

# Portrayal Issues

## *Surface Currents*

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# General Writing Issues

*Mostly my own ignorance*  
:-)

# Categories

- General Portrayal
- S-100 Portrayal Specification (document)
- S-100 Portrayal Catalogue (digital form)

# Portrayal Specification Issues

- Definition of symbol
  - *now I know about SVG so this may be resolved*
- Conditional procedures

# Portrayal Catalogue Issues

- XML description of symbol
- XML description of portrayal functions

# Catalogue

- transformation process isn't there
  - *And I'm still not entirely clear on this*

# Portrayal Issues

*just a few specific items*

Route planning

entire grid of arrows (streamlines eventually)

Route monitoring

trackline indication of current speed/direction

querying the data

Time series

Show Current speed plot/frequency chart at a point in external window?

scatter plot

Step through with keystroke or is animation supported?

Land-based views

research, outreach - streamlines

*use cases*



# Single point in time

GRID CELL 

pt
----

discrete observation point  
with *direct position (dp)*

1D-ARRAY 

pt1	pt2	pt3	pt4
-----	-----	-----	-----

multiple observation points with  
*dp*

1D-ARRAY 

pt1	pt2	pt3	pt4
-----	-----	-----	-----

ADCP -horizontal observation  
points with *offsets*

2D-ARRAY 

pt13	pt14	pt15	pt16
pt9	pt10	pt11	pt12
pt5	pt6	pt7	pt8
pt1	pt2	pt3	pt4

calculated data  
grid Origin (dp) with *offsets*

# Time Series

1D-ARRAY 

t1	t2	t3	t4
pt	pt	pt	pt

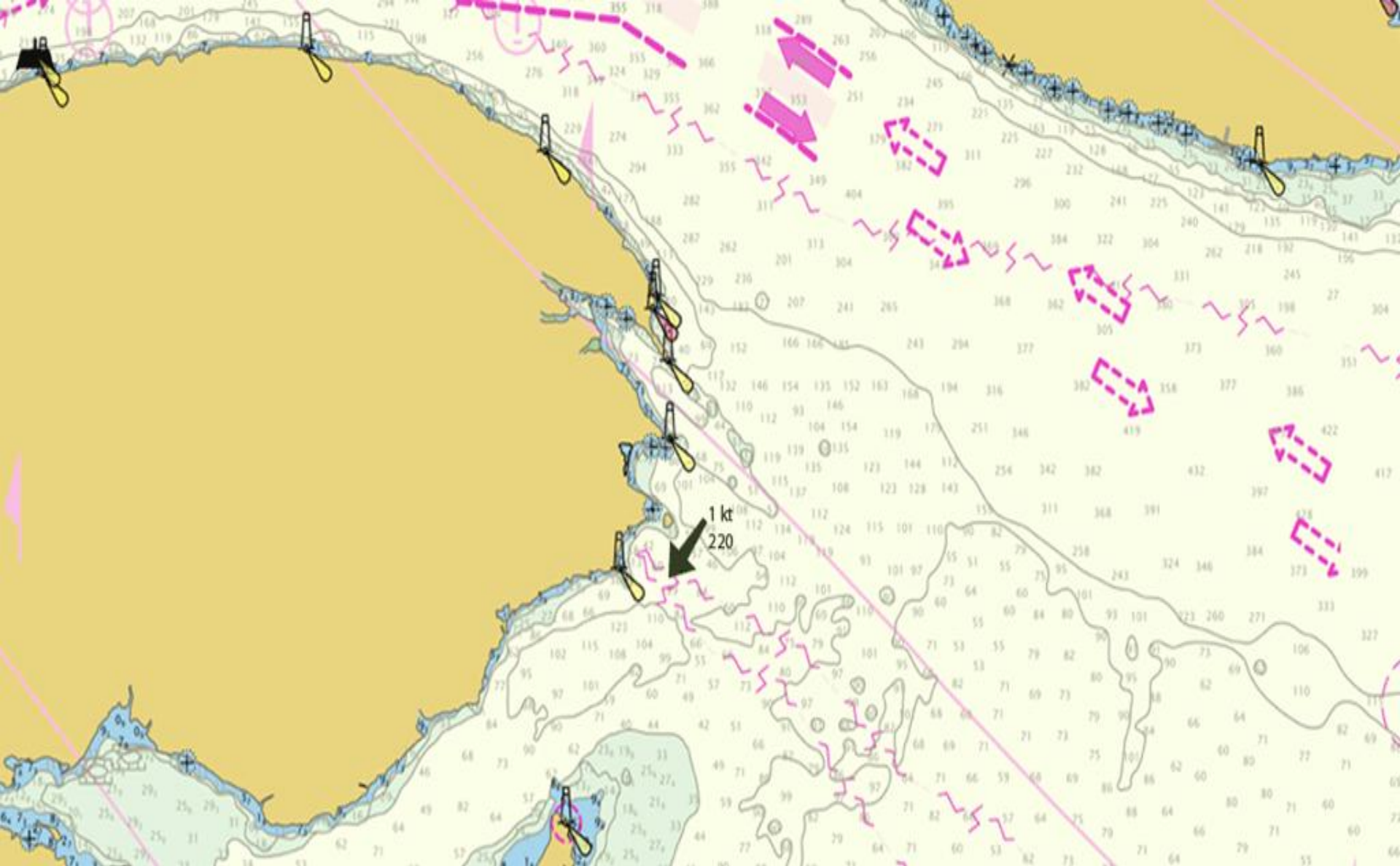
2D-ARRAY 

t1	t2	t3	t4
pt1	pt1	pt1	pt1
pt2	pt2	pt2	pt2
pt3	pt3	pt3	pt3
pt4	pt4	pt4	pt4

3D-ARRAY 

	t1	t2	t3	t4
t4	pt13	pt9	pt5	pt1
p1	pt13	pt9	pt5	pt1
p2	pt13	pt9	pt5	pt1
p3	pt13	pt9	pt5	pt1
p4	pt13	pt9	pt5	pt1
	pt13	pt14	pt15	pt16
	pt9	pt10	pt11	pt12
	pt5	pt6	pt7	pt8
	pt1	pt2	pt3	pt4

*types of data structures*

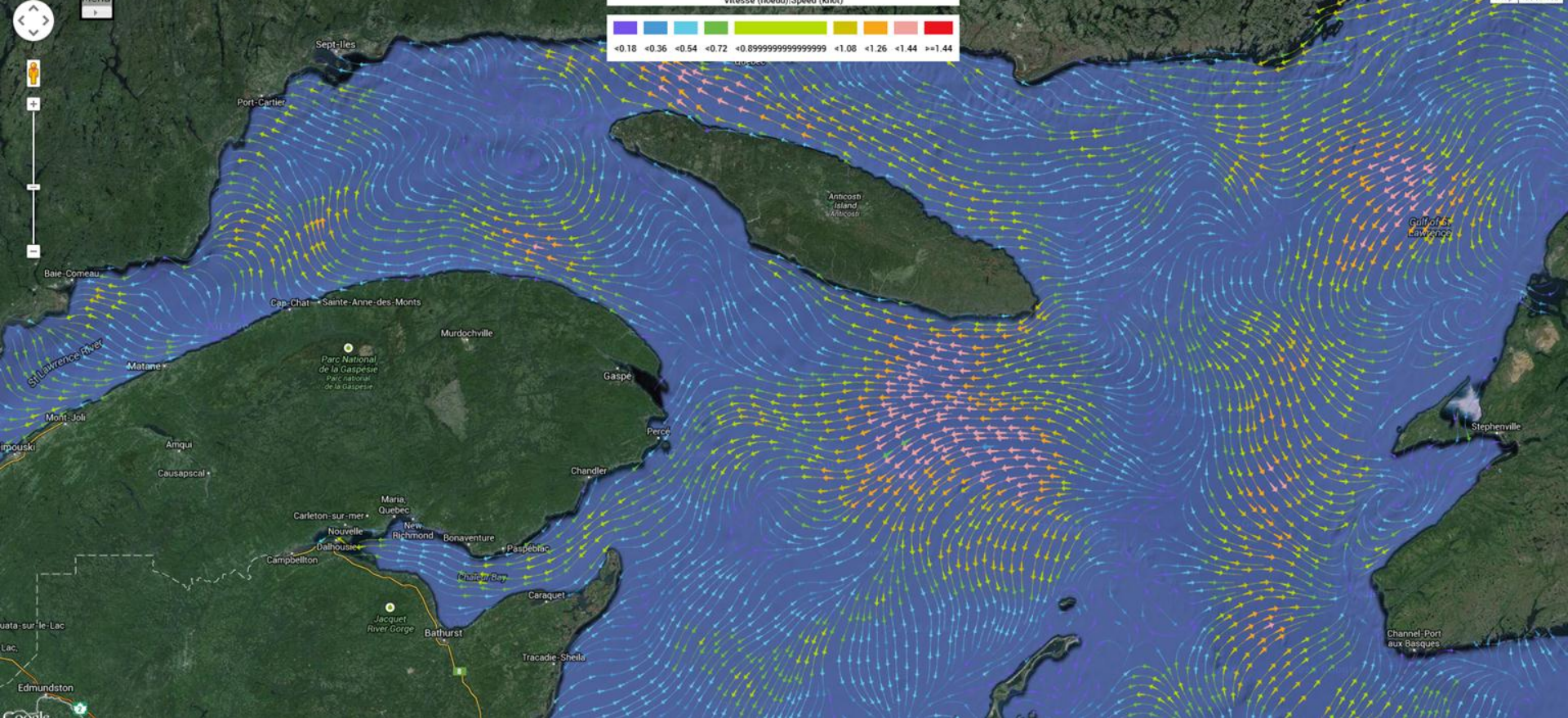


*single data point - showing values*

- Switch to turn global values on/off?
- hover over shows values?
- What values to show...speed only, both speed and direction (and uncertainty)?

*numerical representation*

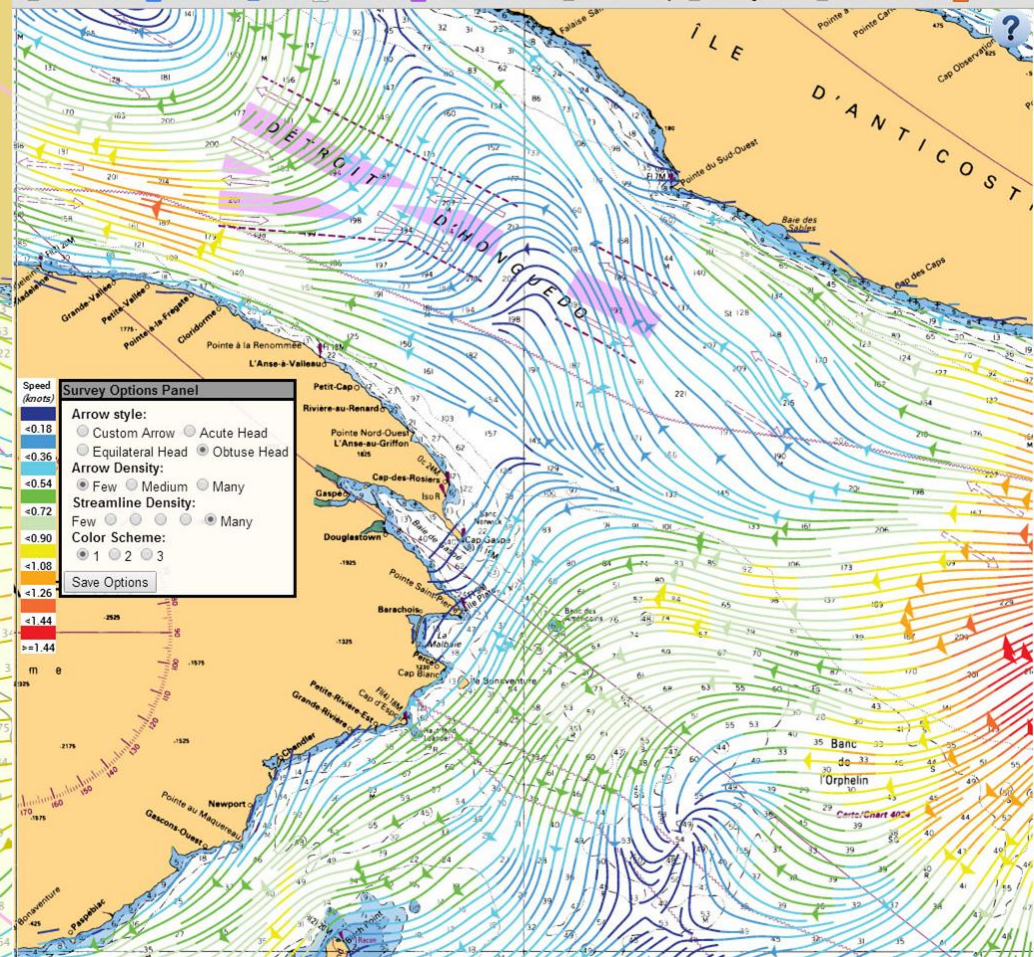
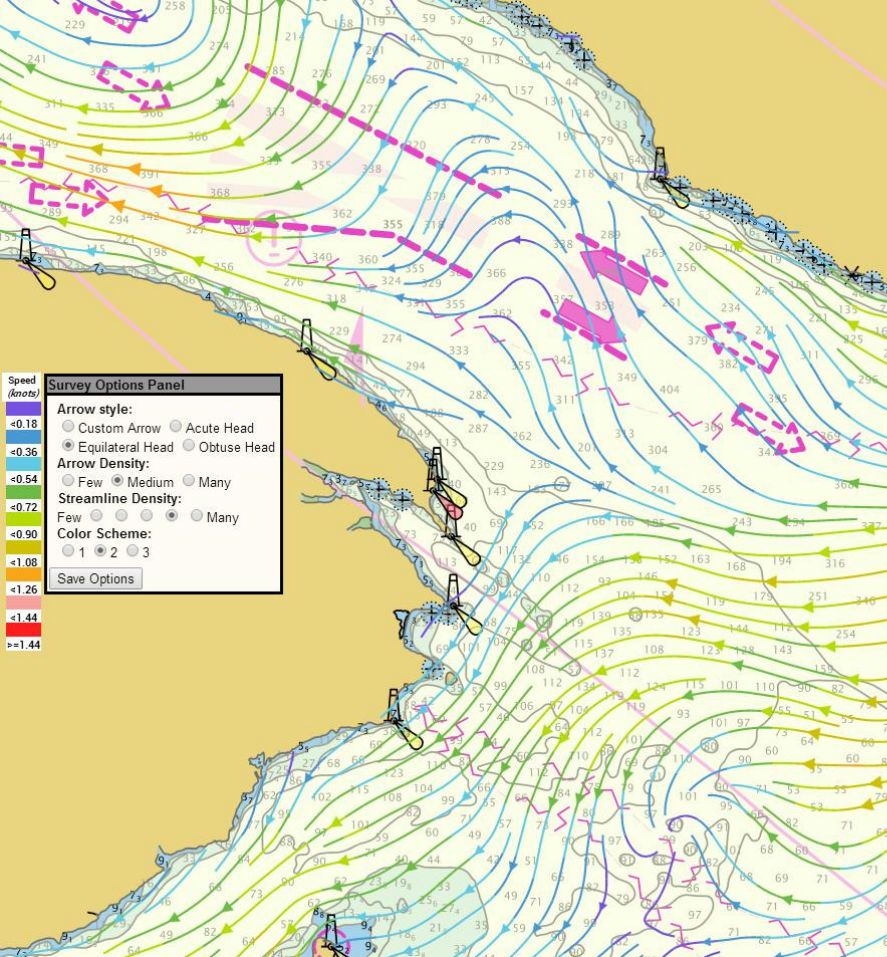




customization tool

<http://vislab-ccom.unh.edu/~roland/currents/slgo.html>





user survey

- based on data range or historical values for the area.
- standard number of steps (or bins) of color
  - User selected “bins” or standard number of bins? Or calculated from data?
  - 9 colors given that work with existing chart colors (RNC, ENC Day & Dusk, as well as satellite background)
  - how are they selected.
- horizontal/vertical layout
- fixed or floating location? (where?)
- Always visible or toggle? Shown for single data source (or just display values at data point?)

*the legend*

Need to do more research.



*Uncertainty*



and there are still more issues  
to come...



- arrow sizing algorithm
  - max size of arrow is calculated in the dataset -> different region has different arrow size
    - Option 1: Smax from datasets (arrow size can be different per time or regions)
    - Option 2: Fixed Smax by S-11 (Arrow size is always same, can be less efficient)
    - $cS'max = .05w$ ,  $c=0.05w/S'max$
- arrow spacing

*Issues from Korean slide*

- Symbol Overlap between ENC and Surface Current
  - ENC symbols

*Issues from Korean slide*

- Surface current symbol in the intertidal zone
- Surface current symbol by computational models can be always shown in intertidal zone. If there is not water in intertidal zone, surface current arrow is needed to be disappeared
- (use a dynamic mask using tidal information - Louie)
- Digital tidal table or dynamic water level can be considered to be used together.
- (ed- metadata should have tidal information for when masking or not)

*Issues from Korean slide*