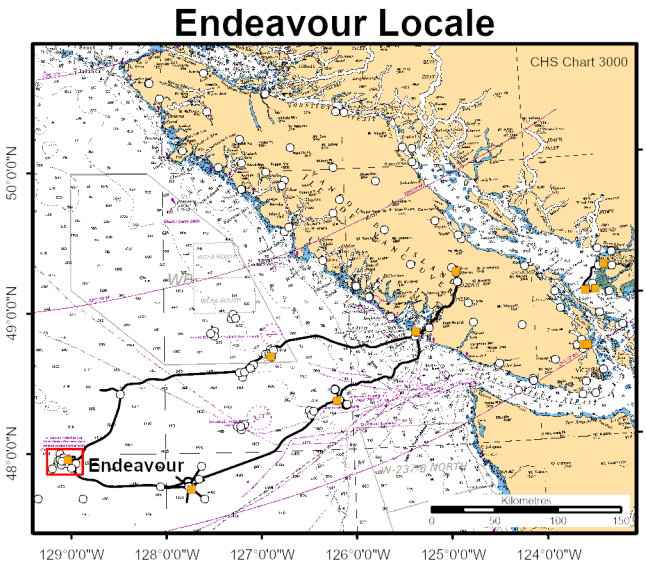
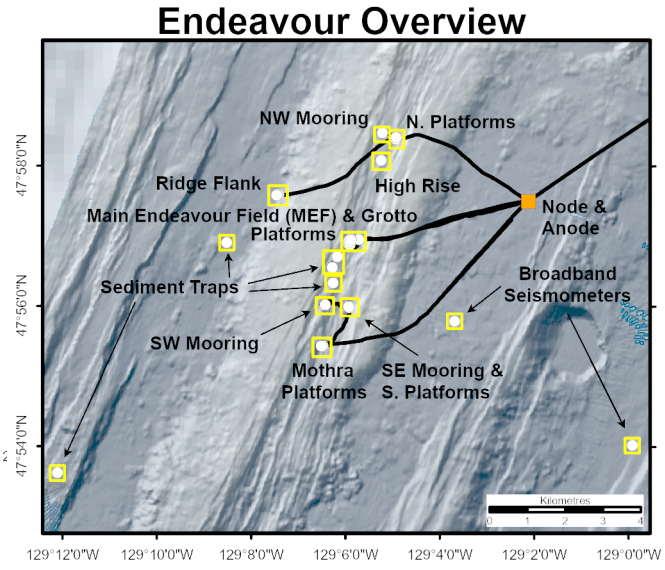
Information for Mariners – September 2025
NEPTUNE Observatory: Endeavour

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 web site: **www.oceannetworks.ca**

What: High voltage marine fibre-optic cables and observatory systems (see website for system details).
When: Latest system and instrument deployments at the Endeavour site: **September 2, 2025**

Where: Endeavour, Juan de Fuca Ridge, West Coast Vancouver Island. See Chart # 3000.
The infrastructure at Endeavour is located within the Canadian Department of Fisheries and Oceans' Marine Protected Area.
Remotely Operated Vehicle Operators should be made aware that there are **5 moorings** at this site that extend 28 m – 68 m into the water column and **4 moorings** that extend 250 m – 300 m into the water column. Please contact us for more information (contact information provided below).





These figures have been produced by the University of Victoria based on Canadian Hydrographic Service (CHS) charts, pursuant to CHS DULA CHS # 2022-1122-1260-U. The incorporation of data sourced from CHS in these products shall not be construed as constituting an endorsement by CHS of these products. These products do not meet the requirements of the Charts and Nautical Publications Regulations, 1995 under the Canada Shipping Act, 2001. Official charts and publications; corrected and up-to-date, must be used to meet the requirements of those regulations.

Installations:

Name	Latitude	Longitude	Depth (m)	Description
Autonomous Broadband Seismometer 05	47.67887	-128.87826	2650	1 m yellow cylindrical platform
Autonomous Broadband Seismometer 04	47.68038	-129.34952	2762	1 m yellow cylindrical platform
Autonomous Sediment Trap(OffAxis FarField)	47.89313	-129.20173	2297	Yellow mooring extending 28m above bottom
Autonomous Broadband Seismometer 03	47.90039	-128.99866	2559	1 m yellow cylindrical platform
Mothra Instrument Platform	47.92383	-129.10816	2271	Large (3 m) grey steel frame
Mothra Camera	47.92393	-129.10865	2276	2 m titanium tripod
Mothra Mudmat Cable (Instrument Platform End)	47.92399	-129.10805	2280	1.5 m yellow rectangular platform
Mothra Bottom Pressure Recorder	47.92401	-129.10818	2276	Bottom pressure recording instrument deployed on the seabed
Mothra Broadband Seismometer	47.92402	-129.10812	2276	0.5 m titanium canister
Autonomous Broadband Seismometer 01	47.92989	-129.06152	2321	1 m yellow cylindrical platform
Branching Unit	47.93261	-128.94840	2505	3 m cylindrical steel can
Bottom Pressure Recorder (Regional Circulation South)	47.93310	-129.09885	2228	1 m steel triangular frame
Instrument Platform (Regional Circulation South)	47.93323	-129.09886	2230	Large (3 m) grey steel frame
Mooring (Regional Circulation SE)	47.93328	-129.09895	1970	Fixed position mooring extending 250 m into the water column and topped with an orange buoy
Main Junction Box (Regional Circulation Mooring SE)	47.93328	-129.09895	2220	Fixed position mooring extending 250 m into the water column and topped with an orange buoy
Autonomous Mooring (Regional Circulation SW)	47.93482	-129.10741	2038	Fixed position mooring extending 250 m into the water column and topped with an orange buoy
Autonomous Sediment Trap 3 (South Axial Valley)	47.93900	-129.10448	2107	Yellow mooring extending 68m above bottom
Autonomous Sediment Trap 2 (South Axial Valley)	47.94270	-129.10495	2086	Yellow mooring extending 68m above bottom
Autonomous Sediment Trap 1 (South Axial Valley)	47.94520	-129.10298	2072	Yellow mooring extending 68m above bottom
Water Sampler (Main Endeavour Field South)	47.94804	-129.09851	2195	Seabed instrument at a hydrothermal vent
Instrument Platform (Main Endeavour Field South)	47.94805	-129.09892	2186	Large (3 m) grey steel frame
Benthic and Resistivity Sensors (Main Endeavour Field South)	47.94809	-129.09851	2195	1 m cylindrical can with 4 legs
Bottom Pressure Recorder (Main Endeavour Field South)	47.94817	-129.09883	2193	Bottom pressure recording instrument deployed on seabed.

Autonomous Sediment Trap (West Flank)	47.94850	-129.14212	2366	Yellow mooring extending 28m above bottom
Seismometer (Main Endeavour Field)	47.94857	-129.09866	2195	0.5 m titanium canister
Autonomous Sediment Trap (Main Endeavour Field)	47.94858	-129.09895	2188	Yellow mooring extending 8m above bottom
Bottom Pressure Recorder (Main Endeavour Field)	47.94858	-129.09868	2195	1 m steel triangular frame
Autonomous Sediment Trap (Main Endeavour Field)	47.94884	-129.09901	2196	Yellow mooring extending 8m above bottom
Instrument Platform (Main Endeavour Field)	47.94907	-129.09877	2196	Large (3 m) grey steel frame
ADCP (Main Endeavour Field)	47.94909	-129.09823	2195	1 m cubic aluminum, plastic, and fiberglass platform
Mudmat (Main Endeavour Field Cable Instrument Platform End)	47.94923	-129.09536	2211	1.5 m metal and plastic rectangular platform
Camera (Main Endeavour Field)	47.94923	-129.09855	2187	1 m white platform
Benthic and Resistivity Sensor	47.94924	-129.09835	2187	1 m cylindrical can with 4 legs
Water Sampler (Main Endeavour Field)	47.94928	-129.09831	2184	2m metal and plastic multi-tiered platform
Hydrophone Array (Main Endeavour Field North)	47.94932	-129.09821	2195	Large (3m) metal tripod
Mudmat (Mothra Platform)	47.95820	-129.03576	2323	1.5 m yellow rectangular platform
Mudmat (RCM-North)	47.95826	-129.03582	2321	1.5 m yellow rectangular platform
Broadband Seismometer (Eastern Flank)	47.95835	-129.03553	2321	1 m white cylinder
Bottom Pressure Recorder (Eastern Flank)	47.95835	-129.03559	2321	1.5 m yellow rectangular platform
Node	47.95837	-129.03544	2323	Large 7 m yellow trawl resistant frame, 13 tons
Node Interface Unit	47.95839	-129.03550	2321	This is the site of the Maris Interface Unit near the Maris Seismometer
Mudmat (Main Endeavour Field Cable Node End)	47.95842	-129.03588	2325	1.5 m metal and plastic rectangular platform
Node Junction Box	47.95845	-129.03542	2320	Large (3 m) grey steel frame
Broadband Seismometer (Ridge Flank)	47.95977	-129.12448	2361	1 m spherical grey titanium platform
Auxiliary Platform (Ridge Flank)	47.95989	-129.12436	2365	1.5 m steel and plastic frame
Mudmat (West Ridge Flank)	47.95989	-129.12386	2362	1.5 m yellow rectangular platform
Benthic and Resistivity Sensor	47.96811	-129.08754	2154	1 m cylindrical can with 4 legs
Mudmat (West Ridge Flank)	47.97312	-129.08237	2159	1.5 m yellow rectangular platform
Mudmat (Instrument Platform End)	47.97331	-129.08234	2151	1.5 m yellow rectangular platform
Instrument Platform (Regional Circulation North)	47.97337	-129.08188	2177	Large (3 m) grey steel frame

Bottom Pressure Recorder (Regional Circulation North)	47.97350	-129.08186	2152	1 m steel triangular frame
Main Junction Box (Regional Circulation Mooring NE)	47.97355	-129.08228	2153	Weighted bottom of fixed position mooring extending 270 m into the water column and topped with an orange buoy
Mooring (NE)	47.97355	-129.08228	1902	Fixed position mooring extending 270 m into the water column and topped with an orange buoy
Short Period Seismometer (Regional Circulation North)	47.97364	-129.08192	2158	1 m steel triangular frame
Main Junction Box (Regional Circulation Mooring NW)	47.97457	-129.08709	2147	Fixed position mooring extending 300 m into the water column and topped with an orange buoy
Mooring (NW)	47.97457	-129.08709	1897	Fixed position mooring extending 300 m into the water column and topped with an orange buoy
Autonomous Broadband Seismometer 02	47.99977	-129.11817	2329	1 m yellow cylindrical platform
Autonomous Broadband Seismometer 05	47.67887	-128.87826	2650	1 m yellow cylindrical platform
Autonomous Broadband Seismometer 04	47.68038	-129.34952	2762	1 m yellow cylindrical platform
Autonomous Sediment Trap(OffAxis FarField)	47.89313	-129.20173	2297	Yellow mooring extending 28m above bottom
Autonomous Broadband Seismometer 03	47.90039	-128.99866	2559	1 m yellow cylindrical platform
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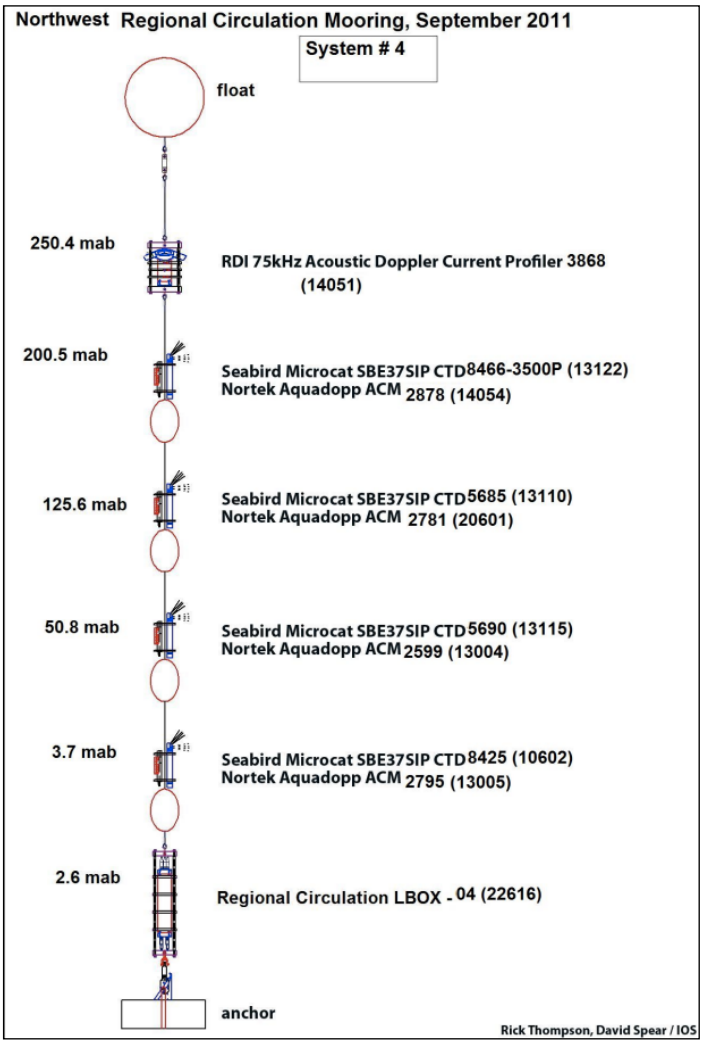

Figure 1: Regional Circulation Mooring (RCM) Diagram

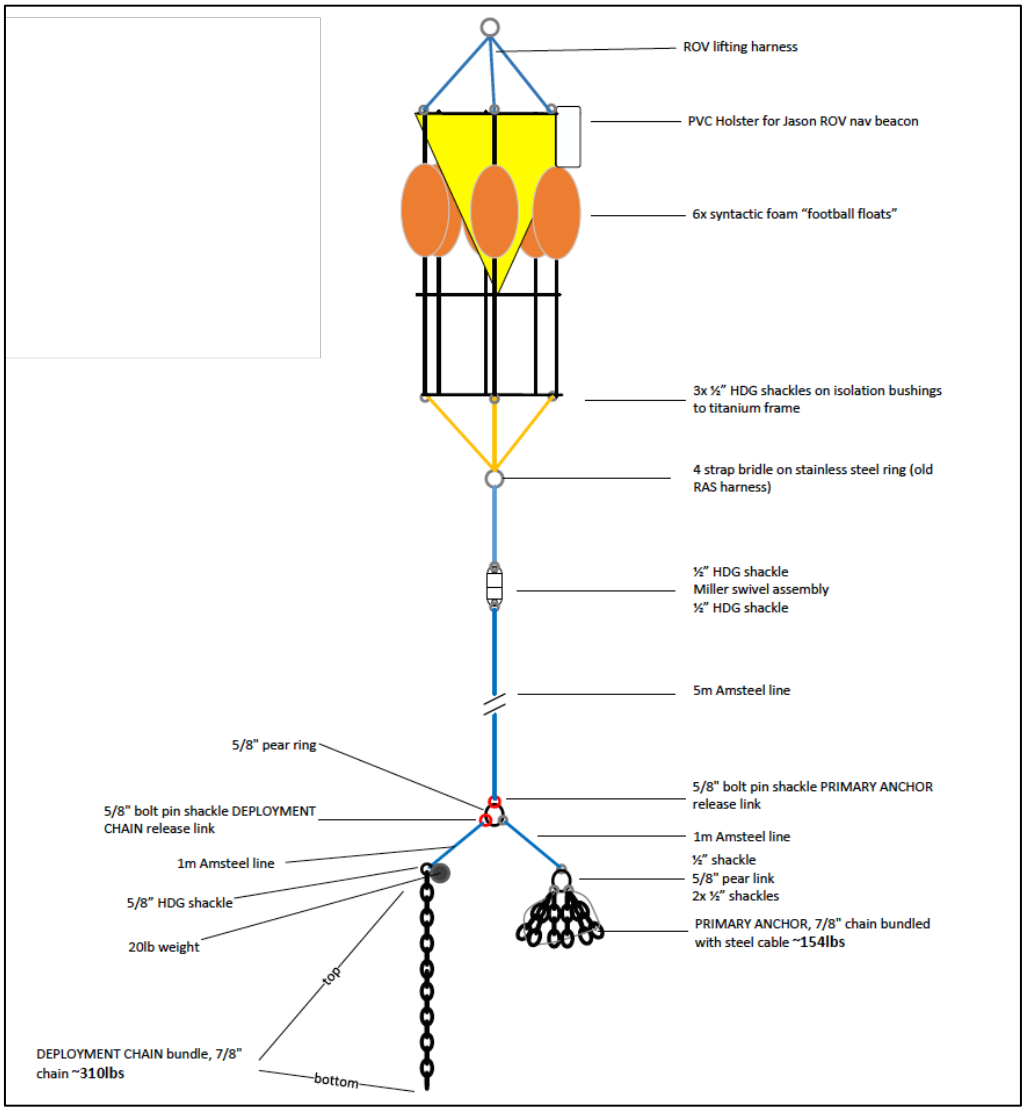

Figure 2: Sediment Trap Diagram

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.