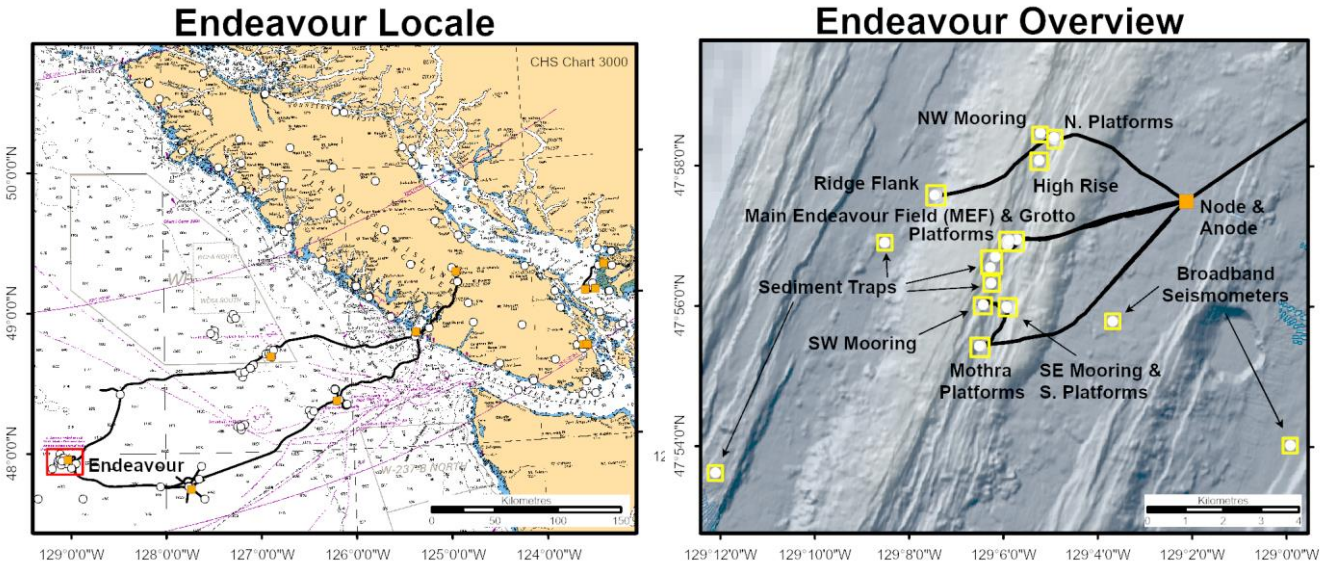
Information for Mariners – June 2025
NEPTUNE Observatory: Endeavour

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: **30 May 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
EN_AutonomousAquariusBBS01_2024-06	47.92989	-129.06152	2321	1 m yellow cylindrical platform
EN_AutonomousAquariusBBS02_2024-06	47.99977	-129.11817	2329	1 m yellow cylindrical platform
EN_AutonomousAquariusBBS03_2024-06	47.90039	-128.99866	2559	1 m yellow cylindrical platform
EN_AutonomousAquariusBBS04_2024-06	47.68038	-129.34952	2762	1 m yellow cylindrical platform
EN_AutonomousAquariusBBS05_2024-06	47.67887	-128.87826	2650	1 m yellow cylindrical platform
EN-BU_BranchingUnit_2007-08	47.93261	-128.94840	2505	3 m cylindrical steel can
EN-Mudmat_MEFCable_IPEnd_2021-08	47.94923	-129.09536	2211	1.5 m metal and plastic rectangular platform
EN-Mudmat_MEFCable_NodeEnd_2021-08	47.95842	-129.03588	2325	1.5 m metal and plastic rectangular platform
EN-Mudmat_MothraCable_IPEnd_2016-05	47.92399	-129.10805	2280	1.5 m yellow rectangular platform
EN-Mudmat_MothraCable_NodeEnd_201605	47.95820	-129.03576	2323	1.5 m yellow rectangular platform
EN-Mudmat_RCMNCable_IPEnd_2016-05	47.97331	-129.08234	2151	1.5 m yellow rectangular platform
EN-Mudmat_RCMNCable_NodeEnd_2016-05	47.95826	-129.03582	2321	1.5 m yellow rectangular platform
EN-Mudmat_WestRidgeFlankCable_BBSEnd_2016-05	47.95989	-129.12386	2362	1.5 m yellow rectangular platform
EN-Mudmat_WestRidgeFlankCable_RCMNIPEnd_2016-05	47.97312	-129.08237	2159	1.5 m yellow rectangular platform
EN-Node_BBS_ENEF_2022-07	47.95835	-129.03553	2321	1 m white cylinder
EN-Node_BPR_ENEF_2022-07	47.95835	-129.03559	2321	1.5 m yellow rectangular platform
EN-Node_InterfaceUnit_ENEF_2022-07	47.95839	-129.03550	2321	This is the site of the Maris Interface Unit near the Maris Seismometer
EN-Node_JB_2022-05	47.95845	-129.03542	2320	Large (3 m) grey steel frame
EN-Node_Node_2009-08	47.95837	-129.03544	2323	Large 7 m yellow trawl resistant frame, 13 tons
Grotto_BARS_2024-06	47.94924	-129.09835	2187	1 m cylindrical can with 4 legs
HighRiseGodzilla_BARS_2019-09	47.96811	-129.08754	2154	1 m cylindrical can with 4 legs
MEF_ADCP_2017-06	47.94909	-129.09823	2195	1 m cubic aluminum, plastic, and fiberglass platform

MEF_AutonomousSedimentTrap_2024-06	47.94884	-129.09901	2196	Yellow mooring extending 8m above bottom
MEF_IP_2020-06	47.94907	-129.09877	2196	Large (3 m) grey steel frame
MEF_North_HydrophoneArray_2023-09	47.94932	-129.09821	2195	Large (3m) metal tripod
MEF_RAS_PPS_2023-07	47.94928	-129.09831	2184	2m metal and plastic multi-tiered platform
MEF_South_BARS_2023-06	47.94809	-129.09851	2195	1 m cylindrical can with 4 legs
MEF_South_BPR_2023-09	47.94817	-129.09883	2193	Bottom pressure recording instrument deployed on seabed.
MEF_South_IP_2018-06	47.94805	-129.09892	2186	Large (3 m) grey steel frame
MEF_South_UMN_Sampler_2024-06	47.94804	-129.09851	2195	Seabed instrument at a hydrothermal vent field
MEF_SPS_KEMF_2010-09	47.94857	-129.09866	2195	0.5 m titanium canister
MEF_SPS-BPR_BPR-Site_KEMF_2014-05	47.94858	-129.09868	2195	1 m steel triangular frame
MEF_TempoMini_2024-06	47.94923	-129.09855	2187	1 m white platform
Mothra_BBS_KEMO_2023-06	47.92402	-129.10812	2276	0.5 m titanium canister
Mothra_BPR_KEMO_2022-08	47.92401	-129.10818	2276	Bottom pressure recording instrument deployed on the seabed
Mothra_Camera_2020-09	47.92393	-129.10865	2276	2 m titanium tripod
Mothra_IP_2020-06	47.92383	-129.10816	2271	Large (3 m) grey steel frame
OffAxis_FarField_AutonomousSedimentTrap_2025-05	47.89313	-129.20173	2297	Yellow mooring extending 28m above bottom
RC-N_BPR_2022-05	47.97350	-129.08186	2152	1 m steel triangular frame
RC-N_IP_2019-05-14	47.97337	-129.08188	2177	Large (3 m) grey steel frame
RC-N_SPS_NCHR_2016-06	47.97364	-129.08192	2158	1 m steel triangular frame
RC-S_BPR_2016-06	47.93310	-129.09885	2228	1 m steel triangular frame
RC-S_IP_2012-06	47.93323	-129.09886	2230	Large (3 m) grey steel frame
RCM-NE_005mab_2021-08	47.97355	-129.08228	2144	Fixed position mooring extending 270 m into the water column and topped with an orange buoy
RCM-NE_050mab_2021-08	47.97355	-129.08228	2099	Fixed position mooring extending 270 m into the water column and topped with an orange buoy
RCM-NE_125mab_2021-08	47.97355	-129.08228	2025	Fixed position mooring extending 270 m into the water column and topped with an orange buoy
RCM-NE_200mab_2021-08	47.97355	-129.08228	1953	Fixed position mooring extending 270 m into the water column and topped with an orange buoy
RCM-NE_250mab_2021-08	47.97355	-129.08228	1902	Fixed position mooring extending 270 m into the water column and topped with an orange buoy
RCM-NE_MJB_2021-08	47.97355	-129.08228	2153	Weighted bottom of fixed position mooring extending 270 m into the water column and topped with an orange buoy
RCM-NW_005mab_2024-06	47.97457	-129.08709	2142	Fixed position mooring extending 300 m into the water column and topped with an orange buoy
RCM-NW_050mab_2024-06	47.97457	-129.08709	2097	Fixed position mooring extending 300 m into the water column and topped with an orange buoy

RCM-NW_125mab_2024-06	47.97457	-129.08709	2022	Fixed position mooring extending 300 m into the water column and topped with an orange buoy
RCM-NW_200mab_2024-06	47.97457	-129.08709	1947	Fixed position mooring extending 300 m into the water column and topped with an orange buoy
RCM-NW_250mab_2024-06	47.97457	-129.08709	1897	Fixed position mooring extending 300 m into the water column and topped with an orange buoy
RCM-NW_MJB_2024-06	47.97457	-129.08709	2147	Fixed position mooring extending 300 m into the water column and topped with an orange buoy
RCM-SE_005mab_2023-07	47.93328	-129.09895	2212	Fixed position mooring extending 250 m into the water column and topped with an orange buoy
RCM-SE_050mab_2023-07	47.93328	-129.09895	2170	Fixed position mooring extending 250 m into the water column and topped with an orange buoy
RCM-SE_125mab_2023-07	47.93328	-129.09895	2066	Fixed position mooring extending 250 m into the water column and topped with an orange buoy
RCM-SE_200mab_2023-07	47.93328	-129.09895	2013	Fixed position mooring extending 250 m into the water column and topped with an orange buoy
RCM-SE_250mab_down_2023-07	47.93328	-129.09895	1969	Fixed position mooring extending 250 m into the water column and topped with an orange buoy
RCM-SE_250mab_up_2023-07	47.93328	-129.09895	1970	Fixed position mooring extending 250 m into the water column and topped with an orange buoy
RCM-SE_MJB_2023-07	47.93328	-129.09895	2220	Fixed position mooring extending 250 m into the water column and topped with an orange buoy
RCM-SW_005mab_Autonomous_2024-06	47.93377	-129.10732	2158	Fixed position mooring extending 250 m into the water column and topped with an orange buoy
RCM-SW_050mab_Autonomous_2024-06	47.93377	-129.10732	2113	Fixed position mooring extending 250 m into the water column and topped with an orange buoy
RCM-SW_125mab_Autonomous_2024-06	47.93377	-129.10732	2038	Fixed position mooring extending 250 m into the water column and topped with an orange buoy
RCM-SW_200mab_Autonomous_2024-06	47.93377	-129.10732	1963	Fixed position mooring extending 250 m into the water column and topped with an orange buoy
RidgeFlank_AuxiliaryPlatform_ENWF_2023-07	47.95989	-129.12436	2365	1.5 m steel and plastic frame
RidgeFlank_BBS_ENWF_2016-06	47.95977	-129.12448	2361	1 m spherical grey titanium platform
SouthAxialValley_1_AutonomousSedimentTrap_2025-05	47.94520	-129.10298	2072	White mooring extending 68m above bottom
SouthAxialValley_2_AutonomousSedimentTrap_2025-05	47.94270	-129.10495	2086	White mooring extending 68m above bottom
SouthAxialValley_3_AutonomousSedimentTrap_2025-05	47.93900	-129.10448	2107	White mooring extending 68m above bottom
WestFlank_AutonomousSedimentTrap_2025-05	47.94850	-129.14212	2366	Yellow mooring extending 28m above bottom

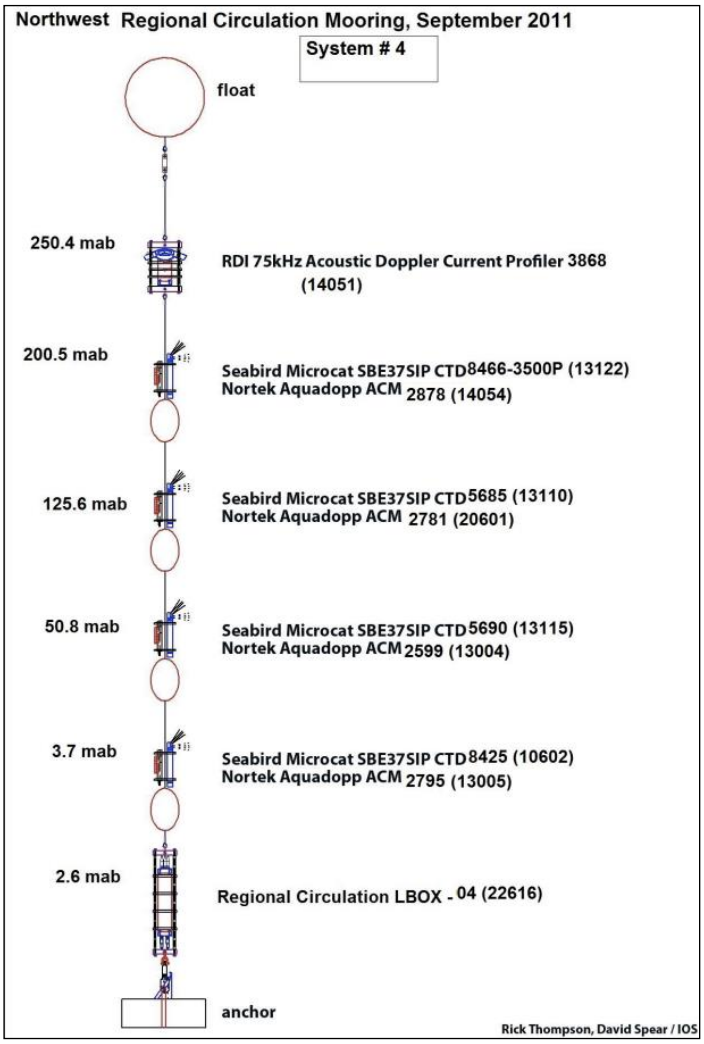


Figure 1: Regional Circulation Mooring Diagram (RCM)

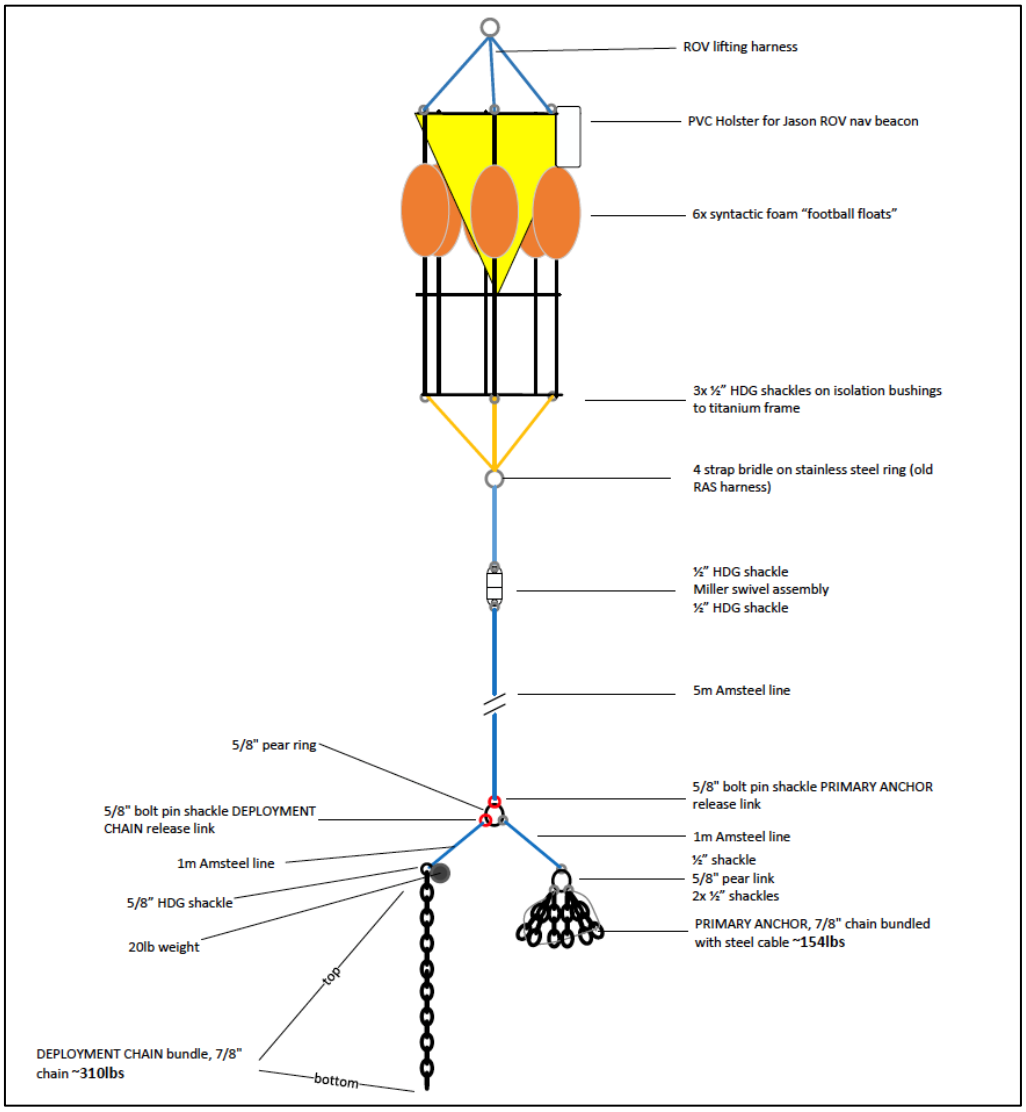


Figure 2: Sediment Trap Diagram

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.