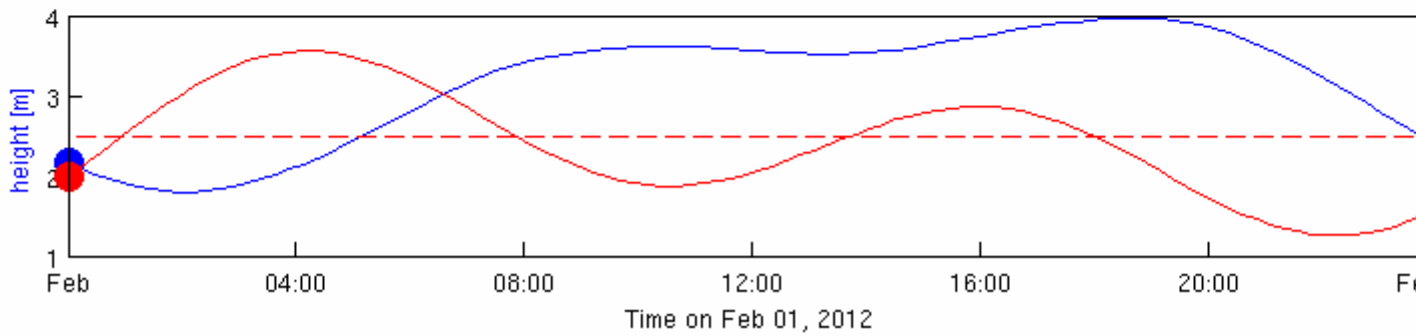
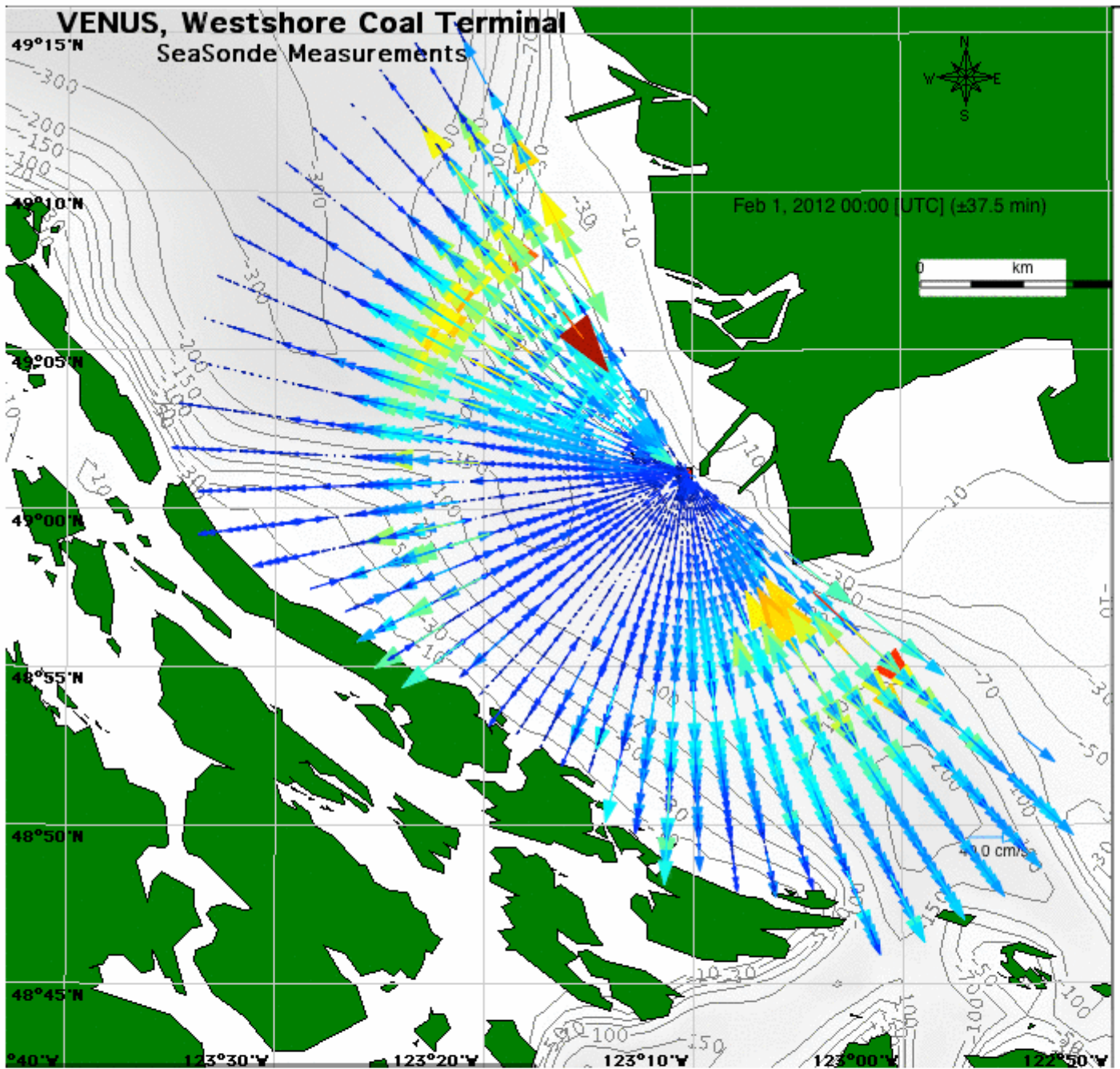


Animated Radial Current Vectors ^[1]

Submitted by Rory Lattimer Mon, 2012-02-13 00:00

The CODAR station at the Westshore Terminal in Tsawwassen measures surface ocean currents using radio signals reflected off waves in the Strait of Georgia.

A second station, near Vancouver Airport, will be installed in the next month or so, after which it will be possible to resolve north-south and east-west components of the currents. In the meantime, with only a single station operating, it is possible to measure only radial current velocities?that is to say, only the components of ocean currents that are directly towards or directly away from the receiving antenna can be detected.



[2]

Interpreting the physical meaning of plots of radial velocities is challenging. An extremely small current-velocity arrow pointing due west, for example, may be evidence of an extremely weak westward current, but it could also correspond to an extremely strong northward current

with a very small westward component.

Nevertheless, this animated sequence of radial current vectors from February 1, 2012 gives some tantalizing hints of the current patterns that will be fully resolvable once the second station is up and running.

A plot of estimated tidal heights and current speeds lies below the mapped currents.

Current speeds are shown in red, with positive values denoting incoming tide (flowing south to north) and negative values denoting an outgoing tide.

Tide heights are shown in blue.

At the time of peak incoming tidal flow, at 04:00 UTC, one would expect to see currents moving northwest, along the Strait. Looking at those CODAR arrows that lie parallel to the strait's direction, this is in fact what is seen at 04:00. Similarly, at 22:00, at peak outgoing tidal flow, the CODAR arrows (again, those that are parallel to the strait's direction) indicate a flow to the southwest, as one would expect.

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