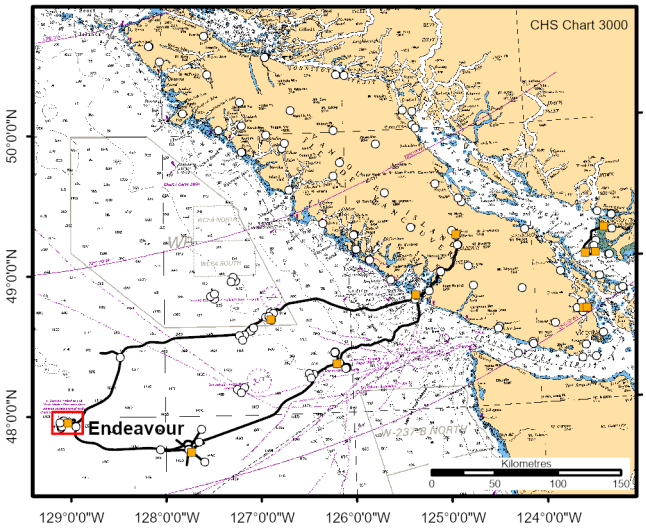
Information for Mariners – November 2023
NEPTUNE Observatory: Endeavour

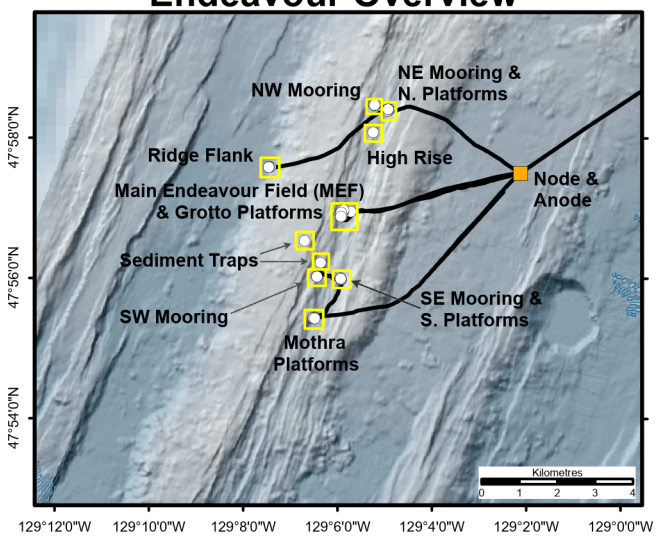
Project: The North-East Pacific Undersea Networked Experiments (NEPTUNE) is an oceanographic project managed by Ocean Networks Canada (ONC), an initiative of the University of Victoria. It consists of a cabled observatory off the west coast of Vancouver Island, beginning in Port Alberni and extending 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: **9 September 2023**
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 **4 moorings** at this site that extend 250 m – 270 m into the water column. Please contact us for more information (contact information provided below).

Endeavour Locale



Endeavour Overview



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-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_2023-07	47.94924	-129.09838	2186	1 m cylindrical can with 4 legs and separate cabled wand
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_2023-06	47.94870	-129.09913	2198	Yellow mooring extending 8m above bottom
MEF_Camera_2021-08	47.94928	-129.09829	2186	1 m triangular metal and plastic platform
MEF_North_HydrophoneArray_2023-09	47.94932	-129.09821	2195	Large (3 m) metal tripod
MEF_IP_2020-06	47.94907	-129.09877	2196	Large (3 m) grey steel frame
MEF_RAS_PPS_2023-07	47.94928	-129.09831	2184	2m metal and plastic multi-tiered platform
MEF_SeismometerChain1_2023-06	47.94956	-129.09869	2190	1 m green square frame with 1 m cylinder

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_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
Mothra_BARS_2023-06	47.92383	-129.10865	2272	1 m cylindrical can with 4 legs and separate cabled wand
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
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_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-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-NW_MJB_2021-08	47.97456	-129.08703	2141	Weighted bottom of fixed position mooring extending 270 m into the water column and topped with an orange buoy
RCM-NW_005mab_2021-08	47.97456	-129.08703	2134	Fixed position mooring extending 270 m into the water column and topped with an orange buoy
RCM-NW_050mab_2021-08	47.97456	-129.08703	2089	Fixed position mooring extending 270 m into the water column and topped with an orange buoy
RCM-NW_125mab_2021-08	47.97456	-129.08703	2015	Fixed position mooring extending 270 m into the water column and topped with an orange buoy
RCM-NW_200mab_2021-08	47.97456	-129.08703	1941	Fixed position mooring extending 270 m into the water column and topped with an orange buoy
RCM-NW_250mab_2021-08	47.97456	-129.08703	1891	Fixed position mooring extending 270 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-SE_005mab_2023-07	47.93328	-129.09895	2220	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	2091	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-SW_005mab_Autonomous_2023-06/07	47.93379	-129.10735	2163	Fixed position mooring extending 250 m into the water column and topped with an orange buoy
RCM-SW_050mab_Autonomous_2023-06/07	47.93379	-129.10735	2117	Fixed position mooring extending 250 m into the water column and topped with an orange buoy
RCM-SW_125mab_Autonomous_2023-06/07	47.93379	-129.10735	2041	Fixed position mooring extending 250 m into the water column and topped with an orange buoy
RCM-SW_200mab_Autonomous_2023-06/07	47.93379	-129.10735	1966	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
RidgeFlank_Autonomous_BBS_ENWF_2023-09	47.95983	-129.12431	2357	1.5 m steel and plastic triangular frame
WestRidgeCrest_North_AutonomousSedimentTrap_2023-06	47.94229	-129.11181	2085	Yellow mooring extending 28m above bottom
WestRidgeCrest_South_AutonomousSedimentTrap_2023-07	47.93709	-129.10604	2190	Yellow mooring extending 68m above bottom

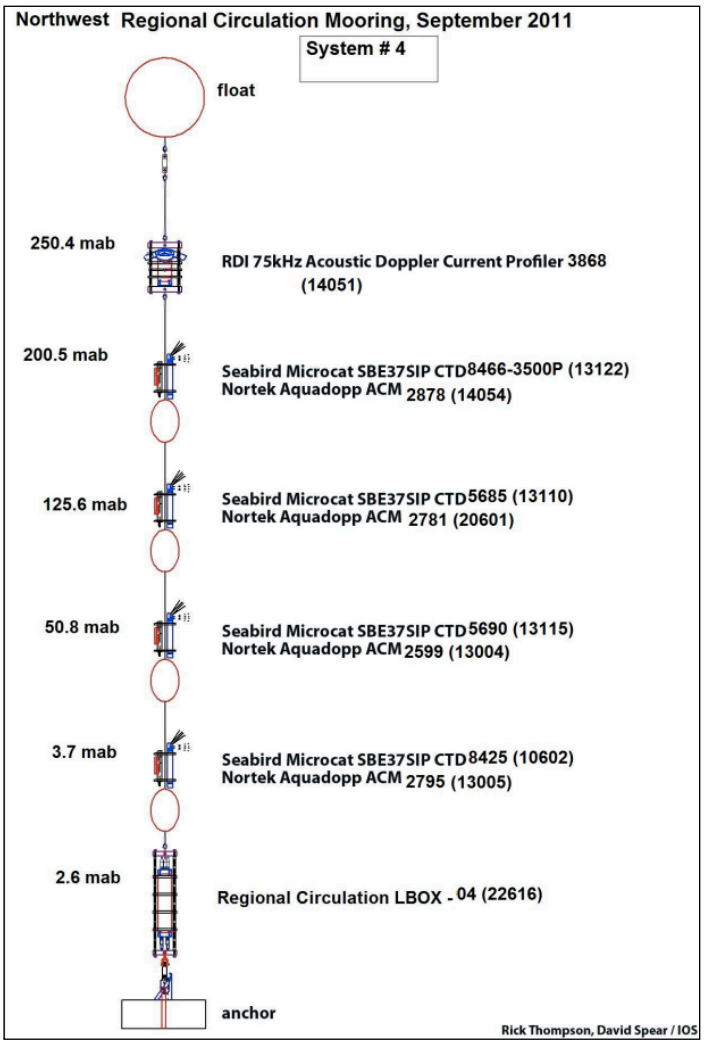


Figure 1: Regional Circulation Mooring Diagram (RCM)

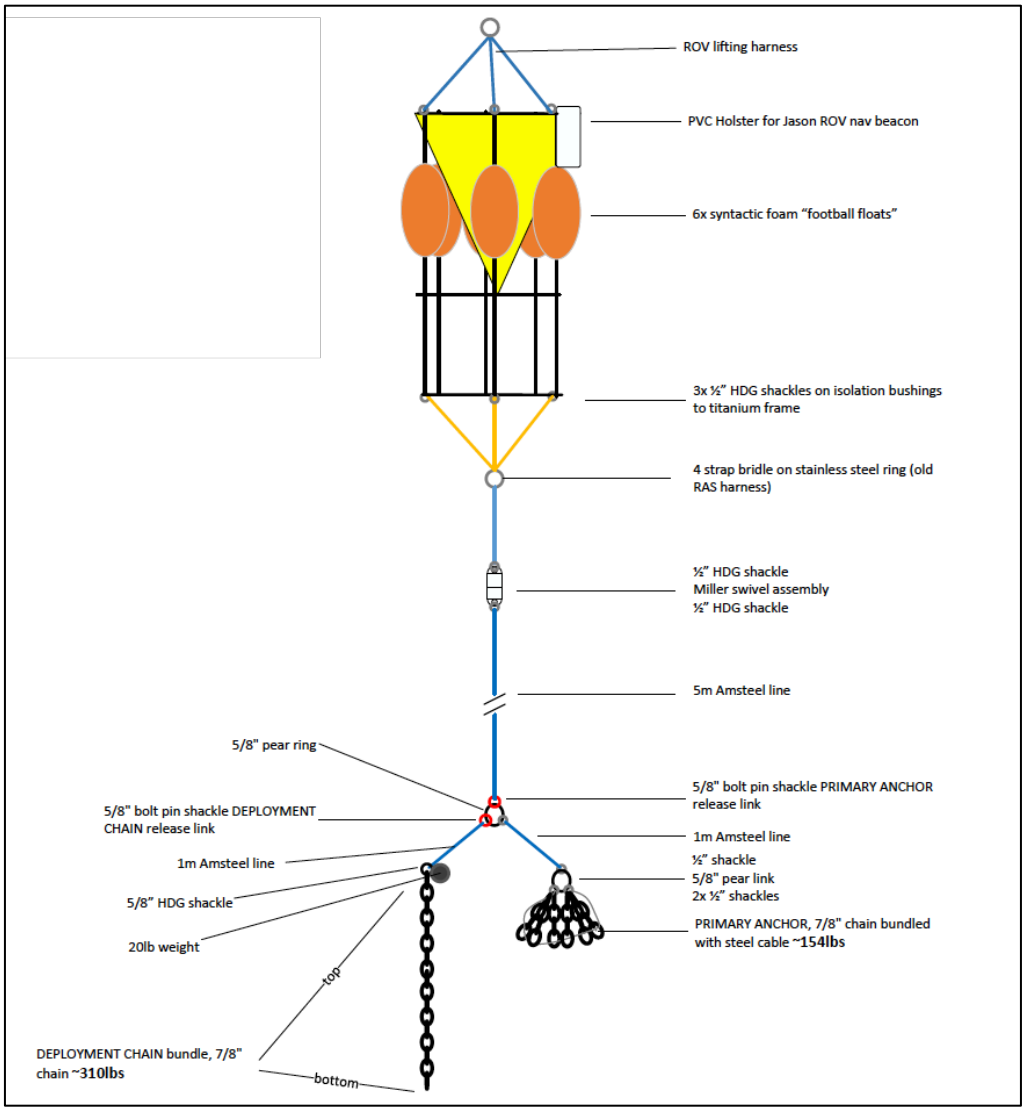


Figure 2: Sediment Trap Diagram

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: 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.