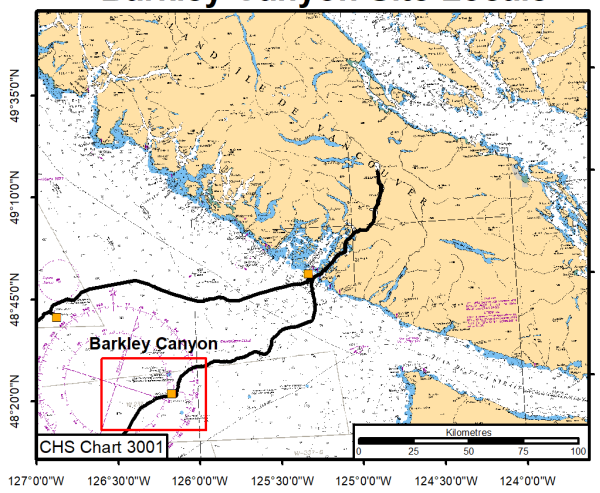
Information for Mariners – March 2021
NEPTUNE Observatory: Barkley Canyon

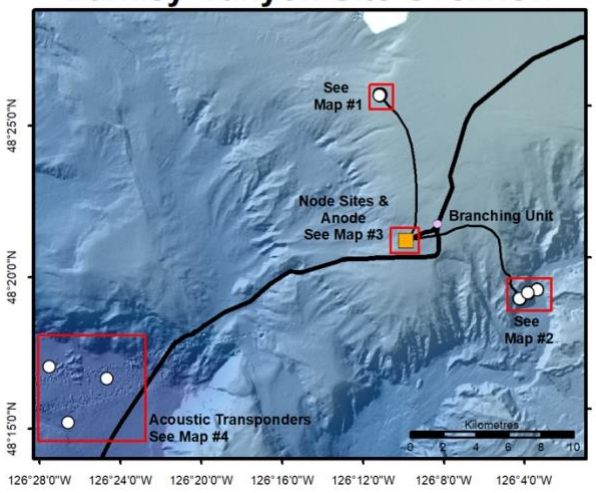
Project: The North-East Pacific Undersea Networked Experiments (NEPTUNE) is an oceanographic project managed by Ocean Networks Canada (ONC), an initiative of the University of Victoria. It consists of a cabled observatory off the west coast of Vancouver Island, beginning in Port Alberni and extending 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, 3000, and 3602 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.

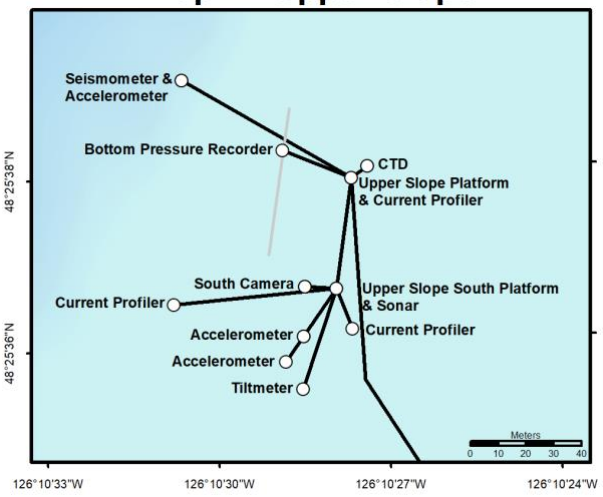
Barkley Canyon Site Locale



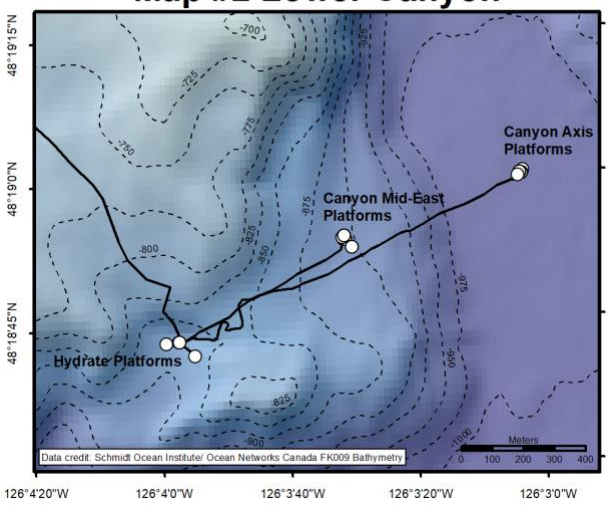
Barkley Canyon Site Overview



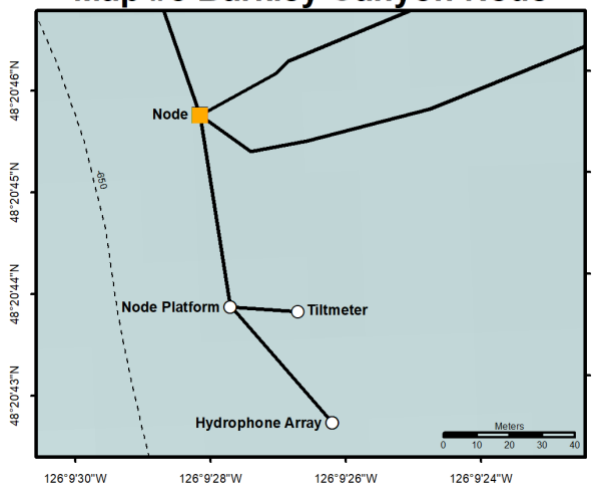
Map #1 Upper Slope



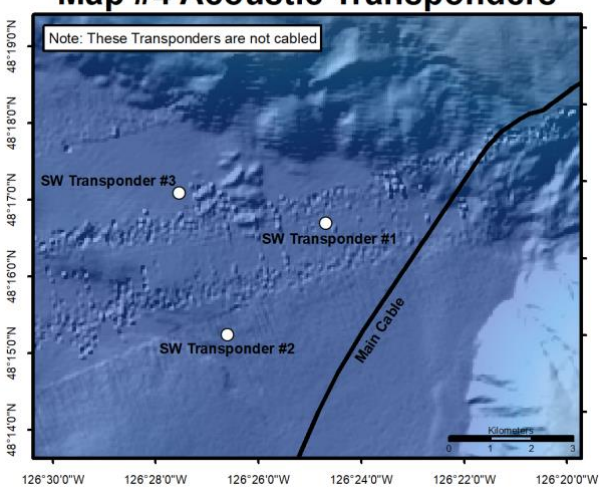
Map #2 Lower Canyon



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:
https://www.oceannetworks.ca/observatories/notices/information-mariners

Installations:

Name	Latitude	Longitude	Depth (m)	Description
Transponder 2	48.2527	-126.4421	2070	An orange GPS Acoustics device extending 2 m off seafloor
Transponder 1	48.2762	-126.4089	2070	An orange GPS Acoustics device extending 2 m off seafloor
Transponder 3	48.2838	-126.4561	2068	An orange GPS Acoustics device extending 2 m off seafloor
Kongsberg Sonar East (Hydrate)	48.3117	-126.0652	871	3 m grey steel tripod
Kongsberg Sonar West (Hydrate)	48.3121	-126.0664	869	3 m grey steel tripod
CTD (Hydrate)	48.3121	-126.0658	871	3 m white tripod
Instrument Platform (Hydrate)	48.3121	-126.0659	871	Large (3 m) grey steel frame
Accelerometer (Canyon Mid East)	48.3147	-126.0582	897	Buried 1 m circular green caisson with cable at surface
CTD (Canyon Mid East)	48.3149	-126.0585	895	3 m white tripod
Instrument Platform (Canyon Mid East)	48.3149	-126.0585	895	Large (3 m) grey steel frame.
ADCP (Canyon Mid East)	48.3149	-126.0586	893	1 m green rectangular fiberglass platform
Camera (Canyon Mid East)	48.3150	-126.0585	890	3 m grey steel tripod
Sonar (Canyon Axis)	48.3166	-126.0509	985	3 m white tripod
Instrument Platform (Canyon Axis)	48.3166	-126.0507	981	Large (3 m) grey steel frame
CTD (Canyon Axis)	48.3166	-126.0507	983	3 m white tripod
Camera (Canyon Axis)	48.3167	-126.0508	981	3 m red and white tripod with yellow float
ADCP (Canyon Axis)	48.3167	-126.0507	985	1 m green rectangular fiberglass platform

Hydrophone Array (Node)	48.3452	-126.1573	641	Yellow metal pole rising 3 m from seafloor
Tiltmeter (Node)	48.3455	-126.1574	643.9	1 m cylindrical titanium can, with white cap
Instrument Platform (Node)	48.3455	-126.1577	642	Large (3 m) grey steel frame
Node	48.3460	-126.1578	643.8	Large 3m black trawl resistant frame
Branching Unit	48.3548	-126.1310	460	3 m cylindrical steel can
Tiltmeter (Upper Slope South)	48.4265	-126.1746	393	1 m cylindrical titanium can, with white plate
Accelerometer (Upper Slope South)	48.4266	-126.1747	395	0.5 m Cylindrical frame with glass sphere
Accelerometer (Upper Slope South)	48.4267	-126.1746	393	Buried 1 m circular green caisson with cable at surface
AQD (Upper Slope South)	48.4267	-126.1744	395	1 m yellow frame with green caisson
ADCP (Upper Slope South)	48.4268	-126.1753	398	1 m green rectangular fiberglass platform
Instrument Platform (Upper Slope)	48.4268	-126.1745	394	Large (3 m) grey steel frame
Camera (Upper Slope)	48.4269	-126.1746	395	3 m grey steel tripod
Instrument Platform (Upper Slope)	48.4272	-126.1744	395	Large (3 m) grey steel frame
ADCP (Upper Slope)	48.4272	-126.1744	395	1 m green rectangular fiberglass platform
CTD (Upper Slope)	48.4272	-126.1743	308	3 m white tripod
BPR (Upper Slope)	48.4273	-126.1747	293	1 m triangular steel platform
BBS (Upper Slope)	48.4275	-126.1752	396	1 m spherical grey titanium platform. Notice: P-0748(2012).

Contacts: If you have any concerns, or would like further information, please contact either: Ian Kulin, Ocean Networks Canada's Director of Marine Operations at ikulin@uvic.ca or 250 721-6279 or ONC GIS Specialists at GIS@oceannetworks.ca.