



# S-111 and S-126

SURFACE CURRENTS AND THE PHYSICAL ENVIRONMENT

*FROM THE DATA AND THE NL TIDES*

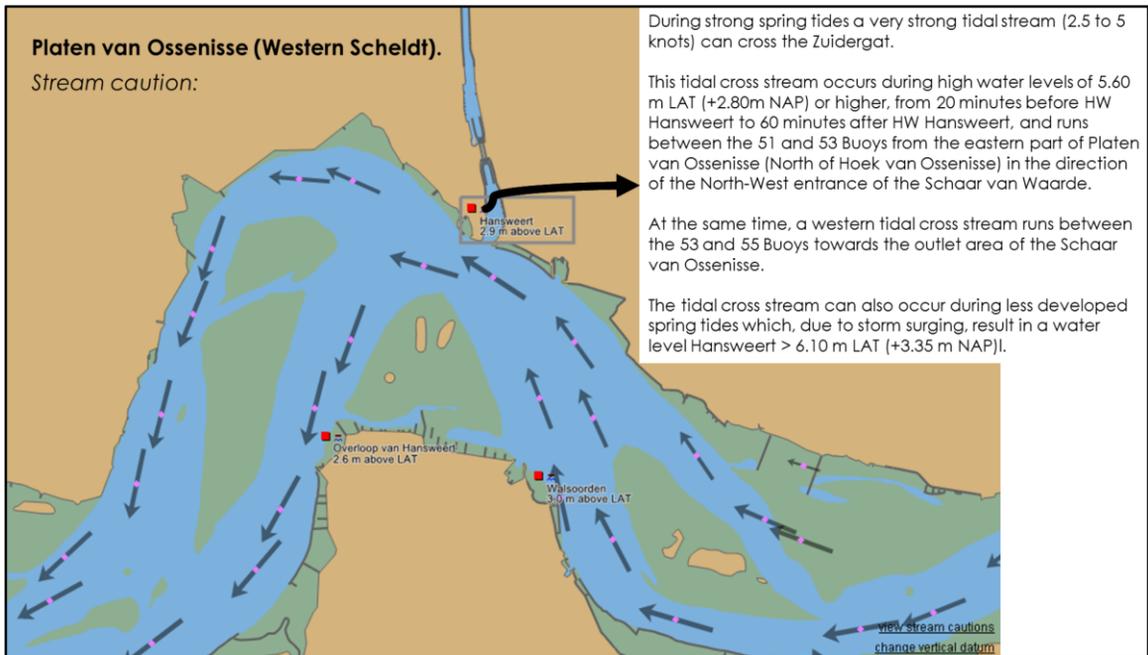
briana sullivan

In the last session we saw examples of notice to mariner visualizations and then multiple dataset combined together. Now I'd like to present a brief example of an instance of a modeled dataset combined with its associated textual data.

## Example from the Netherlands

A case of combining the portrayal of modeled tidal data with NL Tides stream cautions:

- ▶ The model will only show so much detail.
- ▶ The stream caution is more effective with a visual next to it.



I am on the Surface Currents project team for the S-111 and at our meeting last year and again this year, this example was demonstrated as to how to display this data.

Clearly, the stream that contains the caution in this image is too small to have modeled data accurately reflect its conditions. This is a case where the mariner will need more than what the S-111 can provide. Yet, taking the caution and just adding it to the screen like a pick-report is OLD SCHOOL way of thinking....

**TEMPORAL CONDITIONS**  
 During strong **spring tides**  
 From 20 minutes before ...to 60 minutes after

**PHYSICAL CONDITIONS**  
 during **high water levels**

**LOCATION CONDITIONS**  
 Between the 51 and 53 Buoys  
 From the eastern part  
 Towards the outlet area  
 In the direction of the North-West entrance

**During strong spring tides** a very strong tidal stream (2.5 to 5 knots) can cross the Zuidergat.

This tidal cross stream occurs **during high water levels** of 5.60 m LAT (+2.80m NAP) or higher, **from 20 minutes before HW Hansweert to 60 minutes after HW Hansweert**, and runs **between the 51 and 53 Buoys** from the **eastern part** of Platen van Ossensisse (North of Hoek van Ossensisse) **in the direction of** the North-West entrance of the Schaar van Waarde.

At the same time, a western tidal cross stream **runs between the 53 and 55 Buoys towards the outlet area** of the Schaar van Ossensisse.

The tidal cross stream can also occur **during less developed spring tides** which, due to storm surging, result in a water level Hansweert > 6.10 m LAT (+3.35 m NAP).

If we look closely at the data we can see temporal, physical condition and location dependence...

However, the mariner only wants to see what she NEEDS to see.

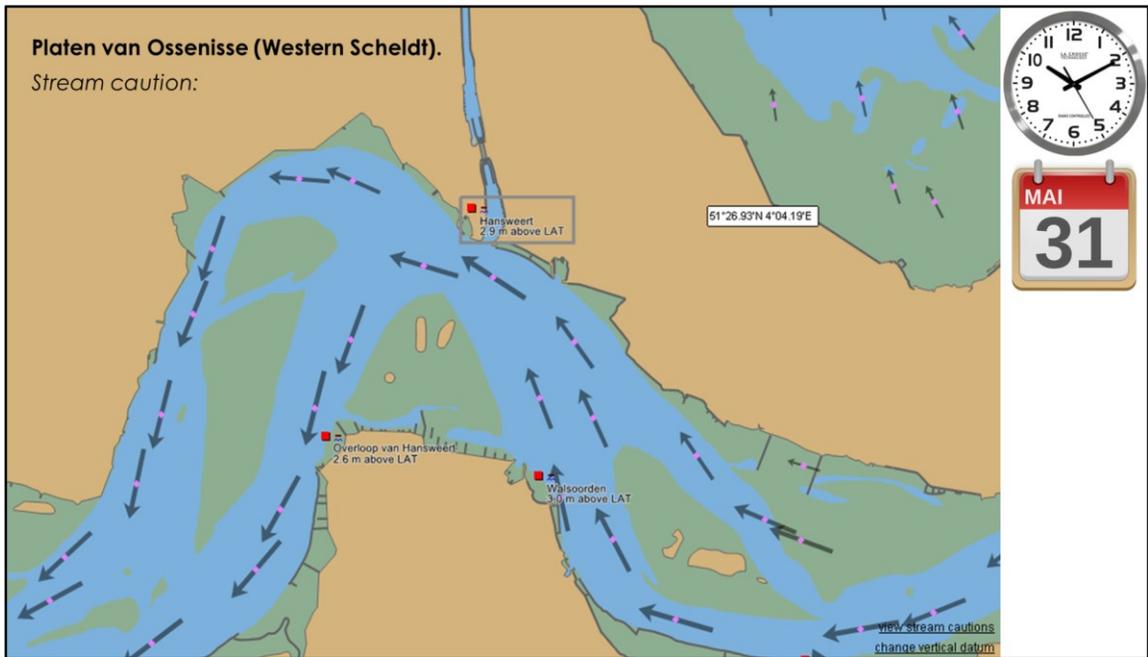
Ideally, I don't want to have to read these four sentences to determine what applies to me and make the calculations necessary to apply them if applicable.

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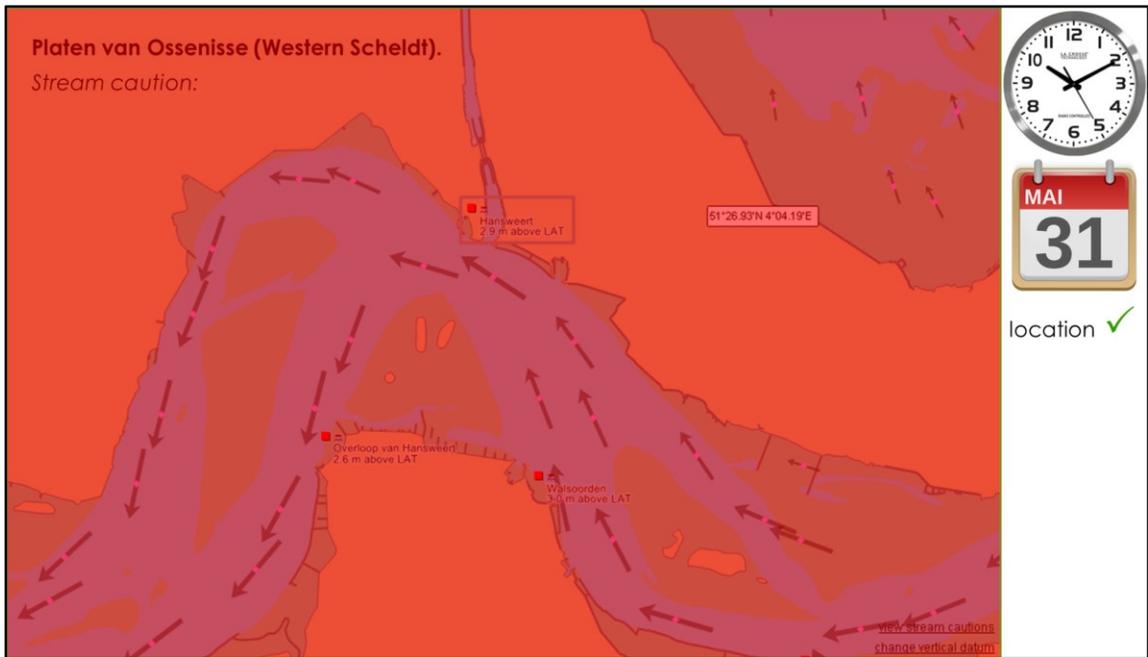
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  <timeTo>60 minutes after HW</timeTo>
</temporalCondition>
<physicalCondition id=1>
  <type>high water levels</type>
  <value units="m">5.6<value>
  <valueplus units="m" type="+" label="NAP">2.80</valueplus>
</physicalCondition >
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<direction>
  <fromLoc>the eastern part of Platen van Ossennisse</fromLoc>
  <toLoc>the North-West entrance of the Schaar van Waarde</toLoc>
</direction>
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  <tidalCrossStream>
    <strengthRange>2 - 5</strengthRange>
    <physicalCondition applies="during">1</physicalCondition>
  </ tidalCrossStream >
  <temporalCondition appliesTo="Hansweert">1</temporalCondition>
  <area>1</area>
  <direction>1</direction>
</physicalImpact>

```

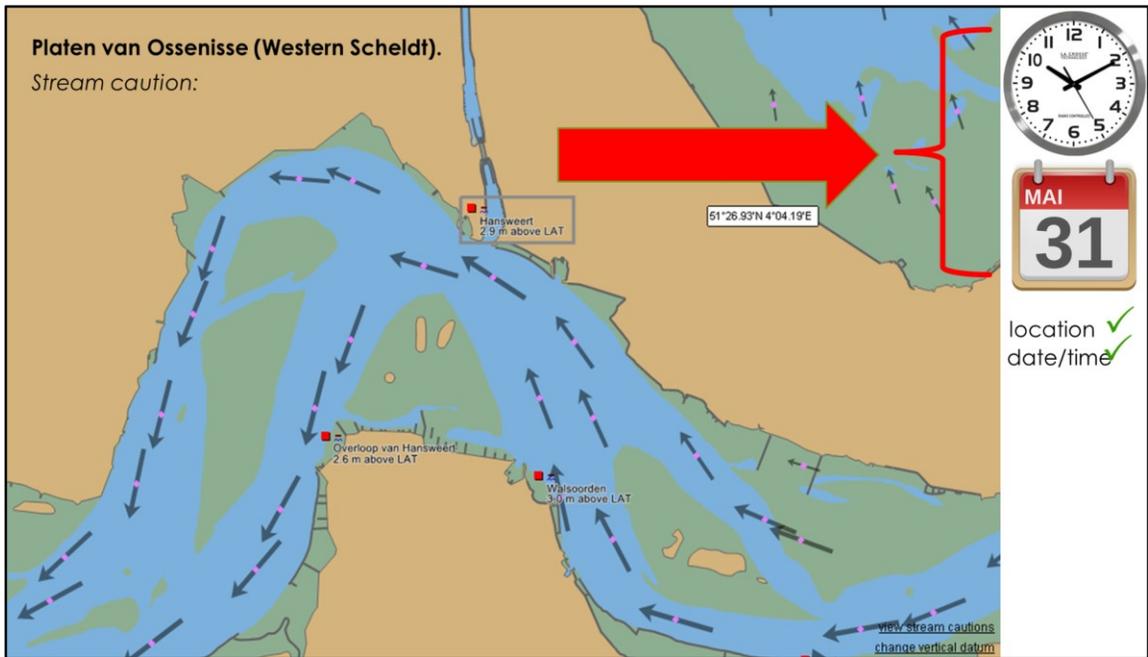
Instead, the system would be able to read Stream Caution and do the heavy lifting for me...



So the system would fetch...

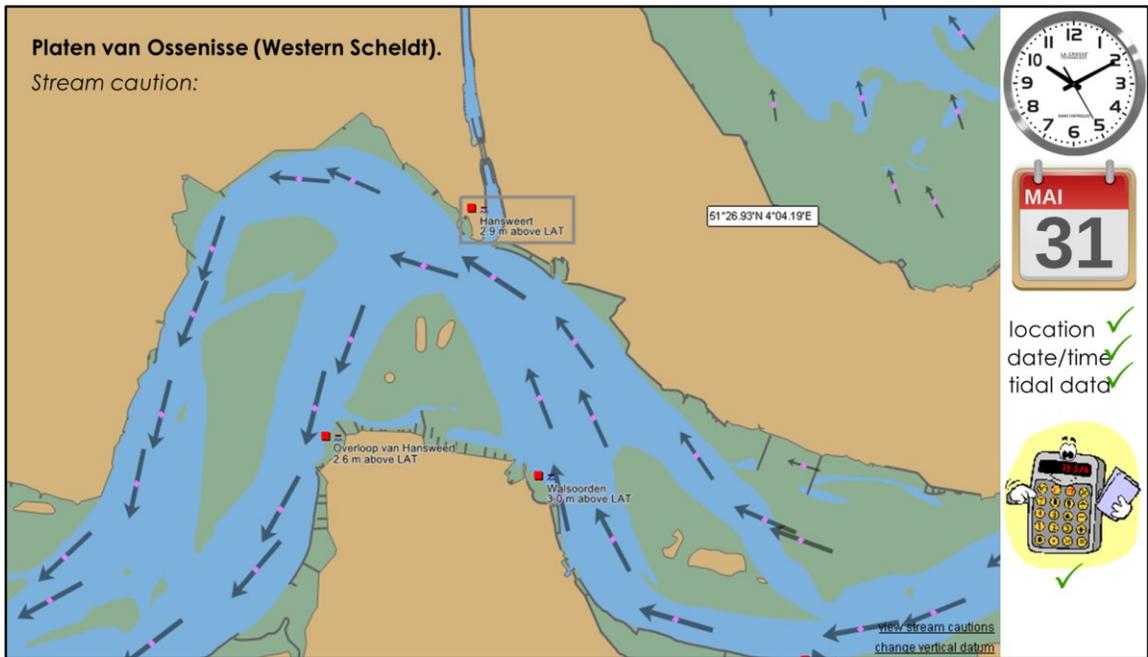


- The location of the viewport (user's planned or current location)



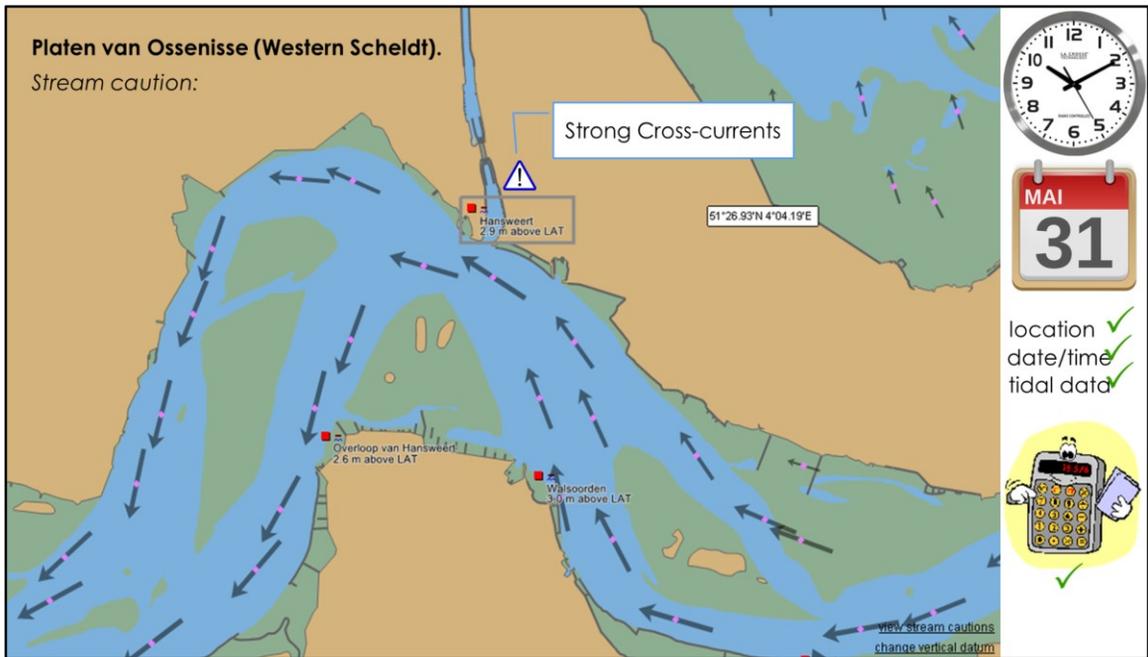
- The current date and time



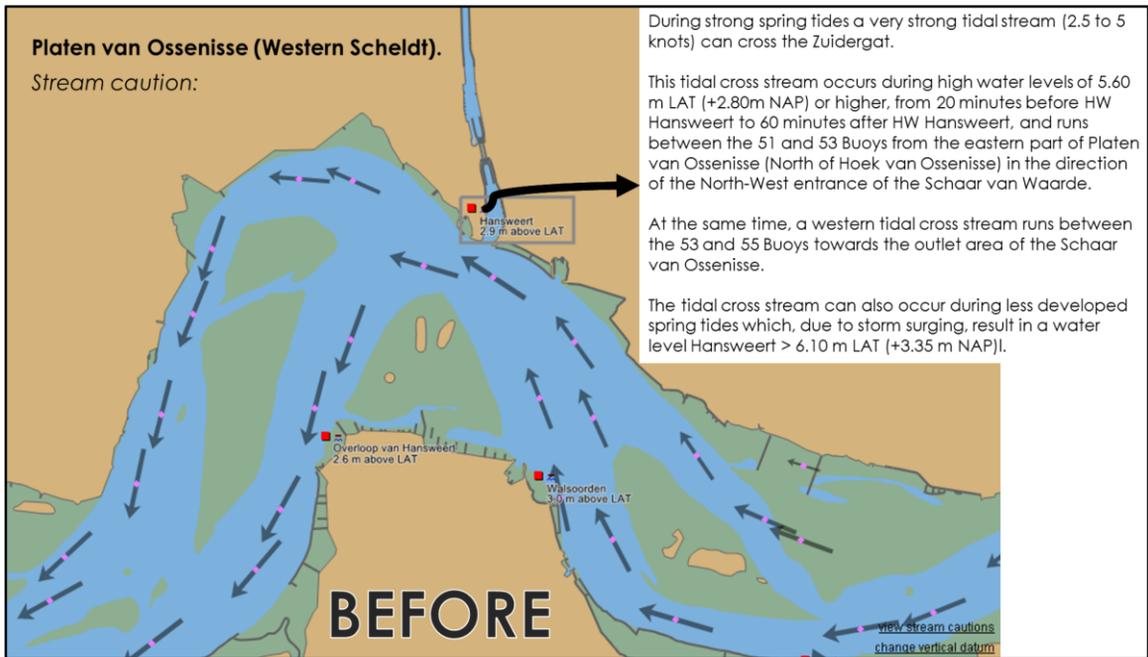


- Calculates the water depth

If and only if all the conditions are met, then the only thing the mariner sees is a Caution like this:

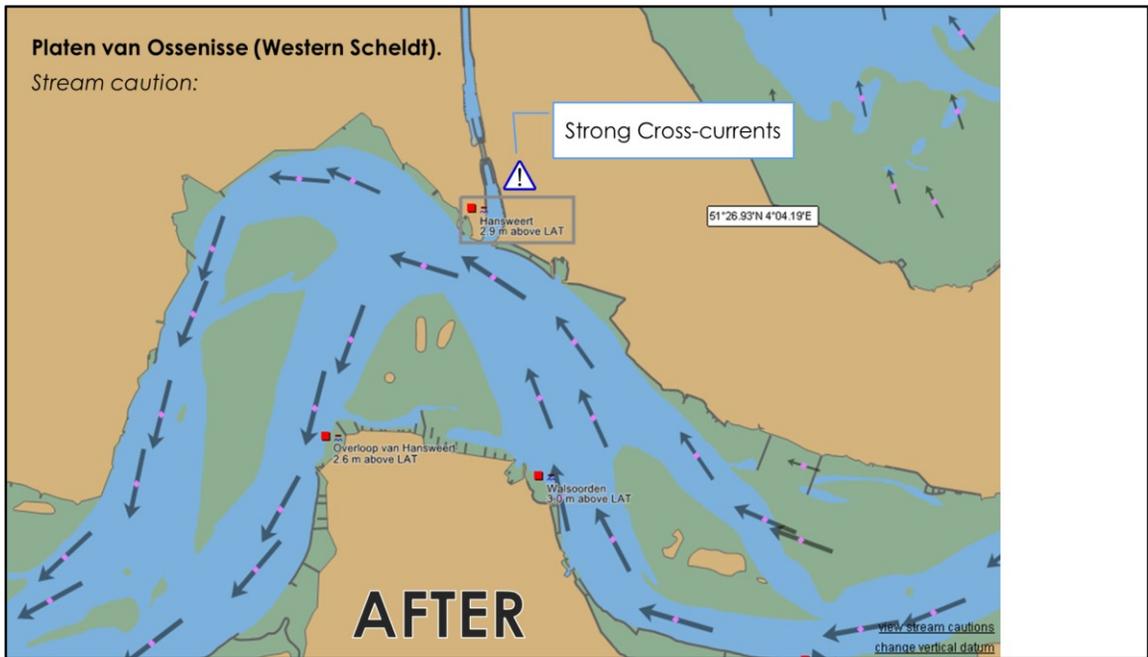


If and only if all the conditions are met, then the only thing the mariner sees when they approach the area (either physically or their mission planning course line) is a Caution like this:



So again....the old view of thinking.

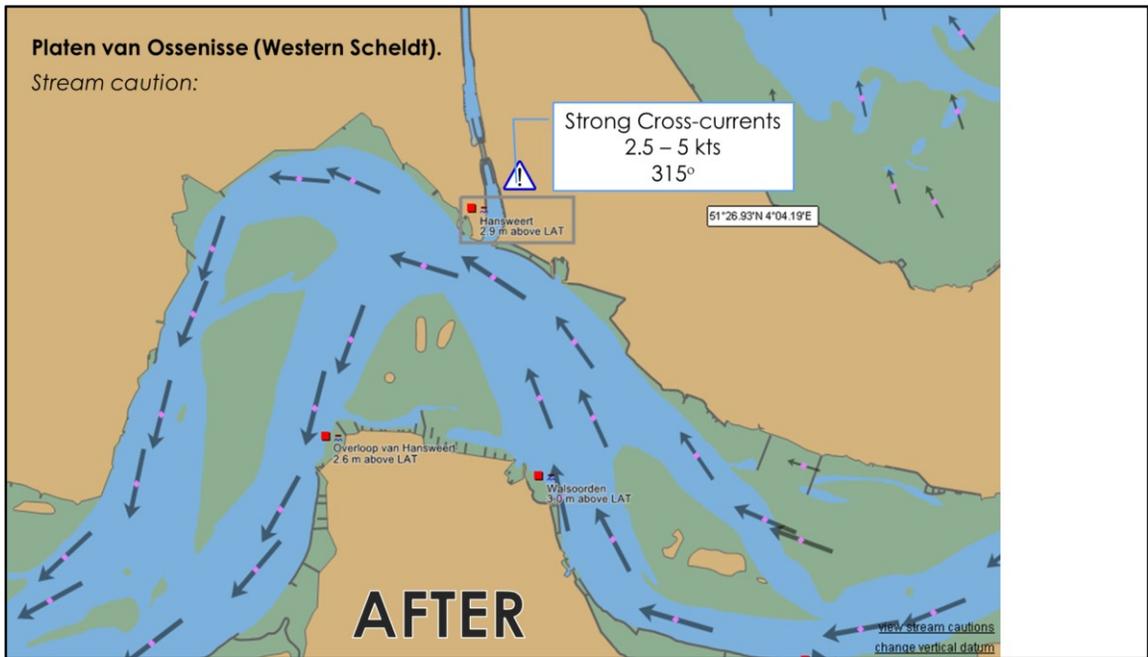
The easy way out...assign all the text to an info object and make it visible in a pick report with a persistent symbol that would clutter the screen.



Or new school of thought....

Mark up the data into machine readable data structure that works in conjunction with the other data available to display only WHAT is necessary WHEN it is necessary!

Like this with the simplest of notices or ...



...with minimal *necessary* information.

It may be a bit more work...but once it is done and established...well, I think you get the picture!



Thank you

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