



Campbell River - Kwakwaka'wakw / Coast Salish Territory Community Observatory - Information for community members

At a Glance

Ocean Networks Canada has installed ocean monitoring equipment in the Campbell River region – Kwakwaka'wakw / Coast Salish Territory. All data collected will be made freely available over the Internet. Community input is welcome at all stages of the project, and opportunities for collaborative education and science programs will be fostered. Further information is provided in the remainder of this document.

Background

Ocean Networks Canada (ONC), an initiative of the University of Victoria, develops, operates, and maintains cabled ocean observatory systems. The world-leading NEPTUNE and VENUS cabled observatories supply continuous power and Internet connectivity to a broad suite of subsea instruments from the coast to the deep sea, supporting research on complex ocean and earth processes.

Building on the successful technology and data delivery of the NEPTUNE and VENUS observatories, ONC is installing additional community observatories along the coast of British Columbia. Coastal communities are facing a wide range of rapid environmental changes. Real-time data from cabled observatories can be used by community members when making informed decisions about their coast and marine resources.

ONC has designed and installed scientific instrumentation after discussions and with community members and decision-makers of Campbell River, including the City of Campbell River, the Canadian Coast Guard, and the surrounding Kwakwaka'wakw and Coast Salish Nations. ONC will also be responsible for the maintenance of this equipment for the duration of this project.

The installed equipment will complement existing community research efforts by enhancing access to local, relevant environmental data which supports applications in several areas:

- **Marine safety:** by monitoring and providing information to support assessments of sea state, ship tracking, and incident response.
- **Public safety:** through natural hazard alerts for earthquake ground-shaking, underwater landslides and near-field tsunamis.
- **Environmental monitoring:** by building a baseline of environmental parameters and being able to continuously monitor changing conditions.
- **Science-based decision-making:** by enabling the use of observatory data to support decision-making.
- **Education and outreach:** by providing students, teachers and community members access to locally relevant data and support in analyzing and utilizing the data.

Project Locations

Sites are being proposed for long-term deployment of observatories in five regional areas:

1. Prince Rupert – Ts'msyen Territory
2. Kitamaat Village – Haisla Territory
3. Douglas Channel – Ts'msyen Territory
4. Campbell River/Discovery Passage – Kwakwaka'wakw / Coast Salish Territory
5. West Coast Vancouver Island – Nuuchahnulth Territory



Figure 1: Existing and planned observatory locations.

Indigenous Community Engagement

A community engagement and education plan is being developed through a collaborative process involving the creation of working groups, face-to-face meetings, and workshops held in each of the regional areas. Community involvement is critical at all stages of the project, including planning deployment locations, development of educational programs, and long-term planning. It is essential that the data being collected by ONC instruments is relevant to community members and can contribute to priorities identified within the community.

Educational Opportunities

- **Local Observations. Global Connections:** Ocean Sense is an educational program based on students analyzing, understanding and sharing ocean data collected by their local community observatory.
- Educators and students will be invited to participate in the Ocean Sense program which links their community to other coastal communities through a web portal, video conferencing, face to face events, and social media tools.
- Other formal and informal educational materials and programs can be developed depending on community interests and needs.

Indigenous Knowledge

ONC would like to incorporate relevant Indigenous knowledge into the Ocean Sense Program through a collaborative process with the guidance and oversight of Indigenous community educators from the five regional areas. With the advice from community knowledge holders, Indigenous knowledge and language will be included into materials for educators and students, and where appropriate, shared with other communities in online materials and resources.

Instrumentation for Campbell River – Kwakwaka'wakw / Coast Salish Territory

Discovery Passage has seen progressive growth of marine traffic and use over the years and the number and size of vessels may increase if the Elk Falls terminal is redeveloped. It is important to have a baseline of the local marine environment before additional development begins. The publicly available scientific data from ONC observatories will contribute to the assessment of any long term, cumulative, or accident-related impacts.

The community observatory located within Kwakwaka'wakw / Coast Salish Territory is situated at the Campbell River Discovery Fishing Pier. This observatory is equipped with a shore station that has a weather station and shore camera. The shore station is cabled to subsurface instruments that track and record local water quality, the underwater sound of whales and vessels, and livestream video from an underwater camera. An Automatic Identification System (AIS) antenna is also installed at this location to track large vessels in the region.

In addition, the lighthouse at Cape Mudge has been installed with a WaMoS RADAR system capable of measuring surface currents, wave heights and wave direction.

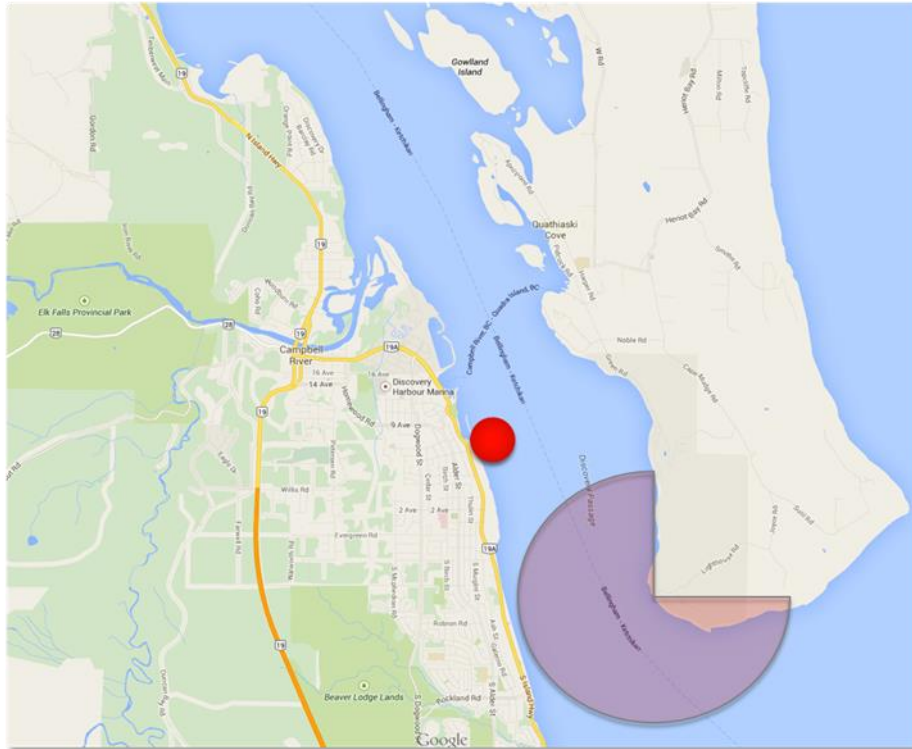


Figure 2. Locations of the ONC underwater observatory and shore station (red circle), and the approximate RADAR area coverage from the Cape Mudge lighthouse (transparent purple). [Basemap: Google Maps]

The projected duration of the operation and maintenance of the systems are 20 years or more. Once the instruments are operational, real-time and archived data will be made freely available over the Internet for the lifetime of the equipment. These data can provide independent and unbiased observations of any changes to the Campbell River marine ecosystem, while offering the community members a new window into their local marine resources.

Contacts

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