

Information for Mariners – April 2020
NEPTUNE Observatory: Barkley Canyon

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, and data are available from the Ocean Networks Canada website: www.oceannetworks.ca

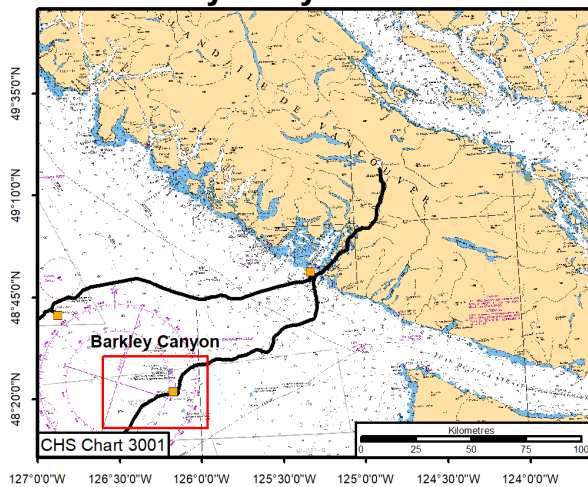
What: High voltage marine fibre optic cables and observatory systems (see web site for system details).

When: Latest system and instrument deployments in Barkley Canyon: **9 March 2020**

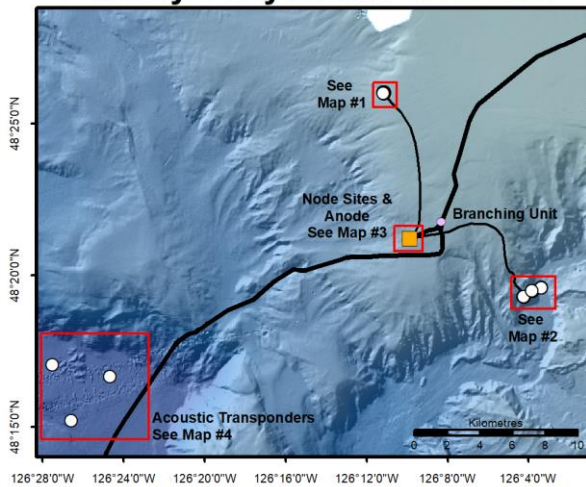
Where: **Barkley Canyon and Upper Slope, West Coast Vancouver Island.** See **chart # 3001 (ENC CA270389)** for cable route and obstructions. The Vertical Profiling System (a winched profiling buoy extending from the seafloor to the sea surface) is listed on the Automatic Identification System (AIS) as **MMSI 993166003**.

Note: Cables are exposed at the surface. Please use caution when operating in this area. Cable position files are available at the link below. Other formats are available upon request.

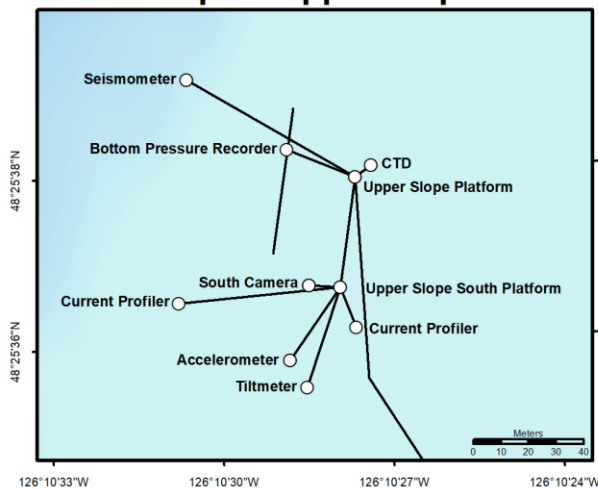
Barkley Canyon Site Locale



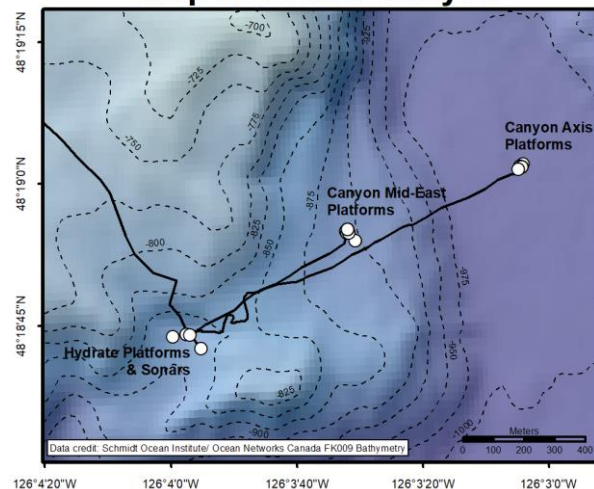
Barkley Canyon Site Overview



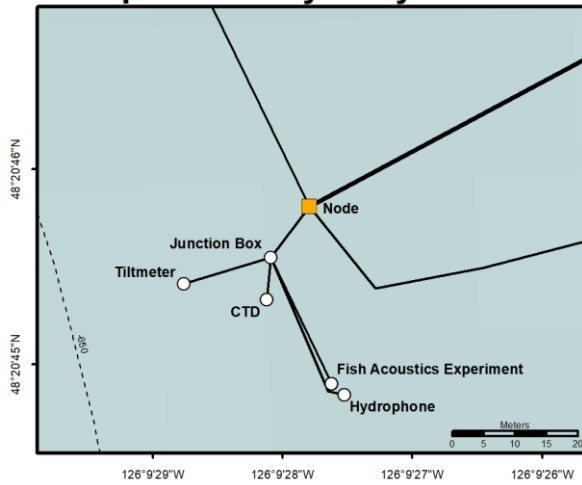
Map #1 Upper Slope



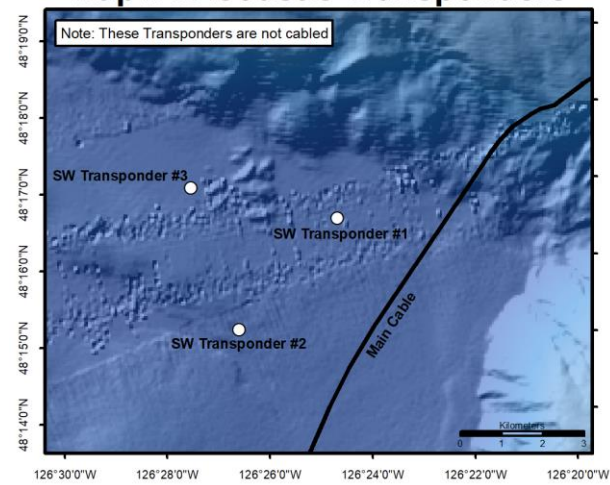
Map #2 Lower Canyon



Map #3 Barkley Canyon Node



Map #4 Acoustic Transponders



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Full cable routes and waypoints are available for use with Electronic Navigation Systems from the ONC website:

<http://www.oceannetworks.ca/installations/notice-mariners>

Installations:

Name	Latitude	Longitude	Depth (m)	Description
Transponder 2	48.25270	-126.44210	2070	Orange GPS Acoustics device extending 2 m off seafloor
Transponder 1	48.27619	-126.40889	2070	Orange GPS Acoustics device extending 2 m off seafloor
Transponder 3	48.28383	-126.45612	2068	Orange GPS Acoustics device extending 2 m off seafloor
Kongsberg Sonar East (Hydrate)	48.31168	-126.06518	871	3 m grey steel tripod
Kongsberg Sonar West (Hydrate)	48.31205	-126.06639	869	3 m grey steel tripod
CTD (Hydrate)	48.31207	-126.06583	871	Device measuring conductivity, temperature, and pressure
Instrument Platform (Hydrate)	48.31208	-126.06586	871	Large (3 m) grey steel frame
Accelerometer (Canyon Mid East)	48.31465	-126.05820	897	Buried 1 m circular green caisson with cable at surface
CTD (Canyon Mid East)	48.31490	-126.05847	895	3 m white tripod
Instrument Platform (Canyon Mid East)	48.31490	-126.05853	895	Large (3 m) grey steel frame.
ADCP (Canyon Mid East)	48.31494	-126.05859	893	1 m green rectangular fiberglass platform
Camera (Canyon Mid East)	48.31499	-126.05851	890	3 m grey steel tripod
Sonar (Canyon Axis)	48.31658	-126.05088	985	3 m white tripod
Instrument Platform (Canyon Axis)	48.31664	-126.05072	981	Large (3 m) grey steel frame
CTD (Canyon Axis)	48.31664	-126.05074	983	3 m white tripod
Camera (Canyon Axis)	48.31665	-126.05080	981	3 m red and white tripod with yellow float
ADCP (Canyon Axis)	48.31671	-126.05066	985	1 m green rectangular fiberglass platform
Hydrophone (Node)	48.34577	-126.15768	643	Acoustic instrument on the seabed

Bait Release System (Node)	48.34577	-126.15768	643	Seabed device
Acoustics Experiment (Node)	48.34579	-126.15771	643	Acoustic instrument on the seabed
CTD (Node)	48.34591	-126.15784	643	3m white tripod
Tiltmeter (Node)	48.34594	-126.15802	643	1 m cylindrical titanium can, with grey cap
Instrument Platform (Node)	48.34597	-126.15783	644	Large (3 m) grey steel frame
Node	48.34604	-126.15774	639	Large 7 m yellow trawl resistant frame, 13 tons
Branching Unit	48.35475	-126.13102	460	3 m cylindrical steel can
Tiltmeter (Upper Slope South)	48.42652	-126.17465	393	1 m cylindrical pole
Accelerometer (Upper Slope South)	48.42661	-126.17473	395	0.5 m Cylindrical frame with glass sphere
AquaDopp Current Profiler (Upper Slope South)	48.42671	-126.17440	395	Acoustic instrument on the seabed
ADCP (Upper Slope South)	48.42681	-126.17526	398	Acoustic instrument on the seabed
Instrument Platform (Upper Slope South)	48.42684	-126.17447	394	Large (3 m) grey steel frame
Camera (Upper Slope South)	48.42685	-126.17462	395	Camera on the seabed
Instrument Platform (Upper Slope)	48.42720	-126.17438	395	Large (3 m) grey steel frame
ADCP (Upper Slope)	48.42720	-126.17438	395	Acoustic instrument on the seabed
CTD (Upper Slope)	48.42723	-126.17430	308	Seabed device measuring conductivity, temperature, and pressure
BPR (Upper Slope)	48.42730	-126.17471	293	Seabed device measuring bottom pressure
BBS-Instrument Platform (Upper Slope)	48.42753	-126.17518	396	1 m spherical grey titanium platform

Contacts: If you have any concerns, or would like further information, please contact either: Adrian Round, Ocean Networks Canada's Director of Observatory Operations at around@uvic.ca or 250-472-5386 or Mark Rankin, GIS Specialist at markrankin@uvic.ca or (250) 472-5386.