
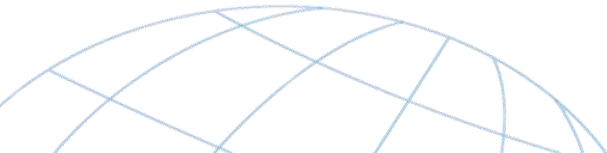




Stéphane Richard  
Executive director, SLGO



**How the implementation of an  
environmental observatory can  
support decision making processes  
for port authority**

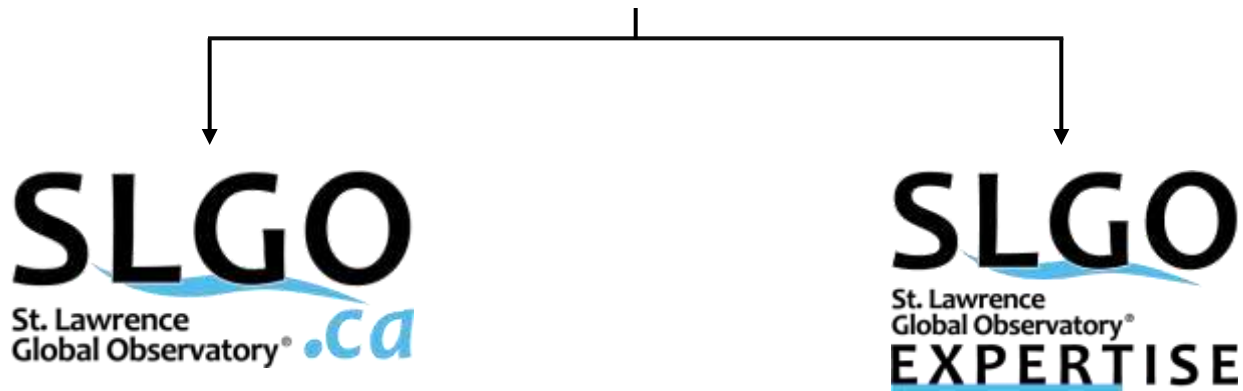


# Quebec Marine Cluster :



# SLGO is:

- **Non-profit organization**
- **Created in 2005 and in operation since 2009**
- **7 employees**
- **20 members & partner organizations** (gouv., univ., etc)
- **10 members on the Board of Directors**
- **12 data access members projects in 2012-13**



- 
- Active or associate members
    - Governments
    - Universities
    - Other organizations
  - Data dissemination
  - *SLGO.ca* portal

- 
- Environmental observatory tools
  - Expertises :
    - Design, management and custom web applications
    - Scientific data management

# SLGO.ca is :

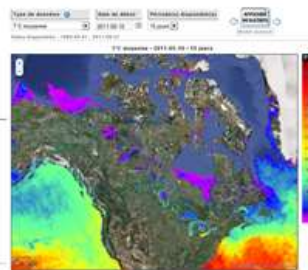
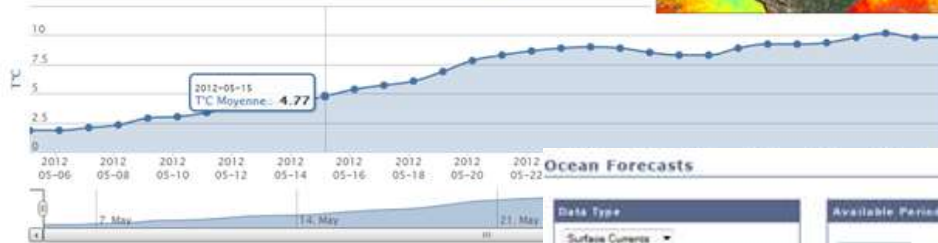
**OGSL.ca**  
Observatoire global  
du Saint-Laurent

## Imagerie satellitaire (Téledétection)

Choisir une période

Début 2012-05-05 Fin 2012-06-05

TC Moyenne



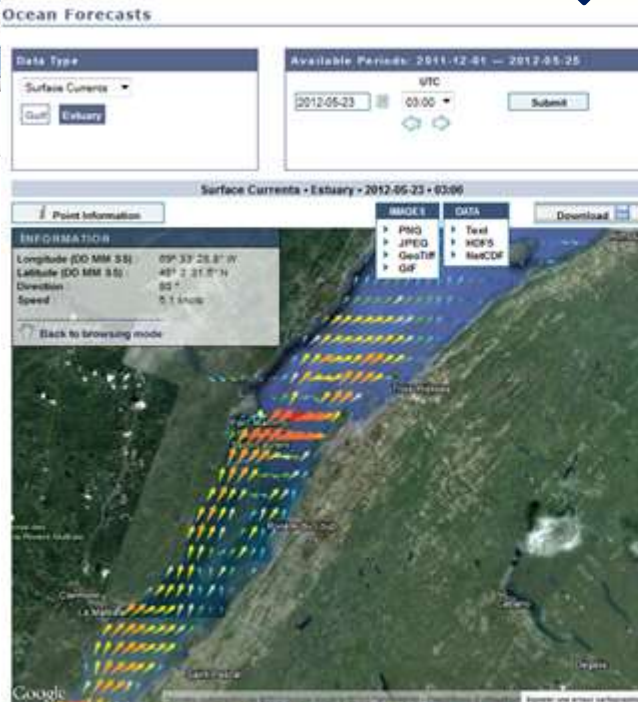
Time series



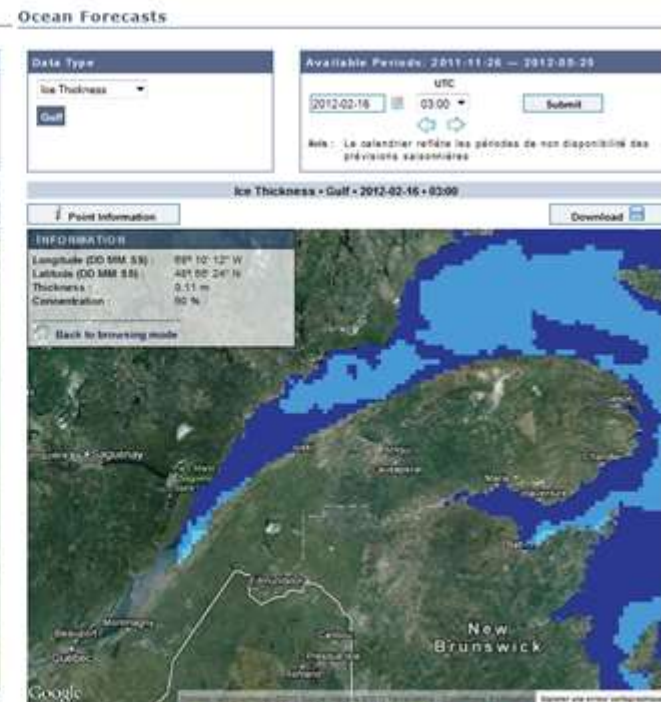
Web base model visual



Pêches et Océans Canada Fisheries and Oceans Canada



Fisheries and Oceans Canada Pêches et Océans Canada

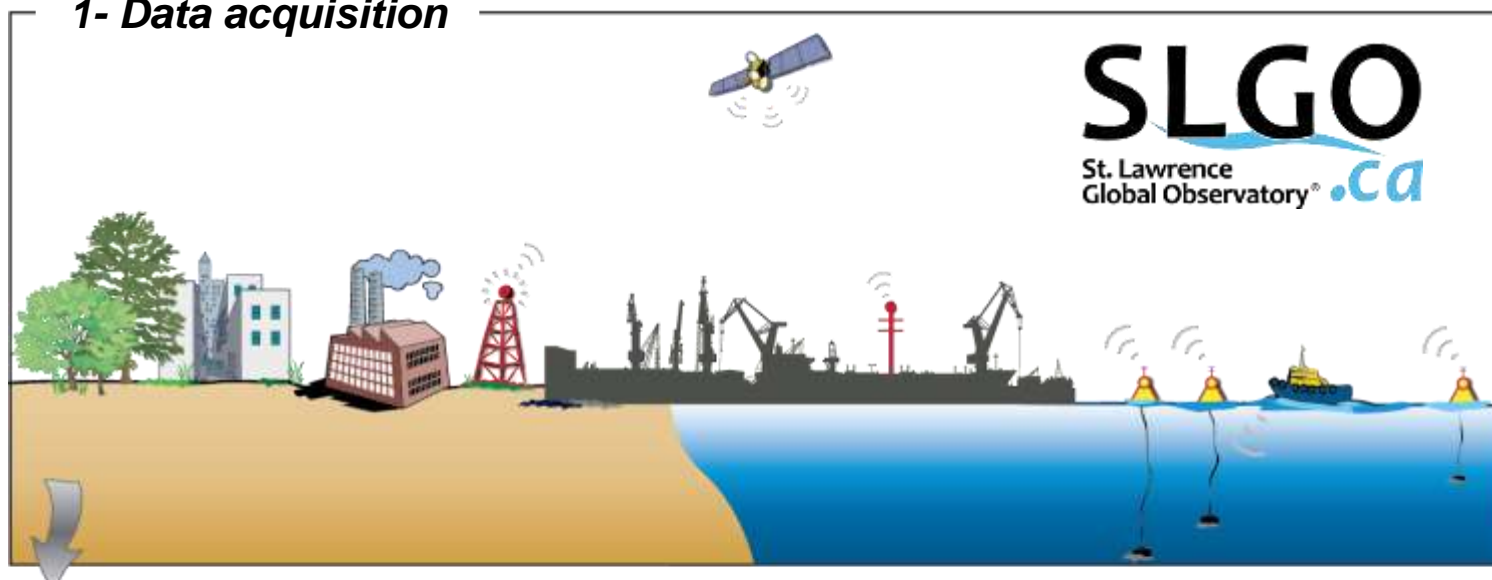


Fisheries and Oceans Canada Pêches et Océans Canada



# The concept - Environmental Monitoring

## 1- Data acquisition



## 2- Data management

	A	B	C	D	E
	°C	kPa	µm	kg/m³	PSI
2	18.2	101.63	210.11	1018.07	24.2
3	12.9	101.8	245.86	1017.92	24.224
4	17.1	101.89	302.23	1017.93	24.236
5	15.8	102.46	185.22	1018.25	24.469
6	22.3	102.5	271.45	1018.41	24.618
7	14.5	101.63	285.48	1018.32	24.944
8	11.6	101.28	232.61	1017.89	24.355
9	18.4	102.23	234.25	1016.75	24.221
10	19.1	102.58	288.72	1017.88	24.349

## 3- Decision tools

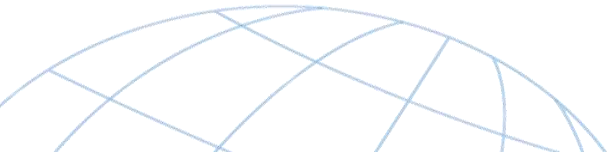
Station	Date (MM)	Temp. (°C)	
Rivière-du-Loup	2013.01.14	3.0°C	
Rivière-du-Loup	2013.01.14	0.4°C	
Île Bicquette	2013.01.14	2.1°C	
Géographie METEO - TROUS VENTS			
Station	Date (MM)	Temp. (°C)	Humid.
Rivière-du-Loup	2013.01.14	5.4°C	63%
Trois Pionniers	2013.01.14	0.4°C	82%

Source : Pêche et Océans Canada (DFO) | Service : Temp. (°C) - SMO53 | Station : Rivière-du-Loup | Date (DTC) : 2013-01-14 13:35:30 | Latitude (DD MM SS) : 46 28 42.6 | Longitude (DD MM SS) : 68 34 48.0 | Profondeur (M) : 1.10 | Température de l'eau (°C) : 0.40



# Environmental Monitoring - Decision support tools

1. **Identifying needs – issues understanding;**
2. **Set the preferred scientific process;**
3. **Identify methods to use;**
4. **Data management: acquisition, transfer, capture (capture interface), validation and backup;**
5. **Data access: user-friendly "dashboard style" web interface.**



# 1- Identifying needs – issues understanding

## From region/business interests:

- Internal/external operation
- Geographical situation
- Legal issues
- Community issues/concerns

## From physical or chemical aspects - Equipment

- Physical (Observations)
- Bathymetry
- Currents
- Ice
- Waves
- Tides
- Water levels
- Winds
- Dusts

## From biological aspect – Sampling

- Invasive species
- Species at risk
- Fisheries resources

## From modeling outputs

- Ice
- Currents
- Waves
- Oil spill trajectory
- Winds

## 2- Set the preferred scientific process

UQAR SMER

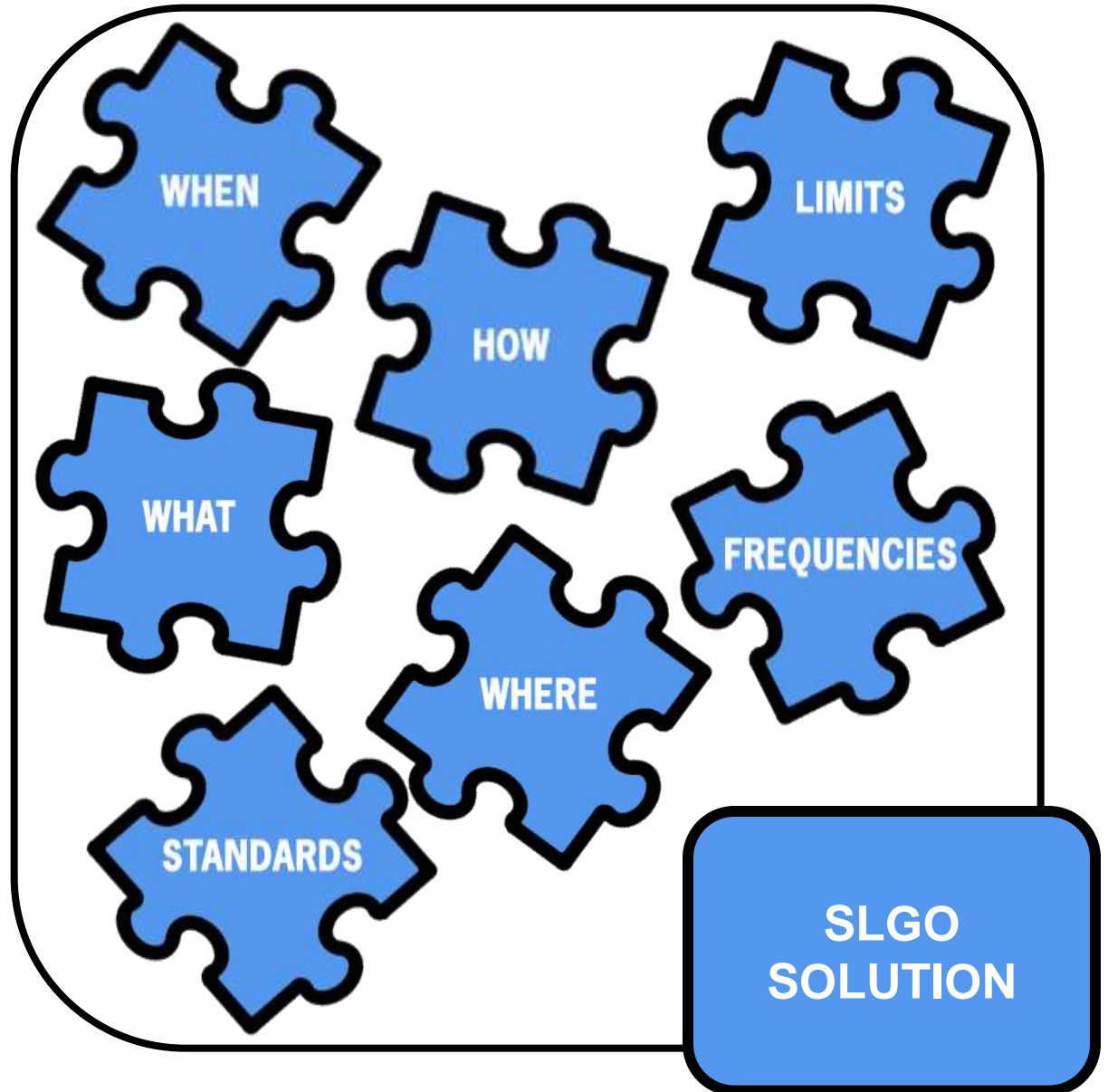
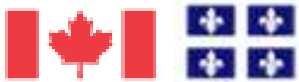
INRS  
Université d'avant-garde

UNIVERSITÉ  
LAVAL

UNIVERSITÉ DU QUÉBEC À TROIS-RIVIÈRES  
UQTR

CIDCO

CERMIM  
Affilié à l'UQAR



# 3- Identify methods to use

## Land-Based Stations



## Sampling Activities



## Laboratory Analyses



## Environmental Buoys

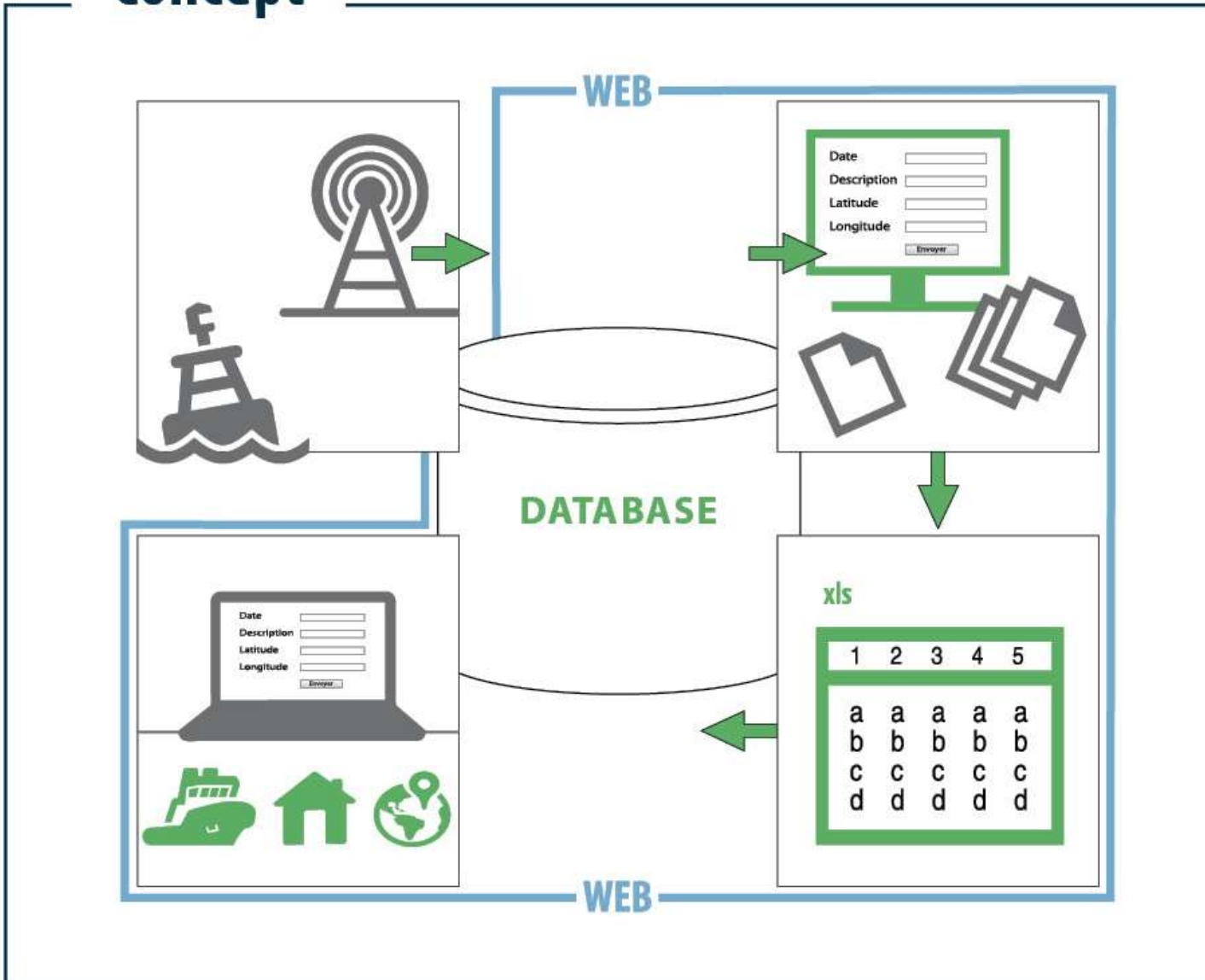


## Existing Data



# 4- Data management

## Concept



# 5- Data access - dash board

## Temps réel [écran Carte]

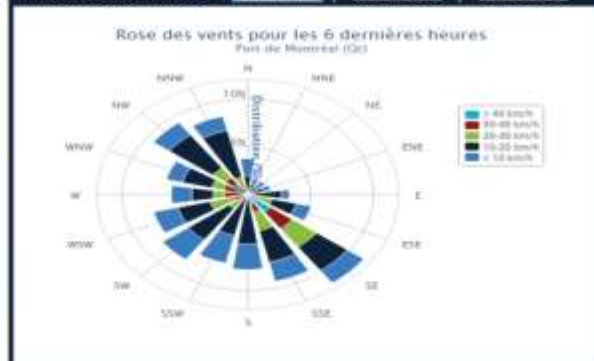


## Temps réel [écran Graphique]



## STATION : PORT DE MONTRÉAL

Afficher les dernières : **6 heures** | 24 heures | 48 heures



Période : **2013-05-20** au **2013-05-20**

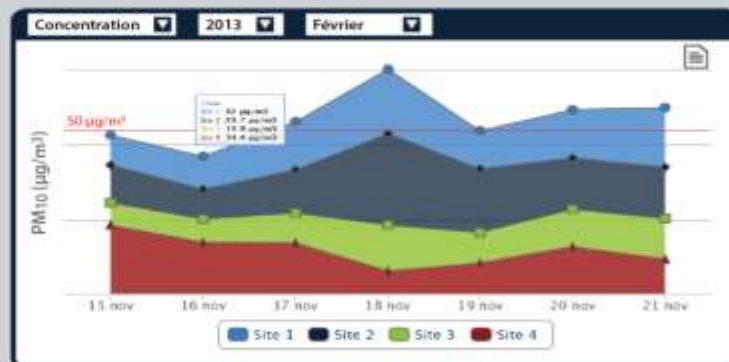
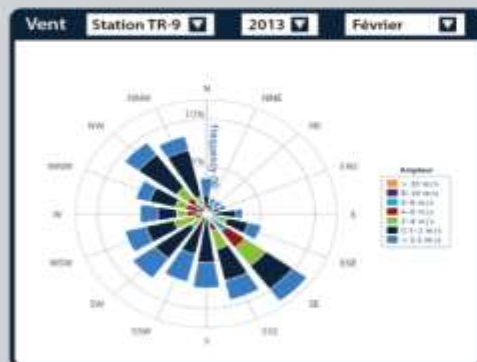
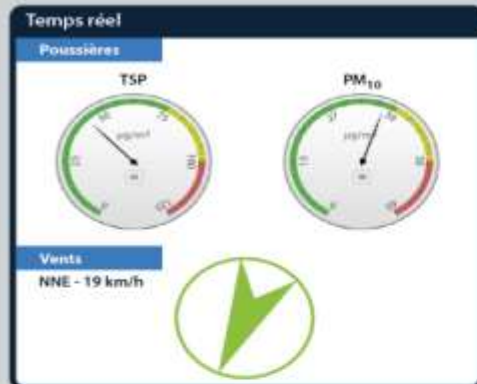


## Rapport des alarmes émises

### Liste

- Longueil - 2013-04-25 - 19h32 - > 50 km/h NO
- Port de Montréal - 2013-04-28 - 09h12 - > 50 km/h NNE
- Longueil - 2013-05-02 - 01h03 - > 50 km/h SO
- Contrecoeur - 2013-05-08 - 11h10 - > 50 km/h NE

# 5- Data access - dash board



### Rapport des alarmes émises

Liste

- Station - Date - Heure - Paramètre
- Station - Date - Heure - Paramètre
- Station - Date - Heure - Paramètre
- Station - Date - Heure - Paramètre
- Station - Date - Heure - Paramètre

### Interface de rapports

Type: TSP

Période: 2013 | Février | 20 | 20:00

Station: TR-9

Paramètre: Concentration

# Anticipated Benefits

- Improved access to quality data & information;
- Better environmental overview of the region of interest;
- Ability to determine reference levels for various parameters;
- Increased operational efficiency;
- Improved capacity to identify hot-spots;
- Improved capacity to respond to environmental changes & events;
- Ability to better comply to standards, including Green Alliance.



## SLGO is an information infrastructure

- ◆ **Platform-independent standard-based** approach [*interoperability*];
- ◆ **Integrated access** to distributed data assets from a large **network** of data producers;
- ◆ A wide **range of data & information products**.

## SLGO offers technological solutions

- ◆ **Expertise** in data collection, data access, data visualisation, design, management and custom web applications development.

## In collaboration with SLGO, you will:

- Access to a turnkey solution;
- Take advantage of the best practices in the field;
- Link with the major network of experts;
- Have continuous monitoring;
- Ensure your data integrity;
- Give confidence to the community.



**Thank you**



**SLGO**  
St. Lawrence  
Global Observatory **.ca**

<http://ogsl.ca>  
[info@ogsl.ca](mailto:info@ogsl.ca)