OceanCube-100

Coastal Ocean Vision

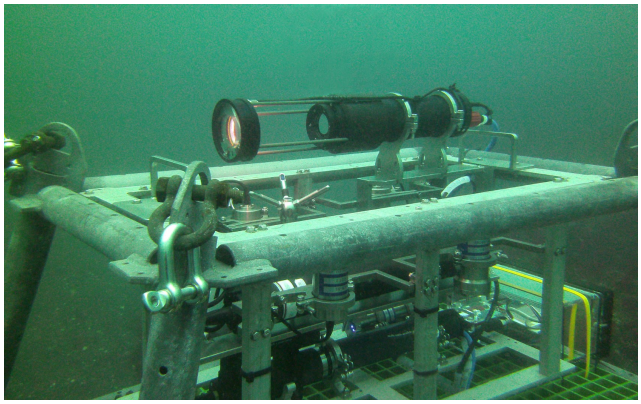
Coastal Observatory System

Overview:

An OceanCube® is a cabled coastal observatory system designed to collect continuous real-time data and underwater images for scientific research and long-term environmental monitoring. A central node supports a variety of biological, physical, and chemical sensors and is optionally connected to as many as four satellite nodes at the corners of a cubic volume that provide current and temperature information. To observe the behavior of fish, stereo camera modules with hydrophones can also be connected. A cable from a shore laboratory to the central node is used to supply power, remotely control individual instruments and to transfer data back to shore at high speed.

Applications:

The OceanCube Observatory will provide year-round biological and physical data to support both educational and research objectives related to understanding biodiversity, biophysical and geochemical processes, particularly ocean acidification and its impact on coral reef communities. OceanCube Observatories can be used in fresh water environments as well.



Central node configured with multiple instruments

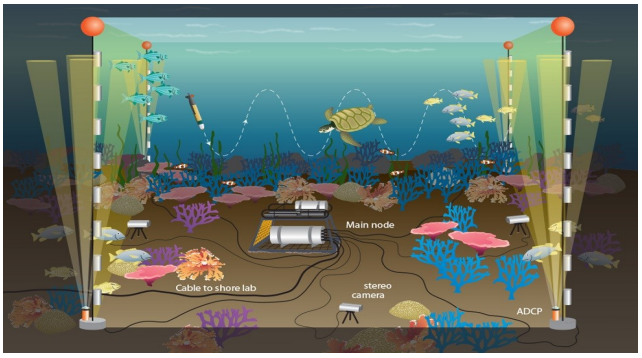
Configurations:

The scalable design of our OceanCube platform provides great versatility for custom instrument configurations that can grow with your scientific needs and budget. Via wet-mateable connectors, sensors can be rapidly added or removed by divers without the need for expensive surface support equipment.

For sensor configurations to meet your specific needs, please contact sales at: sales@CoastalOceanVision.com

Specifications:

Pressure Rating	
Center and corner nodes:	100m-1000m (depending on instruments)
Data communication — observatory to Instruments	
Ethernet (10/100/1000):	4 available ports
Serial:	20 available ports
Power/Communication	
Voltage:	120 V AC
Current:	6 A (max)
Communication to shore:	Gigabit Ethernet over fiber
Dimensions	
Center node:	1.9 m x 1.27 m x 1.27m (L, W, H)
Corner node:	0.4 m x 0.4 m x 0.4 m
Weight	
Center node:	Air: 170 kg Water: 50 kg
Corner node :	Air: 20 kg Water: 10 kg
Instrumentation Options	
Plankton imaging system:	CPICS-1000
Fish, large pelagic:	Pan & Tilt Camera, stereo camera, hemispherical camera
Irradiance & radiance:	PAR
Water current:	Acoustic Doppler Current Profiler
Conductivity, temp, press.	CTD, temperature string arrays
Chlorophyll:	Fluorometer
Turbulence:	Acoustic Doppler Velocimeter
Turbidity/scatter:	Eco Triplet
Dissolved Oxygen:	DO sensor
Nitrate:	Satlantic SUNA or equivalent
Dissolved organics:	CDOM
pH:	SeaFET
Fish, large pelagic:	Pan & Tilt Camera, stereo camera, hemispherical camera
Shore Station	
Core Features	Command & control, data acquisition & logging, remote access via web browser



Product specifications subject to change without notice.

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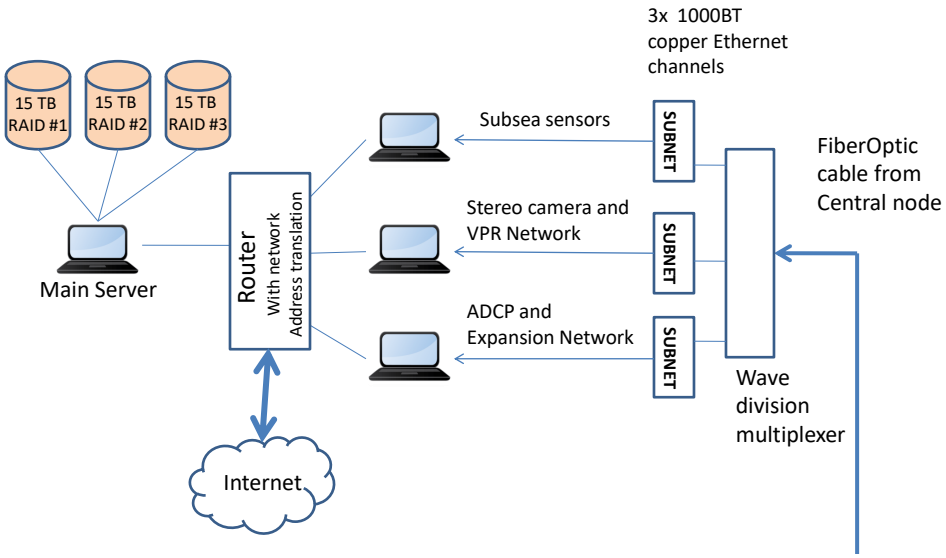
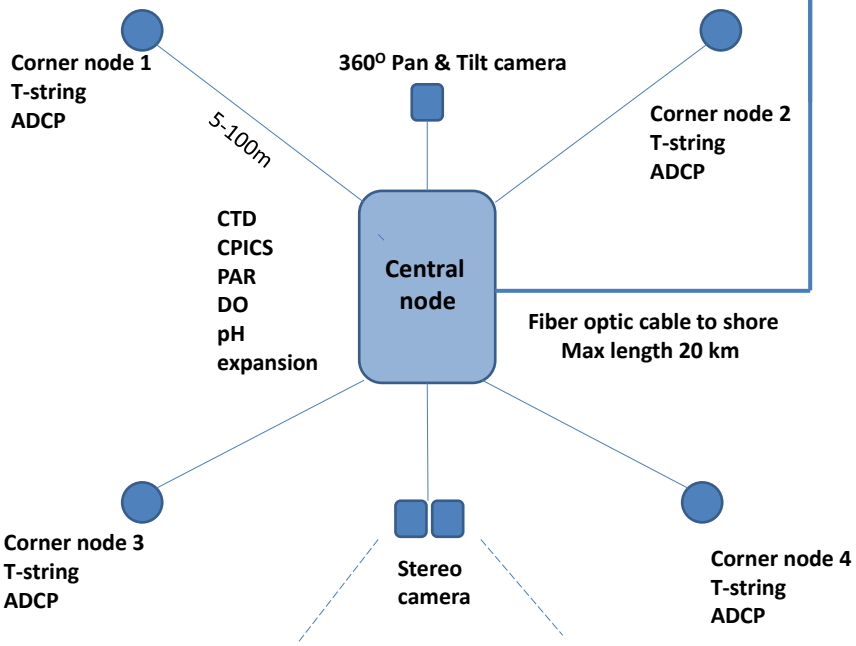
Shore base station

*data acquisition, preliminary processing, data display, data archival, internet connectivity. Note, standard storage size is 15 TB, expandable to 45 TB (3 x 15 TB).





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