CODAR in the Strait of Juan de Fuca

“CODAR” (Coastal Radar) is a technology that permits the remote measurement of surface currents in the ocean. Such measurements are interesting from a purely scientific point of view, but they can also have practical applications, such as navigation, search and rescue or oil-spill tracking.

Ocean Networks Canada currently operates four CODAR stations in the Strait of Georgia and two more in Prince Rupert. ONC now hopes to extend its coverage to the Strait of Juan de Fuca by adding stations at Race Rocks and Jordan River.

CODAR installations have a very small footprint, with very little impact on the site, as can be seen from these photographs of the CODAR station at the Georgina Point lighthouse on Mayne Island:

Illustration 1: The CODAR antenna at the Georgina Point lighthouse, on Mayne Island.

Illustration 2: The CODAR electronics at Georgina Point. The entire system uses less than 500 Watts of power.

Illustration 3: Three small ancillary antennas are required for communications and time-synchronization.

The four CODARs in the Strait of Georgia generate a new current map every hour. An example is shown below:

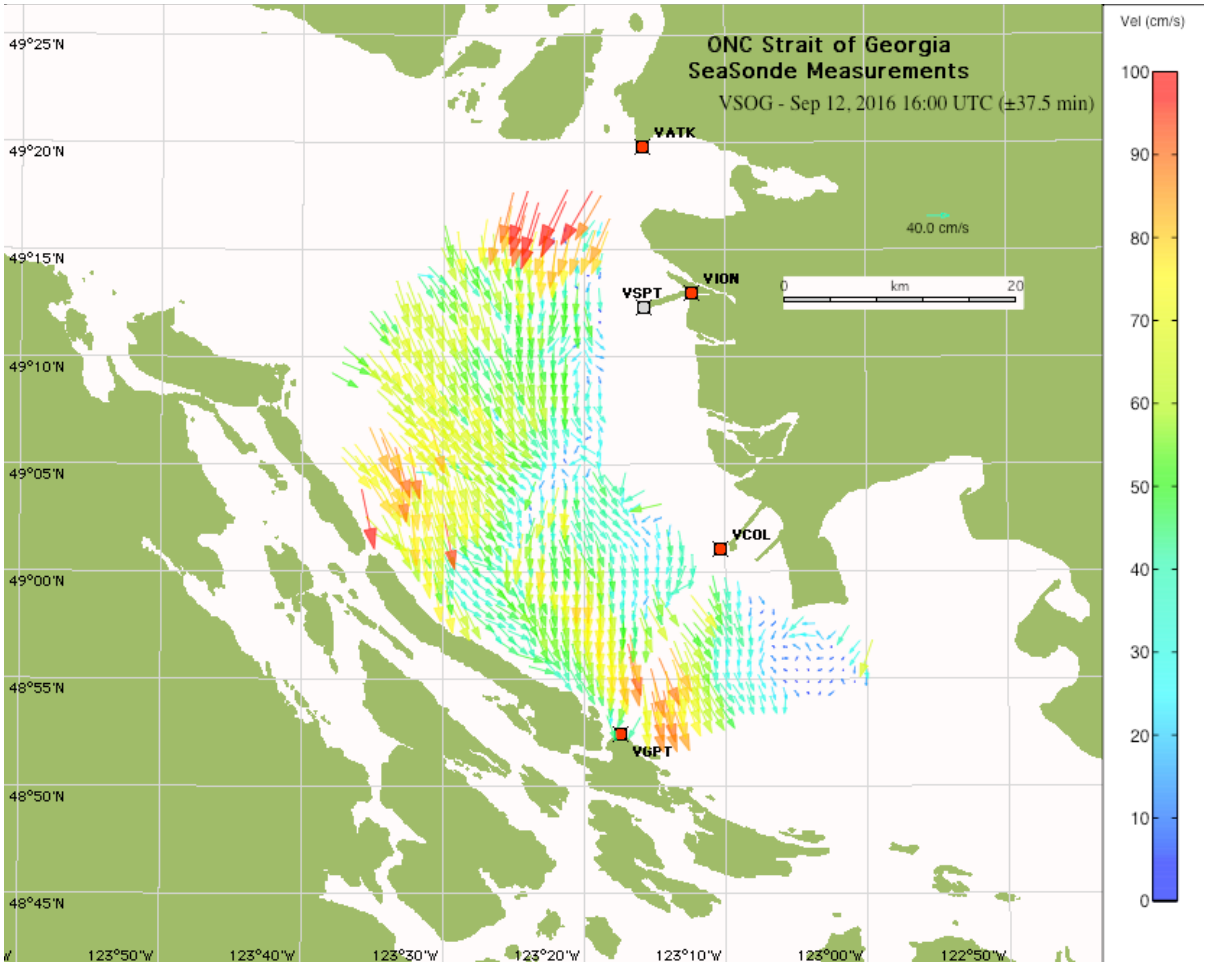

Illustration 4: Current map generated by CODARs in the Strait of Georgia. Maps like this are generated hourly and are made available to the public for free.

The proposed new CODAR stations in the Strait of Juan de Fuca would also generate current maps once per hour, and as in the case of the Strait of Georgia, these maps would be available for free over the Internet.

An illustration of the expected coverage of the proposed stations at Race Rocks and Jordan River is shown below.

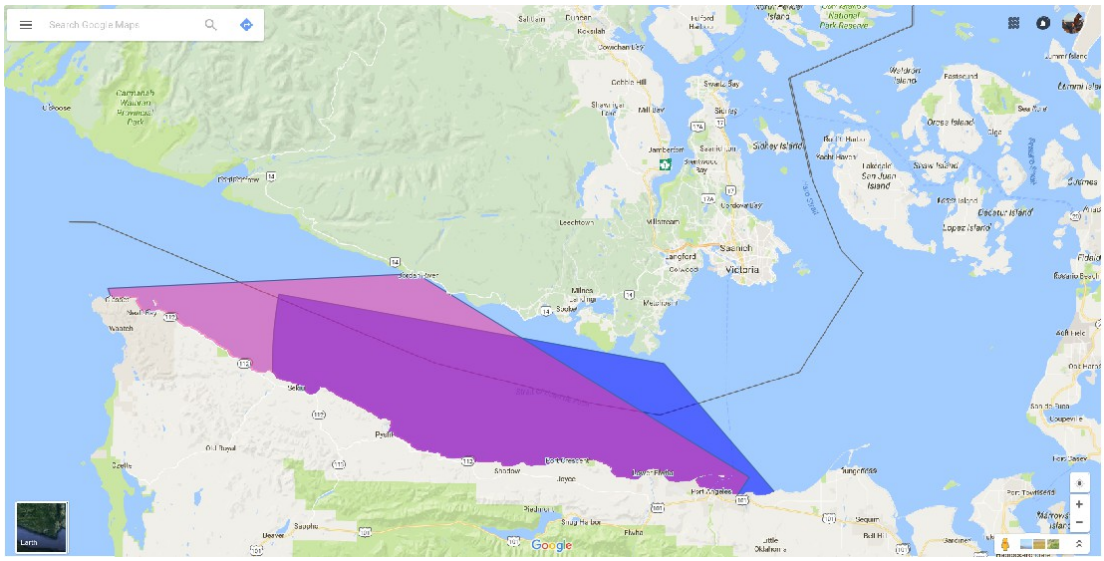

Illustration 5: Expected coverage of CODAR stations installed at Race Rocks and Jordan River. The darker purple area indicates the overlap between the two stations, where "Total" current vectors (i.e., resolved into East-West/North-South currents) can be calculated.