Maritime Simulation and Resource Centre

The use of Simulation to highlight Errors lurking underneath the screen of an ECDIS

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Instructor

Maritime Simulation and Resource Centre

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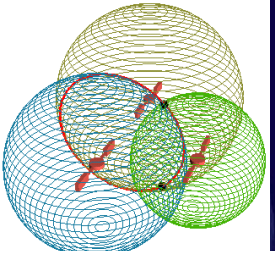
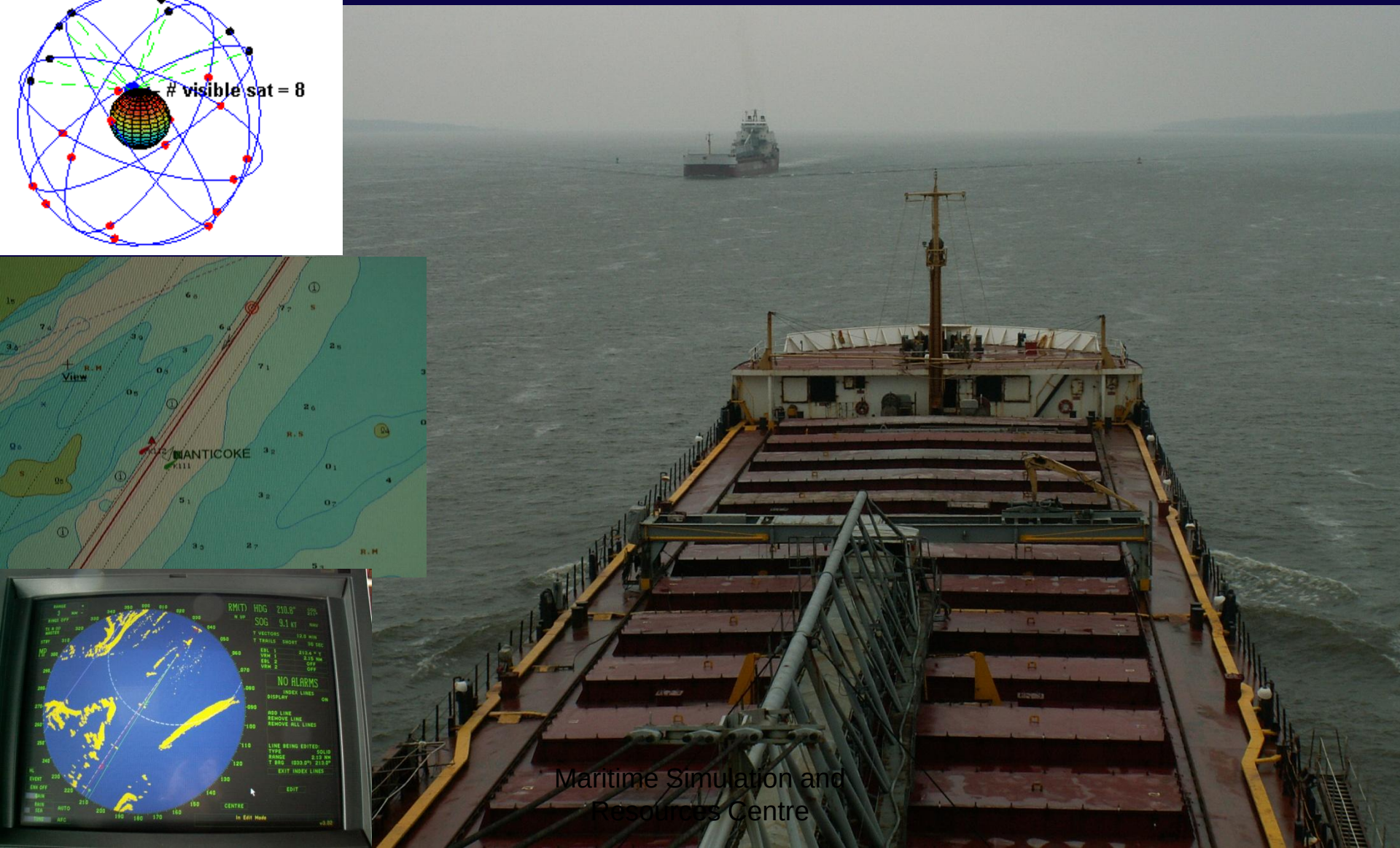
Port & Seaway Development

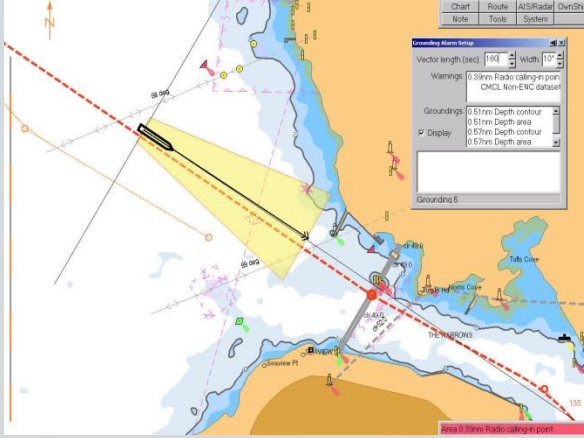
- Ultramar (Valero) Refinery
- Rio Tinto / Alcan
- Port of Churchill (Hudson’s Bay)
- Rabaska LNG terminal

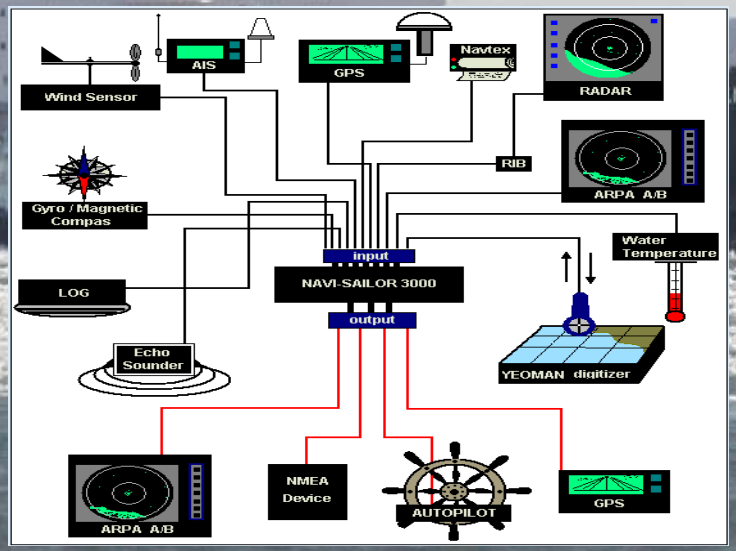


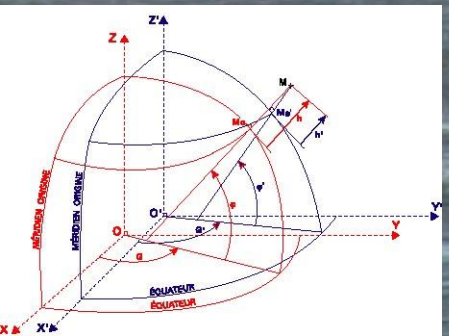
ECS & ECDIS

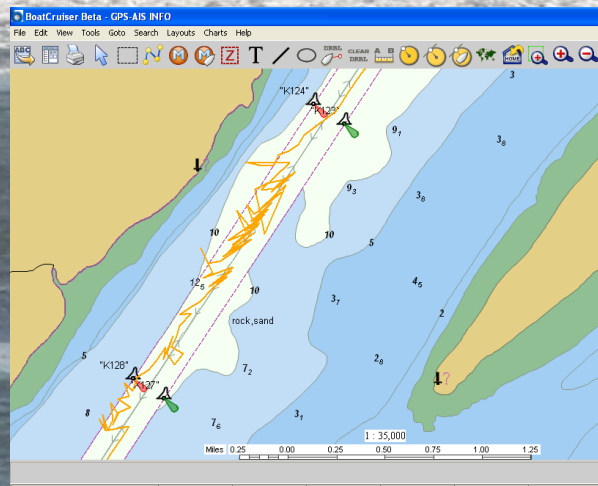


ECDIS









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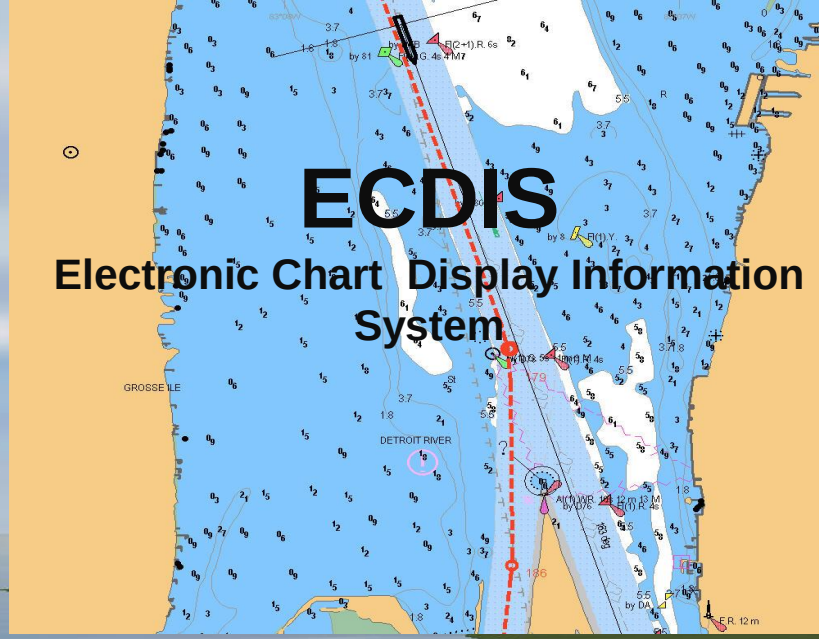
A
Hyatt Regency Hotel

Detroit River
Great Lakes Pilotage Area



Amherstburg Channel

Livingstone Channel

Tanker

Our OWNSHIP
Bulk Carrier

Tug

N

Maritime Simulation and Resource Centre

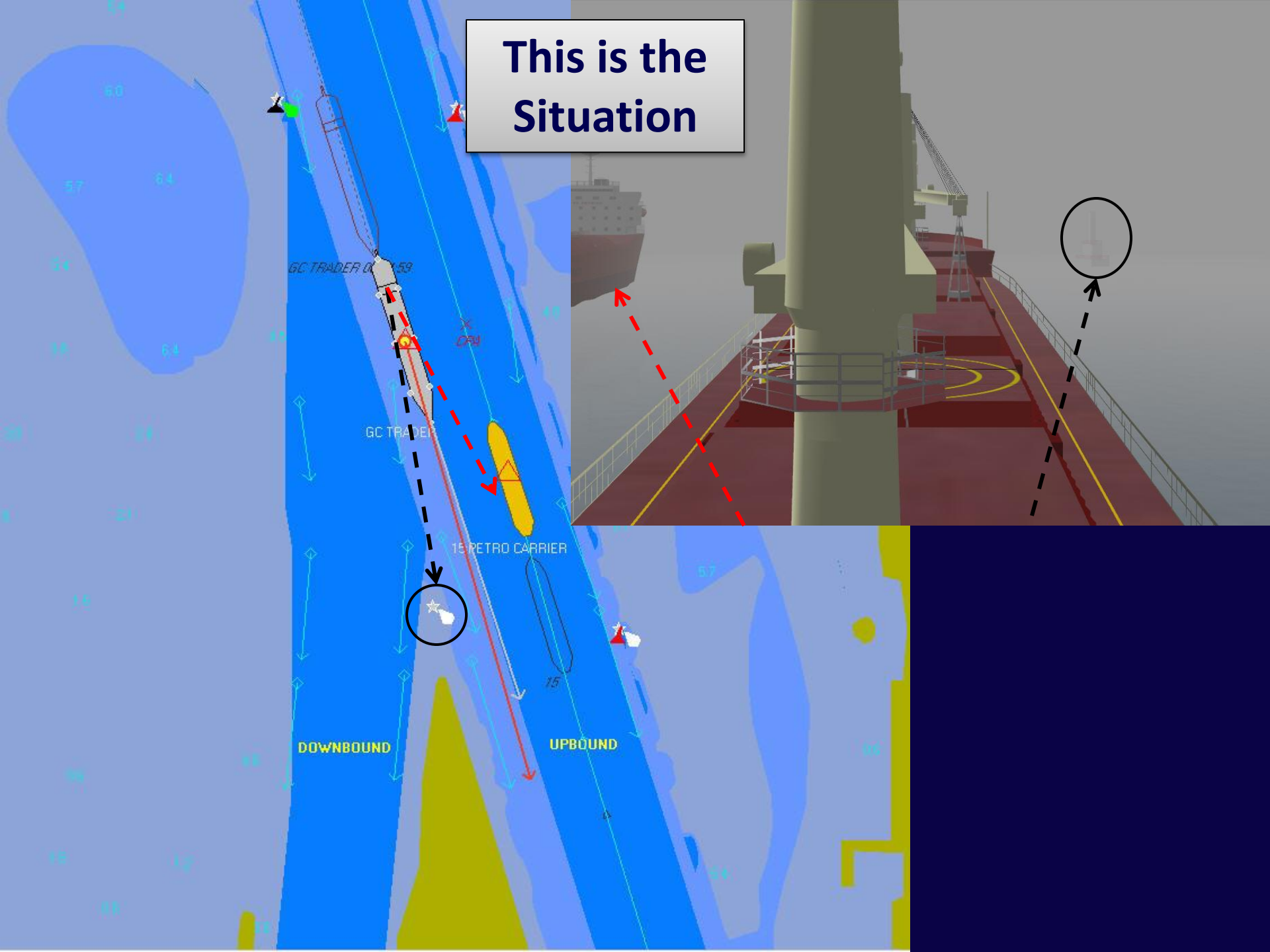
Actual view from the Bridge & Pilot position

Approaches to Technology in Pilotage: its Possibilities and Limits

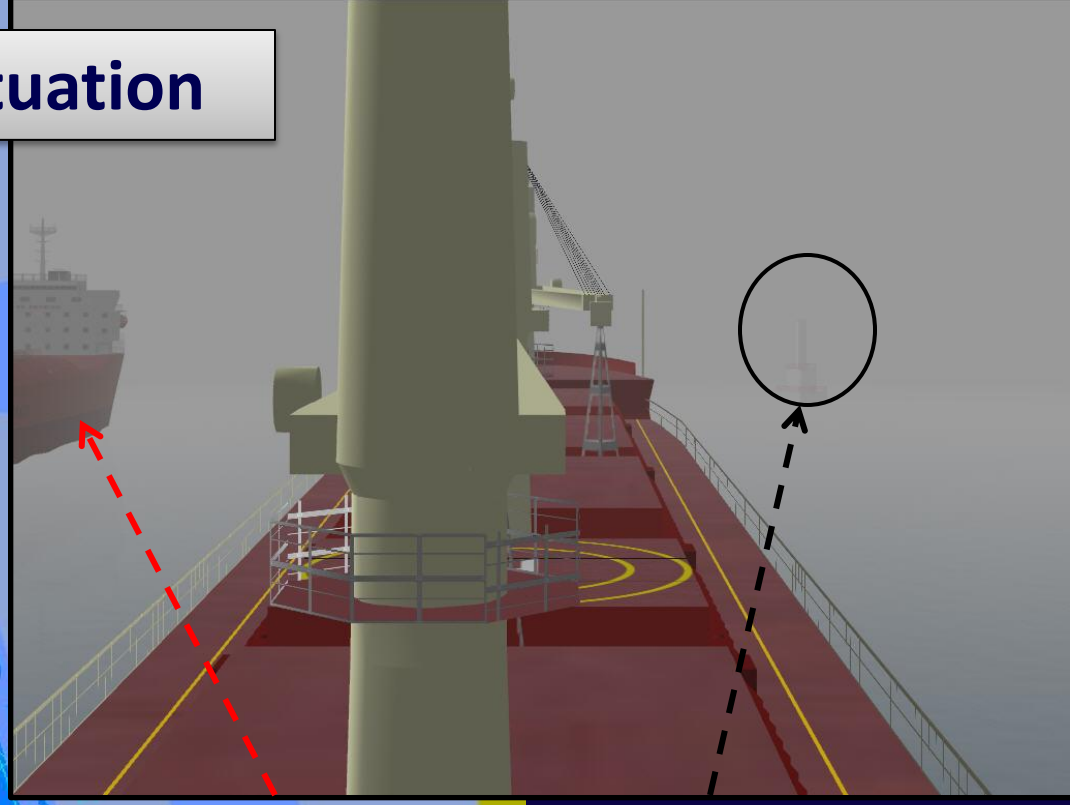
Canadian Marine Pilots' Association
L'association des pilotes maritimes du Canada

This should be the Situation

This is the Situation



Situation



Aerial position

The ship appears to move side way

This is absolutely normal at the early stage of the course alteration

Gyro Heading

DOWNBOUND

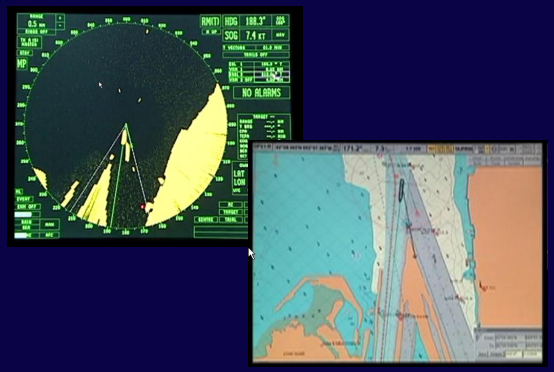
UPBOUND

15 PETRO CARRIER

Analysis of Courses of Actions

End State

Make a timely course alteration in restricted visibility using all available means IAW Collision Regulations



COA 1

Using Radar & ECDIS

Factors

- Possible detection of Gyro drift/error
- Conflicting Information Bias between Radar & ECDIS
- Delay in taking corrective action

Most Likely

COA 2

Using ECDIS only

Factors

- Gyro drift/error cannot be detected
- Heading Marker based on Gyro only
- Position of GPS antenna – COG looks normal

Most Dangerous

COA 3

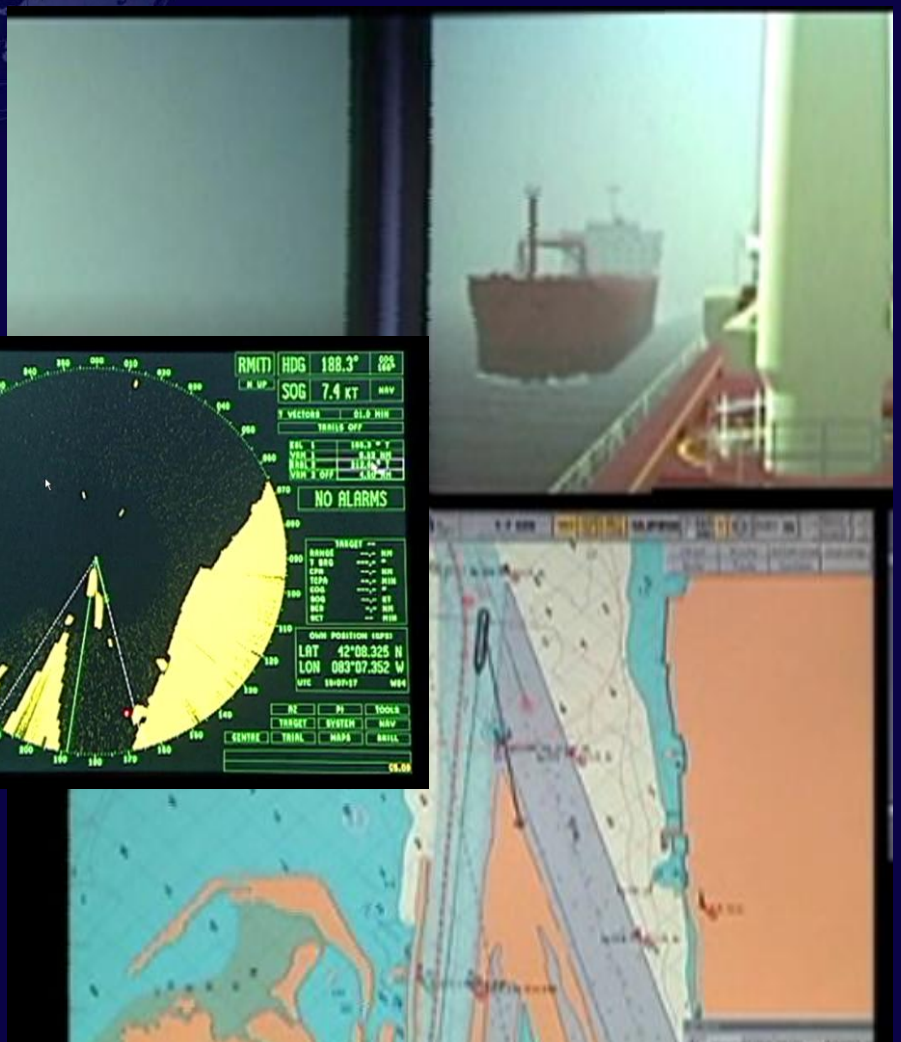
Using Radar

Factors

- Earlier detection of Gyro drift/error
- Heading Marker shows actual Ship's heading
- Ability to switch to Head-up Mode for Verification of Ship's Heading

Safest

COA 1
Using Radar & ECDIS

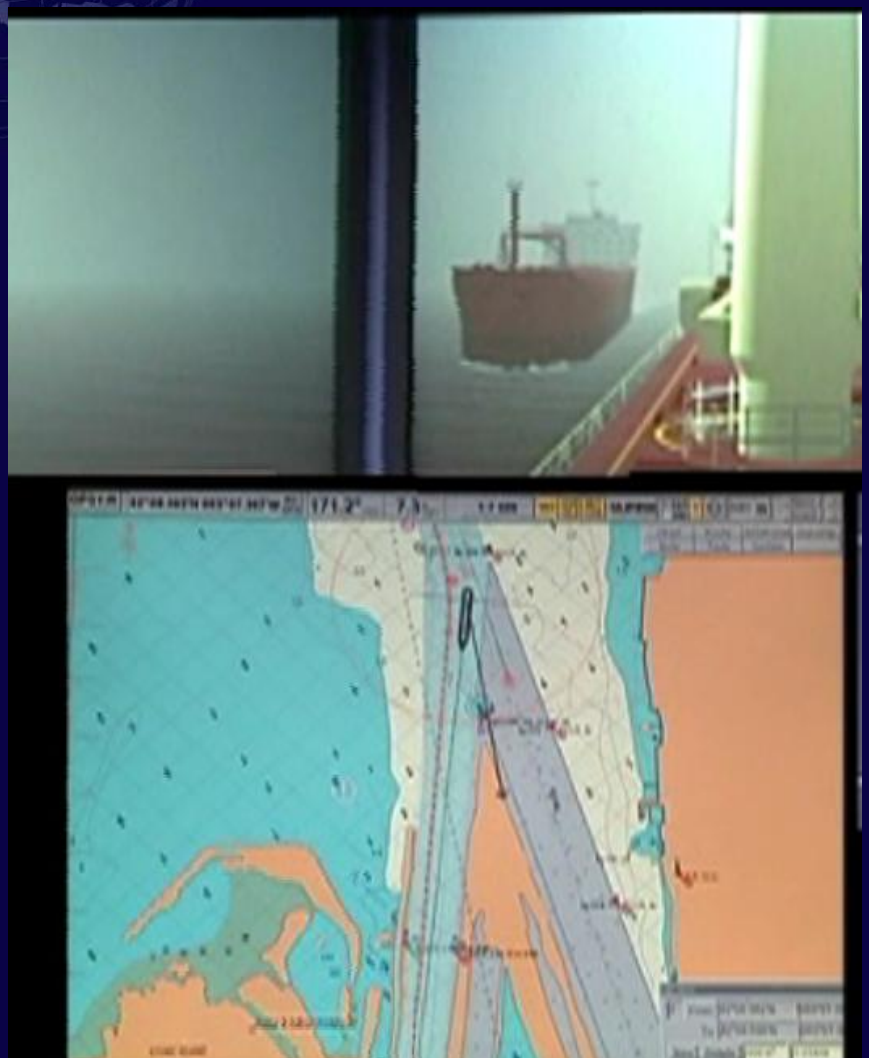


Factors

- Possible detection of Gyro drift/error
- Conflicting Information Bias between Radar & ECDIS
- Delay in taking corrective action

Most Likely

COA 2
Using ECS only



Factors

- Gyro drift/error cannot be detected
- Heading Marker based on Gyro only
- Position of GPS antenna – COG looks normal
- No visual references

Most Dangerous

COA 3
Using Radar

Factors

- Earlier detection of Gyro drift/error
- Heading Marker shows actual Ship's heading
- Ability to switch to Head-up Mode for verification of Ship's heading

Safest

I can believe anything, provided it is incredible.
- Oscar Wilde

CORPORATION
DES
PILOTES
DU BAS
ST-LAURENT