXPLORER
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Contact
NANOOS
Map
Asset List
Help
Regions
Filters
Routes
Current Conditions
Fixed Platforms
Mobile Platforms
Remote Sensing
Models
Retired Platforms
Legend
Lat: 50.0924
Lon: -141.0425
Terrain
The “kitchen sink” Data Explorer
Kamloops
Kelowna
Vancouver Island
Nanaimo
Victoria
Surrey
Spokane
WASHINGTON
Yakima
Missoula
Kennewick
Salem
Eugene
Bend
OREGON
Boise
Nampa
IDAHO
Twin Falls
Medford
Redding
Reno
NEVADA
Google
11
April
2017
2:11 pm PDT

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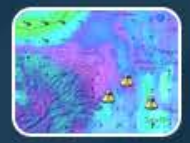
NVS

v5.3 | Contact | NANOOS

Powered by Ucar


Data Explorer


Tsunami Evacuation Zones

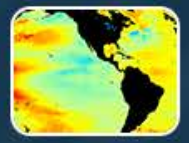

Boaters

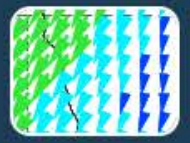

Tuna Fishers


Shellfish Growers


Beach and Shoreline Changes


Maritime Operations


Climatology


High Frequency Radar


Cruises


Gliders


Help

Additions & Updates

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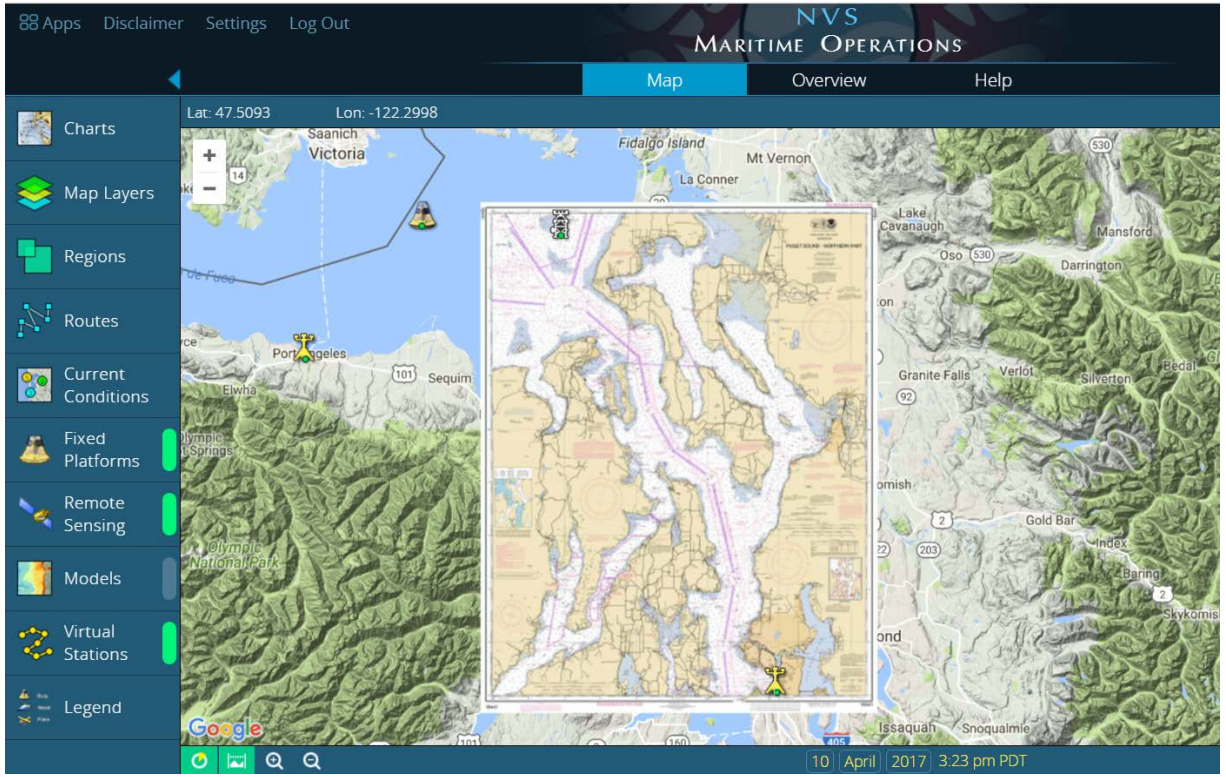
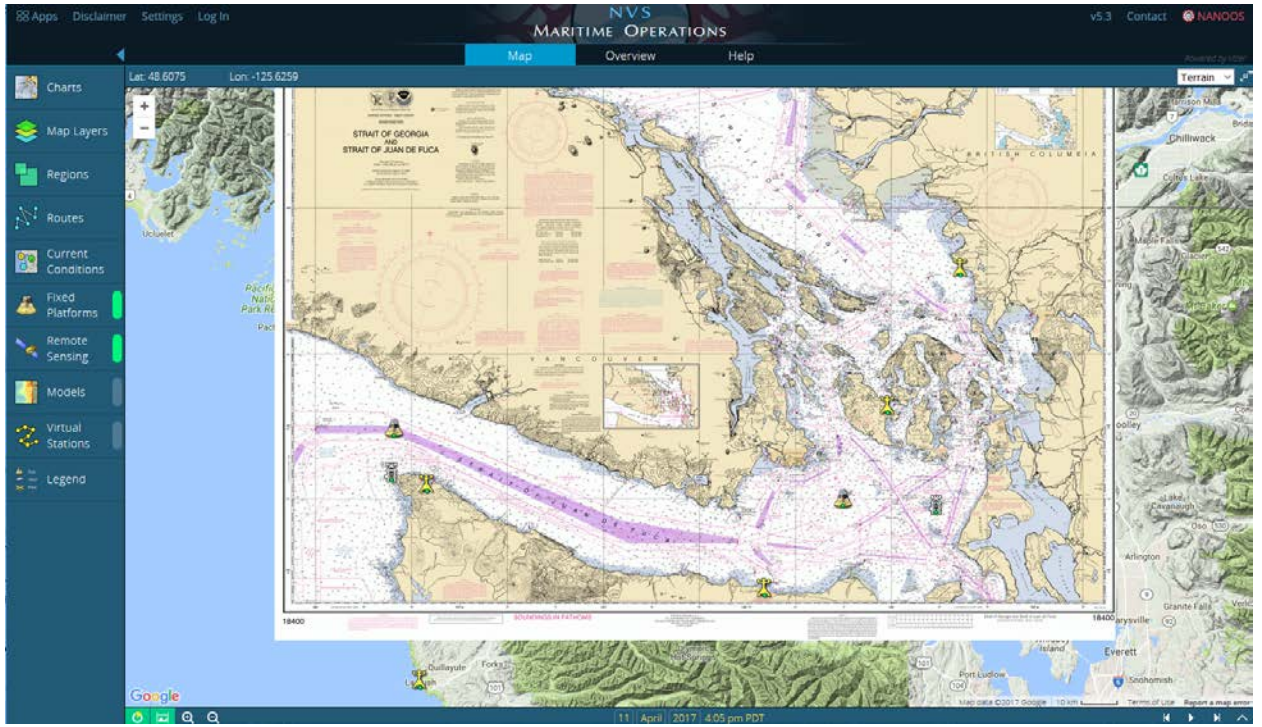
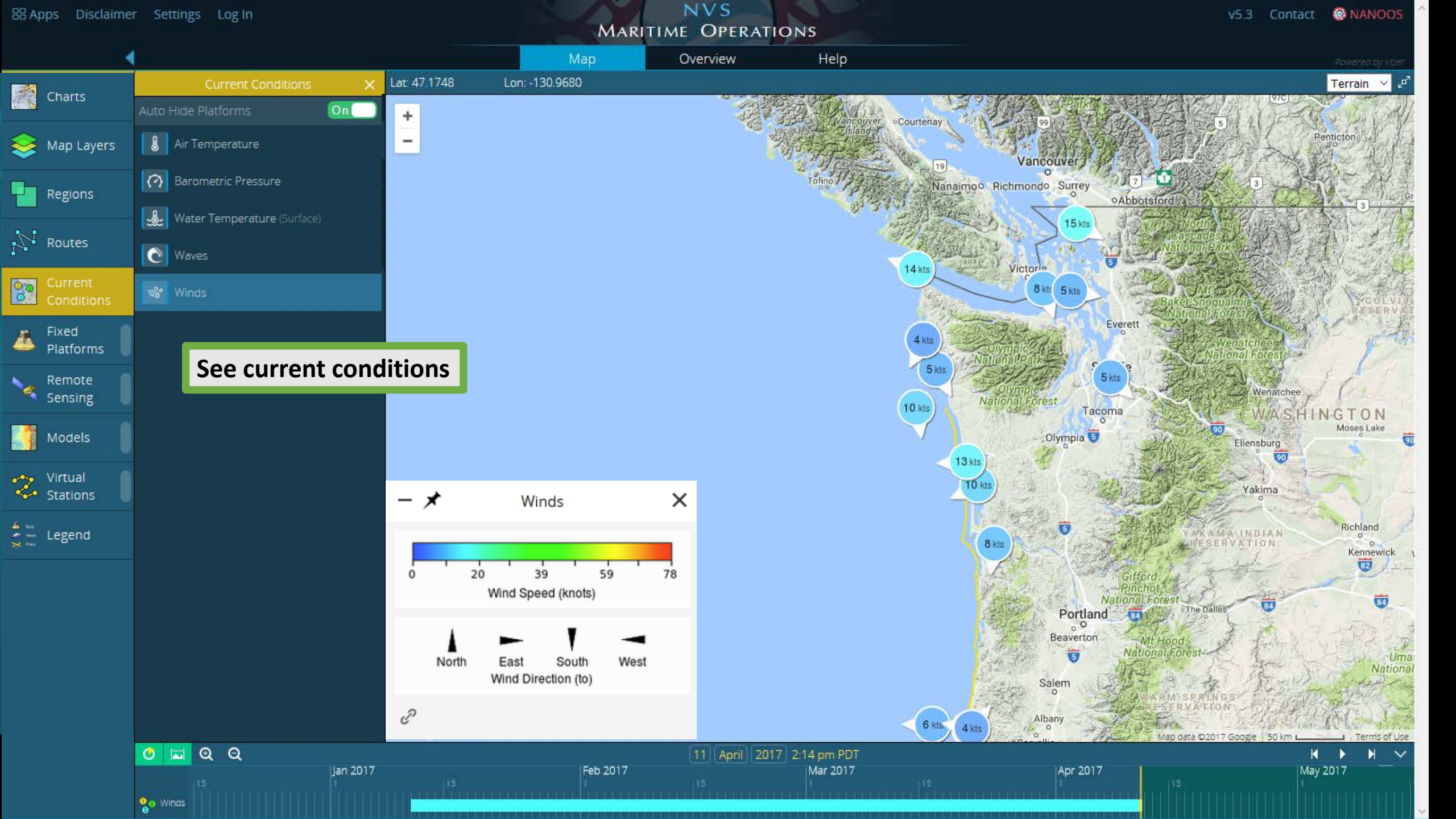
Updated on 6 Apr 2017

NOS Charts as NVS overlays






Apps
Disclaimer
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MARITIME OPERATIONS
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Virtual Stations
Legend
Current Conditions
Auto Hide Platforms
On
Air Temperature
Barometric Pressure
Water Temperature (Surface)
Waves
Winds
See current conditions
Lat: 47.1748
Lon: -130.9680
Terrain
Winds
0
20
39
59
78
Wind Speed (knots)
North
East
South
West
Wind Direction (to)
15 kts
14 kts
8 kts
5 kts
4 kts
5 kts
5 kts
10 kts
13 kts
10 kts
8 kts
6 kts
4 kts
Vancouver
Victoria
Nanaimo
Richmond
Surrey
Abbotsford
Everett
Tacoma
Olympia
Wenatchee
Moses Lake
Ellensburg
Yakima
Richland
Kennewick
Portland
Beaverton
Salem
Albany
The Dalles
Penticton
Courtenay
Tofino
WASHINGTON
Map data ©2017 Google
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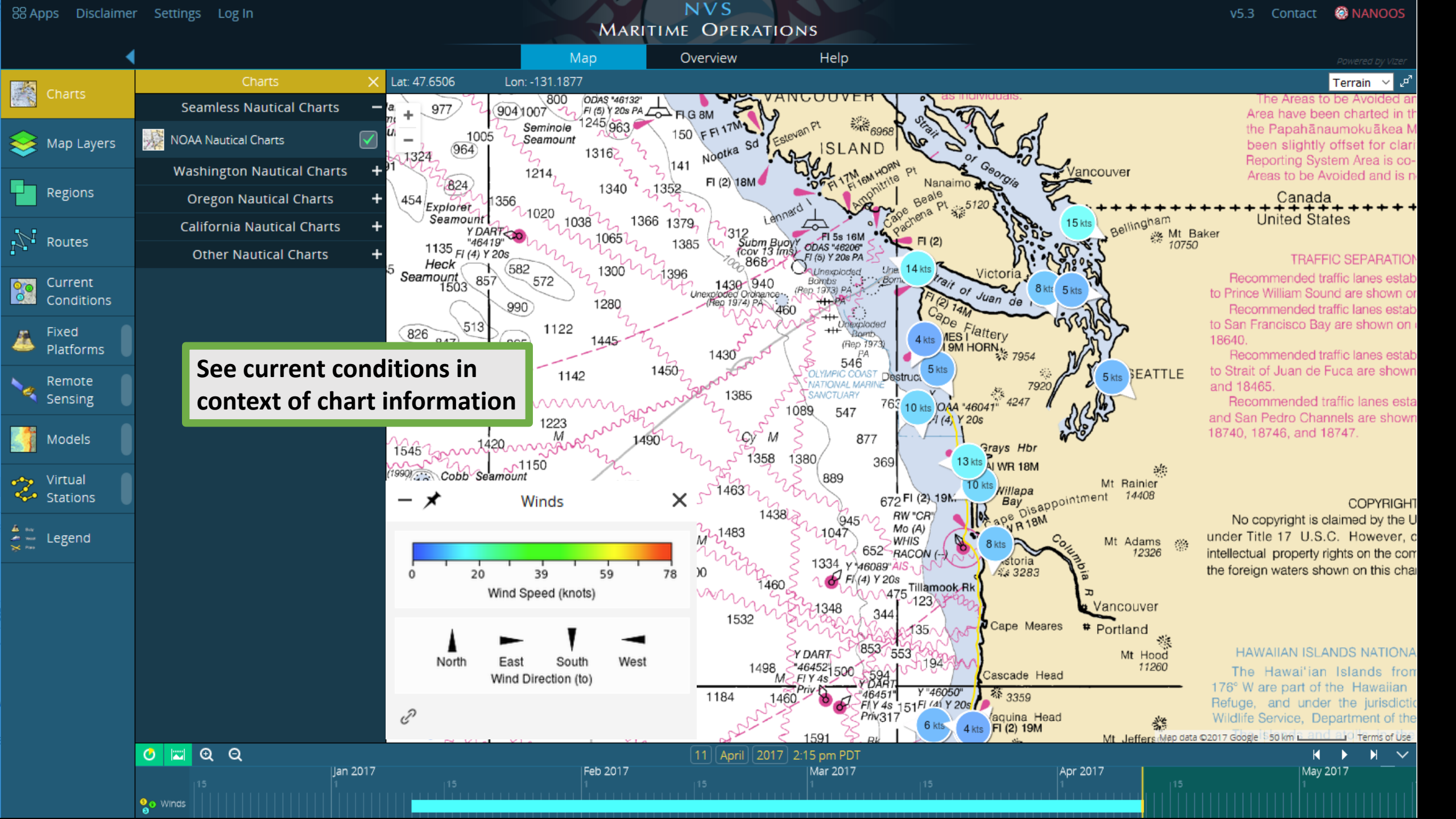
11
April
2017
2:14 pm PDT
Jan 2017
Feb 2017
Mar 2017
Apr 2017
May 2017
Winds


Apps
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Charts
Seamless Nautical Charts
NOAA Nautical Charts
Washington Nautical Charts
Oregon Nautical Charts
California Nautical Charts
Other Nautical Charts
Lat: 47.6506
Lon: -131.1877
Terrain
See current conditions in context of chart information
Winds
0
20
39
59
78
Wind Speed (knots)
North
East
South
West
Wind Direction (to)
Seminole Seamount
Explorer Seamount
Heck Seamount
Cobb Seamount
Nootka Sd
Estevan Pt
Cape Beale
Pachena Pt
Amphitrite Pt
Lennard I
Cape Flattery
Strait of Georgia
Strait of Juan de Fuca
Vancouver
Victoria
Nanaimo
Bellingham
Mt Baker
10750
Canada
United States
SEATTLE
Grays Hbr
Willapa Bay
Cape Disappointment
Tillamook Rk
Cape Meares
Portland
Mt Rainier
14408
Mt Adams
12326
Mt Hood
11260
Cascade Head
Vaquina Head
OLYMPIC COAST NATIONAL MARINE SANCTUARY
15 kts
14 kts
8 kts
5 kts
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13 kts
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8 kts
6 kts
4 kts
TRAFFIC SEPARATION
COPYRIGHT
HAWAIIAN ISLANDS NATIONA
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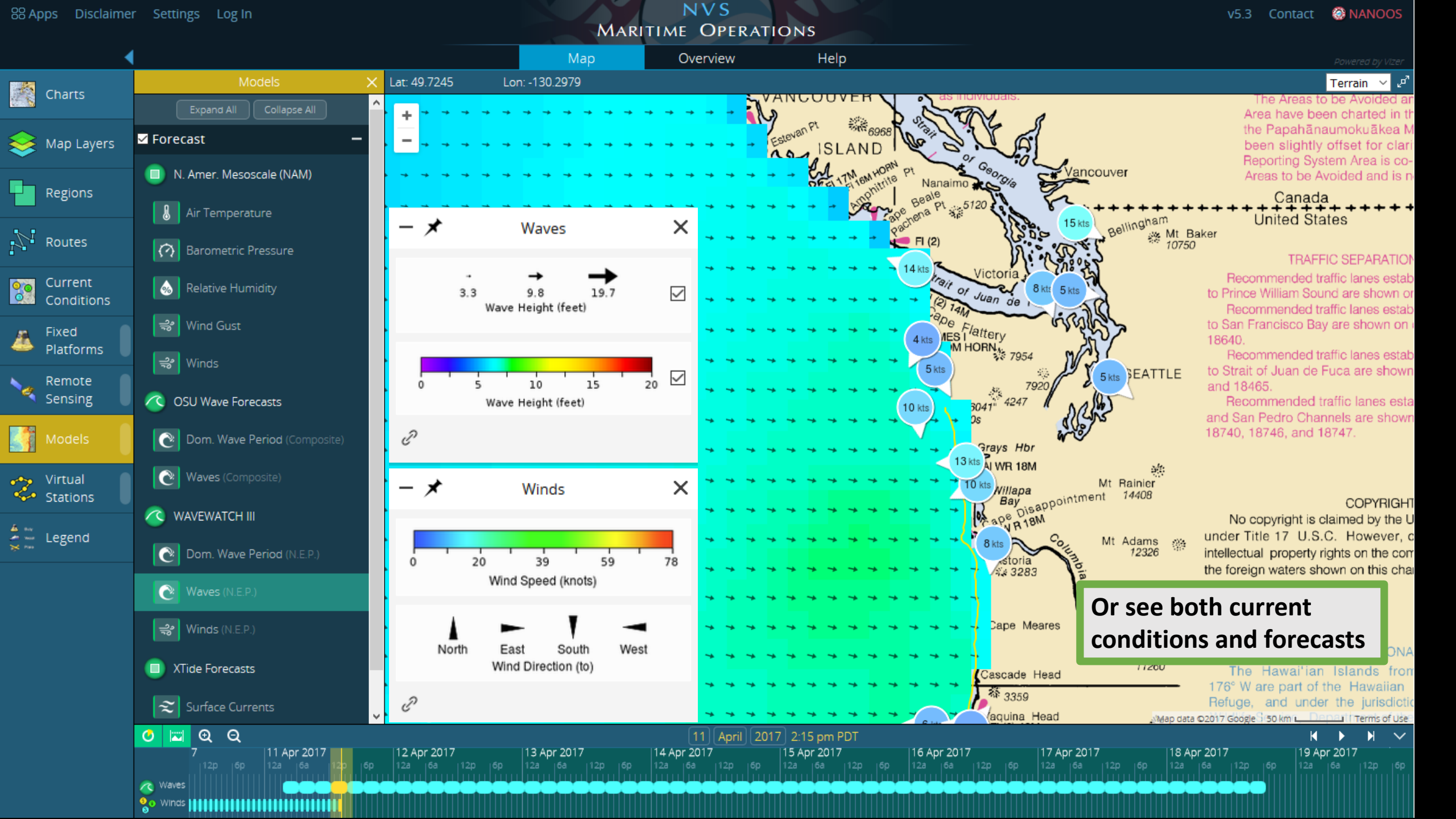
Jan 2017
Feb 2017
Mar 2017
Apr 2017
May 2017
Winds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Expand All
Collapse All
Forecast
N. Amer. Mesoscale (NAM)
Air Temperature
Barometric Pressure
Relative Humidity
Wind Gust
Winds
OSU Wave Forecasts
Dom. Wave Period (Composite)
Waves (Composite)
WAVEWATCH III
Dom. Wave Period (N.E.P.)
Waves (N.E.P.)
Winds (N.E.P.)
XTide Forecasts
Surface Currents
Lat: 49.7245
Lon: -130.2979
Terrain
Waves
3.3
9.8
19.7
Wave Height (feet)
0
5
10
15
20
Wave Height (feet)
Winds
0
20
39
59
78
Wind Speed (knots)
North
East
South
West
Wind Direction (to)
Vancouver
Victoria
Nanaimo
Canada
United States
Bellingham
Mt Baker
10750
SEATTLE
Mt Rainier
14408
Mt Adams
12326
Grays Hbr
Willapa Bay
Cape Disappointment
Cape Meares
Cascade Head
Yaquina Head
15 kts
14 kts
8 kts
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4 kts
5 kts
5 kts
10 kts
13 kts
10 kts
8 kts
TRAFFIC SEPARATION
COPYRIGHT
Or see both current conditions and forecasts
11
April
2017
2:15 pm PDT
7 Apr 2017
11 Apr 2017
12 Apr 2017
13 Apr 2017
14 Apr 2017
15 Apr 2017
16 Apr 2017
17 Apr 2017
18 Apr 2017
19 Apr 2017
Waves
Winds
Map data ©2017 Google
50 km
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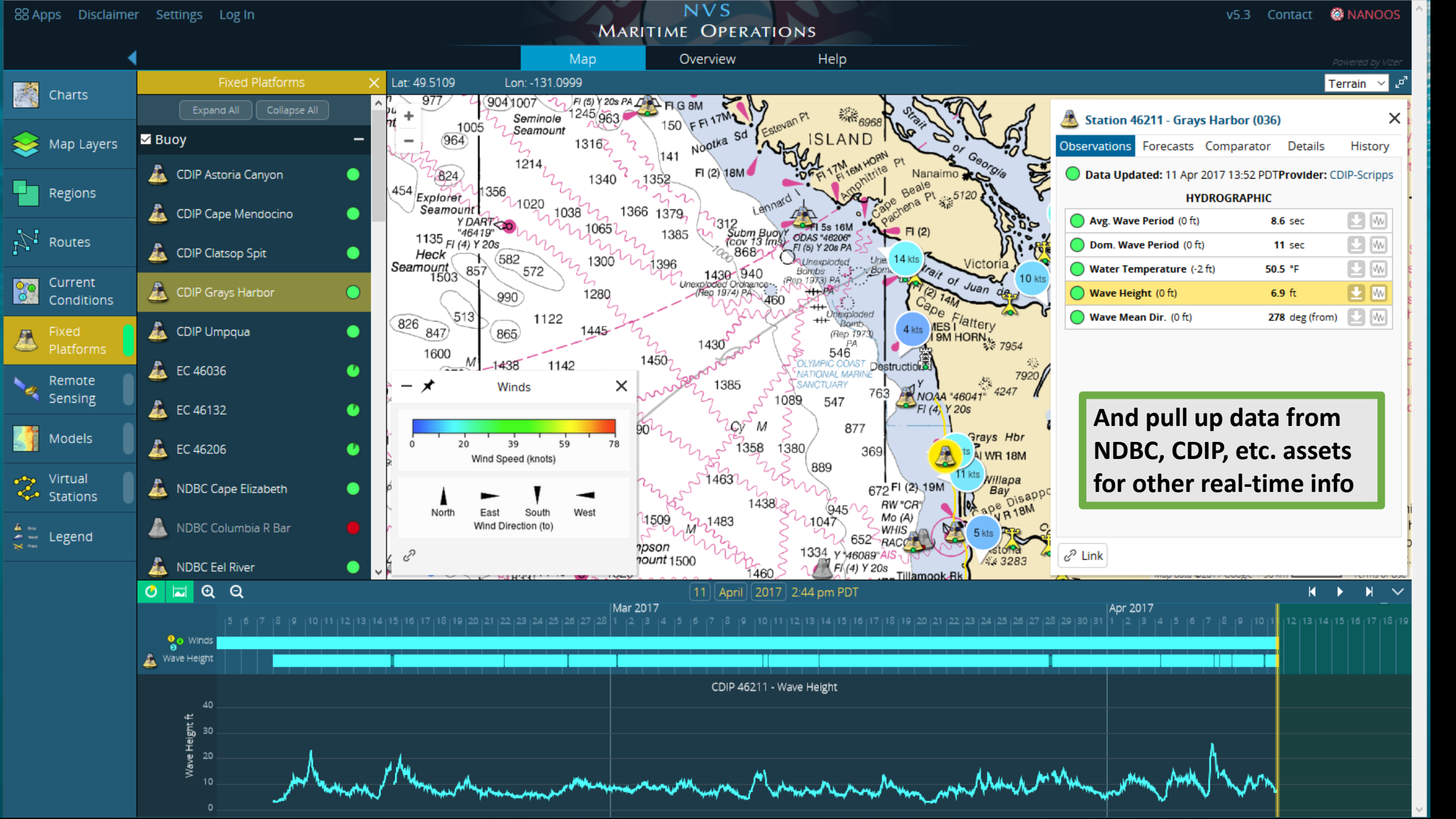
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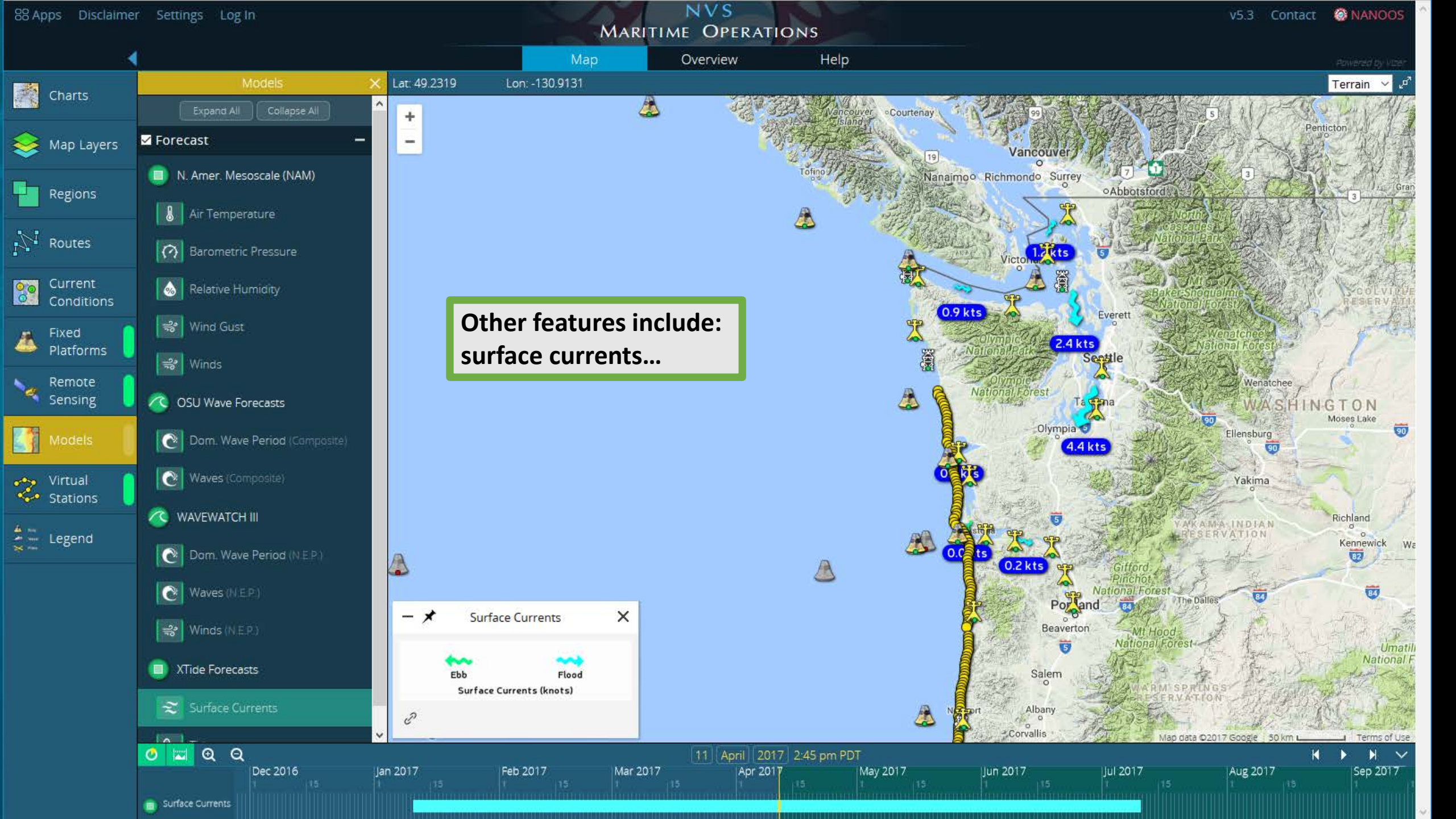
Expand All
Collapse All
Buoy
CDIP Astoria Canyon
CDIP Cape Mendocino
CDIP Clatsop Spit
CDIP Grays Harbor
CDIP Umpqua
EC 46036
EC 46132
EC 46206
NDBC Cape Elizabeth
NDBC Columbia R Bar
NDBC Eel River
Lat: 49.5109
Lon: -131.0999
Terrain
Winds
0
20
39
59
78
Wind Speed (knots)
North
East
South
West
Wind Direction (to)
Station 46211 - Grays Harbor (036)
Observations
Forecasts
Comparator
Details
History
Data Updated: 11 Apr 2017 13:52 PDT Provider: CDIP-Scripps
HYDROGRAPHIC
Avg. Wave Period (0 ft) 8.6 sec
Dom. Wave Period (0 ft) 11 sec
Water Temperature (-2 ft) 50.5 °F
Wave Height (0 ft) 6.9 ft
Wave Mean Dir. (0 ft) 278 deg (from)
And pull up data from NDBC, CDIP, etc. assets for other real-time info
Link
11
April
2017
2:44 pm PDT
Mar 2017
Apr 2017
Winds
Wave Height
CDIP 46211 - Wave Height
Wave Height ft
40
30
20
10
0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Collapse All
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N. Amer. Mesoscale (NAM)
Air Temperature
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Wind Gust
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Dom. Wave Period (Composite)
Waves (Composite)
WAVEWATCH III
Dom. Wave Period (N.E.P.)
Waves (N.E.P.)
Winds (N.E.P.)
XTide Forecasts
Surface Currents
Lat: 49.2319
Lon: -130.9131
Terrain
Other features include:
surface currents…
Surface Currents
Ebb
Flood
Surface Currents (knots)
0.9 kts
2.4 kts
4.4 kts
0.2 kts
Vancouver
Victoria
Seattle
Everett
Olympia
Tacoma
Portland
Salem
Albany
Corvallis
Beaverton
Yakima
Richland
Kennewick
Wenatchee
Moses Lake
Ellensburg
Penticton
Courtenay
Nanaimo
Richmondo
Surrey
Abbotsford
Tofino
WASHINGTON
Olympic National Park
Olympic National Forest
Mt Baker-Snoqualmie National Forest
Wenatchee National Forest
Gifford Pinchot National Forest
Mt Hood National Forest
YAKAMA INDIAN RESERVATION
WARM SPRINGS RESERVATION
The Dalles
11
April
2017
2:45 pm PDT
Dec 2016
Jan 2017
Feb 2017
Mar 2017
Apr 2017
May 2017
Jun 2017
Jul 2017
Aug 2017
Sep 2017
Surface Currents
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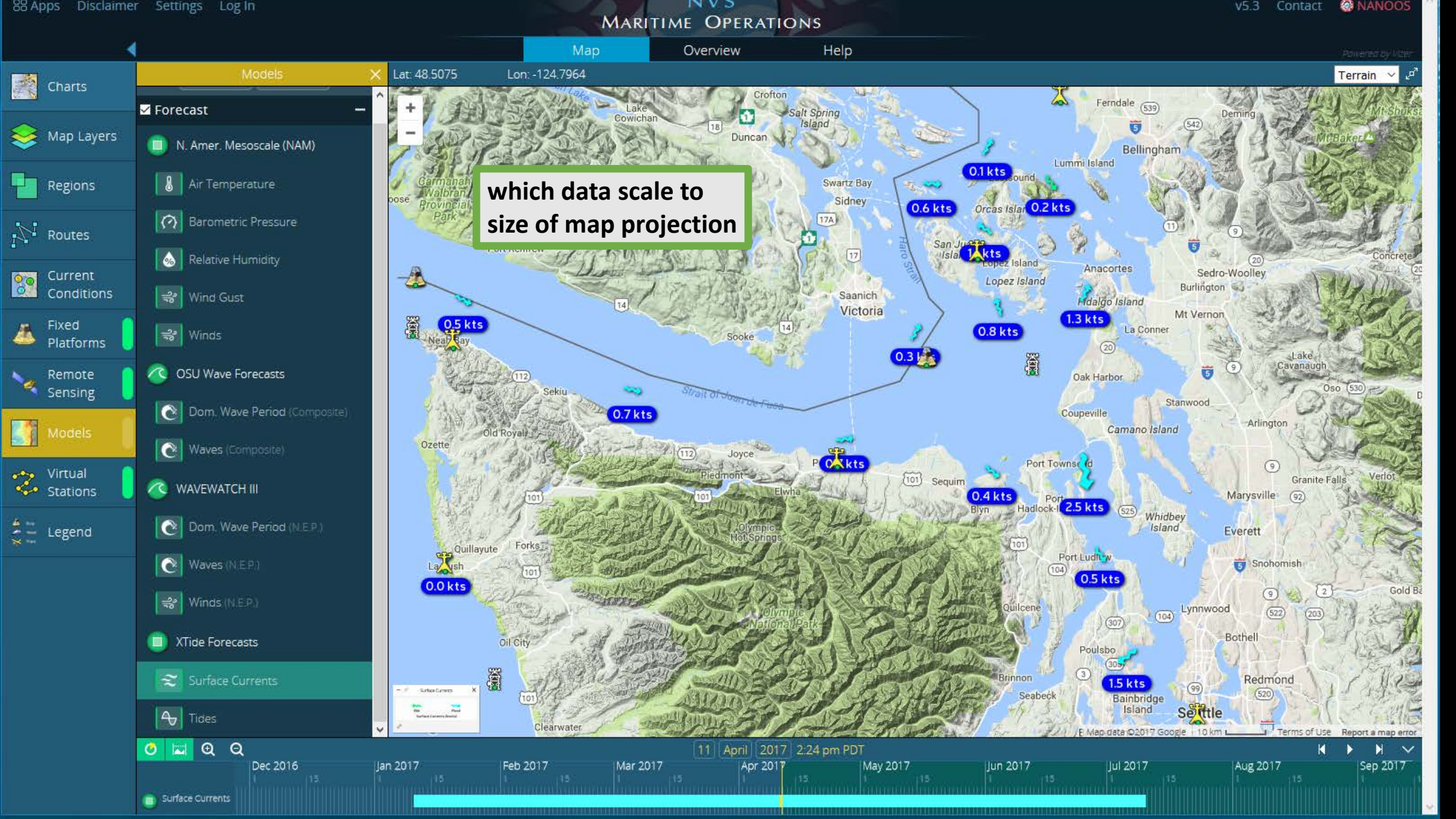
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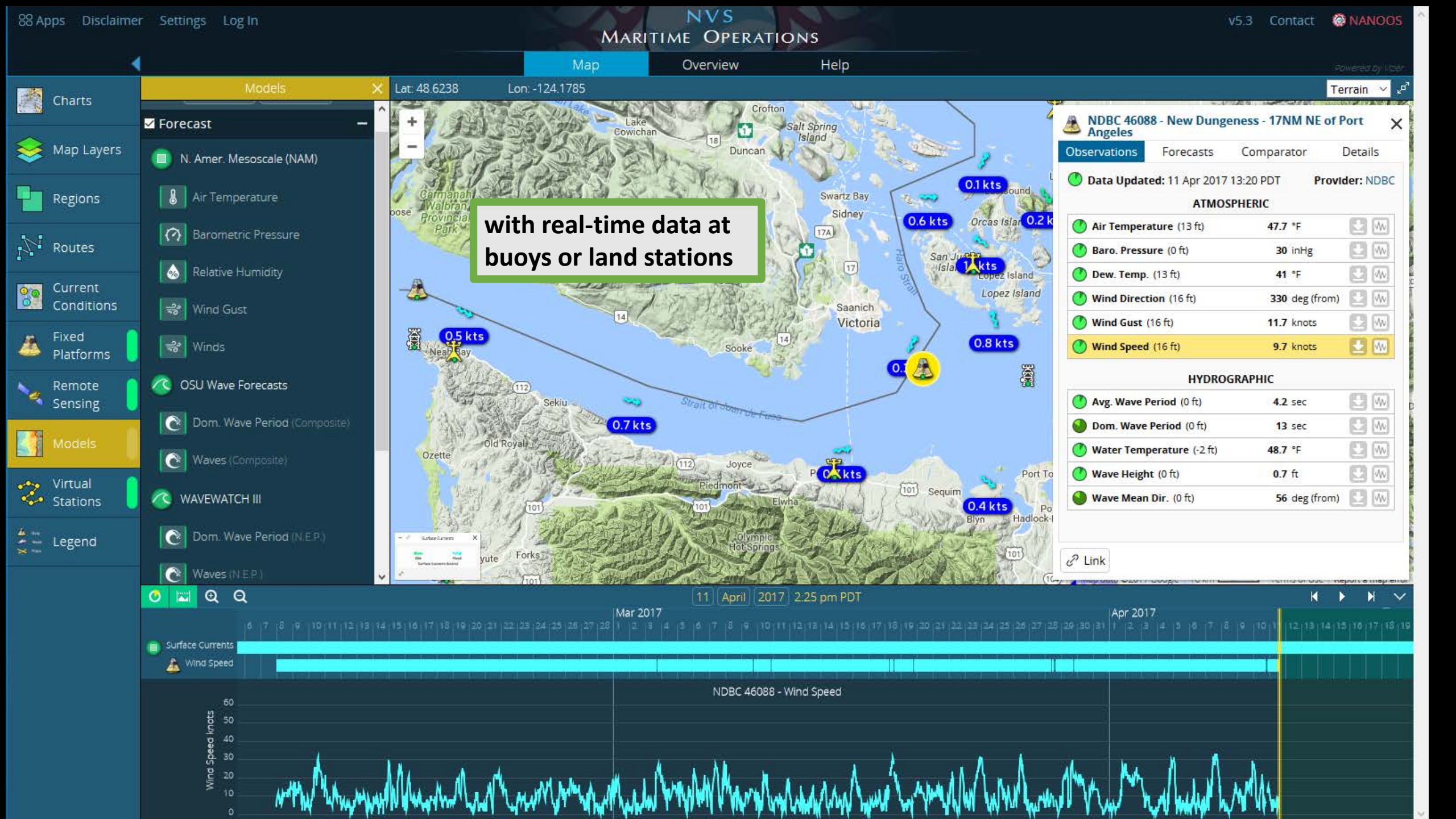
Dom. Wave Period (Composite)
Waves (Composite)
WAVEWATCH III
Dom. Wave Period (N.E.P.)
Waves (N.E.P.)
Winds (N.E.P.)
XTide Forecasts
Surface Currents
Tides
Lat: 48.5075
Lon: -124.7964
Terrain
which data scale to size of map projection
0.1 kts
0.6 kts
0.2 kts
0.5 kts
0.8 kts
1.3 kts
0.7 kts
0.4 kts
2.5 kts
0.5 kts
0.0 kts
1.5 kts
Victoria
Saanich
Sidney
Duncan
Bellingham
Anacortes
Seattle
Everett
Redmond
Bothell
Lynnwood
Marysville
Oak Harbor
Coupeville
Port Townsend
Sequim
Port Angeles
Forks
Sooke
Lopez Island
Orcas Island
Camano Island
Whidbey Island
Olympic National Park
Strait of Juan de Fuca
Haro Strait
Map data ©2017 Google
10 km
Terms of Use
Report a map error
11
April
2017
2:24 pm PDT
Dec 2016
Jan 2017
Feb 2017
Mar 2017
Apr 2017
May 2017
Jun 2017
Jul 2017
Aug 2017
Sep 2017
Surface Currents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MARITIME OPERATIONS
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Legend
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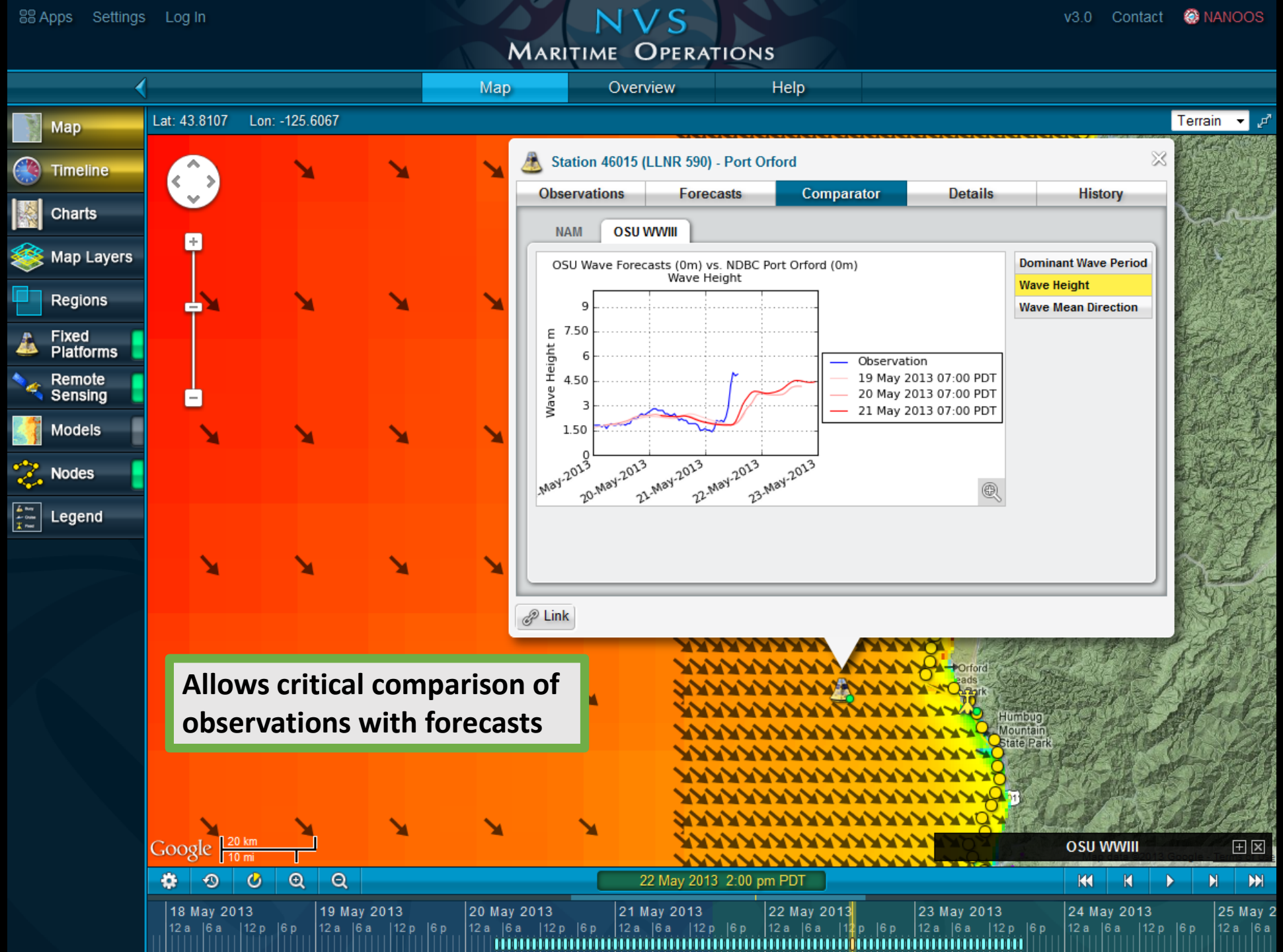
N. Amer. Mesoscale (NAM)
Air Temperature
Barometric Pressure
Relative Humidity
Wind Gust
Winds
OSU Wave Forecasts
Dom. Wave Period (Composite)
Waves (Composite)
WAVEWATCH III
Dom. Wave Period (N.E.P.)
Waves (N.E.P.)
Lat: 48.6238
Lon: -124.1785
Terrain
with real-time data at buoys or land stations
NDBC 46088 - New Dungeness - 17NM NE of Port Angeles
Observations
Forecasts
Comparator
Details
Data Updated: 11 Apr 2017 13:20 PDT
Provider: NDBC
ATMOSPHERIC
Air Temperature (13 ft) 47.7 °F
Baro. Pressure (0 ft) 30 inHg
Dew. Temp. (13 ft) 41 °F
Wind Direction (16 ft) 330 deg (from)
Wind Gust (16 ft) 11.7 knots
Wind Speed (16 ft) 9.7 knots
HYDROGRAPHIC
Avg. Wave Period (0 ft) 4.2 sec
Dom. Wave Period (0 ft) 13 sec
Water Temperature (-2 ft) 48.7 °F
Wave Height (0 ft) 0.7 ft
Wave Mean Dir. (0 ft) 56 deg (from)
Link
0.1 kts
0.6 kts
0.2 kts
0.5 kts
0.8 kts
0.7 kts
0.4 kts
Crofton
Lake Cowichan
Duncan
Salt Spring Island
Swartz Bay
Sidney
Saanich
Victoria
Sooke
Sekiu
Ozette
Old Royal
Joyce
Piedmont
Elwha
Sequim
Port Townsend
Forks
Olympic Hot Springs
Lopez Island
Orcas Island
Haro Strait
Strait of Juan de Fuca
11 April 2017 2:25 pm PDT
Mar 2017
Apr 2017
Surface Currents
Wind Speed
NDBC 46088 - Wind Speed
Wind Speed knots
60
50
40
30
20
10
0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v3.0
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Map
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Timeline
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Map Layers
Regions
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Legend
Lat: 43.8107
Lon: -125.6067
Terrain
Station 46015 (LLNR 590) - Port Orford
Observations
Forecasts
Comparator
Details
History
NAM
OSU WWIII
OSU Wave Forecasts (0m) vs. NDBC Port Orford (0m)
Wave Height
Wave Height m
9
7.50
6
4.50
3
1.50
0
20-May-2013
21-May-2013
22-May-2013
23-May-2013
Observation
19 May 2013 07:00 PDT
20 May 2013 07:00 PDT
21 May 2013 07:00 PDT
Dominant Wave Period
Wave Height
Wave Mean Direction
Link
Allows critical comparison of observations with forecasts
Humbug Mountain State Park
Google
20 km
10 mi
OSU WWIII
22 May 2013 2:00 pm PDT
18 May 2013
19 May 2013
20 May 2013
21 May 2013
22 May 2013
23 May 2013
24 May 2013
25 May 2
12 a
6 a
12 p
6 p

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Map Overview Help

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Models

Expand All Collapse All

Forecast

N. Amer. Mesoscale (NAM)
Air Temperature
Barometric Pressure
Relative Humidity
Wind Gust
Winds
OSU Wave Forecasts
Dom. Wave Period (Composite)
Waves (Composite)
WAVEWATCH III
Dom. Wave Period (N.E.P.)
Waves (N.E.P.)
Winds (N.E.P.)
XTide Forecasts
Surface Currents

Lat: 48.9730 Lon: -131.0449

Terrain

and wave forecasts at virtual stations along the coast.

Wave Forecasts - 25 meters - Location 2

Plots Details

Forecast Alongshore Spectra Polar

Significant Wave Height Forecast

SWH (m)

4.5
4
3.5
3
2.5
2
1.5
1

11Apr 12Apr 13Apr 14Apr

Wave Height (SI)
Wave Height (US)
Wave Direction
Wave Period
Spectral Width
Wave Power

Link

Surface Currents

Ebb Flood

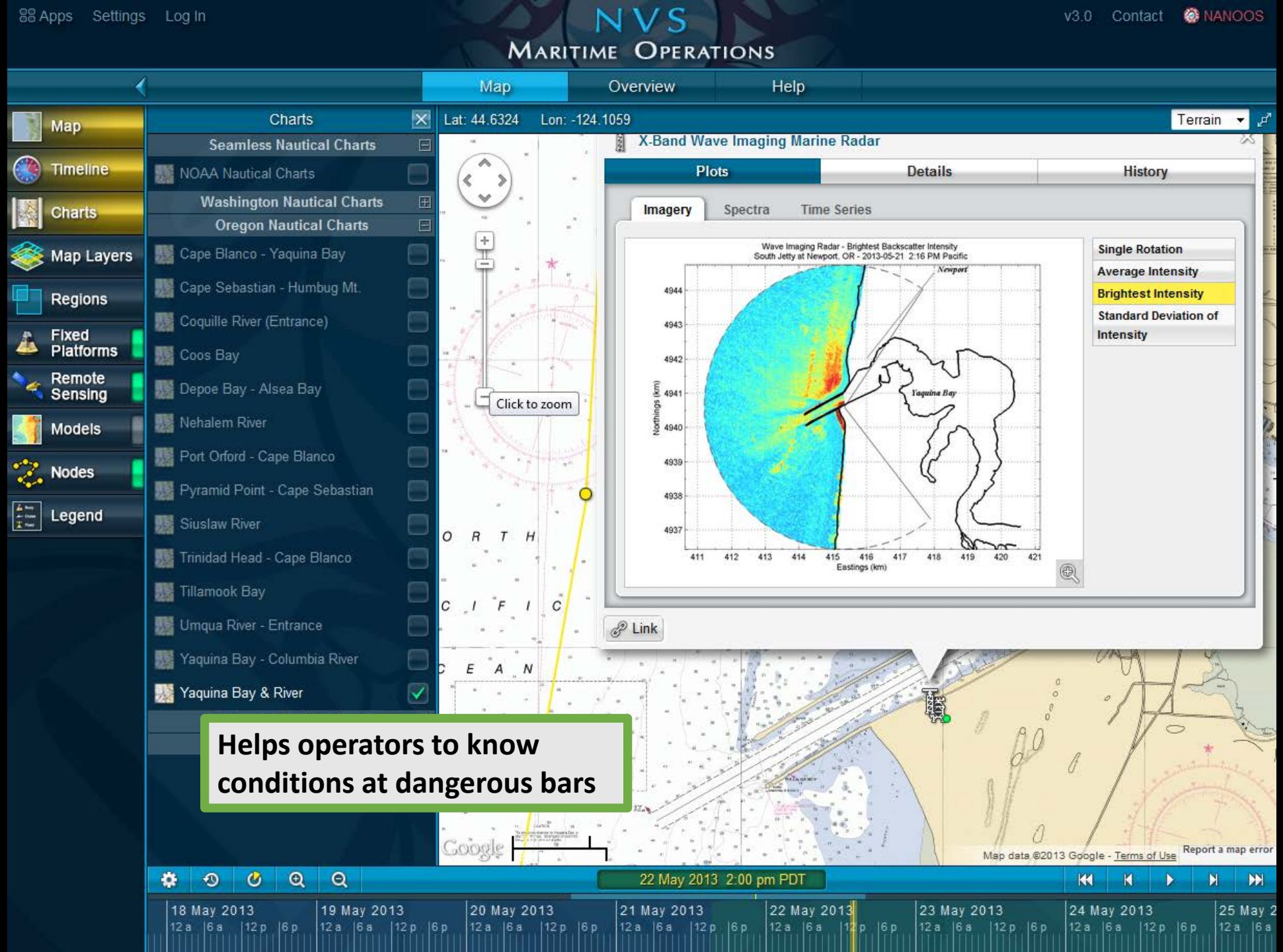
Surface Currents (knots)

Winter Harbour
Sun Peaks
Sicamous
Kamloops
Salmon Arm
Vernon
Kelowna
Penticton
Olympic National Forest
Wenatchee
WASHINGTON
Moses Lake
Olympia
Ellensburg
4.4 kts
Yakima
Richland
YAKAMA INDIAN RESERVATION
COLVILLE RESERVATION
Map data ©2017 Google 50 km Terms of Use

11 April 2017 2:47 pm PDT

Dec 2016 Jan 2017 Feb 2017 Mar 2017 Apr 2017 May 2017 Jun 2017 Jul 2017 Aug 2017 Sep 2017

Surface Currents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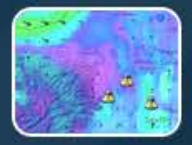
Seamless Nautical Charts
NOAA Nautical Charts
Washington Nautical Charts
Oregon Nautical Charts
Cape Blanco - Yaquina Bay
Cape Sebastian - Humbug Mt.
Coquille River (Entrance)
Coos Bay
Depoe Bay - Alsea Bay
Nehalem River
Port Orford - Cape Blanco
Pyramid Point - Cape Sebastian
Siuslaw River
Trinidad Head - Cape Blanco
Tillamook Bay
Umqua River - Entrance
Yaquina Bay - Columbia River
Yaquina Bay & River
Lat: 44.6324
Lon: -124.1059
Terrain
Click to zoom
X-Band Wave Imaging Marine Radar
Plots
Details
History
Imagery
Spectra
Time Series
Wave Imaging Radar - Brightest Backscatter Intensity
South Jetty at Newport, OR - 2013-05-21 2:16 PM Pacific
Newport
Yaquina Bay
Northings (km)
Eastings (km)
Single Rotation
Average Intensity
Brightest Intensity
Standard Deviation of Intensity
Link
Helps operators to know conditions at dangerous bars
Google
Map data ©2013 Google - Terms of Use
Report a map error
22 May 2013 2:00 pm PDT
18 May 2013
19 May 2013
20 May 2013
21 May 2013
22 May 2013
23 May 2013
24 May 2013
25 May 2

NANOOS

Welcome to NANOOS, the Northwest Association of Networked Ocean Observing Systems. NANOOS is part of IOOS and provides information and products related to weather and ocean data.


Data Explorer


Tsunami Evacuation Zones

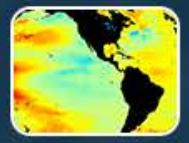

Boaters

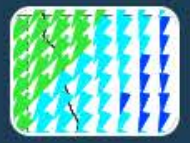

Tuna Fishers


Shellfish Growers


Beach and Shoreline Changes


Maritime Operations


Climatology


High Frequency Radar


Cruises


Gliders


Help

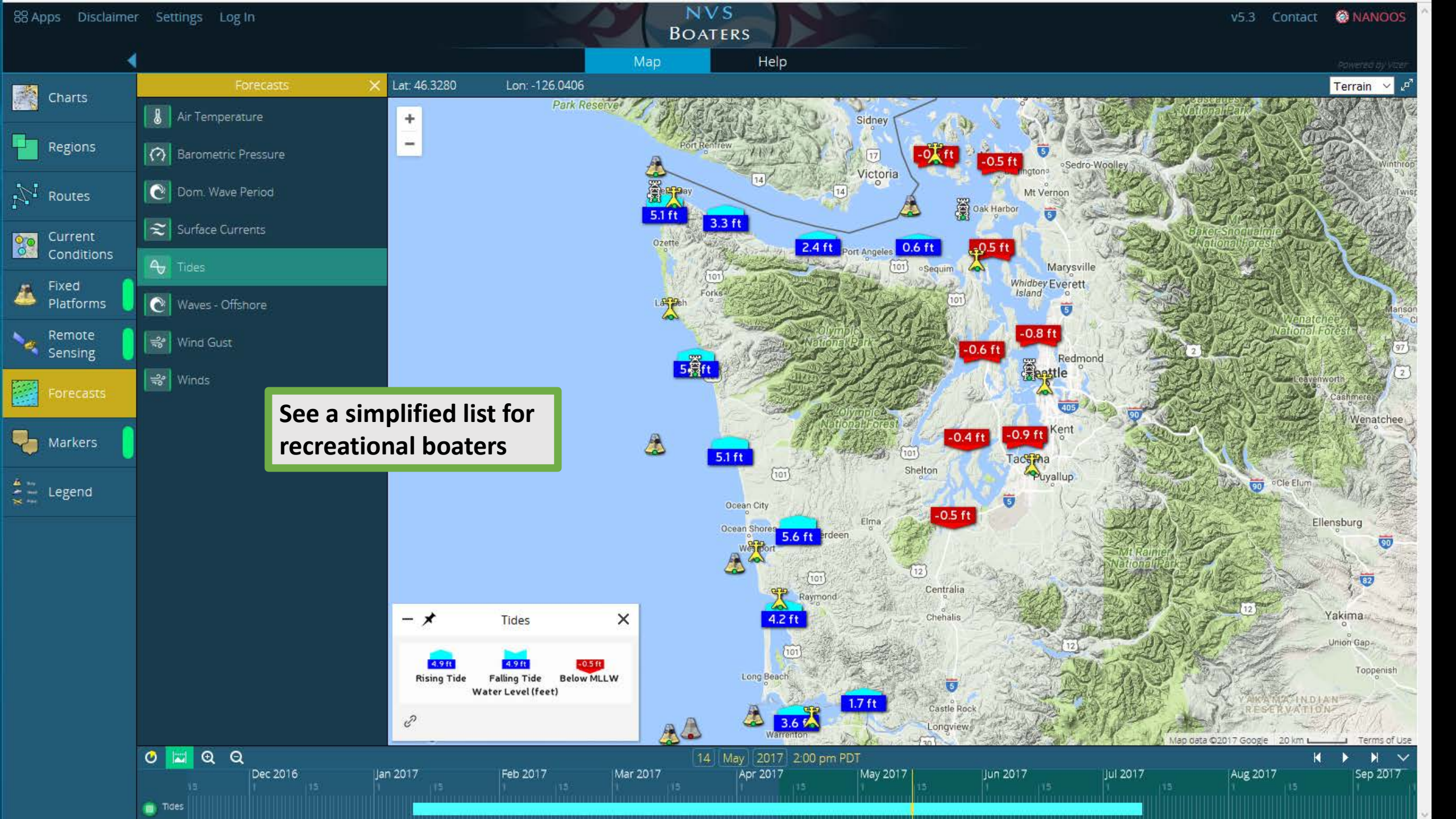
Additions & Updates

View Last 3 Months

CMOP Saturn04
Sensor configuration updated on NVS. Station now serving only temperature and salinity, at the two depths.
Updated on 7 Apr 2017

CMOP Saturn02
Currently offline. Redeployment is being planned for late Spring or Summer.
Updated on 6 Apr 2017

CMOP Saturn07
Currently offline. Redeployment is being planned for late Spring or Summer.
Updated on 6 Apr 2017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Fixed Platforms
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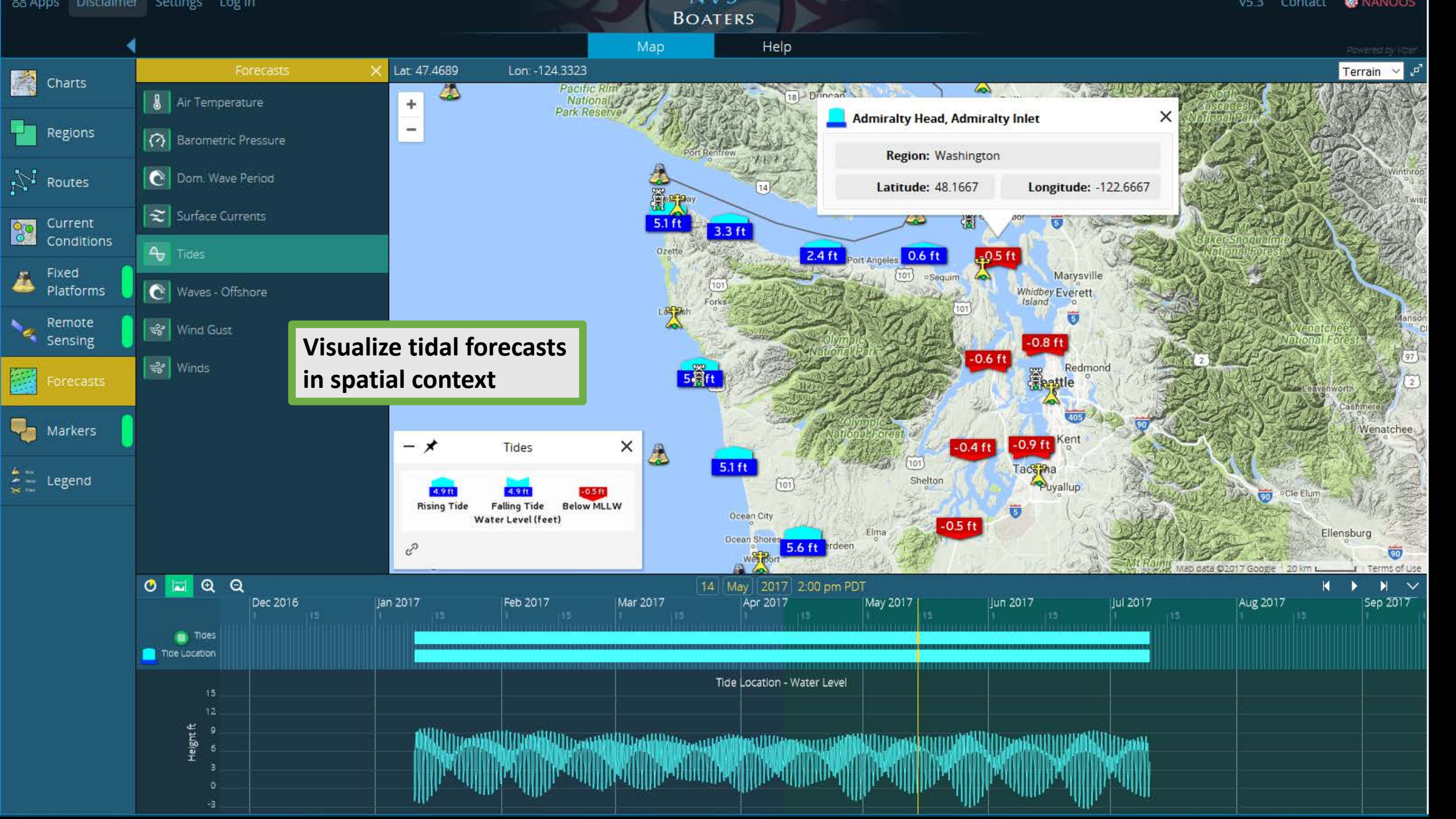
Markers
Legend
Forecasts
Air Temperature
Barometric Pressure
Dom. Wave Period
Surface Currents
Tides
Waves - Offshore
Wind Gust
Winds
Lat: 46.3280
Lon: -126.0406
Terrain
See a simplified list for recreational boaters
Tides
Rising Tide
Falling Tide
Below MLLW
Water Level (feet)
14
May
2017
2:00 pm PDT
Dec 2016
Jan 2017
Feb 2017
Mar 2017
Apr 2017
May 2017
Jun 2017
Jul 2017
Aug 2017
Sep 2017
Tides
Map data ©2017 Google
20 km
Terms of Use


Boaters
Map
Help
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Current Conditions
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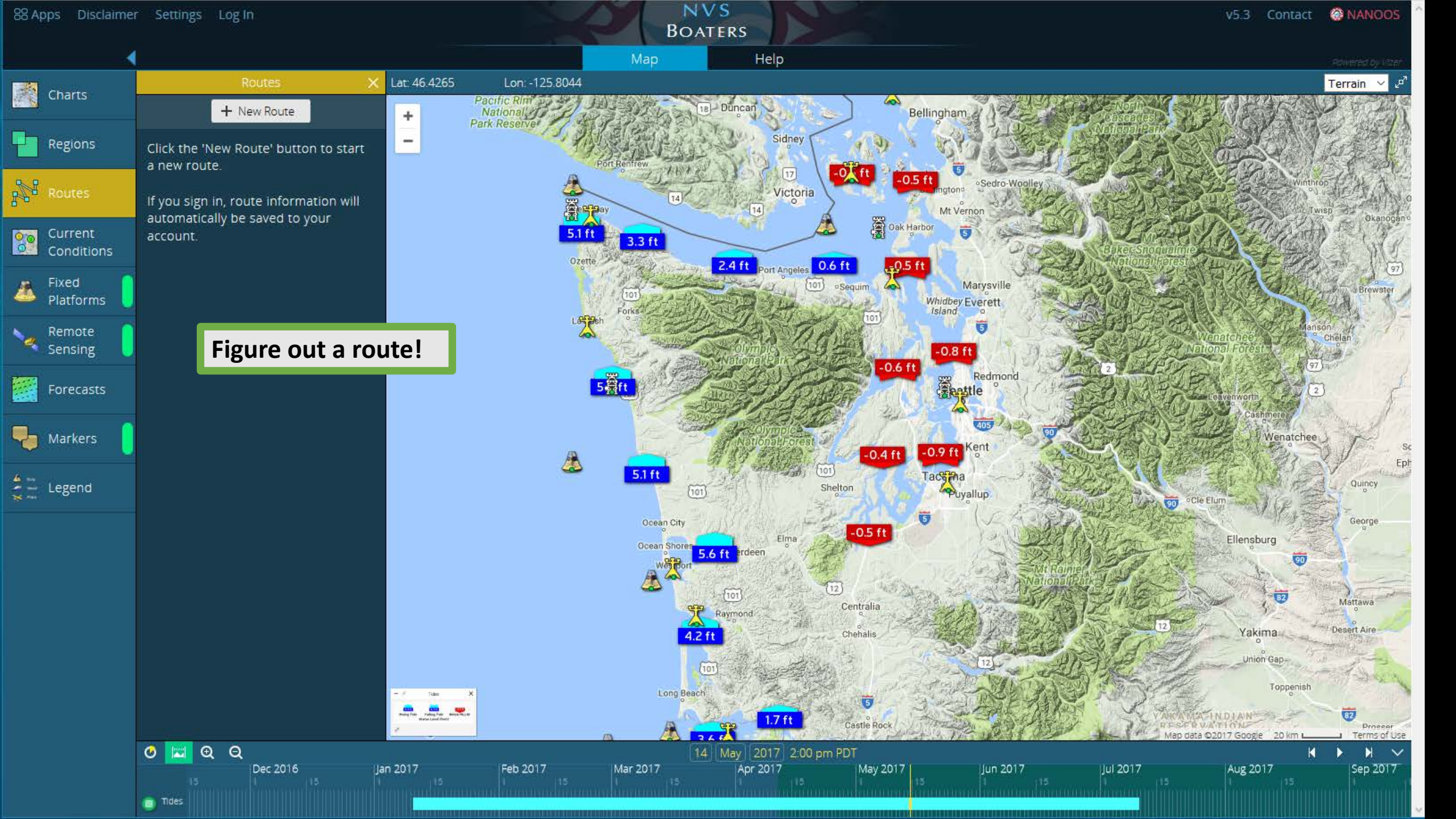
Remote Sensing
Forecasts
Markers
Legend
Forecasts
Air Temperature
Barometric Pressure
Dom. Wave Period
Surface Currents
Tides
Waves - Offshore
Wind Gust
Winds
Lat: 47.4689
Lon: -124.3323
Terrain
Admiralty Head, Admiralty Inlet
Region: Washington
Latitude: 48.1667
Longitude: -122.6667
Visualize tidal forecasts in spatial context
Tides
Rising Tide
Falling Tide
Below MLLW
Water Level (feet)
14 May 2017 2:00 pm PDT
Dec 2016
Jan 2017
Feb 2017
Mar 2017
Apr 2017
May 2017
Jun 2017
Jul 2017
Aug 2017
Sep 2017
Tides
Tide Location
Tide Location - Water Level
Height ft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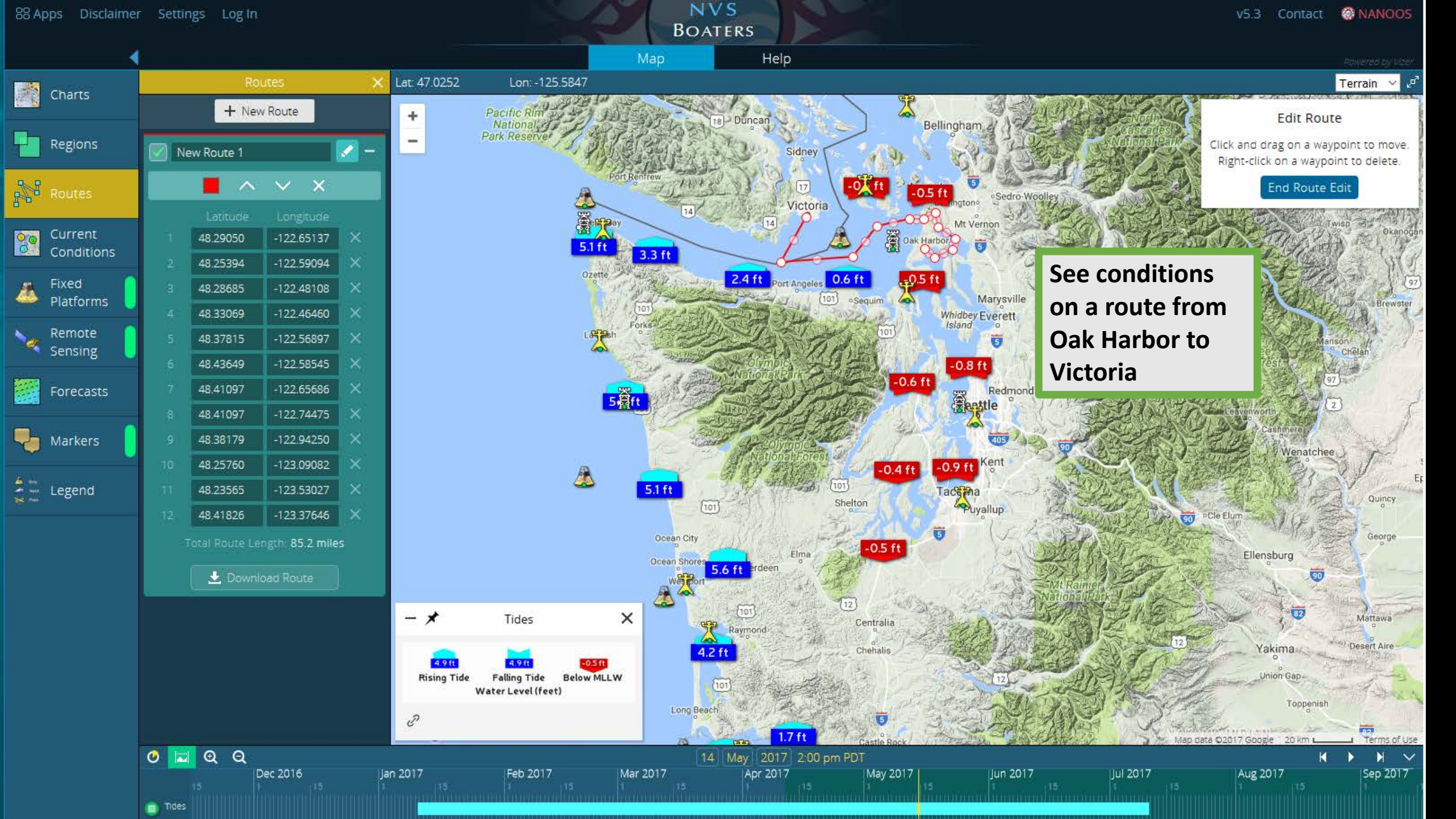
Forecasts
Markers
Legend
Routes
New Route
Click the 'New Route' button to start a new route.
If you sign in, route information will automatically be saved to your account.
Figure out a route!
Lat: 46.4265
Lon: -125.8044
Terrain
Pacific Rim National Park Reserve
Duncan
Sidney
Victoria
Port Renfrew
Bellingham
Sedro-Woolley
Mt Vernon
Oak Harbor
Port Angeles
Sequim
Marysville
Everett
Whidbey Island
Forks
Ozette
Olympic National Park
Olympic National Forest
Redmond
Seattle
Kent
Tacoma
Puyallup
Shelton
Ocean City
Ocean Shores
Elma
Raymond
Centralia
Chehalis
Long Beach
Castle Rock
Mt Rainier National Park
Wenatchee National Forest
Leavenworth
Cashmere
Wenatchee
Manson
Chelan
Ellensburg
Cle Elum
Quincy
George
Yakima
Union Gap
Toppenish
Mattawa
Desert Aire
Winthrop
Okanogan
Brewster
Twisp
Baker-Snoqualmie National Forest
-0.5 ft
-0.5 ft
5.1 ft
3.3 ft
2.4 ft
0.6 ft
-0.5 ft
-0.8 ft
-0.6 ft
-0.4 ft
-0.9 ft
5.1 ft
-0.5 ft
5.6 ft
4.2 ft
1.7 ft
Map data ©2017 Google
20 km
Terms of Use
14
May
2017
2:00 pm PDT
Dec 2016
Jan 2017
Feb 2017
Mar 2017
Apr 2017
May 2017
Jun 2017
Jul 2017
Aug 2017
Sep 2017
Tides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Regions
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Fixed Platforms
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Routes
New Route
New Route 1
Latitude
Longitude
1 48.29050 -122.65137
2 48.25394 -122.59094
3 48.28685 -122.48108
4 48.33069 -122.46460
5 48.37815 -122.56897
6 48.43649 -122.58545
7 48.41097 -122.65686
8 48.41097 -122.74475
9 48.38179 -122.94250
10 48.25760 -123.09082
11 48.23565 -123.53027
12 48.41826 -123.37646
Total Route Length: 85.2 miles
Download Route
Lat: 47.0252
Lon: -125.5847
Terrain
Edit Route
Click and drag on a waypoint to move.
Right-click on a waypoint to delete.
End Route Edit
See conditions on a route from Oak Harbor to Victoria
Tides
4.9 ft
Rising Tide
4.9 ft
Falling Tide
-0.5 ft
Below MLLW
Water Level (feet)
Victoria
Bellingham
Port Angeles
Oak Harbor
Seattle
Tacoma
Everett
Olympia
Yakima
Wenatchee
Ellensburg
Centralia
Chehalis
Aberdeen
Shelton
Long Beach
Ocean City
Ocean Shores
Raymond
Forks
Ozette
Sequim
Duncan
Sidney
Port Renfrew
Mt Vernon
Marysville
Redmond
Kent
Puyallup
Cle Elum
Leavenworth
Cashmere
Quincy
George
Mattawa
Desert Aire
Union Gap
Toppenish
Pacific Rim National Park Reserve
Olympic National Park
Olympic National Forest
Mt Rainier National Park
North Cascades National Park
Whidbey Island
5.1 ft
3.3 ft
2.4 ft
0.6 ft
-0.5 ft
-0.5 ft
-0.8 ft
-0.6 ft
5.1 ft
-0.4 ft
-0.9 ft
5.6 ft
-0.5 ft
4.2 ft
1.7 ft
14 May 2017 2:00 pm PDT
Dec 2016
Jan 2017
Feb 2017
Mar 2017
Apr 2017
May 2017
Jun 2017
Jul 2017
Aug 2017
Sep 2017
Tides
Map data ©2017 Google
20 km
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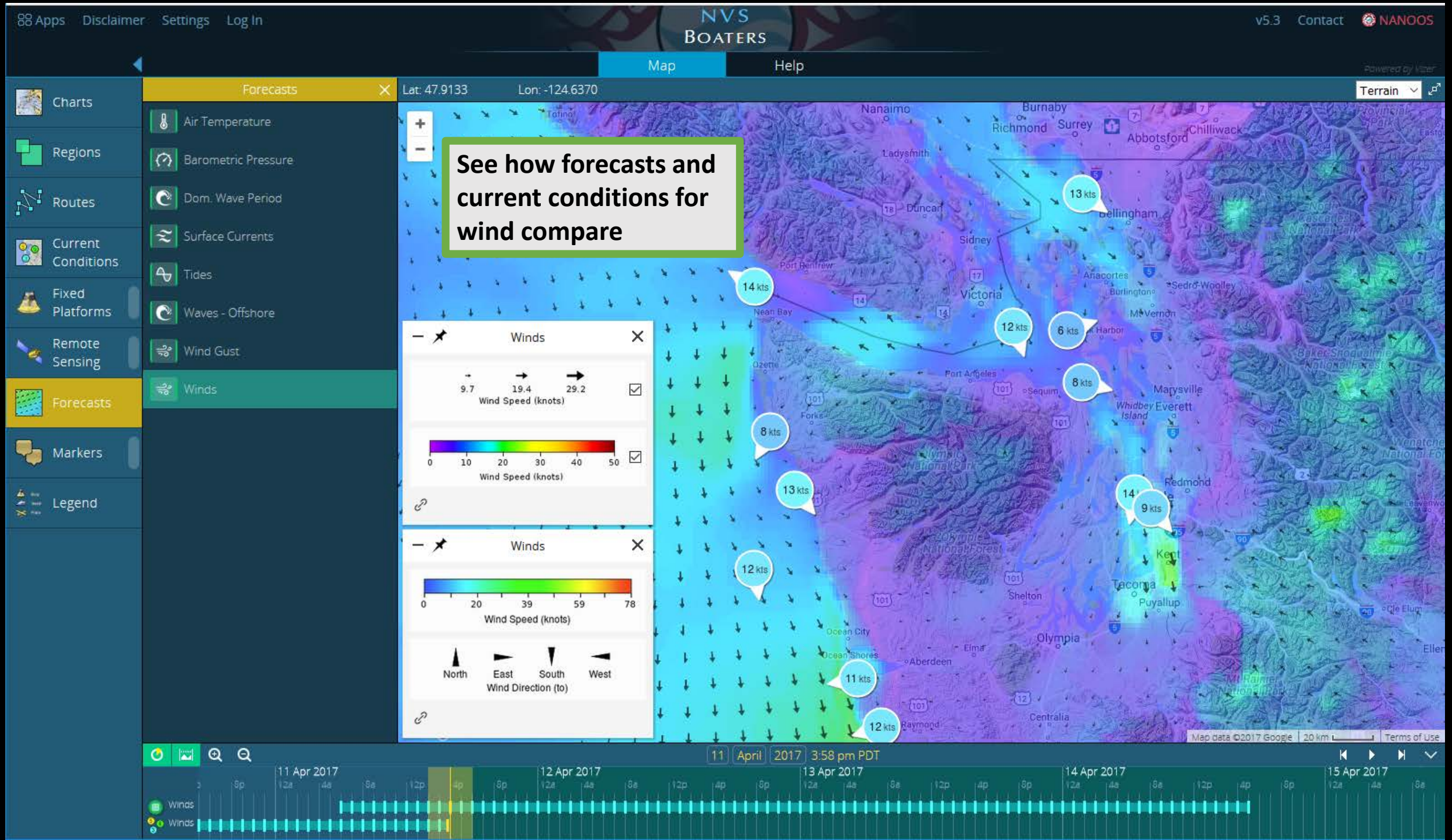
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Air Temperature
Barometric Pressure
Dom. Wave Period
Surface Currents
Tides
Waves - Offshore
Wind Gust
Winds
Lat: 47.9133
Lon: -124.6370
Terrain
See how forecasts and current conditions for wind compare
Winds
9.7
19.4
29.2
Wind Speed (knots)
0
10
20
30
40
50
Wind Speed (knots)
Winds
0
20
39
59
78
Wind Speed (knots)
North
East
South
West
Wind Direction (to)
14 kts
13 kts
12 kts
6 kts
8 kts
8 kts
13 kts
14
9 kts
12 kts
11 kts
12 kts
Nanaimo
Burnaby
Richmond
Surrey
Abbotsford
Chilliwack
Ladysmith
Duncan
Bellingham
Sidney
Victoria
Port Renfrew
Anacortes
Mt Vernon
Port Angeles
Sequim
Marysville
Everett
Whidbey Island
Redmond
Kent
Tacoma
Puyallup
Shelton
Olympia
Ocean City
Ocean Shores
Aberdeen
Centralia
Raymond
Map data ©2017 Google
20 km
Terms of Use
11
April
2017
3:58 pm PDT
11 Apr 2017
12 Apr 2017
13 Apr 2017
14 Apr 2017
15 Apr 2017
Winds
Winds

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NANOOS

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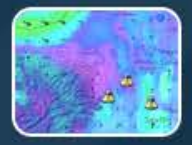

Data Explorer


Tsunami Evacuation Zones

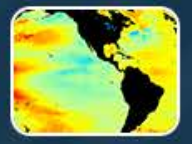

Boaters

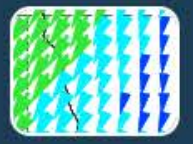

Tuna Fishers


Shellfish Growers


Beach and Shoreline Changes


Maritime Operations


Climatology


High Frequency Radar


Cruises


Gliders


Help

Additions & Updates

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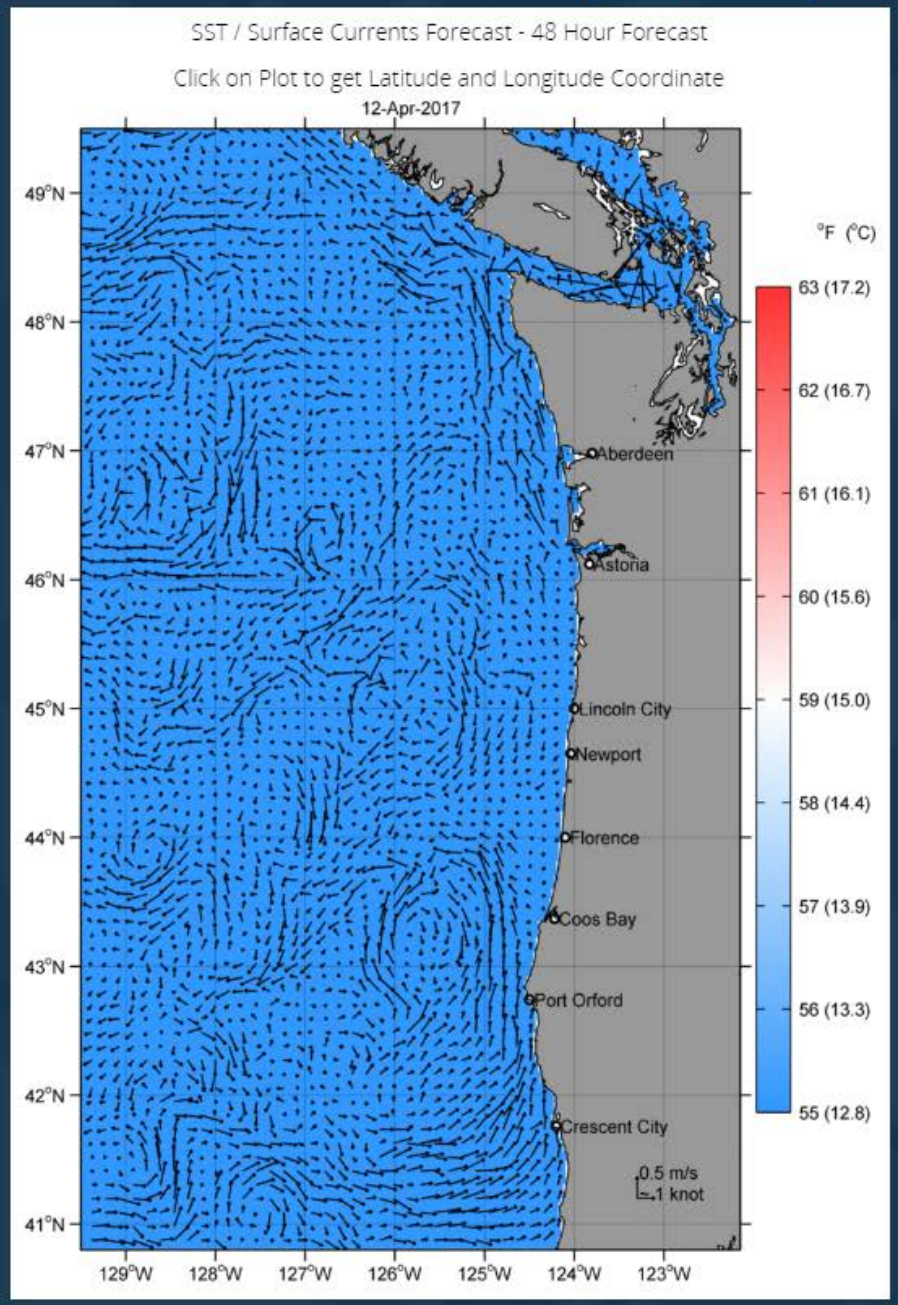
Updated on 6 Apr 2017

Find safe and effective journeys for fishing

SST & HFR Surface Currents and Forecasts



CHLA / HFRadar

Chlorophyll-a concentrations and surface currents off the Oregon coast. Chlorophyll-a concentrations are plotted on a scale of 0-1 mg/m^3.

- 1 Day Composite
- 3 Day Composite
- 8 Day Composite

SST / HFRadar

Sea surface temperature (SST) and surface currents off the Oregon coast. SST is plotted on a scale of 55-63 °F.

- 1 Day Composite
- 3 Day Composite
- 8 Day Composite

SST / Surface Currents Forecast

Sea surface temperature (SST) and surface currents off the Oregon coast. SST is plotted on a scale of 55-63 °F.

- Today
- 24 Hour Forecast
- 48 Hour Forecast

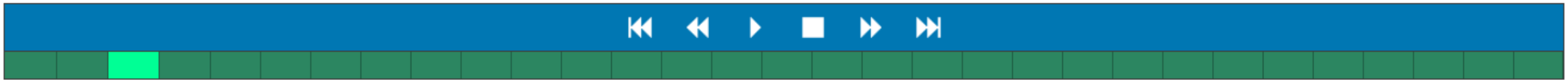
Wave / Wind Forecast Information

Significant wave height and direction, and wind speed and direction forecasts, derived from NOAA's WaveWatch III model, for the Pacific Northwest.

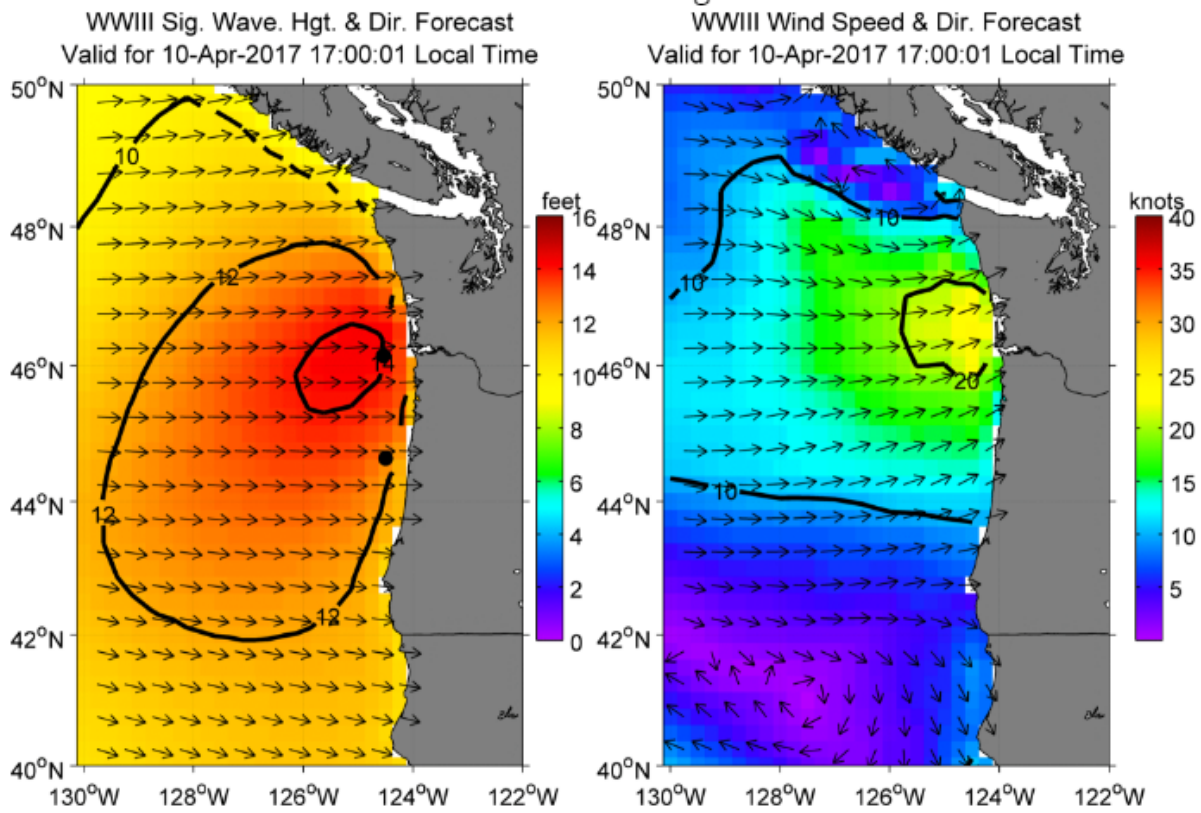
Product Page

Regional PNW Wave and Wind Forecasts

PNW Forecast Fields | Stonewall Banks Wave Forecasts | Columbia Bar Wave Forecasts



PNW Fields - Image 3

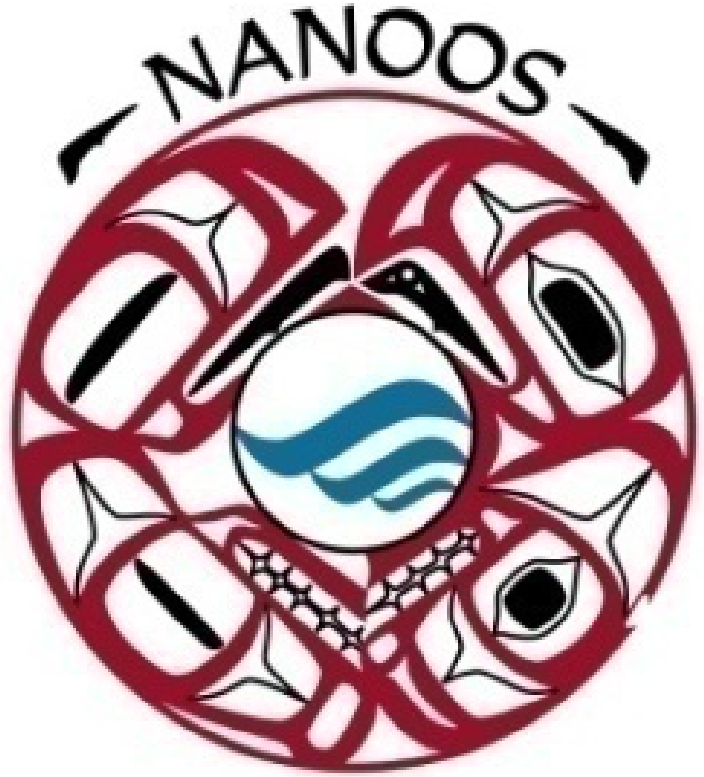


See animated forecasts from NOAA WaveWatch III

Forecast fields provided courtesy of the National Centers for Environmental Prediction

Thank you!

As always,
we value your
feedback …



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janewton@uw.edu