



SWOT Validation Activities in Hecate Strait off West Canada

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Supported by SWOT-C, Canadian Space Agency



Objectives

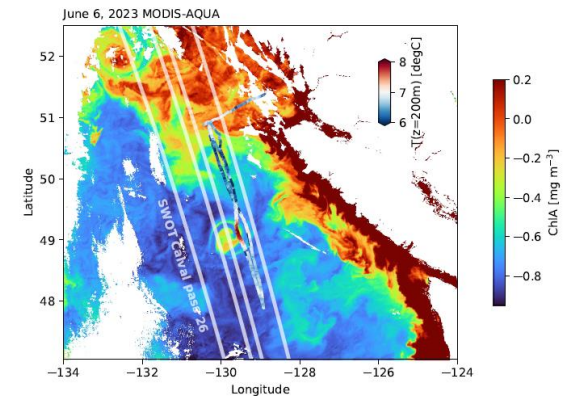
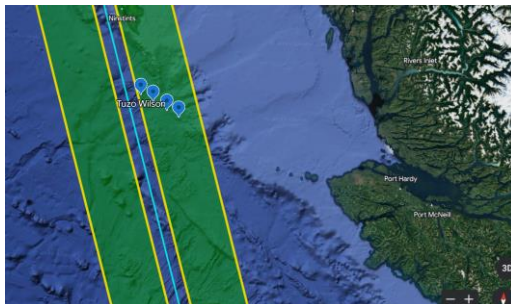
- Validate SWOT data.
- Investigate genesis of Haida Eddies.
- Study flow exchange through Dixon Entrance.
- Study coastal currents around Haida Gwaii.



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Data collected

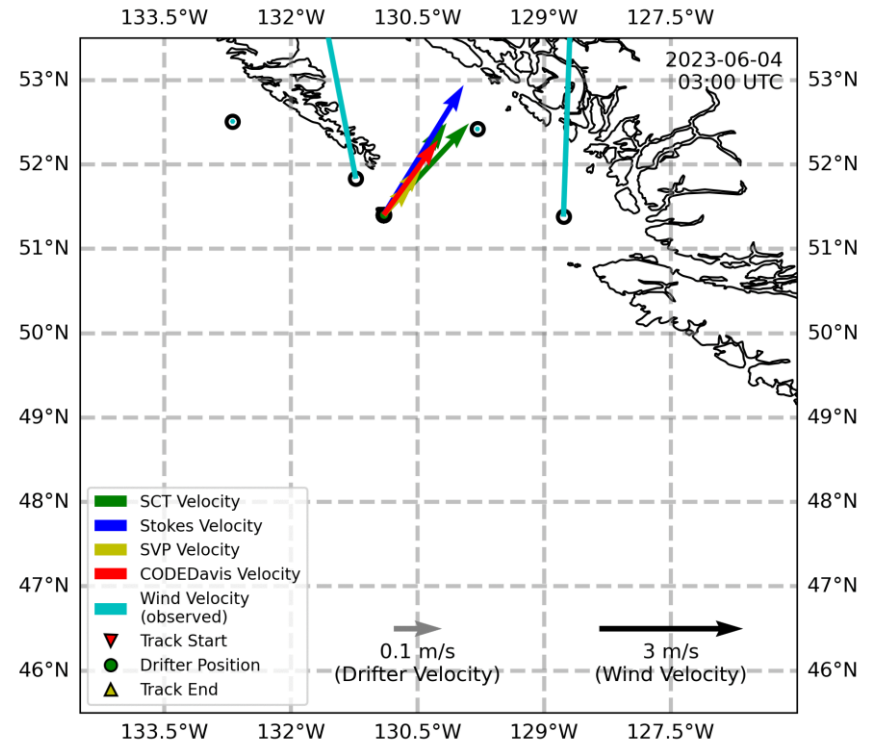
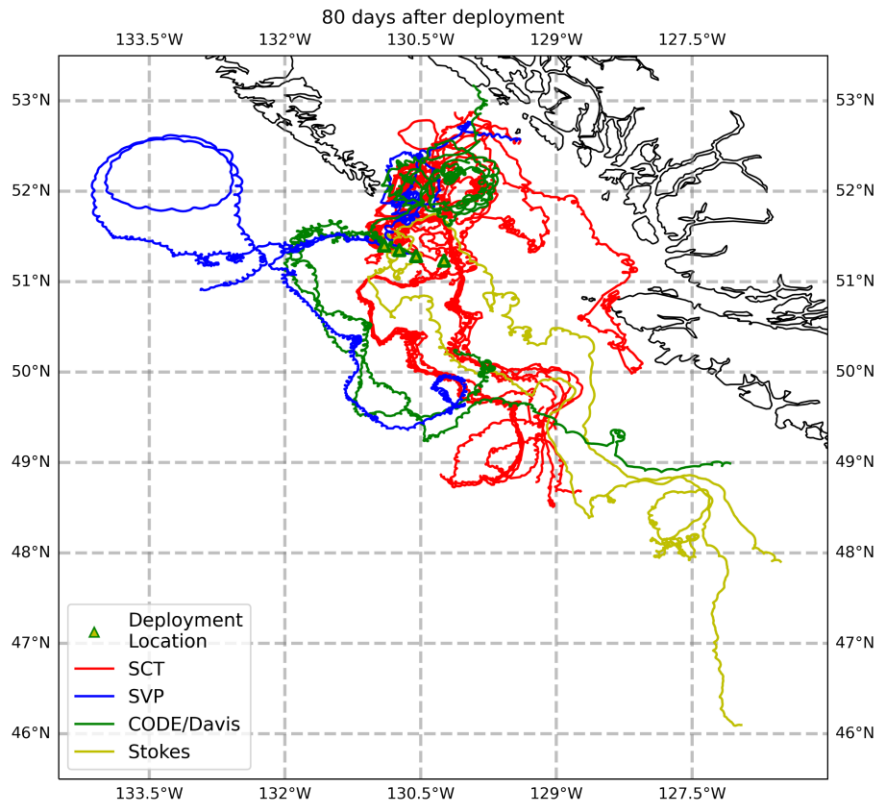
- Currents, temperature, salinity, pressure, and oxygen at two oceanographic moorings (red triangle).
- Coastal sea levels at four real-time tide-gauges (yellow).
- CODAR (black circle) currents
- Surface and near-surface drifter trajectories.
- Temperature and salinity from gliders.



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Drifters

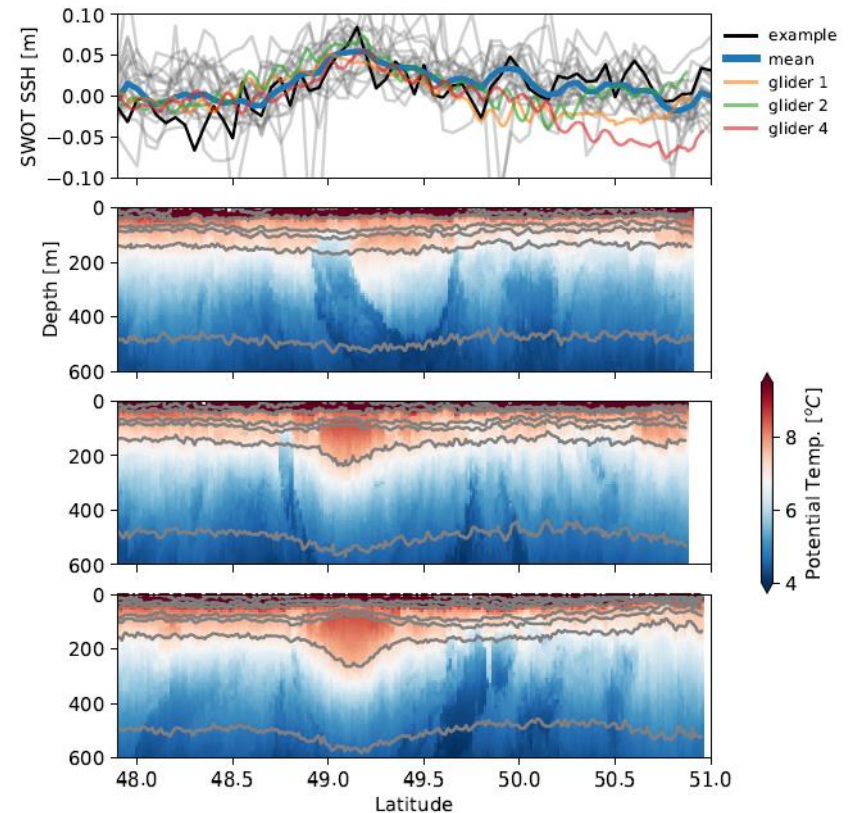
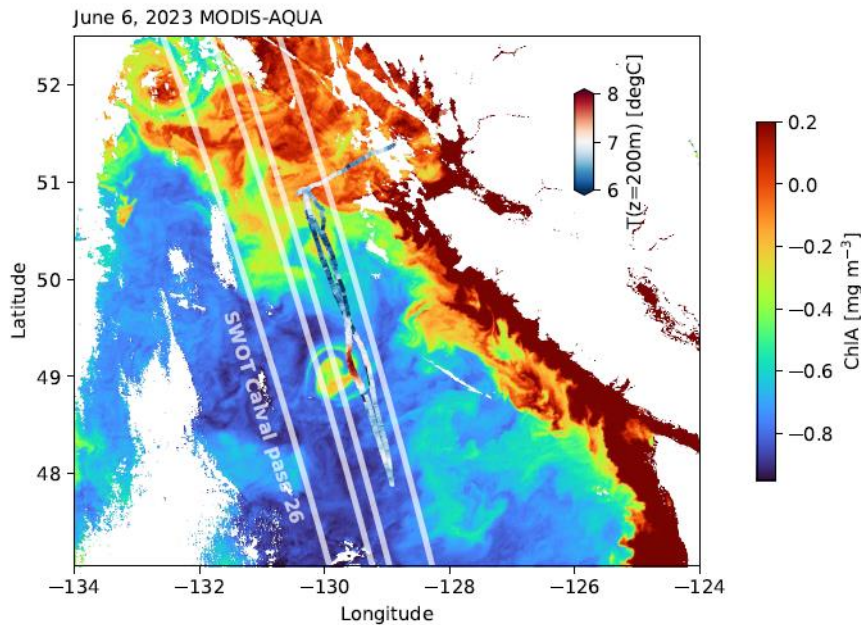
- Trajectories of surface and near-surface drifters released at locations (triangles) south of Haida Gwaii on June 5, 2023.
- Drifter currents and buoy winds every 6 hours.



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Gliders

- An anti-cyclonic eddy (50-100 km in diameter) was observed by SWOT nadir altimeter, MODIS-AQUA, and gliders (in collaboration with Jody Klymak).



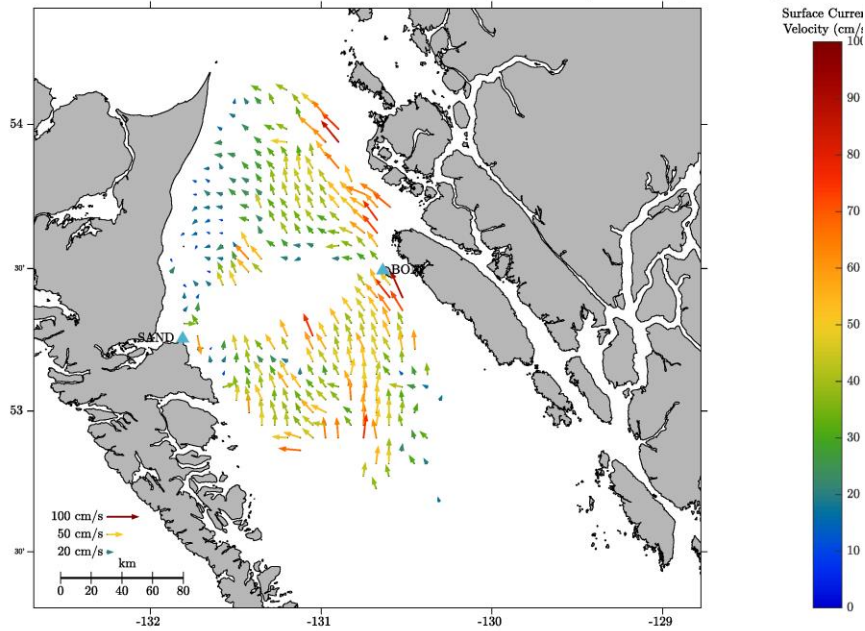
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CODAR

- Surface Current Velocity.

OCEAN NETWORKS CANADA

CODAR Ocean Surface Current Velocity • Hecate Strait CODAR Array (30719)
Hecate Strait • Hecate Strait CODAR System • 53.4932° N • 130.639° W • Depth Not Available
Measurement time: 2023-06-02 19:00:00 UTC (± 37.5 minutes) • CODAR Array Code: VHEC

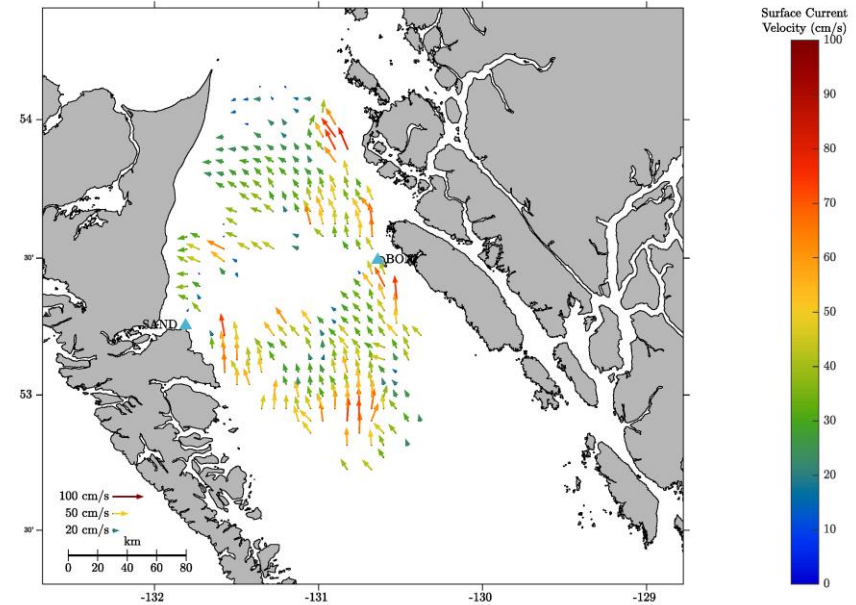


Comments: Clean total surface current data shown. Quality control parameters: maximum total speed: 220 cm/s, maximum radial speed: 150 cm/s, spatial threshold: 3.536 km, GDOP error threshold: 1.25, see <https://wiki.oceannetworks.ca/display/DP/148>. Map axis labels in degree-minutes. Grid nodes with valid velocities marked by black dots.

Plot generated 07-Sep-2023 23:53:44 UT

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Plot generated 07-Sep-2023 23:57:00 UTC

Planned Field Data Collection

- Currents, temperature, salinity, pressure, and oxygen at more oceanographic moorings.
- Coastal sea levels at tide-gauges.
- CODAR currents.
- Temperature and salinity from gliders.
- Surface and near-surface drifter trajectories.

