

Available Device Categories

The following is a dynamic list of all of the device categories are being pulled from the [deviceCategories](https://data.oceannetworks.ca/api/deviceCategories?method=get&token=[YOUR_TOKEN_HERE]) web service using the URL [https://data.oceannetworks.ca/api/deviceCategories?method=get&token=\[YOUR_TOKEN_HERE\]](https://data.oceannetworks.ca/api/deviceCategories?method=get&token=[YOUR_TOKEN_HERE])

The **deviceCategoryCode** values can be used as a filter on the [locations](#), [devices](#), [properties](#), [dataProducts](#) and [dataProductDelivery](#) services. Filters on the **deviceCategoryCode**, **deviceCategoryName**, **description** and **longDescription** columns can be used to reduce the results returned from the [deviceCategories](#) service.

deviceCategoryCode	deviceCategoryName	description	longDescription
ACCELEROMETER	Accelerometer	Accelerometer	Accelerometers are instruments that measure accelerations. Acceleration can be static such as gravity pulling objects toward the earth, or dynamic as caused by oscillatory movements of the instrument.
ACOUSTIC_RELEASE	Acoustic Release	Acoustic Release	An acoustic release is an oceanographic device used for the deployment and recovery of instrumentation from the sea floor, in which the recovery is triggered remotely by an acoustic command signal.
ACOUSTICRECEIVER	Acoustic Receiver	Acoustic Receiver	Acoustic receivers detect and decode transmissions from acoustic tags. Receivers are categorized as passive or active which define how the receivers are used.
ADAPTER	Adapter	Adapter	Instrument adapters connect a variety of sensors and instruments. Typically, these devices do not collect any data, and our digital infrastructure system does not communicate with them.
ADCP1200KHZ	Acoustic Doppler Current Profiler 1200 kHz	Acoustic Doppler Current Profiler 1200 kHz	Acoustic Doppler Current Profilers are hydroacoustic instruments, similar to sonars. ADCPs measure current speed and direction at multiple predetermined depths simultaneously. ADCPs use the Doppler effect of sound waves that are scattered by particles in seawater over a depth range.
ADCP150KHZ	Acoustic Doppler Current Profiler 150 kHz	Acoustic Doppler Current Profiler 150 kHz	Acoustic Doppler Current Profilers (ADCP) are hydroacoustic instruments, similar to sonars. ADCPs measure current speed and direction at multiple predetermined depths simultaneously. ADCPs use the Doppler effect of sound waves that are scattered by particles in seawater over a depth range.
ADCP1MHZ	Acoustic Doppler Current Profiler 1 MHz	Acoustic Doppler Current Profiler 1 MHz	Acoustic Doppler Current Profilers are hydroacoustic instruments, similar to sonars. ADCPs measure current speed and direction at multiple predetermined depths simultaneously. ADCPs use the Doppler effect of sound waves that are scattered by particles in seawater over a depth range.
ADCP2MHZ	Acoustic Doppler Current Profiler 2 MHz	Acoustic Doppler Current Profiler 2 MHz	Acoustic Doppler Current Profilers are hydroacoustic instruments, similar to sonars. ADCPs measure current speed and direction at multiple predetermined depths simultaneously. ADCPs use the Doppler effect of sound waves that are scattered by particles in seawater over a depth range.
ADCP300KHZ	Acoustic Doppler Current Profiler 300 kHz	Acoustic Doppler Current Profiler 300 kHz	Acoustic Doppler Current Profilers (ADCP) are hydroacoustic instruments, similar to sonars. ADCPs measure current speed and direction at multiple predetermined depths simultaneously. ADCPs use the Doppler effect of sound waves that are scattered by particles in seawater over a depth range.
ADCP400KHZ	Acoustic Doppler Current Profiler 400 kHz	Acoustic Doppler Current Profiler 400 kHz	Acoustic Doppler Current Profilers are hydroacoustic instruments, similar to sonars. ADCPs measure current speed and direction at multiple predetermined depths simultaneously. ADCPs use the Doppler effect of sound waves that are scattered by particles in seawater over a depth range.
ADCP55KHZ	Acoustic Doppler Current Profiler 55 kHz	Acoustic Doppler Current Profiler 55 kHz	Acoustic Doppler Current Profilers are hydroacoustic instruments, similar to sonars. ADCPs measure current speed and direction at multiple predetermined depths simultaneously. ADCPs use the Doppler effect of sound waves that are scattered by particles in seawater over a depth range.
ADCP600KHZ	Acoustic Doppler Current Profiler 600 kHz	Acoustic Doppler Current Profiler 600 kHz	Acoustic Doppler Current Profilers (ADCP) are hydroacoustic instruments, similar to sonars. ADCPs measure current speed and direction at multiple predetermined depths simultaneously. ADCPs use the Doppler effect of sound waves that are scattered by particles in seawater over a depth range.
ADCP75KHZ	Acoustic Doppler Current Profiler 75 kHz	Acoustic Doppler Current Profiler 75 kHz	Acoustic Doppler Current Profilers (ADCP) are hydroacoustic instruments, similar to sonars. ADCPs measure current speed and direction at multiple predetermined depths simultaneously. ADCPs use the Doppler effect of sound waves that are scattered by particles in seawater over a depth range.
AISRECEIVER	Automatic Identification Systems Receiver	Automatic Identification Systems Receiver	Land-based Automatic Identification System (AIS) receivers provide data that track marine vessels within range of the receiver. The data are used to monitor, understand and mitigate the impacts of marine shipping activities.
ALTIMETER	Altimeter	Altimeter	Altimeters, or altitude meters, measure the altitude of an object above a fixed level, i.e., the seafloor.
BARPRESS	Barometric Pressure Sensor	Barometric Pressure Sensor	Barometric pressure sensors are used to monitor weather fluctuations and conditions above the surface of the water.
BARS	Benthic and Resistivity Sensors	Benthic and Resistivity Sensors	Benthic and Resistivity Sensors (BARS) collect measurements from hydrothermal vents, using sensors to measure resistivity, temperature, eH (oxidizing nature of seawater components) and hydrogen.
BBES	Benthic Biogeochemical Experiment System	Benthic Biogeochemical Experiment System	Filtered seawater is pumped into the reaction system through the centrifugal pump. Reaction starts by adding tracers through the peristaltic pump & valves.
BBS	Broadband Seismometer	Broadband Seismometer	Broadband Seismometers measure seismic waves over a broad frequency range (0.00278 Hz - 100 Hz). Broadband Seismometers have a strong accelerometer to detect events with magnitudes that exceed the range of the highly sensitive seismometers.
BEACON	Beacon	Beacon	Beacons are installed to locate and track instruments, and are typically used during the recovery of subsea moorings. They can communicate via satellite, radio, or optically using Xenon light flashes.

BENTHICCRAWLER	Benthic Crawler	Benthic Crawler	Benthic crawlers are subsea vehicles that crawl on the seafloor and carry out detailed investigations of processes influencing gas hydrates evolution at the seafloor.
BHTL	Borehole Temperature Logger	Borehole Temperature Logger	Borehole Temperature Loggers are instruments that record and store temperature data from a string of sensors. The sensors are spaced along a cable that extends hundreds of metres into a borehole drilled in the seafloor. The temperature measurements at various sub-seafloor depths are used to study the hydrology of the seafloor.
BIOFOULING	Anti-Biofouling Device	Anti-Biofouling Device	Anti-bio-fouling devices mitigate growth of micro-organisms, such as plants and algae, that grow on submerged structures.
BOTTOMPROFILER	Sub-bottom Profiler	Sub-bottom Profiler	A sub-bottom profiler is an echosounder that penetrates beneath the seafloor. The backscatter data serves to obtain bathymetric data, and identify and characterize layers of seafloor and subseafloor sediment or rock. The frequency influences the range and spatial resolution.
BPR	Bottom Pressure Recorder	Bottom Pressure Recorder	Bottom Pressure Recorders (BPR) are instruments that can detect small changes in pressure on the seafloor.
CAMERA_3D	3D Camera	3D Camera	Underwater 3D cameras consist of numerous cameras positioned to construct 3 dimensional or composite images of the marine environment.
CAMLIGHTS	Camera Lights	Camera Lights	Camera lights are used to improve visibility where cameras are deployed. Light controls and schedules can be remotely-controlled from on-shore using software. The length of time that lights are on is limited in order to minimize impact on the environment.
CAMSYSTEM	Camera System	Camera System	Camera systems are comprised of cameras, plus ancillary devices like pan, tilt, lights, and lasers.
CDOM	Coloured Dissolved Organic Matter	Coloured Dissolved Organic Matter	Coloured Dissolved Organic Matter (CDOM), or Chromophoric, is a component of dissolved organic matter (DOM) that is measured optically. CDOM fluorometers measure the intensity and wavelength distribution of an emission spectrum after excitation by a particular spectrum of light. These parameters detect the amount of CDOM, because it absorbs short wavelengths ranging from blue to ultraviolet.
CHEMINI	Chemical Miniaturized Analyzer	In Situ Iron Concentration Measurement	The In-Situ CHEmical MINiaturized (CHEMINI) sensor is a mono-parameter in situ chemical analyzer based on flow injection analysis and colorimetric detection to perform the analysis of dissolved iron and total sulphide in the seawater.
CO2SENSOR	Carbon Dioxide Sensor	Carbon Dioxide Sensor	Carbon Dioxide sensors monitor CO2 levels in the ocean. CO2 sensors measure the partial pressure, or the concentration of dissolved CO2 in seawater by a variety of techniques.
CORK	Circulation Obviation Retrofit Kit	Circulation Obviation Retrofit Kit	Circulation Obviation Retrofit Kit (CORK) instruments seal the top of boreholes, to prevent circulation between the open hole and the ocean bottom water. CORKs monitor subseafloor hydrology by collecting in-situ pressure and temperature measurements from the formation deep below the seafloor.
COVIS	Cabled Observatory Vent Imaging Sonar	Cabled Observatory Vent Imaging Sonar	The Cabled Observatory Vent Imaging Sonar (COVIS) is a sonar system used to quantitatively image hydrothermal vents at the mid-ocean ridge.
CSEM	Controlled Source Electromagnetic Method	Controlled Source Electromagnetic Method	The Controlled Source Electromagnetic Method (CSEM) measures sub-surface resistivity structure through the measurement of the electromagnetic fields resulting from stimulation by a towed source.
CTD	Conductivity Temperature Depth	Conductivity Temperature (and Depth Sensor)	Conductivity Temperature Depth (CTD) is an instrument package that contains sensors for measuring the conductivity, temperature, and pressure of seawater. Salinity, sound velocity, depth and density are variables that can be derived from sensor measurements. CTDs can carry additional instruments and sensors such as oxygen sensors, turbidity sensors and fluorometers.
CURRENTMETER	Current Meter	Current Meter	Acoustic Current Meters (ACM) measure current speed and direction, using the Doppler Effect. Aquadopp current metres have a sensor head that contains 3 acoustic transducers, a tilt sensor, a temperature sensor and a pressure sensor. The instrument transmits a short pulse of sound, and then listens to its echo to measure the change in pitch or frequency. The change in pitch can determine the velocity of the current.
DATALOGGER	Datalogger	Datalogger	Data loggers, or recorder devices, are electronic devices that record data over time, or in relation to location, either with a built-in instrument or sensor or via external instruments and sensors, and are programmed with appropriate recording parameters.
DC90	Profiling Winch	Profiling Winch	Profiling Winches are used to raise and lower a profiling instrument packages. Some winches can be remotely operated on-shore.
DEPTH_TEMP	Temperature and Depth Logger	Temperature and Depth Logger	Temperature and Depth Loggers are instrument packages that contain sensors for measuring the temperature, and pressure of seawater. Depth is derived from sensor measurements.
DIVE_COMPUTER	Dive Computer	Dive Computer	Dive computers are devices used by scuba divers to measure the time and depth of a dive.
DLRAD	Campbell Scientific Datalogger	Data Logging System for Radiometers	Campbell Scientific Dataloggers are used for data acquisition and storage on the BC Ferries SeaKeeper system. The system supports several oceanographic sensors including temperature, conductivity, oxygen, chlorophyll and turbidity sensors. Typically, a meteorological station is also mounted on the ferry platforms.
DRIFTER	Drifter Buoy	Drifter Buoy	Drifter buoys float on the sea surface and are used to investigate ocean currents and other parameters like temperature and salinity.
DSC	Still Camera	Still Camera	Underwater still cameras are mainly used for high resolution imaging on Remotely Operated Vehicles (ROV) during maintenance expeditions.
ECHOSOUNDERBIOA	Echosounder, Bioacoustic	Echosounder, Bioacoustic	Echosounders are used to measure acoustic backscatter as a proxy for detecting zooplankton, fish, bubbles or other particles in the water-column. An echosounder has one or more transducers which emit acoustic pulses at a particular frequency. When the pulses strike animals or other objects in the water, echoes are produced, which can be detected and converted by the transducers back into electrical signals. Software is then used to determine distances, sizes, concentrations and movements of organisms and other objects in the water.
ECHOSOUNDERHYDMB	Echosounder, Hydrographic Multibeam	Echosounder, Hydrographic Multibeam	Multibeam bathymetric echosounders acoustically map the seafloor. Typically mounted below a ship or remote operated vehicle (ROV), they transmit a narrow fan of acoustic beams from a transducer. These beams are reflected by the seafloor and received by the instrument. The return signal angle and travel time are used to calculate the depth and position for points on the seafloor. Motion and heading sensors are used to compensate for the relative movement of the instrument.
ECHOSOUNDERHYDSB	Echosounder, Hydrographic Single Beam	Echosounder, Hydrographic Single Beam	Single beam hydrographic echosounders provide precise measurements of depth to the seafloor. Typically mounted below a ship or remote operated vehicle (ROV), they transmit pulses into the water. These pulses are reflected by the seafloor and received by the instrument. The return signal and travel time are used to calculate the depth and position of the seafloor.

FLNTU	Fluorometer Turbidity	Fluorometer Turbidity	Fluorometer Turbidity instruments measure chlorophyll fluorescence and turbidity within the same volume of seawater. The instrument uses a light emitting diode (LED) to provide an excitation source. The fluoresced light is received by a detector at a particular angle from the LED source, and uses an interference filter to discriminate against scattered excitation light. Turbidity is measured at the same time, by detecting scattered light from a LED, which is positioned at the same angle as the chlorophyll fluorescence.
FLUOROMETER	Fluorometer	Fluorometer	Fluorometers measure the amount of stimulated electromagnetic radiation (fluorescence) produced by pulses of electromagnetic radiation emitted into the water column.
GRAVIMETER	Gravimeter	Gravimeter	Gravimeters (or gravity meters) measure the gravity field of the Earth with such a resolution that they can detect very small changes in the underlying or surrounding structures.
GTD	Gas Tension Device	Gas Tension Device	Gas Tension Device (GTD) instruments measure gas tension, or total dissolved gas pressure. The total dissolved gas pressure in seawater is the sum of the partial pressures of all dissolved gases. The GTD operates by equilibrating a small volume of air trapped behind a semi-permeable membrane that is resistant to seawater. When the air sample is isolated from hydrostatic pressure, the measured pressure is solely from the gases in the seawater. This internal pressure is measured using a very stable pressure sensor.
HYDROPHONE	Hydrophone	Hydrophone	Hydrophones are devices containing transducers that convert underwater sound waves into electrical signals. They are acoustic instruments that can process data while they are being collected to produce calibrated waveform data. Hydrophones are typically used to study vocalizations of marine mammals, ship traffic and ambient noise.
ICE_BUOY	Ice Buoy	Ice Buoy	Ice Mass Balance Buoys measure various parameters including ice surface and bottom position, ice drift, meteorological data, and snow-ice-ocean temperature profiles.
ICEPROFILER	Ice Profiler	Ice Profiler	Ice Profiler instruments are upward looking single beam echosounders mounted on the ocean floor and are specialized to measure ice draft. They can estimate ice forces, determine the thickness of ice, and the detail of the underside of sea-ice.
IMGROTARYSONAR	Imaging Rotary Sonar	Imaging Rotary Sonar	Imaging Rotary Sonars (IRS) are devices used in underwater mapping: imaging and profiling. An IRS transmits either conical or fan-shaped beam, and its range and resolution depends on the frequency and configuration of the device. Reflected signals, or echoes, are recorded and analyzed in order to develop an image of scanned area that includes information on the range between the sonar and the scanned object.
INTERNAL_DEVICE_MONITOR	Internal Device Monitor	Internal Device Monitor	Internal device monitors record the internal conditions of a another device or sensor. They are used to ensure proper functioning of the host instrument.
JB	Junction Box	Junction Box	Junction Boxes supply power and communications to deployed instruments. Junction boxes have a number of serial and ethernet ports, including 400V ethernet ports that enable connections to other junction boxes and high-voltage instruments. Junction boxes can convert high voltages to lower voltages (15V, 24V or 48V) required by many instruments.
MBSOSENSOR	Microbial Sensor	Microbial Sensor	Microbial sensors detect microbial activity in the seafloor sediment indirectly by measuring reduction-oxidation reactions.
MBPROFILESONAR	Multibeam Non-rotating Sonar	Multibeam Non-rotating Sonar	Multibeam non-rotating sonars transmit a pulse at a certain frequency along a number of narrow beams. The sonar processor looks at the return signal for each pulse and decides where along that pulse return time lays the strongest return, giving a single point in space, such as water column depth.
MBROTARYSONAR	Multibeam Rotary Sonar	Multibeam Rotary Sonar	Multibeam Rotary Sonars (MRS) are devices used in underwater imaging. The use of wide beam and high speed, allows the display of an image from a wide field of view in a video-like fashion. Mounted on a platform, a multibeam transducer rotates at fixed increments and intervals to survey up to 360 degrees.
METHSENSOR	Methane Sensor	Methane Sensor	Methane sensors measure the concentration of dissolved methane in the seawater. Gas molecules diffuse through the membrane to the detector chamber driven by the partial pressure gradient that exists between the chamber and the ambient water. The concentration difference between two solutions is referred to as methane concentration.
METSTN	Meteorological Station	Meteorological Station	Meteorological stations are instruments that make routine meteorological measurements on the atmosphere and are comprised of a suite of sensors. Typical examples of measurements include temperature, barometric pressure, humidity, rainfall, solar radiation, wind speed and direction.
MVP	Moving Vessel Profiler	Moving Vessel Profiler	Moving Vessel Profilers (MVP) are instruments that collect data sets from deep and shallow water. The MVP system includes a winch, deployment system and a device called a free fall fish. The winch and deployment system allows the free fall fish to be released from a vessel while it is moving. Once deployed, the free fall fish is an autonomous device that carries a variety of sensors and collects data as it swims around the water column.
NAV	Navigation	Navigation	Navigational instruments are used to measure and record positional information of ships, buoys, and autonomous underwater vehicles (AUVs). Typical sensors include latitude, longitude, speed, heading, pitch, roll, and depth.
NITRATESENSOR	Nitrate sensor	Nitrate Sensor	Nitrate sensors measure the concentration of nitrate, a major nutrient for phytoplankton.
NODE	Node	Node	Nodes are underwater structures that interface between the backbone fibre-optic cable and extension cables to various platforms.
OCEANOGRAPHICRADAR	Oceanographic Radar System	Oceanographic Radar System	Oceanographic radars measure the ocean surface currents and waves in near real-time, by timing reflected radio waves, and contribute to an accurate prediction of severe weather conditions.
ORIENTATION	Orientation	Orientation	Orientation instruments are used on ships, ROVs and instrument packages to record variables like heading, pitch and roll.
OXYSOSENSOR	Oxygen Sensor	Oxygen Sensor	Oxygen sensors measure dissolved oxygen concentration in seawater.
PARTANALYZER	Particle Analyzer	Particle Analyzer	Particle Analyzers measure the size spectrum of particles suspended in it.
PHSENSOR	pH Sensor	pH Sensor	pH sensors measure the acidity, or alkalinity, of sea water by the concentration of hydrogen ions in the water column.
PIEZOMETER	Piezometer	Piezometer	Piezometers measure pore fluid pressures in shallow marine sediments.
PLANKTONCAMSYSTEM	Plankton Camera System	Plankton Camera System	Plankton Camera Systems are used to study particles and zooplankton simultaneously by quantifying them in a known volume of water.
PLANKTONSAMPLER	Plankton Sampler	Plankton Sampler	Plankton Samplers collect samples of plankton from the water column in a time series. Samples are analyzed upon the recovery of the instrument, to provide qualitative and quantitative information about plankton in the water column.
PLATFORM	Platform	Platform	A platform is a structure or vehicle which can host sensors or other platforms. A platform may be stationary or moving, and has an associated local coordinate frame that can be referenced to an external coordinate reference frame. The geospatial position and orientation of its sensors are often derived from the platform on which is mounted.

POCAM	Precision Optical Calibration Module	Precision Optical Calibration Module	Precision Optical Calibration Modules are used for the Strings for Absorption Length in Water (STRAW) project. POCAMs provide in-situ calibrated, isotropic, nanosecond light flashes in the range of 380 to 600 nm.
POWER_SUPPLY	Power Supply	Power Supply	Devices that provide power to associated devices.
PPPFLT	Precise Point Positioning - Float	Precise Point Positioning - Float	These precise point positioning processors are modules as part of an aggregate systems for the Earthquake Early Warning (EEW) installations. Within these processors, specially designed filters are applied to Global Navigation Satellite System and accelerometer input data. The processors output supports epicentre location and magnitude estimates for the larger earthquake detection system. This category corresponds to the floating point ambiguity resolution (AR) stream.
PPPINT	Precise Point Positioning - Integer	Precise Point Positioning - Integer	These precise point positioning processors are modules as part of an aggregate systems for the Earthquake Early Warning installations. These processors apply specially designed filters to Global Navigation Satellite System and accelerometer input data. Its output serves the larger earthquake detection system. This category corresponds to the integer ambiguity resolution (INT) stream.
PPORB	Precise Point Positioning - Orbits	Precise Point Positioning - Orbits	These precise point positioning processors are modules as part of an aggregate systems for the Earthquake Early Warning (EEW) installations. These processors apply specially designed filters to Global Navigation Satellite System and accelerometer input data. Its output serves the larger earthquake detection system. This category corresponds to the broadband orbits (ORB) stream.
PRES	Pressure Gauge	Pressure Gauge	Pressure gauges are used to measure seafloor pressure.
PROFILESONAR	Profiling Sonar	Profiling Sonar	Profiling sonars are devices used in underwater profiling where quantitative measurements are required. A profiling sonar transmits a very narrow, conical beam that generates one point per ping, providing very high resolution. Reflected signals, or echoes, are recorded and analyzed in order to develop an image of scanned area that includes information on the range between the sonar and the scanned object
PTL	Pan Tilt Lights	Pan Tilt Lights	Pan Tilt Lights are used for cameras and allow remotely controlled operations such as changing the camera's field of view and illuminating the subject matter.
PVCS	Pump and Valve Control System	Pump and Valve Control System	The Pump and Valve Control System (PVCS) is developed by Ocean Networks Canada. It monitors the operation of a pump and a set of valves while providing feedback using various sensors.
PYRANOMETER	Pyranometer	Pyranometer	Meteorological radiometers measure electromagnetic radiation in the atmosphere. Pyranometers measure broadband solar irradiance on a plane surface.
PYRGEOMETER	Pyrgeometer	Pyrgeometer	Meteorological radiometers measure electromagnetic radiation in the atmosphere. Pyrgeometers which measure infrared (IR) radiation.
RADIOMETER	Radiometer	Radiometer	Radiometers collect measurements of electromagnetic radiation in the ocean environment.
RAIN_GAUGE	Precipitation Gauge	Precipitation Gauge	Precipitation gauges measure the rate of fall or the integrated amount of precipitation including rain, sleet, snow, or hail.
ROV_CAMERA	Remotely Operated Vehicle Camera	Remotely Operated Vehicle Camera	Remotely Operated Vehicle (ROV) video cameras are used for many purposes. Operators can use ROV cameras for instrument operations, navigation, and maintenance procedures. They can also monitor organism's composition, abundance, behaviour and interactions as well as investigate the characteristics of seafloor geology.
SDOM	Digital Optical Module	Digital Optical Module	Digital Optical Modules are used for the Strings for Absorption Length in Water (STRAW) project. The SDOM will detect light flashes from the POCAMs. The optical water properties can be deduced based on the detected light intensity and timing.
SEDTRAP	Sediment Trap	Sediment Trap	Sediment traps use a conical-shaped trap to guide settling particles into a set of sample bottles. Separate bottle samples are collected as the instrument is rotated. Sediment traps can be remotely triggered by a user or on a set schedule. Sediment traps record operational conditions including the sample date, time, and temperature during each sampling event. Upon instrument recovery, the samples are analyzed in a lab for particle flux and composition over time.
SERVER	Server	Server	
SOUND_SPEED_SENSOR	Sound Speed Sensor	Sound Speed Sensor	The sound speed in water, such as at the ocean surface or surrounding a remote operated vehicle (ROV), is measured by sensors that use time of flight technology to provide low noise, high accuracy and high resolution data. Time of Flight (TOF) describes various methods and sensors that measure the time it takes for an object, particle or wave to travel a distance through a medium. Sound speed sensors are often installed on ships flow-through systems and on ROVs.
SPS	Short Period Seismometer	Short Period Seismometer	The Short Period Seismometers are compact, low-power, low-noise, ground velocity sensors with a typical bandwidth of 1 to 200 Hz, and are designed to monitor local seismicity.
SUSPENDED_SEDPROFILER	Suspended Sediment Profiler	Suspended Sediment Profiler	Suspended Sediment Profilers (SSPs) consist of multiple acoustic transducers tuned to different frequencies, and rely on a principle, that the same sediment particle will scatter differently with acoustic waves of different frequencies. SSPs are active devices, which means they transmit and receive reflected acoustic signals (i.e. echoes). SSPs are high frequency acoustic profilers, used in sediment transport studies, including measurement of suspended sediment profiles, precision altimetry, dredge plumes and turbulence.
TARRAY	Temperature Array	Temperature Array	Temperature arrays are instruments that have multiple temperature sensors that are connected, but spatially distributed in a region of interest, such as the flanks of hydrothermal vents or around gas hydrate mounds. Specific details like spacing and sensor specifications vary.
TEMPHUMID	Air Temperature and Humidity Sensor	Air Temperature and Humidity Sensor	Air temperature and humidity sensors are used to monitor weather conditions above the surface of the water. Air temperature affects wind speed and direction, relative humidity, the rate of evaporation and precipitation in the atmosphere. Air temperature is measured in numerous ways including thermistors, thermocouples and mercury thermometers. Humidity is the amount of water vapour in the air and can indicate precipitation, dew or fog. Humidity is typically measured as absolute humidity (the water content of air), relative humidity (measures the current absolute humidity relative to maximum for that temperature), or specific humidity (as a ratio of water vapour content to the total air content based on a mass).
TEMPOMINI	Tempo-Mini Controller	Tempo-Mini Controller	Tempo-Mini (an instrument package developed and designed by IFREMER) is controlled by two Barix Barionets. These are universal data collection and communication devices configured for this system.
TEMPSENSOR	Temperature Sensor	Temperature Sensor	Temperature sensors measure water or ground temperatures.
TILTMTR	Tiltmeter	Tiltmeter	A tiltmeter is a sensitive inclinometer designed to measure very small changes from the vertical level, either on the ground or in structures.

TRANSMISSOMETER	Transmissometer	Transmissometer	Transmissometers measure the transmission of light through seawater. Parallel rays of light in a spectral band are emitted from a source towards a light detector a set distance away. The fraction of light received is converted into a beam attenuation coefficient.
TSG	Thermosalinograph	Thermosalinograph	Thermosalinographs collect data from the sea surface via flow-through systems on vessels. Typically they are mounted near the front of the vessel in order to minimize contamination. Primary variables measured are temperature and conductivity, and other variables like salinity and density are derived.
TURBCHLFL	Turbidity, Chlorophyll and Fluorescence	Turbidity, Chlorophyll and Fluorescence	Turbidity, chlorophyll and fluorescence instruments detect light scattered by particles suspended in water, generating an output voltage proportional to turbidity or suspended solids. Scaling factors are used to convert the voltage readings to values representing chlorophyll concentration and turbidity.
TURBIDITYMETER	Turbidity Meter	Turbidity Meter	Turbidity meters are sensors that detect scattered light from suspended particles in water. The amount of scattered light that reaches the detector is proportional to the turbidity or particle concentration in the water.
UCRDS	Underwater Cavity Ring-down Spectroscopy	Underwater Cavity Ring-down Spectroscopy	Underwater Cavity Ring-Down Spectroscopy (UCRDS) is a highly sensitive optical spectroscopic technique that enables detection of trace gases in water by measuring the change of the monoexponential ring-down time attributable to the additional optical loss of an absorbing gaseous species present in the sample cavity.
UURS	Underwater Ultraviolet Raman Spectrometer	Underwater Ultraviolet Raman Spectrometer	The Underwater Ultraviolet Raman Spectrometer (UURS) is a sensor used to measure concentrations of dissolved chemicals directly from their ultraviolet absorption spectrum. A variety of chemicals absorb light in the UV, and each of these chemicals has a unique absorption spectrum. Concentration of these chemicals can be determined directly, with no chemical manipulation, by measuring the absorption spectrum of seawater in the UV and then deconvolving the spectra to yield the concentration of each component.
UWVOLTAMMETRICSYSTEM	Underwater Voltammetric System	Underwater Voltammetric System	Filtered seawater and reagents are pumped into the voltammetric system through a hydraulic relief system. The current produced from the reaction is measured for the calculation of the concentration of each ion.
VIDEOCAM	Video Camera	Video Camera	Video cameras record video of characteristics of the surrounding environments and can be deployed on fixed and mobile platforms.
VPBASE	Vertical Profiler System Base	Vertical Profiler System Base	A Vertical Profiler System (also known as an off-shore profiling system) is a mobile instrument platform that consists of a seafloor base unit and an instrument package that floats on a tethered cable. A winch on the base unit raises and lowers the instrument package. Cable spooled from the base is long enough for the instrument package to extend to the surface, collecting data throughout the water column.
VPINST	Vertical Profiler Instrument Package	Vertical Profiler Instrument Package	A Vertical Profiler Instrument Packages is a mobile instrument platform that consists of a seafloor base unit and an instrument package that floats on a tethered cable. Numerous instruments can be mounted to monitor oceanic variables, including: salinity, temperature, dissolved gases and nutrients, irradiance, currents, plankton and fish concentrations, and marine mammal movements.
WATERSAMPLER	Water sampler	Water Sampler	Water samplers are devices that collect physical samples of fluid. They can be remotely triggered, either manually or automatically, with a set schedule. Upon recovery, the fluid-filled containers can be processed to determine their chemical and biological constituents.
WAVE_BUOY	Wave Buoy	Wave Buoy	Wave buoys provide measurements of wave conditions. Measurements include wave height, period, direction, and spread.
WETLABS_WQM	Water Quality Monitor	Water Quality Monitor	Water Quality Monitors (WQM) have sensors to measure temperature, salinity, depth, dissolved oxygen, chlorophyll fluorescence, turbidity and backscattering data.
WINDMONITOR	Wind Monitoring System	Wind Monitoring System	Wind monitoring systems measure the speed and direction of wind.