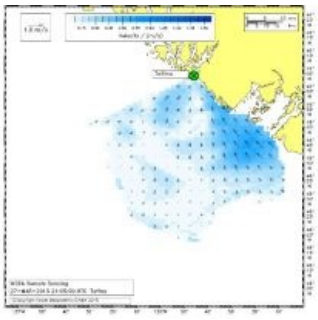
Installation of Ocean Networks Canadaâ€™s Near-Field Tsunami Detection



Ocean Networks Canadaâ€"an initiative of the University of Victoriaâ€"together with ASL Environmental Sciences (Canada), Northern Radar (Canada) and Helzel Messtechnik (Germany), have completed the installation of a WERA NorthernRadar system that will detect near-field tsunamis. It is anticipated that the radar will be able to detect the surface expressions of tsunamis up to 100km from shore, which will provide twenty to thirty minutes of advance warning.

The WERA system was installed at the Tofino Airport so that tsunamis generated off the west coast of Vancouver Island can be measured. The radar and alerts it generates are part of the Ocean Networks Canada Smart Ocean Systems that is strengthening Canada's technological position providing ocean knowledge for sound decision making. Ocean Networks Canada is funded by the Government of Canada and includes a partnership with IBM Canada.

Similar to the disastrous March 2011 Tohoku-Oki earthquake, the west coast of British Columbia has the potential for very large earthquakes to occur along the boundaries of the Juan de Fuca tectonic plate.

The figure below shows the transmit array; the Pacific Ocean is situated behind the trees. The lower figure shows one of twelve 2 m-tall receive antennas.

Figure 1 (above): Installation of the transmit array.

The figure below shows the first ocean current radial velocity data out to 85km from shore as of 27 March 2015.

Figure 2: Radial velocity data obtained on 27 March 2015.