Pêches et Océans Canada | Fisheries and Oceans Canada

FIRST YEAR EXPERIENCE WITH SEAEXPLORER GLIDERS

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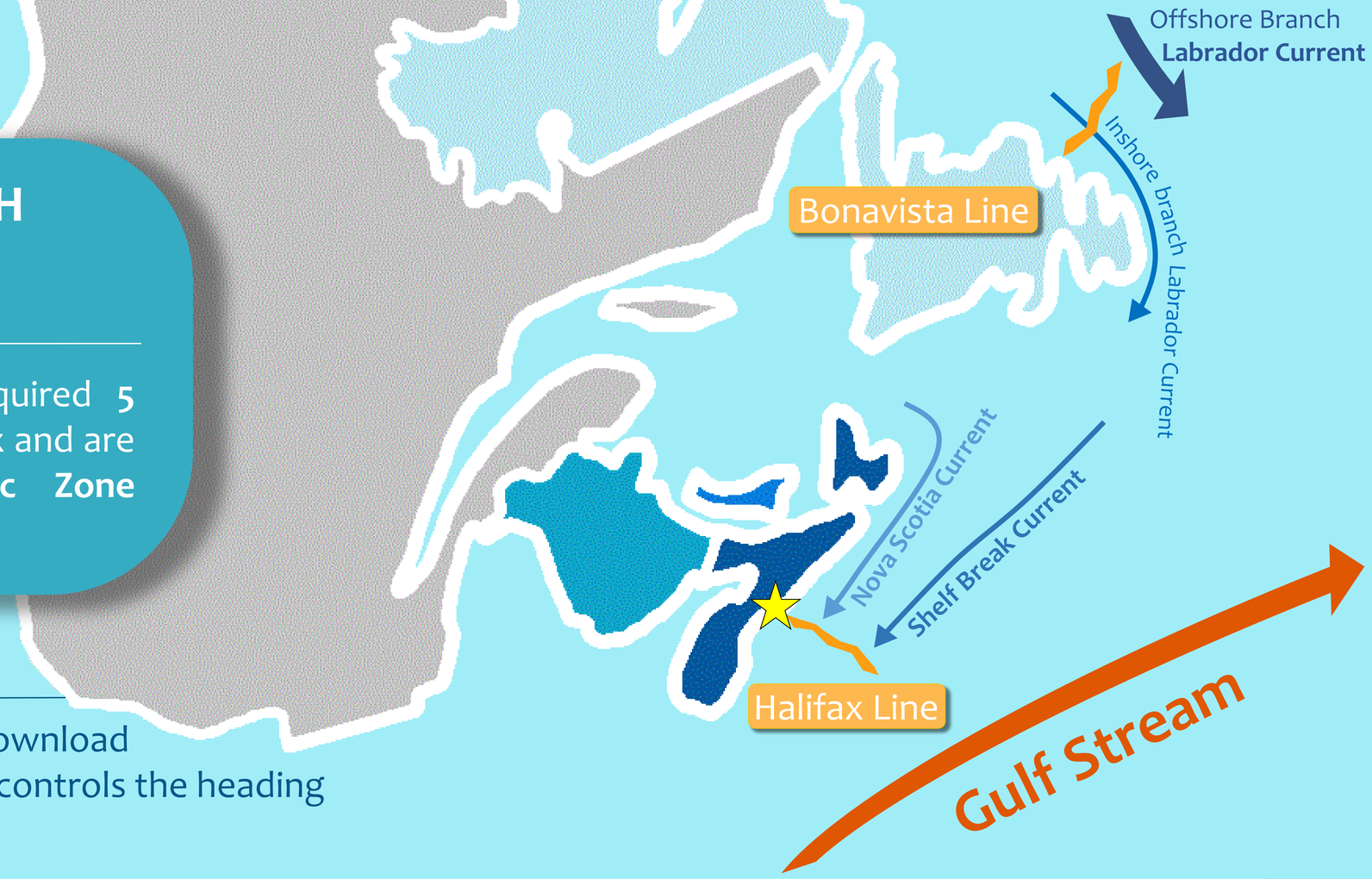
In 2017, Fisheries and Oceans Canada acquired **5 SeaExplorer gliders** which are based in Halifax and are primarily used to enhance the **Atlantic Zone Monitoring Program.**



SeaExplorer Characteristics

- Rechargeble battery
- 1L buoyancy engine
- Wet and dry payload
- External ethernet download
- Rotation of battery controls the heading

The SeaExplorer platform enables efficient sampling for a monitoring program due to their low maintenance and operating cost.

In 2018, our first year of operation, we accomplished 165 glider days at sea with only one operator.

2018

11	165	3320	5892
Glider missions	Glider days at sea	km travelled	CTD profiles

2019 (planned)

15	314	7500	12000
Glider missions	Glider days at sea	km travelled	CTD profiles

Past development

- Magnetic declination model incorporated in the heading calculation
- Thermal compression of the glider core incorporated in the ballasting calculation
- Adjustment of the altimeter configuration parameters to successfully see sea floor composed of clay and silt

Ongoing development

- Improvement of the dropweight release system
- Automatic adjustment of flying parameters like pitch angle and vertical speed
- Possibility to change the sensor sampling pattern and rate over satellite communication

Challenges of flying in shallow water

- Orientation issues : takes time for the heading to reach the right value
- Extreme battery usage : ballast pump working very frequently
- Rapid changes of water masses : glider flying parameters need to be adjusted often