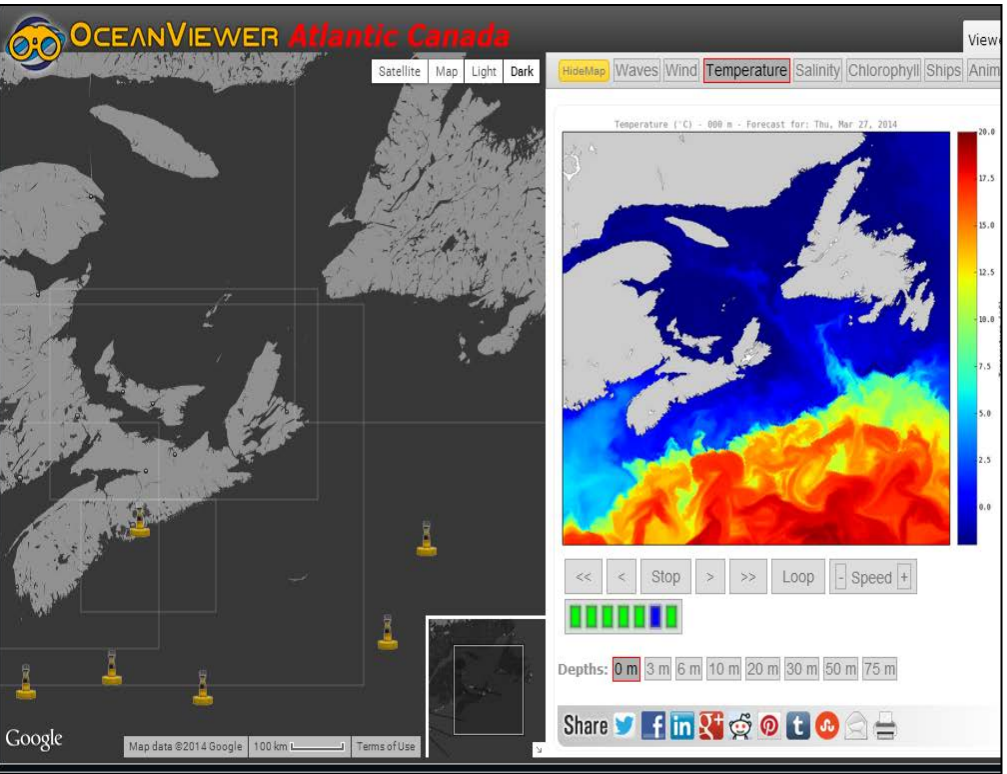
OceanViewer.org

Real-time conditions & forecasts

OceanViewer.org …benefits of a **“one-stop-shop” portal** for Real-time Ocean Conditions and Forecasts in Atlantic Canada



Diego Ibarra

Research Associate

MEOPAR / Dalhousie University

Mar 24, 2014

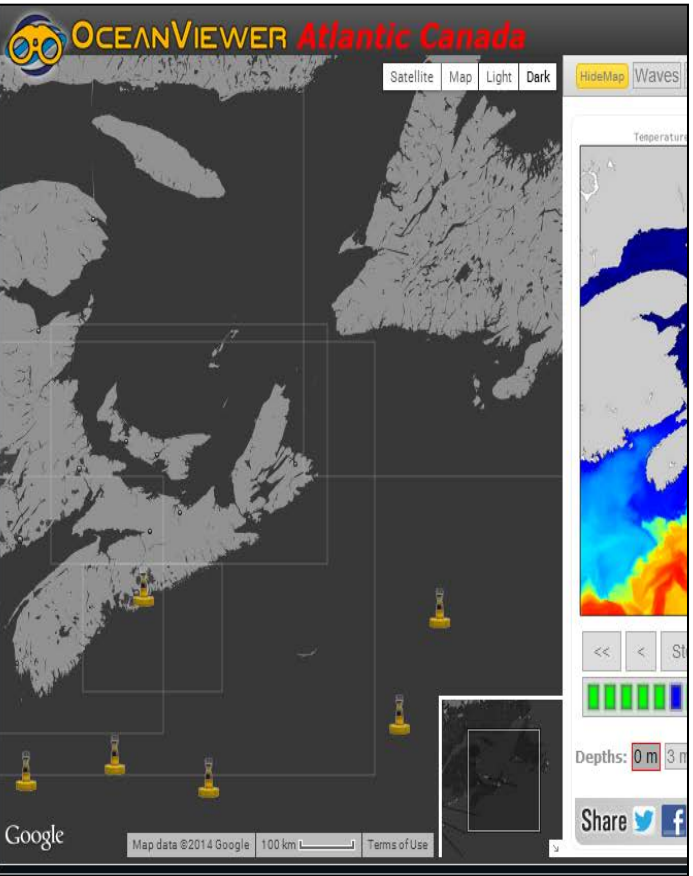
OceanViewer.org

Real-time conditions & forecasts

Summary:

OceanViewer.org is a…

“one-stop-shop” portal…



“aggregator” and browser of existing Ocean Data in Atlantic Canada

Platform for “Citizen Ocean Science”

and pilot-project of **MEOPAR**

OceanViewer is like…

a kijiji for Ocean data

Outline:

Origins and Motivation
(past)

(Present)

Potential future

Origins and motivation:

October 2012

Cape Breton Post > News > Local

Lobster fishery reaches the boiling point

Chris Hayes
Published on July 19, 2013

Share 0 Tweet 10 +1 0 2 Comment Send to a friend Print

SYDNEY — Fisherman Leonard LeBlanc doesn't mince words about the lobster season that came to a close earlier this month in the waters off Cheticamp.

LeBlanc, the president of the Lobster Council of Canada, told a recent

News / Canada

Rising water temperatures are hurting Nov Scotia lobster business, fisherman says

A Cape Breton lobster fisherman has told a legislature committee that rising temperatures are hurting the lobster business.

Text size: Reset Report an Error + save t

By: The Canadian Press Published on Thu Oct 18 2012

HALIFAX—A Cape Breton lobster fisherman has told a legislature committee that rising water temperatures are hurting the lobster business.

EXPLORE TI
? COMMENT

Is there an Ocean Temperature Forecasting System?

Origins and motivation:

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Cape Breton Post > News > Local

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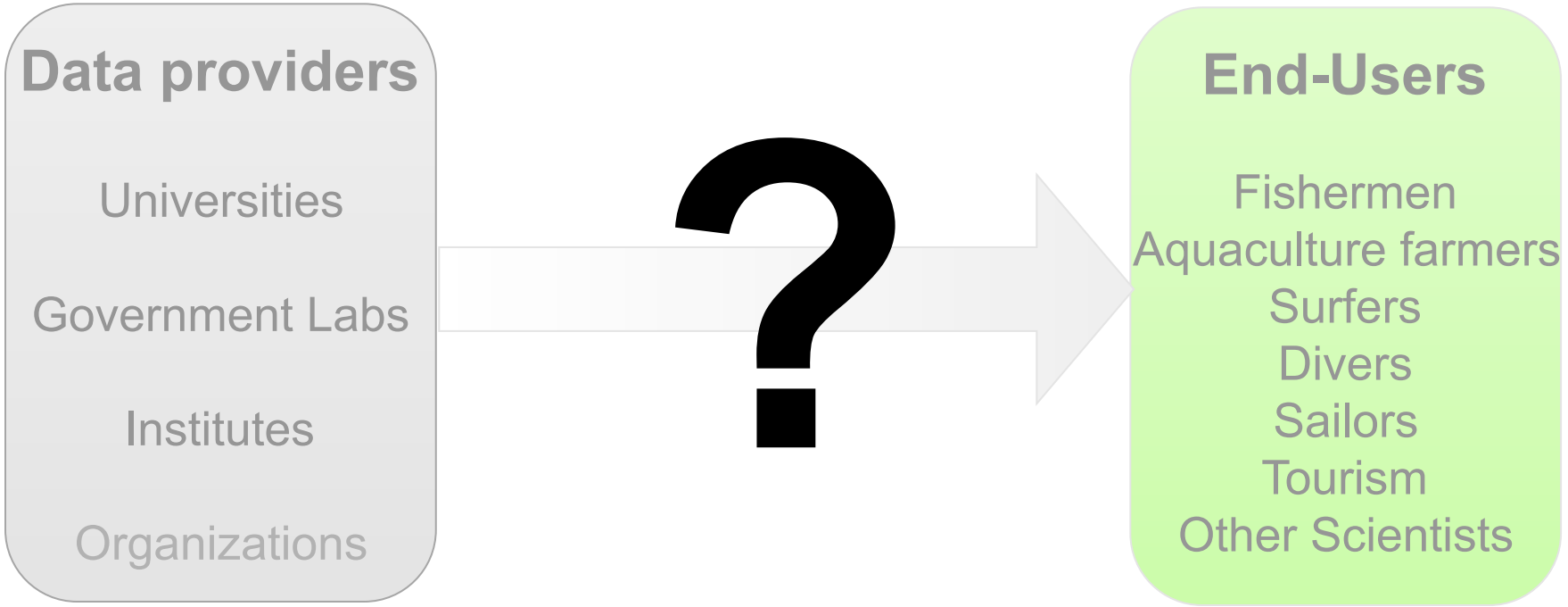
EXPLORE TI
? COMMENT

Is there an Ocean Temperature Forecasting System?

Answer: Yes, but they are hard to find…
and/or hard to decipher (NetCDF files)

Origins and motivation:

How is *Ocean Data* transferred from providers to end-users?



“Ocean Observing System” Sites

NERACOOS

SOOS

NANOOS

PacOOS

VENUS
Victoria Experimental Network Under the Sea

NASA

NOAA
National Oceanic and Atmospheric Administration
U.S. Department of Commerce

AOOS Alaska Ocean Observing System
THE EYE ON ALASKA'S COASTS AND OCEANS

NEPTUNE Canada
Transforming Ocean Science

SEACOOS

SCCOOS SOUTHERN CALIFORNIA COASTAL OCEAN OBSERVING SYSTEM

“Commercial” Sites

magicseaweed

Surfline
KNOW BEFORE YOU GO

STORMSURF
SURF FORECASTS & MARINE WEATHER

FISHWEATHER
weather where you fish

Buoyweather

PredictWind.com
WHEN ACCURACY MATTERS

windguru

addicted to the wind!
WINDFINDER.com

“Ocean Observing System” Sites

Visitors: ~**100** pageviews / day

“Commercial” Sites

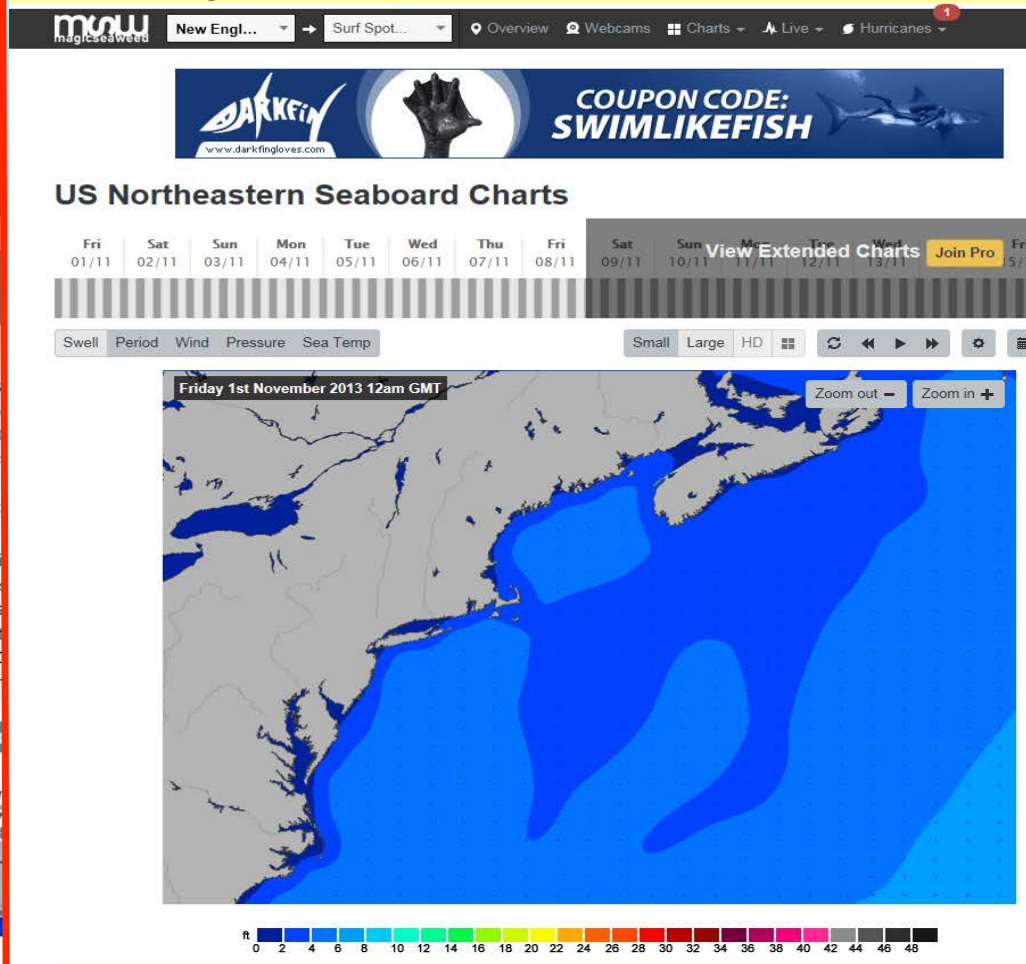
Visitors: ~**50,000** pageviews / day

“Ocean Observing System” Sites

Visitors: ~**100** pageviews / day
Focused on **“the project”**
Hard to find
Hard to navigate
Show **ALL** kinds of ocean data

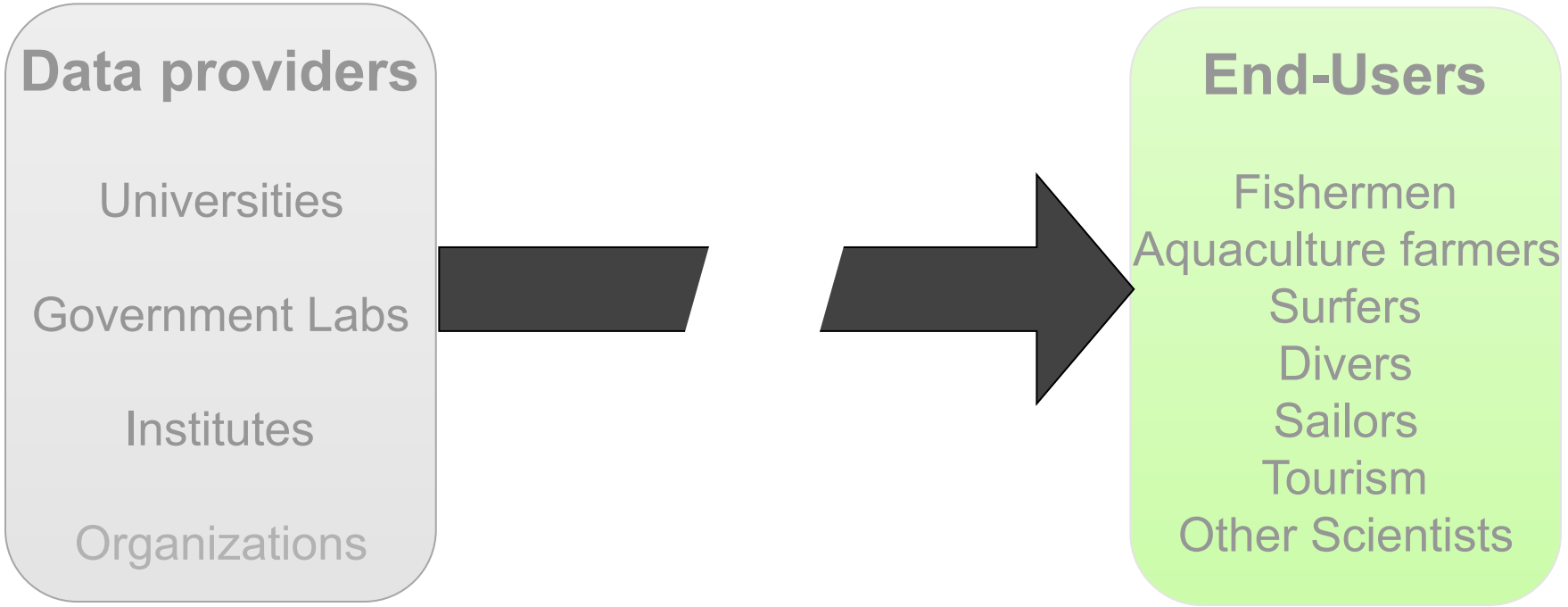
“Commercial” Sites

Visitors: ~**50,000** pageviews / day
Focused on **“the user”** (but also on making $$$)
Easier to find
Easier to navigate
Show **only** data with high $$$ return (e.g. wave, wind, temp)



Origins and motivation:

Missing link between data providers and end-users



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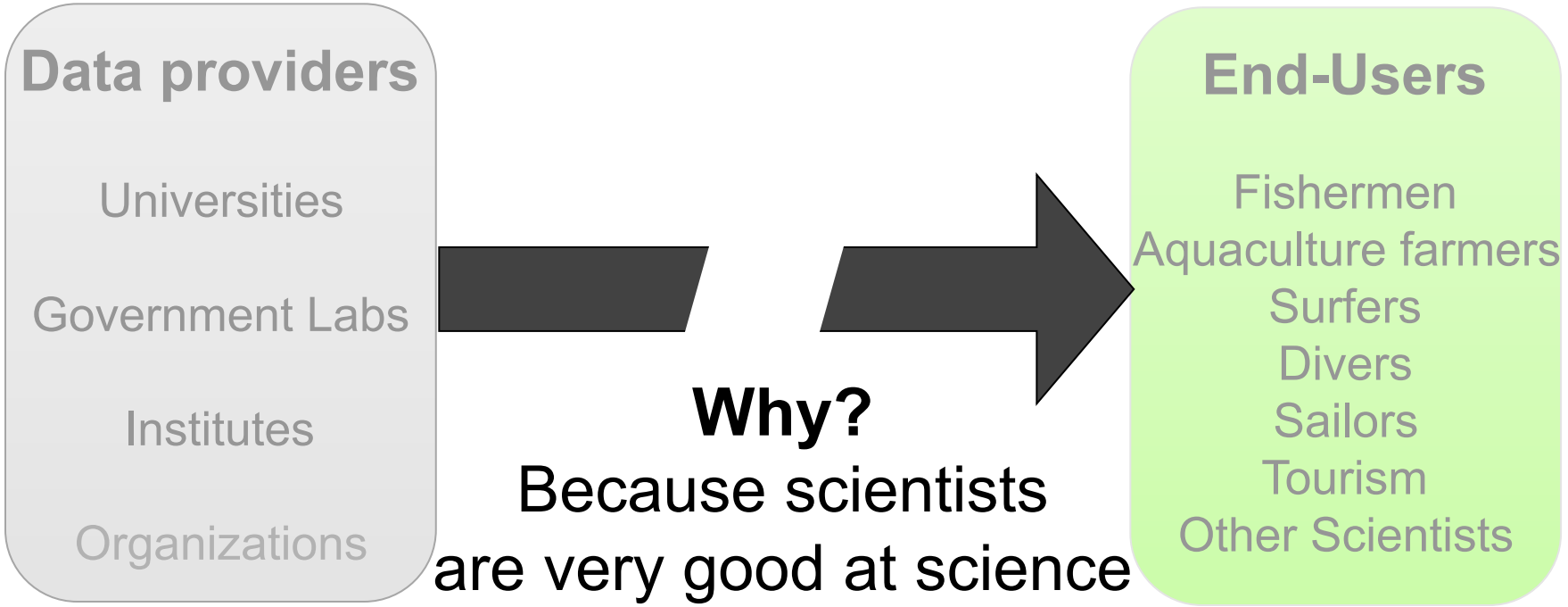

Why?
Because scientists
are very good at science
but not quite as good at
marketing

Origins and motivation:

Nov 2013, *OceanViewer.org*, pilot project of MEOPAR

Main goal: Narrow the gap between data providers and end-users

Data providers

Universities

Government Labs

Institutes

Organizations

End-Users

Fishermen
Aquaculture farmers
Surfers
Divers
Sailors
Tourism
Other Scientists

Main emphasis: **Focus on the END-USER!!**

Objectives:

OCEANVIEWER.org
Real-time conditions & forecasts

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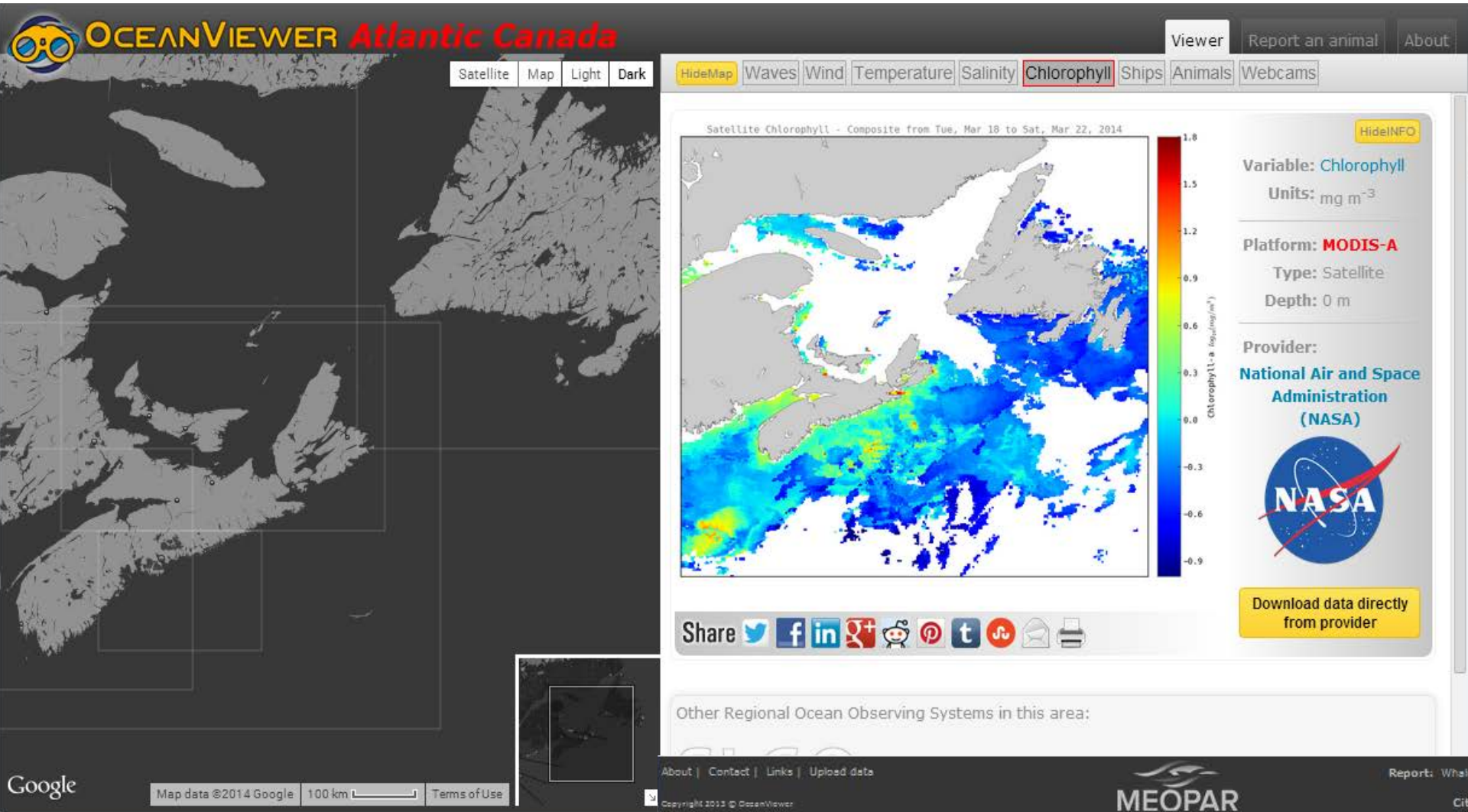
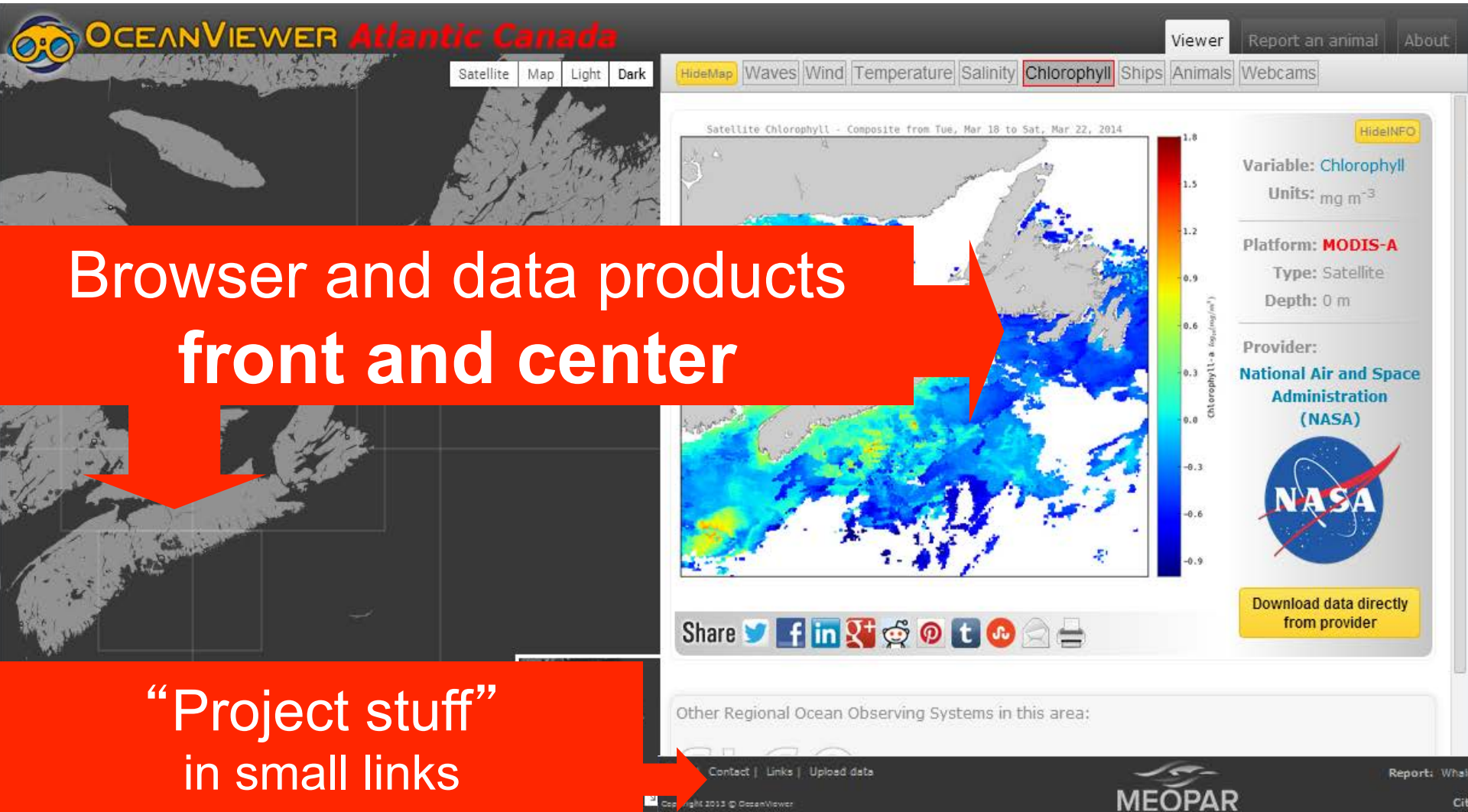
2. **Gather ALL ocean data and forecasts** through synergistic interactions with data providers. All data providers together can accomplish more that the sum of each on their own.

3. **Create a "citizen ocean science" platform** where end-users can, themselves, participate in collecting and presenting ocean-related data, which are then shared with the broader community.

1. User-focused site:

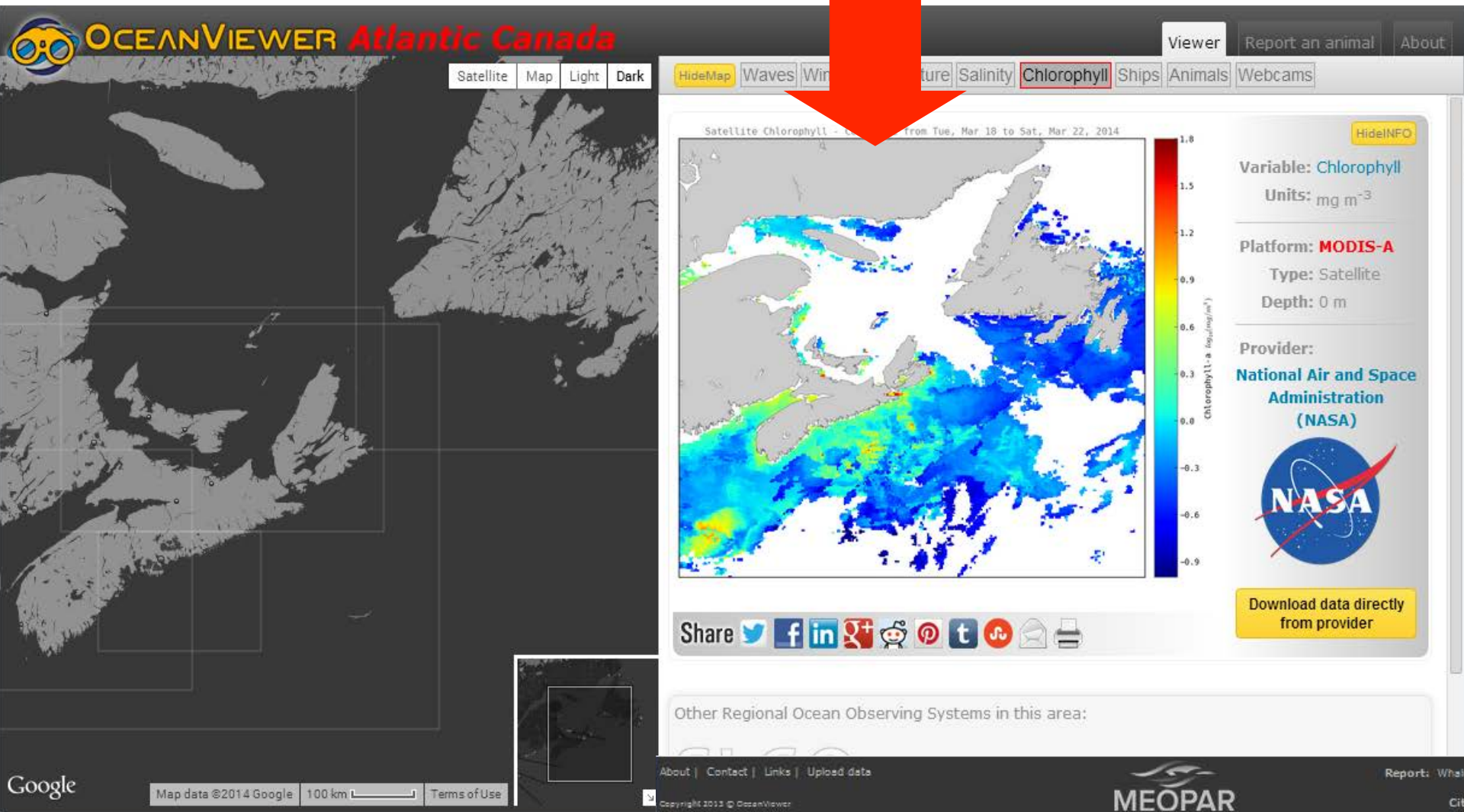




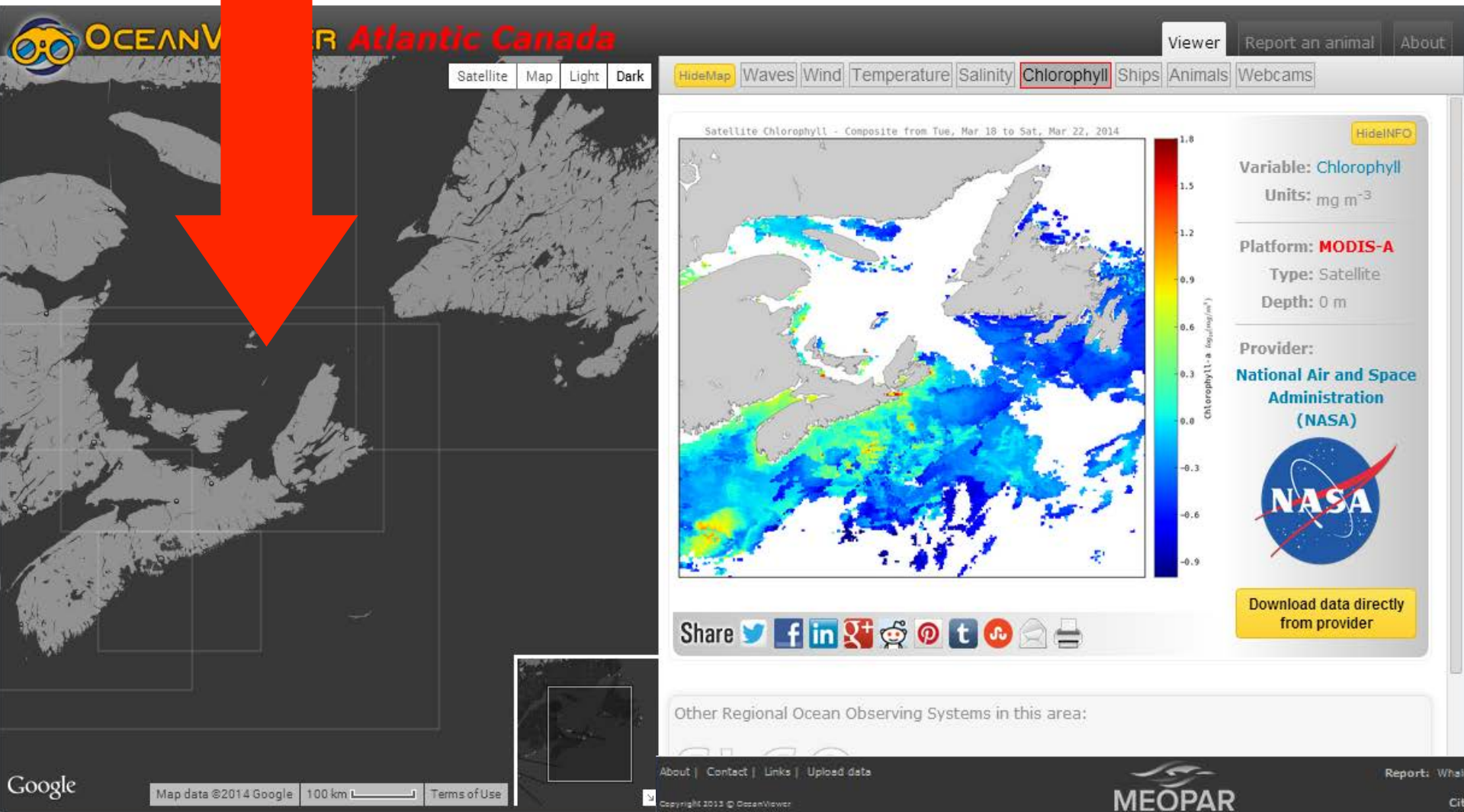
Browser and data products
front and center

"Project stuff"
in small links

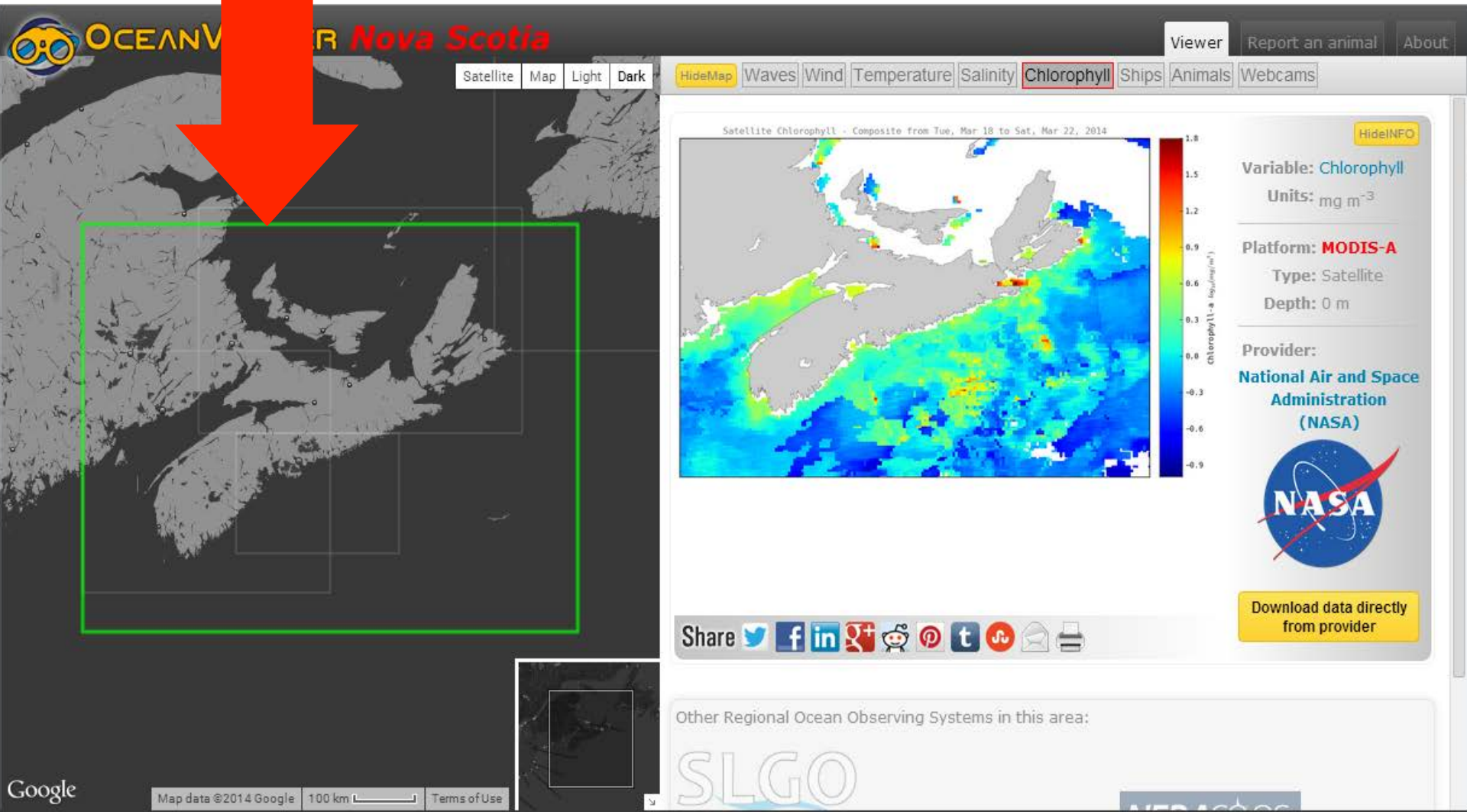
Pre-made plots for one-click browsing



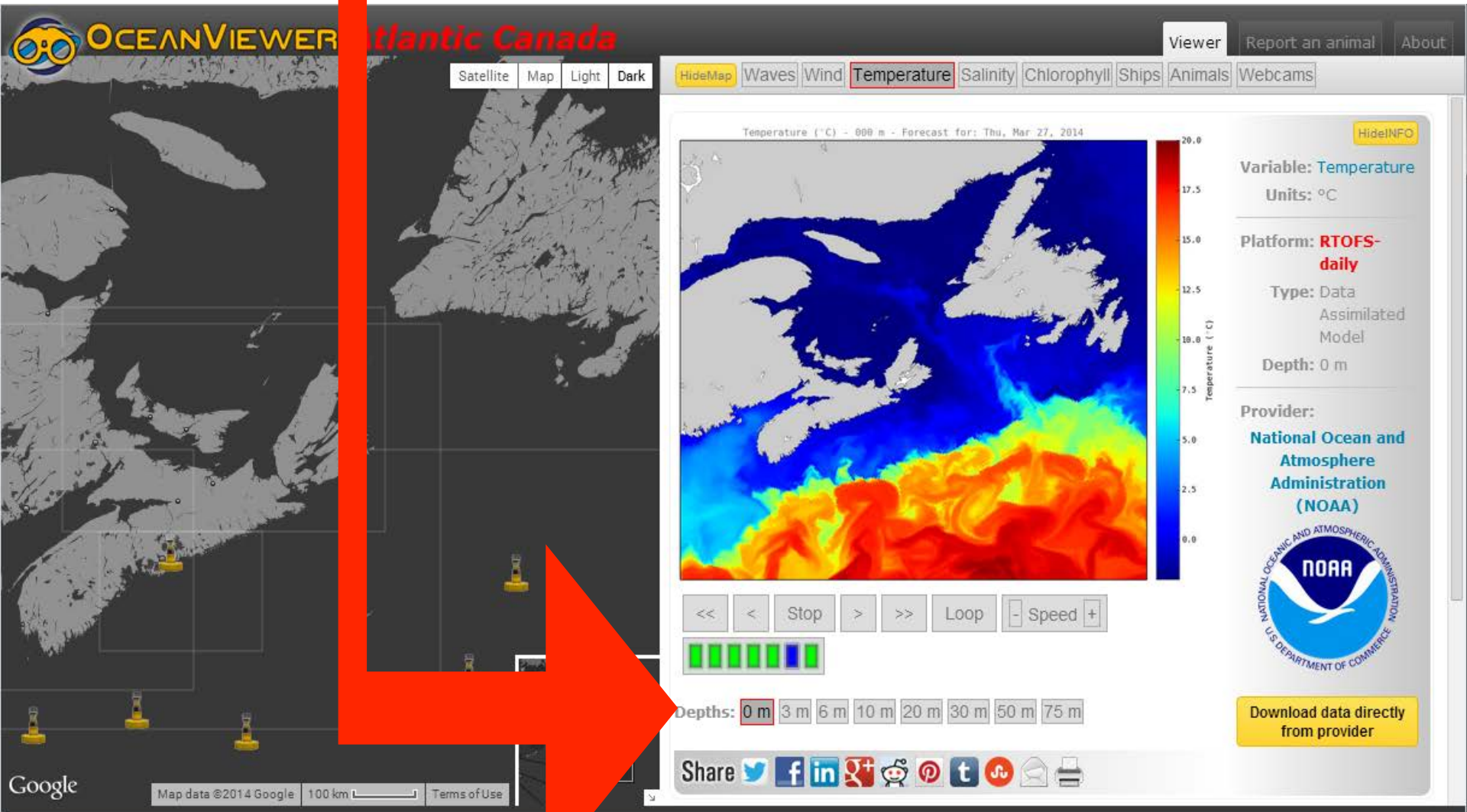
Region browser



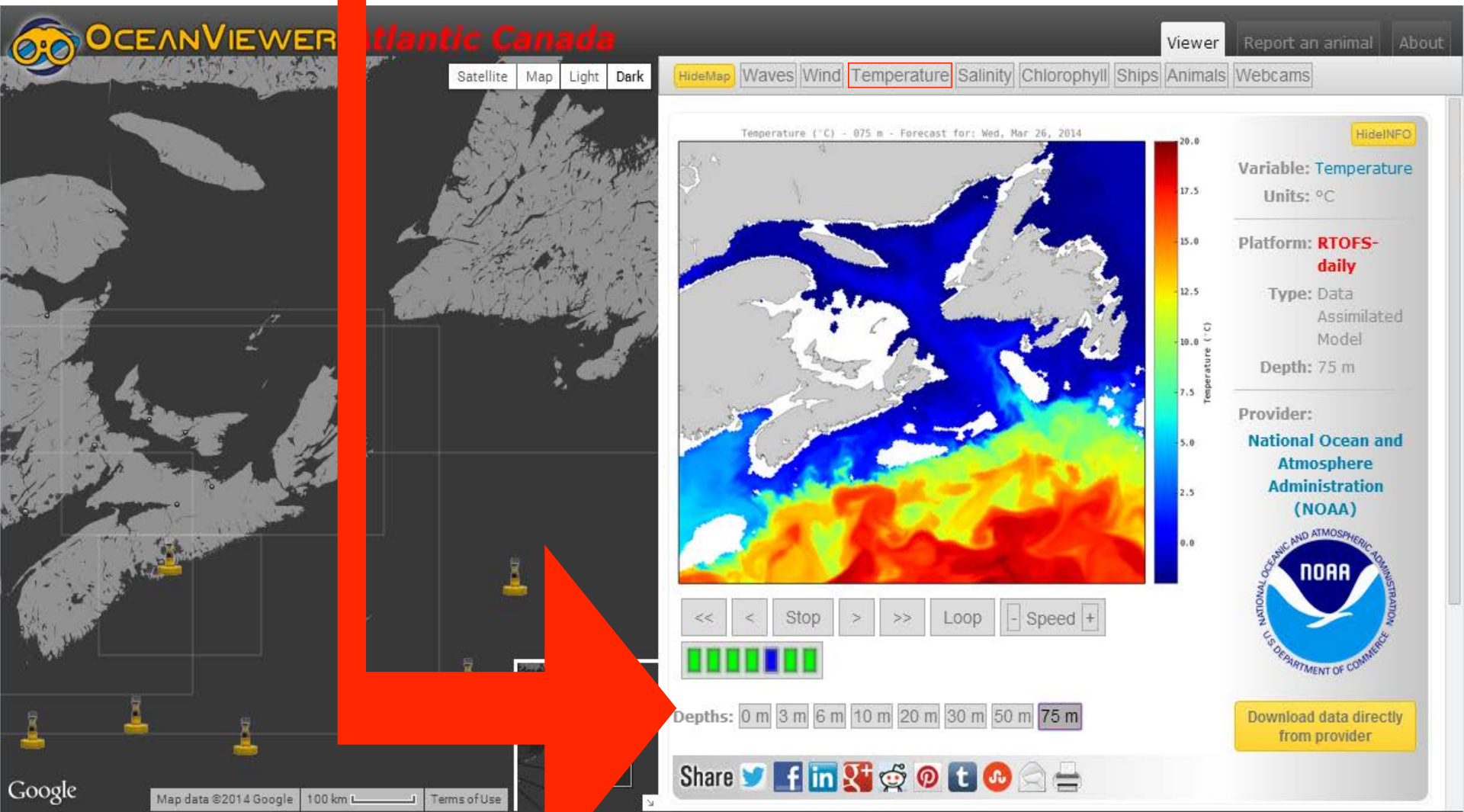
Region browser



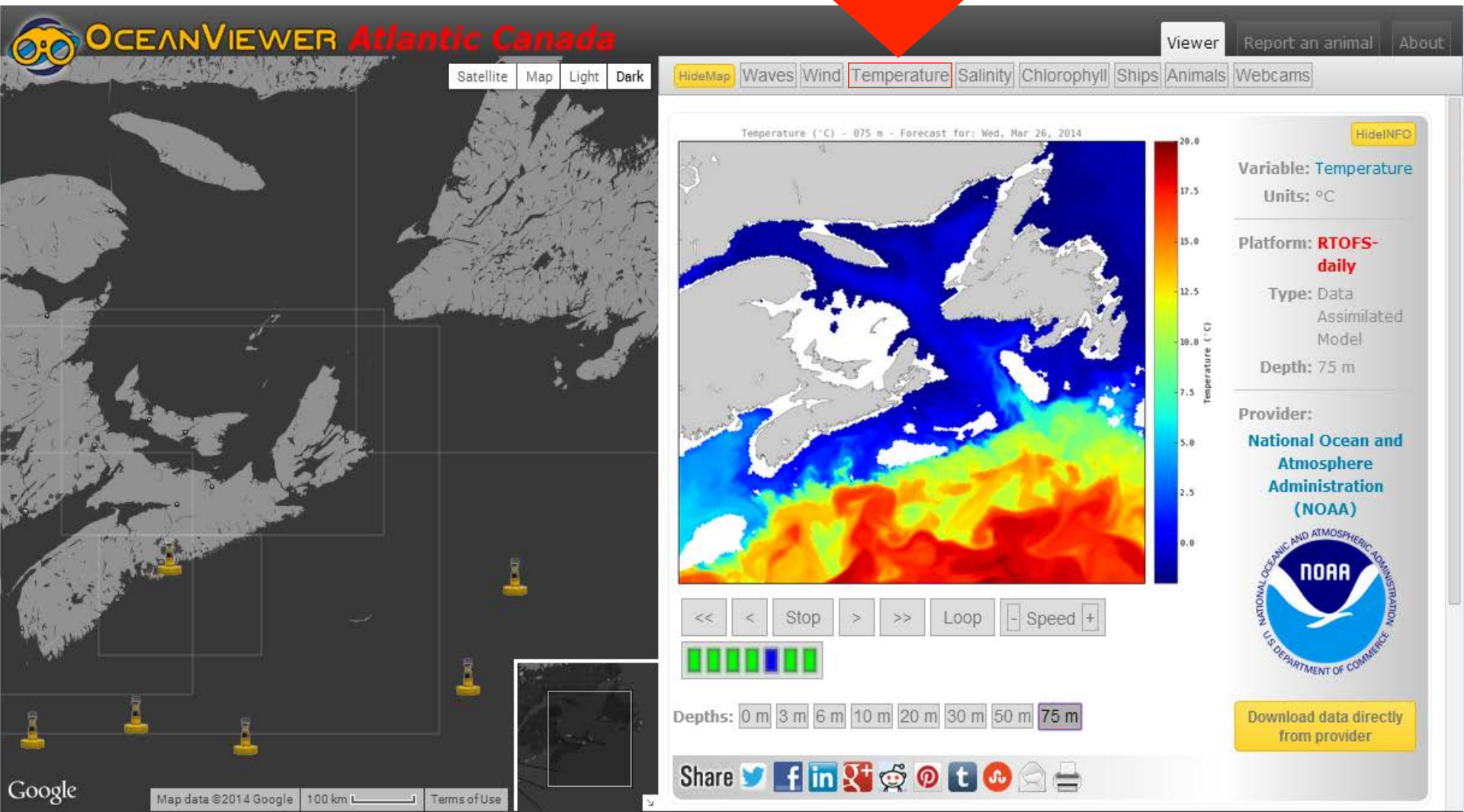
Depth browser



Depth browser



Variable browser



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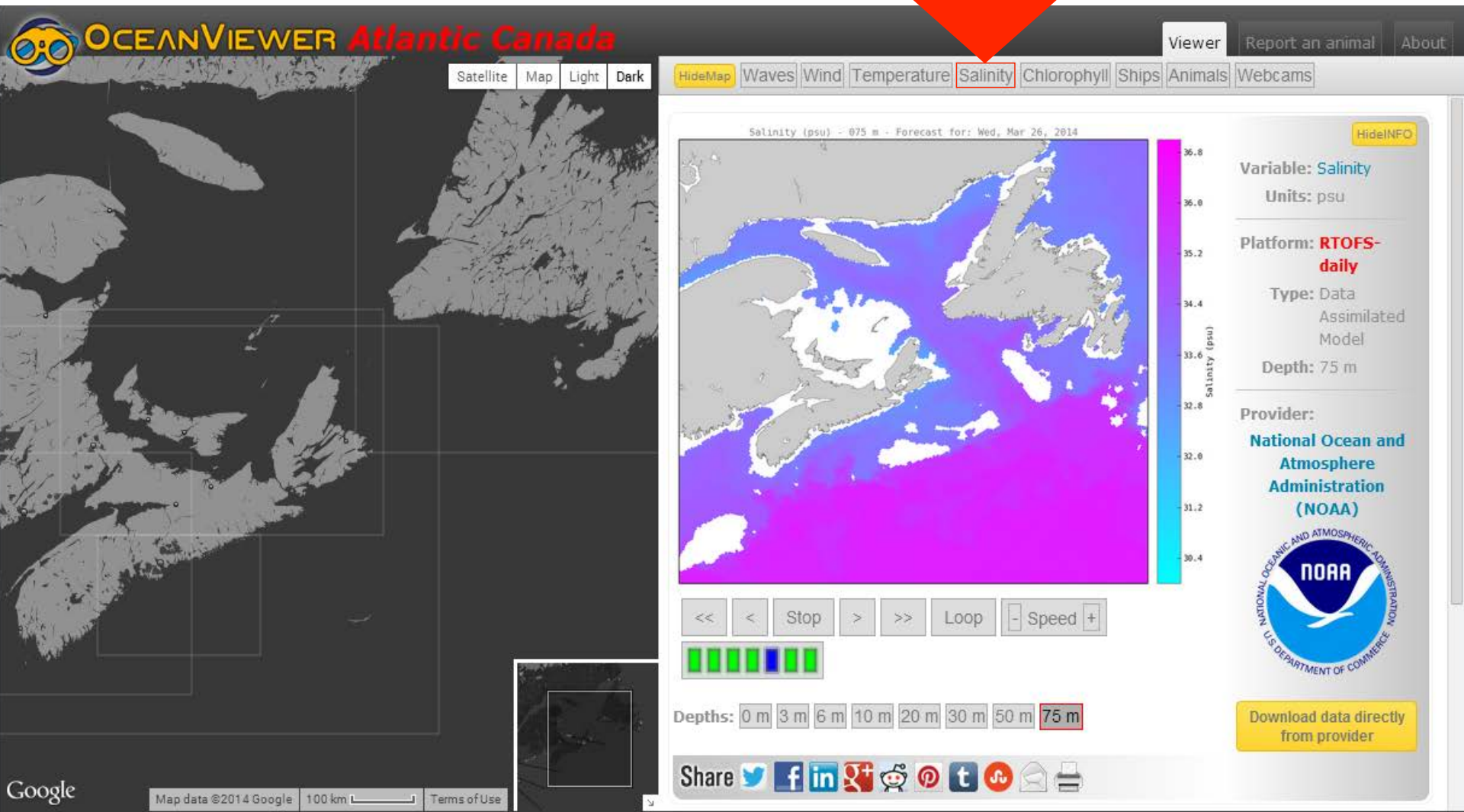
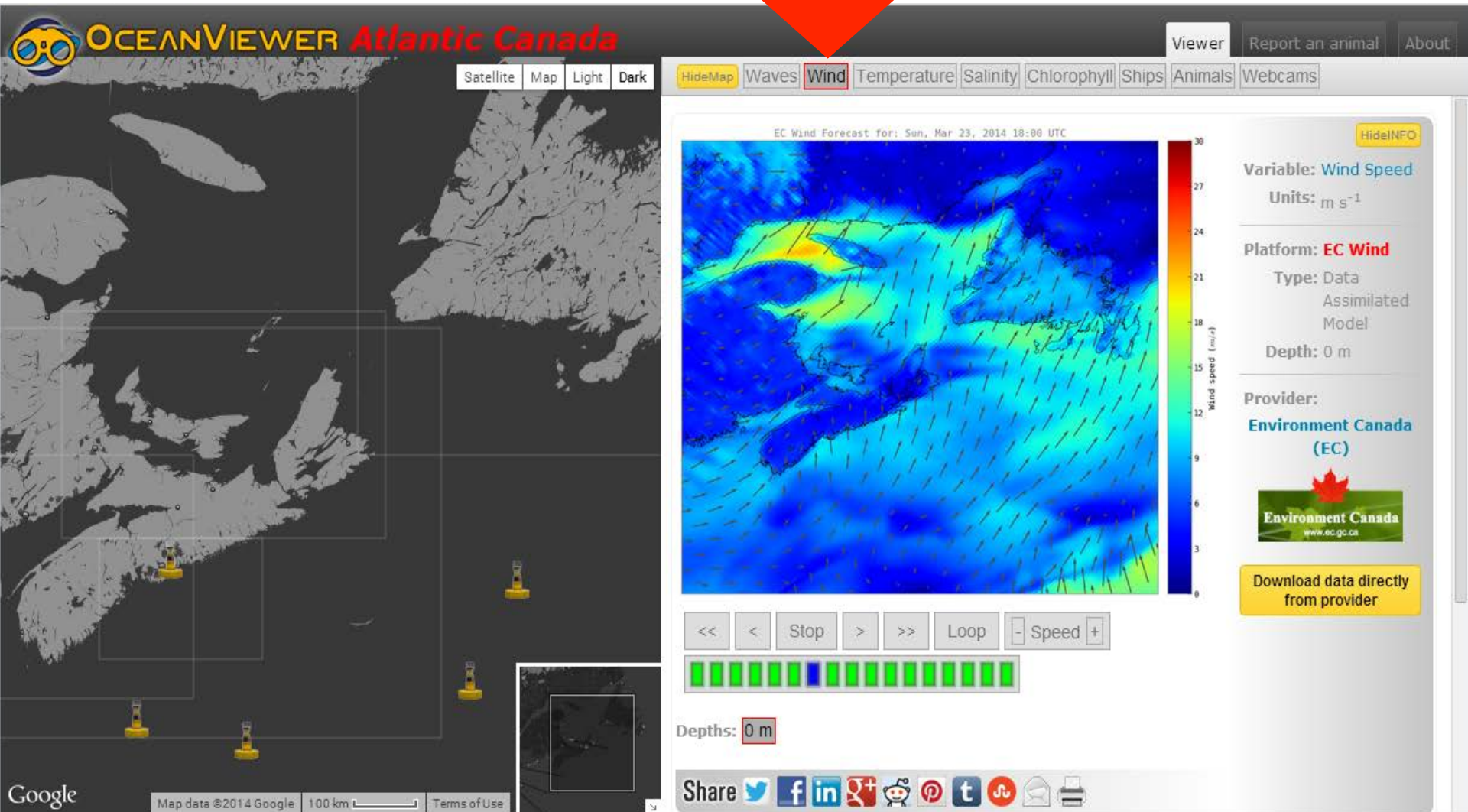


Variable browser



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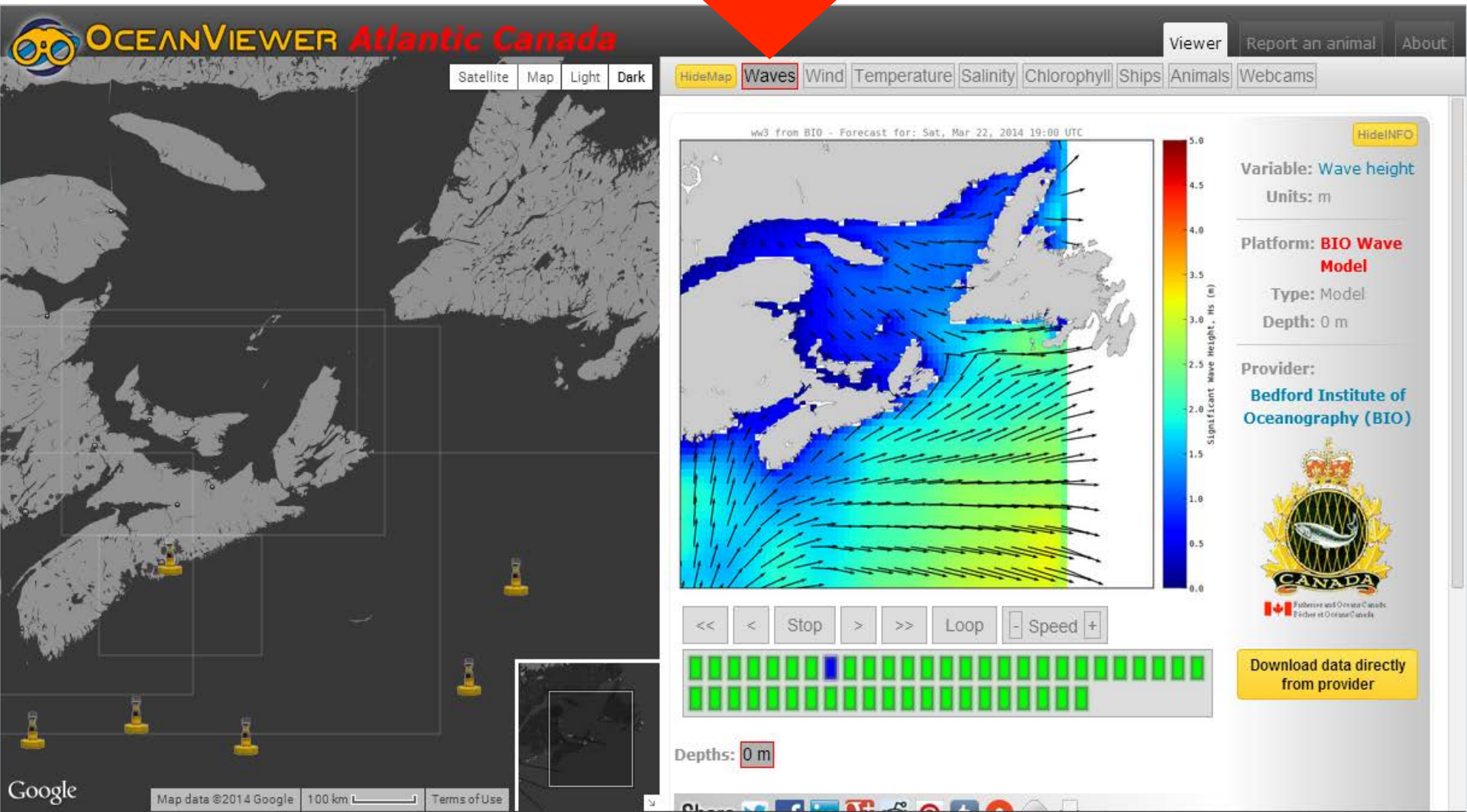
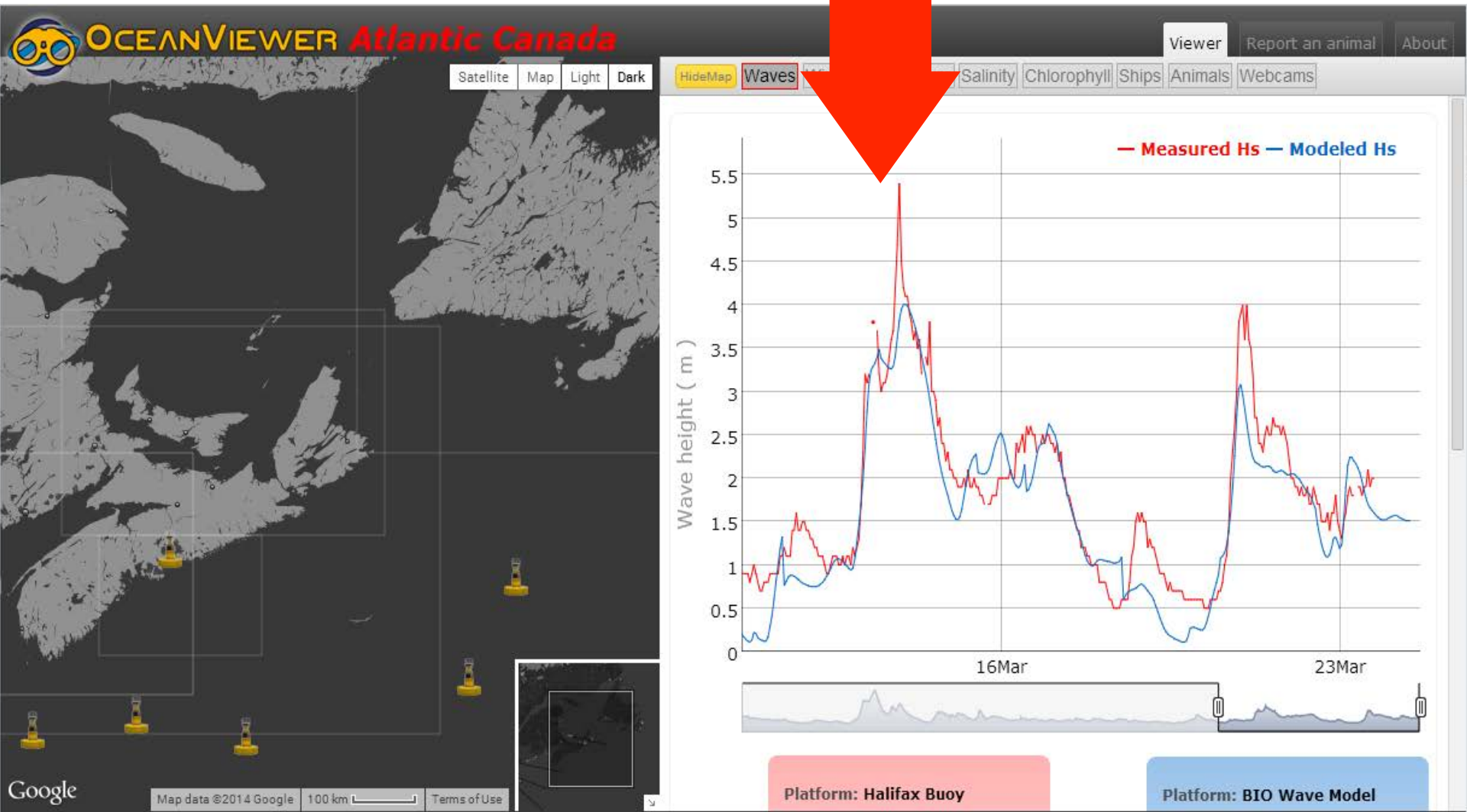
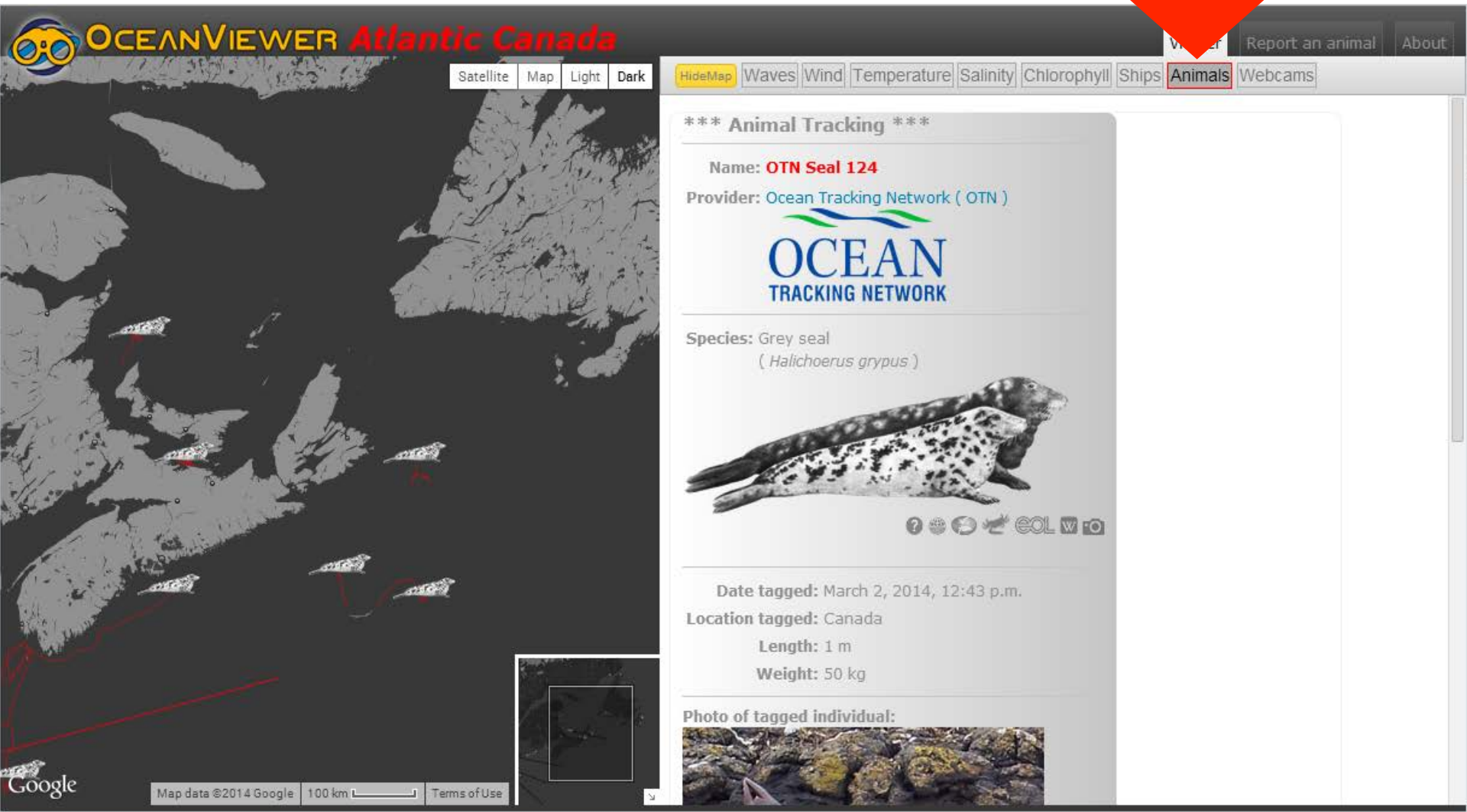


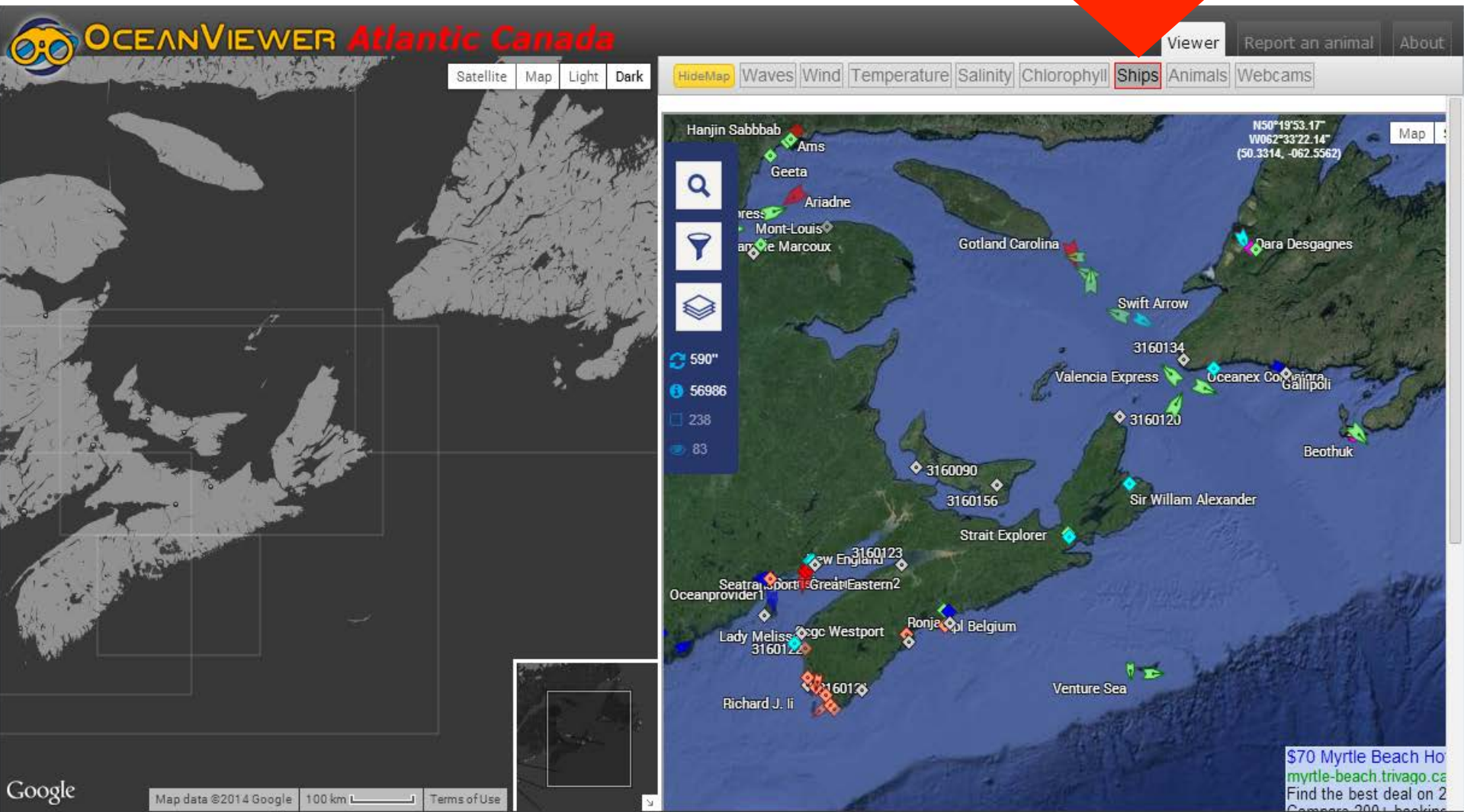
Data-model comparisons



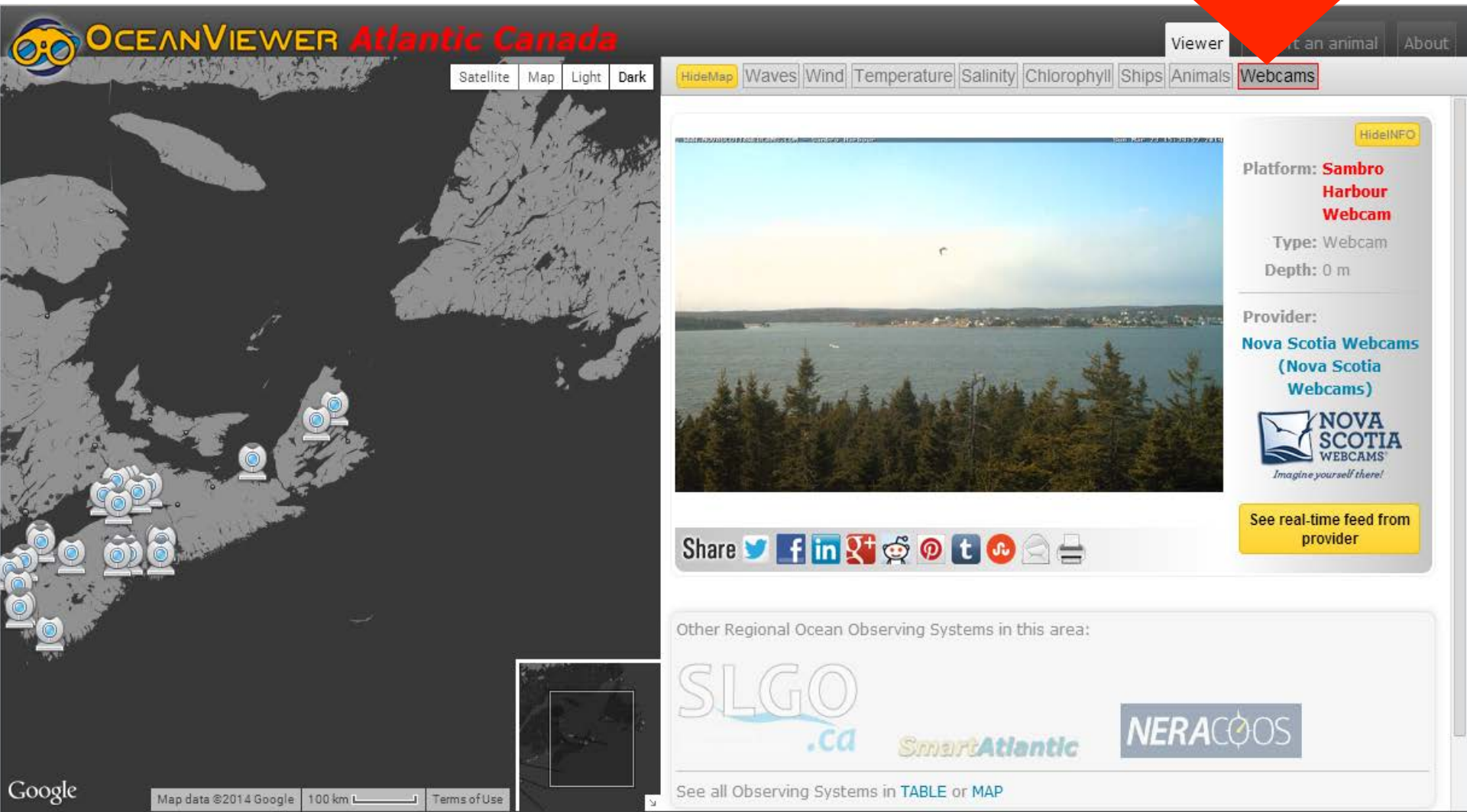
Variable browser



Variable browser



Variable browser



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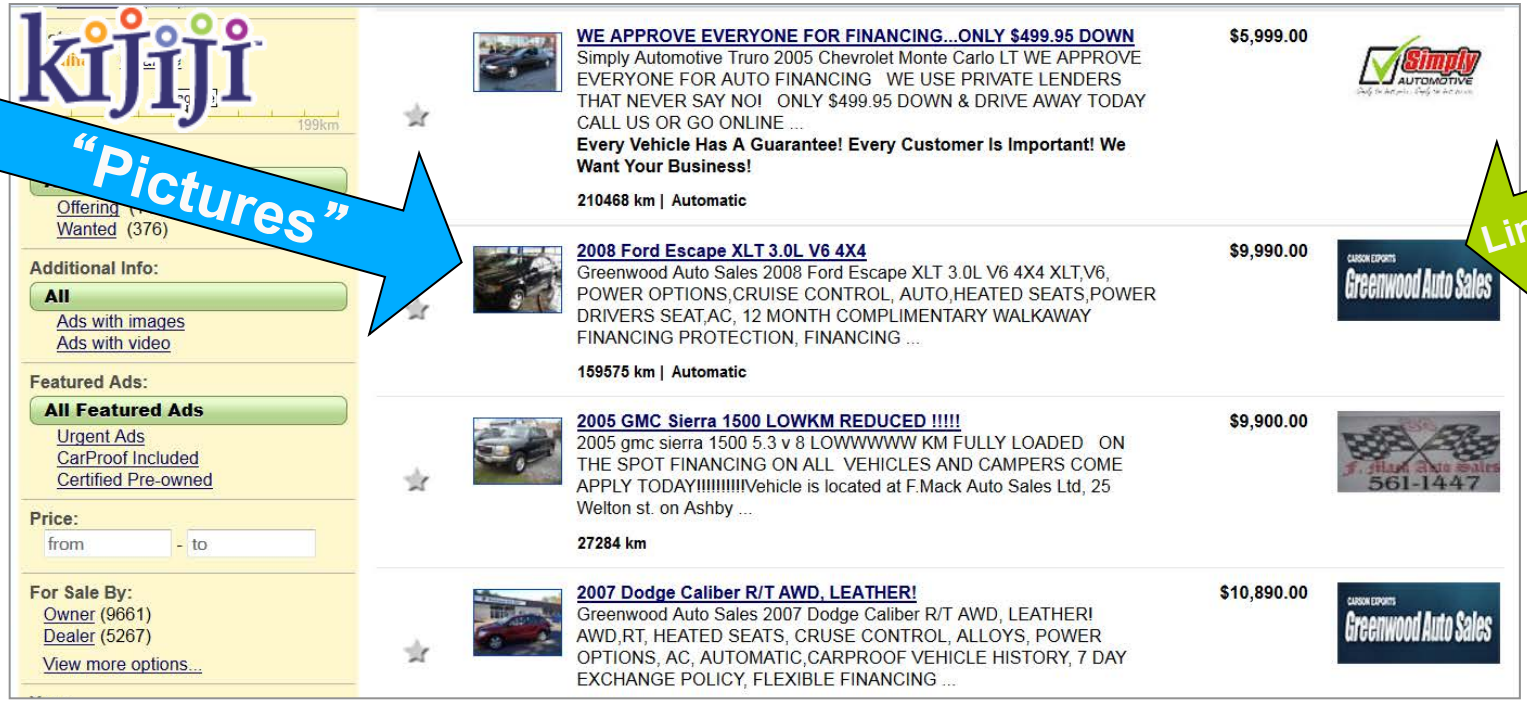
2. Gather ALL products:

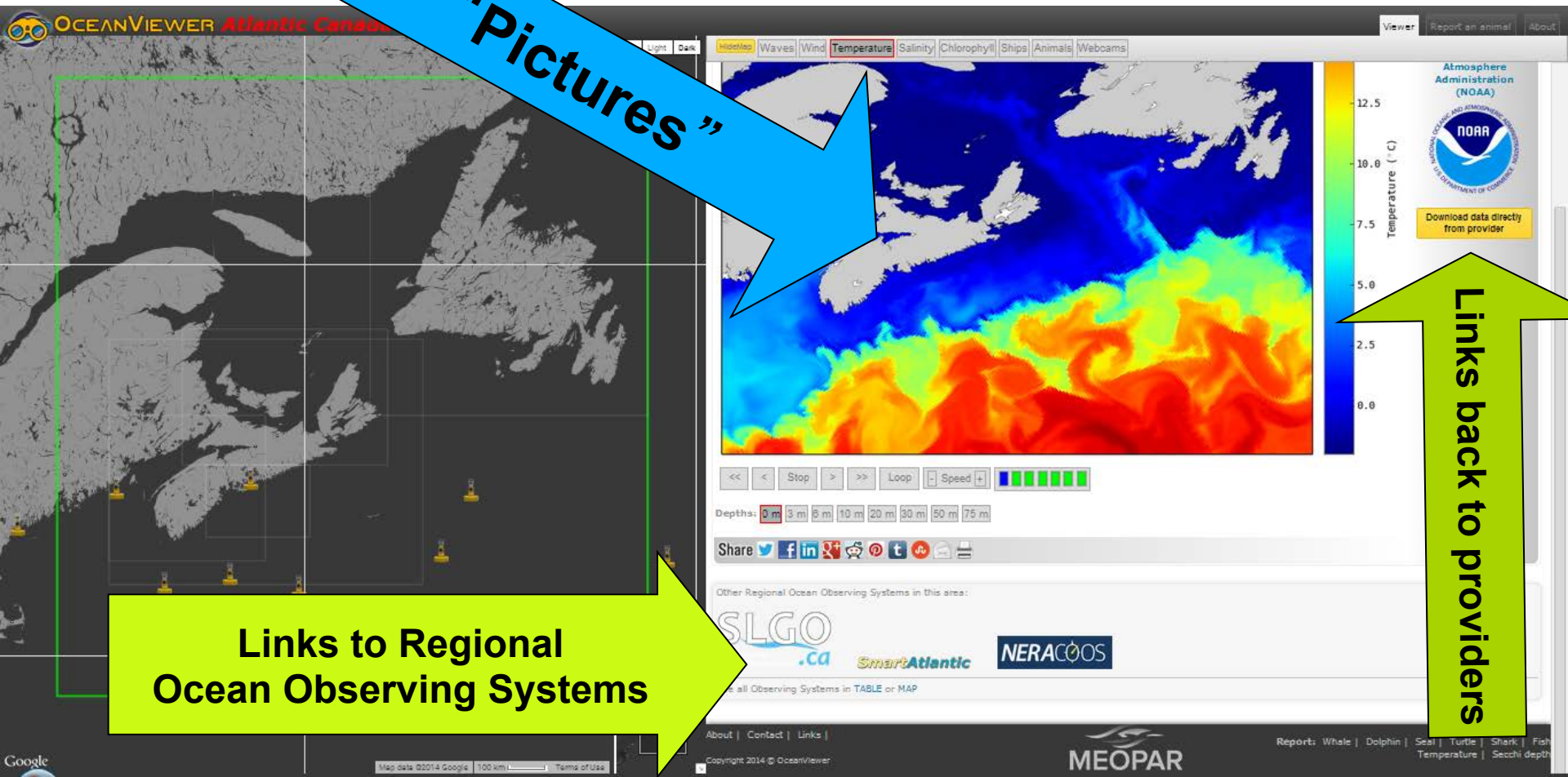


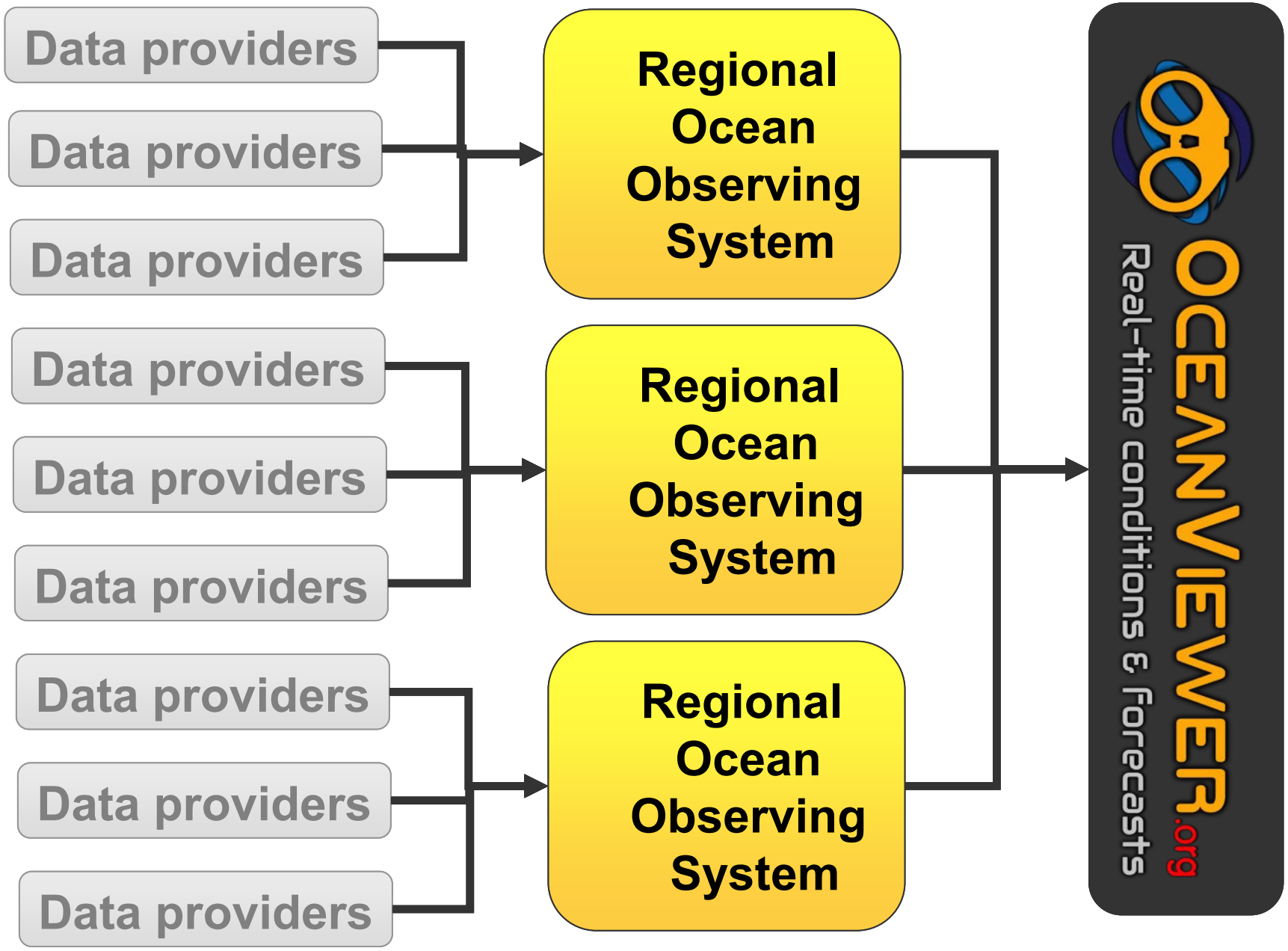
A "One-Stop-Shop" website is Good for everybody…

Good for users… i.e. easy to find data products

Good for data providers… i.e. increased traffic to their sites

2. Gather ALL products:




Data providers
Data providers
Data providers
Data providers
Data providers
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Data providers
Data providers
Data providers
Regional Ocean Observing System
Regional Ocean Observing System
Regional Ocean Observing System
OCEANVIEWER.org
Real-time conditions & forecasts

2. Gather ALL products:

Environment Canada

Temp, Waves
Model wind

SmartAtlantic Temp, Waves

BIO

Wave model

OCEAN TRACKING NETWORK

Gliders
Seal locations

NOAA

Temp and salinity model

NASA

Chlorophyll
Satellite images
(Thank you Emmanuel!)

Argo

Temp
Salinity

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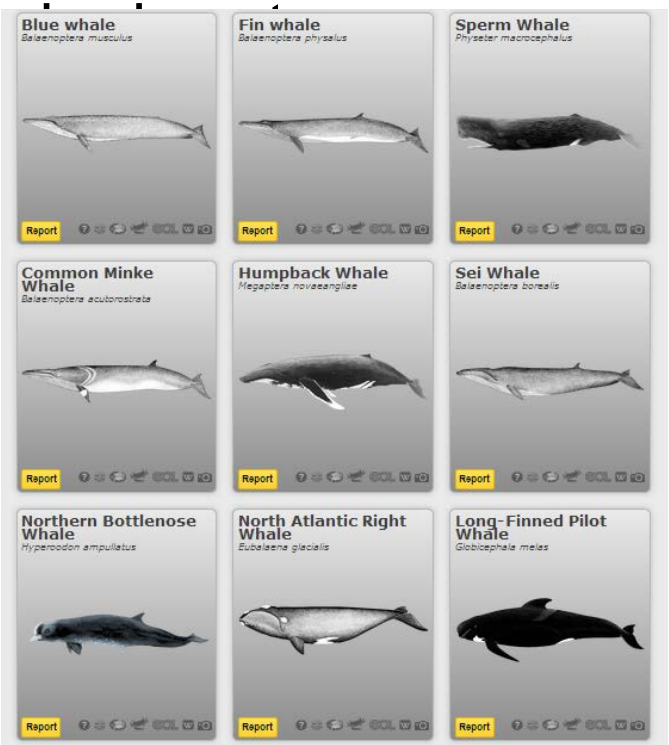
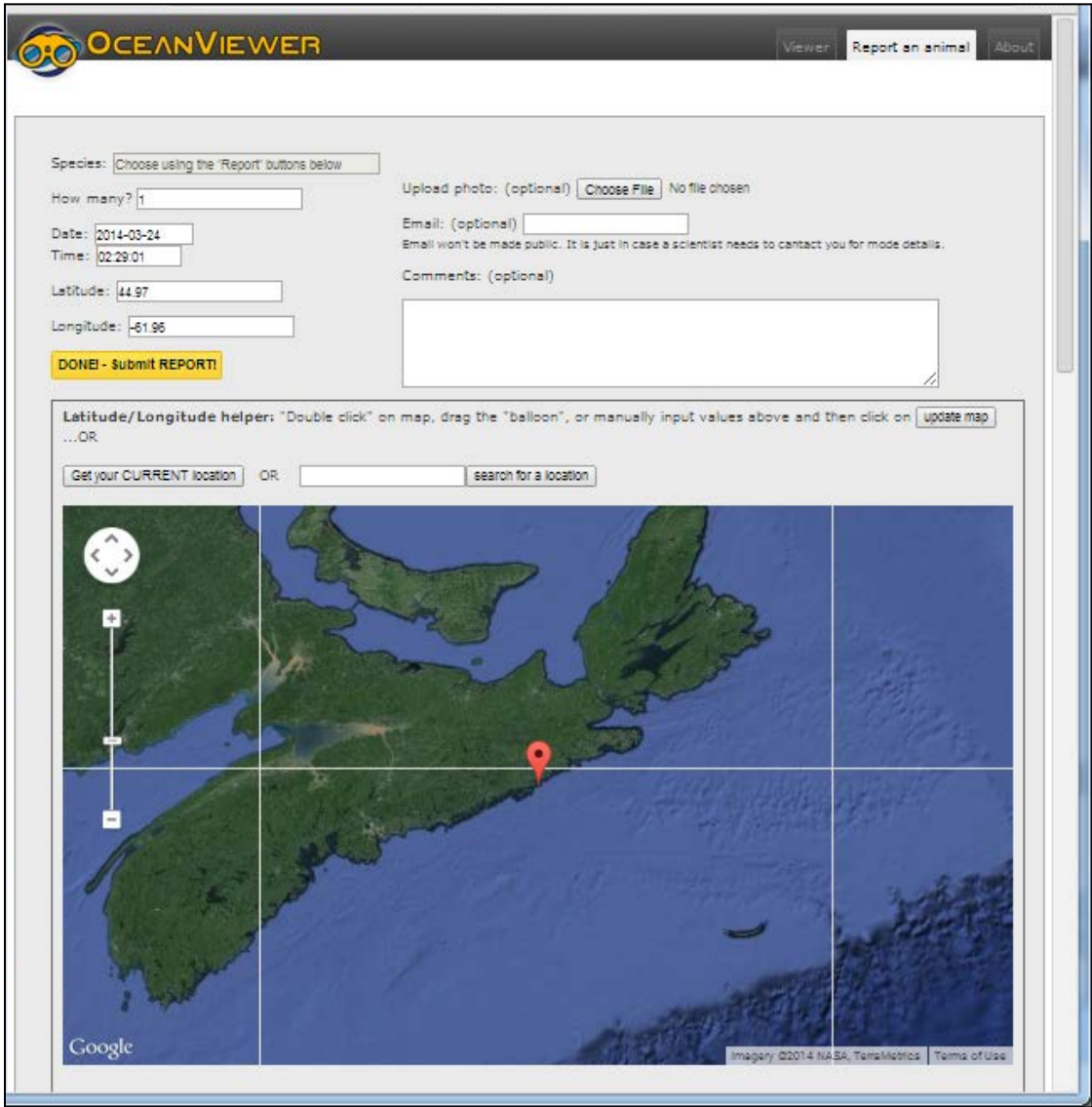
3. Citizen Science:

Utility to report “sightings” of whales, turtles,





3. Citizen Science:

Utility to upload "temperature data"

We gave fishermen temperature loggers to put on their lobster traps and/or wharfs.

Data is plotted and "shared with the world" immediately after upload

Citizen Oceanography Program

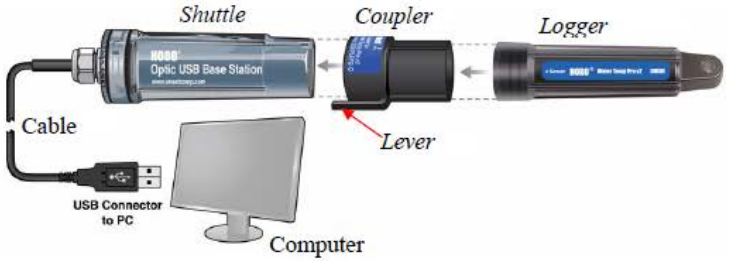
MANUAL

(v0.1 | 12-06-2013)

This manual explains how to operate the temperature loggers, and how to upload data to our webpage.

Overview

- **Initial set up** - These are steps that you need to do ONLY ONCE. These are:
  - Open box with instrument and familiarize yourself with all the parts (see Figure below)
  - Install software in your computer
  - Launch the *Loggers* (and the *Shuttle*)
  - Deploy *Loggers* (on a wharf or lobster trap, etc.)
- **Daily routine** - These are steps that you need to do every day (or as often as you can)
  - Download data from *Loggers* to *Shuttle* (in the field)
  - Take *Shuttle* home and download data from *Shuttle* to your computer
  - Upload data from your computer to our website



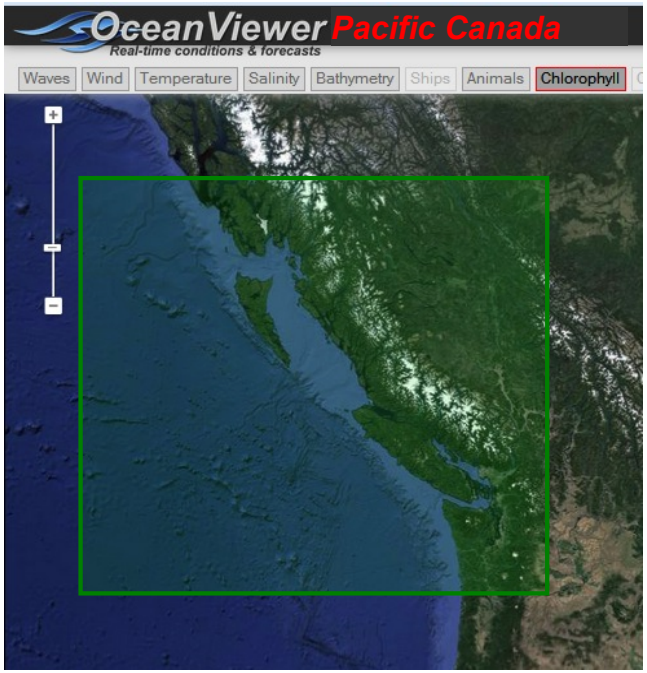
NOTE: For more information, see the *Logger*'s website: http://www.onsetcomp.com/products/data-loggers/u22-001

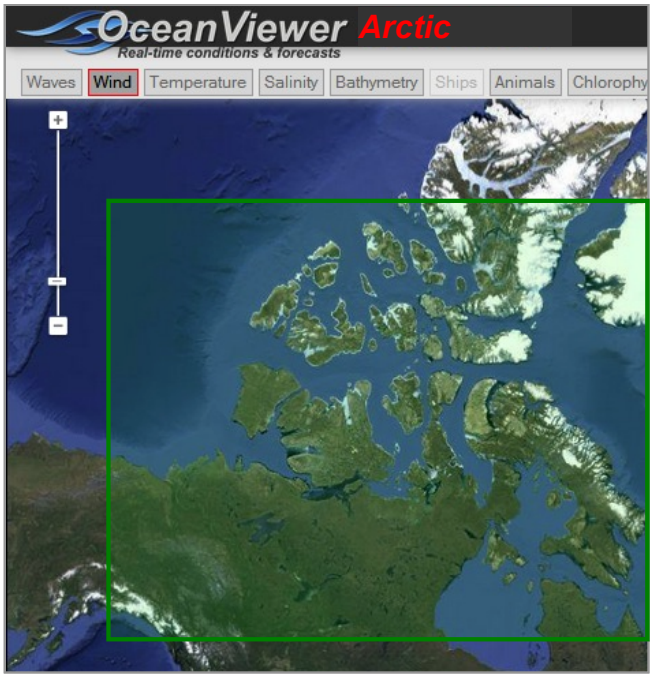
Initial setup

1. Install included software (i.e. CD with HOBOware software) in your computer
2. Connect USB cable to computer
3. Connect USB cable to *Shuttle* (it may take a minute for your computer to recognize the USB device)
4. Open HOBOware
5. From the menu [Device], click on [Manage Shuttle]

Future steps:

- Add more data products (ice, rain, etc) in Atlantic Canada
- Improve the browser/visualization interface
- Add the capability for users to create their own “picture/link” products (i.e. a true “Ocean Kijiji”)
- Perhaps expand to other regions (e.g. Artic?, Pacific Canada?)





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http://oceanviewer.org

Questions?

Diego.Ibarra@dal.ca