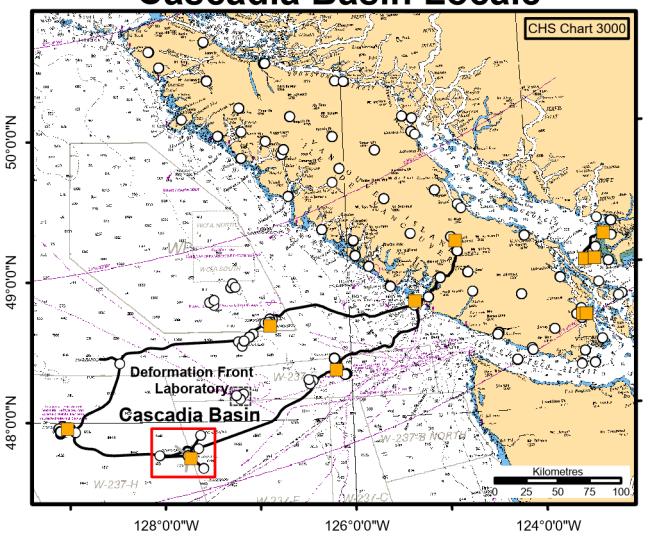
Information for Mariners – September 2023
NEPTUNE Observatory: Cascadia Basin (Formerly ODP 1027)

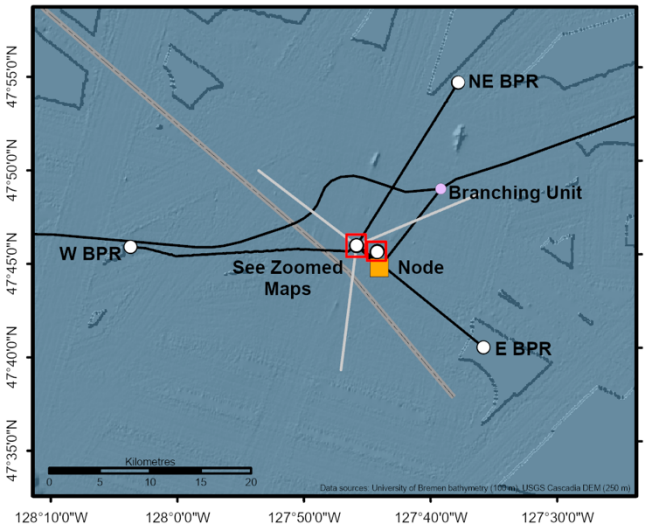
Project: The North-East Pacific Undersea Networked Experiments (NEPTUNE) is an oceanographic project managed by Ocean Networks Canada (ONC), an initiative of the University of Victoria. It consists of a cabled observatory off the west coast of Vancouver Island, beginning in Port Alberni and extending 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: **14 September 2023**
Where: Cascadia Basin, West Coast Vancouver Island. See Chart # 3000 for cable route and obstructions.

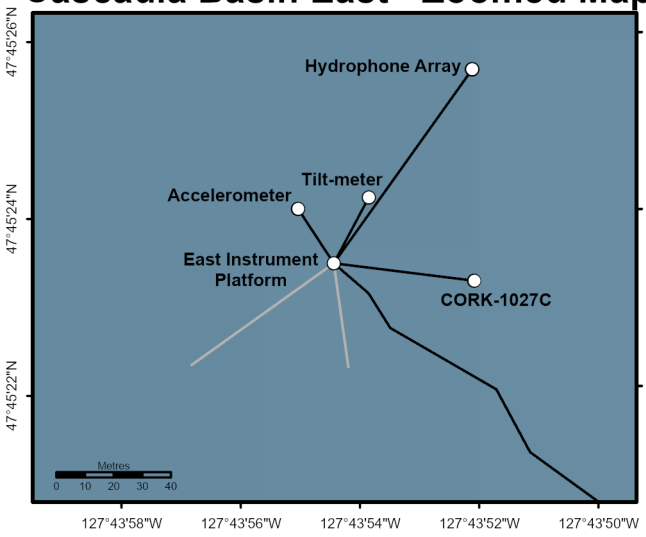
Cascadia Basin Locale



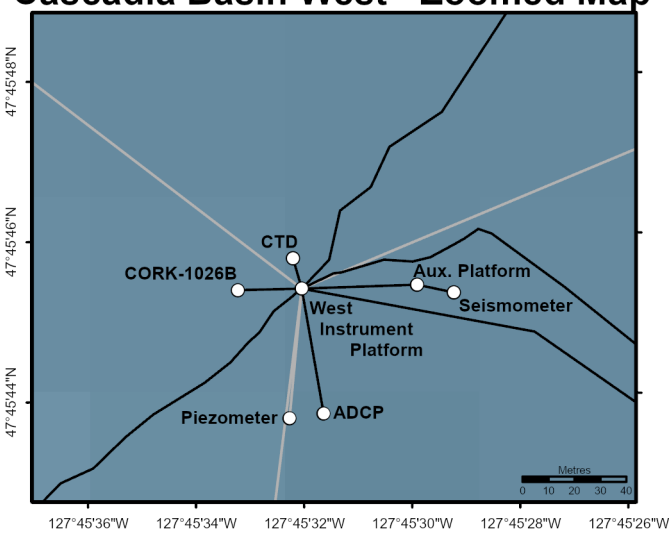
Cascadia Basin Overview



Cascadia Basin East - Zoomed Map



Cascadia Basin West - Zoomed Map



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Installations:

Name	Latitude	Longitude	Depth (m)	Description
CascadiaBasin_Accelerometer_2018-07	47.75668	-127.73193	2661	0.5 m cylindrical frame with glass sphere buried in a green caisson
CascadiaBasin_ADCP_2020-09	47.76217	-127.75878	2659	1 m spherical grey titanium platform
CascadiaBasin_BBS_NC27_2023-07	47.76258	-127.75810	2656	1 m spherical grey titanium platform
CascadiaBasin_BranchingUnit_2007-08	47.81175	-127.64583	2606	3 m cylindrical steel can
CascadiaBasin_CORK_IP_2018-06	47.75651	-127.73177	2658	Large (3 m) grey steel frame
CascadiaBasin_CORK-1026B_2007-09	47.76260	-127.75921	2660.5	6.5 m cylindrical steel frame with circular platform (similar to a well-head)
CascadiaBasin_CORK-1027C	47.75645	-127.73112	2656	6.5 m cylindrical steel frame with circular platform (similar to a well-head)
CascadiaBasin_CORK-1027C_HydrophoneArray_2023-07	47.75711	-127.73111	2660	Yellow metal pole rising 3 m from seafloor
CascadiaBasin_CTD_2020-09	47.76271	-127.75893	2657	White and green rectangular 1.7 m by 1.3 m steel platform
CascadiaBasin_DeformationFrontLaboratory_Centre	48.18421	-127.19182	2593	An orange GPS Acoustics device extending 2 m off seafloor
CascadiaBasin_DeformationFrontLaboratory_East	48.19447	-127.15561	2592	An orange GPS Acoustics device extending 2 m off seafloor
CascadiaBasin_DeformationFrontLaboratory_South	48.15789	-127.19111	2597	An orange GPS Acoustics device extending 2 m off seafloor
CascadiaBasin_DeformationFrontLaboratory_West	48.18415	-127.23119	2602	An orange GPS Acoustics device extending 2 m off seafloor
CascadiaBasin_IP_2009-09	47.76260	-127.75888	2660.5	Large (3 m) grey steel frame
CascadiaBasin_Node_2009-08	47.74235	-127.72927	2662	Large 7 m yellow trawl resistant frame, 13 tons
CascadiaBasin_Piezometer_2011-07	47.76215	-127.75896	2660	1 m cylindrical steel platform
CascadiaBasin_TiltMeter_2018-06	47.75672	-127.73160	2656	1 m cylindrical titanium can, with white cap
NE-20km_BPR_2016-06	47.90624	-127.62053	2640	1 m triangular steel platform
OBS_AuxiliaryPlatform_2014-05	47.76261	-127.75829	2654	1.5 m grey steel frame
SE-20km_BPR_2020-09	47.66979	-127.59336	2639	1 m triangular steel platform
W-20km_BPR_2015-09	47.76403	-128.05766	2639	1 m triangular steel platform

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: Meghan Paulson, Ocean Networks Canada's Director of Observatory Digital Operations at mpaulson@uvic.ca or 250 721-6279 or ONC GIS Specialists at GIS@oceannetworks.ca.