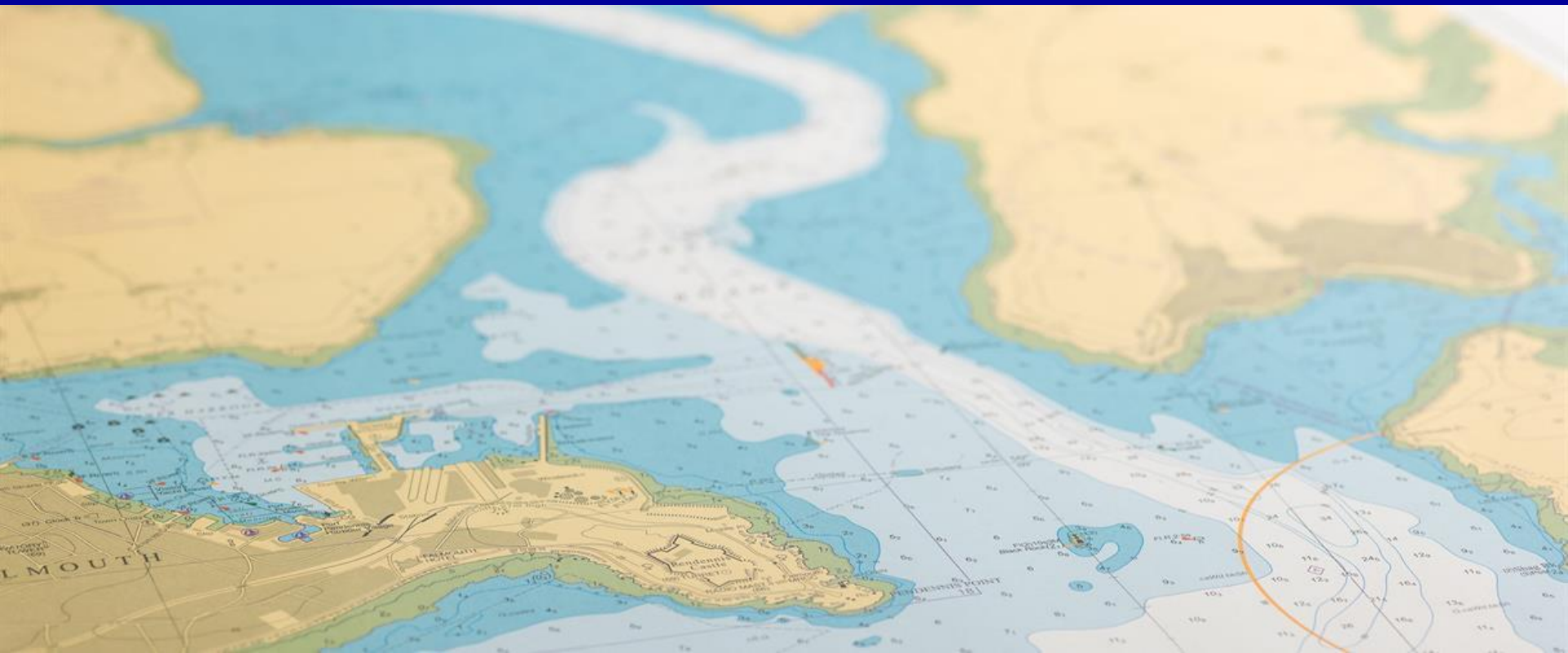


Routing

Voyage preparation, -planning
and
-implementation



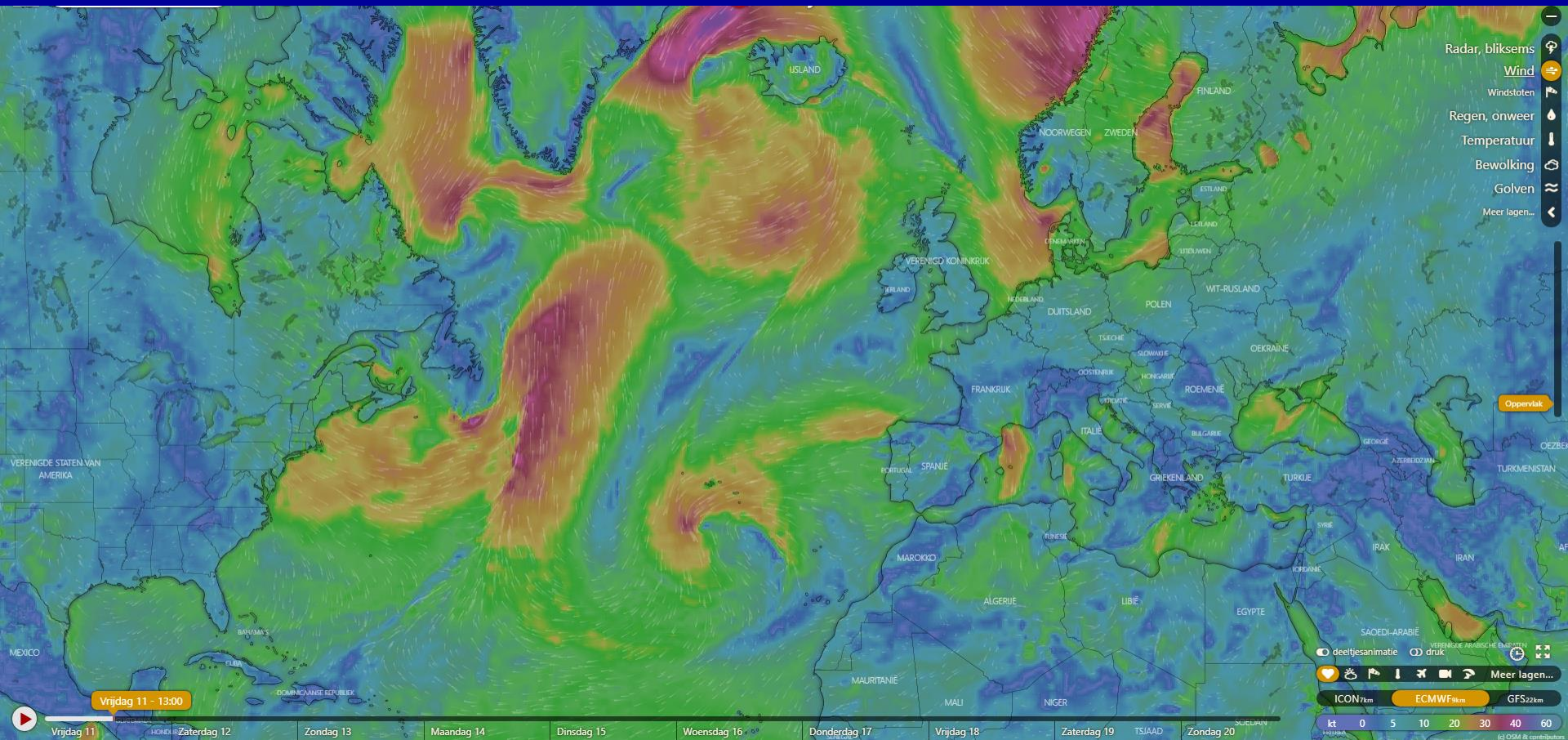
Routeing possibilities

- Weather routeing
 - By own information
 - By external party
- Climatologic Routeing
 - By charts and books

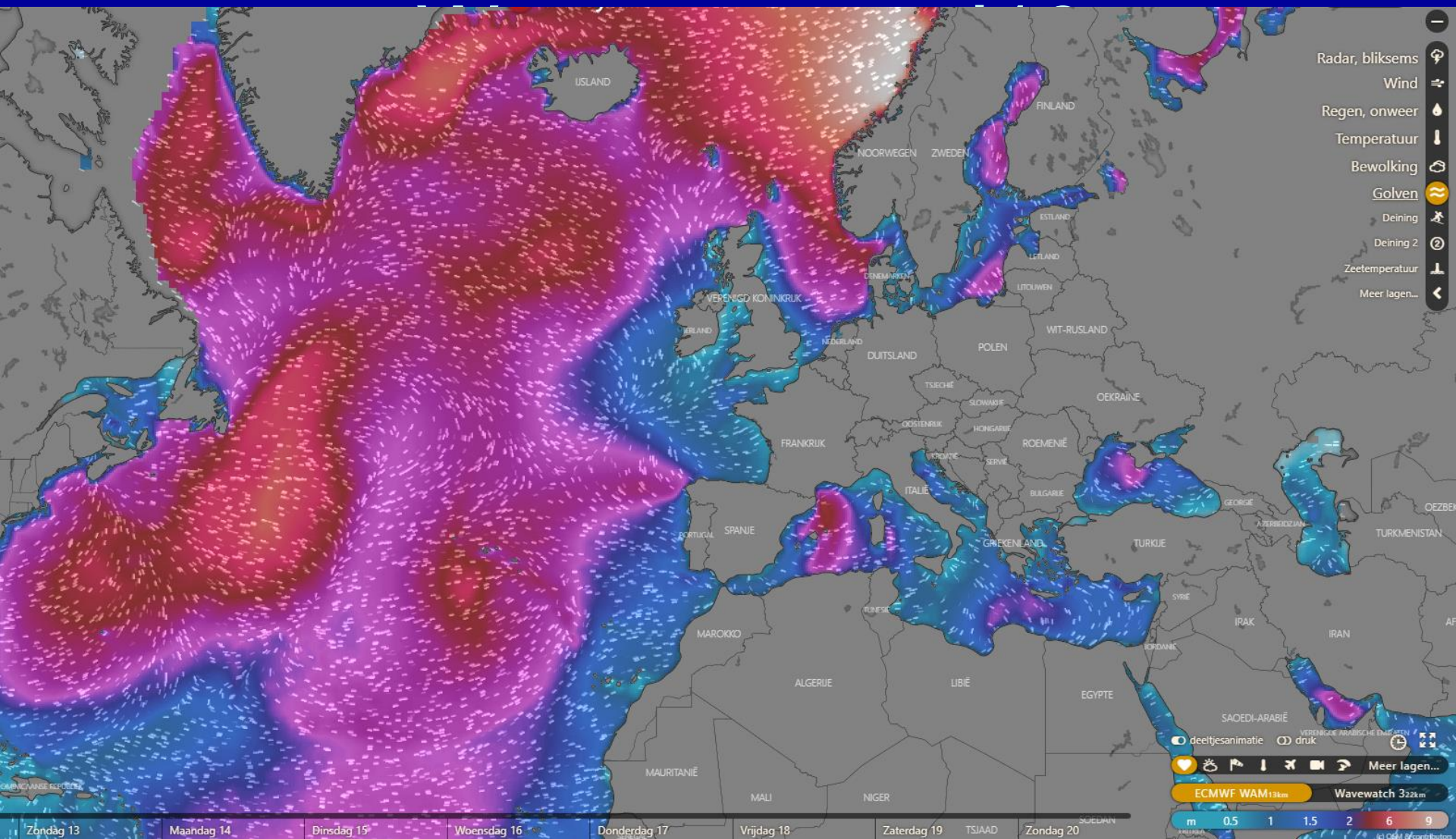
Weather Routeing

- Basis weather routeing
 - Ships particulars
 - 10 day forecast from which wind- and wave prognosis can be made
 - By means of wave prognosis and ships particulars you determine timezones and the optimum route can be determined

Wind 11-01-'19



Today's wind chart created with windy.com



Today's wave chart created with windy.com

Do not forget your Barometer!



Meteoconsult - SPOS

SPOS bundles meteo information of:

- ECMWF (Europe)
- UKMO or 'Bracknell' model (UK)
- NCEP (USA)

To construct the so called NMB model

SPOS prognoses are the best available

results NMB compared to individual models

	ECMWF	UKMO	NCEP
• Day 1	5%	9%	20%
• Day 2	8%	11%	21%
• Day 3	13%	14%	21%
• Day 4	16%	17%	27%
• Day 5	20%	11%	24%
• Day 6-8	16%	--	29%

explanation: prediction for day 4: ECMWF prediction error is 16% larger than NMB prediction error, NCEP error is 27% larger

Climatologic routeing

By experience and knowledge about the meteorologic- and oceanographic information obtained throughout many years a crossing is planned

PILOTCHARTS



De PILOTCHART

OCEAN CURRENTS

The arrows on the chart indicate the prevailing direction, and the numerals show the mean current speed in knots. The broken arrows indicate the probable surface current flow where data are sparse, but more importantly they indicate directional variability such as in the Sargasso Sea, in regions of entrainment between currents setting in opposing directions, in nearshore tidal regions, and in the northern seas where currents are generally weak and easily influenced by winds.

LOCAL WEATHER

For extended remarks on the marine climate along foreign coasts, see the appropriate Sailing Directions and Planning Guides prepared and published by the Defense Mapping Agency Hydrographic/Topographic Center, for the coasts of the United States and its possessions, see the appropriate Coast Pilot prepared and published by the National Oceanic and Atmospheric Administration, Environmental Data and Information Service, carries informative articles on marine climatic conditions.

TEMPERATURE.—The mean air temperature pattern in February has changed little from that of January. The zero isotherm is the only one to shift noticeably as it moves farther south off the Greenland coast. The means range from below -6°C over Raffen Bay to above 26°C in areas south of 18°N in the Caribbean. The orientation of the isotherms is southwest-northeast in the northern latitudes. Extreme temperatures drop slightly in February as they range from below -16°C in the Davis Strait to over 28°C in the southern regions of the North Atlantic.

WAVE HEIGHTS.—North of 25°N , most areas of the North Atlantic except for protected coastal areas and frozen northern waters experience wave heights of 12 feet or higher 10 percent or more of the time. Frequencies of 10 percent or more are also observed in the Mediterranean Sea from the Gulf of Lions to near Sardinia and over the Caribbean Sea near Barranquilla, Colombia. The highest frequency, 50 percent, is located north of 42°N and south of 61°N , between southeastern Greenland and 10°W .

EXTRATROPICAL CYCLONES.—A large area of cyclogenesis extends from the Gulf Coast of the United States to northeast Newfoundland. Other major areas of cyclone development are over the Denmark Strait-Western Iceland region and over the northwest region of the Mediterranean Sea north of a line from Barcelona to central Yugoslavia. Of two primary tracks, one crosses the Great Lakes and Bay of Fundy before turning north to the Labrador coast where it splits with one branch continuing north towards Raffen Bay and the other heading northeast past the southern tip of Greenland. The other primary track runs from northern Florida northeast to about 50°N , 40°W where it divides with lows either heading for the Denmark Strait or Norwegian Sea. Secondary tracks in the Mediterranean cross southern France and the northern Adriatic, while others lead from northern Spain through southern Italy and northern Greece. Additional secondary tracks cross Hudson Bay and the British Isles.

PRESSURE.—The average pressure distribution remains quite similar to that of January. The Icelandic Low fills to 1000 millibars and is located near 60°N , 40°W . The central pressure of the Azores High is still above 1020 millibars with a more clearly defined center near 30°N , 30°W . The reduction in the average north-south pressure gradient is generally caused by lows being less intense on the average during February although many are severe.

VISIBILITY.—The frequency of visibilities less than 2 miles reaches 10 percent or more north of a line extending from southern Maine northeastward to northern Iceland and the Barents Sea. Another region of 10 percent or more covers the Irish Sea, English Channel and southern regions of the North Sea and Baltic Sea. The frequency increases to more than 30 percent over the Gulf of St. Lawrence, along the southeast coast of Greenland, and north of 67°N in the Greenland Sea.

GALES.—During February winds of force 8 or greater are confined mainly north of 38°N . The 10 percent occurrence line extends south from Norway past western Ireland and northern Spain to some 500 miles east of Cape Hatteras where it turns northeast and parallels the North American coast to Nova Scotia. The Gulf of Lions is the only region in the Mediterranean Sea with a greater than 10 percent occurrence of gales. The area with the highest frequency, 30 percent, is off the southern tip of Greenland with a surrounding 20 percent area that extends from the Labrador Sea to southern Iceland. Another 20 percent area is located in the Gulf of St. Lawrence.

FREQUENCY OF WAVE HEIGHTS

The red lines on the main body of the chart indicate the percentage of frequency of wave height equal to or greater than 12 feet. In analysis when both sea and swell are reported, the higher value is used in the summarization.

MAGNETIC VARIATION

The lines of equal magnetic variation for the Epoch 1975 are shown by grey lines on the main body of the chart. (See inset chart for the rate of annual change.)

EXPLANATION OF WIND ROSES

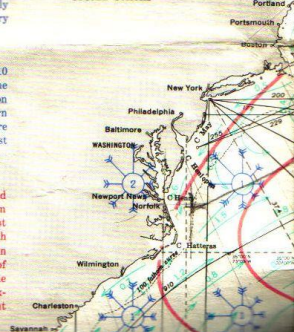
PREVAILING WINDS AND CALMS.—The wind rose located in the center of each 5° square where there was sufficient data. The rose shows the distribution of the winds that have prevailed in the area over a considerable period. The wind percentages for the eight points and calm. The arrows fly with the wind indicating the direction from which the wind blew. The length of the shaft, measured from the outside of the scale below, gives the percent of the total number of observations in which the wind has blown from that direction. The number of feathers on the shaft of the wind on the Beaufort scale in the center of the circle gives the percent. When the arrow is too long to fit conveniently in the 5° square, anything over 29 percent, the shaft is broken and the percentage is indicated by numerals. **FOR EXAMPLE.**—The sample wind rose thus: In the reported observations averaged as follows: From N. 40 percent, force 7; from N.E. 19 percent, force 7; from E. 6 percent, force 5; from S.E. 5 percent, force 5; from S. 5 percent, force 5; from S.W. 9 percent, force 5; from W. 8 percent, force 5; from N.W. 5 percent, force 4; calms 3 percent.



UNITED STATES

EXCEPTIONAL ICE SIGHTS
 ▲ Berg (year sighted)
 ○ Growler (year sighted)

UNITED STATES



EXPLANATION OF WIND ROSES

PREVAILING WINDS AND CALMS.—The wind rose in blue color is located in the center of each 5° square where there was sufficient data. The rose shows the distribution of the winds that have prevailed in the area over a considerable period. The wind percentages are summarized for the eight points and calm. The arrows fly with the wind indicating

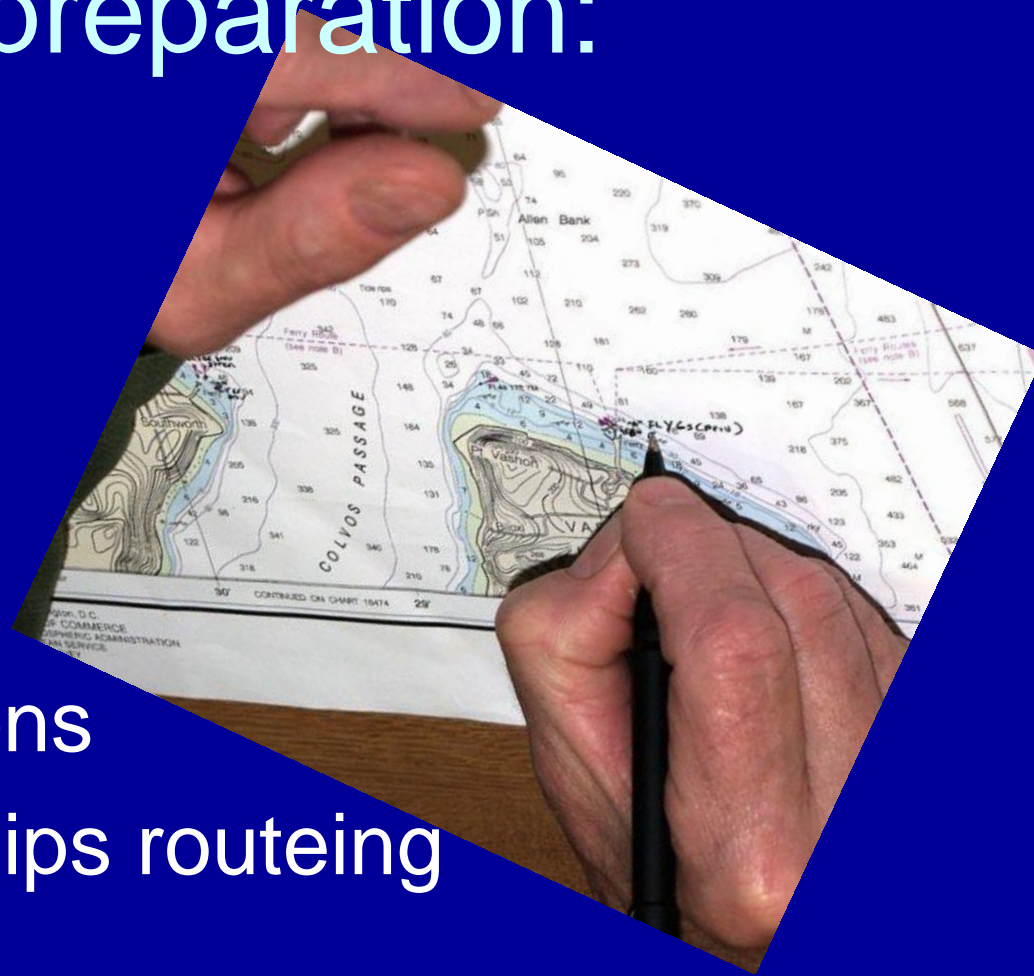
the direction from which the wind blew. The length of the shaft, measured from the outside of the circle using the scale below, gives the percent of the total number of observations in which the wind has blown from that direction. The number of feathers shows the average force of the wind on the Beaufort scale. The figure in the center of the circle gives the percentage of calms. When the arrow is too long to fit conveniently in the 5° square, anything over 29 percent, the shaft is broken and the percentage is indicated by numerals.

FOR EXAMPLE.—The sample wind rose should read thus: In the reported observations the wind has averaged as follows: From N. 40 percent, force 7; from N.E. 19 percent, force 7; from E. 6 percent, force 5; from S.E. 5 percent, force 5; from S. 5 percent, force 5; from S.W. 9 percent, force 5; from W. 8 percent, force 5; from N.W. 5 percent, force 4; calms 3 percent.



Voyage preparation:

- Plan
- Weather
- Charts (corrected)
- Pilots
- Nautical Publications
- OPFTW / IMO ships routing
- Plan B



Voyage plan Sailsperfect. _____ datum.....

Harbor of Departure: _____ Arrival: _____

Sailing area: *(Lille Belt ,English Channel)*

Charts needed: _____

Corrected until: _____

Pilots: _____

Tidal information: _____

Communication info: _____

Route expectation: _____

Fuel and water: _____

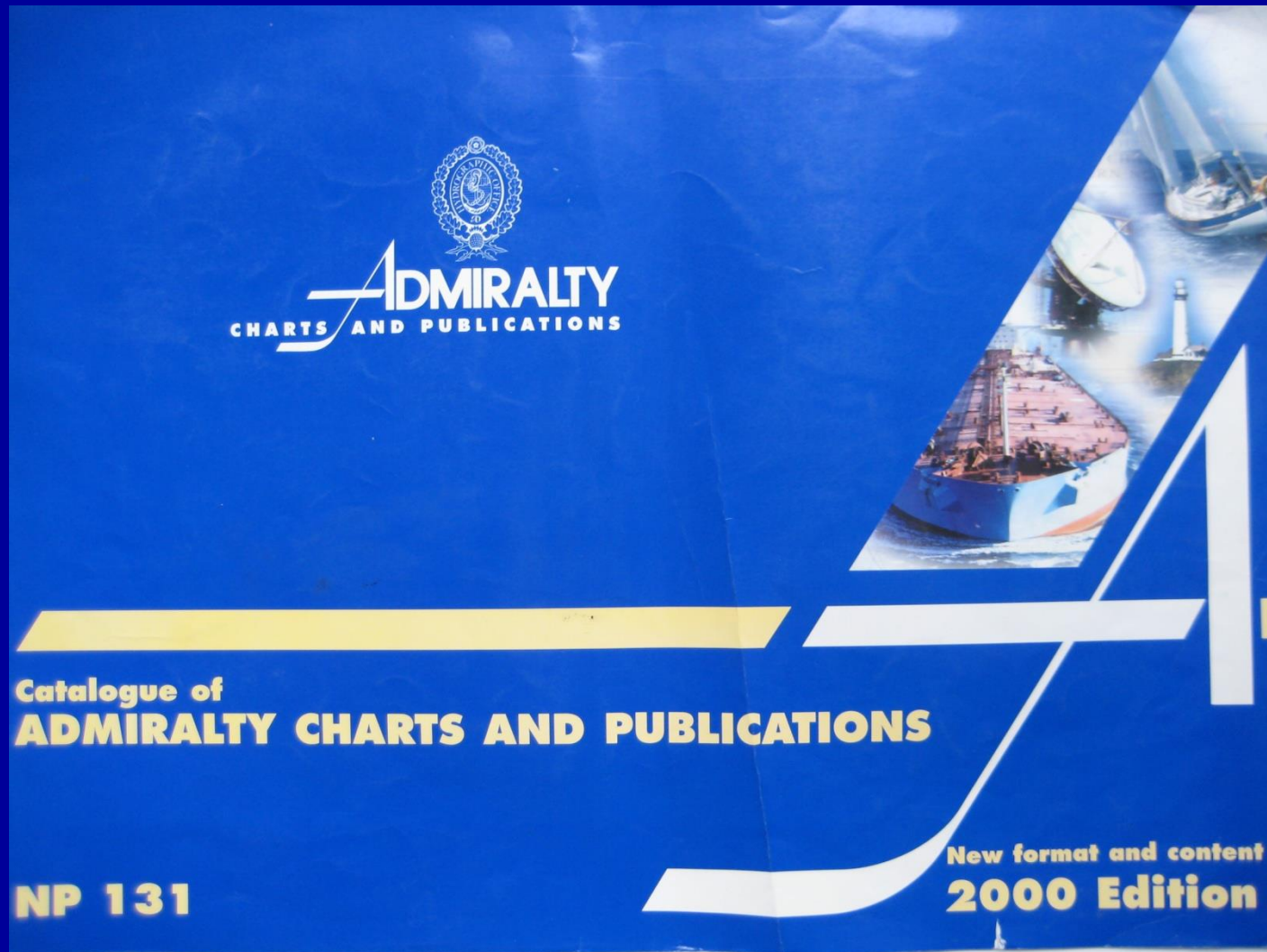
Emergency plan/port: _____

Chart and pilots: _____

Charts and Books



Chart Catalogue



Catalogue

Part 2 – Navigational Charts

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Catalogue

2

A1

The World-
Index of Charts
at 1:3,500,000
or comparable
scale



Notes.

For Thematic Charts, e.g. Routing,
Magnetic, etc. charts, see Part 3
sections 1 to 13.

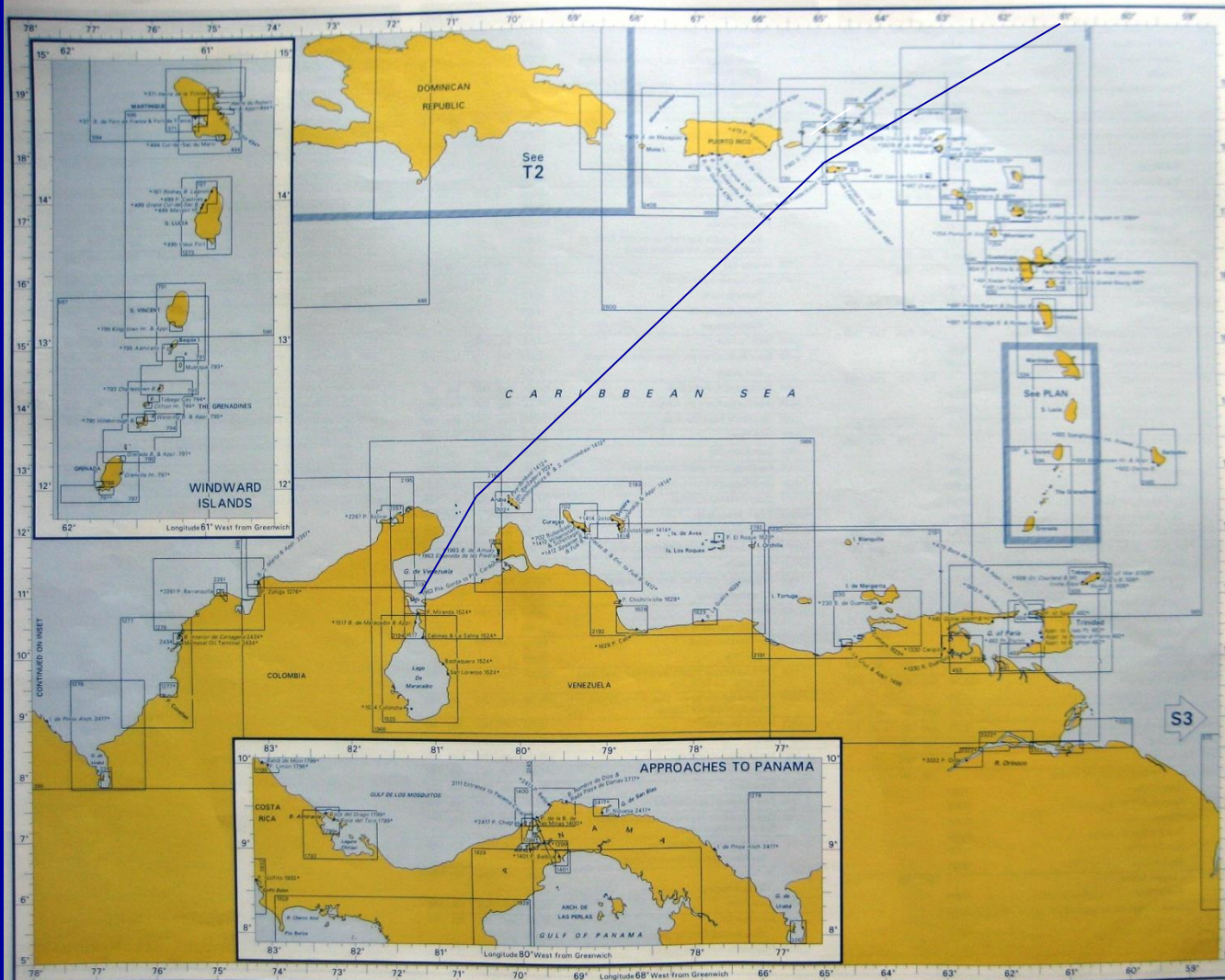
See index XA for limits of larger scale
regional indexes.

Catalogue

2

T1

West Indies &
Caribbean Sea
Panama
Windward Is



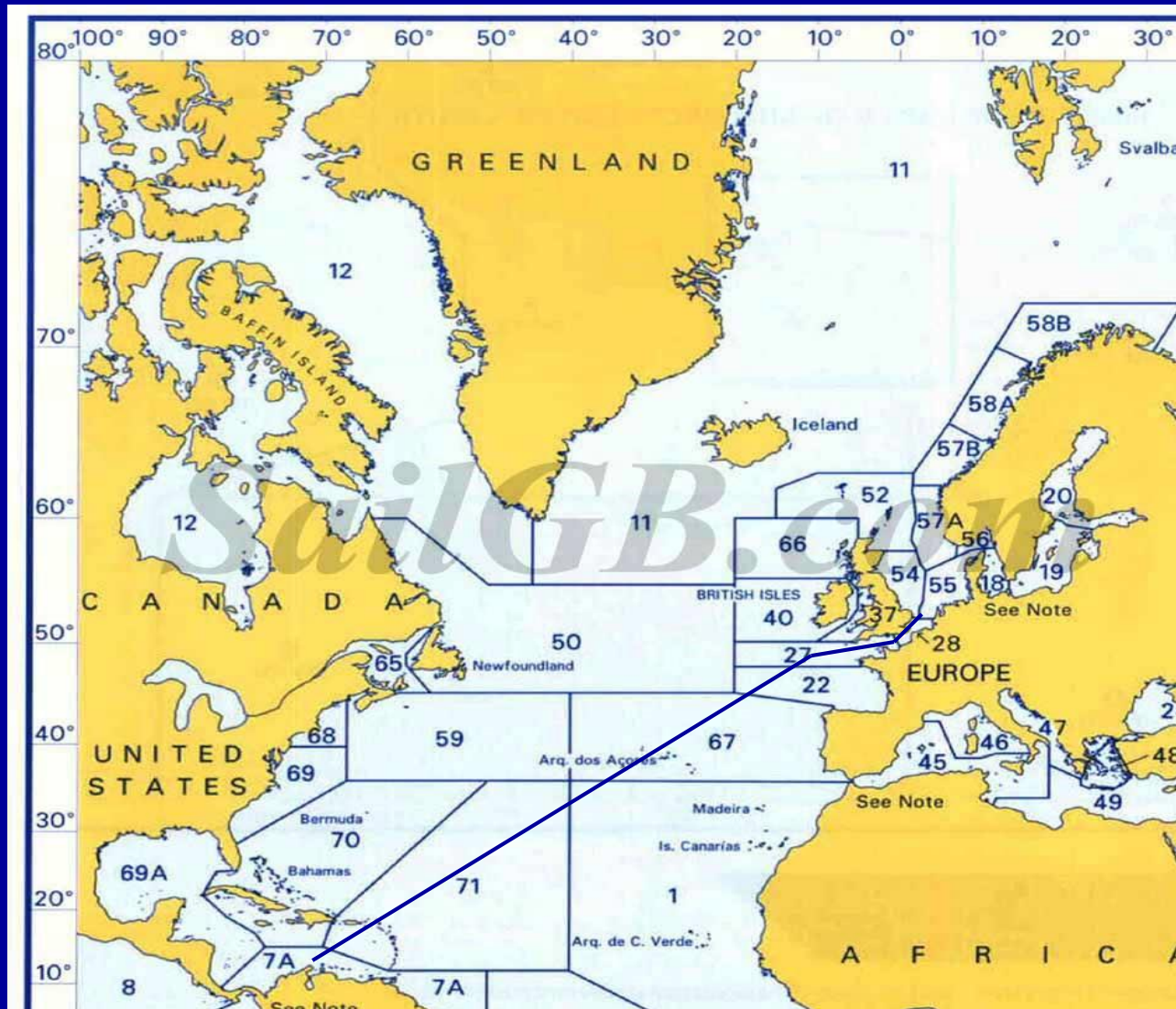
Notes

*1234 indicates that a plan is shown on chart 1234

A number against a place name shows that a separate plan is published bearing that number.

See indexes A, A1&T for smaller scale charts

Catalogue



Books:

ALRS (admiralty list of radio signals)

Volume 1 (Part 1 and 2)	Maritime Radio stations
Volume 2	Radio Aids to navigation, Differential GPS, Legal Time, Electronic Time signals and Electronic position fixing system
Volume 3 (part 1 an 2)	Maritime Weather Services Maritime Safety Information broadcasts worldwide NAVTEX and SafetyNET information Submarine and Gunnery Warning details (Subfacts and Gunfacts) Radio-Facsimile Stations, frequencies and weather map
Volume 4	Meteorological observation stations
Volume 5	GMDSS
Volume 6 (part 1-6)	Pilot services, VTS and Port Operations

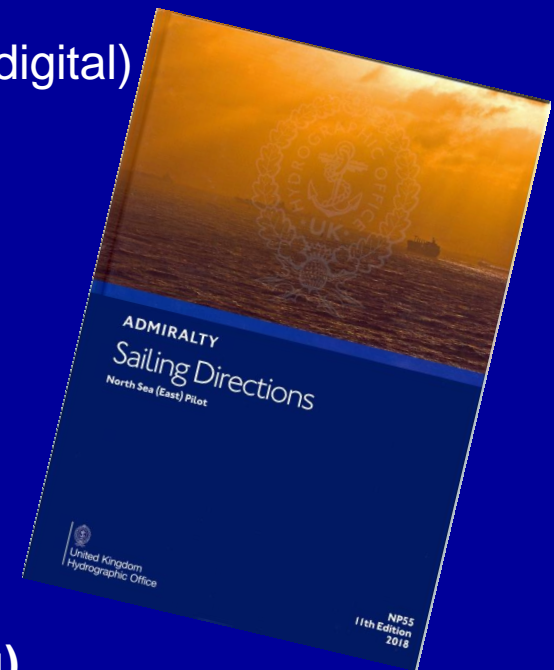
PILOTS:

Admiralty Sailing Directions

Nautical Pilot 1 to 99	World coverage (also available digital)
Nautical Pilot 100	Mariners handbook
Nautical Pilot 136	Opftw

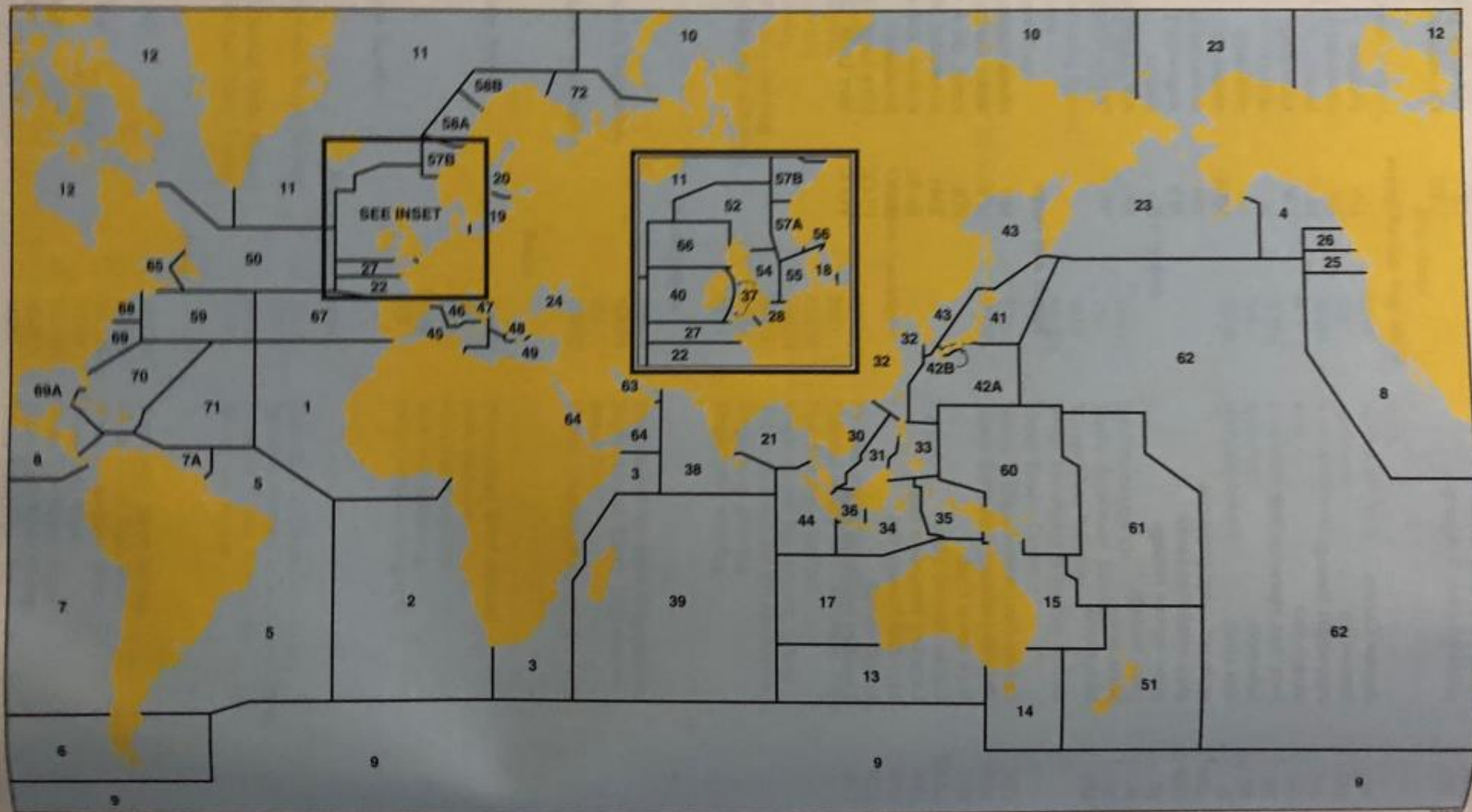
Routeing:

- Ocean Passages For the World (NP 136)
- Ships' Routeing (IMO) (for merchant shipping)
- World Cruising Routes, Jimmy Cornell (Sailing Yachts)



LIMITS OF VOLUMES OF ADMIRALTY SAILING DIRECTIONS

1 Africa Pilot, Vol. I.	15 Australia Pilot, Vol. III.	31 China Sea Pilot, Vol. II.	45 Mediterranean Pilot, Vol. I.	59 Nova Scotia & Bay of Fundy Pilot.
2 Africa Pilot, Vol. II.	16 Australia Pilot, Vol. IV.	32 China Sea Pilot, Vol. III.	46 Mediterranean Pilot, Vol. II.	60 Pacific Islands Pilot, Vol. I.
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8 Pacific Coasts of Central America & United States Pilot.	23 Bering Sea and Strait Pilot.	39 South Indian Ocean Pilot.	53 North Sea (West) Pilot.	67 West Coasts of Spain & Portugal Pilot.
9 Antarctic Pilot.	24 Black Sea Pilot.	40 Irish Coast Pilot.	54 North Sea (East) Pilot.	68 East Coast of United States Pilot, Vol. I.
10 Arctic Pilot, Vol. I.	25 British Columbia Pilot, Vol. I.	41 Japan Pilot, Vol. I.	55 Norway Pilot, Vol. I.	69 East Coast of United States Pilot, Vol. II.
11 Arctic Pilot, Vol. II.	26 British Columbia Pilot, Vol. II.	42A Japan Pilot, Vol. II.	56 Norway Pilot, Vol. II.	69A East Coasts of Central America & Gulf of Mexico Pilot.
12 Arctic Pilot, Vol. III.	27 Channel Pilot.	42B Japan Pilot, Vol. III.	57A Norway Pilot, Vol. III.	
13 Australia Pilot, Vol. I.	28 Dover Strait Pilot.	43 South and East Coasts of Korea, East Coasts of Siberia and Sea of Okhotsk Pilot.	57B Norway Pilot, Vol. III.	
14 Australia Pilot, Vol. II.	29 China Sea Pilot, Vol. I.	44 Malacca Strait and West Coast of Sumatra Pilot.	58A Norway Pilot, Vol. III.	
			58B Norway Pilot, Vol. III.	



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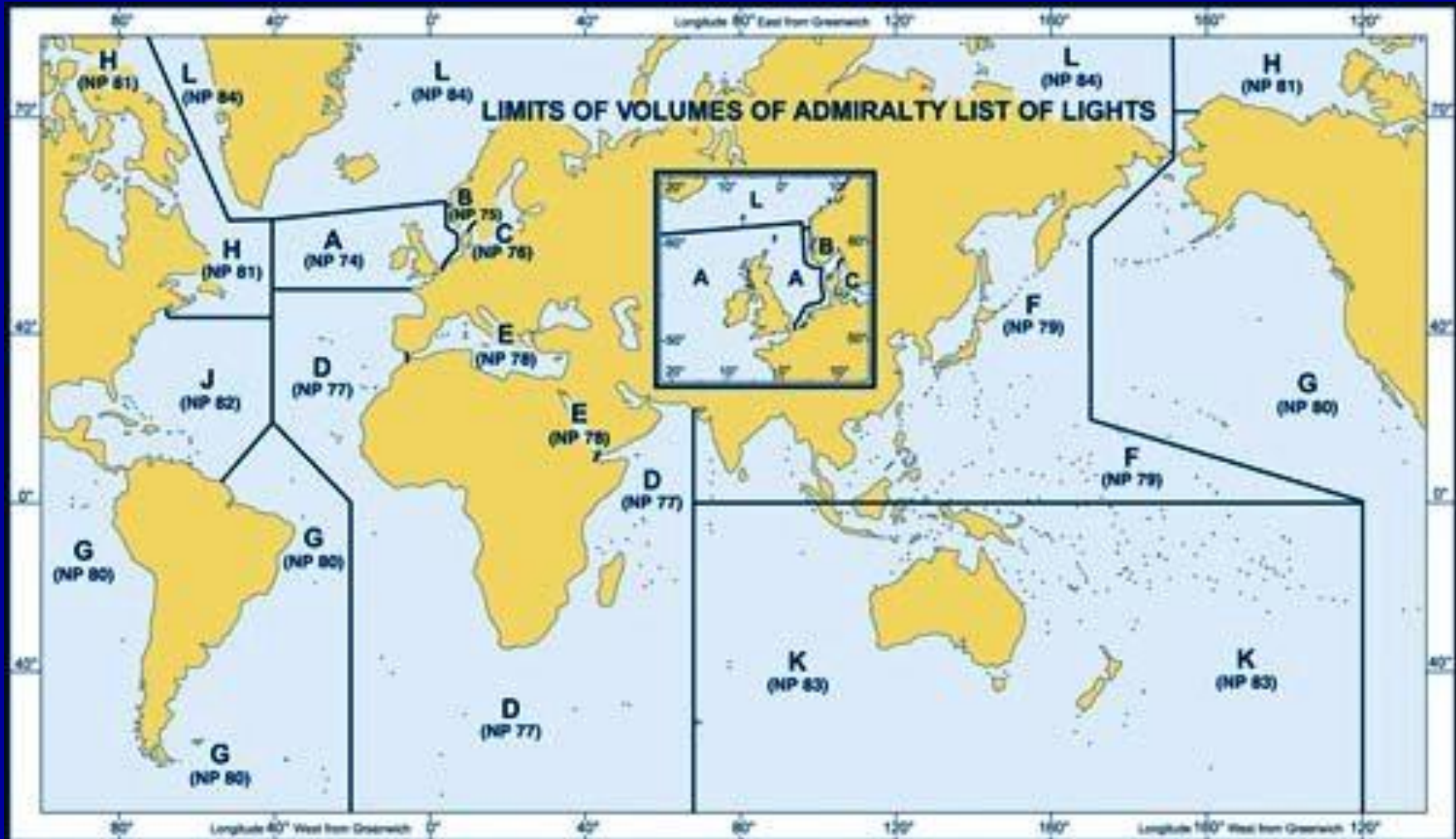
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Admiralty List of Lights (ALL)

Volume A to L

World coverage (also available digital)



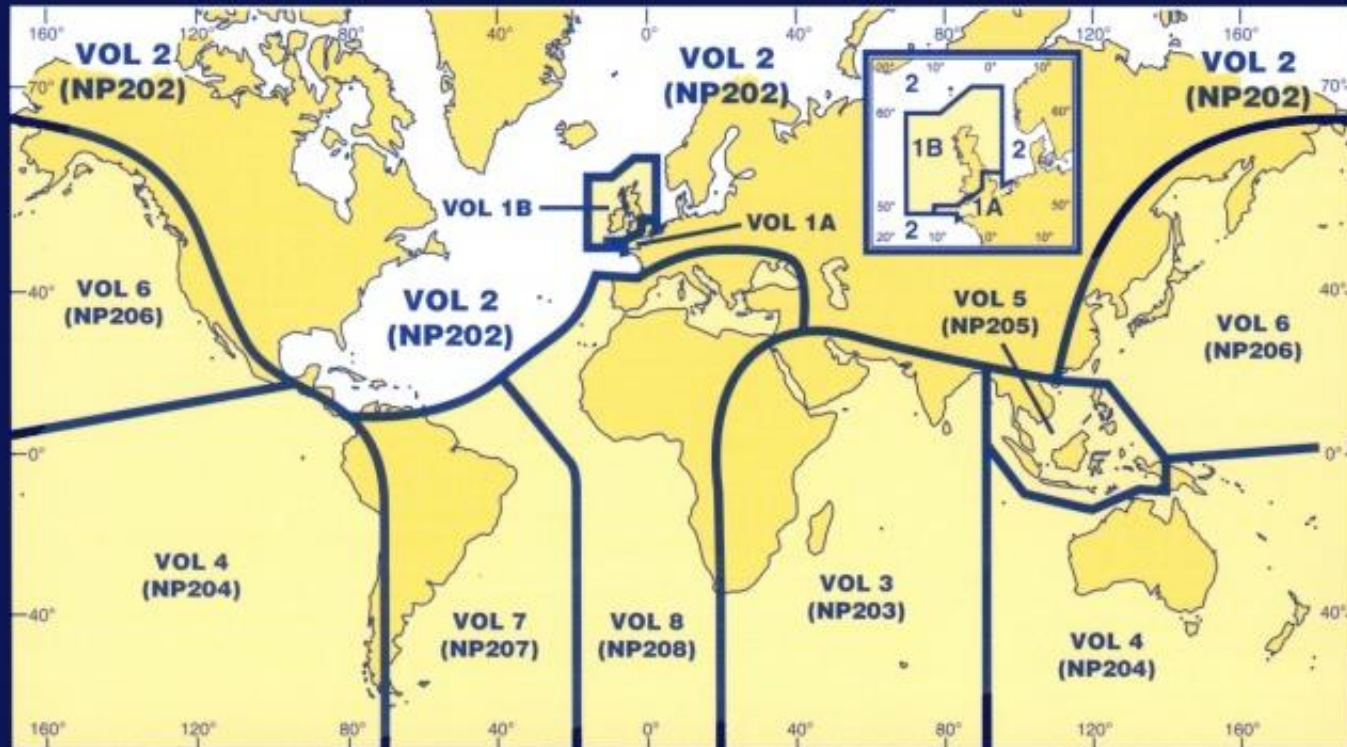
Admiralty Tide Tables (ATT)

Volume 1 to 8

World coverage (also available digital)

ADMIRALTY Tide Tables Volume 2 North Atlantic Ocean and Arctic Regions

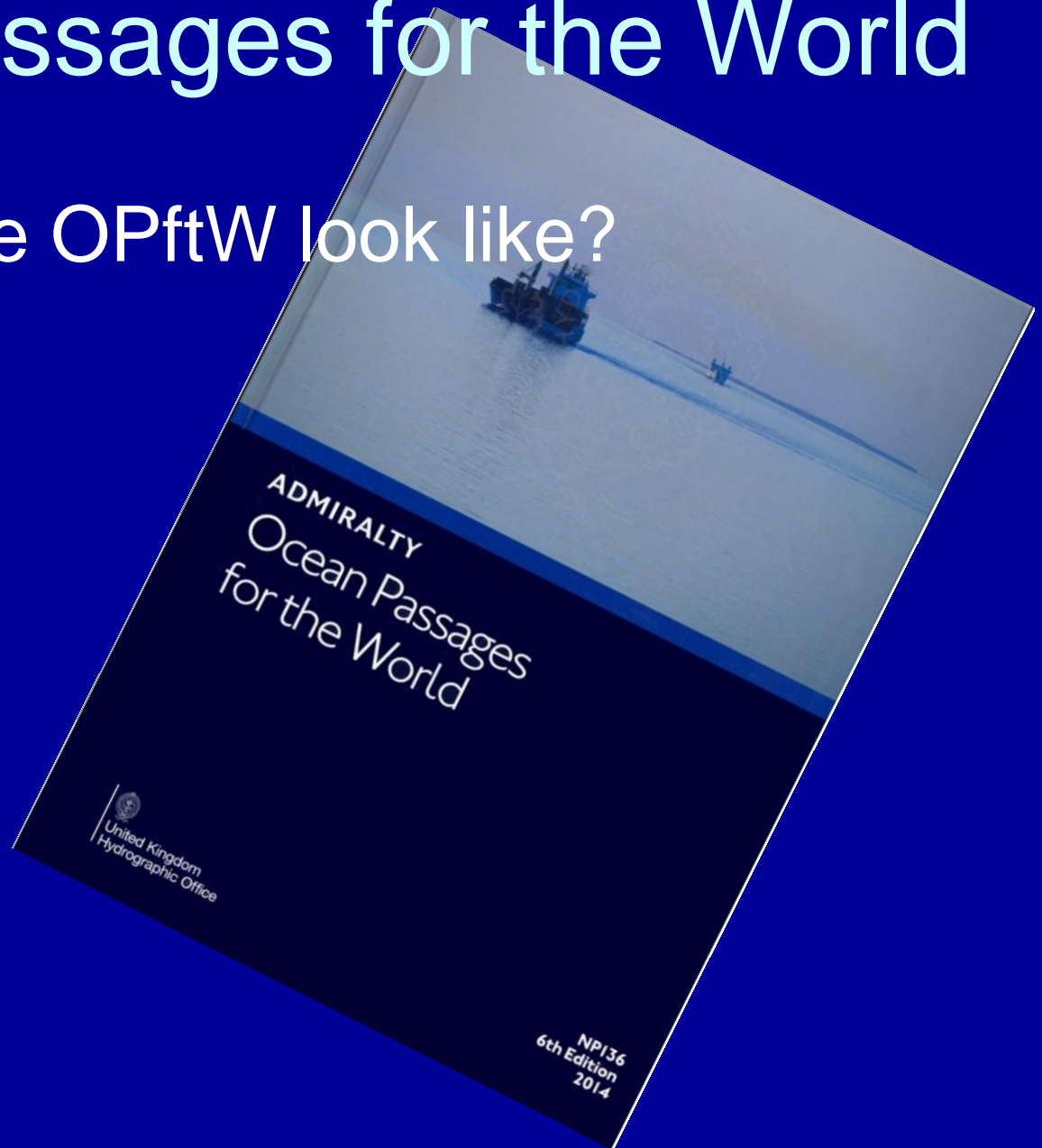
Limits of ADMIRALTY Tide Tables



Ocean passages for the World

- How does the OPftW look like?

- Contents
- Gazetteer
- Index

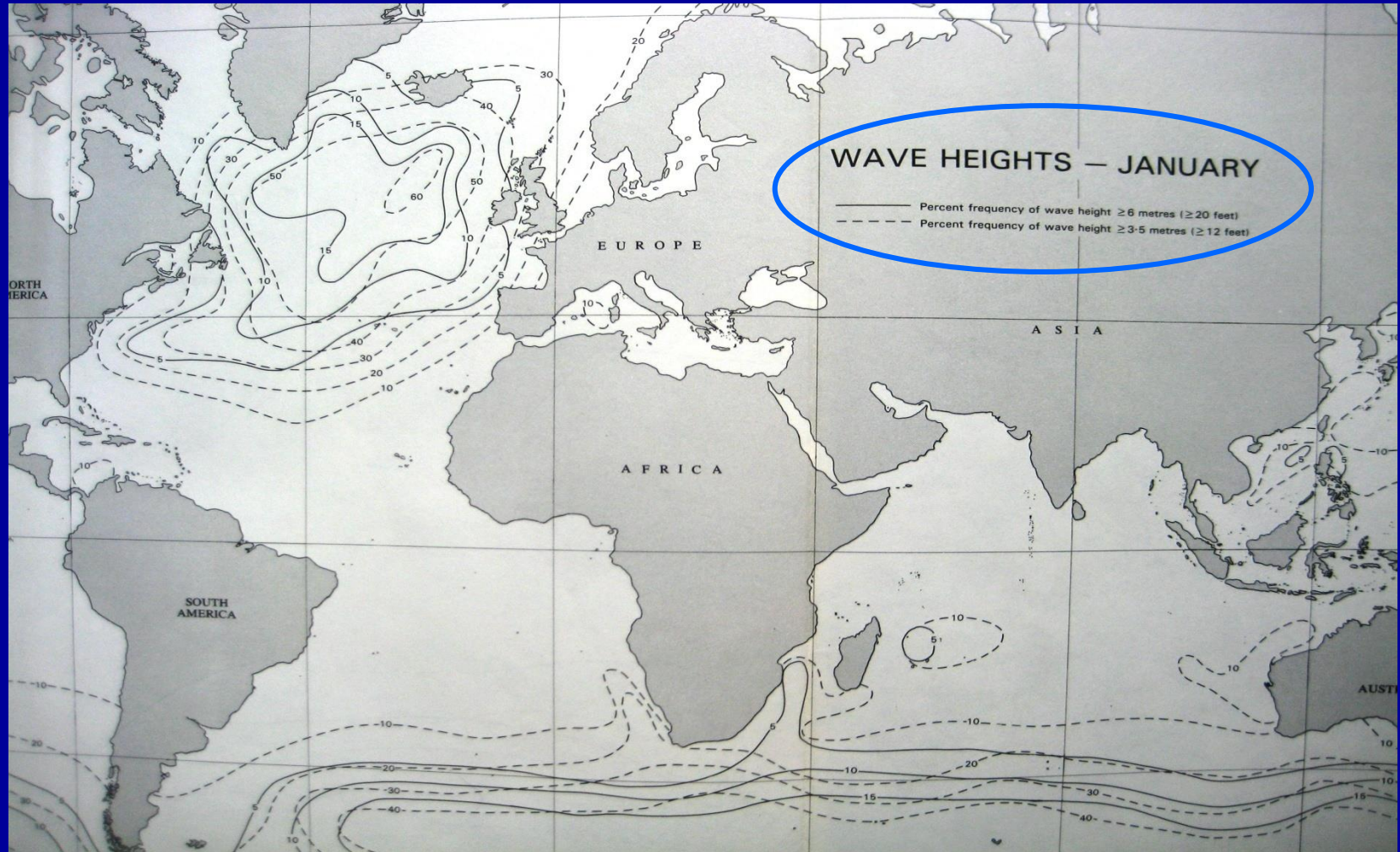


Ocean passages for the World

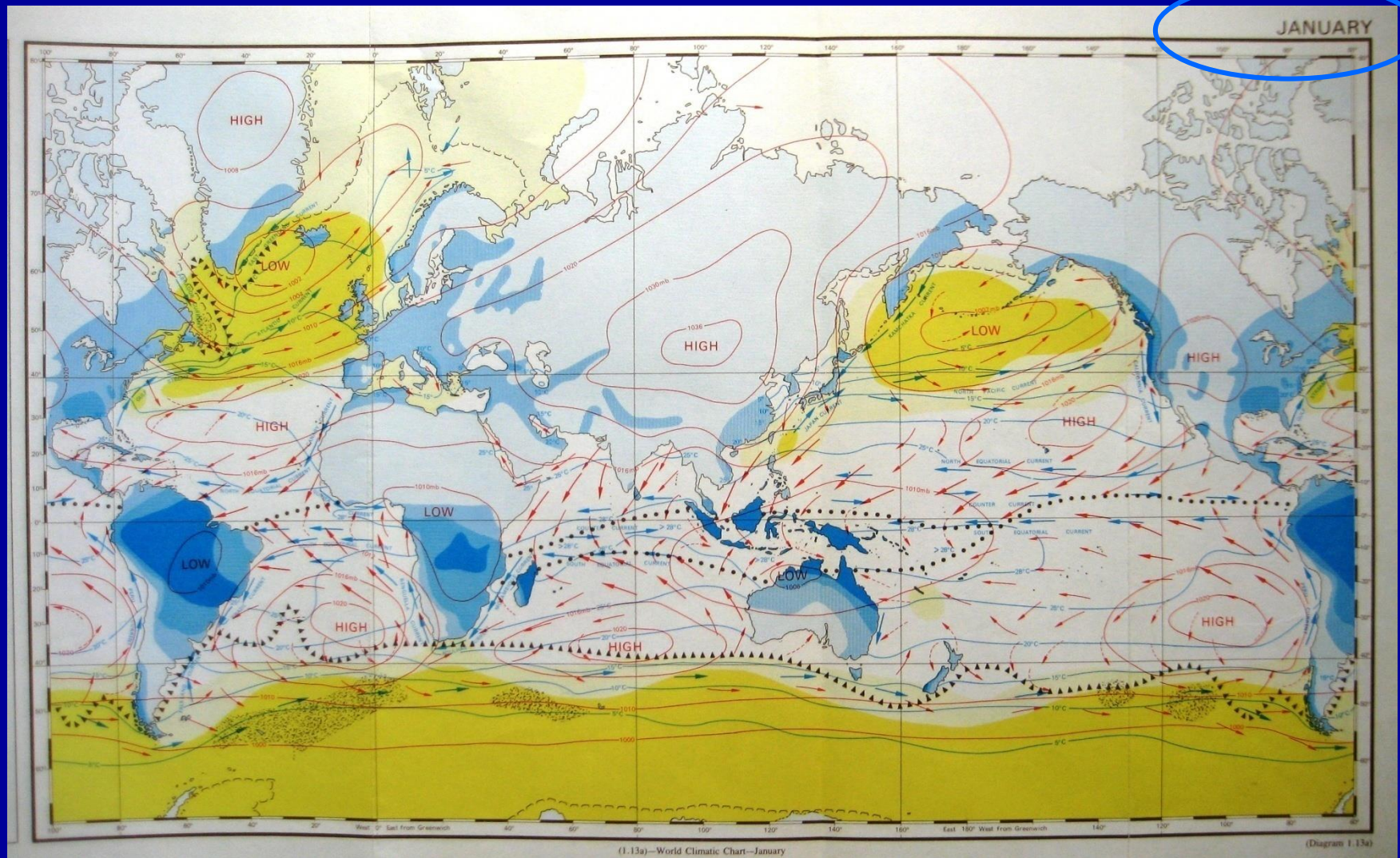
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- Part I
 - Ch1 Planning a Passage
 - Ch 2-7 Ocean routes Power Driven Vessels
- Part II
 - Ch 8-10 Ocean routes Sailing Ships and slow vessels
- Gazetteer, Index

Planning a passage by OPftW



Planning a passage by OPftW



How do you find your route?

GAZETTEER

Ceva-i-Ra (Theva-i-Ra)					Coronel	37 06 S	73 10 W
(Conway Reef)	21 44 N	174 38 E			Corrientes, Cabo: Argentina	38 01 S	57 32 W
Chagos Archipelago	6 30 S	72 00 E			Corrientes, Cabo: Colombia	5 29 N	77 33 W
Chang Jiang (Yangtze River)	31 03 N	122 20 E	5		Corse (Corsica)	42 00 N	9 00 E
Charlotte Bank: NE of Vanuatu	11 47 S	173 13 E			Corse, Cap	43 01 N	9 22 E
Charlotte Bank:					Coruña, La	43 22 N	8 24 W
South China Sea	7 08 N	107 35 E			Corvo, Ilha do	39 40 N	31 05 W
Chatham Islands	44 00 S	176 30 W			Cosmoledo Group	9 45 S	47 35 E
Chaussée = Bank, causeway;			10		Creus, Cabo	42 19 N	3 19 E
see proper name					Crocodile Shoal	1 11 N	104 16 E
Che Kamat, Pulau	1 21 N	104 14 E			Crooked Island Passage	23 15 N	74 25 W*
Chenal = Channel;					Cruz, Cabo	19 51 N	77 44 W
see proper name					Cu Lao Ré	15 23 N	109 07 E
Chesapeake Bay	36 56 N	75 58 W*	15		Cuba	22 30 N	80 00 W
Chesterfield Reefs	19 55 S	158 20 E			Cumberland, Cape	14 37 S	166 37 E
Chetvertyy Kuril'skiy Proliv	50 00 N	155 00 E			Cunene, Rio	17 15 S	11 45 E
Chia-p'eng Ch'un-tao;					Curaçao: Willemstad	12 06 N	68 56 W*
see Jiapeng Liedao	21 53 N	114 03 E			Curacao Reef	15 29 S	173 37 W
Chi-chou Lieh-tao;			20		Curtis Channel	24 20 S	152 55 E
see Qizhou Liedao	19 58 N	111 16 E			Cuyo East Pass	10 30 N	121 30 E
Chiloé, Isla	42 40 S	74 00 W					

In what chapters-paragraphs do I find my route?

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	Cape Town	3.42
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55	Libreville	3.42
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	Takoradi	3.42
	Bishop Rock (5 miles S of) (49° 47' N, 6° 27' W)	
60	Routes to:	
	Barbados	2.85
	Bermuda	2.85
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65	Cabot Strait	2.62-2.64.1
	Chesapeake Bay	2.62-2.64.4
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70	Kap Farvel	2.50

ROUTES BETWEEN CABOT STRAIT OR NORTH AMERICAN PORTS AND EUROPE

References

2.62

- Traffic Separation Schemes, see 1.28.
 Weather Routing, see 1.24.
 Ice, see 2.25-2.28.
 Western approaches to the English Channel, see 2.31.
 Île d'Ouessant, 2.32.
 Bay of Biscay and W coasts of Spain and Portugal, see 2.33.
 Strait of Gibraltar, see 2.34.
 Newfoundland coasts, see 2.36.
 Grand Banks of Newfoundland, see 2.37.
 Distances, see 2.67.

Routes between North American ports and Departure Positions

2.62.1

Diagram (2.63)

Recommended routes between Cabot Strait, Halifax or the N part of the E coast of the United States and Europe skirt the S side of the Grand Banks, passing through, or S of, Position BS, 42° 30' N, 50° 00' W, to avoid the hazards of crossing the Grand Banks (2.37).

There are alternative routes to or from Biscay ports and places farther N, passing 20 miles S of Cape Race. They are usable between May and November.

In recommending routes to and from ports SW of Cape Race, account must be taken of the seasonal movement of ice in the Grand Banks area (2.27.4). It can never be assumed that a particular route will be clear of ice; constant study of ice reports, and the utmost vigilance at sea, are essential.

2.62.2

From Cabot Strait, routes from the Traffic Separation Scheme (1.28) are either S of the Grand Banks to Position BS, or along the S coast of Newfoundland to Cape Race.

2.62.3

From Halifax, routes are either through 43° 00' N, 60° 00' W (50 miles S of Sable Island) to Position BS, or direct to Cape Race.

2.62.4

From Boston, routes are direct to either Position BS or Cape Race.

2.62.5

From places between Boston and Chesapeake Bay, routes are either direct to Position BS, or to 43° 00' N, 60° 00' W and thence to Cape Race. Routes from New York and its vicinity pass S of Nantucket Lanby.

From Chesapeake Bay to Strait of Gibraltar, the route is by great circle to Cabo de São Vicente, passing S of Position BS, thence as navigation permits.

Position BS ↔ Europe

2.63

Diagrams (2.63), (2.48)

To Nordkapp. Great circle to 57° 50' N, 18° 00' W, thence great circle to 70° 45' N, 20° 30' W, thence as navigation permits.

2.63.1

To Trondheim. Great circle to 61° 14' N, 6° 40' W (10 miles S of Føroyar), thence rhumb line to the pilot ground in Griphølen, thence through Indreleia.

2.63.2

To Bergen. Great circle to a landfall on Sumburgh Head, thence as navigation permits.

2.63.3

To Cape Wrath. Great circle to 57° 50' N, 18° 00' W, thence direct.

2.63.4

To places S of Cape Wrath. Great circle to destination.

Cape Race ↔ Europe

2.64

Diagrams (2.63), (2.48)

To Nordkapp. Great circle to 57° 50' N, 18° 00' W, thence as at 2.63.

2.64.1

To Trondheim. Great circle to the pilot ground in Griphølen, thence through Indreleia.

2.64.2

To Bergen. Great circle to a landfall on Sumburgh Head, thence as navigation permits (as at 2.63.2).

2.64.3

To Cape Wrath. Great circle to 57° 50' N, 18° 00' W, thence direct.

2.64.4

To places between Cape Wrath and Bay of Biscay. Great circle to destination.

West-bound alternative route

2.65

Diagram (2.63)

From Strait of Gibraltar bound for New York, some advantage in weather and currents may be obtained by passing 20 miles S of São Miguel, Arquipélago dos Açores, thence by rhumb line to Nantucket Lanby, thence as navigation permits.

Distance: 3240 miles.

2.66

For low-powered West-bound vessels, routes are as follows.

From Strait of Gibraltar bound for Halifax, by rhumb line, S of Arquipélago dos Açores, to 36° 00' N, 45° 00' W, thence as navigation permits.

2.66.1

From Vigo, Lisboa or Strait of Gibraltar bound for Boston, Chesapeake Bay, or places between them, routes are seasonal.

May-September, S of Arquipélago dos Açores, thence:

Along the parallel of 36° N to 65° W, thence:

As navigation permits to destination.

2.66.2

October-April, direct to 33° 15' N, 20° 00' W, thence:

Along the parallel of 33° 15' N to 65° 00' W, thence:

As navigation permits to destination.

Distances in miles

2.67

<i>Via</i>	<i>Cabot Strait</i>		<i>Halifax</i>		<i>Boston</i>		<i>New York</i>		<i>Delaware Bay</i>		<i>Chesapeake Bay</i>	
	<i>BS</i>	<i>C. Race</i>	<i>BS</i>	<i>C. Race</i>	<i>BS</i>	<i>C. Race</i>	<i>BS</i>	<i>C. Race</i>	<i>BS</i>	<i>C. Race</i>	<i>BS</i>	<i>C. Race</i>
Nordkapp	3380	3070	3480	3240	3780	3590	3940	3800	4020	3880	4100	3970
Trondheim	2940	2600	3040	2770	3340	3120	3500	3330	3580	3410	3660	3500
Bergen	2780	2480	2880	2650	3190	3000	3350	3210	3430	3290	3510	3380
Cape Wrath	2450	2140	2550	2320	2860	2660	3010	2870	3100	2950	3180	3040
Inishtrahull	2340	2060	2440	2240	2750	2590	2910	2800	2990	2870	3070	2970
Eastnet	2240	2000	2340	2180	2640	2520	2800	2730	2880	2810	2960	2900
Bishop Rock	2360	2130	2460	2310	2760	2660	2920	2870	3000	2940	3080	3040
La Gironde†	2590	2410	2690	2570	3000	2920	3160	3130	3240	3210	3320	3300
Vigo	2330		2430		2740		2900		2980		3060	
Lisboa	2370		2470		2780		2940		3020		3100	
Strait of Gibraltar**	2620		2720		3020		3180		3260		3340*	

* Great circle direct to Cabo de São Vicente.

** 6 miles S of Europa Point.

† 70 miles from Bordeaux.

THE WORLD SAILING SHIP ROUT

PREPARED BY REAR ADMIRAL BOYLE T. SOMERVILLE, C.

NOTES

This Diagram illustrates the more important routes described in Part II of this book.

The routes were those generally used by Sailing Ships on Ocean Voyages during the 18th and 19th Centuries. Short or coasting voyages are not shown, nor voyages mainly or entirely to the westward, e.g., from Bombay to Aden in the S.W. Monsoon as these were seldom made by sailing ships.

North-going routes are tinted Brown
 South-going routes are tinted Purple
 East-going routes are tinted Blue
 West-going routes are tinted Magenta

The coloured route zones indicate by their breadth the limits between which usually made. Where the route between two ports changes according to the season, the appropriate period is named. The "alternative" tracks shown are those preferred navigators, instead of the routes in general use.

The routes shown are based on general experience but owing to the variability of currents in all latitudes it may be necessary to depart from the tracks recommended.

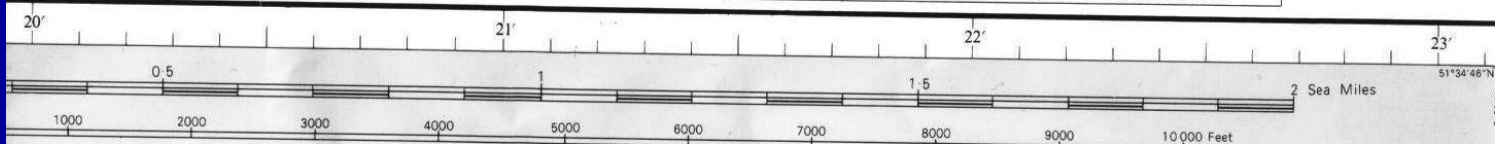
Opftw available for use in the
EVS library (previous century
editions)

New editions still available from
admiralty

Charts

- Study Title
 - meters-fathoms-reduction level-heights?
 - notices and dangers?
- Course
 - With (soft) pencil – clearly and with number
 - Practice course transfer to next chart
- Dangers
 - Mark obviously
 - Mark where you definitely don't want to be! (hatch)
 - If needed note passing distances
- Obvious points like Capes, beacons, lights
 - Mark clearly
 - If needed note passing distances

Refer to Admiralty Sailing Directions, List of Lights and other publications to supplement the information shown on this chart. For general information on navigation, charts and hydrographic publications see The Mariner's Handbook. For an explanation of chart symbols and abbreviations see Chart 5011.



ENGLAND — EAST COAST
THAMES ESTUARY

EDINBURGH CHANNELS

DEPTHS IN METRES
SCALE 1:15000

Depths are in metres and are reduced to Chart Datum, which is approximately the level of Lowest Astronomical Tide.

Heights are in metres. Underlined figures are drying heights, in metres and decimetres, above Chart Datum; all other heights are above Mean High Water Springs.

Projection: Gnomonic. Positions are based on the Ordnance Survey of Great Britain (1936) Datum.

Authorities: Surveys by the Port of London Authority, 1970-80.

CHANNEL DEPTHS

The North and South Edinburgh Channels are subject to continual variation in depth. Mariners requiring the latest information should consult the Thames Navigation Service.

DISTANCE INDICATIONS

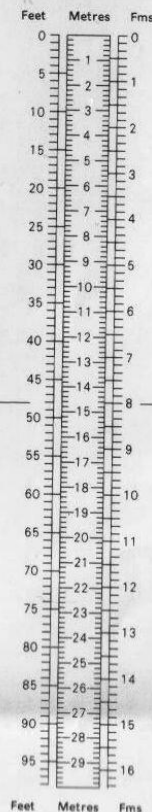
The approximate distances in sea miles from Sea Reach No. 1 buoy (51°29'4N, 0°52'7E) and the Medway buoy (51°28'8N, 0°52'9E) are shown through the channels thus: $\diamond 18$

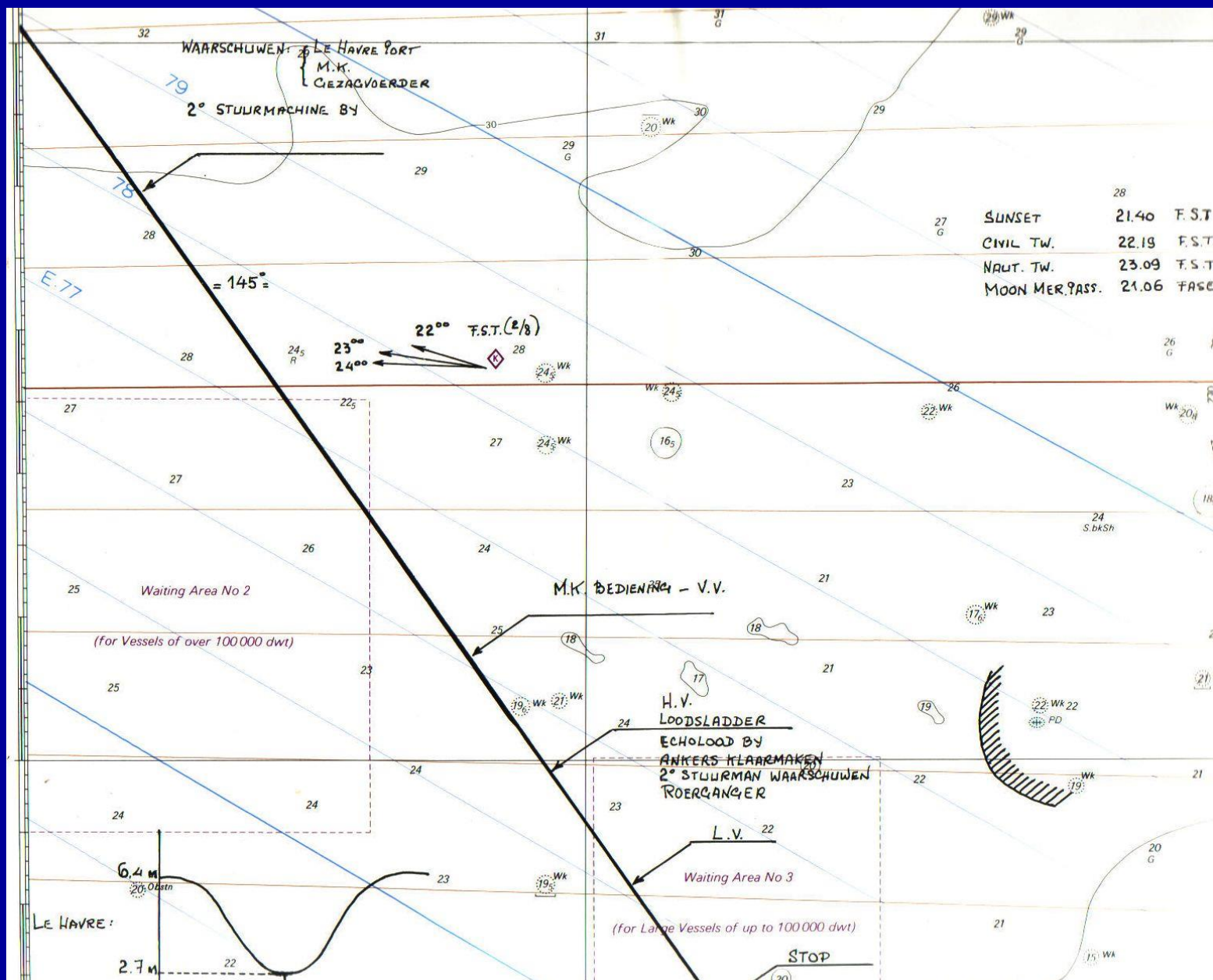
RADIO REPORTING POINTS

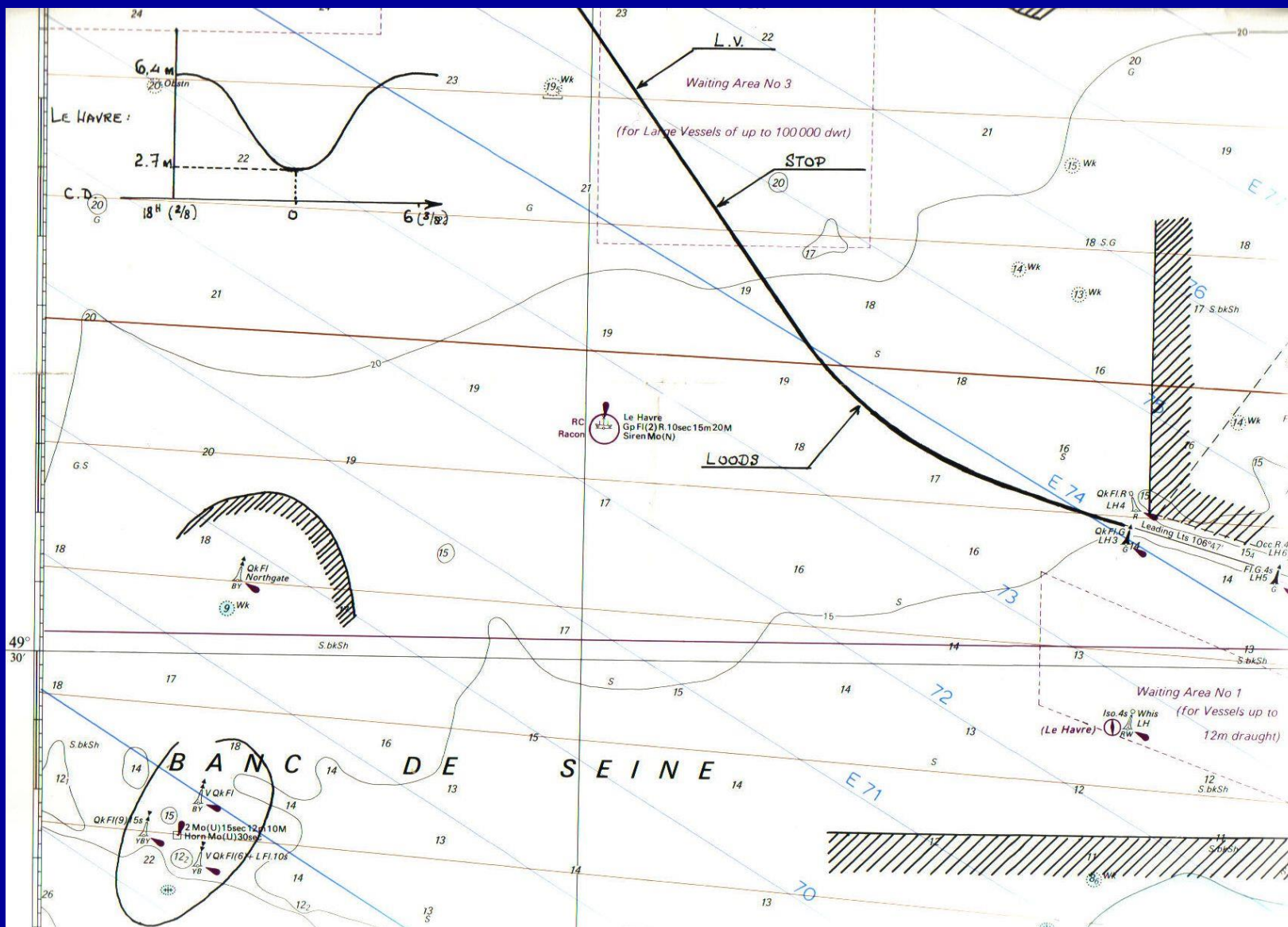
Vessels are required to participate in the Thames Navigation Service. See Admiralty List of Radio Signals Vol. 6 for working details.

NOTICE:

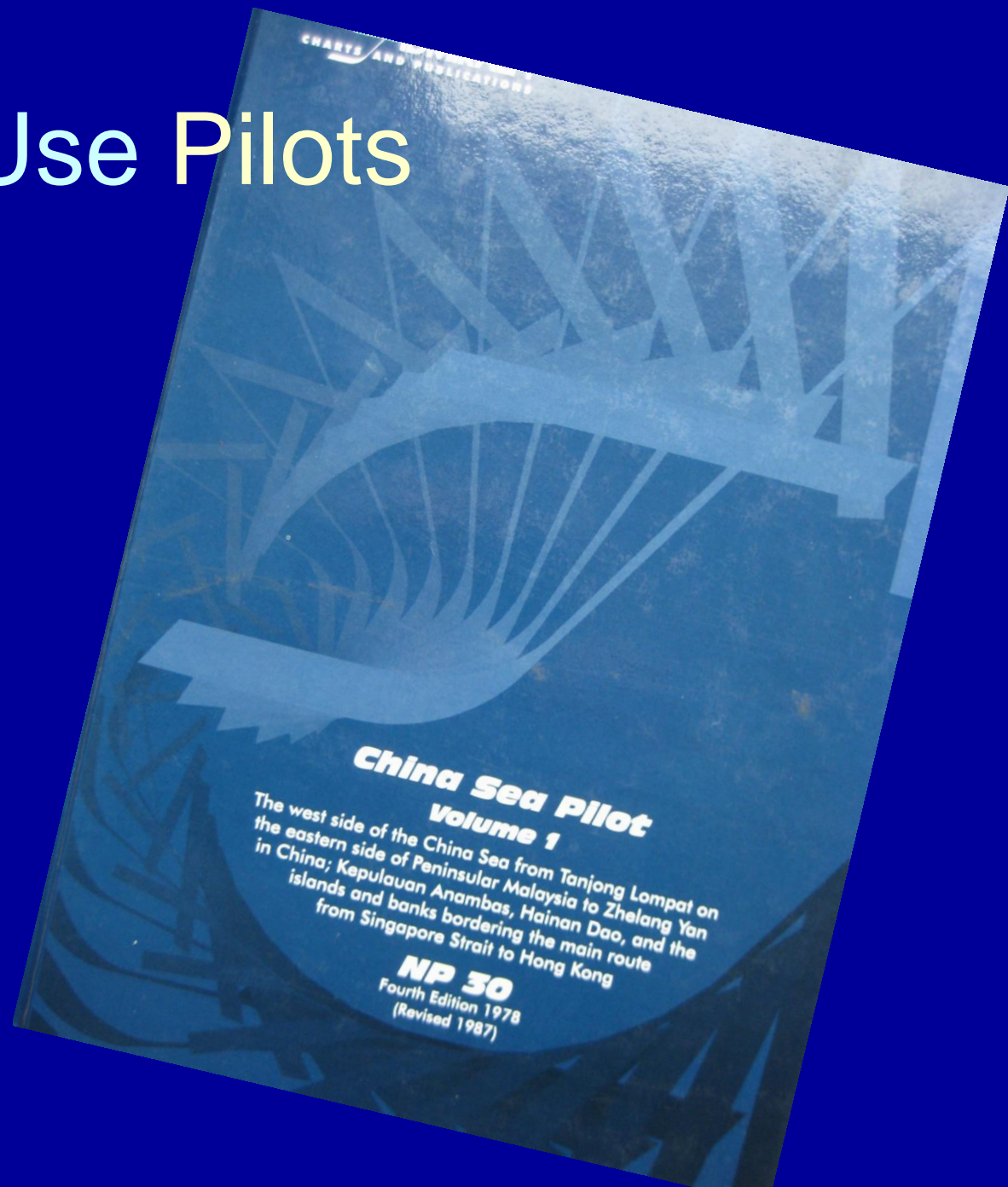
1. The P.I.-lines and bearings for Knock John Tower and NW Long Sand Bu. no longer line up properly due to shrinking in our overlay.
2. Our overlay and passage plan were based on chart L(D5) 1605, edition 22nd Sept. 1978. By the time we went to press a new edition had to be used, which showed the changes that took place near the bar since the date of our planned passage. This explains why the intended Ship's track is now shown to run right over the shallowest depth of the bar and over the N. Edinburgh No. 1 Buoy.



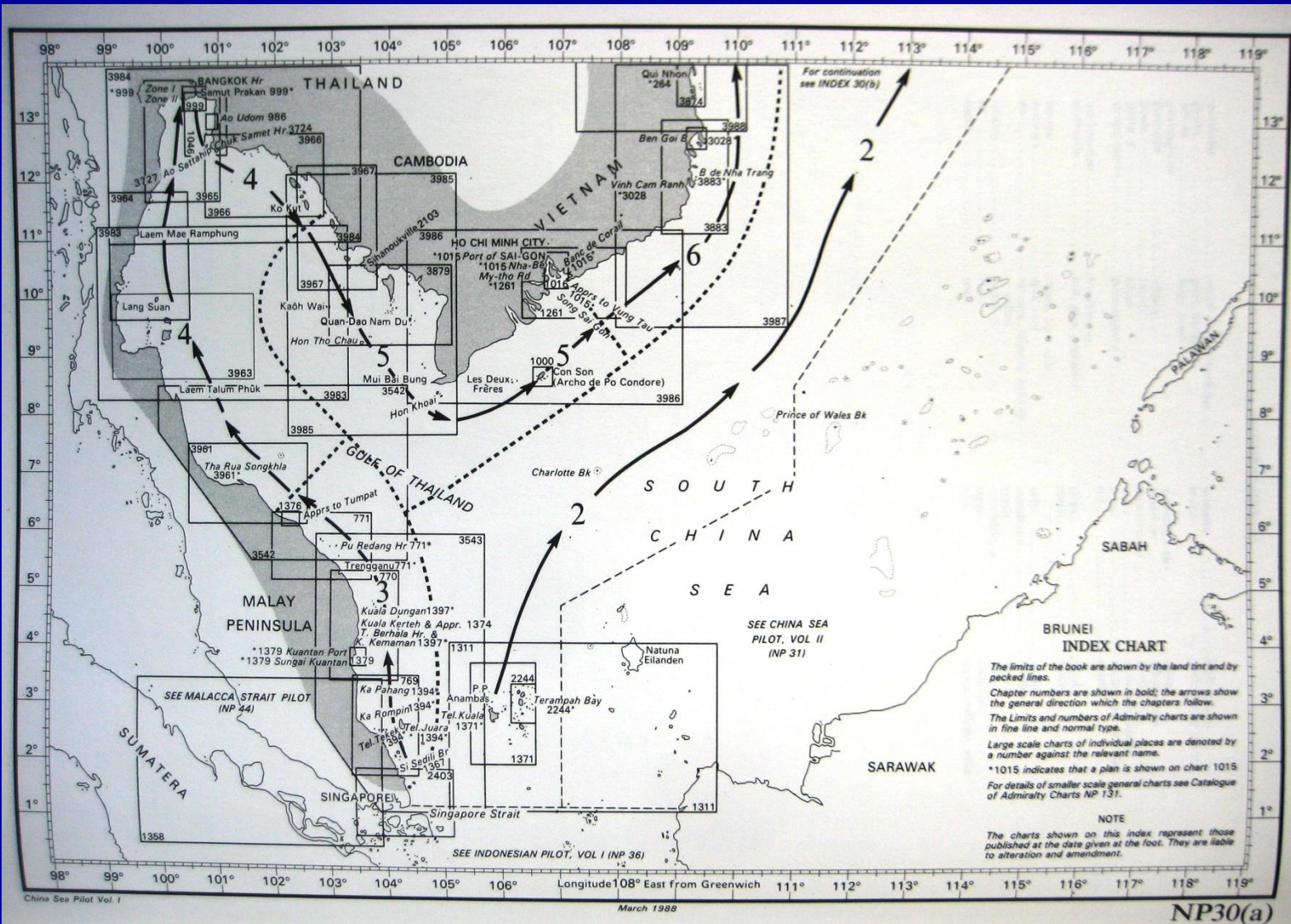




Use Pilots



Boundaries Pilot



30s

WILSMULLER
WILSMULLER BROS. (UK) LIMITED
WOODLANDS ANNEXE
79 HIGH STREET, GREENWICH
KENT, DA9 9NL



SUPPLEMENT No 4-1996
TO

CHINA SEA PILOT

VOLUME I

(Fourth Edition 1978)
(Revised 1987)

CORRECTED TO 17th OCTOBER, 1996

Whenever reference is made to the Pilot this Supplement and Section IV
of the weekly editions of Admiralty Notices to Mariners must be consulted

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PUBLISHED BY THE HYDROGRAPHER OF THE NAVY

To be obtained from Agents for the Sale of Admiralty Charts

NP 30

CHINA SEA PILOT

VOLUME I

China Sea from Tanjong Lompat on the
Malay Peninsula to Zhelang Yan in China;
Hainan Dao, and the islands and banks
en route from Singapore Strait to Hong
Kong.

FOURTH EDITION
1978
(Revised 1987)

HYDROGRAPHER OF THE NAVY

ALWAYS consult the
latest
SUPPLEMENT

By Index it
is easy to
find what is
important to
you.

..	7.58	Bangkok	
..	6.82	Bar	4.106
..	5.64	Bar Pilot Station	4.104
..	8.95	City	4.119
..	6.49	Facilities	4.123
..	6.48	Harbour	4.118
..	5.88	Limiting dimensions	4.107
..	5.78	New harbour	4.117
..	4.25a	Pilotage	4.106
..	2.67	Regulations	4.121
..	3.25	River	4.113
..	3.25	Signals	4.122
..	3.25	Tidal streams	4.112, 4.116
..	6.68	Banh-it, Hon	5.56
..	7.60	Bankok Shoal	2.118
..	7.90	Bantan, Banc de	6.140
..	7.63	Bantan, Cap	6.137
..	3.121	Baohu Jiao	9.86
..	3.85	Baohu Shan	9.86
..	10.8a	Barat, Batu	3.112
..	10.8a	Barillets, Les	6.25
..	4.42	Barok, Batu	3.106
..	5.78	Barouk	2.76
..	5.94	Barra, Ponta de	12.20
..	6.176	Barthélémy, Villa	6.51
..	6.45	Baru, Pulau	2.41
..	6.68	Baruk, Tanjung	2.81
..	4.201	Basalt Island	14.10
..	6.99	Basi, Tanjong	3.117
..	5.78	Bass Shoals	3.72
..	6.42	Bassett Shoal	2.118
..	6.100	Basuo Gang	9.7
..	6.42	Batangan, Mui	6.135
..	12.27	Batangwei Shazui	12.60
..	12.6	Bate, Pulau	2.67
..	5.48	Bate Head	14.18

marked by air obstruction lights, is situated on the right bank of the river, 3 cables NW of the railway station.

HMS *Teazer*, drawing 3.4 m, in November, 1871 near the time of the highest tides of the year, reached

4.104

Bangkok Bar Pilot Station (13° 23' N, 100° 36' E), a conspicuous concrete building on a round base, stands 2 miles SE of the entrance to the buoyed channel across Bangkok Bar.

A **light** is exhibited from a metal framework tower, painted red and white in bands, standing on the pilot station: a fog signal is sounded. There is a helipad on the pilot station.

APPROACHES TO BANGKOK (KRUNG THEP)

Chart 999

4.103

Mae Nam Chao Phraya is entered at the head of the Gulf of Thailand between Phra Chunlachomklao (13° 32' N, 100° 35' E) and a point 1 mile NE. The river rises in the N part of Thailand near the frontier with Laos and is navigable by small craft for a distance of 60 miles. The city of Bangkok (Krung Thep) is situated 25 miles up river above the mouth and can be reached by all vessels that can cross the bar.

4.104

Bangkok Bar Pilot Station (13° 23' N, 100° 36' E), a conspicuous concrete building on a round base, stands 2 miles SE of the entrance to the buoyed channel across Bangkok Bar.

A **light** is exhibited from a metal framework tower, painted red and white in bands, standing on the pilot station: a fog signal is sounded. There is a helipad on the pilot station.

Anchorage. Bangkok Bar anchorage, the dangerous goods anchorage, the quarantine anchorage and the naval anchorage lie respectively 2½ miles SE, 4½ miles ESE, 6½ miles E and 2½ miles E of the pilot station.

Should weather be unsuitable vessels can anchor off Ko Si Chang (4.135) or, during the NE Monsoon, under the lee of Laem Somruk (4.128). Vessels anchored outside the bar at the pilot station should provide watchmen, adequate illumination at night, and keep ladders hoisted. A police patrol boat is on duty day and night at or near the pilot station and can be contacted by visual or sound signals or by radio.

A spoil ground marked by a light-buoy (special) lies 2 miles WSW of Bangkok Bar Pilot Station.

15 Bangkok Bar 4.106

Bangkok Bar Light-beacon (13° 27' N, 100° 36' E)

(white metal framework tower), 7 m in height, is situated near the seaward end of the channel. The bar is situated at the beacon.

Extensive drying banks of mud and sand are covered with **fishing stakes**, which extend from Bangkok Bar Light-beacon channel. Lights are exhibited from these stakes. The bar is subject to frequent changes, being highest S from the river entrance points. The highest in February, and lowest in July. The vicinity of the bar the difference in water level is also affected by the wind, increasing the level. When a strong NE wind is blowing in the Gulf the water level will rise. Strong W winds and heavy NW or W winds going stream is retarded and the water level is lowered.

35 A typhoon in the China Sea, in the neighbourhood of Mar Vung Tau (5.125) has been known to lower water level at the bar by as much as 0.9 m.

40 There is a channel about 11 miles long in the bar: it is 100 m wide in the reaches and 20 m at the bends. The depth in the bar channel is maintained at 6.1 m (20 ft), and the depth of the fairway at 6.7 m (22 ft).

4.107

45 **Limiting dimensions of vessels.** Due to the characteristics of a vessel over 150 m (500 ft) must be taken into consideration if crossing the bar in deep draught.

50 Vessels entering the port are restricted to a maximum length of 183 m (600 ft) and to a maximum draught of 8.2 m (27 ft). Subject to these limitations, the actual maximum draught of any vessel depends on a 'Bar Adder', which, when added to the predicted height of tide at the bar will give the maximum draught allowed.

55	<i>Length of vessel</i>	<i>Bar Adder</i>
	128.4 m to 135.6 m	4.8 m
	135.6 m to 143.3 m	4.6 m
	143.3 m to 152.4 m	4.4 m
60	152.4 m to 161.5 m	4.2 m

There are no restrictions on time of entry; vessels may enter by day or by night.

4.108

65 The channel over the bar is marked by leading light-beacons and buoys, the positions of which are frequently changed to conform to the changes in the dredged channel through the bar.

70 Each leading light is exhibited from a white metal framework tower except 'H' which is exhibited from the

entrance to the channel is marked by light-beacons.

Light-buoys (safe water) are moored 10 miles SE and 5 miles S of the river entrance.

R 57-58 Replace by:

Mae Nam Mae Klong is connected with...

112

L 35 and elsewhere For Bangkok (Krung Thep) Read Krung Thep (Bangkok)

R 3-4 For over 500 gross tons Read 50 m or more in length

R 18 For 7 m Read 5 m

R 21 Add: A **racon** transmits from the Light-beacon.

R 40-42 Replace by:

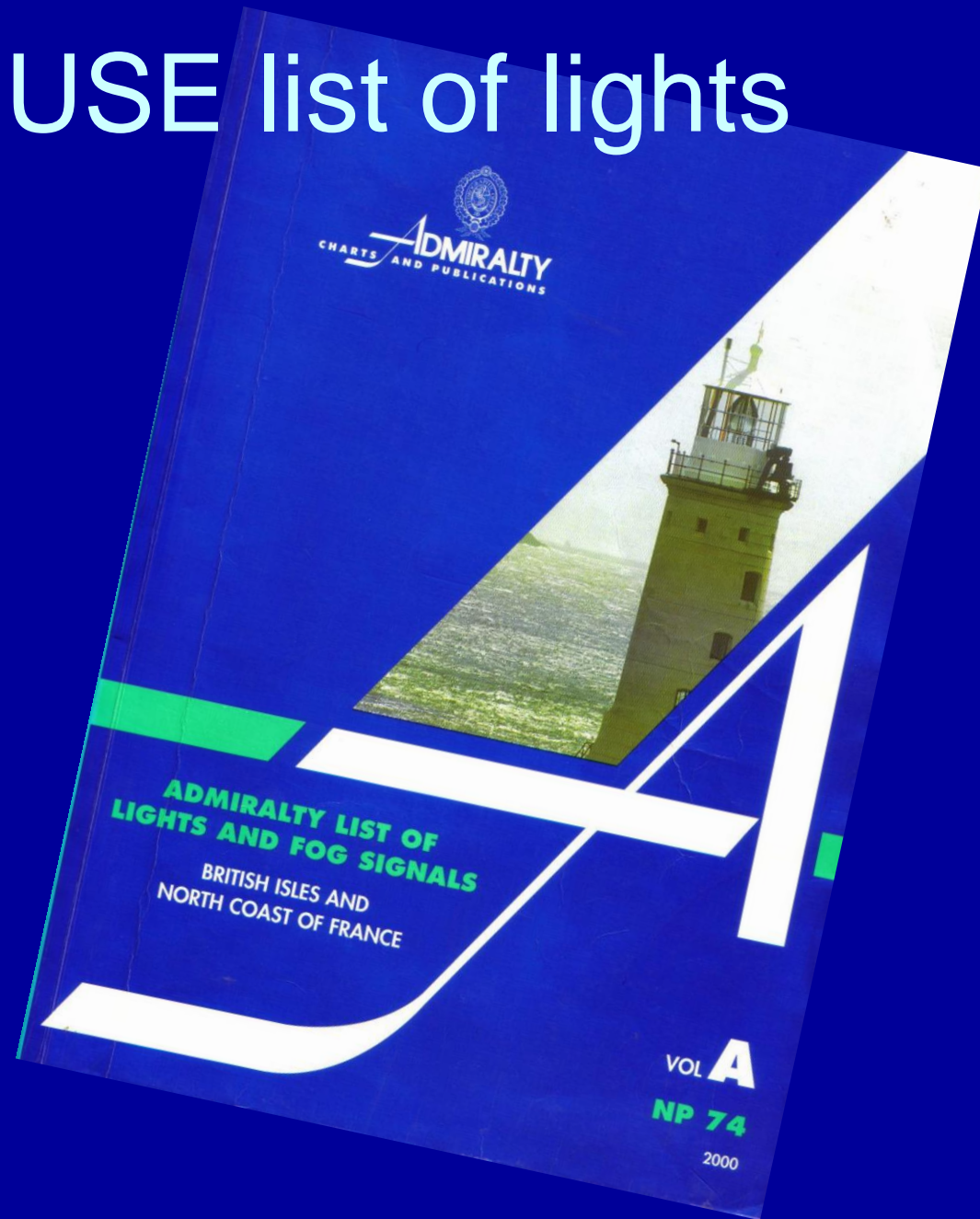
...the bends. The least depth in the middle of the channel is about 5.0 m (1966).

113

L 26-27 Replace by:

...of the bar channel; the rear beacon F with daymark,

USE list of lights

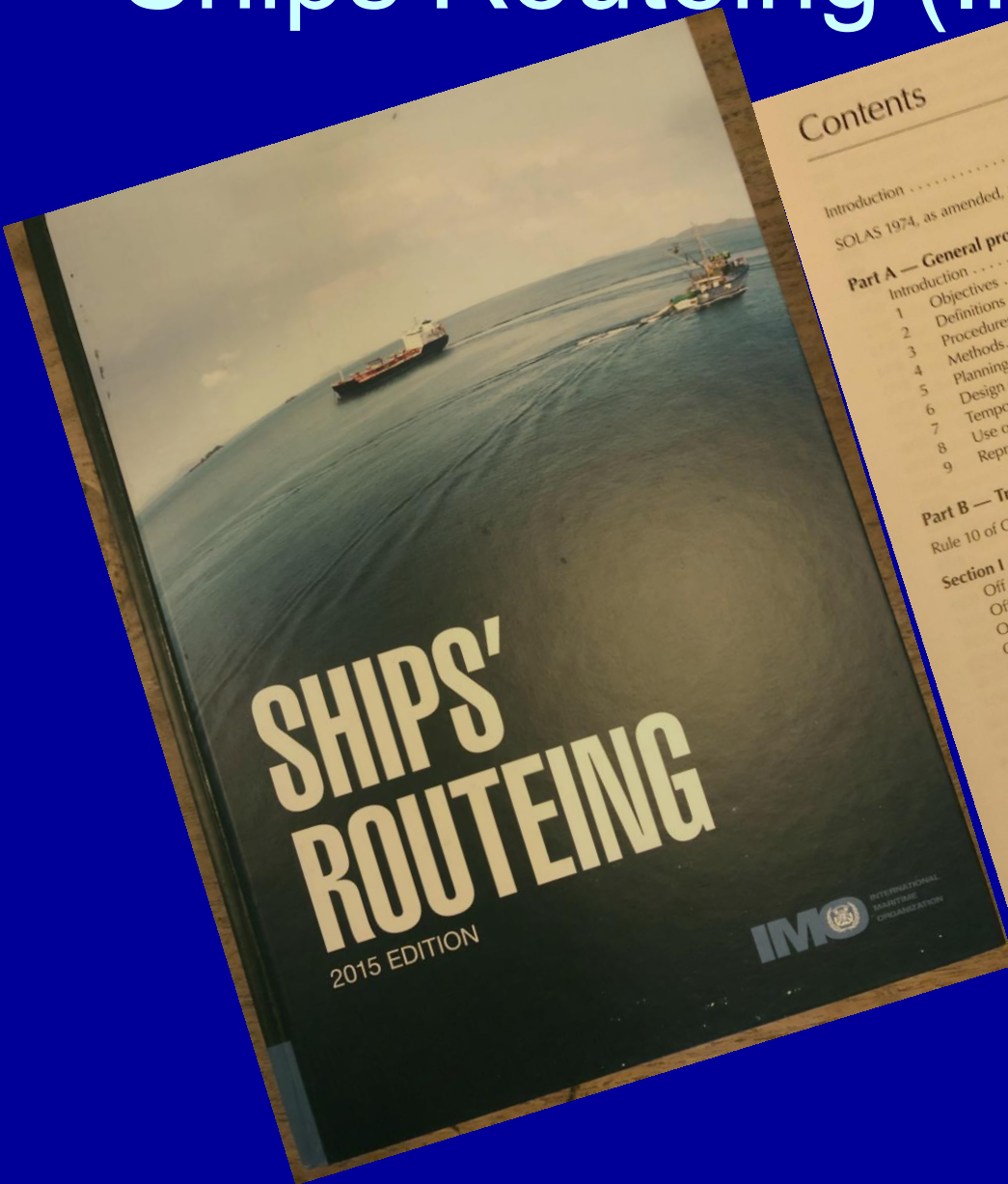


via Index to light

Faughan	6130
Fawley	0583
Fearnach Bay	4205
Fécamp	1244
Felixstowe, Port of	2198-4
Fenit	6396
Ferlas, Chenal de	1745
Ferry Corner	2389-4
Ferry Point (River Barrow)	5813
Fethaland, Point of	3817-5
Fidra	2868
Fife Ness	3102
- Oilfield	7879
Filey	2586
Findochty	3385
Finger Pier	3823-32
Fingish, W. of	3100

CRAIL HARBOUR							
3100	- Ldg Lts 295°. Front	56 15-5 2 37-7	F R				
3100-1	-- Rear. 30m from front	56 15-5 2 37-7	F R				
3102	Fife Ness (N)	56 16-7 2 35-1	Iso WR 10s	12	W21 R20	White building 5	W143°-197°(54°), R197°-217°(20°), W217°-023°(166°)
3104	<i>North Carr</i> (N)	56 18-1 2 32-9	Q(3)W 10s	3	5	⊕ on black buoy, yellow band	
3108	Bell Rock (N)	56 26-1 2 23-1	Fl W 5s	28	18	White round tower 36	fl 0-2. Racon
Scotland — East Coast — River Tay							
3126	<i>Abertay Buoy</i> (DH)	56 27-4 2 40-6	Q(3)W 10s	7	..	Black HFPB, yellow band	Racon
3129	Tentsmuir Point	56 26-6 2 49-5	Fl Y 5s	Yellow ◇ on yellow beacon	fl 1. Vis 198°-208(10°). Marks gas pipeline

Ships' Routeing (IMO publication)



Contents

Introduction	xvii
SOLAS 1974, as amended, regulation V/10	

Part A — General provisions on ships' routeing

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3 Procedures and responsibilities	5
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5 Planning	10
6 Design criteria	13
7 Temporary adjustments and suspensions	14
8 Use of routeing systems	15
9 Representation on charts	

Part B — Traffic separation schemes and inshore traffic zones

Rule 10 of COLREG 1972, as amended	1
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Section I — Baltic Sea and adjacent waters

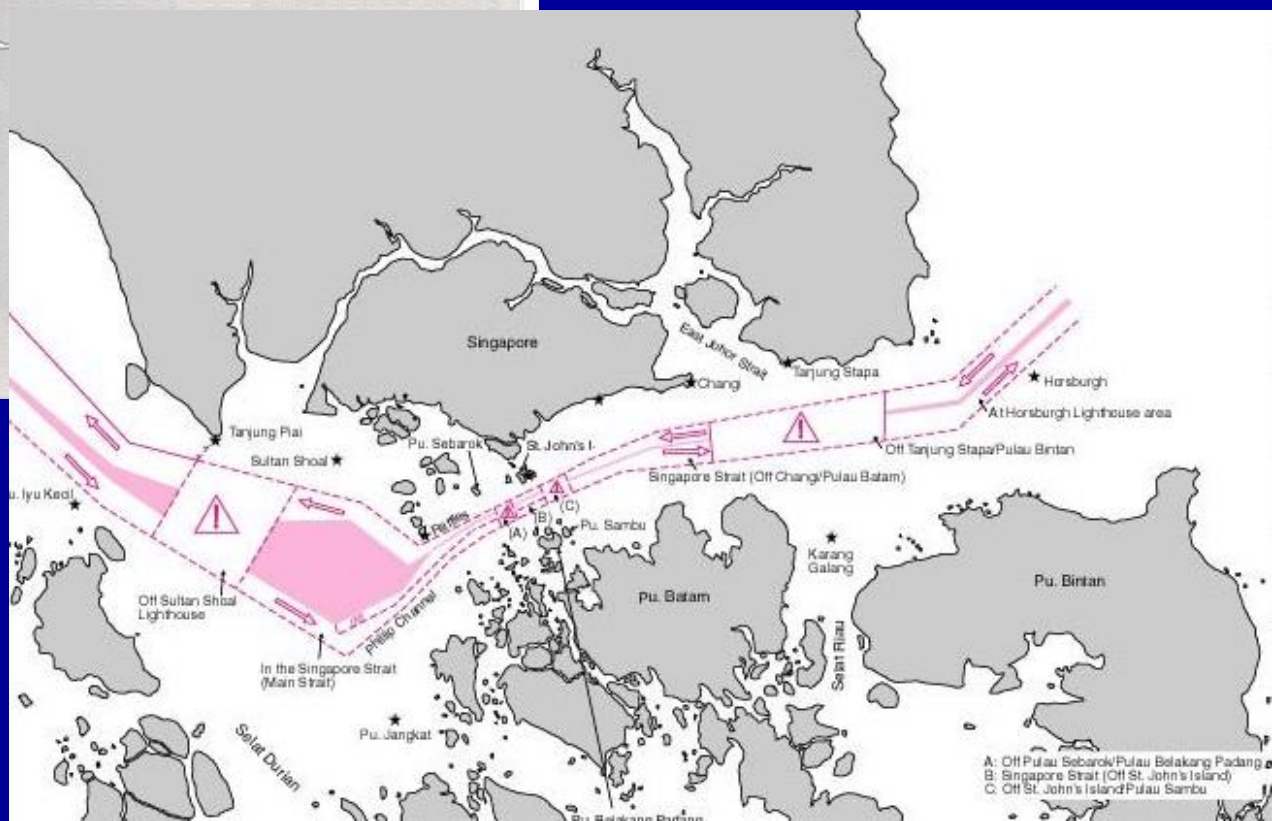
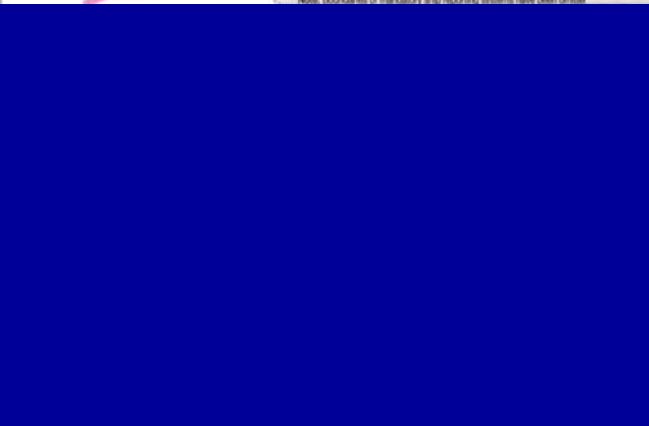
Off Sommers Island	I/1
Off Hogland (Gogland) Island	I/2
Off Rodsher Island	I/3
Off Rodbåggrund lighthouse	I/4
Off Kalbådagrund lighthouse	I/5
Off Porkkala lighthouse	I/6
Off Hankoniemi Peninsula	I/7
Off Köpu Peninsula (Hiiumaa Island)	I/8
South Hoburgs Bank	I/9
South Hoburgs Bank	I/10
Midsjöbankarna	I/11
In Norra Kvarnen	I/12
The Åland Sea	I/13
West Klintehamn	I/14
North Hoburgs Bank	I/15
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On the approaches to the Polish ports in the Gulf of Gdańsk	I/18
Stupska Bank	I/19
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Off Falsterborev	I/21
In The Sound	I/22
North of Rügen	I/23
South of Gedser	I/24
Off Kiel lighthouse	I/25
Between Korsoer and Sprogø	
At Hatter Barn	

(Amended 2015)

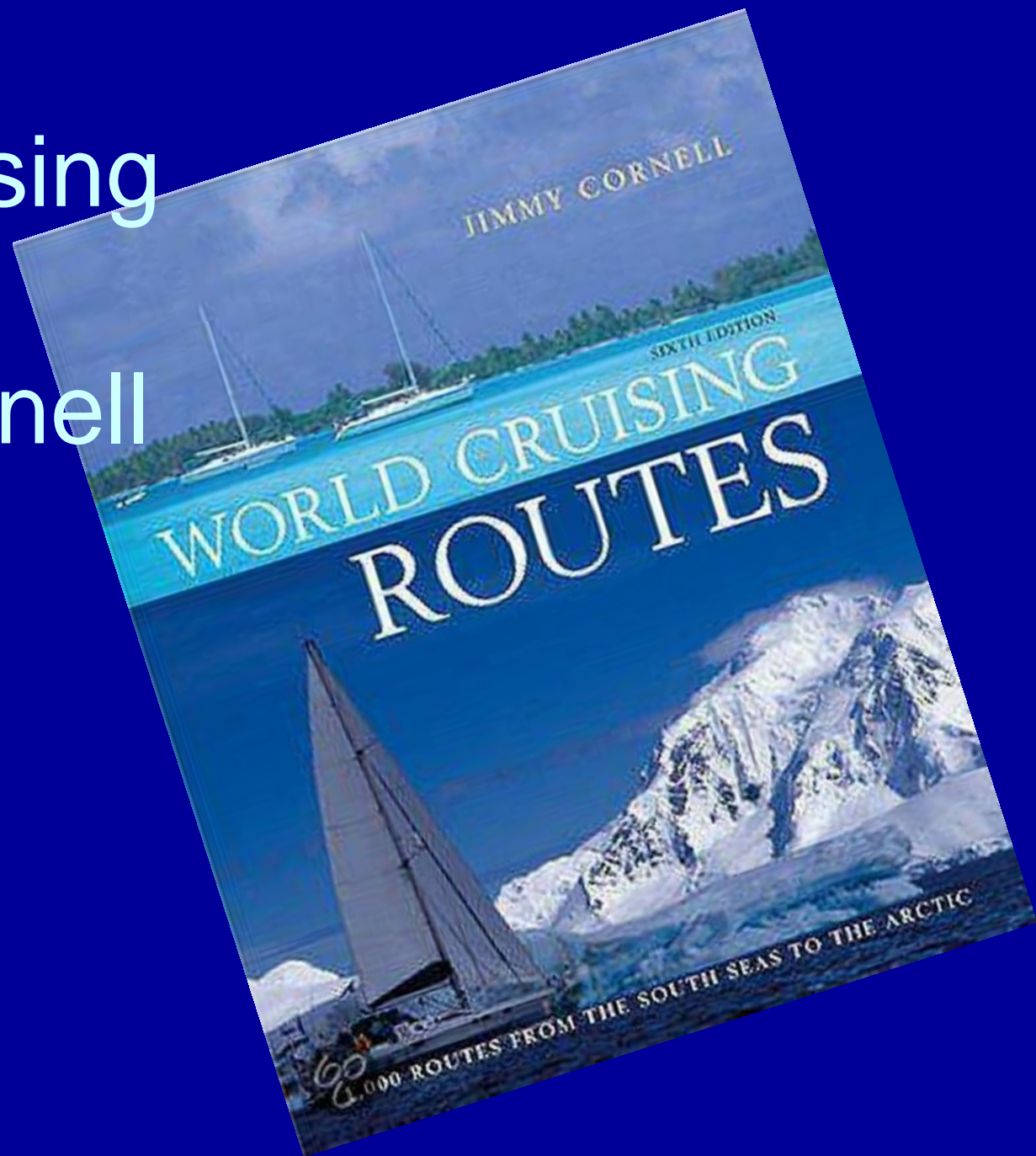
SHIPS' ROUTEING 2015 EDITION

This map illustrates the North Sea region with various proposed shipping lanes and Traffic Separation Schemes (TSSs). Key features include:

- TSS "In the approaches to the River Humber"**: Located in the northwest.
- TSS "Off Friesland"**: Multiple lanes running parallel to the Dutch coast.
- Deep-water route forming part of routing system "Off Friesland"**: A specific lane branching off the main TSS.
- TSS "Off Texel"**: A lane further east.
- TSS "Off Vlieland, Vlieland North and Vlieland Junction"**: A lane near the Vlieland islands.
- TSS "Terschelling - German Bight"**: A lane running towards the German coast.
- TSS "German Bight western approach"**: A lane further east.
- TSS "Elbe approach"**: Located in the northeast.
- TSS "In the approaches to Hook of Holland and at North Hinder"**: A lane near the Hook of Holland.
- TSS "Off North Hinder"**: A lane further south.
- Deep-water route leading to Europoort**: A lane near the Rotterdam area.
- Deep-water route leading to Urmuden**: A lane further south.
- Recommended alternative route for tankers from North Hinder to the German Bight and vice versa**: A specific lane for tankers.
- Mandatory route for tankers from North Hinder to the German Bight and vice versa**: A specific lane for tankers.
- Great Yarmouth**: Labeled on the left coast.
- Den Helder**: Labeled on the right coast.
- Small Water Precautionary Area**: A designated area near the Hook of Holland.

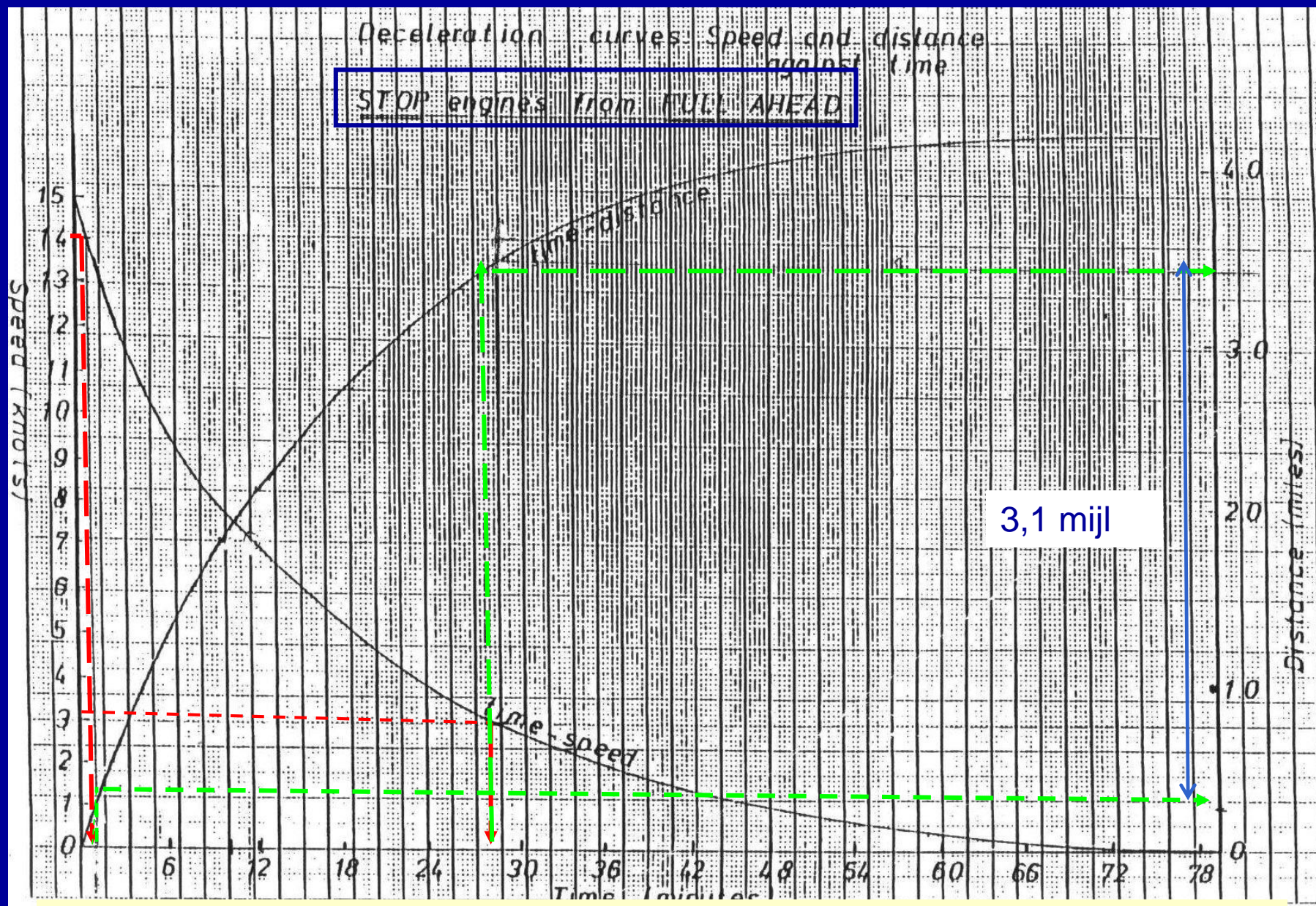


World Cruising routes Jimmy Cornell



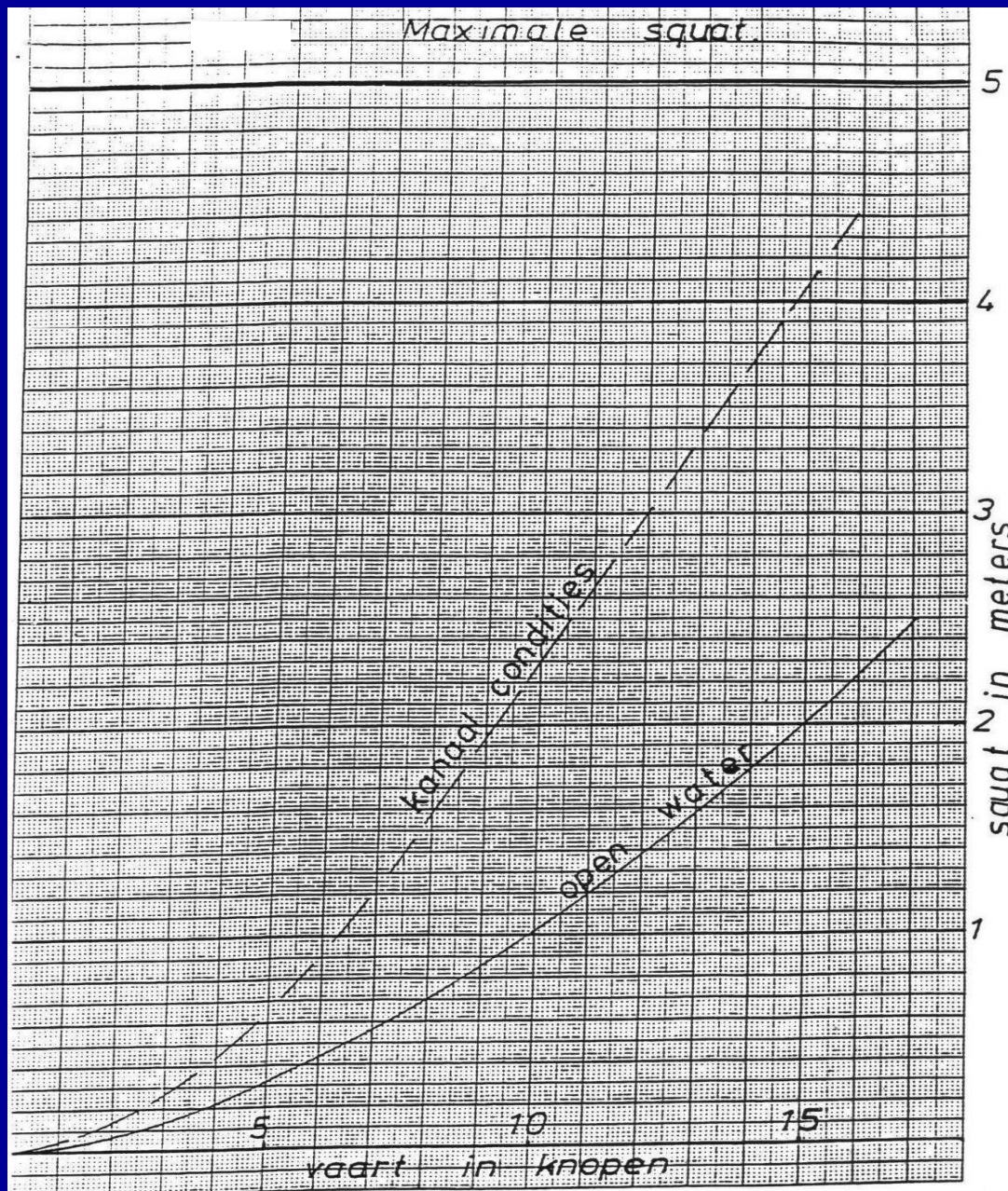
Manoeuvring near Pilot station

- Use manoeuvring board or booklet
- Use the given wind and wave information for determining your course upon pilot embarking.
- Pay attention to surrounding! (room)



At 15 knots to 0 knots takes 72 min. Distance needed: 4,0 miles.

From 14 to 3 knots takes 27 minuten. Distance is 3,1 miles.



Open water:

Squat in meters=

$$Cb \times \frac{V \text{ (knots)}^2}{100}$$

$Cb=0,7$; $v= 9$ knots

Squat = 0,57 meter

Channel conditions

Squat open water X 2

$Cb=0,8$; $v= 10$ knots

Squat = 1,6 meter

Rather extreme graph!

Tidal calculation

- Make a rough tidal calculation for your arrival harbour
- Eef's lesson

Tidal calculationve

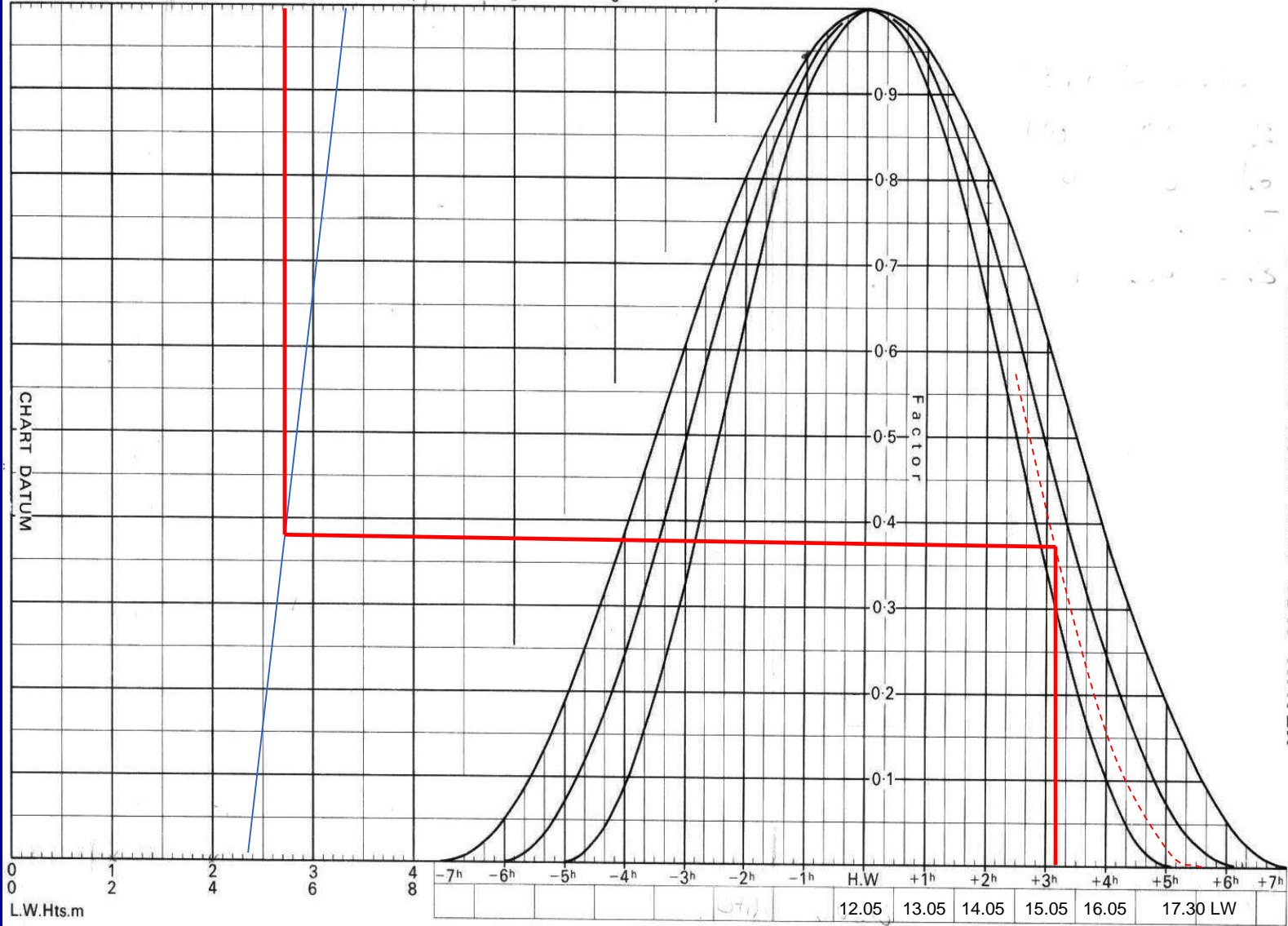
Example

• required UKC	0,5		
• Draft	7,5		
• SQUAT	<u>0,5</u>	+	
• Needed water	8,5		
• Chart depth		<u>5,8</u>	-
• Minimum waterlevel above chart datum		2,7	m

- **Use this in tidal curve!**

H.W.Hts.m.

0 2 4 6 8 10 12 14
0 1 2 3 4 5 6 7



L.W.Hts.m

FOR FINDING THE HEIGHT OF THE TIDE AT
TIMES BETWEEN HIGH AND LOW WATER

Summary:

- Weather:
 - Weather routing
 - Climatologic routing
- Voyage planning:
 - plan
 - charts
 - pilots
 - Nautical publications
 - Opftw
 - plan B