

THE BSERVATORY

SLGO - FIRST INTEGRATED OCEAN OBSERVING SYSTEM IN CANADA

▶ **OPEN SEA LAB**
EUROPEAN MARINE
DATA HACKATHON

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INCREASED
MEMBER VISIBILITY

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BioMarine Business Convention 2017

Quebec-Ocean Annual Meeting

Open House of the 30th of the
Maurice-Lamontagne Institute

OpenSeaLab: European Hackathon

A coding marathon with EMODnet’s marine data, and an unprecedented Canadian collaboration with SLGO, MEOPAR, OTN and RQM.

From November 15th to 17th, the first Open Sea Lab coding competition was held, organized by the European Marine Observation and Data Network (EMODnet). On this occasion, a partnership was initiated between the Marine Environmental Observation Prediction and Response (MEOPAR), Ocean Tracking Network (OTN) and the Quebec Marine Network (RQM), partnering as the Canadian team. This hackathon, building on European marine data, is above all a unique opportunity to network and

meet, between computer scientists, engineers, biologists, geographers and anyone interested in the potential of marine data development. Suggested projects can, for example, support the sustainable development of a blue economy, or facilitate decision-making in areas as diverse as aquaculture, offshore wind energy, tourism, diving, fisheries, security and integrated ocean management.

The Canadian team took the opportunity to





reflect on how data is currently discoverable and how it could be more integrated, in a way to better meet the needs of end users. The project has evolved into selecting a set of data critical to decision-making support, in a specific field and integrating them to discover potential development sites.

As a case study, the team chose to develop a prototype aiming at discovering optimal sites for setting up offshore wind farms.

A map with green, yellow or white cells was developed, to indicate potential sites according to various parameters (e.g. wind speed and variability at 100 meters above sea level, type of seabed, depth). Ultimately, other relevant data, such as protected areas and aquaculture sites, could be incorporated into the prototype to optimize decision support. Green cells indicated favorable sites for wind energy development, while yellow cells indicated that some data was

either missing or that it needed updates. These insights and information enable research and data acquisition prioritization, while supporting the industry.

Interest in ocean observation is growing, especially with the rise of climate change issues, but also because of its blue economy potential. In 2013, the European Union, Canada and the United States signed the [Galway Agreement](#), which aim at strengthening the cooperation between the two continents and Atlantic data exchange. In this context, a hackathon with data on the Atlantic Ocean would be a relevant collaboration between the two continents. SLGO, with the support of the Quebec Maritime Technopole ([TMQ](#)), the Quebec Maritime Network ([RQM](#)) and the Brest-Iroise Technopole ([TBI](#)), which will soon host its second Ocean Hackathon, will explore the possibilities of collaboration with several other partners to organize an event of the kind, within a maximum horizon of two years.

To be continued!

New in SLGO Apps

Application Biodiversity

An **update** has been done for the collection of the Marine Mammal Observation Network (**ROMM**), category "Observers", for the 2016 data. It includes observations of more than twenty species of marine mammals including the right whale, beluga whale, walrus, polar bear, as well as fish species like the basking shark and the sunfish. As for all databases available in SLGO's application, the raw data are available and updated in the data Catalogue.

A **new database** is now integrated in the Biodiversity app: the scientific data on the striped bass and its habitat, achieved by the Mi'gmaq and Maliseet Aboriginal Fisheries Management Association (MMAFMA).

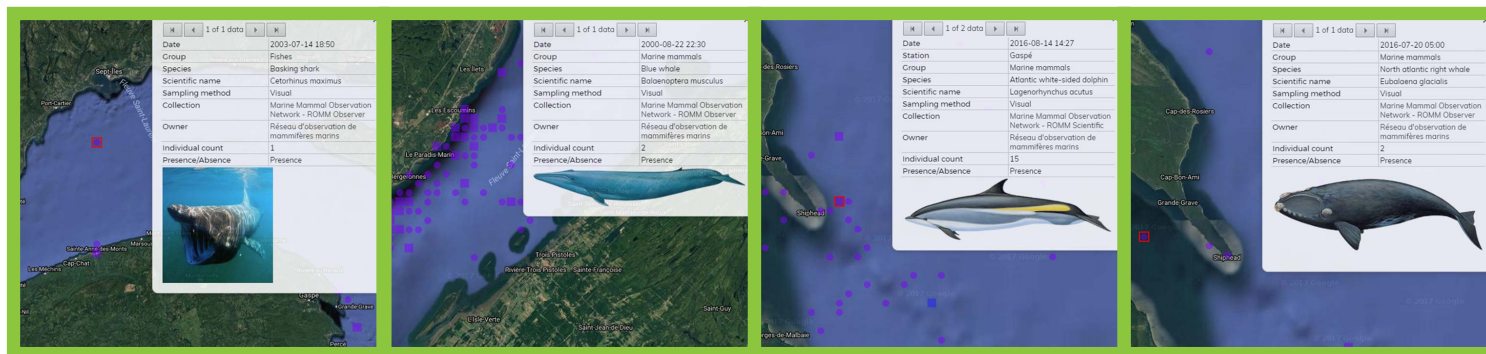
Those inventories list 42 species of fish, 3 species of crustaceans and various environmental parameters (water temperature, salinity, dissolved oxygen, etc.).

Biological data for each species can be visualized in the Biodiversity app, while the raw data with all the parameters are available download at: <http://catalogue.ogsl.ca/en/organization/aghamm>

Application Environmental References

The **Environmental References** app is composed of 4 distinct themes, integrated in a single geospatial data visualization interface. To increase their visibility and thus their discoverability, these themes are now listed independently in the "SLGO's App" menu.

- The Natural sites of interest of the Southern Quebec, the Atlas of restoration of bank sites of the St. Lawrence, and the Protected areas of the private lands of Southern Quebec (source: Action Plan St. Lawrence)
- Mariculture sites (source: MAPAQ)



Open Data Catalogue

Launched last June, the Data Catalogue continues to attract many visitors since its launch. The catalogue is an effective search tool, similar to popular search engine on the web. It is user friendly and allows you to find all the raw data available on through SLGO's web applications, like Biodiversity. The search bar as well as the thematic or keyword search optimize data discovery for all users, from scientists to the general public. The popularity of the tool translates into statistics that speak for themselves!

12 000
pages seen

4500
downloads

8 minutes
average sessions
time spent

77+
data sets

6
NGOs

5
ministries

3 research
centers

1
aboriginal association

10 most popular datasets in the Catalogue

1. Atlantic Zone Monitoring Program (DFO)
2. Estuary and Gulf of St. Lawrence marine macroalgae data base (Merinov)
3. Scientific Buoy Network of St. Lawrence Estuary and Gulf (DFO)
4. Annual surveys of the abundance of toxic phytoplankton in the Estuary and Gulf of St. Lawrence (DFO)
5. Surface water temperature by satellite remote sensing (DFO)
6. Mi'gmaq and Maliseet commercial fisheries of the communities of Gesgapegiag, Gespeg and Viger. (MMAFMA)
7. Characterization of habitat and the presence of striped bass along the southern shore of the Gaspé Peninsula (MMAFMA)
8. Quebec mariculture site directory (MAPAQ)
9. Directory of public access to the St. Lawrence River (St.Lawrence Action Plan 2011-2016)
10. Oceanographic mission datasets from the *Institut des sciences de la mer de Rimouski* (UQAR-ISMER)

SLGO was there...

BioMarine Business Convention 2017

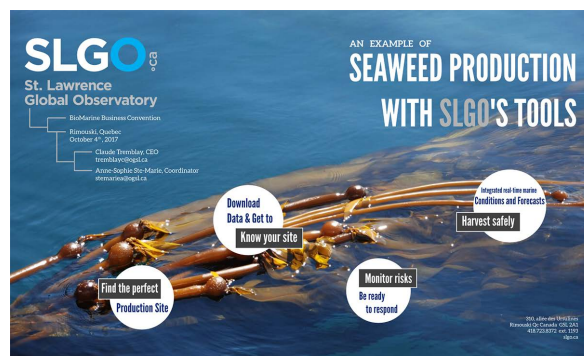
From October 1st-3rd, Rimouski was the host of the 2017 edition of the BioMarine Business Convention. SLGO held an interactive and informative kiosk, showcasing various applications of SLGO and data of partner members, to demonstrate their power, in a case study where a business is looking for an optimal algae production site. Resolving this case study through the presentation of various tools allowed to illustrate concrete uses of SLGO's app, as well as the added value of the integration of multidisciplinary data from multiple partner organizations.

Discovery Day

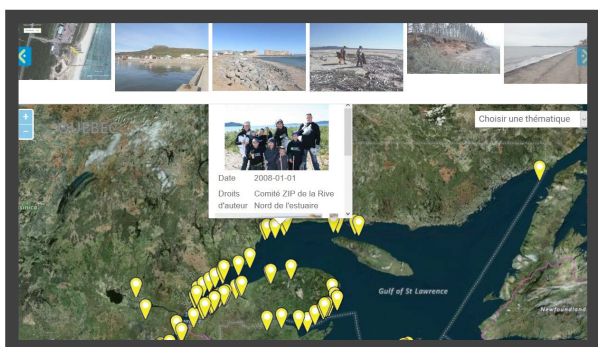
As part of the open house tour organized in a series of local businesses and organizations, we had the opportunity to give a more detailed presentation our interactive kiosk study case, during a talk at the Maurice-Lamontagne Institute. The presentation initiated rich feedback and discussions between the attendees and SLGO team. Their interest and their surprise demonstrated well the importance of SLGO's tools and their active promotion in the marine sector.

To see the online presentation, visit :

<https://prezi.com/view/lapSB3e30aTA63PoVdIW/>



Québec Océan



CÔTES À CÔTES

Québec-Océan Annual Meeting

From November 13th-15th, in Rivière-du-Loup, has held the annual scientific meeting of Québec-Océan, a network of scientists and partner organization involved in oceanographic research. The last day of the meeting allowed partner organisations to presentation their latest projects or achievements. In some of those, SLGO had (or will have) the chance to play an important role in their implementation.

Coast to Coast Presentation

Led by the Comité ZIP Sud-de-l'Estuaire, the launch of the web tool Coast to Coast (Côtes à Côtes), whose programming has been achieved by SLGO's team, has been promoted and attendees where invited to participate in the collaborative platform. The web-based platform is an awareness and sharing tool on the

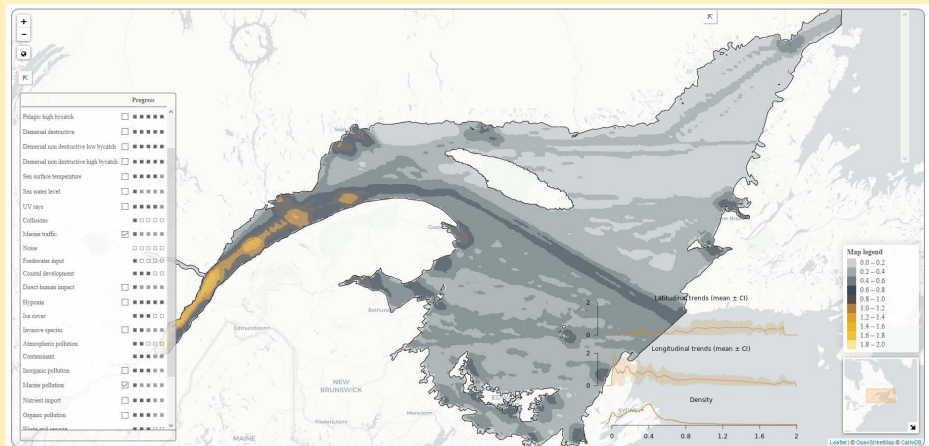
St. Lawrence coasts, and it allowed SLGO to develop expertise in management of photo and video data, namely geospatial integration of social media posts. Indeed, the observations input tool of the Coast to Coast project can automatically show on a map the various observations entered by participating members, as well as posts published on *Côtes à Côtes* and *Surveillance côtière Québec* Facebook groups. To see the overall result on the map, visit www.cotesacotes.org, “Visualisez” tab (French only).

ROMM Presentation

Access to scientific data on the St. Lawrence ecosystem is crucial for our partners, and this is what Sonia Giroux, biologist project leader at ROMM, highlighted during her presentation. As announced previously in this newsletter, the latest update of the 2016 observations have been recently released in the Biodiversity app. To view the latest upload, visit: <https://ogsl.ca/bio/?lg=en>

Poster “Marine St. Lawrence multistressors platform“

This platform project aims at giving a spatial characterization of observed stressors in the marine St. Lawrence, while launching a community project to develop an open and adaptive platform in collaboration with SLGO, to enhance the existing environmental monitoring, and to identify needs for further stressors characterisation. The project is currently lead by the doctoral student Mr. David Beauchesne, under the direction of Mr. Philippe Archambault.



Open House: Maurice Lamontagne Institute celebrated 30 years of activities!

The Maurice Lamontagne Institute is the largest francophone research center for marine science in Canada. On the occasion of its 30th, Fisheries and Oceans Canada organized an open house, to which SLGO was invited as an exhibitor. This event allowed SLGO employees to meet and inform thousands of people in 4 days of representation. In addition to publicizing SLGO tools and partners, we demonstrated some Web applications while explaining the importance of data integration of our various member organizations. We are convinced that the visitors left impressed by the work achieved at the Institute, and elsewhere, even more so as they learned that all this data is openly accessible, including to the general public, without sophisticated tools other than a mobile phone or a personal computer. Special mention to Johanne, our web designer, for taking part every day at the kiosk presentation. Finally, we would like to congratulate the organizers for the quality of the event as well as for the opportunity for SLGO.

[FEATURE] OPEN SCIENTIFIC DATA

A first in the history of SLGO : PhD graduate grants access to his thesis data on SLGO's portal

Last October, the second annual call for data dissemination projects for the 2017-2018 period was launched within the data producing members of SLGO. Following this call, a new integration project will be initiated after the holidays, and this is a great first; the integration of data from a doctoral student's thesis.

Mr. Nicolas Le Corre, from Mr. Ladd E. Johnson Laboratory at University Laval (member of Québec-Océan), has submitted his thesis data on **adult mussel abundance** (biomass and percentage of substrate coverage) and the **recruitment of juveniles on artificial collectors** (number of individuals per collector), for dissemination on SLGO's portal. These data were also the subject of an article published in the journal Ecology¹.

These databases, which seamlessly fit in the Data Catalog interface, reinforce SLGO's mission to provide integrated access to scientific data, in the perspective of the open data era. This data dissemination project, rising from a graduate student, shows well the changing culture towards open data, which is more present than ever in the scientific community. We salute this initiative supported by Québec-Océan and all SLGO's members, and we encourage other university researchers and graduating students to contact us to also publish their data on SLGO's Catalogue.

Also, please note the next Scientific Advisory Committee (SAC) call will take place after the holidays!

¹Le Corre, N., Johnson, L. E., Smith, G. K. and Guichard, F. (2015), Patterns and scales of connectivity: temporal stability and variation within a marine metapopulation. Ecology, 96: 2245–2256. doi:10.1890/14-2126.1

SCIENTIFIC ADVISORY COMMITTEE CALENDAR

Call for projects	January 15 th
Deadline for submission of projects	February 15 th
Appraisal of the call for projects	Février 22 nd
SAC meeting: Assessment of submitted projects	March 2018

[FEATURE] OCEAN FORECASTS

Ocean Forecasts app: launch of the season of sea ice forecasts

Gulf of St. Lawrence ice forecasts are the results of a combination of oceanic and atmospheric models. Both models are operated daily to produce forecasts, in addition to ice in the winter season, for surface currents, for water levels and for water temperatures. Forecasts are available for the next 48 hours. The ocean model results were validated in Fisheries and Oceans Canada's scientific and operational programs, by comparing various oceanographic measurements (water currents, water levels, water temperature and salinity, ice drift, concentration and thickness). Try the application for yourself at:



<https://ogsl.ca/en/navigation/ocean-forecasts/app>

Available parameters

Choice of time period

Detailed data

Legend

Data producers attribution



Upcoming activities

- The next general assembly of SLGO will be held in **June 2018**.
- The next meeting of the Scientific Advisory Committee will be held in **March 2018**.
- The annual meeting of Notre Golfe will take place in Quebec city, on **January 16th 2018**. The event, which will be the last official one of the project, will also be the setting for the launch of the book Notre Golfe.
- The [Mariners' Workshop](#) of the Shipping Federation of Canada will be held from **January 31st to February 1st 2018**.

SLGO'S TEAM

SLGO is opening two new jobs offers. We invite all to send their resume and a motivation letter, before January 2nd, at info@ogsl.ca

Current opportunities:

- [Technician programmer](#) (French only)
- [Web Integrator](#) (French only)

