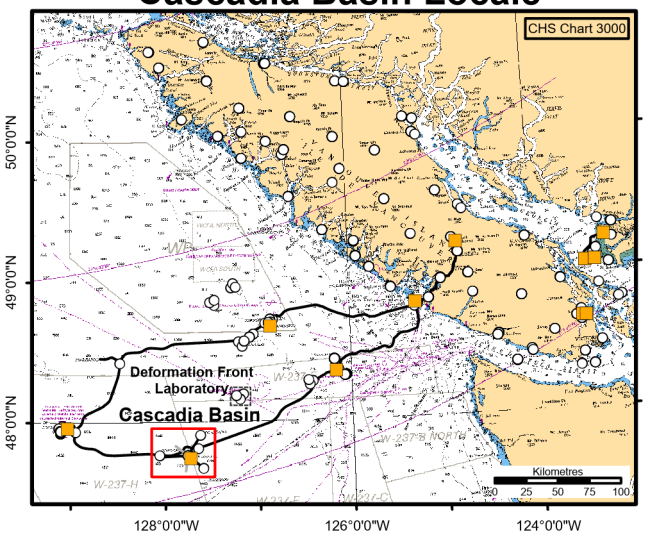
Information for Mariners – October 2025
NEPTUNE Observatory: Cascadia Basin (Formerly ODP 1027)

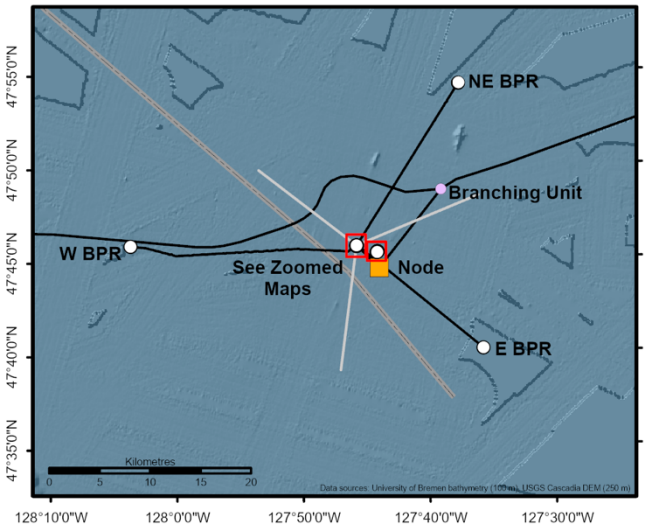
Project: The North-East Pacific Undersea Networked Experiments (NEPTUNE) is an oceanographic project managed by Ocean Networks Canada (ONC), an initiative of the University of Victoria. It consists of a cabled observatory off the west coast of Vancouver Island, beginning in Port Alberni and extending 300 km offshore along an 813 km loop. From a shore landing, an armoured marine cable extends along the ocean bottom to large observatory "Nodes", into which oceanographic instrument systems connect. High voltage power is supplied down the cable, and Ethernet communications along fibre optics bring data and images back to the University in real time. Project status, system information, waypoint downloads and data are available from the Ocean Networks Canada web site: **www.oceannetworks.ca**

What: High voltage marine fibre optic cables and observatory systems (see web site for system details).
When: Latest system and instrument deployments at the Cascadia Basin site: **Aug 31, 2025**
Where: **Cascadia Basin, West Coast Vancouver Island. See Chart # 3000 for cable route and obstructions.**

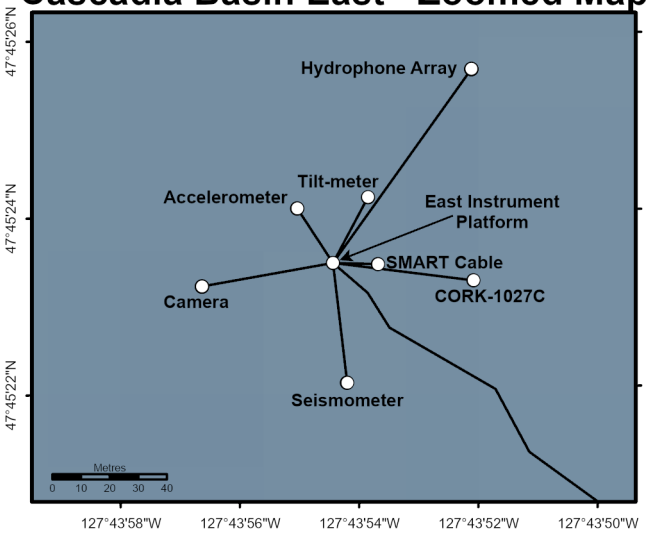
Cascadia Basin Locale



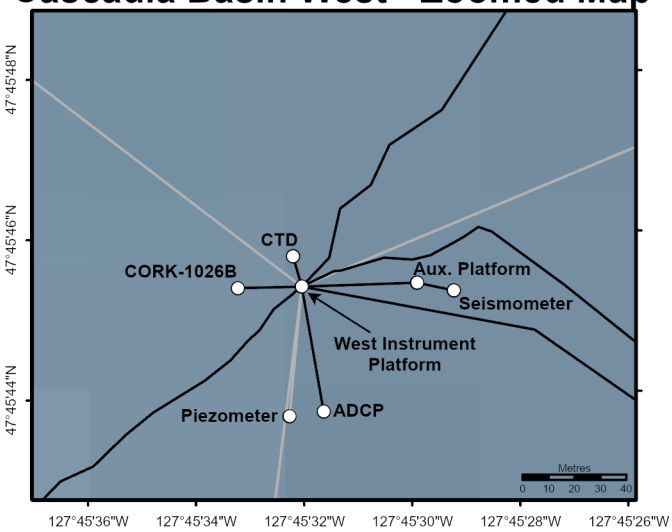
Cascadia Basin Overview



Cascadia Basin East - Zoomed Map



Cascadia Basin West - Zoomed Map



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Installations:

Name	Latitude	Longitude	Depth (m)	Description
Accelerometer	47.75668	-127.73193	2661	0.5 m Cylindrical frame with glass sphere buried in a green caisson
ADCP	47.76217	-127.75878	2659	1 m spherical grey titanium platform
Autonomous CORK	47.90878	-128.74993	2613	6.5 m Cylindrical steel frame with circular platform (similar to a well-head)
Auxiliary Platform	47.76261	-127.75829	2654	1.5 m grey steel frame
Bottom Pressure Recorder	47.66979	-127.59336	2639	1 m triangular steel platform
Bottom Pressure Recorder	47.76403	-128.05766	2639	1 m triangular steel platform
Bottom Pressure Recorder	47.90624	-127.62053	2640	1 m triangular steel platform
Branching Unit	47.81175	-127.64583	2606	3 m cylindrical steel can
CORK	47.75645	-127.73112	2656	6.5 m Cylindrical steel frame with circular platform (similar to a well-head)
CORK	47.76260	-127.75921	2661	6.5 m Cylindrical steel frame with circular platform (similar to a well-head)
CORK DFO MPA Camera	47.75644	-127.73238	2663	3m grey steel tripod
CORK Hydrophone Array	47.75711	-127.73111	2660	Yellow metal pole rising 3 m from seafloor
CORK Instrument Platform	47.75651	-127.73177	2658	Large (3 m) grey steel frame
CTD	47.76271	-127.75893	2657	White and green rectangular 1.7 m by 1.3 m steel platform
Deformation Front Laboratory South	48.15789	-127.19111	2597	An orange GPS Acoustics device extending 2 m off seafloor
Deformation Front Laboratory West	48.18415	-127.23119	2602	An orange GPS Acoustics device extending 2 m off seafloor.
Deformation Front Laboratory East	48.19447	-127.15561	2592	An orange GPS Acoustics device extending 2 m off seafloor
Deformation Front Laboratory Centre	48.18421	-127.19182	2593	An orange GPS Acoustics device extending 2 m off seafloor
Instrument Platform	47.76260	-127.75888	2661	Large (3 m) grey steel frame
Maris	47.75614	-127.73171	2662	1 m white cylinder
Mudmat Instrument Platform	47.76098	-127.75687	2661	Site for the Cascadia Mudmat, ~235 m southeast from the Instrument Platform (JB-13). 1.5 m metal and plastic rectangular platform.
Mudmat Node	47.74232	-127.72970	2664	Site for the Cascadia Mudmat, ~ 35 m northwest from the Node. 1.5 m metal and plastic rectangular platform.
Node	47.74235	-127.72927	2662	Large 7 m yellow trawl resistant frame, 13 tons
Piezometer	47.76215	-127.75896	2660	1 m cylindrical steel platform
Seismometer	47.76258	-127.75810	2656	1 m spherical grey titanium platform
SMARTCable	47.75651	-127.73156	2663	1m (green) rectangular metal platform with various sensors mounted.
Tilt Meter	47.75672	-127.73160	2656	1 m cylindrical titanium can, with white cap

Full cable routes and waypoints are available for use with Electronic Navigation Systems from the ONC website: https://www.oceannetworks.ca/notice-for-mariners/

Contacts: If you have any concerns, or would like further information, please contact either: Ben Biffard, Ocean Networks Canada's Director of Observatory Digital Operations at bbiffard@uvic.ca or ONC GIS Specialists at GIS@oceannetworks.ca.