

Multiple stressors re supporting PNW economy

- OA
- HABs
- Hypoxia
- Marine heat waves
- Coastal resiliency: tsunami
- Navigation, safety
- Lack of knowledge



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Future Goals

Roll out situational awareness capability;



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88 Apps Disclaimer Settings Log Out

NVS
DATA EXPLORER

jcallea

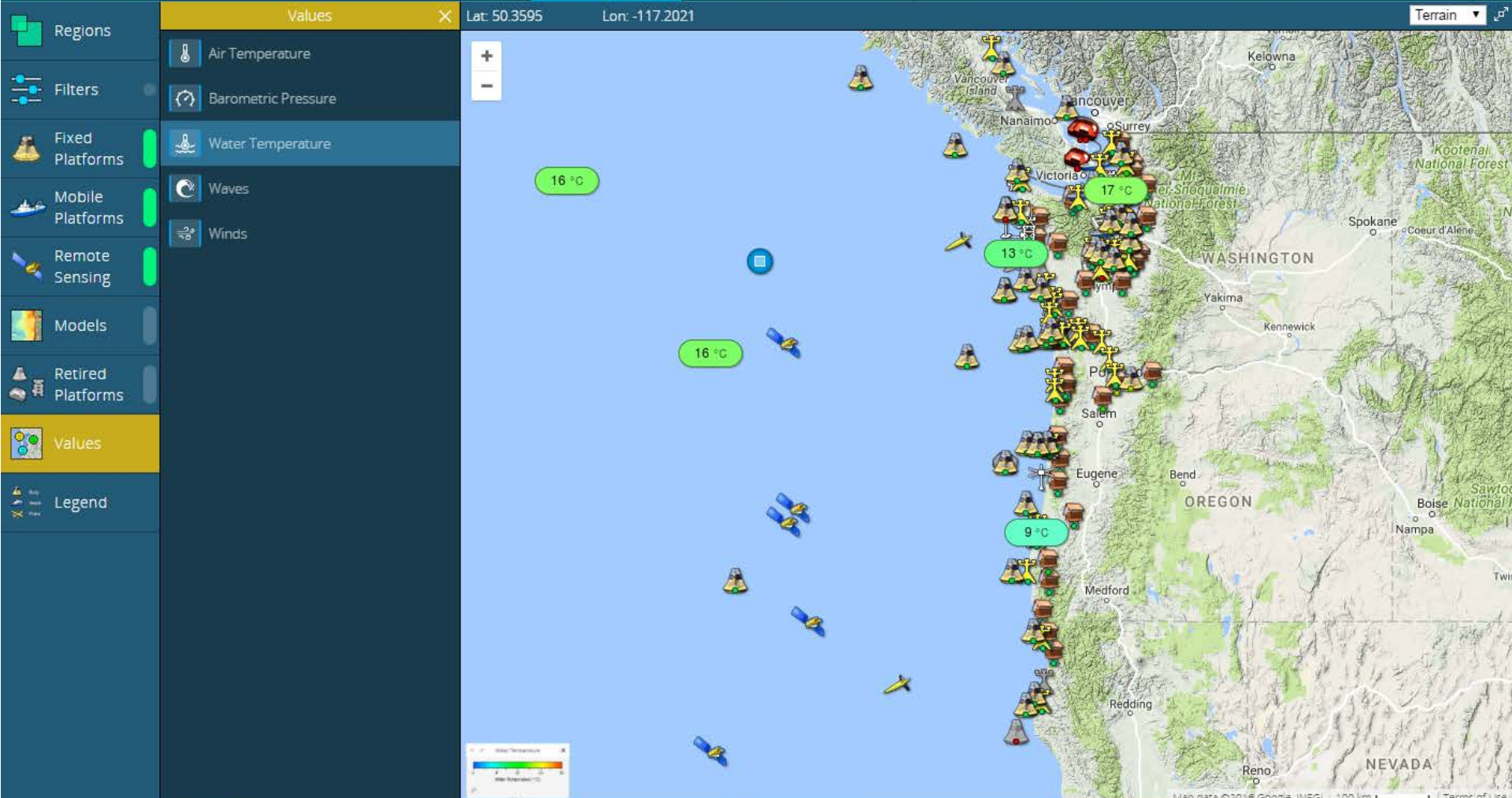
v4.7

Contact

NANOOS

Powered by Vizer

Terrain



5 August 2016 4:00 pm PDT

Jul 2016

Aug 2016

Water Temperature





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NVS DATA EXPLORER

v5.0 Contact NANOOS

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Regions

Filters

Current
Conditions

Fixed
Platforms

Mobile
Platforms

Remote
Sensing

Models

Retired
Platforms

Legend

Current Conditions

Lat: 47.5815

Lon: -125.2332

Terrain

Auto Hide Platforms

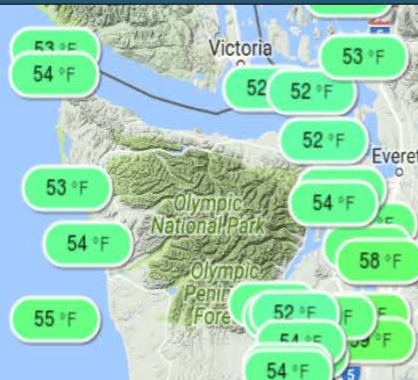
On

Air Temperature

Barometric Pressure

Water Temperature

Waves

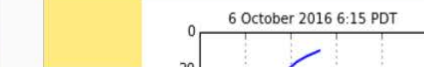


Profiling Buoy at Carr Inlet - South Sound

Observations Forecasts Comparator Details History

HYDROGRAPHIC

Oxygen Concentration (Profile)



Link



6 October 2016 10:00 am PDT



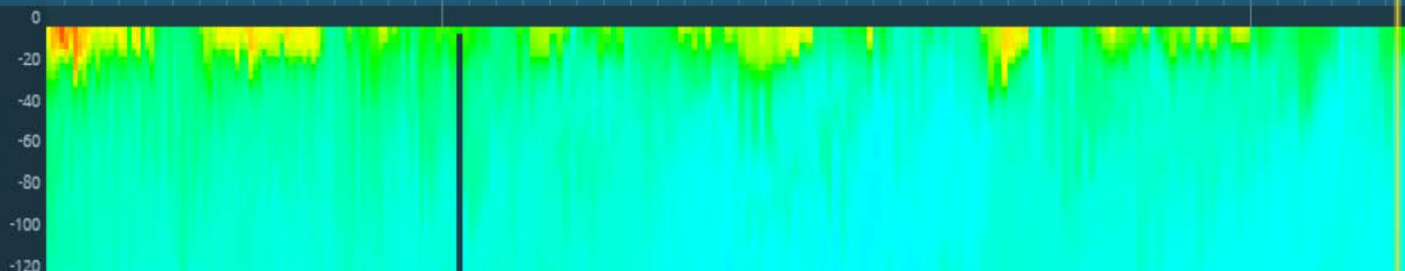
Sep 2016

Oct 2016

Air Temperature

Oxygen Conc.

Depth (ft)



15 mg/L
11 mg/L
8 mg/L
4 mg/L
0 mg/L



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Tsunami
prepared
ness

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NVS

v3.0 Contact NANOOS

PACIFIC NORTHWEST TSUNAMI EVACUATION ZONES

Map Brochures Warnings Planning Help

Map Markers Lat: 45.8994 Lon: -123.9539 Hybrid

Show All Hide All

- ☒ Airport 3
- ☒ Assembly Area 114
- ☒ Beach Access 34
- ☒ Bridge 20
- ☒ City Hall 6
- ☒ Fire Department 45
- ☒ Hospital 15
- ☒ Law Enforcement 20
- ☒ Lighthouse 1
- ☒ School 8
- ☒ School/Assembly Area 2
- ☒ Tsunami Warning Siren 17


Place 2

Type: Generic

Address: 2nd Street, Cannon Beach, OR 97110, USA

Latitude: 45.8983 Longitude: -123.9599

Tsunami Zone Information

 **Distant Earthquake and Tsunami Region**
If a distant tsunami occurs, make your way to higher ground.

Edit

Bridge: Bridge (101 over Ecola Creek)

DANGER
Earthquakes can damage or destroy bridges.
When evacuating, avoid bridges if possible.

West Coast Tsunami Bulletin

Tsunami Regions

Google 500 m 2000 ft

Map data ©2013 Google Imagery ©2013, DigitalGlobe, State of Oregon



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Future Goals

Improvements to the tsunami evacuation app. New layers that include:

- a. Detailed evacuation routes
- b. Evacuation communities
- c. Make your own evacuation map (print to pdf). Funding from NTHMP in 2016

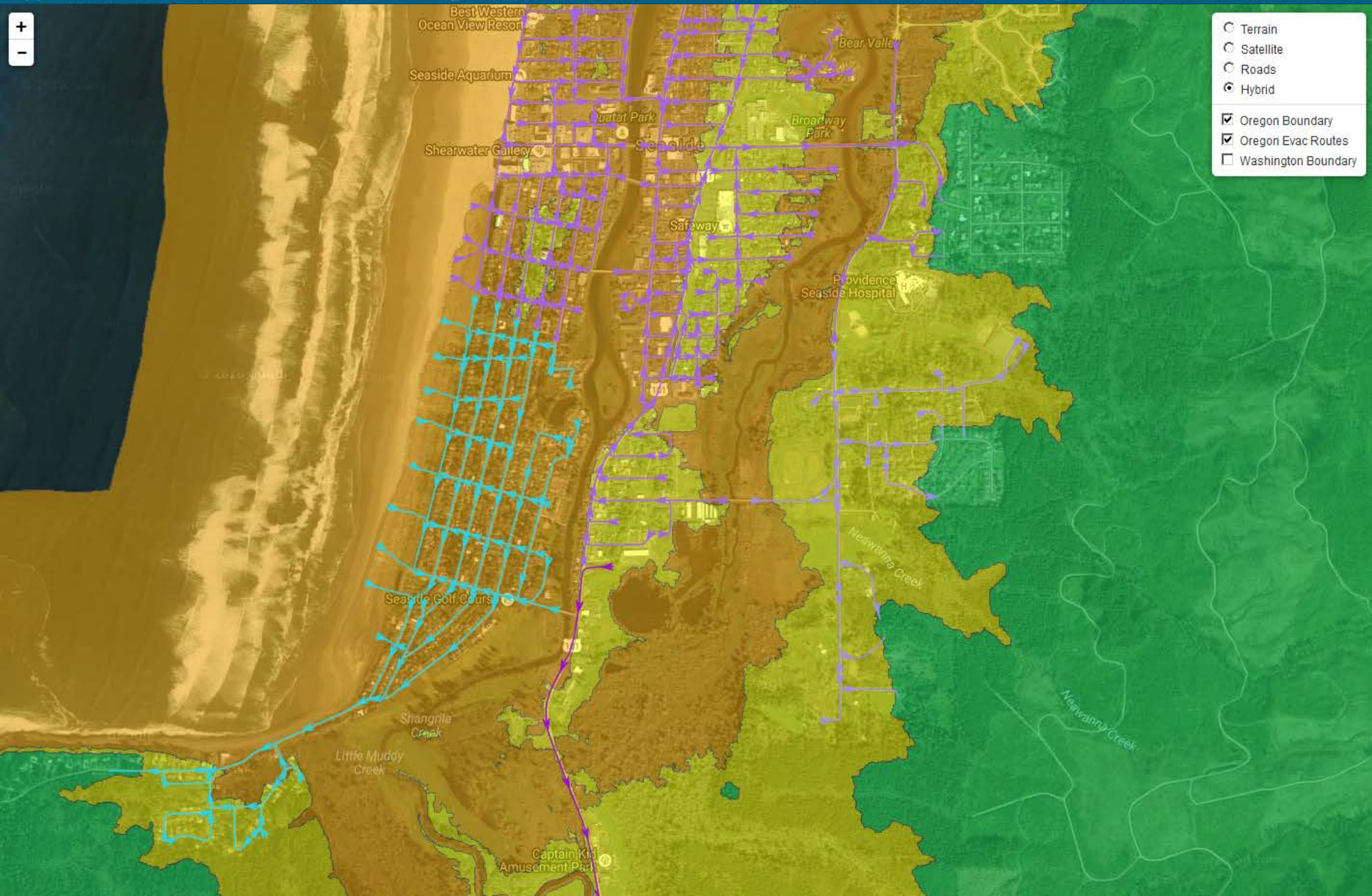


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- Boating safety
- Maritime ops



Map

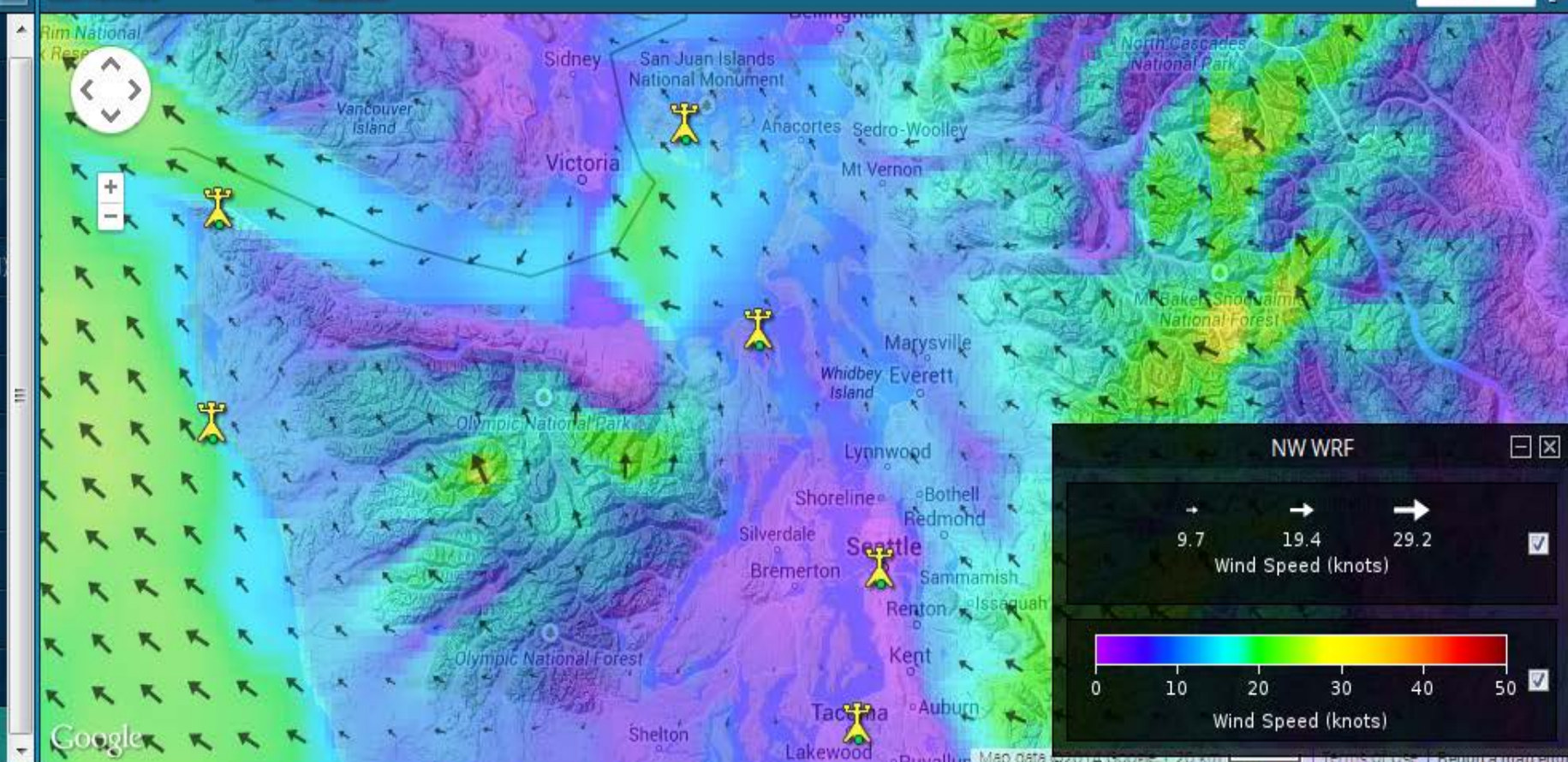
Help



Lat: 48.6656

Lon: -122.2833

Terrain



30 October 2014 5:00 am PDT



27 Oct 2014				28 Oct 2014				29 Oct 2014				30 Oct 2014				31 Oct 2014				1 Nov 2014				2 Nov 2014			
12 a	6 a	12 p	6 p	12 a	6 a	12 p	6 p	12 a	6 a	12 p	6 p	12 a	6 a	12 p	6 p	12 a	6 a	12 p	6 p	12 a	6 a	12 p	6 p	12 a	6 a	12 p	6 p

Map

Help

Lat: 48.7127

Lon: -122.2284

Terrain

Mouse Action Info

Select Tide Location



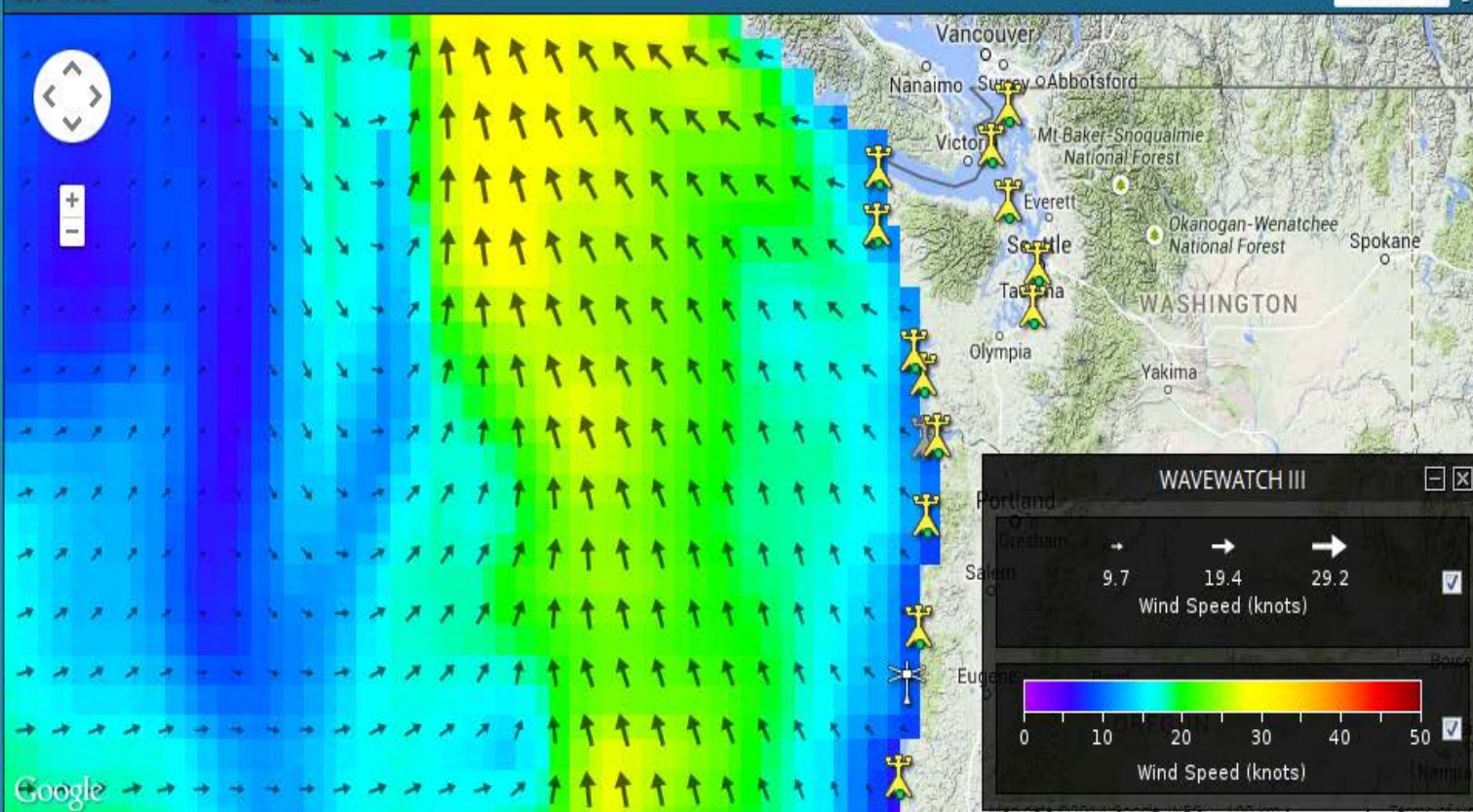
XTIDE

Rising Tide 4.9 ft
Falling Tide 4.9 ft
Water Level (feet)

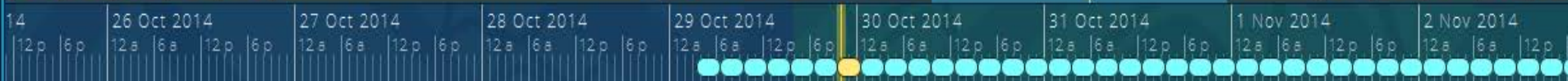
27 October 2014 12:00 am PDT

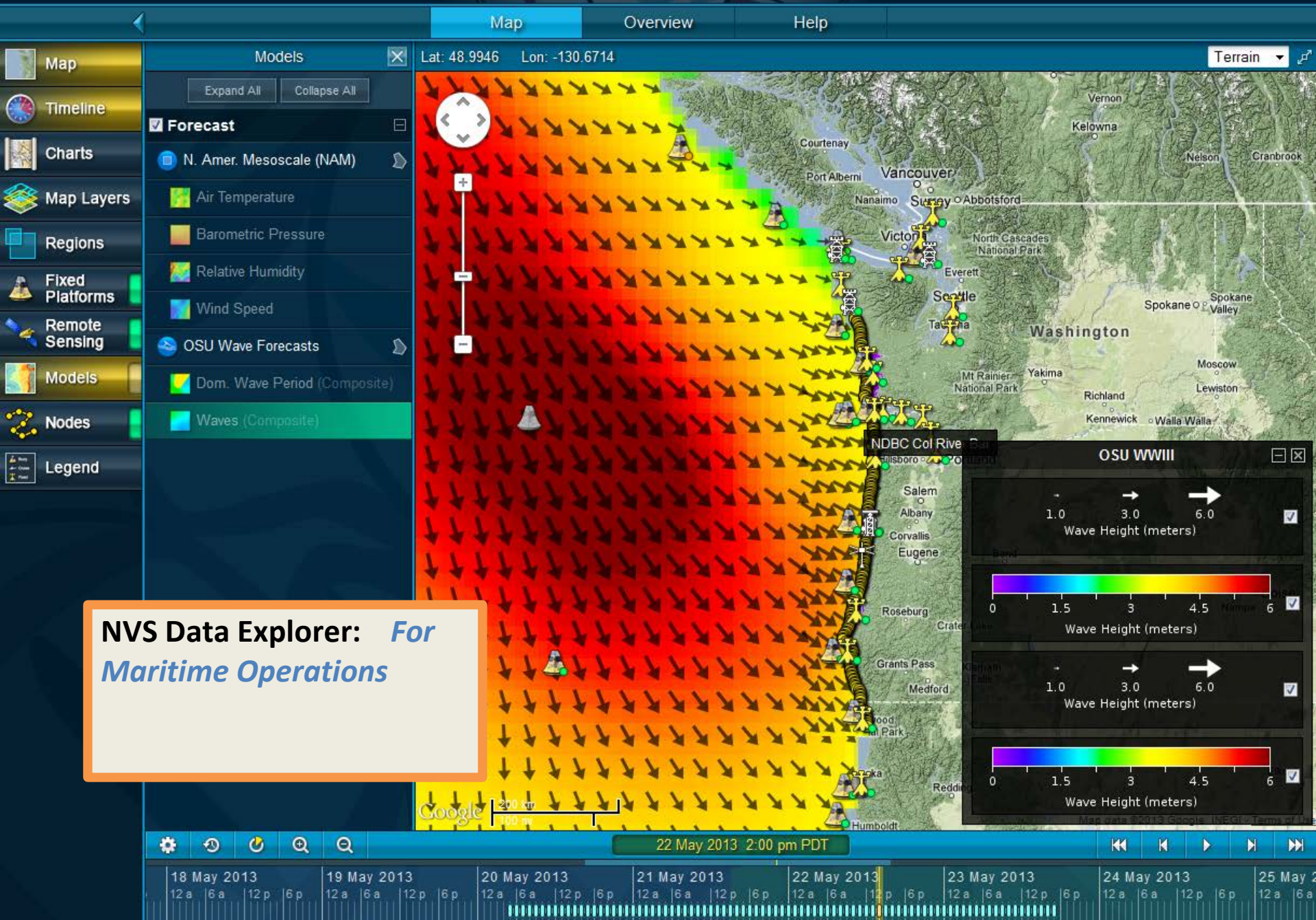
8 Oct 2014 29 Oct 2014 30 Oct 2014 31 Oct 2014 1 Nov 2014 2 Nov 2014 3 Nov 2014 4 Nov 2014

Lon: -123.6841

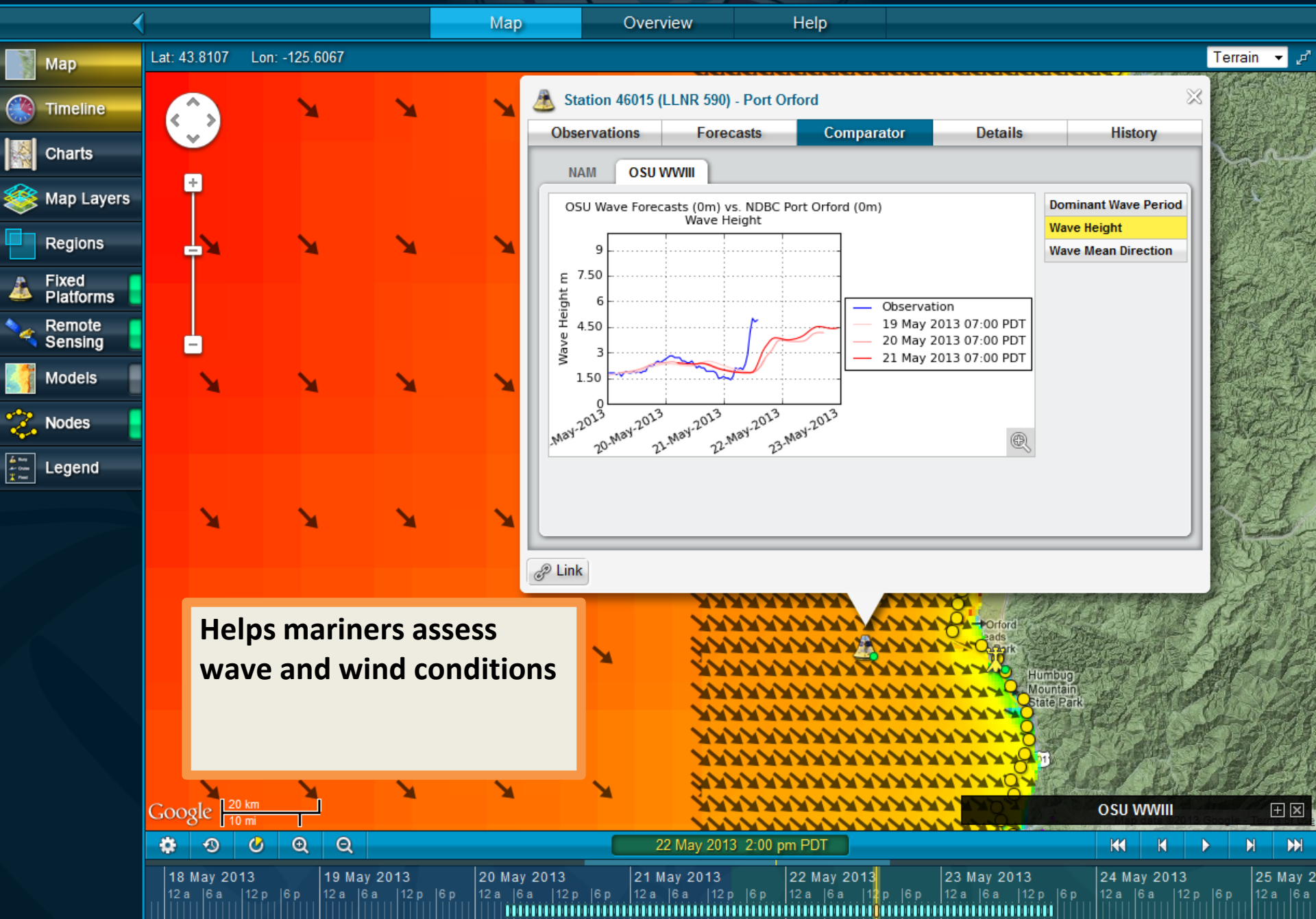
 $\langle RF \rangle$ 

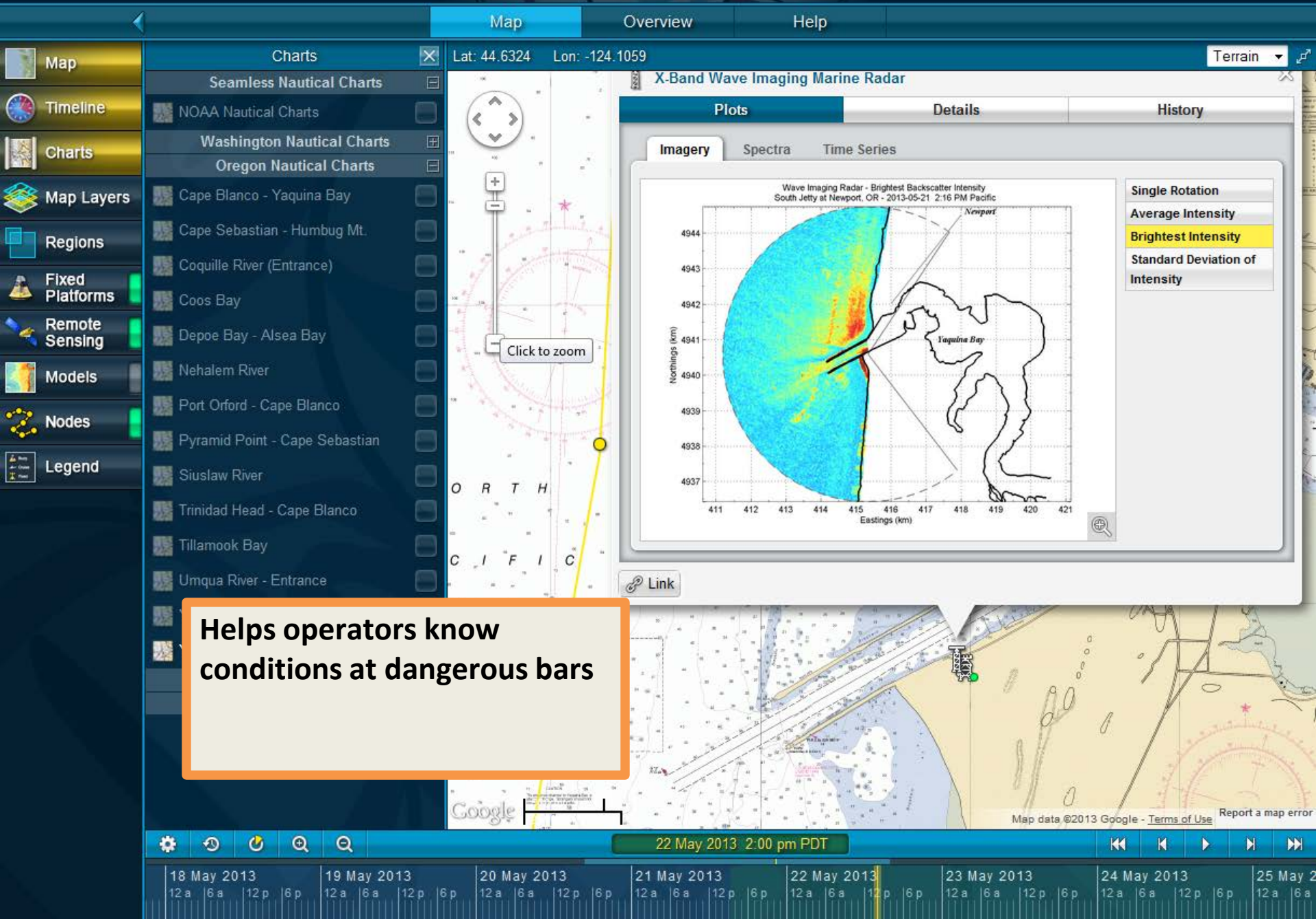
29 October 2014 10:00 pm PDT





NVS Data Explorer: *For Maritime Operations*







Future Goals

1. NVS Explorer mobile app for iPhone and Android ([very soon](#))
 - Update TsunamiEvac app (2017)
2. Create plotting tool for dealing with variable/depth/time plots
3. Continue with NVS updates and enhancements (e.g. user route maps, bathy contour overlay, lat/long graticules, visualization of mobile platforms, etc.)
4. Hold a stakeholder meeting in 2017 (anticipate holding such a meeting on the central Oregon coast (probably Newport) and/or Coos Bay. Goal:
 - a. Inform our stakeholders... we have much to show!
 - b. We need input on what's working and what's not;
 - c. Solicit ideas for new apps, and/or improvements to existing apps

What are people saying about NANOOS?

*“**NANOOS provides critical life safety information** to the public, aiding coastal communities to build resiliency.”*

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



*“**NWIC students are excited about because this buoy blends the latest technology with the needs of the Lummi Nation community.** It will give students real-time place-based data ... a number of students have stated that going on NANOOS cruises **solidified their desire to become marine scientists.**”*

*- Marco Hatch, NWIC, Salish Sea
Research Center Director*

*“**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



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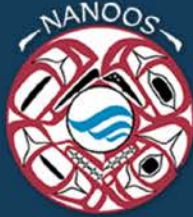


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- Education ... ocean literacy

NANOOS - Education - Introduction - Mozilla Firefox







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- Join NANOOS
- Contact Us
- Disclaimer
- Site Map
- NVS
- Products
- Mobile Apps
- Education
- Resources


Welcome Teachers and Students!

Find answers to these questions:

- What is Ocean Observing?
- Who are members of NANOOS?
- Who are the people of NANOOS?




NANOOS Education Blog



Workshop - Finding a Story in Data

Lesson Plans



Lesson plans to help educators bring ocean observing data and

