

Navigation!

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Aim

- The aim of this session is to highlight some methods of teaching navigation and some of the problems that people have while learning.

How we are going to achieve the aim.....

- Look at 4 or 5 navigation subject areas
- Talk through the correct methods of teaching the topic
- Discuss how the topic can be confused or indeed taught wrong
- Discuss confirmation of learning strategies

Not such a short cut?



Oops.....

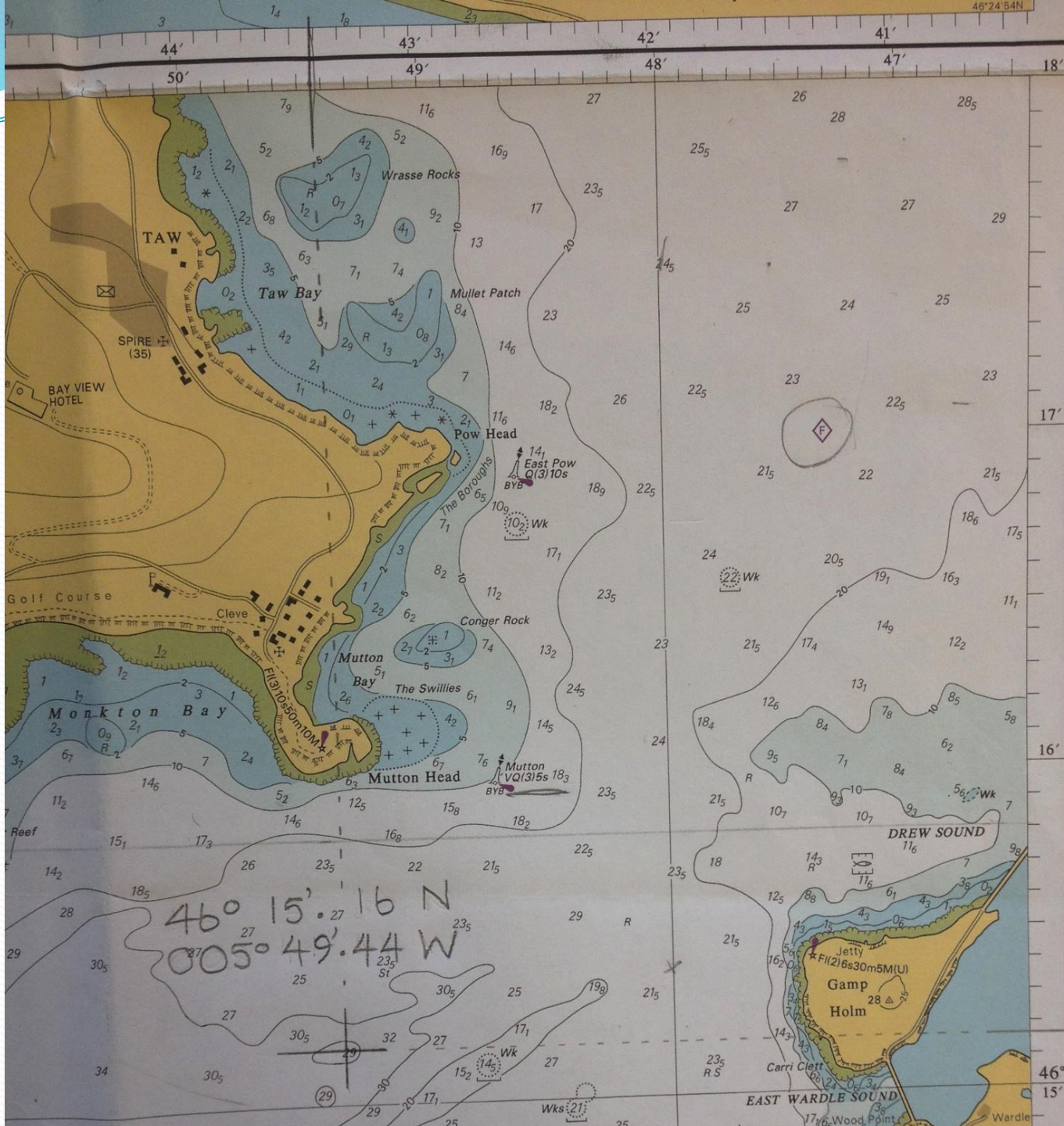


Subject areas

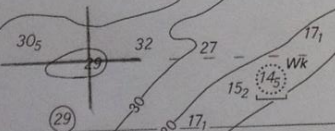
- Latitude and Longitude
- Tidal Curves
- Taking bearings
- Variation (application of)

Latitude and Longitude

- It's a counting exercise.....
- 1 degree = 60 NM
- 1 minute = 1 NM
- $1/10$ NM = 185 Metres (2km = 1 nm)
- Then decimals – out of 100

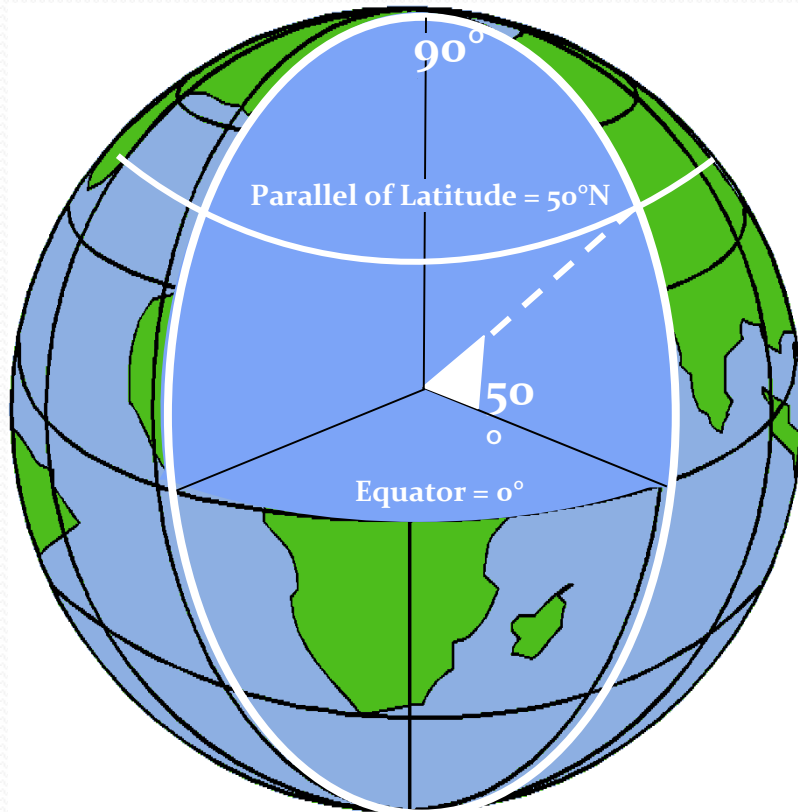


46° 15' 16 N
005° 49' 44 W

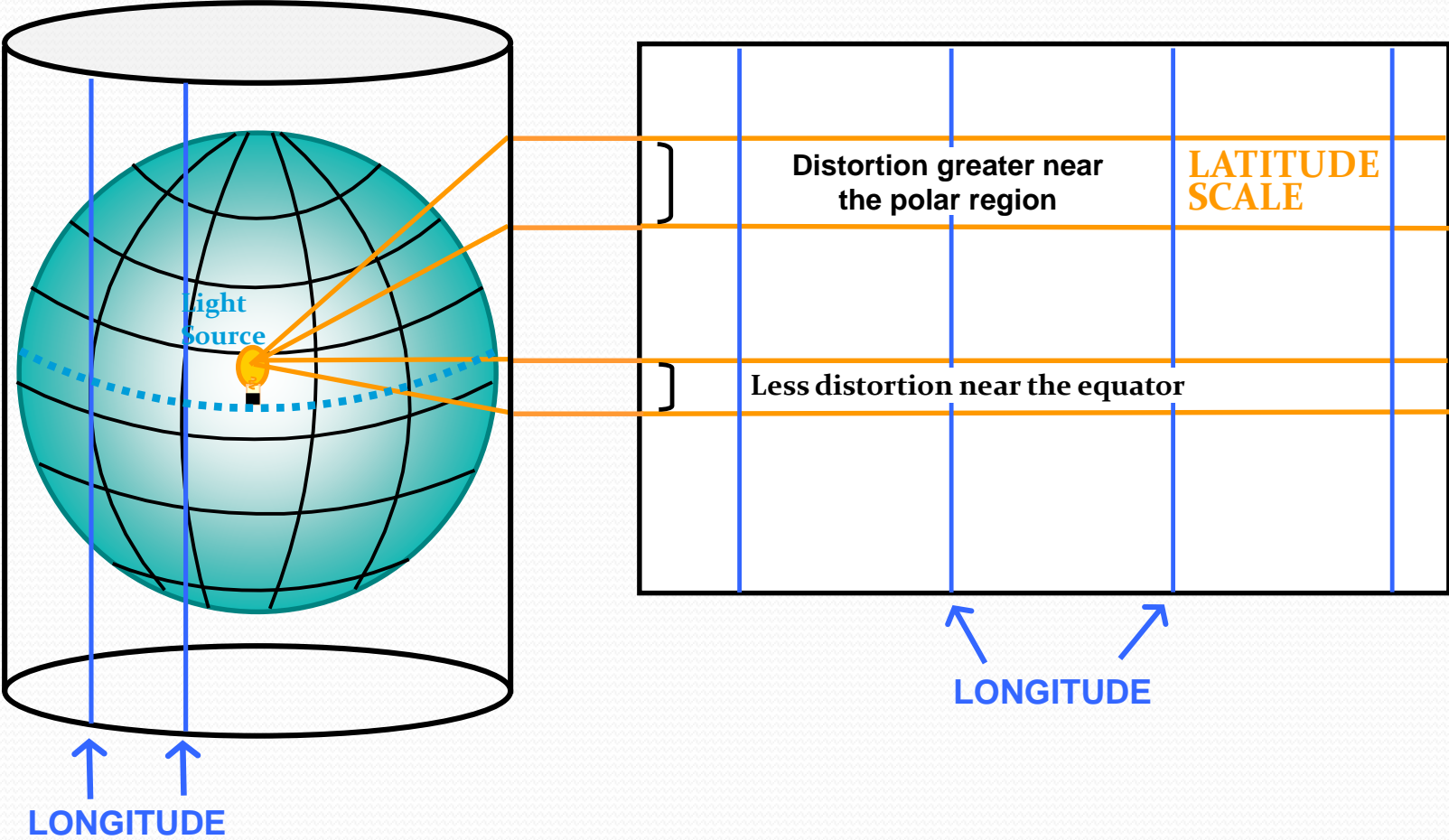


EAST WARDLE SOUND
17/6 Wood Point
Wardle

LATITUDE & LONGITUDE



MERCATOR PROJECTION



Different types of chart

- They all use Lat and Long
- Imray
- Admiralty
- Gnomonic
- Mercator Projection (wider Latitude at poles)



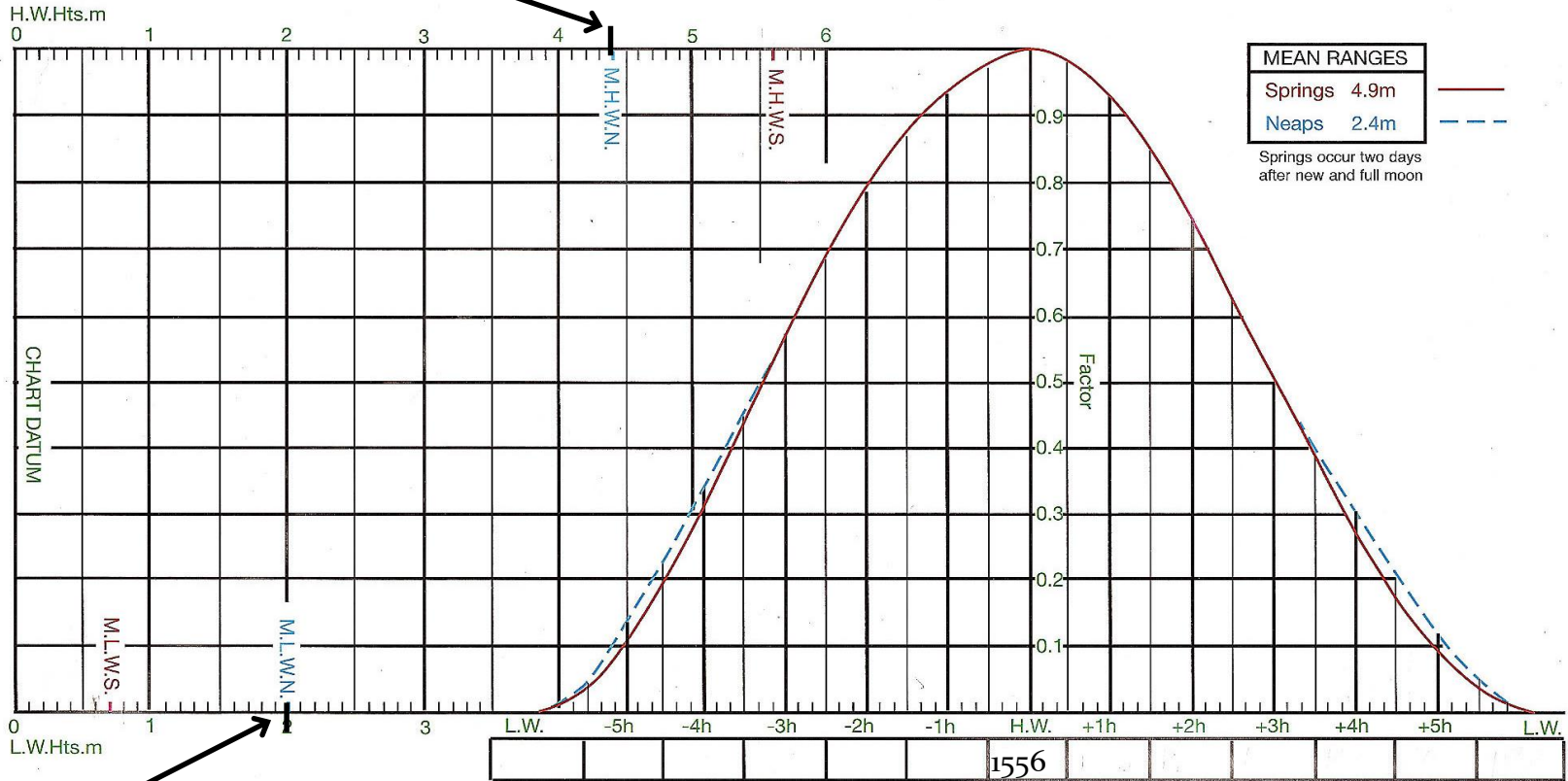
Tidal Curves

TIDAL CURVE

VICTORIA

Victoria 22 March
 HW 1556 4.4m LW 2.0m Neaps

Height of HW is marked on this line



Height of LW is marked here

Time of HW is marked here



Taking bearings

PORTLAND COURSE PLOTTER

B&N Navigation

Cat. No. 0636 32



DEFERRED VESSEL RECOMMENDED TRACK
 The channels and deep-water between Lawrence Channel (6°00'W) and Haist Sound (6°00'W) are recommended by the Beauport Navigation Service for tankers proceeding to or from the Haist Oil Terminal. Due to possible traffic, vessels may need to steer different courses to those shown in order to maintain the recommended tracks. Radar surveillance of these channels is continuously maintained.

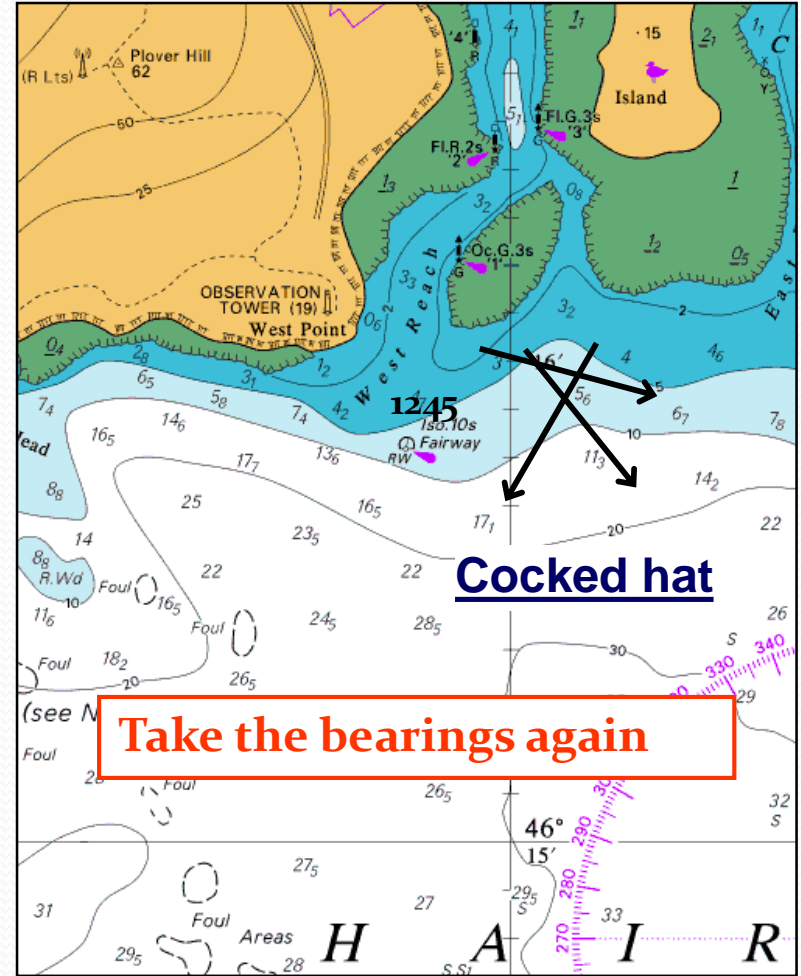
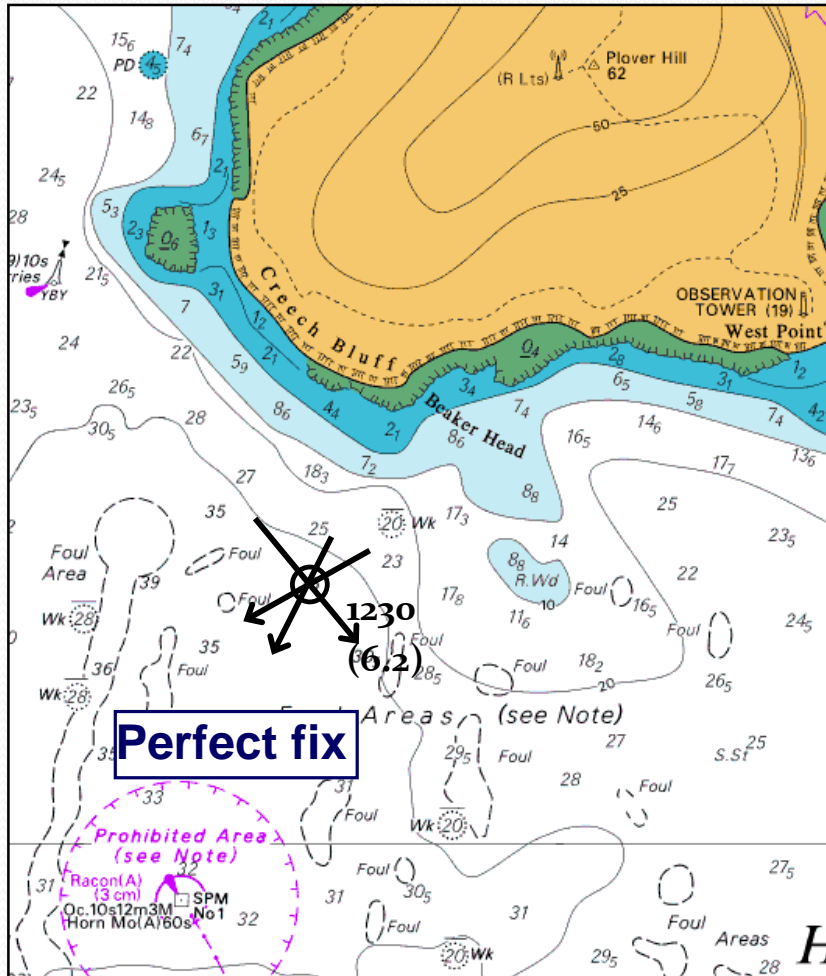
FOUL AREAS (46°15'N, 5°55'W)
 The areas enclosed by pecked lines show concentrations of seabed obstructions. Numerous isolated obstructions will be prohibited from entry.

HISTORIC AND MILITARY WRECK SITES
 The sites of historic and military wrecks NW, NE and E of the Island of Ponta (46°15'N, 5°58'W), and N of the Island of Synka (46°12'N, 5°55'W) are protected from unauthorised interference. See Annual Notice to Mariners No 16.

FIRING PRACTICE AREA
 No restrictions are placed on the transit the firing practice area at an 1000 metres ahead and 100 metres either side. Vessels under 20 metres will be prohibited from entering.

MARINE FARMS
 Marine farms, which may be floating or fixed structures, and their associated moorings should be avoided. The charted positions of the farms are approximate, and further farms may be established without notice. The farms are generally marked by buoys or beacons, which may be lit.

POSITION FIXING - THE THREE POINT FIX

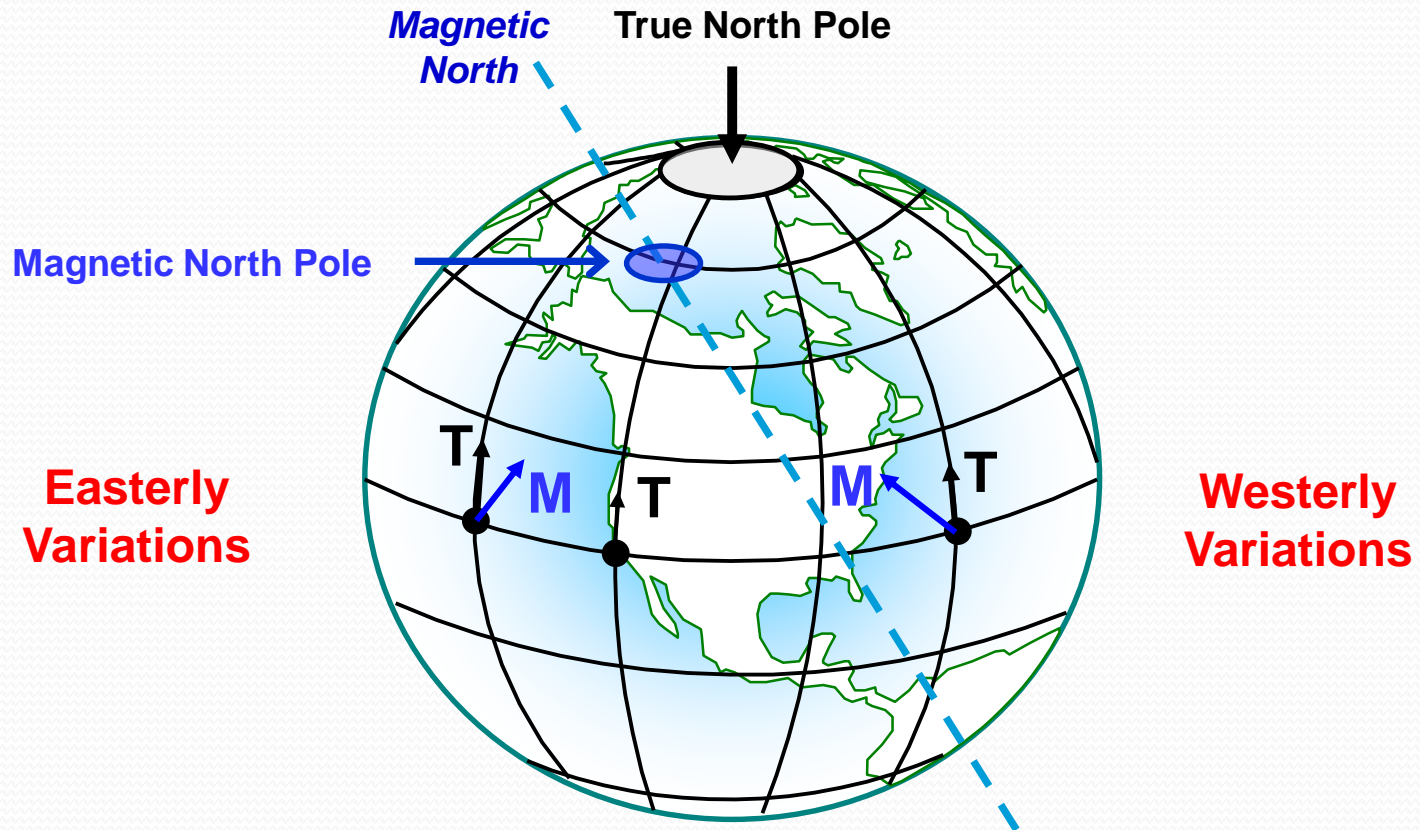




Variation

VARIATION

The Magnetic North Pole is situated in Northern Canada.
The pole moves a few miles each year

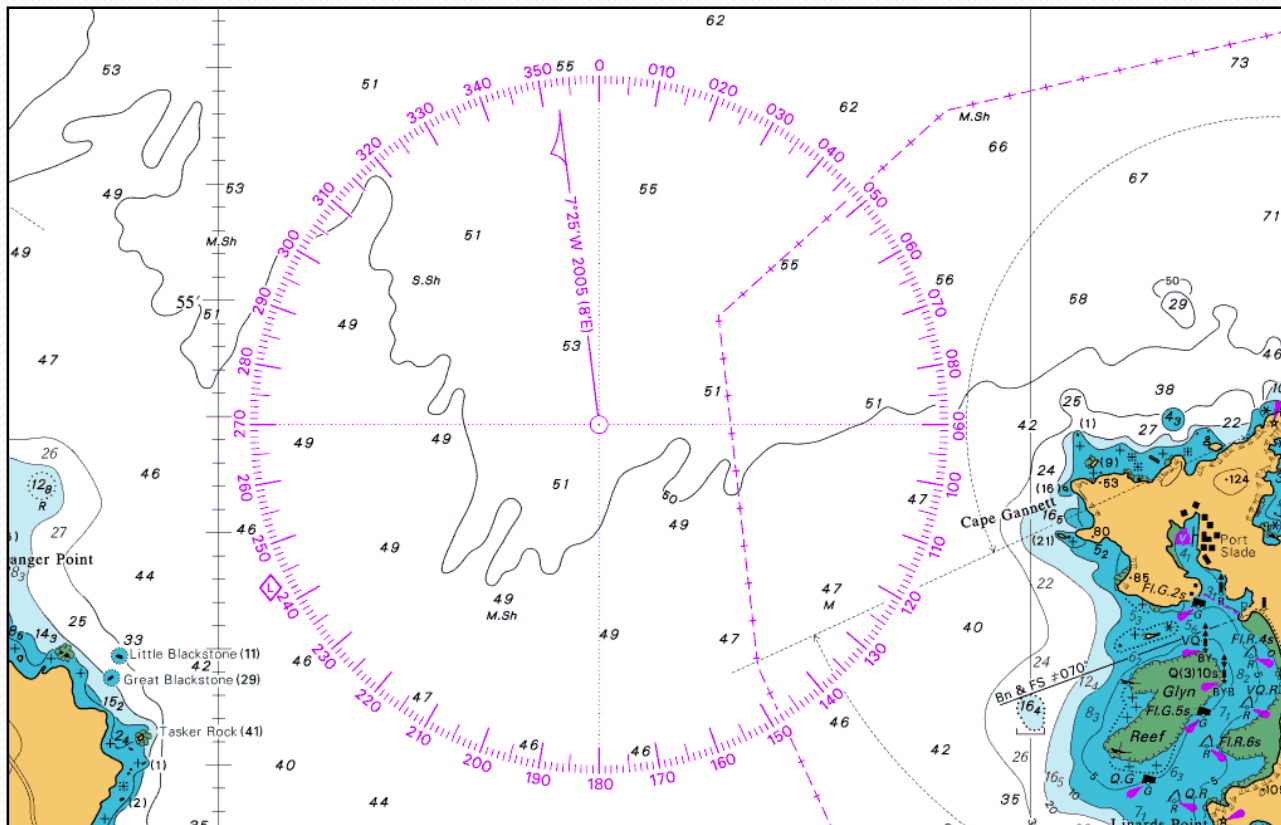


COMPASS ROSE

The magnetic variation is shown as $7^{\circ}25'W$ in 2005 decreasing $8'$ annually.

In 2012 it will be 56 minutes less = $6^{\circ}29'W$.

For navigation the number will be rounded down to $6^{\circ}W$



APPLYING CORRECTIONS

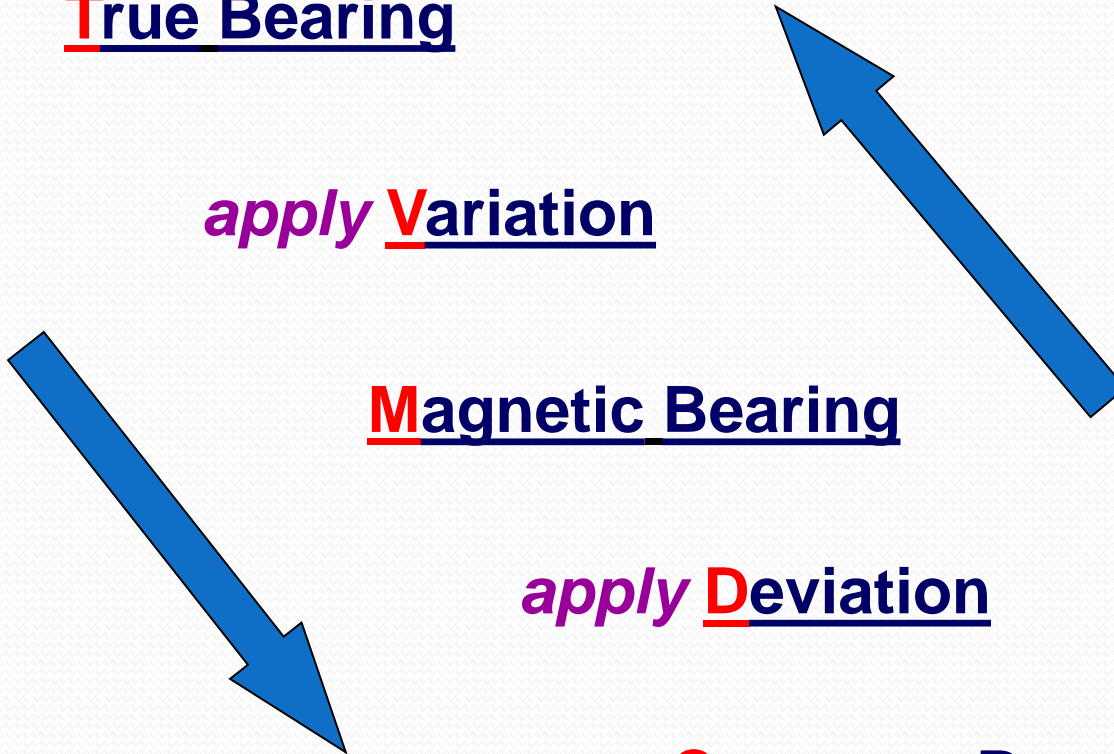
True Bearing

apply Variation

Magnetic Bearing

apply Deviation

Compass Bearing



Applying variation

+ W - E

- True bearing

Magnetic Bearing

+ E - W

MNEMONICS

'Error **W**est - Compass **B**est

Error **E**ast - Compass **L**east'

The second mnemonic refers to the order in which variation and deviation are applied.



'Cadbury's **D**airy **M**ilk **V**ery **T**asty



Checking Learning

- Questioning – direct / indirect
- Demonstrations
- Explanations
- Peer discussion and questioning
- Test

Quiz

- Please log your phones and tablets onto the facility WiFi.....
- Log onto www.kahoot.it
- <https://create.kahoot.it>

Resources

- Secondhand charts www.chartsales.co.uk
- RYA Training Plotter
- Westview Sailing Videos
<http://moodle.southdevon.ac.uk/mod/book/view.php?id=221354>
- General Nav & Sail info www.sailtrain.co.uk
- RYA books and E-books



Questions?????