



# Integrated Bathymetry and Topography Data Elevation Model (IBTDEM)

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Région du Québec

CHC 2010



Pêches et Océans  
Canada

Fisheries and Oceans  
Canada

L'hydrographie: une science, des  
technologies et des gens au service  
du monde maritime

Hydrography : science, technology  
and people dedicated to the maritime  
world

Canada



- Projet Description;
- Why;
- Product definition;
- Workflow;
- Examples.



# Projet description

- 2 years projet (began in 2007)
- Partnership with GeoConnexion for funding and CIDCO;
- Building a nationwide Framework data theme for the fusion of GeoBASE DEM and a new bathymetric model from CHS data

# The Motivation

- Great tool for scientists, coastal zone managers and decision makers dealing with:

**Civil security**

**Infrastructures**

**Environmental impact**

**Hydrodynamic modeling**

**Geological processes**

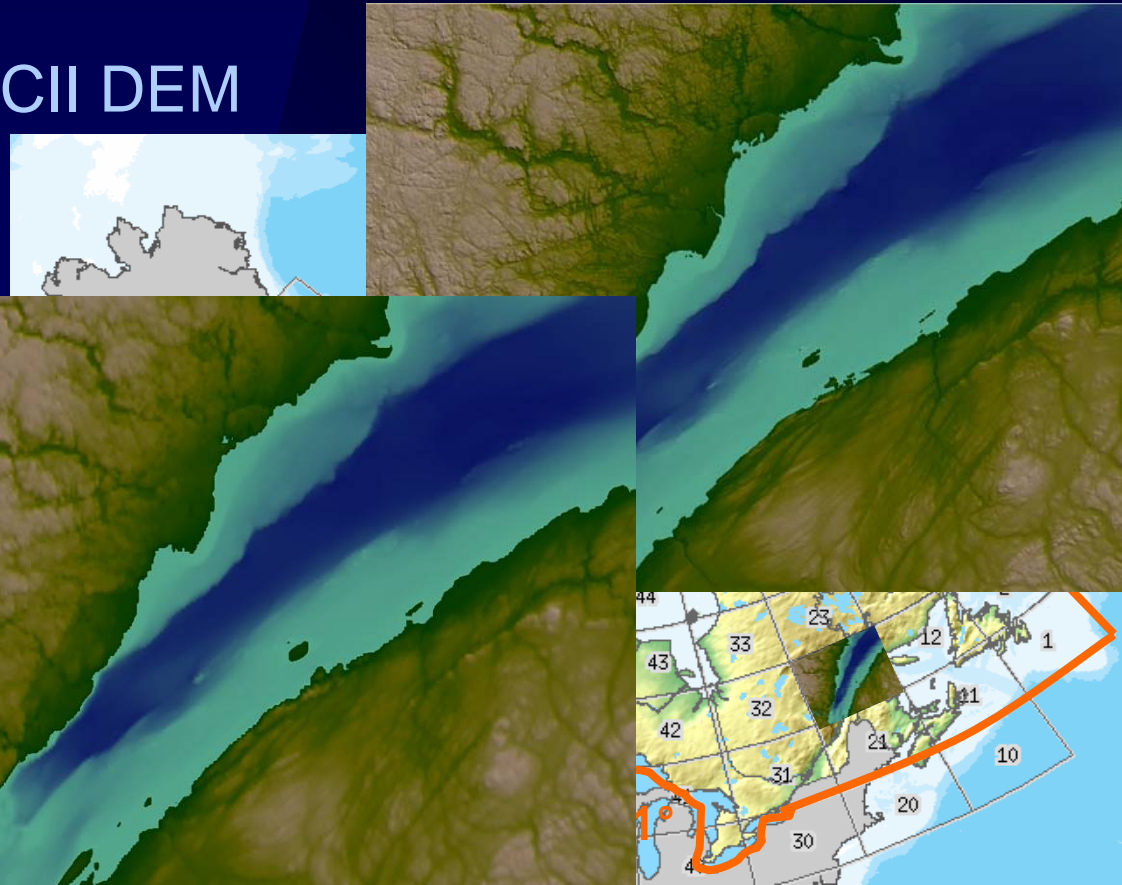
**Military purposes**

« ... the lack of knowledge of the underwater part makes illusive the protection or the restoration of the littoral and all implied underwater habitats (lobsters, scallops, weeds fields ...) including the development of aquaculture sites (oysters, mussels, scallops...). Moreover, because of the climate changes, any phenomenon which comes into play to coastal erosion involves a morphological readjustment of this corridor that will disturb the natural and anthropic uses of this zone. Consequently, its evolution must be known accurately so that the decision makers can take enlightened actions. It thus becomes an important issue where the results of the various terrestrial and marine measurement techniques must converge to lead to an integrated and precise cartography of the littoral ... »

Bernard Long  
Professor, INRS-ETE

# Product definition

- IBTDEM Cells: same as NTS 250 000th
- Data format: USGS ASCII DEM
- 2 Products:
  - 0.75 decimal seconds
  - 20 seconds (Free)
- Available on NRCAN Geobase website.
- Not for navigation



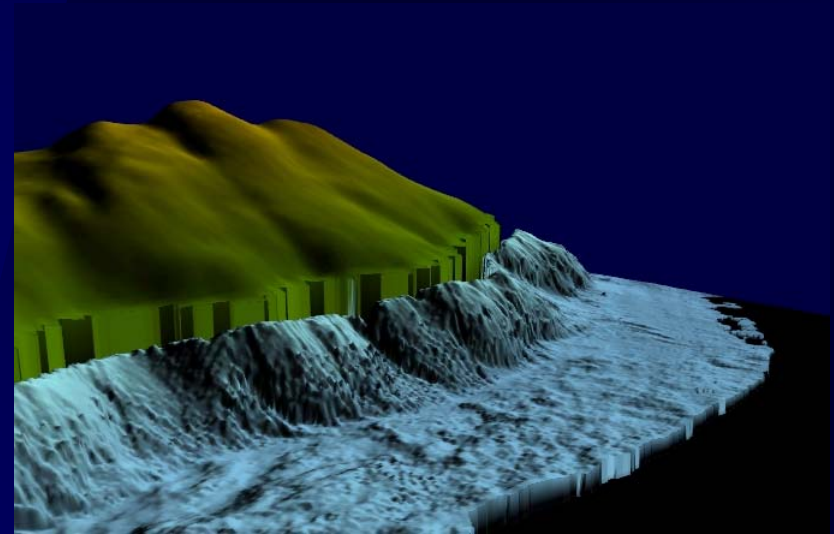


# The Required Source Data?

We need...:

Hypsometric data

Bathymetric data



*But they don't always match ...*

# Workflow

## Topography data handling

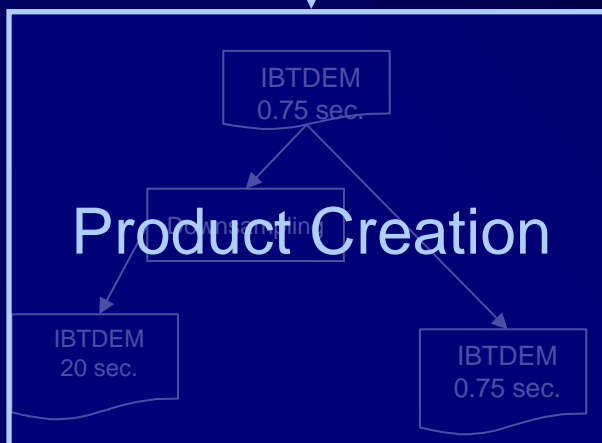


## Data Merge

## Bathymetry data handling

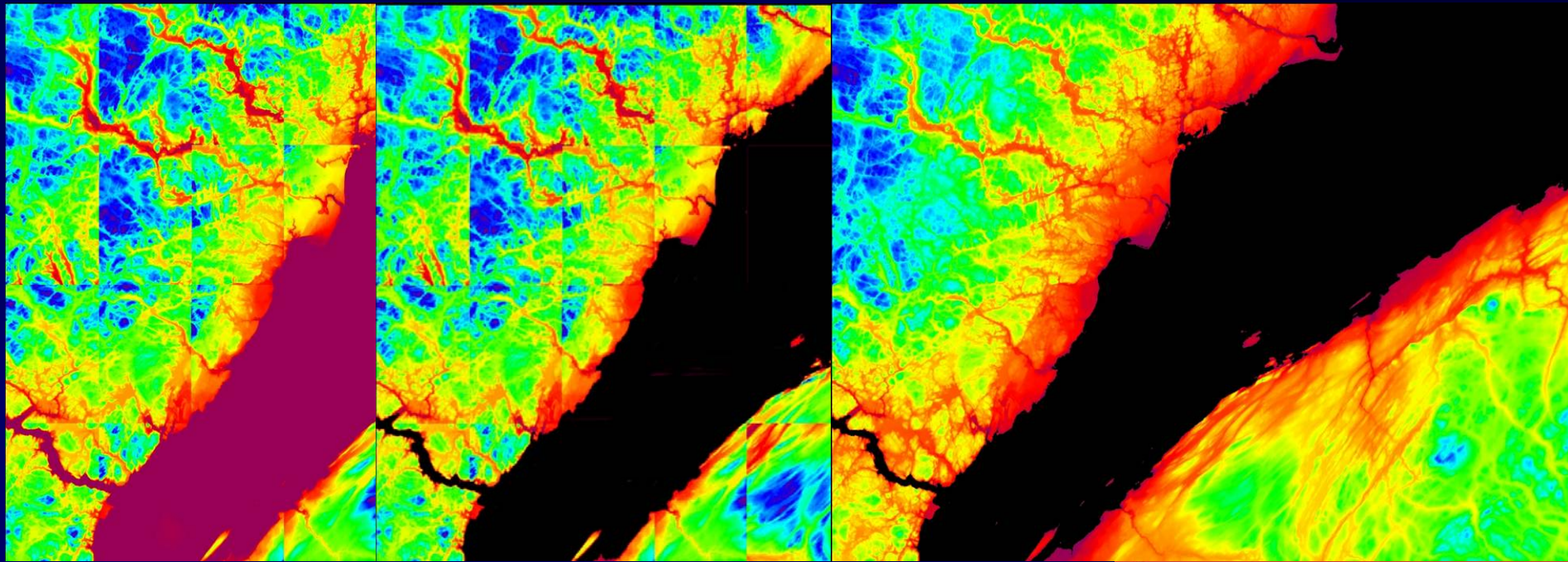


## Product Creation





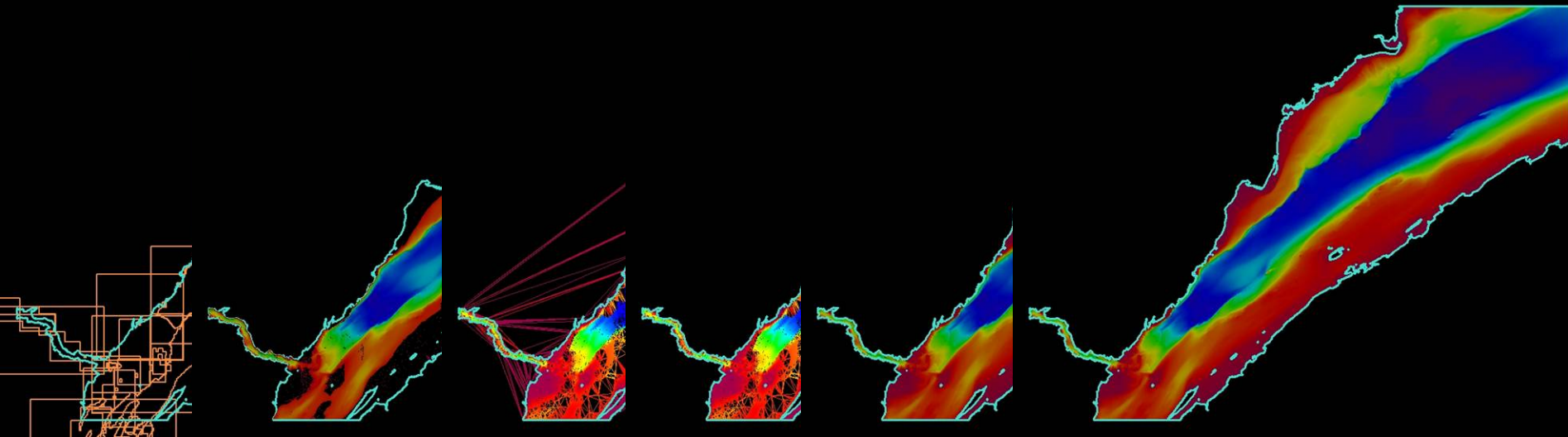
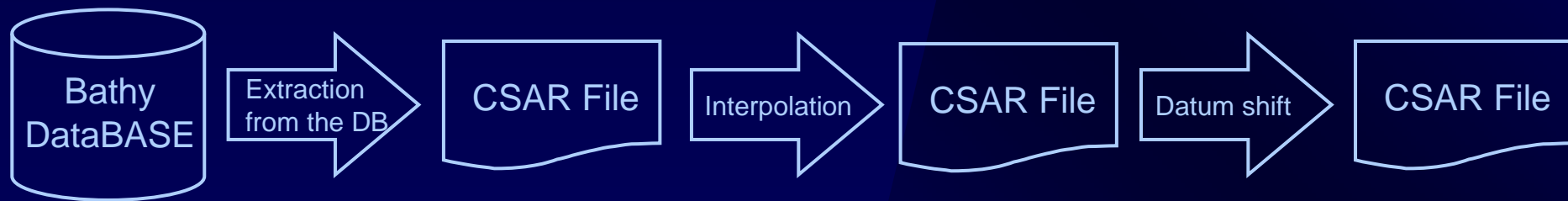
# Topography preparation.

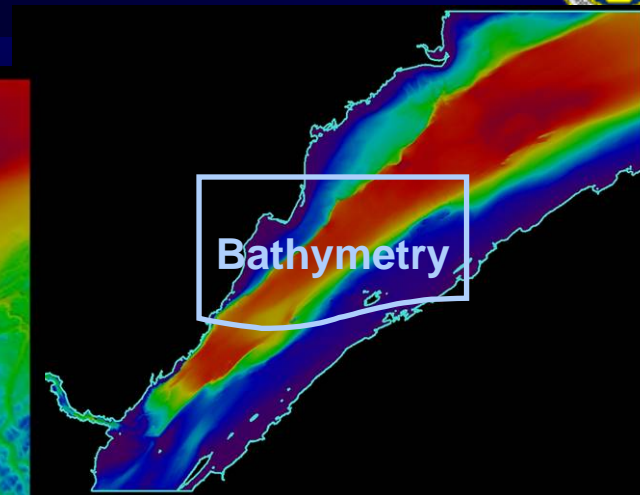
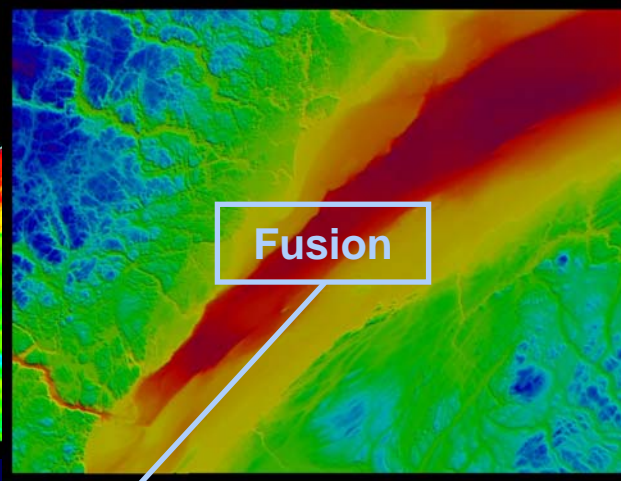
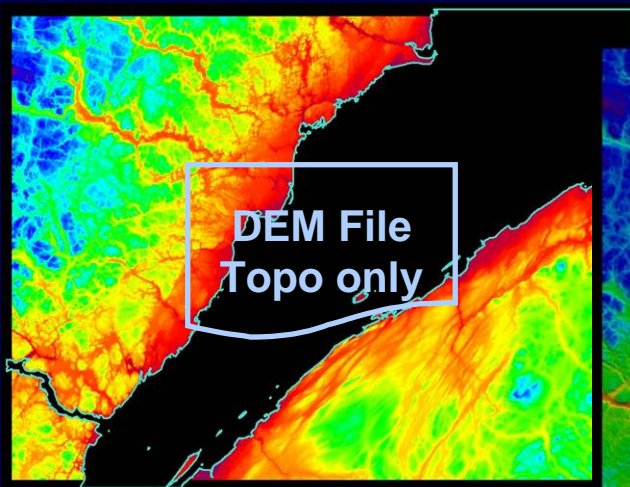






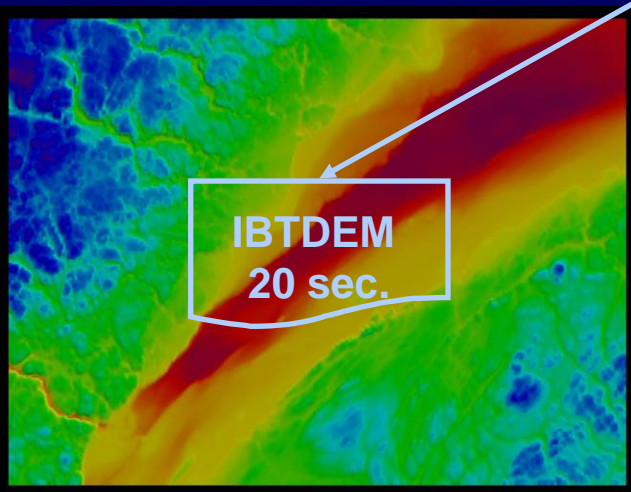
# Bathymetry preparation.





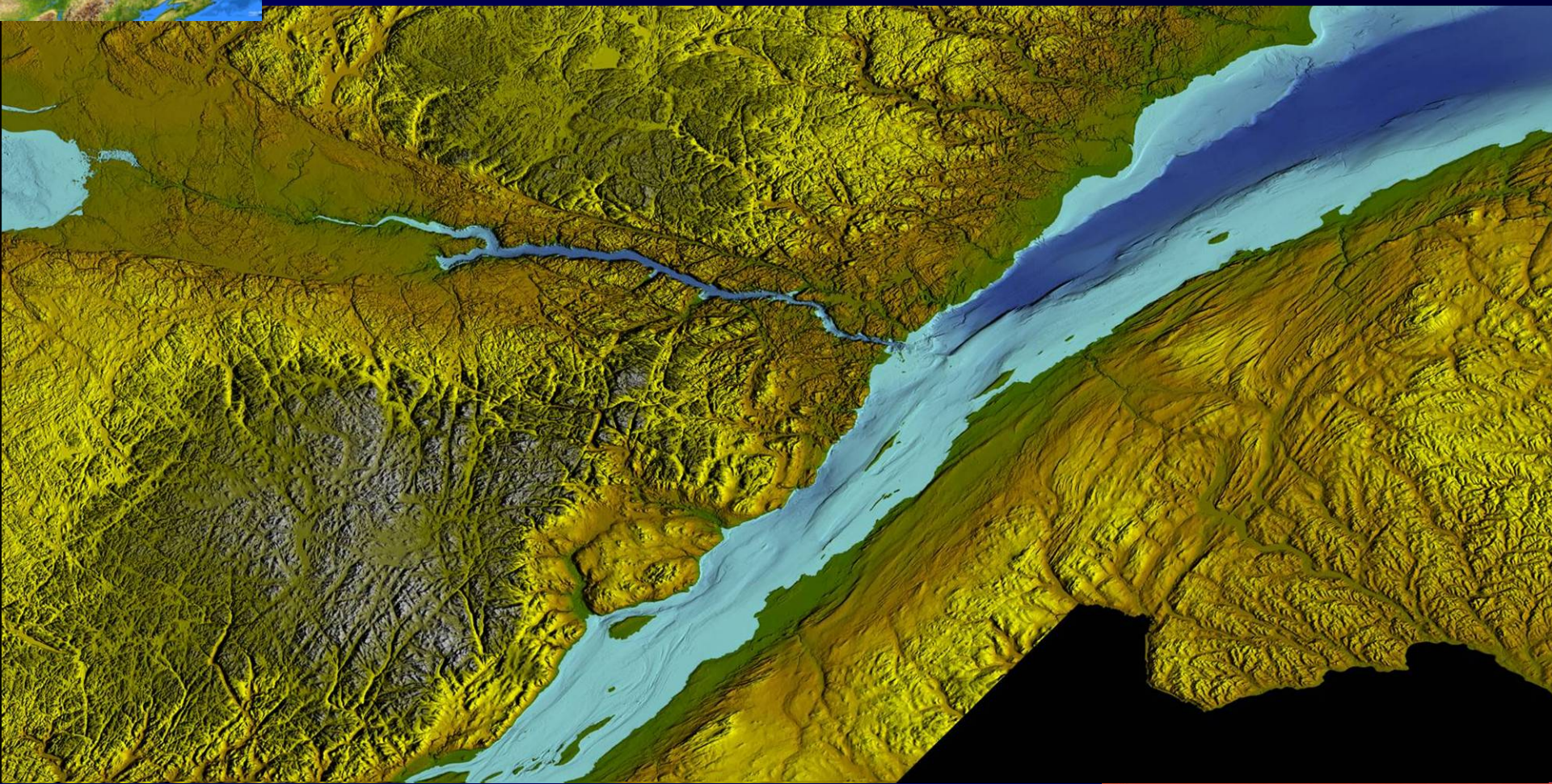
Downsampling

This text box is connected by arrows to the 'Fusion' and 'IBTDEM 20 sec.' figures, indicating the process of downsampling the fused data.





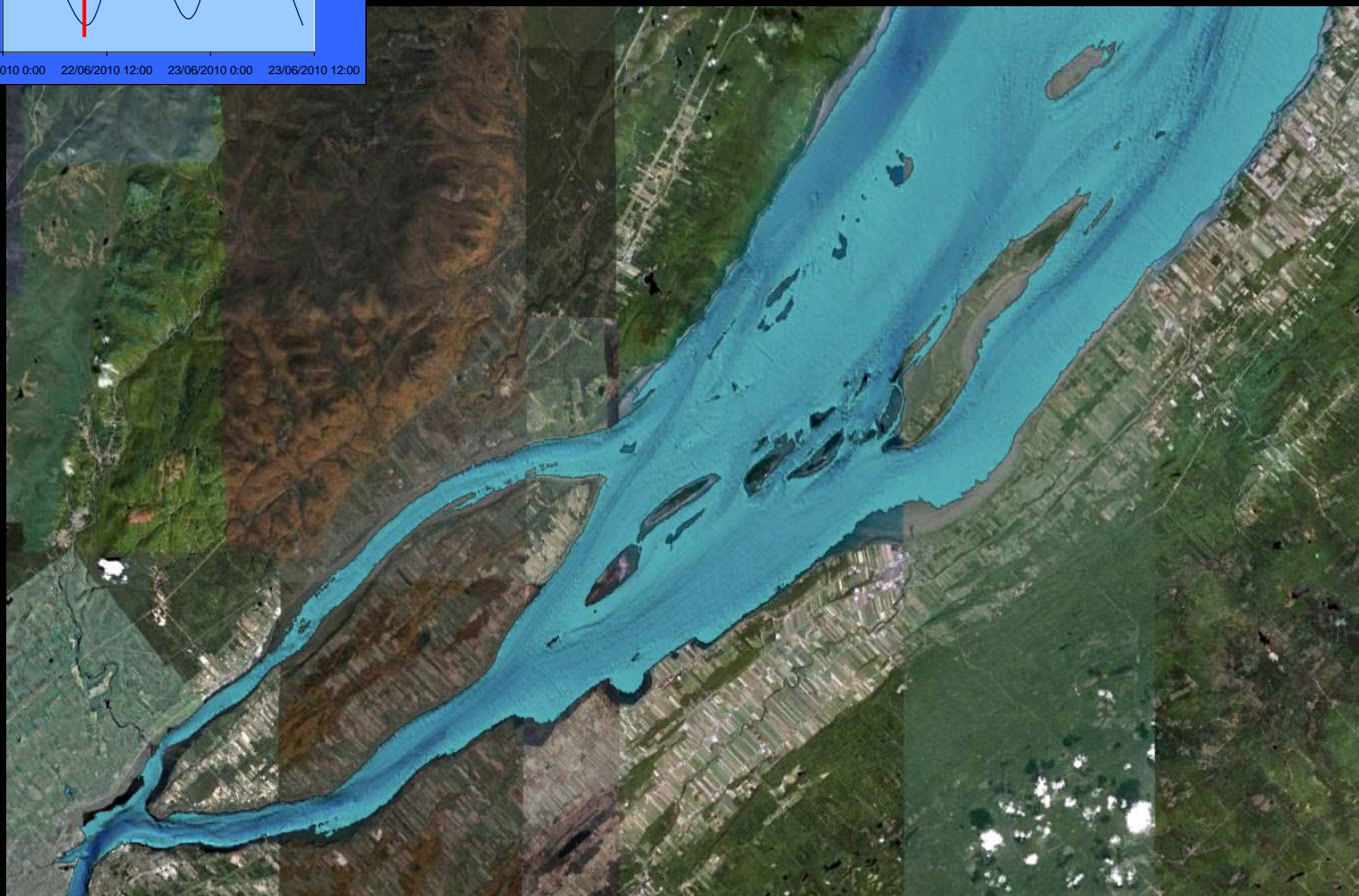
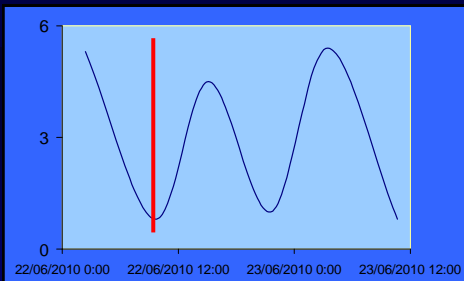
# Exemples...









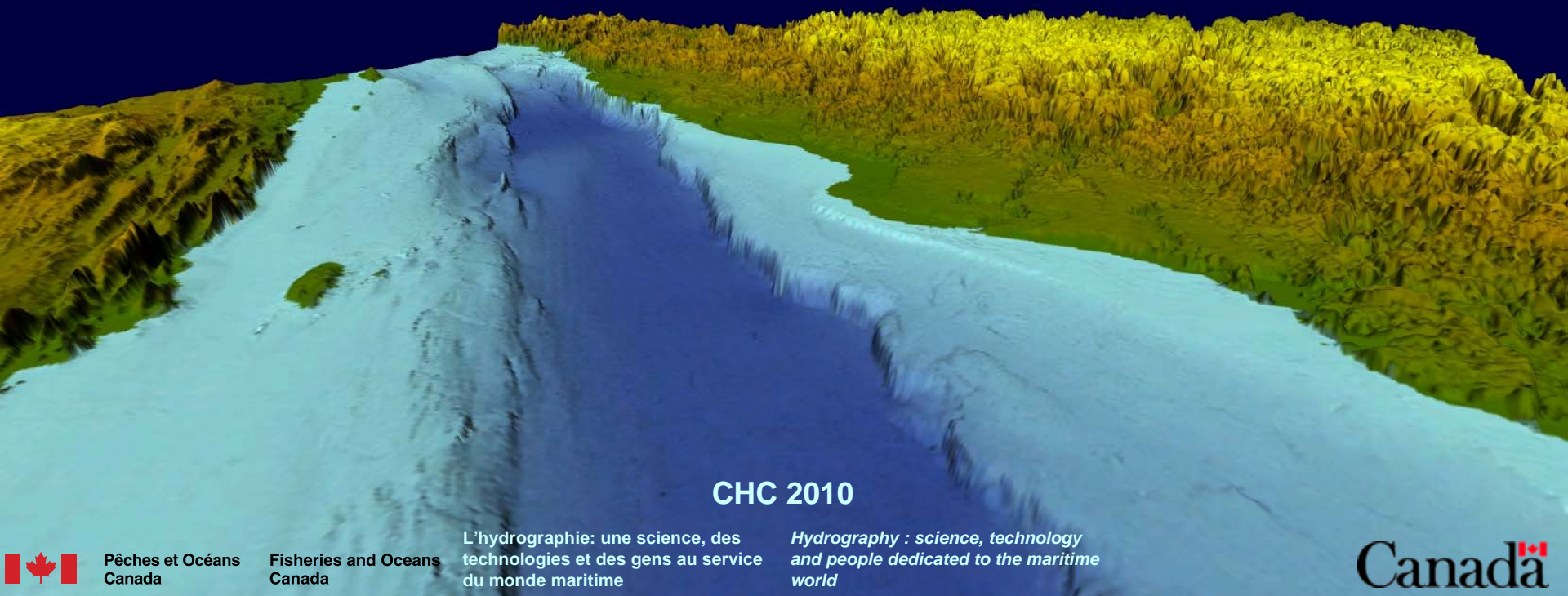


# Still some work...

- Share with other CHS offices;
- Produce the cells;
- Make the cells available to public...



# Merci!



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