U.S. Chart No. 1

Symbols, Abbreviations and Terms used on Paper and Electronic Navigational Charts



Prepared Jointly by

Department of Commerce National Oceanic and Atmospheric Administration

Department of Defense National Geospatial-Intelligence Agency



ECDIS Symbols and Other ECDIS Information

Symbology for displaying Electronic Navigational Charts (ENCs) on Electronic Chart Display and Information Systems (ECDIS) has been added to U.S. Chart No. 1. In addition to the ECDIS symbols shown in the traditional lettered sections of U.S. Chart No. 1, there are now several special pages devoted exclusively to providing important details about ECDIS. These pages are distinguished by the ECDIS icon, as shown in the top left corner of this page. The ECDIS pages are also listed in the table of contents in italic type.



One major difference in the use of paper charts and ENCs is the ability of ECDIS to display the same feature differently depending on user settings and other conditions, such as a ship's draft. An important example is that ECDIS displays wrecks, rocks and other obstructions with their traditional "paper chart" symbols if they are at or deeper than the depth of the safety contour set for the ship. Dangers that are shoaler are portrayed with the unique ECDIS "isolated danger" symbol shown at left. (See the ECDIS Portrayal of Depths page for more information about the ECDIS safety contour.)



Another advantage that ECDIS provides over paper charts is enabling users to obtain more information about a feature through a "cursor pick." Some feature attribute values that can be obtained by cursor pick are noted throughout U.S. Chart No. 1. This is especially true if a particular value, such as height, vertical clearance or the like is included in the INT symbol description. The cursor pick icon, shown at left, is used to indicate when a reference to a cursor pick is made.

There are many other attribute values that users may obtain through a cursor pick that are not specifically noted. These include, but are not limited to, the purpose, seasonality, periodicity, status, color, height, type of structure and the visual or radar conspicuousness of features; shape, color or color pattern of buoys; characteristics of lights; category of obstructions and wrecks; radar wave length, radio frequency, communication channel and call signs; the presence of AIS transmitted signals; information regarding pilotage services and many more.

U.S. Chart No. 1 is a handy guide for ECDIS users, but it is no substitute for mandated ECDIS training.

The ECDIS user and developer communities are invited to help improve the presentation of ECDIS symbology and information in U.S. Chart No. 1. Please let us know what additional information you would like to see in the next edition.

Corrections, comments, or questions regarding U.S. Chart No. 1 may be submitted through ASSIST, the NOAA Coast Survey stakeholder engagement and feedback website

at www.nauticalcharts.noaa.gov/customerservice/assist,

or mailed to:

National Ocean Service, NOAA (N/CS2) Attention: U.S. Chart No. 1 1315 East West Highway Silver Spring, MD 20912-3282

SYMBOLS, ABBREVIATIONS AND TERMS

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Symbol Sections

GENERAL

- A Chart Number, Title, Marginal Notes
- B Positions, Distances, Directions, Compass

TOPOGRAPHY

- C Natural Features
- D Cultural Features
- E Landmarks
- F Ports
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HYDROGRAPHY

- H Tides, Currents
- I Depths
- J Nature of the Seabed
- K Rocks, Wrecks, Obstructions, Aquaculture
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- N Areas, Limits
- O (Not currently used)

NAVIGATION AIDS AND SERVICES

- P Lights
- Q Buoys, Beacons
- R Fog Signals
- S Radar, Radio, Satellite Navigation Systems
- T Services
- U Small Craft (Leisure) Facilities

INTRODUCTION

Two Symbology Types Comprising Four Symbology Sets

U.S. Chart No. 1 presents two types of symbology used for marine navigation – the symbols used on paper nautical charts (and their digital raster image equivalents) and the corresponding symbols used to portray Electronic Navigational Chart (ENC) data on Electronic Chart Display and Information Systems (ECDIS).

Within these two types, four separate symbology sets are shown. These are described below:

Paper Chart Symbols

- INT The international or "INT" symbols specified in the *Regulations* for International (INT) Charts and Chart Specifications of the IHO (International Hydrographic Organization). These symbols are used by many countries around the world, including the United States.
- NOAA Symbols used on charts produced by the National Oceanic and Atmospheric Administration (NOAA) when an INT symbol is not used. NOAA produces nautical charts for all U.S. waters, including the Great Lakes and U.S. Territories.
- NGA Symbols used on charts produced by the National Geospatial-Intelligence Agency (NGA) when an INT symbol is not used. NGA produces nautical charts for the U.S. military and for areas outside of U.S. waters.

ECDIS Symbols

ECDIS — Symbols used to portray ENCs on ECDIS navigation systems. Use of ECDIS is required for large commercial ships on international voyages. These symbols are specified in *IHO Specifications for Chart Content and Display Aspects of ECDIS.*

Other Non-ECDIS Digital Displays May Portray Data Differently

Navigation systems certified to meet the exacting performance standards established by the International Maritime Organization (IMO) are said to be ECDIS "type approved." The symbology used to display ENCs or other non-ENC navigational data on non-ECDIS systems, such as geographic information systems, recreational GPS and other chart display systems can differ significantly from the symbology specified for ECDIS type approved systems. U.S. Chart No. 1 only shows the symbology used on ECDIS.

U.S. Chart No. 1 and Typical Chart Layouts

A brief description of the columns on each symbol description page is provided here. A detailed schematic layout of U.S. Chart No. 1 is on page 8. Section A, on pages 10 and 11 presents schematics showing typical layouts of the major elements of NOAA and NGA charts.

- Col 1 Symbol number. The number together with the section letter which appears at the top of each page constitutes a unique identifier for each symbol, such as C1 for the "Coastline, surveyed" symbol.
- Col 2 INT symbol example.
- Col 3 Description of the feature or real world phenomenon being portrayed.
- Col 4 NOAA symbol example. This column will be blank if NOAA uses the INT symbol shown in column 2.
- Col 5 NGA symbol example. This column will be blank if NGA uses the INT symbol shown in column 2.

If columns 4 and 5 are combined, then NOAA and NGA both use the same symbol, which is different from the INT symbol.

- Col 6 Other NGA symbol examples. NGA produces facsimiles of some foreign charts. If the depiction on the chart is different than the INT or NGA symbols (shown in Cols 2 and 5, respectively) then the additional foreign symbols are shown here.
- Col 7 ECDIS symbol example in the day color palettes. (See page 9 for a description of ECDIS color palettes.)
- Col 8 The ECDIS description usually provides the generic symbol name given in the *IHO Specifications for Chart Content and Display Aspects of ECDIS*, although sometimes other clarifying terms are also provided.

The schematic layout on page 7 shows a typical symbol table page and provides more details about the table headers and the types of information presented in each of the columns.

INFORMATION ON SELECTED CHART FEATURES

Soundings

The sounding datum reference is stated in the chart title. Soundings on NOAA and NGA charts may be shown in fathoms, feet, fathoms and feet, fathoms and fractions, or meters and decimeters. In all cases the unit of depth used is shown in the chart title and outside the border of the chart in bold type (see item b in Section A). For ECDIS, the sounding datum is part of the ENC metadata, which can be retrieved through a cursor inquiry.

Heights

Heights of lights, landmarks, structures, etc. refer to the shoreline plane of reference. The unit of height is shown in the chart title. When the elevations of islets or bare rocks are offset into the adjacent water, they are shown in parentheses. For ECDIS, the unit of height is meters.

Drying Heights

For rocks and banks that cover and uncover, elevations are underlined and are referenced to the sounding datum as stated in the chart title (or in the ENC metadata). When the heights of rocks that cover and uncover are offset into the adjacent water, they are shown in parentheses.

Shoreline

Shoreline shown on charts represents the line of contact between the land and a selected water elevation. In areas affected by tidal fluctuation, this line of contact is usually the mean high water line. In confined coastal waters of diminished tidal influence, a mean water level may be used. The shoreline of interior waters (rivers, lakes) is usually a line representing a specified elevation above a selected datum. Shoreline is symbolized by a heavy line (symbol C 1). Apparent shoreline is used on charts to show the outer edge of marine vegetation where the limit would be expected to appear as the shoreline to the mariner or where it prevents the shoreline from being clearly defined. Apparent shoreline is symbolized by a light line (symbols C 32, C 33, C p, C q and C r).

Landmarks

A structure or a conspicuous feature on a structure may be shown by a landmark symbol with a descriptive label (see Section E). Prominent buildings that could assist the mariner may be shown by actual shape as viewed from above (see Sections D and E).

On NGA charts, landmark legends shown in capital letters indicate that a landmark is conspicuous; the landmark may also be labeled "CONSPICUOUS" or "CONSPIC." On NOAA charts, all landmarks are considered to be conspicuous, and landmark legends shown in all capital letters indicate a landmark has been positioned accurately; legends using both upper and lower case letters indicate an approximate position.

ECDIS portrays conspicuous features with black symbols and non-conspicuous features with brown symbols. Only the conspicuous version is shown in the lettered sections of U.S. Chart No. 1. See the ECDIS "Conspicuous and Non-Conspicuous Features" page in front of Section E for more information.

IALA Buoyage System

The International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) Maritime Buoyage System is followed by most of the world's maritime nations; however, systems used in some foreign waters may be different. IALA buoyage is divided into two regions: Region A and Region B. All navigable waters of the United States follow IALA Region B rules, except U.S. possessions west of the International Date Line and south of 10° north latitude, which follow IALA Region A rules.

The major difference between the two buoyage regions is the color of the lateral marks. Region A uses red to port and Region B uses red to starboard (red-right-returning). The shapes of the lateral marks are the same in both regions, can to port and cone (nun) to starboard, when entering from seaward. Cardinal and other marks, such as those for isolated dangers, safe water and special marks are also the same in both regions. Section Q and Appendix 1 illustrate the IALA buoyage system for both Regions A and B.

U.S. Lateral Marks

Most of U.S. waters are in IALA Region B. In the U.S. system, on entering a channel from seaward, buoys and beacon dayboards on the starboard side are red with even numbers and have red lights, if lit. Buoys and beacon dayboards on the port side are green with odd numbers and have green lights, if lit. Preferred channel buoys have red and green horizontal bands with the top band color indicating the preferred side of passage.

Light Range (Visibility)

A light's range or visibility is given in nautical miles, except on the Great Lakes and adjacent waterways, where light ranges are given in statute miles. For lights having more than one color, NOAA charts give only the shortest range of all the colors. On NGA charts, multiple ranges may be shown using the following convention. For lights with two colors, the first number indicates the range of the first color and the second number indicates the range of the second color. For example, FI WG 12/8M means the range of the white light is 12 nautical miles and the range of green light is 8 nautical miles. For lights with three colors, only the longest and shortest ranges are given and the middle range is indicated by a dash. For example, FI WRG 12-8M means that the range of the white light is 12 nautical miles, the range of green light is 8 nautical miles and the range of the white light is 12 nautical miles. The range of green light is 8 nautical miles and the range of the white light is 12 nautical miles. The range of green light is 8 nautical miles and the range of the white light is 12 nautical miles. The range of green light is 8 nautical miles and the range of the white light is 12 nautical miles. The range of green light is 8 nautical miles and the range of the red light is between 8 to 12 nautical miles. The dash can appear in any of the three positions.

Aids to Navigation Positioning

The fixed and floating aids to navigation depicted on charts have varying degrees of reliability. Floating aids are moored to sinkers by varying lengths of chain and may shift due to sea conditions and other causes. Buoys may also be carried away, capsized or sunk. Lighted buoys may be extinguished and sound signals may not function, because of ice or other causes. Therefore, prudent mariners will not rely solely on any single aid to navigation, particularly on floating aids, but will also use bearings from fixed objects and aids to navigation on shore.

Colors

Color conveys the nature and importance of features found on nautical charts. Chart elements significant to marine navigation, such as lights, compass roses and regulated areas, are emphasized with magenta. Lateral marks on NOAA charts are shown with a red or green fill. Shades of blue depict potential hazards to navigation, typically shallow water and submerged obstructions. Areas of deeper water believed to be clear of obstructions are shown as white. Land, and other features that are always dry, are depicted with buff on NOAA charts and gray on NGA charts. Foreshore and other intertidal features are portrayed with a green tint. Other colors may be used to provide additional information, such as protected areas, which are outlined in blue or green.

Traffic Separation Schemes

Traffic separation schemes show recommended lanes to increase safety of navigation, particularly in areas of high density shipping. These schemes are described in the International Maritime Organization (IMO) publication, *Ships Routeing*. Traffic separation schemes are generally shown on nautical charts at scales of 1:600,000 and larger. When possible, traffic separation schemes are plotted to scale and shown as depicted in Section M.

Conversion Scales

Depth conversion scales are provided on all charts to enable the user to work in meters, fathoms or feet.

Correction Date

The date of each new chart edition is shown below the lower left border of the chart. The date of the latest NGA issued U.S. Notice to Mariners applied to the chart is shown after the edition date. NOAA charts also show the date of the latest U.S. Coast Guard Local Notice to Mariners applied to the chart.

ADDITIONAL RESOURCES

Information on the use of nautical charts, aids to navigation, sounding datums and the practice of navigation in general is in *The American Practical Navigator* (Bowditch), available through the "Publications" link on the NGA Maritime Safety Information portal at <u>https://msi.nga.mil/NGAPortal/MSI.portal</u>.

Tide and current data over U.S. waters is available from the NOAA Center for Operational Oceanographic Products and Services at <u>https://tidesandcurrents.noaa.gov</u>.

Detailed information about specific lights, buoys, and beacons and general information about the U.S. Aids to Navigation System and the Uniform State Waterway Marking Systems is in the U.S. Coast Guard *Light List*, at https://www.navcen.uscg.gov/?pageName=lightLists.

Information about aids to navigation in foreign waters is in the NGA *List of Lights,* available through the "Publications" link on the NGA Maritime Safety Information portal at <u>https://msi.nga.mil/NGAPortal/MSI.portal</u>.

Other important information that cannot be shown conveniently on nautical charts can be found in the NOAA *U.S. Coast Pilot*[®], at

https://nauticalcharts.noaa.gov/publications/coast-pilot/index.html

and NGA Sailing Directions, available through the "Publications" link on the NGA Maritime Safety Information portal at <u>https://msi.nga.mil/NGAPortal/MSI.portal</u>.

U.S. Nautical Chart Catalogs and Indexes

NGA catalogs are available through the "Product Catalog" link on the NGA Maritime Safety Information portal at <u>https://msi.nga.mil/NGAPortal/MSI.portal</u>.

NOAA catalogs are available at the NOAA Chart Locator at

www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml and the NOAA Nautical Chart Catalog and Chart Viewer at www.charts.noaa.gov/ChartCatalog/MapSelect.html.

A list of the dates of the latest editions of NOAA charts is at https://nauticalcharts.noaa.gov/charts/list-of-latest-editions.html.

CORRECTIONS AND COMMENTS

Corrections to U.S. Chart No. 1 will appear in the weekly U.S. Notice to Mariners, available through the "Notice to Mariners" link on the NGA Maritime Safety Information portal at <u>https://msi.nga.mil/NGAPortal/MSI.portal</u>.

Corrections, comments, or questions regarding U.S. Chart No. 1 may be submitted through ASSIST, the NOAA Coast Survey stakeholder engagement and feedback website at <u>www.nauticalcharts.noaa.gov/customer-service/assist</u>.

or to:

National Ocean Service, NOAA (N/CS2) Attention: U.S. Chart No. 1 1315 East West Highway Silver Spring, MD 20910-3282

Schematic Layout of U.S. Chart No. 1: Rocks, Wrecks, Obstructions^(B) \bigcirc Rocks Supplementary national symbol: a (E) Plane of Reference for Heights \rightarrow H Plane of Reference for Depths \rightarrow H No. INT Description NOAA NGA Other NGA ECDIS rock which covers and × uncovers or is awash at low water \$27 * (16) * (16) * (0₆) Uncov 1m underwater hazard which Rock which covers and uncov-11 * (<u>2</u>) \$**3**(2) covers and uncovers with • (*)ers, height above chart datum Uncov 1m drying height isolated danger of depth less than the safety contour (3) (4a) (4b) (5)(6)2 (7) (A)Section designation (B) Section (C)Sub-section Reference to "Supplementary national symbols" at the end of each section (E) Cross-reference to terms in other sections (1)Column 1: Numbering system following the "Chart Specification of the IHO". A letter in this column indicates a supplementary national symbol or abbreviation for which there is no international equivalent. (2)Column 2: Representation that follows the "Chart Specifications of the IHO" (INT 1 symbol) (3) Column 3: Description of symbol, term, or abbreviation (4a)* Column 4a: Representation used on charts produced by the National Oceanic and Atmospheric Administration (NOAA) (4b) Column 4b: Representation used on charts produced by the National Geospatial-Intelligence Agency (NGA) (5) Column 5: Representation of symbols that may appear on NGA reproductions of foreign charts 6** Column 6: Representation used to portray ENC data on ECDIS (7)** Column 7: Description of ECDIS symbols * When columns 4a and 4b are combined then NOAA and NGA both use the same symbol. When either column 4a or 4b is blank then the respective agency uses the INT 1 symbol shown in column 2. When columns 6 and 7 have several rows for the same symbol number, then ECDIS portrays this feature differently depending on the ship's draft and other conditions as defined in ECDIS by the mariner (as is the ** case for K 11). When columns 6 and 7 combine rows to span across several symbol numbers then ECDIS portrays all of the grouped symbol numbers the same way (see C 5-C 7). † Signifies that this representation is obsolete, but it may appear on older charts. Å Signifies that a feature attribute value, such as a height, distance or name, may be obtained through an ECDIS cursor pick report. There are many attribute values that may be obtained in this manner, but the cursor pick icon is only used to note values that are specifically referred to in the description of symbols column and that ECDIS does not display next to the symbol. Height of trees in C 14 is an example.

Day, Dusk and Night Color Palettes

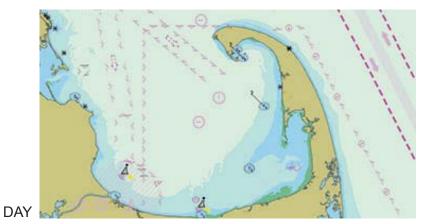


ECDIS allows the mariner to change the color palette that is used to display an ENC. Three different color tables have been designed to provide the maximum clarity and contrast between features on the display under three different lighting conditions on the bridge, namely Day, Dusk and Night.

Each symbol is rendered in a different color appropriate for the lighting condition that the color table is meant for. This design provides maximum contrast for the display on a sunny day, as well as preserving night vision on a dimly lit bridge in the evening. This allows the mariner to look back and forth between the chart on the ECDIS display and out to sea through the bridge window without the mariner's eyes needing to readjust to a difference in light intensity.

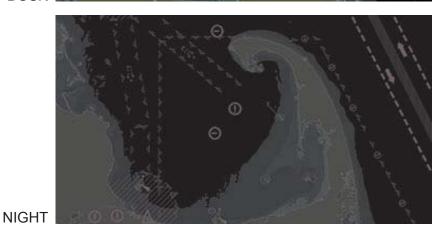
- The Day Color Table, meant to be used in bright sunlight, uses a white background for deep water and looks the most like a traditional paper chart.
- The Dusk Color Table uses a black background for deep water and colors are subdued, but slightly brighter than those used in the Night Color Table.
- The Night Color Table, meant to be used in the darkest conditions, uses a black background for deep water and muted color shades for other features.

The images on the right show each of the three color palettes. The symbols shown in the remainder of this document use the day color palette.

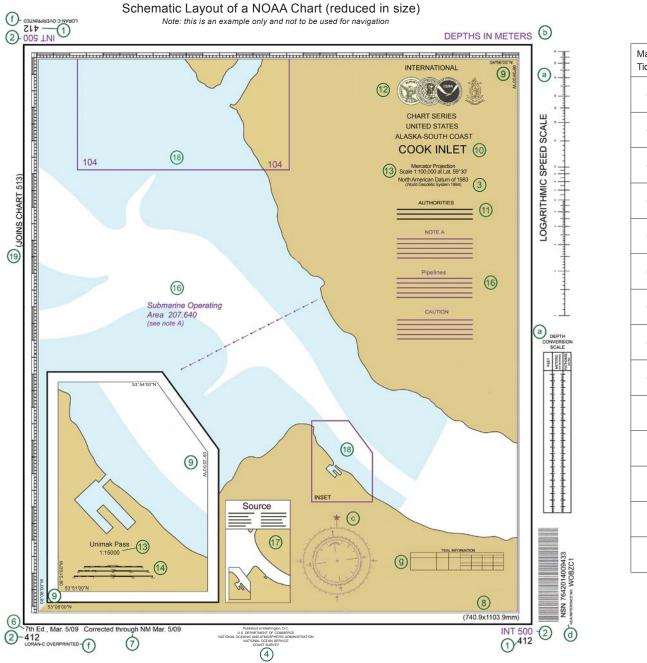




DUSK



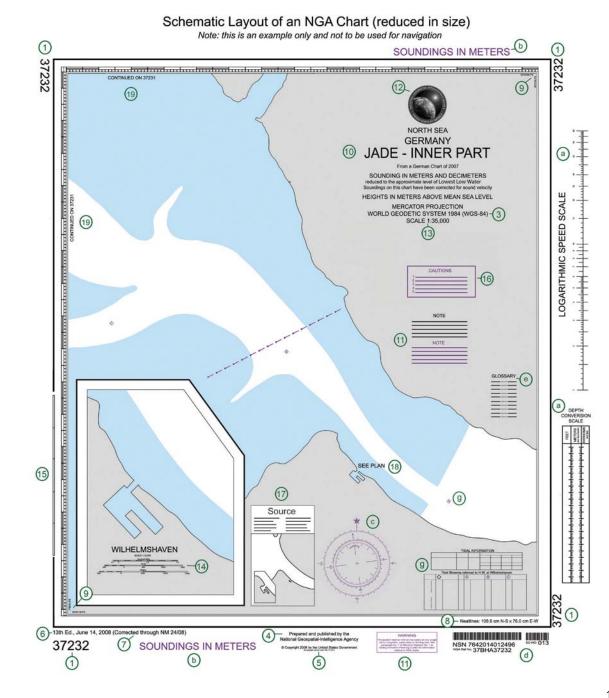
A Chart Number, Title, Marginal Notes



Magnetic Tidal Data	Features \rightarrow B $_{1} \rightarrow$ H
1	Chart number in national chart series
2	Chart number in international (INT) series (if any)
3	Reference ellipsoid of the chart
4	Publication note (imprint)
5	Copyright note
6	Date of current edition
7	Notice to Mariners corrections
8	Dimensions of inner borders
9	Corner coordinates
10	Chart title
(11)	Explanatory notes on chart construction, etc. To be read before using chart.
12	Seal(s)
(13)	Scale of chart. Some charts have scale at a stated latitude.
(14)	Linear scale on large scale charts

Chart Number, Title, Marginal Notes A

(15)	Linear border scale on large scale charts. On smaller scales use latitude borders for sea miles.
16	Cautionary notes (if any). Information on particular fea- tures, to be read before using chart.
17	Source Diagram (if any). Navigators should be cautious where surveys are inadequate.
(18)	Reference to a larger scale chart
(19)	Reference to an adjoining chart of similar scale
a	Conversion scales
Ь	Reference to the units used for depth measurement
C	Compass rose
b	Bar code and stock number
e	Glossary: Translation of words on chart that are not in English
9	Tidal and Tidal Stream information within the chart coverage



B Positions, Distances, Directions, Compass

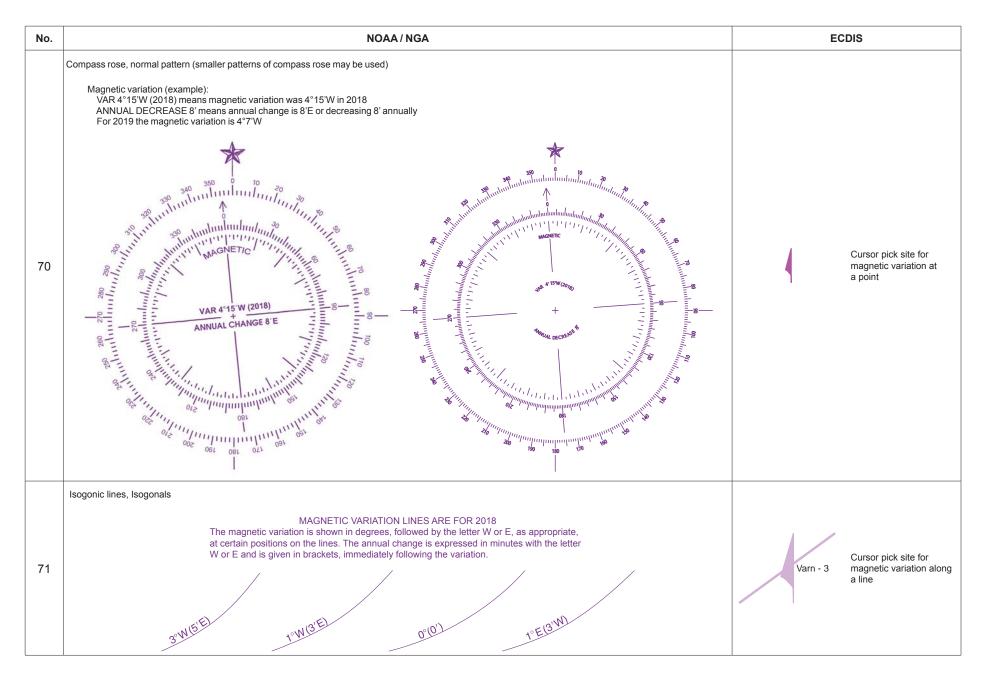
No.	INT	Description	NOAA	NGA	Other NGA		ECDIS
Geogra	phical Positions	· · ·					
1	Lat	Latitude					
2	Long	Longitude					
4		Degree(s)	d	eg			
5		Minute(s) of arc					
6		Second(s) of arc					
						PA	Position approximate
7	PA	Position approximate (not accurately determined or does not remain fixed)	PA	(PA)		Š	Point feature or area of low accuracy
						21	Sounding of low accuracy
8	PD	Position doubtful (reported in various positions)	PD	(PD)		S.	Point feature or area of low accuracy
						21	Sounding of low accuracy
9	Ν	North					
10	E	East					
11	S	South					
12	W	West					
13	NE	Northeast					
14	SE	Southeast					
15	NW	Northwest					
16	SW	Southwest					

Positions, Distances, Directions, Compass B

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Control	Points						
20	۵	Triangulation Point					
21	† ●	Observation spot	0b	s Spot		ο	Position of an elevation or control point
22	· · · · ·	Fixed point	()			
25.1	o km 32	Distance along waterway, no visible marker	St M 32			km 7	Canal and distance point with no mark
25.2	o km 46	Distance along waterway with visible marker	□ Y Bn (46)			° km 7	Canal and distance point
	Note: ECDIS uses a magenta "km" sym	bol to represent distance marks. How	wever, the distances show	wn along waterways on I	NOAA-produced ENCs are displaye	d in statute miles.	
Symboli	zed Positions (Examples)	1			1	1	
30	# # (13) Wk	Symbols in plan—position is center of primary symbol				ECDIS follows the paper of	chart convention for the ot for simplified symbols for
31		Symbols in plan—position is at bottom of symbol				buoys and beacons (see (
32	⊙ Mast ⊙ MAST ★	Point symbols	ı ⊙	MAST		\odot	Position of a point feature
33	† • Mast PA	Point symbols—approximate positions	0	Mast		ECDIS indicates approxim wrecks, obstructions, islet	ate position only for s and shoreline features.
Units						Supplementary national s	ymbols <i>a–m</i>
40	km	Kilometer(s)					
41	m	Meter(s)					
42	dm	Decimeter(s)					
43	ст	Centimeter(s)					
44	mm	Millimeter(s)					
45	Μ	International nautical mile(s) (1852m), sea mile(s)	Mi NM	/i NM			
47	ft	Foot / Feet					
48	fm, fms	Fathom(s)					

B Positions, Distances, Directions, Compass

No.	II	т	Description	NOAA	NGA	Other NGA	ECDIS
49	l	h	Hour(s)	hr			
50	m	min	Minute(s) of time				
51	S	sec	Second(s) of time				
52	k	'n	Knot(s)				
53		t	Ton(s), Tonnage (weight)				
54	с	:d	Candela(s)				
Magnet	c Compass						Supplementary national symbols n
68.1		Variation	Note of magnetic variation,				Cursor pick site for magnetic variation at a point
	4°30' W 2	011 (8'E)	in position				Cursor pick site for magnetic variation over an area
68.2		ion at 55°N 8°W 011 (8′E)	Note of magnetic variation, out of position				



B Positions, Distances, Directions, Compass

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
82.1	{±15°}	Local magnetic anomaly Within the enclosed area the magnetic variation may deviate from the normal by the value shown				AAAAA	Cursor pick site for magnetic anomaly along a line or over an area
82.2	Local Magnetic Anomaly (see Note)	Local magnetic anomaly Where the area affected cannot be easily defined, a legend only is shown at the position	LOCAL MAGNETIC DISTURBANCE (see note)	LOCAL MAGNETIC ANOMALY (see note)	LOCAL MAGNETIC DISTURBANCE (see note)	4	Cursor pick site for magnetic anomaly at a point
Supple	ementary National Symbols				1	1	
а		Square meter(s)	n	1 ²			
b		Cubic meter(s)	n	1 ³			
с		Inch(es)	iı	ו			
d		Yard(s)	у	d			
е		Statute mile(s)	St M	St Mi			
f		Microsecond(s)	µsec	μs			
g		Hertz	Н	Z			
h		Kilohertz	kŀ	łz			
i		Megahertz	M	Hz			
j		Cycles/second	cps	c/s			
k		Kilocycle(s)	k	с			
I		Megacycle(s)	N	lc			
m		Ton(s) (U.S. short ton) (2,000lbs)	٦	Г			
0		Benchmark	В	М			
р		Variation	var	VAR		Varn	Magnetic variation

Positions, Distances, Directions, Compass B

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
q		Magnetic	mag			
r		Bearing	brg			
S		True	Т			

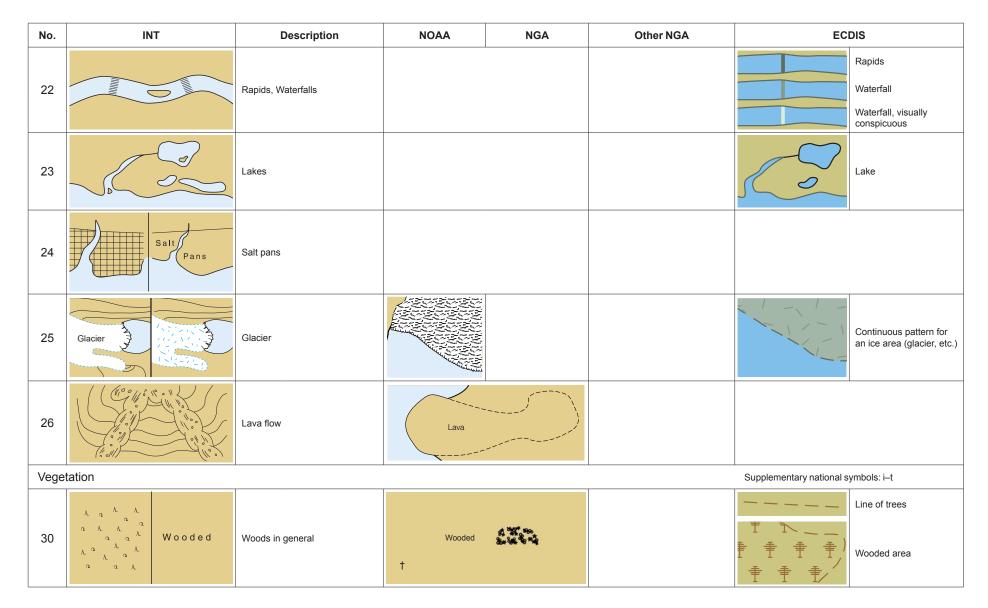
C Natural Features

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS		
Coas	tline					Supplementary nationa	l symbols: a–e		
Forest	Foreshore → I, J								
1	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Coastline, surveyed					Coastline		
2		Coastline, unsurveyed				000000000	Coastline or shoreline construction of low accuracy in position		
			high	low			Presence of cliffs coincident with coastline is obtained by cursor pick		
3		Cliffs, Steep coast	A MAR TO THE TO THE A	איז			Sloping ground crest line distant from coastline, radar or visually conspicuous		
			1 = 12	W JE MENSTRAN			Cliff as an area		
4	3mit the	Hillocks	÷	0		The second	Conspicuous hill or mountain top		
5		Flat coast							
6		Sandy shore	†				Nature of coastline is obtained by cursor pick		
7	Stones Stones	Stony shore, Shingly shore	t t	y the second		μζ			
8	Dunes	Sandhills, Dunes	+				Conspicuous hill or mountain top		

Natural Features C

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS		
Relief	Relief Supplementary national symbols: e–g								
Plane	of reference for heights \rightarrow H	1				1			
10	259 259 150 50 100	Contour lines with values and spot height				0 109 m	Elevation contour with spot height, contour value is obtained by cursor pick		
11	- 389 -189 115 m ^m -123 ∭∭∭ 77 m ^m	Spot heights				O 119 m	Position of an elevation or control point		
12	(360) (250) (50) (50) (50)	Approximate contour lines with values and approximate height					Elevation contour with spot height, contour		
13		Form lines with spot height	+ +	9.250 9.250		(0100 m	value is obtained by cursor pick		
14	λ λ α _λ α λ α λ α 160 λ α λ α λ α λ λ α λ α λ α λ α λ α λ α	Approximate height of top of trees (above height datum)		135 TT		手 、 Approximate obtained by	e height of trees is cursor pick		
Water	Features, Lava								
20	Name	River, Stream				~	River		
21		Intermittent river, intermittent lake							

C Natural Features



Natural Features C

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
31	Prominent trees (isolated or in groups)						
31.1	Q Q Q	Unspecified tree				ŧ	Tree
31.2	t Q QQ	Evergreen (except conifer)				I	Tree
31.3	\$ ^{\$} \$	Conifer, Casuarina					Vegetation line of trees
31.4	I DAZ	Palm					Vegetation, line of trees
31.5	⁺ ≮ * _₹ *	Nipa Palm				ŧ.	
31.6	+ 萊 萊萊萊	Casuarina				ŧŧŧţ)	Wooded area
31.7	t Ψ Ψ Ψ	Filao				± ± ±∕	wooded area
31.8	t I III III III III III III III III III	Eucalypt				ŧ ŧ ≯	
32		Mangrove, Nipa palm		ed in small areas)			Mangrove with coastline or shoreline construction of low accuracy in position
33	M a r/s h	Marsh, Swamp, Reed beds	(used in small areas)	Swamp		<mark>、。</mark> "不" 不不不不不不不不不不不不不不不不不不不不不不不不不不不不不不不不不不不	Marsh with coastline or shoreline construction of low accuracy in position
Supp	lementary National Symbols						
а		Chart sounding datum line (surveyed)	Uncov	vers			
b		Approximate sounding datum line (inadequately surveyed)					
с		Foreshore; Strand (in general); Stones; Shingle; Gravel; Mud; Sand	Mud				
d		Breakers along a shore	Greaters (if	extensive)			

C Natural Features

No.	INT Description	NOAA	NGA	Other NGA	ECDIS
е	Rubble	+ <i>publikit</i>	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		
f	Hachures	t	610		
g	Shading	t			
i	Deciduous woodland	Wooded			
j	Coniferous woodland	Wooded			
k	Tree plantation	**************************************			
I	Cultivated fields	Cultivated			
m	Grassfields	Grass	alles alles alles alles alles		
n	Paddy (rice) fields	Rice †			
0	Bushes	Bushes	800 0 80 0 110 0 0 110 0 0 110 0		
р	Apparent shoreline	Marsh			
q	Vegetation or topographic (Feature Area Limit-in general)				
r	Cypress		Cypress		
s	Grass	Grass			
t	Eelgrass	Eelgrass			

Cultural Features D

No.	INT	Description	NOAA	NOAA NGA Other NGA		ECDIS	
Settle	ments, Buildings	-					
Height	of objects \rightarrow E Landma	arks \rightarrow E					
1		Urban area					Built-up area
2		Settlement with scattered buildings					
3	o Name	Settlement (on medium and small scale charts)	<u>ل</u> :	‡ 0		Name	Built-up area as a point
4	H Name ■ Name HOTEL	Village	Vil			Ivalle	
5		Buildings	• 🖾 🗆			— •	Conspicuous single building
6	Hotel	Important building in built-up area					Conspicuous single building in built-up area
7		Street name, Road name				Street name	is obtained by cursor pick
8	[Ru []] [] Ru	Ruin, Ruined landmark	LI Ruins	o Ru		Status of rui	ns is obtained by cursor
Road	s, Railways, Airfields		-			Supplementary Nationa	l Symbols: a–c
10		Motorway, highway					Road, track or path as a line
11	· ·	Road (hard surfaced)					
12		Track, Path (loose or unsurfaced)					Road as an area

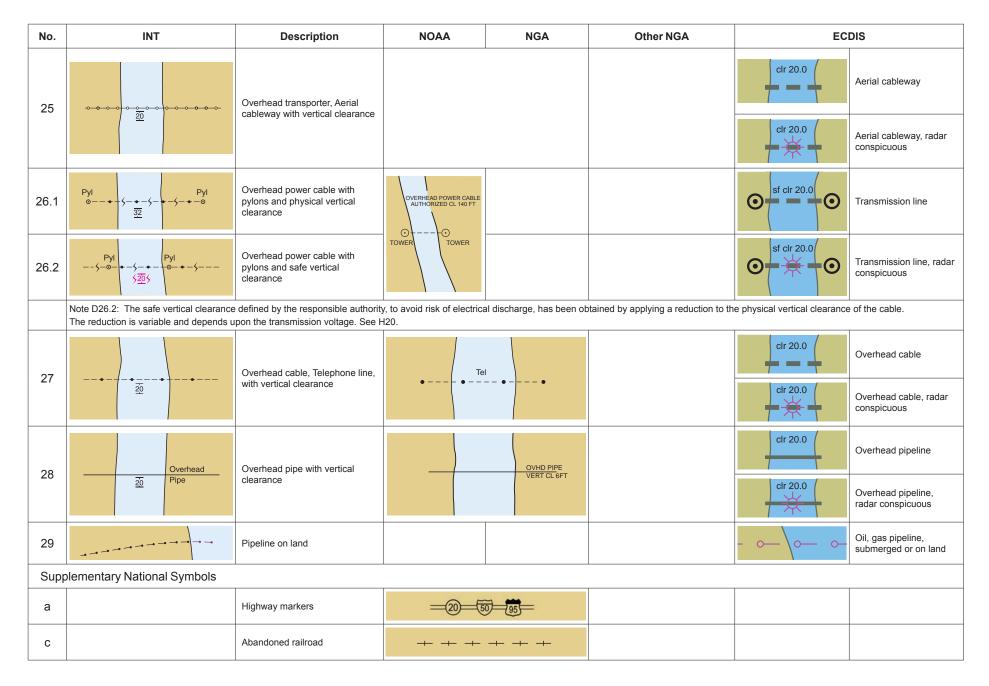
D Cultural Features

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
13	•••••••	Railway, with station					Railway, with station
14		Cutting					Cutting
15		Embankment					Embankment
10							Embankment, visually or radar conspicuous
10		Turnel					Tunnel
16	` === (Tunnel					Tunnel with depth below the seabed encoded
	Air- field						Airport as a point
17		Airport, Airfield	Airport	port		$\boldsymbol{\times}$	Runway as a line
						Airport area, with runway area and visually conspicuous runway area	
18	(\mathbb{H})	Heliport, Helipad					
Othe	Cultural Features	1	I		I	Supplementary Nation	al Symbols: d–i
20.1		Fixed bridge					
20.2		Footbridge, fixed bridge on smaller scale charts					

Cultural Features D

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
21		Horizontal clearance	FIXED BRIDGE	HOR CL 8 M ⊢8⊣		Horizontal clearanc	e is obtained by cursor pick
22		Vertical clearance (see introduction)	HOR CL 25 FT VERT CL 20 FT	VERT CL 6 M T L		clr 20.0	Bridge
23.1		Opening bridge (in general) with vertical clearance				clr cl 8.2	
23.2		Swing bridge with vertical clearance				cir op 20.0 cir ci 8.2	Opening bridge
23.3	Lifting Bridge 4:2 (open 12)	Lifting bridge with vertical clearance (closed and open))			clr op 20.0	
23.4	Bascule Bridge	Bascule bridge with vertical clearance					
23.5	Pontoon Bridge	Pontoon bridge				cir 20.0 cir 20.0	Bridge
23.6	Draw Bridge	Draw bridge with vertical clearance				clr cl 8.2 clr op 20.0 clr cl 8.2 clr op 20.0	Opening bridge
24	, Transporter Bridge	Transporter bridge with vertical clearance below fixed structure	1			clr 20.0	Bridge

Cultural Features

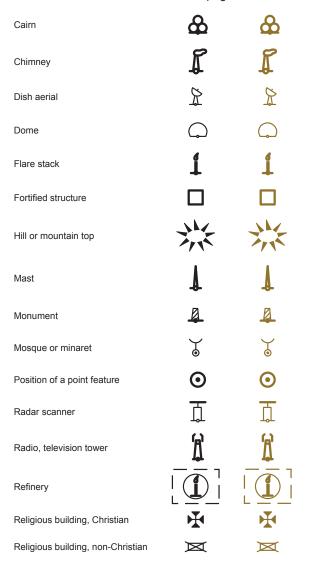


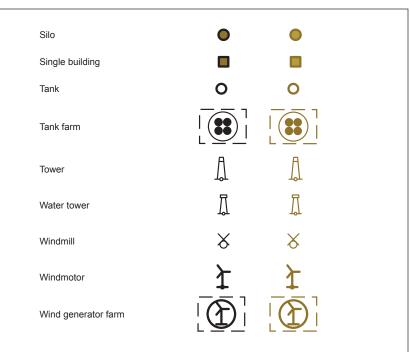
Cultural Features D

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
d		Bridge under construction	+-++			
f		Viaduct	1	Viaduct		
g		Fence	00			
h		Power transmission line	•• \$\$\$\$			
i		Approximate vertical clearance		abt 21		



There are 25 features for which ECDIS displays either a black symbol, if the feature is visually conspicuous, or a brown symbol if is not. Only conspicuous landmarks are depicted on NOAA paper charts and ENCs. Therefore, only the conspicuous symbol versions are shown in the symbol tables of U.S. Chart No. 1. Both versions of the symbols for these features are shown on this page.





The seven symbols shown below represent features that only have a brown symbol. There is no corresponding black, conspicuous symbol. The brown symbol is displayed regardless of the conspicuousness of the feature.



Landmarks E

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS				
Plane o	Plane of Reference for Height \rightarrow H Lighthouses \rightarrow P Beacons \rightarrow Q									
Genei	General									
						Ο	Non-conspicuous point feature			
1	◆ Factory ☐ ○ Hotel	Examples of landmarks	○ TANK O				Non-conspicuous building			
						Ĩ	Non-conspicuous water tower			
		Examples of conspicuous landmarks (On NOAA charts,		E O mar		\odot	Conspicuous point feature			
2	◆ FACTORY	a large circle with dot and capitals indicates that position is accurate; a small circle with	O EMPIRE STAT BUILDING				Conspicuous building			
	🖟 WATER TR	lowercase indicates that position is approximate.)	○ RADAR MAST			Ĩ	Conspicuous water tower			
3.1		Pictorial sketches (in true position)				A i	The information symbol is displayed if a supplemental image is available, which may be accessed by cursor pick			
3.2		Pictorial sketches (out of position)								
4	(30)	Height of top of a structure above height datum				Height is ob				
5	J (30)	Height of structure above ground level					tained by cursor pick			
Landr	narks									
10.1	c⊨ + ch	Church				¥	Church as a point			
10.1		Church			-∻ ≟		Church as an area			
10.2		Church tower								
10.3	rent Sp the Sp	Church spire		O Spire	t Å t	¥	Church tower, spire, or dome			
10.4	Cup & Cup	Church cupola (dome)	⊙ CUPOLA	O Cup	4					
13	×	Temple, Pagoda, Shrine, Marabout, Joss house			¢	X	Religious building, non-Christian			

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
17	8	Mosque, Minaret			Ķ	¥.	Mosque or minaret
19		Cemetery	Cem				Landmark area, type is obtained by cursor pick
20	Д. Tr	Tower	○ TOWER○ Tr	Tr o		Ţ	Tower
21	Ţ	Water tower, Water tank on a tower	 STANDPIPE S'pipe 	WTR TR Wtr Tr		Ĩ	Water tower
22	f Chy	Chimney	CHIMNEYO Chy	о сну	Č Ļ	I	Chimney
23	¢ L	Flare stack (on land)	💮 FLARE	O Flare		1	Flare stack
24	A Mon	Monument (including column, pillar, obelisk, statue, calvary cross)		O Mon	4 G	<u>R</u>	Monument
25.1	×	Windmill		O Windmill	¥ *	× 🗞	Windmill, status of ruins is obtained by cursor
25.2	X Ru	Windmill (without sails)				o ŀ}	pick
26.1	¢ + *	Wind turbine, Windmotor		O Windmotor		上	Wind motor
26.2		Onshore wind farm	WIND FARM	O Wind Farm			Wind generator farm
27	Ļ FS	Flagstaff, Flagpole	→ FS→ FP	O FS O FP		1	Flagstaff, flagpole
28	(j)	Radio mast, Television mast	○ R MAST○ TV MAST	O R Mast O TV Mast		L	Mast
29	(IJ)	Radio tower, Television tower	R TR TV TR	0 R Tr 0 TV Tr		<u>A</u>	Radio, television tower
30.1	◎ Radar Mast 🕺 🕌 Radar	Radar mast	○ RADAR MAST	O Radar Mast		Y	Mast
30.2	Radar Tr	Radar tower	🕥 RADAR TR	O Radar Tr		Ţ	Radar tower

No.	IN	т	Description	NOAA	NGA	Other NGA	EC	DIS
30.3	⊙ Rad	dar Sc	Radar scanner				Ţ	Radar scanner
30.4	⊙ Ra	dome	Radome	DOME (RADAR) Dome (Radar)	RADOMERadome		Ģ	Dome
31	S	Ž	Dish aerial	 ANT (RADAR) Ant (Radar) 			24	Dish aerial
							0	Tank
32	⊕ ⊕ ●	Tanks	Tanks	🕤 tank 🌐	⊘ О Тк			Tank farm
33	🔿 Silo	⊙ Silo	Silo	<u> </u>	O Silo O Elevator	Å Å	•	Silo
34.1	L.		Fortified structure (on large scale charts)		Д		ß	Fortified structure
34.2	:	I	Castle, Fort, Blockhouse (on small scale charts)			0		Fortified structure
34.3	:	3	Battery, Small fort (on small scale charts)					Fortilled structure
35.1	TIT		Quarry (on large scale charts)					Quarry area
35.2	\$	\$	Quarry (on small scale charts)				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Quarry
36	\$	\$	Mine					
37.1	ļ,	9	Recreational vehicle site					
37.2		X	Camping site (including recreational vehicles)					
Supp	lementary Natio	nal Symbols						
а			Muslim shrine	+				
b			Tomb	† 🚅				
с			Watermill	ا ک	X	\$		

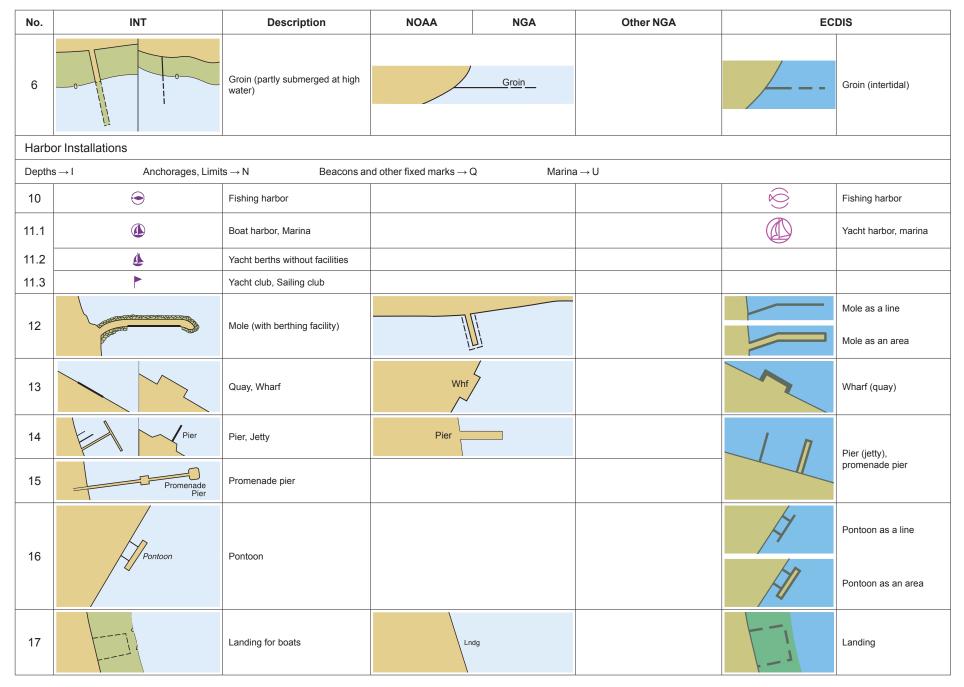
E Landmarks

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
d		Factory	•	ြာ Facty		
е		Well	0	Well		
f		School	Sch	Sch		
g		Hospital		Hosp		
h		University	Univ	Univ		
i		Gable	⊙ GAB O Gab			
k		Telegraph Telegraph office	Tel Tel Off			
I		Magazine	Magz			
m		Government house	Gov	rt Ho		
n		Institute	In	st		
0		Courthouse	Ct	Но		
р		Pavilion	Pa	av		
q		Telephone	-	Г		
r		Limited	Li	td		
s		Apartment	A	pt		
t		Capitol	Сар			
u		Company	Со			
v		Corporation	Co	orp		

Ports F

No.	INT	Description	NOAA	NOAA NGA		EC	DIS
Prote	ctive Structures					Supplementary national	l symbols: a–c
1		Dike, Levee, Berm					Dike as a line Dike as a line, conspicuous Dike as an area
2.1		Seawall (on large scale charts)					Seawall
2.2		Seawall (on small scale charts)					
							Causeway as a line
3	Causeway	Causeway	Cswy			Causeway, covers and uncovers as a line Causeway as an area	
						4====	Causeway, covers and uncovers as an area
4.1		Breakwater (in general)					Breakwater as a line
4.2		Breakwater (loose boulders, tetrapods, etc.)			And the second s		Breakwater as an area
4.3		Breakwater (slope of concrete or masonry)			And and a state of the state of		
5	Training Wall (covers) 0	Training wall (partly submerged at high water)					Training wall

F Ports



Ports F

No.	INT	Description	NOAA NGA	Other NGA	ECDIS
18		Steps, Landing stairs		Steps	Landing steps
19.1	(4) (B) (A 54)	Designation of berth	3 A 3		Nr 3 Berth number
19.2	V	Visitors' berth			Yacht harbor, marina
19.3	(Dangerous cargo berth			
20	Dn Dn	Dolphin	o Dol ↑ ● Dol (Great Lakes)	Ψ • •	Mooring dolphin
21	Д	Deviation dolphin			Deviation mooring dolphin
22	•	Minor post or pile	o Pile † ● Pile (Great Lakes)		Pile or bollard
23	Ramp Patent slip	Slipway, Patent slip, Ramp			Slipway, ramp
24		Gridiron, Scrubbing grid, Careening grid			Gridiron
25		Dry dock, Graving dock			Dry dock
26	Floating Dock	Floating dock			Floating dock as a line Floating dock as an area
27	7.6m	Non-tidal basin, Wet dock			Wet dock and gate

F Ports

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
28		Tidal basin, Tidal harbor					Dock
20							Dock, under construc- tion or ruined
	··					(X)	Floating hazard
	Log Pond	Floating barrier, e.g. security,					Boom
29.1		containment booms (ice, logs, oil), shark nets: - with supports - without supports					Floating oil barrier, oil retention (high pressure pipe)
	Barrier						Boom, floating obstruction
29.2	Bubble Curtain	Bubble curtain (bubbler, pneumatic pipe)					Floating oil barrier, oil retention (high pressure pipe)
30	Dock under construction (2011)	Works on land, with year date					
31	Area under reclamation (2011)	Works at sea, Area under reclamation, with year date	Under construction (2011)	Under constr			Ruin or works under construction Year and condition
32	Under construction (2011) Works in progress (2011)	Works under construction, with year date	Under c (2011				of under construction or ruin is obtained by cursor pick
33.1	Ru	Ruin	E	Ruins			
33.2	Pier (ru)	Ruined pier, partly submerged at high water		Pier Pier		1	Pier, ruined and partly submerged
34	Hulk Dulk	Hulk	Hk				Hulk

Ports F

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Cana	ls, Barrages					Supplementary national s	symbol: d
Cultura	al Features \rightarrow B Cleara	nces \rightarrow D Signal S	tations \rightarrow T				
40		Canal	Canal Ditch				Canal
41.1		Lock (on large scale charts)		Salar Contraction of the second secon			Lock gate as a line Lock gate as an area
41.2		Lock (on small scale charts)	Canal	Lock Sluice egate, Floodgate)	<u> </u>		Navigable lock gate
42		Gate, Caisson					Non-navigable lock gate Caisson as a line Caisson as an area
43		Flood barrage					Non-navigable lock gate Flood barrage as a line Flood barrage as an area
44	Dam	Dam, Weir (direction of flow shown is left to right)					Dam as a line Dam as an area

No.	INT	Description	NOAA	NGA	Other NGA	E	CDIS
Trans	hipment Facilities					Supplementary nation	al symbols: e–f
Roads	\rightarrow D Railways \rightarrow D	$Tanks \to E$					
50	RoRo	Roll-on, Roll-off Ferry Terminal (RoRo Terminal)				RoRo	RoRo terminal
51		Transit shed, Warehouse (with designation)					Conspicuous single building, designation is obtained by cursor pick
						#	Timber yard as a point
52	#	Timber yard	+	с		<u>[</u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u>]	Timber yard as an area
50.4		Crane with lifting capacity,		0-	Ť,	Å	Lifting capacity is ob- tained by cursor pick
53.1	(31) 0 0	Traveling crane (on railway)	++	¢ + + +	T	Crane as a point	
				Same Stan			Crane as an area
53.2	d P (50 t)	Container crane (with lifting capacity)	с- †	Jrane			Crane, visually conspicuous as an area
Public	Buildings	I	I			Supplementary national	symbol: g
60	٩	Harbormaster's office	Ht	r Mr			Conspicuous single building
61	⇔	Custom office	■ Cu	s Ho			Conspicuous single building
						\ominus	Customs
62.1	\oplus	Health office, Quarantine building	† 🕀 не	alth Office			
62.2	Hospital	Hospital	■ Ho	sp			Conspicuous single building
63	† 🖾	Post office	■ PC)			

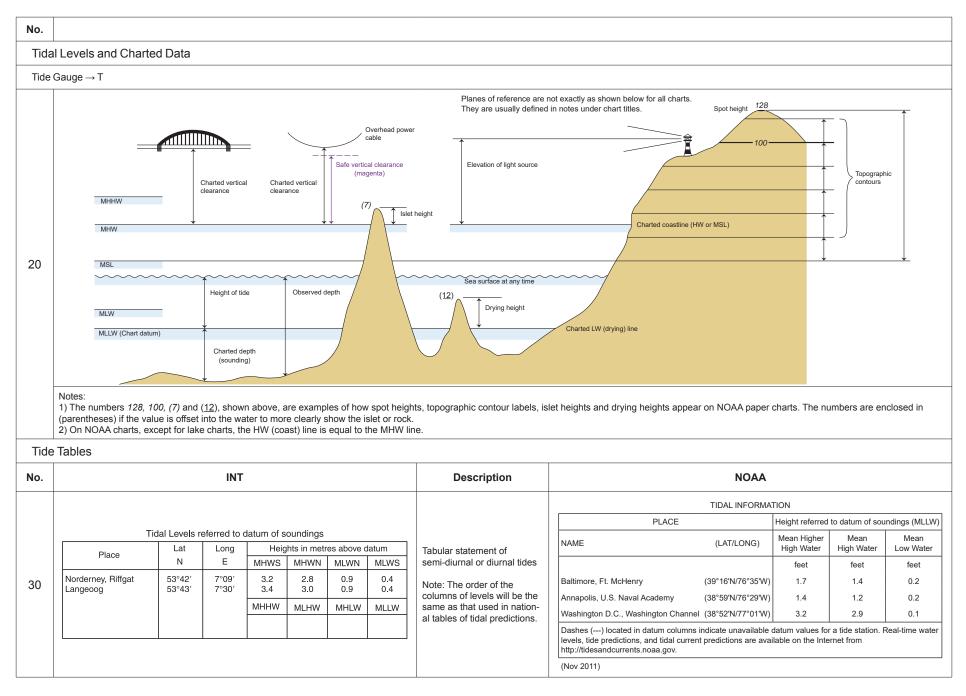
No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
Supp	lementary National Symbols					
а		Jetty (partly below MHW)				
b		Submerged jetty		Subm Jetty		
с		Jetty (on small scale charts)				
d		Pump-out facilities	P			
е		Quarantine office	† 🕀 Qua	ar		
g		Conveyor		Conveyor		

H Tides, Currents

Terms Relating to Tide Levels

INT Terms		
No.	Term	Description
1	CD	Chart Datum, Datum for sounding reduction
2	LAT	Lowest Astronomical Tide
3	HAT	Highest Astronomical Tide
4	MLW	Mean Low Water
5	MHW	Mean High Water
6	MSL	Mean Sea Level
8	MLWS	Mean Low Water Springs
9	MHWS	Mean High Water Springs
10	MLWN	Mean Low Water Neaps
11	MHWN	Mean High Water Neaps
12	MLLW	Mean Lower Low Water
13	MHHW	Mean Higher High Water
14	MHLW	Mean Higher Low Water
15	MLHW	Mean Lower High Water
16	Sp	Spring tide
17	Np	Neap tide

Supplement	ary National Terms (see I–t for other terms and symbols)
No.	Term	Description
а	HW	High Water
b	HHW	Higher High Water
С	LW	Low Water
d	LWD	Low Water Datum
е	LLW	Lower Low Water
f	MTL	Mean Tide Level
g	ISLW	Indian Spring Low Water
h	HWF&C	High Water Full and Change (Vulgar establishment of the port)
i	LWF&C	Low Water Full and Change
j	CRD	Columbia River Datum
k	GCLWD	Gulf Coast Low Water Datum



H Tides, Currents

No.			INT			EC	DIS
31	Tidal stream table	After After High Water Directions of streams (degrees) Before Directions of streams (degrees) Brance (knots) Rates at spring tides (knots)	aphical 53°51.2'N Position 7°17.8'E -6 261 0.8 0.7 5 170 0.2 0.1				Point or area for which a tidal stream table is available Boundary of an area for which there is tidal information
	Streams and Currents					Supplementary nationa	l symbols: m–t
	rers → K Tide Gauge →		NOAA	NCA		E0	
No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
40	<u>,</u>	Flood tide stream with mean spring rate				2.5 kn ? ? ? ?	Flood stream, rate at spring tides Current or tidal stream whose direction is not known Boundary of an area for which there is tidal information
41	2.8 kn	Ebb tide stream with mean spring rate				2.5 kn ?	Ebb stream, rate at spring tides Current or tidal stream whose direction is not known Boundary of an area for which there is tidal information

Tides, Currents H

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
42	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	Current in restricted waters				2.5 kn	Non tidel comment
43	2.5 – 4.5 kn Jan – Mar (see Note)	Ocean current with rates and seasons		~~~~~	(see Note)	2.5 KI	Non-tidal current
44		Overfalls, tide rips, races	Tide rips	A A A A A A A A A A A A A A A A A A A	~~	MA MÁ	Overfalls, tide rips; ed-
45	0 6 0 0 0	Eddies	୍ରେ ଏ ତ୍ରେ କ symbol used or	ວິິິ <i>Eddies</i> GິG Ily in small areas		(m)	dies; breakers as point, line, and area
46	\otimes	Position of tabulated tidal stream data with designation				\diamond	Point for which a tidal stream table is available
47	a	Offshore position for which tidal levels are tabulated					
Suppl	ementary National Symbols (Su	upplementary national terms r	elating to tidal leve	Is are listed after H 1	17)		
I		Stream	S	Str			
m		Current, general, with rate	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	2 kn			
n		Velocity, Rate	١	/el			
0		Knots	I	kn			
р		Height		ht			
q		Flood		fl			
u		Gulf Stream Limits	Approximate location	of Axis of Gulf Stream			

4

No.	INT	Description	NOAA	NGA	Other NGA
General					
1	ED	Existence doubtful			
2	SD	Sounding of doubtful depth			
	_				
3.1	Rep	Reported, but not confirmed			
3.2	Rep (2011)	Reported (with year of report), but not confirmed			
0.2	Nep (2017)	but not confirmed			

ED	Existence doubtful		25	Sounding of low accuracy
			25	Sounding of low accuracy
SD	Sounding of doubtful depth		(212)	Underwater hazard with depth greater than 20 meters
			8	Isolated danger of depth less than the safety contour
			25	Sounding of low accuracy
Rep	Reported, but not confirmed		-	Point feature or area of low accuracy
Rep (2011)	Reported (with year of report),			Low accuracy line demarking area wreck or obstruction
	but not confirmed			Low accuracy line demarking foul area
				Obstruction, depth not stated
			25	Sounding of low accuracy
	Reported, but not confirmed		5	Underwater hazard with depth of 20 meters or less
(184) (212)	sounding or danger (on small scale charts only)		(212)	Underwater hazard with depth greater than 20 meters
			\otimes	Isolated danger of depth less than the safety contour
			Š	Point feature or area of low accuracy
		1	•	

ECDIS

Depths

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Sound	dings					Supplementary national s	ymbols: a–c
Plane	of Reference for Depths \rightarrow H	Plane of Reference for Heig	hts \rightarrow H				
10	12 9 ₇	Sounding in true position (NOAA shows fathoms and feet with vertical numbers and meters	12 3 ₂ 2 ¹ ₂			97	Sounding shoaler than or equal to safety depth
		with sloping numbers)				30	Sounding deeper than safety depth
11	. (4 ₈) +(12) 3375	Sounding out of position	(23)	3375		Depths are always shown	in their true position in
12	(47)	Least depth in narrow channel	(47)			ECDIS	
13	200	No bottom found at depth shown				200	Status of no bottom found is obtained by cursor pick
14	12 9 ₇	Soundings which are unreliable or taken from a smaller scale source (NOAA shows unreliable soundings in fathoms and feet with sloping numbers and in meters with vertical numbers)				(12)	Sounding of low accuracy
15	$\begin{array}{c c} & & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & &$	Drying heights and contours above chart datum	2 <u>6</u>	mm		<u>4</u>	Drying height, less than or equal to safety depth
16	2_5 2_5 2_5 2_6 2_6 1_7 1_7	Natural watercourse (in intertidal area)					Tideway

Depths

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Depth	is in Fairways and Areas					Supplementary national s	symbols: a, b
Plane	of Reference for Depths \rightarrow H						
20		Limit of dredged area					
21	7.0 m 3.5 m	Dredged channel or area with minimum depth regularly maintained				*	Dredged area Depth, date of latest
22	12m (2011) Dredged to 7.2m (2011)	Dredged channel or area with depth and year of the latest control survey	30 FEET APR 2011				survey and other information is obtained by cursor pick
24	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Area swept by wire drag. The depth is shown at chart datum. (The latest date of sweeping is shown in parentheses.)	3 29 8 22 7 21 30 7 21	<u>7</u> 6 (1930)		swept to 9.6	Swept area
25	Unsurveyed (see ZOC Diagram) Depths (see Note)	Unsurveyed or inadequately surveyed area; area with	Unsurveyed		(Unsurveyed (see Note) (see Note) (see Note)		Incompletely surveyed area
23	(Inadequately surveyed) Unsurveyed	inadequate depth information	13 11 12 13 10 17 13 rky 22 20		Unsurveyed (see Note) (see Note)		Unsurveyed area

ECDIS Portrayal of Depths



ECDIS depth related symbols closely resemble their paper chart counterparts; however, ECDIS provides valuable additional information to mariners that paper charts cannot.

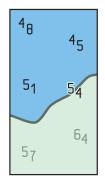
Soundings

ECDIS enables mariners to set their own-ship "safety depth." If no depth is set, ECDIS sets the value to 30m. Soundings equal to or shoaler than the safety depth are shown in black; deeper soundings are displayed in a less conspicuous gray. Fractional values are shown with subscript numbers of the same size.

Depth Contours & Depth Areas

Depth contours in ECDIS are portrayed with a thin gray line. Each pair of adjacent depth contours is used to create depth area features. These are used by ECDIS to tint different depth levels and to initiate alarms when a ship is headed into unsafe water.

Depth Contour Labels



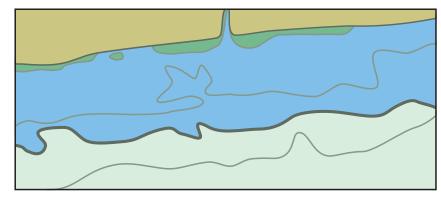
ECDIS depth contour labels are not centered and oriented along isolines as they appear on paper charts. They are displayed upright and may appear either on or next to the contour lines that they describe. The labels are black and the same size as soundings, but the labels have a light "halo" to set them apart. The graphic to the left shows depth labels and soundings both deeper and shoaler than the safety depth. Note that depths on NOAA paper charts and ENCs are usually compiled in fathoms and feet. Because ECDIS displays depths in meters, soundings and contour lines often show fractional meter values. The "own-ship safety contour" (described below) is always displayed, but mariners may choose to have all other depth contours turned off.

Safety Contour

ECDIS uses a "safety contour" value to show an extra thick line for the depth contour that separates "safe water" from shoaler areas. If the mariner does not set an own-ship safety contour value, ECDIS sets the value to 30m. If the ENC being displayed does not have a contour line equal to the safety contour depth value set by the mariner, then ECDIS sets the next deeper contour as the safety contour. Depending on the contour intervals used on individual ENCs, ECDIS may set different safety contours as a ship transits from one ENC to another. ECDIS will initiate an alarm if the ship's future track will cross the safety contour within a specified time set by the mariner.

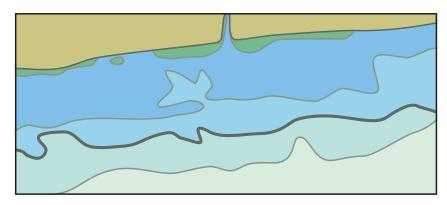
Two or Four Tints for Shading Depth Areas

ECDIS tints all depth areas beyond the (green tinted) foreshore in either one of two or one of four shades of blue. This is similar to the convention used for paper charts, but the depths used to change from one tint to another are based on the safety contour and thus "customized" for each ship. If the mariner chooses two shades to be displayed, water deeper than the safety contour is shown in an off-white color, water shoaler than the safety contour is tinted blue.

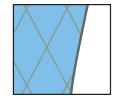


Portrayal of Depth Areas with 2 Color Settings

Some ECDIS enable mariners to define two additional depth areas for mediumdeep water and medium-shallow water by setting a "deep contour" value and a "shallow contour" value. If this option is used, the safety contour is displayed between the medium deep and medium shallow contours.



Portrayal of Depth Areas with 4 Color Setting



Some ECDIS also provide the mariner with the option of displaying a cross-hatch "shallow water" pattern over all depth areas shoaler than the safety contour.

Depths

No.	INT	Description	NOAA NGA	Other NGA	EC	DIS
Depth	o Contours					
30	$\begin{array}{c c} & 2 \\ & 0 \\ & 2 \\ & 3 \\ & 5 \\ & & 3 \\ & & 5 \\ & & & 3 \\ & & & 5 \\ & & & & 5 \\ & & & & 5 \\ & & & &$	Drying contour Low water line Blue tint, in one or more shades, or tint ribbons are shown to different limits according to the scale and purpose of the chart and the nature of the bathym- etry. On some charts, contours and values are printed in blue.	1 2 3 4 5 6 10 10 20		deep depth	Four Shades foreshore shallow water contour gent deep water contour deep water contour deep water contour deep depth deep depth deep water contour deep depth
31	7000 8000 9000 10000	Approximate depth contours				Approximate depth contour Approximate safety depth contour
Suppl	ementary National Symbols					
a		Swept channel	<u>6</u>	-		
b		Swept area, not adequately sounded (shown by purple or green tint)	15 102 10 119			
с		Stream	2tt 5			

Nature of the Seabed $\ J$

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Турез	of Seabed					Supplementary national abbreviations: a-ag	
Rocks	\rightarrow K						
1	S	Sand				S	Sand
2	М	Mud				М	Mud
3	Су	Clay				Су	Clay
4	Si	Silt				Si	Silt
5	St	Stones				St	Stones
6	G	Gravel				G	Gravel
7	Р	Pebbles				Р	Pebbles
8	Cb	Cobbles				Cb	Cobbles
9.1	R	Rock; Rocky	Rk;	rky		R	Rock
9.2	Во	Boulder(s)	Bl	ds		R	Boulder
						R	Lava
10	Со	Coral, Coralline algae				Со	Coral
11	Sh	Shells (skeletal remains)				Sh	Shells
12.1	S/M	Two layers, e.g. sand over mud					
12.2	fS M Sh fS.M.Sh	The main constituent is given first for mixtures, e.g. fine sand with mud and shells	f S M Sh				
13.1	Wd	Weed (including kelp)				~~~	Weed, kelp
13.2	~~~~~	Kelp, Weed		- 		~~~)	Weed, kelp as an area
13.3	Sg	Seagrass				`~'	, ,

J Nature of the Seabed

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
						~~~~	Sand waves as a point
14	m	Sandwaves	MA Sandwaves		лллл	- MA	Sand waves as a line
						Ann A	Sand waves as an area
15	T	Spring in seabed	T s	pring		T	Spring
Турез	s of Seabed, Intertidal Areas		1				1
20	G St e 0	Area with stones and gravel	Grave	1		gravel stone	Areas of gravel and stone
21	12 S * (42)	Rocky area, which covers and uncovers	E E E K K K K K K K K K K K K K K K K K	Rock	80		Rocky ledges or coral
22	S = S = S = S = S = S = S = S = S = S =	Coral reef, which covers and uncovers	Eze Coral	and the second second			reef
Quali	fying Terms					Supplementary national	l symbols: ah–bf
30	f	Fine only used in					
31	т	Medium > relation to					
32	с	Coarse sand					
33	bk	Broken					
34	sy	Sticky					
35	so	Soft					
36	sf	Stiff					
37	V	Volcanic	V	ol			
38	са	Calcareous	с	a			Rocky ledges or coral reef
39	h	Hard					

## Nature of the Seabed $\ J$

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
Suppl	ementary National Abbreviation	S				
а		Ground	Gr	d		
b		Ooze	02	Z		
С		Marl	M	I		
d		Shingle	Si	ז		
f		Chalk	Ci	k		
g		Quartz	Q	z		
h		Schist	Sc	h		
i		Coral head	Co	Hd		
j		Madrepores	Мс	ls		
k		Volcanic ash	Vol A	Ash		
I		Lava	La	3		
m		Pumice	Pr	n		
n		Tufa	Т			
0		Scoriae	S	0		
р		Cinders	Ci	n		
q		Manganese	M	n		
r		Oysters	Oy	′S		
S		Mussels	M	s		
t		Sponge	Sp	g		
u		Kelp	ĸ			
v		Grass	Gr	s		
w		Sea-tangle	St	g		
х		Spicules	Sr	<i>bi</i>		
у		Foraminifera	Fi	r		
z		Globigerina	G	Ι		
aa		Diatoms	D	i		
ab		Radiolaria	R	d		
ac		Pteropods	P	t		
ad		Polyzoa	Ро			
ae		Cirripedia	Ci	r		
af		Fucus	Fu	I		

### J Nature of the Seabed

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
ag		Mattes	Ма			
ah		Small	sn	nl		
ai		Large	Ire	g		
aj		Rotten	n	t		
ak		Streaky	st	r		
al		Speckled	sp	k		
am		Gritty	gt	У		
an		Decayed	de	C		
ao		Flinty	fly	/		
ар		Glacial	gla	ac		
aq		Tenacious	te	n		
ar		White	W	h		
as		Black	bl;	bk		
at		Violet	v	i		
au		Blue	bi	и		
av		Green	gi	า		
aw		Yellow	У	I		
ax		Orange	0	r		
ay		Red	rc	1		
az		Brown	b	r		
ba		Chocolate	cl	h		
bb		Gray	gy			
bc		Light	lt			
bd		Dark	dk			
be		Varied	vard			
bf		Uneven	un	ev		

# Rocks, Wrecks, Obstructions and Aquaculture $\,\,\, K$

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Gene	eral						
						۲	Obstruction, depth not stated
		Danger line: A danger line draws				•	Obstruction which covers and uncovers
1		attention to a danger which would not stand out clearly enough if represented solely by				5	Underwater hazard with depth of 20 meters or less
		its symbol (e.g. isolated rock) or delimits an area containing numerous dangers, through which it is unsafe to navigate				$\mathbf{O}$	Isolated danger of depth less than the safety contour
		which it is unsale to havigate					Foul area, not safe for navigation
2	<u>_7</u> 5_,	Depth swept by wire drag or confirmed by diver (This symbol may be combined	<u>,21</u> ,Rk <u>,35</u> ,F		_ <u>.</u> #_ (15 ₇ )	_4_	Swept sounding, less than or equal to safety depth
		with other symbols, e.g. wrecks, obstructions, wells.)	⁴ 6) Wk	(1937)		.21.	Swept sounding, greater than safety depth
3	20	Safe clearance depth. The exact depth is unknown, but is estimated to have a safe clearance at the depth shown	46 Wk 35 F	Rk 46 Obstri		ECDIS displays safe clea manner as known depths	rance depths in the same
Rock	S						
Plane	of Reference for Heights $\rightarrow$ H	Plane of Reference for Dep	oths $\rightarrow$ H				
	(3,1) (3,1)	Rock (islet) which does not		•	•	•	Land as a point at small scale
10	Height datum Chart datum	cover, height above height datum	(25)	O ₍₂₁₎	<b>A</b> (4 m)	<b>O</b> 8 m	Land as an area, with an elevation or control point
						×	Rock which covers and uncovers or is awash at low water
11	$\begin{array}{c} 3 \\ 3 \\ 3 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\$	Rock which covers and uncovers, height above chart datum	* (2) \$(2)	* ^(Q₆) Uncov 1m (Q ₆ ) Uncov 1m	۰ ا	4	Underwater hazard which covers and uncovers with drying height
	Chart datum					$\mathbf{S}$	Isolated danger of depth less than the safety contour

## K Rocks, Wrecks Obstructions and Aquaculture

No.	INT	Description	NOAA	NGA	Other NGA		ECDIS
	* *					*	Rock which covers and uncovers or is awash at low water
12		Rock awash at the level of chart datum			(#)		Underwater hazard which covers and uncovers
	Height datum Chart datum 5m					8	Isolated danger of depth less than the safety contour
10	+ + + + + + + + + + + + + + + + + + +	Underwater rock of unknown				•	Dangerous underwater rock of uncertain depth
13	Height datum Chart datum 5m	depth, dangerous to surface navigation					Isolated danger of depth less than the safety contour
14	$\begin{array}{c} 2_{5} + (4_{8}) \\ R \\ , 5 \end{array} \xrightarrow{(12_{1}R)} (12_{1}R) \\ + (12_{1}) \end{array}$	Underwater rock of known depth					
14.1	Height datum Chart datum 5m -10m 20m	inside the corresponding depth area	12 <i>Rk</i>	27 Rk 21		5	Underwater hazard with a depth of 20 meters or less
				R		25	Underwater hazard with depth greater than 20 meters
14.2	$\begin{array}{c c} & & & \\ \hline \end{array} \begin{array}{c} & & \\ \hline \\ \hline$	outside the corresponding depth area, dangerous to surface	5 Rk	(4 ₂ ) Rk			
17.2	Chart datum 55m 10m 20m	navigation	<u>, , , , , , , , , , , , , , , , , , , </u>	Б _R			Isolated danger of depth less than the safety contour
15	35 R	Underwater rock of known	0.5	Pla	35+(35)	10	Underwater hazard with a depth of 20 meters or less
15	R	depth, not dangerous to surface navigation	35	35Rk	35 +(35) R.	25	Underwater hazard with depth greater than 20 meters

# Rocks, Wrecks, Obstructions and Aquaculture $\,\,\, K$

No.	IN [.]	т	Description	NOAA	NGA	Other NGA	EC	DIS
							+	Dangerous underwater rock of uncertain depth Obstruction, depth not
							₿	stated Isolated danger of depth less than the safety contour
16	+ + + + + + + + + + + + + + + + + + +	+ + + Co +	Coral Reef which is always covered	+Co + 31 + +	line + + +		× × × × ×	Safe clearance shoaler than safety contour
							128	Safe clearance deeper than safety contour
							256	Safe clearance deeper than 20 meters
				N. R.			M	
17	৬৬৮	(5 ₈ ) Br 18	Breakers	eakers	Br	West Breaker PA		Overfalls, tide rips; eddies; breakwaters as point, line, and area
Wrec	ks and Fouls							
Plane	of Reference for De	pths $\rightarrow$ H						
20		Mast (1.2) Wk	Wreck, hull never covers, on large scale charts, height above height datum		≫ Hk	Hk	<b>0</b> 1.2 m	Wreck, always dry, with height shown
21		🦸 Mast ( <u>1</u> 2)	Wreck, covers and uncovers, on large scale charts, height above		D- 111	Wk Wk	12	Wreck, covers and uncovers
21		Wk	chart datum		≫ Hk	Wk		Distributed remains of wreck

## K Rocks, Wrecks Obstructions and Aquaculture

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
						52	Submerged wreck with depth of 20 meters or less
22	52 WK 65 WK	Submerged wreck, depth known, on large scale charts			<wk< td=""><td>25</td><td>Submerged wreck with depth greater than 20 meters</td></wk<>	25	Submerged wreck with depth greater than 20 meters
						X X X X	Distributed remains of wreck
23	/wk	Submerged wreck, depth unknown, on large scale charts		5> Hk	C> Wk C> Wk	(8)	Submerged wreck with depth less than the safety contour or depth unknown
24	*	Wreck showing any portion of hull or superstructure at level of chart datum			Wk Wk Wk ttt Wk	*	Wreck showing any portion of hull or superstructure at level of chart datum
25	I Masts	Wreck of which the mast(s) only are visible at chart datum	🌐 Masts	Mast (10ft) • Funnel			
						5	Underwater hazard with depth of 20 meters or less
26	<b>%</b> Wk 23 Wk	Wreck, least depth known by sounding only			etter (11)	25	Underwater hazard with depth greater than 20 meters
						$\mathbf{c}$	Isolated danger of depth less than the safety contour
						46	Swept sounding for underwater hazard less than safety depth
27	<u>M</u> wk 22 wk	Wreck, depth swept by wire drag or confirmed by diver	<u>25</u> ,Wk			25	Swept sounding for underwater hazard greater than or equal to safety depth
						$\odot$	Isolated danger of depth less than the safety contour

# Rocks, Wrecks, Obstructions and Aquaculture $\,\,$ K

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
		Descence words don't				<b>#</b>	Dangerous wreck, depth unknown
28	*	Dangerous wreck, depth unknown					Isolated danger of depth less than the safety contour
29	+++	Sunken wreck, not dangerous to surface navigation				+++	Non-dangerous wreck, depth unknown
						5	Underwater hazard with safe clearance of 20 meters or less
30	( <u>25</u> )Wk	Wreck over which the exact depth is unknown, but which is estimated to have a safe clearance at the depth shown.			<u>(</u> <b>4</b> ) <i>Wk</i>	25	Underwater hazard with safe clearance greater than 20 meters
						$\bigotimes$	Isolated danger of depth less than the safety contour
31.1	#					#	Foul area of seabed safe for navigation but not for anchoring
31.2	## ↓	Foul ground, not dangerous to surface navigation, but to be avoided by vessels anchoring, trawling, etc. (e.g. remains of wreck, cleared platform)					Foul ground
01.2						X X X X X X X X	Distributed remains of wreck
Obstr	uctions and Aquaculture						
Plane	of Reference for Depths $\rightarrow$ H	Kelp, Seaweed $\rightarrow$ J	Underwater Installa	ations $\rightarrow$ L			
						۲	Obstruction, depth not stated
40	Obstn Obstn	Obstruction, depth unknown				8	Isolated danger of depth less than the safety contour
						× × × × × ×	Safe clearance shoaler than safety contour

# K Rocks, Wrecks Obstructions and Aquaculture

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
						5	Underwater hazard with depth of 20 meters or less
41	6 Obstn $6_{ ilde{ heta}}$ Obstn	Obstruction, least depth known by sounding only				25	Underwater hazard with depth greater than 20 meters
						⊗	Isolated danger of depth less than the safety contour
						(4) Jewept	Less than or equal to safety depth
						21: J ^{depth}	Greater than safety depth
		Obstruction don'th support by using				Method of de obtained by o	pth measurement is cursor pick
42	🚯 Obstn 🛛 🔞 Obstn	Obstruction, depth swept by wire drag or confirmed by diver				5 known by diver	Underwater hazard with depth of 20 meters or less
						25 & or means	Underwater hazard with depth greater than 20 meters
						8	Isolated danger of depth less than the safety contour
43.1	τ ⁻ ττ ⊖Obstn	Stumps of posts or piles, wholly submerged	o ^O Subm piles	Piles	$\bigcirc r$	•	Obstruction, depth not stated
			<ul> <li>Subm piles</li> </ul>	○ Well		5	Underwater hazard with depth of 20 meters or less
43.2	ĩ	Submerged pile, stake, snag, or stump (with exact position)	<ul><li>Stakes</li><li>Snags</li></ul>	<ul><li>Deadhead</li><li>Stump</li></ul>	<u>۳</u> ۳	⊗	Isolated danger of depth less than the safety contour
							Fish stakes as a point
44.1	ىتىتىتىرىن <i>ئىتىتىتىت</i>	Fishing stakes		^{⊥⊥⊥} Fsh stks			Fish stakes as an area
44.2		Fish trap, Fish weir, Tunny nets	Fish trap				Fish trap, fish weir, tunny net as a point

# Rocks, Wrecks, Obstructions and Aquaculture $\,\,\, K$

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
45	Fish traps   Tunny nets	Fish trap area, Tunny nets area					Fish trap, fish weir, tunny net as an area
46.1		Fish haven	Obstn Fish Haven	(actual		8	Isolated danger of depth less than the safety contour
						× × × × × ×	Safe clearance shoaler than safety contour
						5	Underwater hazard with depth of 20 meters or less
						25	Underwater hazard with depth greater than 20 meters
			Obstri			⊗	Isolated danger of depth less than the safety contour
46.2	24 (24)	Fish haven with minimum depth	Fish Haven (auth min 42ft)			× × × × × ×	Safe clearance shoaler than safety contour
						128	Safe clearance deeper than safety contour
						256	Safe clearance deeper than 20 meters
47	гб- с г С   Б	Shellfish beds				XC	Marine farm as a point
	 						Manne Iann as a point
48.1		Marine farm (on large scale charts), area of marine farms		I I I Marine Farm I I I I			
48.2	EQ ea	Marine farm (on small scale charts)		Obstn (Marine Farm)			Marine farm as an area
Supp	lementary National Symbols						
а		Rock which covers and uncovers, (height unknown)	* 🔅				

## K Rocks, Wrecks Obstructions and Aquaculture

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
b		Shoal sounding on isolated rock or rocks	5 Rk 21 Rks		<ul> <li>●_R ②_r</li> <li>(²_P) ⊕₍₈₎</li> </ul>	
с		Sunken wreck covered 20 to 30 meters	+ +		*	
d		Submarine volcano	( ) si	ıb vol		
е		Discolored water	( ) Di	iscol water		
f		Sunken danger, least depth cleared by wire drag	<u>_21</u> . <i>Rk</i> (4 ₆ )	35_Rk (4_6) Obstn		
g		Reef of unknown extent	R	eef		
h		Coral reef, detached (uncovers at sounding datum)	⊛∞ 💭			
i		Submerged crib	Subm Crib	[]] Crib		
j		Crib, duck blind (above water)	Duck Blir	nd 🔲 Crib		
k		Submerged duck blind	[]] Du	ick Blind		
I		Submerged platform	Subm platform	[]] Platform		
m		Coral reef which covers and uncovers		Hay Reef + conference + confere		
n		Sinkers		51,146 15-		
0		Foul area, foul with rocks or wreckage, dangerous to navigation	Foul) Wikš Wreckage			
р		Unexploded ordnance	Unexploded Ordnance	Unexploded Ordnance		
q		Float	🗌 Float			
r		Stumps of posts or piles, which cover and uncover	o ⁰ Subm piles			

### Offshore Installations L

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS			
Gene	General									
Areas	Areas, Limits $\rightarrow$ N									
1	Ekofisk Oilfield	Name of oilfield or gasfield		Well 348 CORRIB Well 446 GAS FIELD / 1 Well 334 334 Well			Area to be navigated with caution, name is obtained by cursor pick			
2	▪ Z-44	Platform with designation/name		• "Name"			Offshore platform, name is obtained by cursor pick			
3		Limit of safety zone around offshore installation					Area where entry is prohibited or restricted or to be avoided, with other cautions			
4		Limit of development area					Cautionary area, navigate with caution			
5.1	ei 1 i	Wind turbine, floating wind turbine, vertical clearance under blade			FI.Y	۲	Wind motor visually conspicuous			
5.2		Offshore wind farm				ATTA	Wind farm (offshore)			
0.2		Offshore wind farm (floating)				K A P				
6		Wave farm, Renewable energy device					Wave farm			
Platfo	Platforms and Moorings									
Moori	ng Buoys $\rightarrow$ Q									
10		Production platform, Platform, Oil derrick	-	۰			Offshore platform			
11	∎ Fla	Flare stack (at sea)		o	1	L	Conspicuous flare stack on offshore platform			

#### Offshore Installations

L

No.	INT	Description	NOAA	NGA	Other NGA	E	CDIS		
12	I SPM	Single Point Mooring (SPM), including Single Anchor Leg Mooring (SALM), Articulated Loading Column (ALC)		"Name"			Offshore platform, name and status of disused is		
14	● Ru ● Z-44 (ru)	Disused platform with superstructure removed			• (disused)		obtained by cursor pick		
16		Single Buoy Mooring (SBM), Oil or gas installation buoy including Catenary Anchor Leg Mooring (CALM)				<b>ب</b>	Installation buoy and mooring buoy, simplified Installation buoy, paper chart		
17		Moored storage tanker, Accommodation vessel		🚓 Tanker			Offshore platform		
18	<del>*</del> }	Mooring ground tackle				t	Ground tackle		
Unde	Underwater Installations Supplementary national symbol: a								
Plane	of Reference for Depths $\rightarrow$ H	$Obstructions \to K$							
20	Well	Submerged production well	<ul> <li>Well         (cov 21ft)         Well         Well         (cov 83ft)     </li> </ul>	🔿 Well	5 Prod Well	<b>5</b>	Underwater hazard with depth of 20 meters or less Underwater hazard with depth greater than 20 meters		
			+			$\mathbf{S}$	Isolated danger of depth less than the safety contour		
21.1	() Well	Suspended well, depth over wellhead unknown	<ul><li>Pipe</li></ul>			$\mathbf{c}$	Isolated danger of depth less than the safety contour		
						5	Underwater hazard with depth of 20 meters or less		
21.2	🚯 Well (15) Well	Suspended well, with depth over wellhead	<ul> <li>Pipe (cov 24ft)</li> <li>Pipe (cov 92ft)</li> </ul>			25	Underwater hazard with depth greater than 20 meters		
			(9			$\mathbf{O}$	Isolated danger of depth less than the safety contour		

### Offshore Installations L

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS		
22	#	Site of cleared platform				#	Foul area of seabed safe for navigation but not for anchoring		
23	• Pipe $\bigcirc Pipe (\bigcirc) (\underline{1}_{B})$	Above-water wellhead (lit or unlit)	∘ Pipe				Obstruction in the water which is always above water level		
24	Turbine Underwater Turbine	Underwater turbine				Ø	Underwater turbine or		
25	ODAS	Subsurface Ocean(ographic) Data Acquisition System (ODAS)				i	subsurface ODAS		
Subn	Submarine Cables								
30.1		Submarine cable				-~ \$~-	Submarine cable		
30.2	++++	Submarine cable area	†Cable Area			r 4 <del></del>			
31.1		Submarine power cable				<pre>&gt;´∠ &lt;</pre>	Submarine cable area		
31.2	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Submarine power cable area							
32	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Disused submarine cable				-~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Status of disused is obtained by cursor pick		
Subn	narine Pipelines								
40.1		Supply pipeline: unspecified, oil, gas, chemicals, water				-	Oil, gas pipeline, submerged or on land		
40.2	$ \overrightarrow{} \overrightarrow{}} \overrightarrow{} $	Supply pipeline area: unspecified, oil, gas, chemicals, water	† — <u>Pipeline Area</u> —				Submarine pipeline area with potentially dangerous contents		

#### Offshore Installations

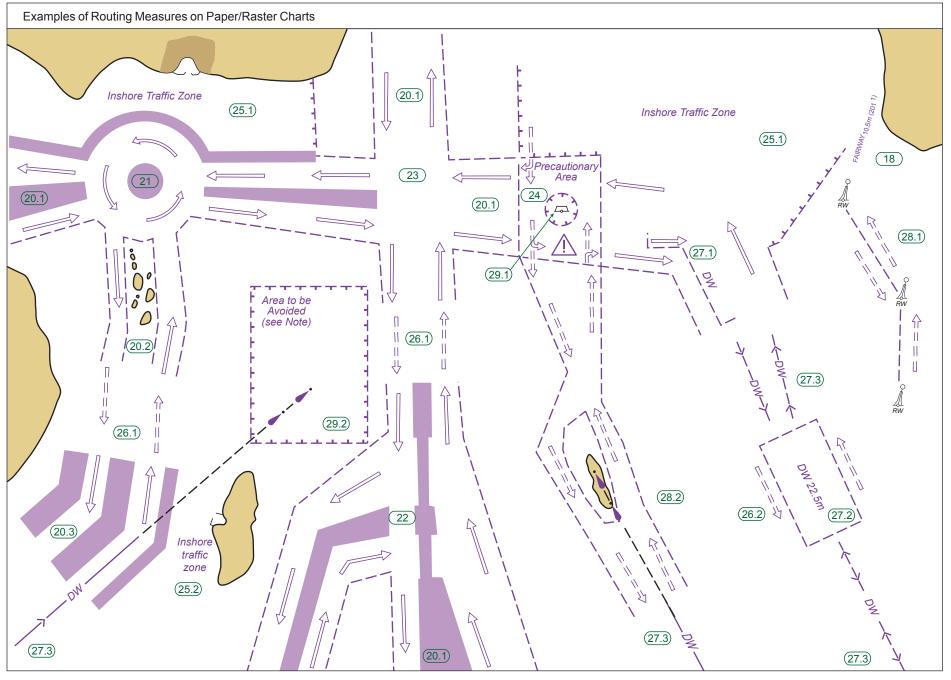
L

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS		
41.1	→ → → → → → → → → → → → → → → → → → →	Outfall and intake: unspecified, water, sewer, outfall, intake				<u> </u>	Water pipeline, sewer, etc.		
41.2	$ \rightarrow \rightarrow$	Outfall and intake area: unspecified, water, sewer, outfall, intake	Pipeline Area				Submarine pipeline area with generally non-dangerous contents		
42.1	Buried 1.6m → → → → → → → → → → → →	Buried pipeline/pipe (with nominal depth to which buried)				-∽∽ *₹	Nominal depth of buried pipeline is obtained by cursor pick		
42.2	$\rightarrow \rightarrow \rightarrow \rightarrow$ ) ( $\rightarrow \rightarrow \rightarrow$	Pipeline tunnel					Pipeline tunnel		
43	$\rightarrow$ $\rightarrow$ $\rightarrow$ $\rightarrow$ $\rightarrow$ $\rightarrow$ $\rightarrow$ $\rightarrow$ $\rightarrow$ $\xrightarrow{3_2}$ Obstri	Diffuser, Crib					Underwater hazard with depth of 20 meters or less Isolated danger of depth less than the safety contour		
44		Disused pipeline/pipe				*	Status of disused is obtained by cursor pick		
Supp	Supplementary National Symbols								
а		Submerged well (buoyed)	😵 Well 🖇 Well	A Well					
b		Potable water intake	$\begin{array}{ccc} & PWI \\ \hline \hline \\ Depth over \\ Crib 17 ft \end{array}$	$\begin{array}{c} \hline \\ \hline \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ $					

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS			
Track	Tracks Supplementary nation								
Tracks	s Marked by Lights $\rightarrow$ P	Leading Beacons $\rightarrow$ Q							
1	↓270.5° ↓2 Bns ≠ 270.5°	Leading line (solid line is the track to be followed, <i>‡</i> means "in line")		Lights in line 090°		Leading line bearing a non-regulated, recommended track $- \langle ? \rangle \langle Direction not encoded$ $ \frac{270 \text{ deg}}{\sqrt{270 \text{ deg}}} \text{ One-way}$ $- \frac{270 \text{ deg}}{\sqrt{270 \text{ deg}}} \text{ Two-way}$			
2	↓ 270.5° Island open of ⊕ Headland 270.5°	Transit (other than leading line), clearing line		_Beacons in line 090°	Bns in line 270.5°	270 deg Clearing line; transit line			
3	090.5°-270.5°	Recommended track based on a system of fixed marks		Lights in line 090°	> >>	Non-regulated, recommended track based on fixed marks $- \langle \stackrel{?}{,} \rangle \langle \rangle$ Direction not encoded $\rightarrow \qquad \qquad$			
4		Recommended track not based on a system of fixed marks	<>			Non-regulated, recommended track not based on fixed marks $- \langle ? \rangle \langle Direction not encoded$ $- \rangle - \frac{90 \text{ deg}}{-} \rangle \text{ One-way}$ $- \langle - \rangle - \frac{270 \text{ deg}}{-} \langle - \text{ Two-way}$			
5.1		One-way track and DW track based on a system of fixed marks	>>			Based on fixed marks, one-way → → → → Non-regulated recommended track → □ ₩ → Deep water route			
5.2	270°	One-way track and DW track not based on a system of fixed marks				Not based on fixed marks, one-way $\longrightarrow 90 \text{ deg}$ Non-regulated $\longrightarrow>$ Recommended track $\longrightarrow>$ Deep water route         centerline       Deep water route			
6	<7.3m>	Recommended track with maximum authorized (or recommended) draft stated		$ \begin{array}{c} \hline \qquad < 7 m > \\ \hline \qquad < 7_3 m > \end{array} $		If encoded, the shoalest depth range value along the track is obtained by cursor pick			

## M Tracks, Routes

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS			
Rout	Routing Measures Supplementary national symbols: d-e									
Basic	Symbols									
10		Established (mandatory) direction of traffic flow					Traffic direction in a one-way lane of a traffic separation scheme			
11	====	Recommended direction of traffic flow					Single traffic direction in a two-way route part of a traffic-separation scheme			
12		Separation line (large scale, small scale)					Traffic separation line			
13		Separation zone					Traffic separation zone			
14	++++++++++++++++++++++++++++++++++++++	Limit of restricted routing measure (e.g. Inshore Traffic Zone (ITZ), Area to be Avoided (ATBA))	RESTRIC							
15	   	Limit of routing measure					Traffic separation scheme boundary			
						$\triangle$	Traffic precautionary area as a point			
16	Precautionary Area	Precautionary area					Traffic precautionary area as an area			
17	ASL (See Note)	Archipelagic Sea Lane (ASL); axis line and limit beyond which vessels shall not navigate					Axis and boundary of archipelagic sea lane			
18	FAIRWAY 7.3m FAIRWAY <7.3m>	Fairway designated by regulatory authority: with minimum depth with maximum authorized draft (may be highlighted by gray tint)	SAFETY FAIRWAY	66.200 (see note A)			Fairway, depth is ob- tained by cursor pick			



# M Tracks, Routes

No.						
Exa	Examples of Routing Measures					
18	Safety fairway					
(20.1)	Traffic Separation Scheme (TSS), traffic separated by separation zone					
(20.2)	Traffic Separation Scheme, traffic separated by natural obstructions					
(20.3)	Traffic Separation Scheme, with outer separation zone separating traffic using scheme from traffic not using it					
21	Traffic Separation Scheme, roundabout with separation zone					
22	Traffic Separation Scheme, with "crossing gates"					
23	Traffic Separation Scheme crossing, without designated precautionary area					
24	Precautionary area					
(25.1)	Inshore Traffic Zone (ITZ), with defined end limits					
(25.2)	Inshore Traffic Zone, without defined end limits					
(26.1)	Recommended direction of traffic flow, between traffic separation schemes					
(26.2)	Recommended direction of traffic flow, for ships not needing a deep water route					
(27.1)	Deep water route (DW), as part of one-way traffic lane					
(27.2)	Two-way deep water route, with minimum depth stated					
(27.3)	Deep water route, centerline as recommended one-way or two-way track					
(28.1)	Recommended route, one-way and two-way (often marked by centerline buoys)					
(28.2)	Two-way route, with one-way sections					
(29.1)	Area to be Avoided (ATBA), around navigational aid					
(29.2)	Area to be Avoided, e.g. because of danger of stranding					



# M Tracks, Routes

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Rada	r Surveillance Systems				-		
30	o Radar Surveillance Station	Radar surveillance station	O Ra			۲	Radar station
31	Ra Cuxhaven	Radar range					Radar range
32.1	Ra	Radar reference line			—Ra ——Ra —	270 deg	Radar line
						Non-regulated re based on f	commended track ixed marks
32.2	Ra 090°–270°	Radar reference line coinciding				- <	Direction not encoded
32.2	100 L10	with a leading line				$\rightarrow$ 90 deg $\rightarrow$	One-way
						$\longleftrightarrow \overset{\text{270 deg}}{\longleftrightarrow} \longleftrightarrow$	Two-way
Radio	o Reporting Points						
						Nr 13 ch 74	Radio calling-in point for traffic in one direction only
40.1	D B	Radio reporting (calling-in or way) points showing direction(s) of vessel movement with designation (if any) and VHF- channel				Nr 13 ch 74	Radio calling-in point for traffic in both directions
						? $\bigcirc$ ? Nr 13 ch 74	Radio calling-in point, direction not encoded
							Radio calling-in point for traffic in one direction only
40.2	\$	Radio reporting line					Radio calling-in point for traffic in both directions
						$? \bigcirc ? \stackrel{\text{Nr 13}}{\frown} ? \stackrel{\text{rd}}{\frown} ? \stackrel{\text{rd}}{\frown} ?$	Radio calling-in point, direction not encoded

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS				
Ferri	Ferries									
50		Ferry	Ferry	Ferry		— 🚞 — — — 🖂 Ferry route				
51	Cable Ferry	Cable Ferry	Cable Ferry — — — — — —	-		Cable ferry route				
Supp	elementary National Symbols									
а		Recommended track for deep draft vessels (track not defined by fixed marks)	> DW>							
b		Depth is shown where it has been obtained by the cognizant authority	-<> DW 83ft<	> DW 76ft						
с		Alternate course								

# N Areas, Limits

No.	INT	Description	NOAA NGA	Other NGA	ECDIS					
Gene	General *									
Dredg	Dredged and Swept Areas $\rightarrow$ I Submarine Cables, Submarine Pipelines $\rightarrow$ L Tracks, Routes $\rightarrow$ M									
On mu	lti-colored charts, symbols in Section N n	nay be in green when associated with	environmental areas.							
1.1	Tint band may vary in width between 1–5 mm	Maritime limit in general usually implying permanent physical obstructions (tint band for emphasis)			Caution area, a specific caution note applies					
1.2		usually implying no permanent physical obstructions (tint band for emphasis)								
2.1		Limit of restricted area (tint band for emphasis)	+ + + + + + + + + + + + + + + + + + +		Area where entry is prohibited or restricted or to be avoided					
2.2		Limit of area into which entry is prohibited			Area where entry is prohibited or restricted or to be avoided, with other cautions					
	F Entry Prohibited		⊢ PROHIBITED AREA ŀ		Area where entry is prohibited or restricted or to be avoided, with other information					
Anch	orages, Anchorage Areas									
10	Ŷ	Reported anchorage (no defined limits)		t t	Anchorage area as a point at small scale, or anchor points of moor-ing trot at large scale					
11.1	$\begin{array}{c} \mathbf{P} \\ $	Anchor berths	(14)	6 No 1	Nr 6 Anchor berth					
11.2	$ \begin{array}{c c} & & & & & & & & \\ \hline & & & & & \\ \hline & & & &$	Anchor berths with swinging circle	O D-17 D17		Radius of swing circle is obtained by cursor pick					

* ECDIS represents many types of area limits with just a few different symbols. Information about the type of area and its associated restrictions or prohibitions may be obtained by cursor pick.

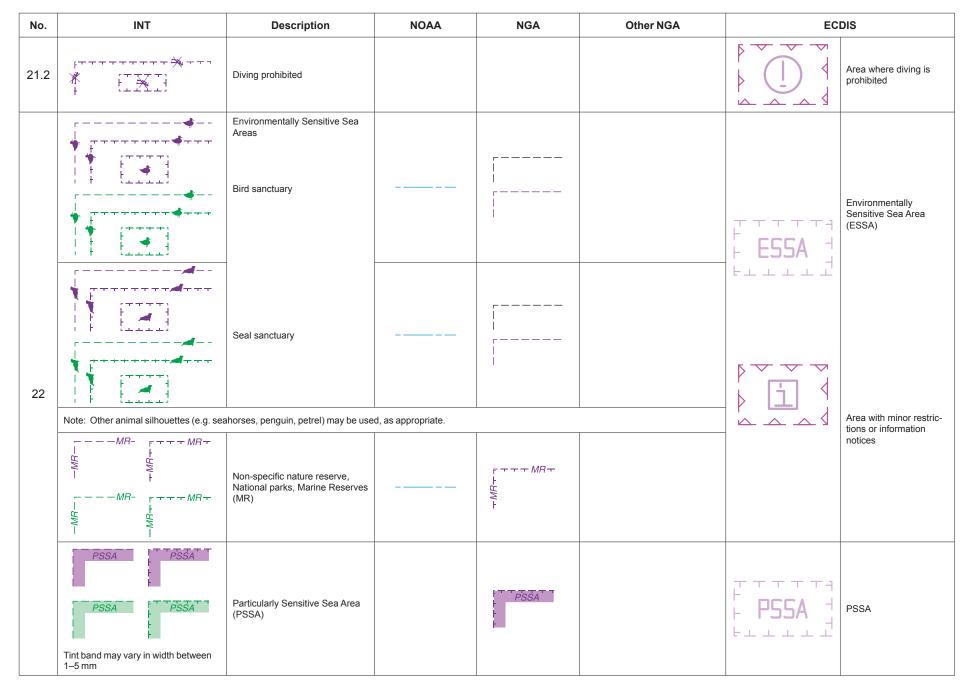
### Areas, Limits N

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
12.1		Anchorage area in general		Anchorage			
12.2	Γ − − − − − − − + ± − − − − ↔ No 1 ± ↓	Numbered anchorage area	ANCH NO 1 110.000 (see note A)	Anchorage			
12.3	Γ — — — — — — — - ↓ — — — — ⊶} Name ↓ 	Named anchorage area	SOUTH ANCH 110.000 (see note A)				
12.4	Γ−−−−−−,ᢤ−−− , , , , , <i>DW</i> ,‡	Deep water anchorage area, Anchorage area for deep draft vessels		DW   Anchorage		Þ~ Ţ ~∢	
12.5	r — — — — — — – ↓ — — — — — — — — — — — —	Tanker anchorage area					Type of anchorage area is obtained by cursor pick
12.6	Γ — — — — — — — – – – – – – – – – – – –	Anchorage area for periods up to 24 hours					
12.7	r	Dangerous cargo anchorage area	EXPLOSIVES A	ANCHORAGE			
12.8	r ↓ • ↓ 	Quarantine anchorage area	QUAR ANCH QUARANTINE QUARANTINE ANCHORAGE	Quarantine Anchorage			
12.9	┌─────────────────────── ┥┤──────────── │ (see Note)	Reserved anchorage area					
Note: A	nchors as part of the limit symbol are not	shown for small areas. Other types	of anchorage areas may	be shown.			
13		Seaplane operating area	LAN	DLANE   DING   REA   			Seaplane landing area
14	÷	Anchorage for seaplanes					Type of anchorage area is obtained by cursor pick

### N Areas, Limits

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Rest	ricted Areas			· · ·		Supplementary nationa	al symbols: d, e, g
On mu	Ilti-colored charts, the magenta symbols r	nay be in green when associated wi	th environmental areas.				
							Area where anchoring is prohibited or restricted
20	┍╴┯╶┯╶┯┯┯┯┯ ┝ ┍╴┯╼┯┯┯┯ M ^M F K L L	Anchoring prohibited	ANCH PROHIBITED	ANCH PROHIB			Area where anchoring is prohibited or restricted, with other cautions
							Area where anchoring is prohibited or restricted, with other information
							Area where fishing or trawling is prohibited or restricted
21.1		Fishing prohibited	F FISH F FISH PROHIBITED	FISH PROHIB 			Area where fishing or trawling is prohibited or restricted, with other cautions
							Area where fishing or trawling is prohibited or restricted, with other information

### Areas, Limits N



### N Areas, Limits

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
23.1	Explosives Dumping Ground	Explosives dumping ground, individual mine or explosive	EXPLOSIVES			i	Explosives or chemical dumping ground as a point
23.2		Explosives dumping ground (disused), Foul (explosives)	EXPLOSIVES DUMPING AREA DISUSED				Explosives or chemical dumping ground as an
24	Dumping Ground for Chemicals	Dumping ground for chemical waste		Dumping Ground			area
25	+ Degaussing Range	Degaussing range (DG range)	DEGAUSSING   RANGE	+ + + + + + +			Degaussing area
27	5kn	Maximum speed					striction exists, the speed ed by cursor pick
Milita	ry Practice Areas		I				
30		Firing practice area					Restricted area
31	Entry     Prohibited     T	Military restricted area, entry prohibited	PROHIBITED	Prohibited Area			Area where entry is prohibited or restricted or to be avoided, with other cautions
32	Гтт	Mine-laying (and counter- measures) practice area					
33		Submarine transit lane and exercise area					Restricted area
34		Minefield					Minefield
Interr	national Boundaries and Nationa	al Limits				Supplementary nationa	ll symbols: a, f, h
40	CANADA + + + + + + + + + + UNITED STATES	International boundary on land					Jurisdiction boundary

### Areas, Limits N

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
41	+-+ -+ -+ -+ -+ -+ -+ UNITED STATES	International maritime boundary					Jurisdiction boundary
42		Straight territorial sea baseline with base point					Straight territorial sea baseline
43	++	Seaward limit of territorial sea			TERRITORIAL SEA		Territorial sea
44	+	Seaward limit of contiguous zone					Contiguous zone
45	×>	Limits of fishery zones			— «X — + +		Limits of fishery zone
46	Continental Shelf	Limit of continental shelf					Continental shelf area
47	EEZ	Limit of Exclusive Economic Zone (EEZ)					Exclusive economic zone
48		Customs limit			⊖		Custom regulations zone
49	Harbor Limit	Harbor limit		Harbor Limit		$\frown \frown $	Harbor area, symbolized
Vario	us Limits					Supplementary nationa	al symbols: a, b
60.1	(2012) ᡊᠴ᠋ᠯᠬᡴᡗᠯᠴᠯᡗᡝᠴᠮᡅᠬᠯᡟᡊᡰᠺᠯᠺ᠇ᡘᠯᢑᠯᡡ	Limit of fast ice, Ice front (with date)		······	terte		Continuous pattern for an
60.2	(2012) ᠬᠴᠡᡗᠯᠬ᠇ᡗᠯ᠇᠊ᠬᠯᢇᠬᠯᢇᡗᡰ᠇ᠬᠯᡅᡘᡕᠮᡰᠺᡝᢇᡍᢈᠻᡨ	Limit of sea ice (pack ice) seasonal (with date)		······	terte		ice area (glacier, etc.)
62.1	Spoil Ground	Spoil ground	   Spo 				HO information note
62.2		Spoil ground (disused)	   Spoil Area   				THO INICITIALION HOLE
63	Extraction Area	Extraction (dredging) area					Dredging area
64	Cargo Transhipment Area	Cargo transhipment area					HO information note
65	I Incineration Area	Incineration area					

### N Areas, Limits

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
Supp	lementary National Symbols					
а		COLREGS demarcation line				
b		Limit of fishing area (fish trap areas)				
с		Dumping ground	   Dumping   Ground			
d		Dumping area (Dump site)	Disposal Area   Depths from s   of 2010	92   survey   85		
f		Reservation line (Options)		_		
g		Dump site		 Site		
h		Three Nautical Mile Line	THREE NAUTICAL	. MILE LINE		
i		No Discharge Zone				

## Lights P

No.	INT	r	Description	NOAA	NGA	Other NGA	E	CDIS
Light	Structures and M	ajor Floating Li	ghts				L	
Minor L	_ight Floats → Q30, $3$	31						
1.1	☆ ★	Lt LtHo	Position of navigation light (size and style of "star" may vary) light, lighthouse		•	☆ � ● ·		Light, lighthouse, paper chart
1.2		*	Light on standard charts		<b>\</b>			
1.3	×		Significant all-round light, generally for offshore navigation on multicolored charts					
2.1		•	Lighted offshore platform on standard charts	PLATFORM (lighted)				Lighted offshore platform, paper chart
2.2	١		Lighted offshore platform on multicolored charts					
3	ÊY BY	★ BnTr	Lighted beacon tower	o Marker (lighted)	<b>N</b>		A	Lighted beacon tower, paper chart
4	R BRB	☆ Bn	Lighted beacon		•		ſ	Lighted beacon,
5	R	☆ Bn	Articulated light, buoyant beacon, resilient beacon	Art				paper chart
Note: N	/linor lights, fixed and	d floating, usually	conform to IALA Maritime Buoyage	System characteristic	cs.			
7		,t	Navigational lights on landmarks or other structures					
8	Holma Bowl	5500 00 000 000 000 000 000 000 000 000	Important light off chart limits					

No.	Abbre	eviaton	Class of Light	Illustration Period Shown		ECDIS
NO.	INT	NOAA	Class of Light			LODIO
Light	Characters					
Light (	Characters on Ligh	t Buoys $\rightarrow$ Q	1	-		
10.1	F	F	Fixed		F	
	Occulting (total	duration of light lor	nger than total duration of darknes	5)		
	Oc	Oc	Single-occulting		Oc	
10.2	Oc(2) Example	Oc (2)	Group-occulting		Oc (2)	
	Oc(2+3) Example	Oc (2+3)	Composite group-occulting		Oc (2+3)	
	Isophase (dura	tion of light and dar	kness equal)			
10.3	Iso	Iso	Isophase			
	Flashing (total o	duration of light sho	orter than total duration of darkness	5)		
	FI	FI	Single-flashing		FI FI NAAA	When text for lights is displayed, ECDIS uses INT abbreviations.
10.4	Fl(3) Example	FI (3)	Group-flashing		FI (3)	
	FI(2+1) Example	Fl (2+1)	Composite group-flashing		FI (2+1)	
10.5	LFI	LFI	Long-flashing (flash 2s or longer)			
	Quick (repetitio	n rate of 50 to 79 - 1	usually either 50 or 60 - flashes pe	r minute)		
	Q	Q	Continuous quick			
10.6	Q(3) Example	Q (3)	Group quick		Q(3) r ^{vn} ⁿⁿ 177	
	IQ	IQ	Interrupted quick			

# Lights P

No.	Abbre	viaton	Class of Light	Period Shown		ECDIS
NO.	INT	NOAA	Class of Light			ECDIS
	Very quick (repe	etition rate of 80 to 1	159 - usually either 100 or 120 - fla	shes per minute)		
	VQ	VQ	Continuous very quick		VQ	
10.7	VQ(3) Example	VQ (3)	Group very quick	АЛА АЛА АЛА АЛА АЛА I	VQ(3)	
	IVQ	IVQ	Interrupted very quick	······		
	Ultra quick (repe	etition rate of 160 o	r more - usually 240 to 300 - flashe	s per minute)		
10.0	UQ	UQ	Continuous ultra quick			When text for lights is displayed, ECDIS uses INT abbreviations.
10.8	IUQ	IUQ	Interrupted ultra quick			
10.9	Mo(K) Example	Mo (K)	Morse code		Mo (K)	
10.10	FFI	F FI	Fixed and flashing		F Fl	
10.11	AI.WR	AIWR	Alternating	W R W R W R	AI WR	

### P Lights

No.	I	NT	Description	NOAA	NGA	Other NGA		ECDIS
Color	rs of Lights							
11.1		W	White (for lights, only on sector and alternating lights)		Colors of lights she			Default light symbol if no
11.2		R	Red	on standard charts				color is encoded or color is other than red, green, white, yellow, amber, or
11.3		G	Green					orange
11.4		Bu	Blue		on multicolored ch	arts		Red
11.5		Vi	Violet					Green
11.6		Y	Yellow		on multicolored ch			White, yellow, amber or orange
11.7	Y	Or	Orange		at sector lights			Sector lights
11.8	Y	Am	Amber					
Perio	od							
12	2.5s	90s	Period in seconds and tenths of a second					
Eleva	ation							
Plane	of reference for Hei	ghts $\rightarrow$ H	Tidal Levels $\rightarrow$ H					
13	1	12m	Elevation of light given in meters or feet	36ft			v	Vhen text for lights is displayed,
Rang	je						E	ECDIS uses INT abbreviations.
	1	15M	Light with single range					
14	15	/10M	Light with two different ranges	10M only lesser of two ranges is charted		15/10M		
	15	5-7M	Light with three or more ranges	7M only least of three ranges is charted				
Note:	Charted ranges are	nominal ranges give	en in Nautical Miles.		·			
Dispo	osition							
	(1	hor)	Horizontally disposed					
15	(\	vert)	Vertically disposed				Disposition of lig	Disposition of light is obtained by cursor pick
	(Δ)	(সৃ	3 lights disposed in the shape of a triangle					

## Lights P

No.		INT	Description	NOAA	NGA	Other NGA	ECDIS	
Exam	ple of a Full Li	ight Description				L		
		INT Exan	nple	NOAAI	Example	NGA Example	FIR15s21m11M	
		Name ☆ FI(3)WRG.15s	21m15-11M	Name • FI (3) WRG	15s 21ft 11M	Name • FI (3) WRG 15s 21m 15-11M		
	FI(3)       Class of light: group flashing repeating a group of three flashes         WRG       Colors: white, red, green, exhibiting the different colors in defined sections		FI(3)	Class of light: group flashir flashes	ng repeating a group of three	The descriptions of non-sector lights are shown in ECDIS when the display of text is turned on,		
			WRG	Colors: white, red, green, e defined sections	exhibiting the different colors in	as shown above. (The aid to navigation or other structure that is always shown attached to a light flare in ECDIS is not depicted here.)		
16	15s		d: the time taken to exhibit one full sequence of flashes and eclipses: 15 seconds Period: the time taken to exhibit one full sequence of three flashes and eclipses: 15 seconds			Sector lights (as described in the INT, NOAA and NGA examples at left) are depicted graphically in ECDIS, as shown below and in P40.		
	21m Elevation of focal plane above datum: 21 meters		21ft 21m	Elevation of light: 21 feet 21 meters		The description of a sector light or any other type of light may always be obtained by cursor pick.		
	15-11M Nominal range: white 15M, green 11M, red between 15 and 11M			11M 15-11M	Nominal range: shortest range of all the lig white 15M, green 11M, red		€===]	
Light	s Marking Fair	ways						
Leadir	ng Lights and Ligh	nts in Line						
20.1	Name Oc.3s 8m12M * Name Oc.6s 24	4m15M	Leading lights with leading line (solid line is the track to be followed) and arcs of visibility on standard charts Bearing given in degrees and tenths of a degree	-	R ^B		Leading lights with sectors	

### P Lights

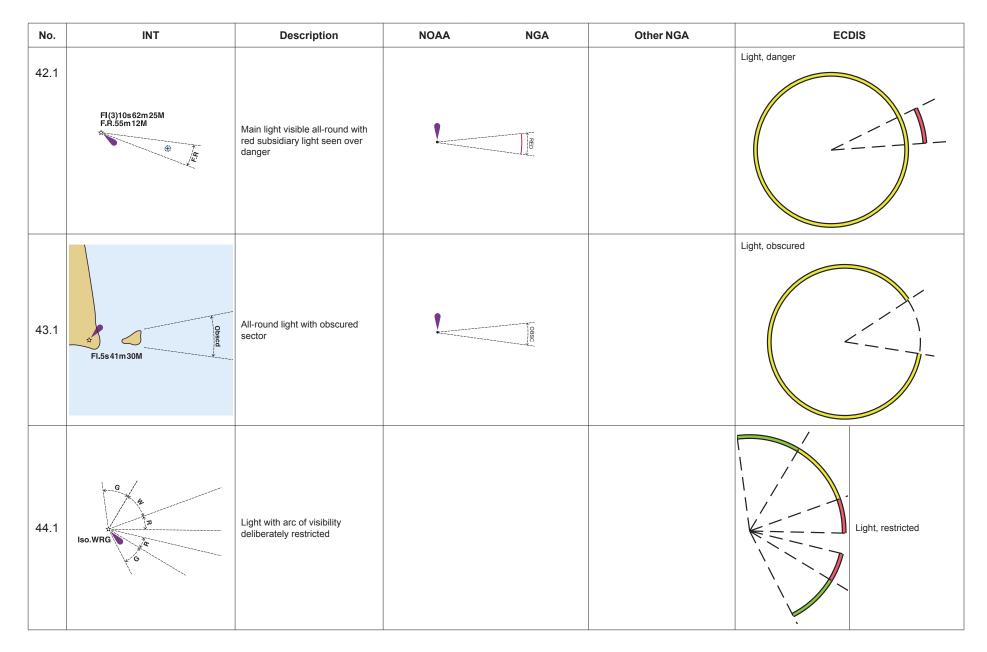
No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
20.2	Name Oc.3s Bm12M * Name Oc.6s 24m 15M	Leading lights with leading line (solid line is the track to be followed) and arcs of visibility on multi-colored charts Bearing given in degrees and tenths of a degree				
20.3	Oc.4s12M Cc.4s12M Oc.8 Oc.R≠ 269.3° Oc.R 4s10M	Leading lights (≠ means lights in line) on standard charts Bearing given in degrees and tenths of a degree				Oc OcR 270 deg Leading lights
20.4	Oc.4s12M ☆ Oc.R Oc.R 4s10M	Leading lights (≠ means lights in line) on multi-colored charts Bearing given in degrees and tenths of a degree				
20.5	Ldg.Oc.W&R ☆	Leading lights on small scale standard charts				
20.6	Ldg.Oc.W&R ☆	Leading lights on small scale multi-colored charts				
21.1	FI.G 270°	Lights in line, marking the sides of a channel on standard charts				FIGFIG270 deg 2FIR270 deg Lights in line, marking the sides of a channel
21.2	FI.G 270 FI.G 270 270 2FI.R	Lights in line, marking the sides of a channel on multi-colored charts				
22	Rear Lt or Upper Lt	Rear or upper light				
23	Front Lt or Lower Lt	Front or lower light				

## Lights P

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Direc	ction Lights						
		Direction light with narrow				Directional light with secto	r
30.1	FI(2)5s10m11M ☆ ★	sector and course to be fol- lowed, flanked by darkness or unintensified light				<	<
						Directional light without se	ector
30.2	Oc.12s6M * Dir 255.5° * FI(2)5s11M	Direction light on standard charts with course to be followed, sector(s) uncharted				FI(2)5s11M	0c12s6M
30.3	Dir WRG. 15-5M ALWR ALWR	Direction light with narrow fairway sector flanked by light sectors of different character on standard charts					Light, directional
30.4	Dir WRG. 15-5M Co.W.4s Al.WR C.W.4s	Direction light with narrow fairway sector flanked by light sectors of different character on multicolored charts					Light, directional
31	▲ _o Dir <i>235</i> ₀	Moiré effect light (day and night), arrows show when course alteration needed			A _o Dir ?%	FY 270 deg	Category of light as moiré effect is obtained by cursor pick
Quot	ed bearings are always from seaward.	·					1

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS				
Sect	Sector Lights									
40.1	FI.WRG.4s 21m18-12M	Sector light on standard charts				- 1				
40.2	FI.WRG.4s 21m18-12M	Sector light on multicolored charts				€ € E E E E E E E E E E E E E E E E E E				
40.3	FI.WRG.4s + 21m18-12M +	Sector light on standard charts. Sectors not charted								
40.4	FI.WRG.4s 21m18-12M *	Sector lights on multicolored charts. Sectors not charted								
41.1	Oc.WRG.	Sector lights on standard charts, the white sector limits marking the sides of the fairway								
41.2	Oc. WRG. 10-6M ⇒ 00. WRG. 10-6M ⇒ 00. M 00.	Sector lights on multicolored charts, the white sector limits marking the sides of the fairway								

### Lights P



### P Lights

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS	
45.1	¢ Q.14m5M	Light with faint sector				<	Light, faint	
46.1	Oc.R.8s7M R.Intens Oc.R.8s C.R.8s	- Light with intensified sector				Intensified li cursor pick	ght visibility is obtained by Light, intensified	
Light	s with Limited Times of Exhibition	, on						
50	<b>F.R.</b> (occas)	Lights exhibited only when specially needed (for fishing vessels, ferries) and some private lights	Occas	F R (occas)				
51	FI.10s40m27M * (F.37m11M Day)	Daytime light (charted only where the character shown by day differs from that shown at night)		F Bu 9m 6M (F by day)				
52	Name ☆ Q.WRG.5m 10-3M (FI.5s Fog)	Fog light (exhibited only in fog, or character changes in fog)				Status and obtained by	condition of light is cursor pick	
53	† ↓ FI.5s (U)	Unwatched (unmanned) light with no standby or emergency arrangements				_		
54	(temp)	Temporary						
55	(exting)	Extinguished						
56	(man)	Manually activated						
Spec	cial Lights	1				1		
Flare	Stack (as sea) $\rightarrow$ L Fla	are Stack (on land) $\rightarrow$ E	Signal Stations –	→ T				
60	☆ Aero Al.Fl.WG.7.5s11M	Aero light (may be unreliable)	AERO	AERO AI WG 7.5s 108m 13M	★ AERO	AeroAlFIWG7.5s11M	Light	

## Lights P

No.	INT	Description	NOAA	NGA	Other NGA		ECDIS		
61.1	<b>Aero F.R.313m11M</b> † * RADIO MAST (353)	Air obstruction light of high intensity (e.g. on radio mast)		AERO F R 77m 11M		AeroF	R313m11M	Conspicuous mast with light	
61.2	(89) ⊥ (R Lts)	Air obstruction light of low intensity (e.g. on radio mast)		• TR (RLts)					
62	Fog Det Lt	Fog detector light					Category of pick	light is obtained by cursor	
63	(Illuminated)	) Floodlit, floodlighting of a structure				0É	Floodlight		
64		Strip light				W	Strip light		
On m	ulticolored charts, P63 and P64 m	ay be any appropriate color.					1		
65	(priv)	Private light other than one exhibited occasionally	Priv	F R (priv)	♦ ● Priv maintd	S pi		ivate is obtained by cursor	
66	(sync)	Synchronized light							
Supp	plementary National Symbol	5							
а		Riprap surrounding light	$\mathbf{c}$						
b		Short-Long Flashing			S-L FI				
с		Group-Short Flashing			G-S FI				
d		Fixed and Group Flashing			F Gp Fl				
е		Unmanned light-vessel; light float			FLOAT				
f		LANBY, superbuoy as navigational aid		<u>_</u>					



### Simplified and Traditional Paper Chart Symbols

ECDIS can be set to display aids to navigation with either traditional paper chart or simplified symbols. The two symbol sets are shown below. Some ECDIS color fill the paper chart buoy shapes, but this is not required by IHO ECDIS portrayal specifications.

#### **Floating Marks**

Paper Chart	Simplified	Simplified Symbol Name
* 🔺		Cardinal buoy, north
* 🖊		Cardinal buoy, east
* 🗸		Cardinal buoy, south
*		Cardinal buoy, west
<b>Q</b> ?	⊙?	Default symbol for buoy (used when no defining attributes have been encoded in the ENC)
*	•	Isolated danger buoy
Â	<u> </u>	Conical lateral buoy, green
Â	<u> </u>	Conical lateral buoy, red
	· · ·	Can shape lateral buoy, green
	· ·	Can shape lateral buoy, red
Ъ С		Installation buoy and mooring buoy
ےً۔		
**	$\overline{\mathbf{\cdot}}$	Safe water buoy
Q	$\overline{\mathbf{\cdot}}$	Special purpose buoy, spherical or barrel shaped, or default symbol for special purpose buoy
A		Special purpose TSS buoy marking the starboard side of the traffic lane
		Special purpose TSS buoy marking the port side of the traffic lane
\$ \$		Special purpose ice buoy or spar or pillar shaped buoy
		Super-buoy ODAS & LANBY
72		Light float
Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z		Light vessel

#### **Fixed Marks**

Paper Chart	Simplified	Simplified Symbol Name
*		Cardinal beacon, north
* 🛓	$\Leftrightarrow$	Cardinal beacon, east
* 🔻	$\mathbf{i}$	Cardinal beacon, south
*	$\mathbf{X}$	Cardinal beacon, west
<b>1</b> ?	• <u>?</u>	Default symbol for a beacon (used when no defining attributes have been encoded in the ENC)
1	•	Isolated danger beacon
Ŧ	•	Major lateral beacon, red
	•	Major lateral beacon, green
-0-	·	Minor lateral beacon, green
Λ	•	Major safe water beacon
τοτ	•	Minor safe water beacon
8	·	Major special purpose beacon
<b>A</b>	·	Minor special purpose beacon

* Paper chart symbols display various buoy or beacon shape symbols in conjunction with the topmark. Simplified portrayal only displays the topmark.

** Several different paper chart symbols correspond to this simplified symbol.

#### Day Marks

Paper Chart	Simplified	Simplified Symbol Name
Ţ	<b>L</b>	Square or rectangular daymark
$\bigwedge_{\clubsuit}$	Ť	Triangular daymark, point up
$\sum$	Ţ	Triangular daymark, point down
Þ	Ħ	Retro reflector

No.	INT	Description	NOAA	NGA	Other NGA	E	CDIS		
Buoys a	ind Beacons				-				
IALA Mar	itime Buoyage System, which includ	les Beacons $\rightarrow$ Q 130							
		Default buoy symbol if no other				<b>Q</b> ?	Default symbol for buoy, paper chart		
		defining attribution is provided				⊙.	Default symbol for buoy, simplified		
		Default beacon symbol if no oth-				<b>1</b> ?	Default symbol for a beacon, paper chart		
		er defining attribution is provided				•?	Default symbol for a beacon, simplified		
1	- <del></del>	Position of buoy or beacon		0		ECDIS shows the position of buoys and beacons with a circle at the bottom of paper chart symbols. For simplified symbols, the position of the aid corresponds with the center of the symbol.			
Colors o	of Buoys and Beacon Topmark	(S			-	Supplementary national	l symbols: p		
Abbreviat	tions for Colors $\rightarrow P$								
2		Green and black (symbols filled black)	👂 G	* 1					
3		Single color other than green and black	👂 R	8					
4	A BY GRG BRB	Multiple colors in horizontal bands, the color sequence is from top to bottom	\$ F A	RG 🛤					
5		Multiple colors in vertical or diagonal stripes, the darker color is given first	\$ RV A	l l					
6		Retroreflecting material							
Lighted	Marks				1	Supplementary national	l symbols: p		
Marks wit	h Fog Signals $\rightarrow$ R					Supplementary national	l symbols: p		
7	G FI.G	Lighted marks on standard charts	🔓 FI G 💦 FI R	FIR					
8	FI.R Q. Iso	Lighted marks on multicolored charts							
Note: Or	n standard charts, the light flares of	buoys and beacons are shown in ma	agenta. On multicolore	d charts, the light flares a	are shown in the colors of the app	ropriate light			

### Q Buoys, Beacons

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS		
Topm	arks and Radar Reflectors							
For Ap	oplication of Topmarks within the IALAS	System $\rightarrow$ Q 130 F	or other topmarks (special	purpose buoys and be	eacons) → Q			
						Paper chart symbols for topmarks (on the left, be are always displayed above a buoy or beacon sh symbol, as in Q 10 and Q 11. Simplified symbols (on the right, below) for cardin marks, isolated dangers and safe water consist o only the topmark without the buoy shape symbol. Simplified symbology for marks with any other typ of topmark will display only the simplified buoy or beacon shape symbol without a topmark.		ove a buoy or beacon shape Q 11. he right, below) for cardinal and safe water consist of the buoy shape symbol. marks with any other type hy the simplified buoy or
								2 cones point upward
	IALA System buoy topma					•	<b>V</b>	2 cones point downward
						\$		2 cones base to base
			4 ¥ 4 X € o 4			X		2 cones point to point
		IALA System buoy topmarks				•	•	2 spheres
9	# <b> </b>	(beacon topmarks shown upright)				•	$\overline{\mathbf{\cdot}}$	Sphere
								Cone point up
						•		Cone point down
						0		Cylinder, square, vertical rectangle
						*		X-shape
						1		Flag or other shape
						•		Board, horizontal rectangle
						•		Cube point up
						+		Upright cross over a circle
						7		T-shape
10	לי גערייקאייג אין No2	Beacon with topmark, color, radar reflector and designation	■ G "3" Ra Re	əf		bn N		Beacon in general with topmark, paper chart

### Buoys, Beacons Q

No.	INT	Description	NOAA	NGA	Other NGA		EC	DIS
11	No3	Buoy with topmark, color, radar reflector and designation	€ G N "3"	A No 3		by No 3	ۿ	Conical buoy with topmark, paper chart
Note: F	Radar reflectors on floating marks us	sually are not charted. ECDIS does not dis	play radar reflectors on	fixed or floating aids; this	information is obtained by cursor p	ick.		
Buoys	5							
Shape	es of Buoys							
Featur	es Common to Buoys and Beacor	ns $\rightarrow$ Q 1–11						
						Paper Chart	Simplified	
20	A <b>A</b>	Conical buoy, nun buoy, ogival buoy	§N ⊅			A		Conical buoy
21	<b>D D</b>	Can buoy or cylindrical buoy	₿c љ					Can buoy
22	Q Q	Spherical buoy	∲sp ಧ			Q	$\overline{\mathbf{\cdot}}$	Spherical buoy
23		Pillar buoy; Buoy with no distinctive shape	§p ⊿			<b>Д</b>	2	Pillar buoy
24	l	Spar buoy, spindle buoy	§s _₅			1	/	Spar buoy
25	D. D.	Barrel buoy, tun buoy	\$ <i>\mathcal{D}</i>			Ð	$\overline{\mathbf{\cdot}}$	Barrel buoy
26	5	Superbuoy	4	<i>⊥</i> ,				Super-buoy Lanby, super-buoy
	†							Super-buoy odas & lanby
Light	Vessels and Minor Light Flo	ats						
30.1	FI.G.3s Name	Light float on standard charts	*		*	1	-	Light float
30.2	FI.G.3s Name	Light float on multi-colored charts					$\sim$	Light hoat
31	t Fl.10s	Light float not part of IALA System	8			157		Light float
32	Lot	Light vessel		*	*	T T		Light vessel, paper chart

### Q Buoys, Beacons

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS	
Moori	ng Buoys					1	
Oil or G	Gas Installation Buoy $\rightarrow$ L						
						ےًـ	Mooring buoy, can shape, paper chart
40	ுக்கிக்கி க	Mooring buoys	-			ஷீ	Mooring buoy, barrel shape, paper chart
							Istallation buoy and mooring buoy, simplified
41.1	Å. Fl.Y.2.5s	Lighted mooring buoy (example) on standard charts		Fl Y 2s		ഫ്	Mooring buoy with light flare, barrel shape,
41.2	. ♣. Fl.Y.2,5s	Lighted mooring buoy (example) on multi-colored charts					paper chart
42	⁷ ₆ <u>↓</u> <u>↓</u> <u>↓</u> <u>↓</u> <u>↓</u> <u>↓</u> <u>↓</u> <u>↓</u>	Trot, mooring buoys with ground tackle and berth numbers					Trot, mooring buoys with ground tackle and berth numbers
43	<b>\$</b>	Mooring buoy with telephonic communication		$Tel & Tel \\ Tel = telegraphic$		<b>፲</b> ፰-~\$~- ፟፟፟፟፟፟፟፟፟፟-~~\$~-	Mooring buoy, can shape, paper chart Mooring buoy, barrel shape, paper chart
				T = telephonic		▲-~ <>~-	Installation buoy and mooring buoy, simplified
44		Numerous moorings (example)	Numerous mooring buoys	(5 buoys) Moorings		L t i	Small-craft mooring area
45	â	Visitors' mooring					Availability of visitor mooring at marina is obtained by cursor pick

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS				
Speci	al Purpose Buoys									
Note: S	Note: Shapes of buoys are variable. Lateral or Cardinal buoys may be used in some situations.									
				of buoy and other information d by cursor pick						
Purpos	e of buoy may be shown by label.									
50	Ģ [*] DZ	Firing danger area (Danger Zone) buoy				Å	Conical buoy with topmark, paper chart			
54	<i>ф</i> DG	Degaussing Range buoy				$\overline{\mathbf{O}}$	Special purpose buoy, spherical or barrel shaped, or default symbol for special purpose buoy, simplified			
58	ැත ODAS ඛ ODAS	ODAS buoy (Ocean Data Acquisition System), data collecting buoy	L ODAS	ሔ ODAS			Super-buoy, paper chart Super-buoy odas & lanby, simplified Spherical buoy, paper chart Spherical buoy, simplified			

### Q Buoys, Beacons

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
70	$\hat{m{\varphi}}^{\star}_{\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!$	Buoy privately maintained (example)	\$ F	Priv		Status as private is obtained by co	
71	${\displaystyle \mathop{{igstath{\square}}}\limits_{Y}^{ imes}}$ (Apr–Oct)	Seasonal buoy (example)				Status as per stop dates a	eriodic and period start and re obtained by cursor pick
Beaco	ons					1	
Lighted	Beacons $\rightarrow$ P Feature	es Common to Beacons and Buoys	$\rightarrow$ Q1–11				
80	.↓. o Bn	Beacon in general, characteristics unknown or chart	🗆 Bn	<mark>∕</mark> Bn o Bn G R		<b>1</b> ?	Default symbol for a beacon, paper chart Default symbol for a
00		scale too small to show		G R			beacon, simplified Beacon in general, paper chart
81	J. BW	Beacon with color, no distinctive topmark	▲ R ■ G Bn			Beacon colo	r is obtained by cursor pick
						1	r is obtained by cursor pick nation about topmarks and
							Beacon in general with topmark, paper chart
							Major red lateral bea- con, simplified
82	₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽ ₽	Beacons with colors and topmarks (examples)				, Î	Beacon in general with topmark, paper chart
							Cardinal beacon, north, simplified
						L.	Beacon in general with topmark, paper chart
						•	Isolated danger beacon, simplified

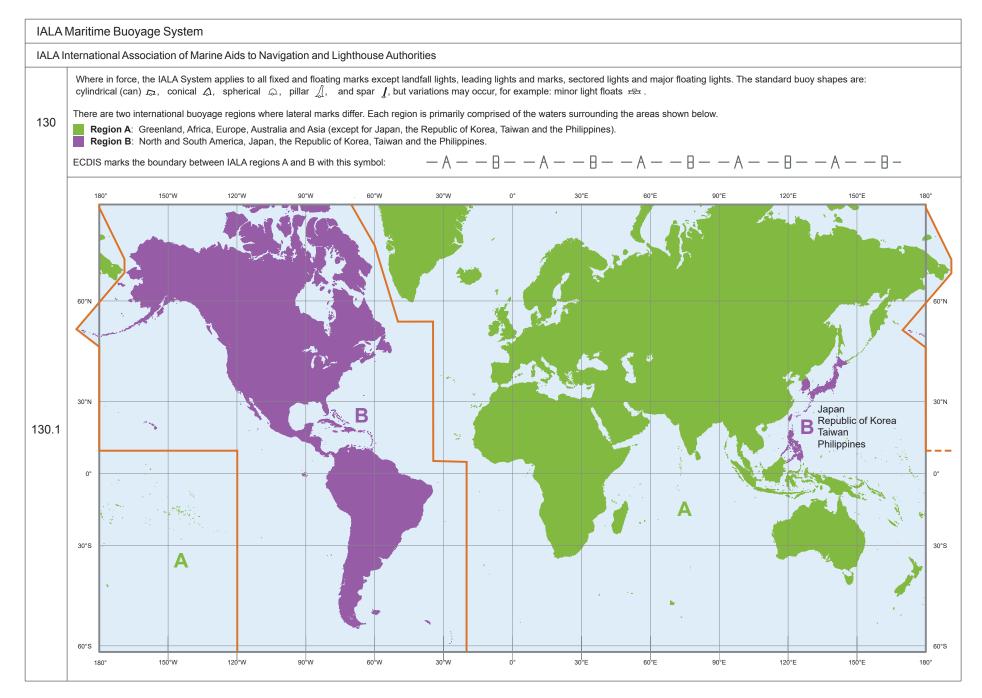
### Buoys, Beacons Q

No.	IN	іт	Description	NOAA		NGA	Other NGA		ECDIS
83	2 BRE	<b>р⁹</b> в	Beacon on submerged rock with colors (topmark as appropriate)			BRB		J	Beacon in general with topmark, paper chart
		-							Isolated danger beacon, simplified
Minor	Impermanent M	larks Usually	in Drying Areas (Lateral Marks	of Minor Chan	nels)				
Minor F	$Pile \to F$								
90	ļ	l	Stake, pole			R -		T	Minor, stake or pole beacon, paper chart
91	Port Hand	Starboard Hand	Perch, withy					L	Minor, stake or pole beacon, paper chart
51	Ŷ	1	Felch, whity			-↓ -↓- R		·	Minor red lateral bea- con, simplified
92	<u></u> ±	± †	Withy					•	Minor green lateral beacon, simplified
Minor	Marks, Usually	on Land		1	I			L	L
Landma	arks $\rightarrow$ E								
100	ą	þ	Cairn	o Ca	airn 💽 (	AIRN		\$	Conspicuous cairn
								Ţ	Square or rectangular day mark, paper chart
								L.	Square or rectangular day mark, simplified
101		Mk	Colored or white mark					$\bigtriangleup$	Triangular day mark, point up, paper chart
								4	Triangular day mark, point up, simplified
								$\sum$	Triangular day mark, point down, paper chart
								$\mathbf{\nabla}$	Triangular day mark, point down, simplified

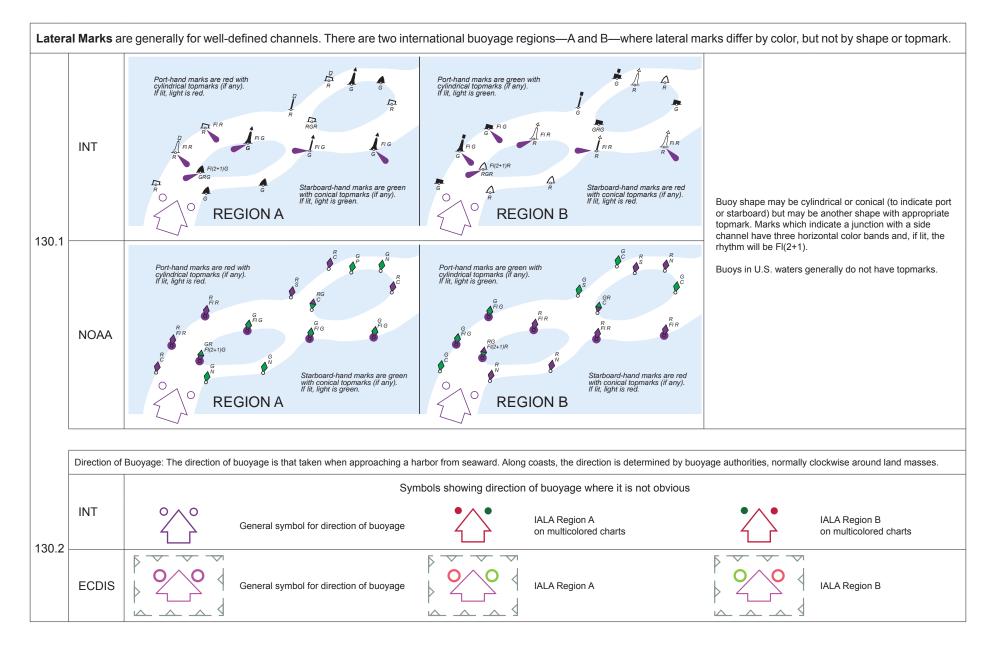
### Q Buoys, Beacons

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS					
102.1	<b>↓ ↓ ↓ ↓ ↓</b> ₩ ₽₩ †	Colored topmark (color known or unknown) with function of a beacon										
102.2	1	Painted boards with function of leading beacons										
Beaco	Beacon Towers											
110	A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A	Beacon towers without and with topmarks and colors (examples)	□ ^{RW} Bn			۵ ۵ ۵ ۵ ۵	Beacon tower, paper chart Beacon tower with topmarks, paper chart					
							Major red lateral bea- con, simplified Major green lateral					
							beacon, simplified					
111	₿.	Lattice beacon					Lattice beacon, paper chart					
Specia	al Purpose Beacons	·										
Leading	g Lines, Clearing Lines $\rightarrow$ M											
Note: T	opmarks and colors shown where scal	e permits.										
120	.ll	Leading beacons		Bns in line 270°		▶ 270 deg	Leading beacons					
121	JJ.	Beacons marking a clearing line		Bns in LL. line 270°		270 deg	Beacons marking a clearing line or transit					
122	Measured Distance 1852m 090°-270°	Beacons marking measured distance with quoted bearings				<b>J J</b> <u>270 deg</u>	Beacons marking measured distance					
123	<b>Å</b>	Cable landing beacon (example)		₽~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		<b>ý</b> - ~ < ~ -	Cable landing beacon (example)					

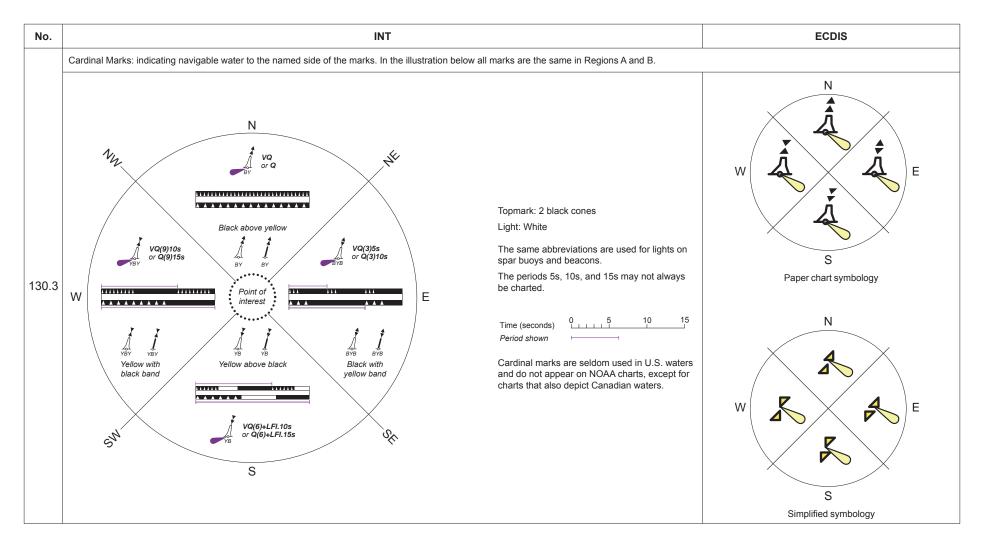
### Buoys, Beacons Q



### Q Buoys, Beacons



### Buoys, Beacons Q



### Q Buoys, Beacons

No.	IN	ІТ	Description	NOAA	NGA	Other NGA		ECDIS
124	A Ref	_l_ Ref	Refuge beacon				Purpose as refuge or firing danger area beacon is obtained by cursor pick	
126	5	2	Notice board				<b></b>	Notice board
130.4	Isolated Danger	Marks stationed over	er dangers with navigable water arour	nd them. Body: black	with red horizontal band(s	s) Topmark: two black spheres	Light: white	
	A BRB	 BŘB	Unlit Marks				•	Pillar buoy with 2 spheres topmark
	A BRB	5. FI (2)	Lighted Marks on standard charts	BR			i	Spar buoy with 2 spheres topmark
	BRB -	, FI (2)	Unlit Marks on multicolored charts				•	Isolated danger buoy, simplified
130.5	Safe Water Mark	<b>s</b> , including mid-cha	annel and landfall marks. Body: re	ed and white vertical stripe	es Topmark (if any): re	ed sphere Light: white		
			Unlit marks				Q	Spherical buoy, paper chart
		Iso or Oc or LFI.10s or RW Mo (A)	Lighted Marks on standard charts	₿ _{RW}			÷	Pillar buoy with sphere topmark
	RW RW	Iso or Oc or LFI.10s or RW Mo (A)	Lighted Marks on multicolored charts				i	Spar buoy with sphere topmark
							R	Safe water buoy, simplified
130.6	Special Marks no	ot primarily to assist	navigation but to indicate special feat	ures. Body (shape op	tional): yellow* Topm	ark (if any): yellow X or upright cros	s Light: yellow, rhyth	m optional*
		j Ĵ	Unlit Marks				Q	Spherical buoy, paper chart
	P A	* <b>FIY</b>	Lighted Marks on standard charts	Ş Y			Ę	Can buoy
	Fr A		Lighted Marks on multicolored charts				Ą	Conical buoy
							Ĭ,	Spar buoy with x-shape topmark
							R	Special purpose buoy, simplified
	* In special cases	, yellow may be use	d in conjunction with another color					

No.	INT	Description	NOAA	NGA	Other NGA	E	CDIS
130.7	New Danger Marks. Body (shape	optional): yellow and blue Topma	ark: yellow cross			1	
		Unlit marks				, A	Pillar buoy with upright cross topmark
	Buy Buy	Lighted Marks on standard charts				+	
		Lighted Marks on multicolored charts				L L	Spar buoy with upright cross topmark
Suppl	ementary National Symbols						
а		Bell buoy	8 BELL	Å BELL			
b		Gong buoy	S GONG	${\mathbb A}$ gong			
с		Whistle buoy	8 whis	A whis			
d		Fairway buoy (red and white vertical stripe)	₿ _F	2W			
е		Mid-channel buoy (red and white vertical stripe)	₿ _F	?W			
f		Starboard-hand buoy (entering from seaward - US waters)	Ø	र 2"			
g		Port-hand buoy (entering from seaward - US waters)	<b>G</b> "1"	<b>*</b> "1"			
h		Bifurcation/Junction buoys	🕏 RG 🕏 GR				
h		Isolated danger, Wreck or Obstruction buoy	8 BR				
i		Fish trap (area) buoy	β γ				
j		Anchorage buoy (marks limits)	\$ Y				
		Triangular shaped beacons	▲R	$\Delta_{Bn}^{RG}$			
1		Square shaped beacons	■G □GR Bn	□W □B Bn Bn			
		Beacon, color unknown		n			
о		Lighted beacon	•	-	Bn		
q		Security barrier		y barrier			
r		Scientific mooring buoy	Ø				
s		Float (unlighted)	Ş				
t		White and blue buoy		U WBuW			

### R Fog Signals

No.	INT	Description	NOAA	NGA	Other NGA	E	CDIS		
Gene	eral		1	· ·		L.			
Fog D	etector Light $\rightarrow$ P Fo	$pg Light \rightarrow P$							
1	H [®] HIS	Position of fog signal, type of fog signal not stated	Fog Sig M	M			Position of a conspicuous point feature with fog signal Lighted pillar buoy, paper chart with fog signal Lighted super-buoy, paper chart with fog signal		
2	(man)	Manually activated							
Туре	s of Fog Signals, with Abbrevia	ations	1			Supplementary natio	nal symbol: a		
10	Explos	Explosive	G	UN					
11	Dia	Diaphone	D	IA					
12	Siren	Siren	SI	REN		Type of fo	g signal and its		
13	Horn	Horn (nautophone, reed, tyfon)	H	ORN		Type of fog signal and its characteristics are obtained by curs pick			
14	Bell	Bell	BI	ELL					
15	Whis	Whistle	u w	HISTLE					
16	Gong	Gong	G	ONG					
Exam	ples of Fog Signal Descriptio	ns							
Note:	The fog signal symbol will usually be	e omitted when a description of the sig	gnal is given.						
20	FI.3s70m29M × Siren Mo(N)60s	Siren at a lighthouse, giving a long blast followed by a short one (N), repeated every 60 seconds	FI 3s 70m 29M SIREN Mo(N) 60s	FI 3s 70m 29M SIREN		July 1	Light with fog signal		
21	Д вен	Wave-actuated bell buoy	8 BELL	A BELL			Pillar buoy, paper chart with fog signal		
22	∫ Ŷ8 Horn(1)15sWhis	Light buoy, with horn giving a single blast every 15 seconds, in conjunction with a wave-actuated whistle	Q(6)+LFI 15s HORN(1) 15s WHIS	A Q(6)+LFI 15s YB HORN WHIS		Paper Chart Simplifie	Lighted pillar buoy, paper chart with fog signal		
Supp	lementary National Symbol	1		ı		1 1	1		
а		Morse Code fog signal		Мо					
u			/						

### Radar, Radio, Satellite Navigation Systems $\,\,S\,$

No.	INT	Description         NOAA         NGA         Other NGA         ECDIS					
Rada	r						
Radar	Structures Forming Landmarks $\rightarrow$ E	Radar Surveillance	Systems $\rightarrow$ M				
1	© Ra	Coast radar station, providing range and bearing service on request		D) Ra		$\bigcirc$	Radio station
2	• Ramark	Ramark, radar beacon transmitting continuously		Ramark			
3.1	* (0) Racon (Z) (3 cm)	Radar transponder beacon, with morse identification, responding within the 3 cm (X) band	t (				
3.2	† (************************************	Radar transponder beacon, with morse identification, responding within the 10 cm (S) band					
3.3	• Racon(Z)	Radar transponder beacon, with morse identification			(3 & 10 cm)		
2.4	A Racon(Z)	Radar transponder beacon with sector of obscured reception				0	Radar transponder beacon
3.4	Racon(Z)	Radar transponder beacon with sector of reception					
0.5	$\textcircled{e}_{\text{Bacon}} = \overbrace{-e}_{\text{Bacon}}^{\text{Racons} \neq 270^{\circ}}$	Leading radar transponder beacons (‡: objects in line)					
3.5	$\begin{array}{c c} & \\ & \\ \hline \\ \\ & \\ \hline \\ & \\ \hline \\ & \\ \hline \\ & \\ \hline \\ \\ & \\ \hline \\ & \\ \hline \\ \\ \\ \\$	Leading radar transponder beacons coincident with leading lights					
3.6	Racon Racon	Radar transponder beacons on floating marks	RACON (-) R "2" FI R 4s	Racon		Paper Chart Simplified	Radar transponder on floating mark
4	يعنر	Radar reflector		~ Î			Cumbal indiantian
Radar re	eflectors are not charted on buoys in r		Symbol indicating this object is radar conspicuous				
5	ىىد	Radar conspicuous feature					conspicuous

### S Radar, Radio, Satellite Navigation Systems

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS					
Radi	Radio										
Radio	Radio Structures Forming Landmarks $\rightarrow$ ERadio Reporting (Calling-in or Way) points $\rightarrow$ M										
10	†	Circular (non-directional) marine or aeromarine radiobeacon	t 💮 RC	† 💮 R Bn							
44	t RD 269.5°	Directional radiobeacon with bearing line	†	RD 270°		$\bigcirc$	Radio station				
11	t ★ Lts ≠ 270° RD 270°	Directional radiobeacon coincident with leading lights					Radio station				
12	t o rw	Rotating pattern radiobeacon	t C	RW			Additional information regarding radio,				
13	† O Consol	Consol beacon	t CONSOL Bn 190 kHz MMF ==	t O CONSOL			such as category of radio station, signal frequency, communication channel, call sign, estimated signal range, periodicity and status may be				
14	© RG	Radio direction-finding station	0	RDF		×.	Tange, periodicity and status may be included in the cursor pick. The presence of an AIS transmitted signal intended for use as an aid to navigation associated with a physical aid, including the AIS MMSI Number, can be obtained by cursor pick on the				
15	† • R	Coast radio station providing QTG service	o R Sta	† 💿 R							
16	† O Aero RC	Aeronautical radiobeacon	t 💿 A	ERO R Bn			physical aid.				
17.1	o ais	Automatic Identification System transmitter									
17.2	AIS AIS	Automatic Identification System transmitter on floating marks (examples)									
18.1	•         V-AIS	Virtual AIS (with unknown IALA- defined function)									
	V-AIS					V-AIS	North cardinal virtual aid				
18.2	V-AIS V-AIS	Virtual AIS (with known IALA-				V-AIS	East cardinal virtual aid				
	V-AIS	defined function)				V-AIS	South cardinal virtual aid				
						V-AIS	West cardinal virtual aid				

### Radar, Radio, Satellite Navigation Systems $\,\,$ S

No.	INT	Description	NOAA	NGA	Other NGA		ECDIS
18.3	V-AIS	Virtual AIS with lateral mark				V-AIS	Port Lateral (IALA B) virtual aid
	ð v-ais	function				V-AIS	Starboard Lateral (IALA B) virtual aid
18.4	V-AIS	Virtual AIS with isolated danger mark function				V-AIS	Isolated Danger virtual aid
18.5	8 V-AIS	Virtual AIS with safe water mark function				V-AIS	Safe Water virtual aid
18.6	ð V-AIS	Virtual AIS with special purpose mark function				V-AIS	Special Purpose virtual aid
18.7	V-AIS	Virtual AIS with new danger mark function				V-AIS	Emergency Wreck virtual aid
Satel	lite Navigation Systems						
50	WGS WGS72 WGS84	World Geodetic System, 1972 or 1984					
50	50 Note: A note may be shown to indicate the shifts of latitude and longitude, to one, two or three decimal places of a minute, depending on the chart scale, which should be made to satellite-derived positions (which are referred to WGS 84) to relate them to the chart.						
51	© DGPS	Station providing DGPS corrections				DGPS	DGPS reference station

23

• SS (Port Control)

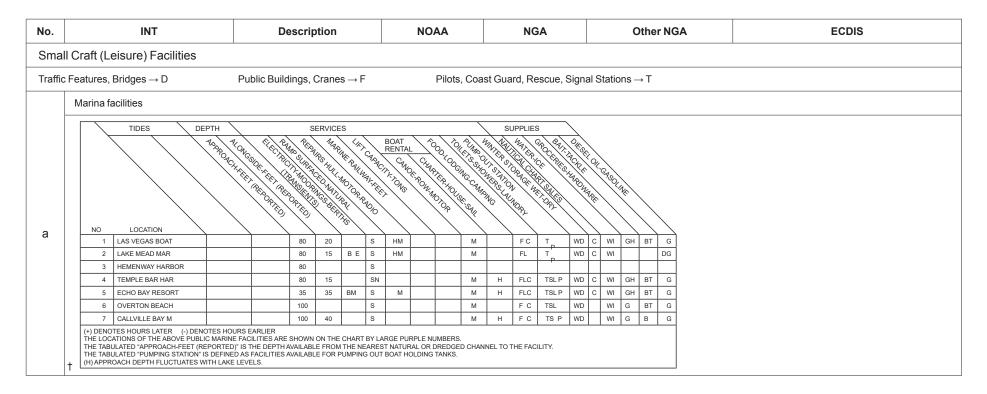
Port control signal station

т	Service	es						
No.	IN	IT	Description	NOAA	NGA	Other NGA	EC	DIS
Pilota	age							
1.1	٢		Boarding place, position of a pilot cruising vessel	Pilots			٢	Pilot boarding place
1.2	() Na	me	Boarding place, position of a pilot cruising vessel, with name (e.g. District, Port)		Name			
1.3	No	te	Boarding place, position of a pilot cruising vessel, with note (e.g. Tanker, Disembarkation)		(see note)			Pilot boarding area
1.4	🕚 н		Pilots transferred by helicopter					
2	† Pilot	Lookout	Pilot office with pilot lookout, Pilot lookout station					
3	Pilots	3	Pilot office	○ PIL STA	<ul> <li>Pilots</li> </ul>			
4	Port nan (Pilots)		Port with pilotage service (boarding place not shown)					
Coas	t Guard, Rescue	9						
10	■ CG 0 (	cg ,‡cg	Coast Guard station		CG C R TR CG WALLIS SANDS		CG	Coast guard station
11	■ CG <b>+</b> ∞ C	a✦ ‡ca✦	Coast Guard station with Res-		0,1120		CG	Coast guard station
			cue station				- →	Rescue station
12	4	+	Rescue station, Lifeboat station, Rocket station		LSS			
13	ಡಿ✦	+	Lifeboat lying at a mooring				<b>→</b>	Rescue station
14	Ref	Ref	Refuge for shipwrecked mar- iners					
Signa	al Stations							
20	◎ SS		Signal station in general	$\odot$	) ss	⊖ Sig Sta		
21	SS (IN	T)	Signal station, showing international port traffic signals				SS	Signal station
22	● SS (Tr	affic)	Traffic signal station, Port entry and departure signals					
							1	1

o HECP

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
24	• SS (Lock)	Lock signal station					
25.1	● SS (Bridge)	Bridge passage signal station					
25.2	† F Traffic-Sig	Bridge lights including traffic signals					
28	<ul> <li>SS (Storm)</li> </ul>	Storm signal station	S Sig	g Sta			
29	<ul> <li>SS (Weather)</li> </ul>	Weather signal station, Wind signal station, National Weather Service (NWS) signal station	○ NWS SIG STA				
30	○ SS (Ice)	Ice signal station				SS	Signal station
31	<ul> <li>SS (Time)</li> </ul>	Time signal station				55	Signal station
32.1	ŧ	Tide scale or gauge		O Tide Gauge			
32.2	o Tide Gauge	Automatically recording tide gauge					
33		Tide signal station					
34	<ul> <li>SS (Stream)</li> </ul>	Tidal stream signal station					
35	<ul> <li>SS (Danger)</li> </ul>	Danger signal station					
36	<ul> <li>SS (Firing)</li> </ul>	Firing practice signal station					
Supp	lementary National Symbols		•				
а		Bell (on land)	O BELL				
b		Marine police station	O MARINE POLICE				
с		Fireboat station	O FIREBOAT STATION				
d		Notice board	Ę	2			
е		Lookout station; Watch tower		) LOOK TR			
f		Semaphore	s	em			
g		Park Ranger station					

#### U Small Craft (Leisure) Facilities



Α		
abt	About	Di
Accom	Accommodation vessel	L 17
AERO, <b>Aero</b>	Aeronautical light	P 60-61.1
Aero R Bn	Aeronautical radiobeacon	S 16
Aero RC	Aeronautical radiobeacon	S 16
AIS	Automatic Identification System	S 17.1-17.2
AI	Alternating	P 10.11
ALC	Articulated Load Column	L 12
Am	Amber	P 11.8
anc	Ancient	
ANCH, Anch	Anchorage	N 20
ANT, Ant	Antenna	E 31
approx	Approximate	
Apprs	Approaches	
Apr	April	
Apt	Apartment	Es
Arch	Archipelago	
ASL	Archipelagic Sea Lane	M 17
ATBA	Area To Be Avoided	M 29.1
ug	August	
uth	Authorized	K 46.2
Ave	Avenue	
3		
3	Bay, bayou	
3	Black	Q 2
Bdy Mon	Boundary mark (monument)	B 24
3k	Bank	
ok	Black	J as
ok	Broken	J 33
3kw	Breakwater	F 4.1
bl	Black	J as
ЗМ	Bench Mark	B 23
3n, Bns	Beacon(s)	M 2, P 4-5, Q 80-81
BnTr, BnTrs	Beacon tower(s)	P 3, Q 110
Во	Boulder(s)	J 9.2
Bol	Bollard	

Br	Breakers	K 17
br	Brown	Jaz
brg	Bearing	B 62
brk	Broken	J 33
Bu	Blue	P 11.4
С		
С	Can, cylindrical	Q 21
С	Саре	
С	Cove	
с	Coarse	J 32
Са, <b>са</b>	Calcareous	J 38
CALM	Catenary Anchor Leg Mooring	L 16
Сар	Capitol	Et
Cas	Castle	E 34.2
Cb	Cobbles	J 8
cbl	Cable	B 46
cd	Candela	B 54
Cem	Cemetery	E 19
CG	Coast Guard station	T 10
Ch	Chocolate	J ba
Ch	Church	E 10.1
Chan	Channel	
Chem	Chemical	L 40.1-40.2
CHY, $\mathbf{Chy},\mathbf{Chys}$	Chimney(s)	E 22
Cir	Cirripedia	J ae
Ck	Chalk	Jf
CL	Clearance	D 20-21, 26, 28
CI	Clay	J 3
cm	Centimeter(s)	B 43
Cn	Cinders	Jр
Со	Company	Eu
Co	Coralline Algae	J 10, K 16
Co Hd	Coral Head	Ji
Co rf	Coral reef	
COLREGS	International Regulations for Preventing Collisions at Sea	Na
Consol	Consol Beacon	S 13
constr	Construction	F 32

CorpCorporationE vcovCoversL21.2cpsCycles per secondB jCrCreekJ32CRDColumbia River DatumH jcrsCoarseJ 32c/sCycles per secondB jCswyCausewayF 3Ct HoCourthouseE 0Cup Cup Cup Cup Cup Cup Cup Cup Cup Cup			
cpsCycles per secondB jCrCreekCRDColumbia River DatumH jorsCoarseJ 32o'sCycles per secondB jCswyCausewayF 3Ct HoCourthouseE oCupCupolaE 10.4Cus HoCustoms houseF 61CyClayJ 3DCustoms houseF 61CyClayJ 3DDestroyedJ anDecDecemberJ anDecDecemberJ anDegDegree(s)B nDestrDestroyedS 1OFDirection FinderVDFDirection FinderS 1DFDirection FinderS 1DFDiaphoneR 11DirDiaphoneK edistDiscoloredK edistDistantJ adDircolDiscoloredK eDinDiphin(s)F 20DolDolphin(s)F 20DolDolphin(s)F 20DVDeep Water RouteM 27.1, N 12.4DZDanger ZoneQ 50EEstB 10EDExistence DoubtfulI 1	Corp	Corporation	Εv
CrCreekCRDColumbia River DatumH jGRDColumbia River DatumH jGrsCoarseJ 32c/sCoarseJ 32c/sCycles per secondB jCswyCausewayF 3Ct HoCourthouseE oCupCupolaE 10.4Cus HoCustoms houseF 61CyClayJ 3DDEtoyeddecDecayedJ anDecDecemberJ anDecDegree(s)B nDestroyedUstorn FinderDFDirection FinderS1DFDirection FinderS1DGDegaussing RangeN 25, Q 54DGPSDifferential Global Positioning SystemS1DiaDiaconcedK eDiscoloredDiscoloredK edistDiscoloredK edistDistantJ bddmDecimeter(s)B 42Dn, DnsDolphin(s)F 20DVDeep Water RouteM 27.1, N 12.4DZDanger ZoneQ 50EEastB 10EDExistence Doubtful11	COV	Covers	L 21.2
CRDColumbia River DatumH jcrsColumbia River DatumJ 32crsCoarseJ 32c/sCycles per secondB jCswyCausewayF 3Ct HoCourthouseE oCupCupolaE 10.4Cus HoCustoms houseF 61CyClayJ 3DClayJ 3DDestroyedJ anDecDecayedJ anDecDecemberJ anDegDegree(s)B nDestroyedUeviationB 67DFDirection FinderVDFDifferential Global Positioning SystemS 51DiDiatomsJ aaDiADiaphoneR 11DirDiscoloredK edistDiscoloredK edistDistontF 20DiDistontF 20DiDolphin(s)F 20DolDolphin(s)F 20DVDeep Water RouteM 27.1, N 12.4DZDanger ZoneC 50EEastB 10EDExistence DoubtfulI 1	cps	Cycles per second	Вј
crsCoarseJ 32c/sCycles per secondB jCswyCausewayF 3Ct HoCourthouseE oCupCupolaE 10.4Cus HoCustoms houseF 61CyClayJ 3DClayJ 3DDestroyedJ andecDecayedJ anDecDecemberB nDegDegree(s)B nDestroyedUertoin FinderDFDirection FinderS1DFDirection FinderS1DFDirection FinderS1DFDistormsJ aaDFDistormsJ aaDIADiaphoneR 11DirDiscoloredK edistDiscoloredK edistDistontF 20Dolphin(s)F 20DDolDolphin(s)F 20DWDeep Water RouteM 27.1, N 12.4DZEastB 10EDExistence Doubtful11	Cr	Creek	
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Cit HoCourthouseE oCupCupolaE 10.4Cus HoCustoms houseF 61CyClayJ 3DClayJ 3DDestroyedJ andecDecayedJ anDecDecemberB nDegDegree(s)B nDestroyedUeretion FinderDFDirection FinderN 25, Q 54DGPSDifferential Global Positioning SystemS 51DiDiatomsJ aaDiA, DiaDiaphoneK edistDistantJ bddmDecimeter(s)B 422Dn, DnsDolphin(s)F 20DolDolphin(s)F 20DuDolphin(s)F 20DuDolphin(s)F 20DuDespre ZoneQ 50EEastB 10EDExistence Doubtful11	c/s	Cycles per second	Вј
CupCupolaE 10.4Cus HoCustoms houseF 61CyClayJ 3DClayJ 3DDestroyedJ andecDecayedJ anDecDecemberS nDegDegree(s)B nDestroyedUDestroyeddevDeviationB 67DFDirection FinderS 10DFDirection FinderS 10DGDegaussing RangeN 25, Q 54DGDiatomsJ aaDIA, DiaDiaphoneK eDiscolDiscoloredK edistDiscoloredK edistDarkJ bddmDecimeter(s)B 42Dn, DnsDolphin(s)F 20DolDolphin(s)F 20DWDegw ZoneQ 50EEastB 10EDExistence Doubtful1 1	Cswy	Causeway	F 3
Cus HoCustoms houseF 61CyClayJ 3DClayJ 3DDestroyedJ andecDecayedJ anDecDecemberB nDegDegree(s)B nDestrDestroyedB 67DestrDeviationB 67DFDirection FinderS 51DGDegaussing RangeN 25, Q 54DGDigenetial Global Positioning SystemS 51DiDiatomsJ aaDiA, DiaDiaphoneR 11DirDiscoloredK edistDiscoloredK edistDolphin(s)F 20DolDolphin(s)F 20DolDolphin(s)F 20DWDeep Water RouteM 27.1, N 12.4EEastB 10EDExistence Doubtful11	Ct Ho	Courthouse	Еo
CyClayJ 3DDestroyeddecDecayedJ anDecDecemberJ anDegDegree(s)B nDestrDestroyedB rdevDeviationB 67DFDirection FinderN 25, Q 54DGDegaussing RangeN 25, Q 54DGPSDifferential Global Positioning SystemS 51DiDiatomsJ aaDIA, DiaDiaphoneR 11Direction lightP 30-31DiscoloredK edistDiscoloredK edistDolphin(s)F 20DolDolphin(s)F 20DVDepe Water RouteM 27.1, N 12.4DZDanger ZoneQ 50EEastB 10EDExistence Doubtful1 1	Cup	Cupola	E 10.4
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DDestroyeddecDecayedJandecDecemberInDegDegree(s)B nDestrDestroyedB 67devDeviationB 67DFDirection FinderInDGDegaussing RangeN 25, Q 54DGPSDifferential Global Positioning SystemS 51DiDiatomsJ aaDIA, DiaDiaphoneR 11DirDiscoloredK edistDistantJ bddhDecimeter(s)B 422Dn, DnsDolphin(s)F 20DQDep Water RouteM 27.1, N 12.4DZDanger ZoneQ 50EEastB 10EDExistence Doubtful11	Су	Clay	J 3
decDecayedJ anDecDecemberDegDegree(s)B nDestrDestroyedB 67devDeviationB 67DFDirection FinderN 25, Q 54DGDegaussing RangeN 25, Q 54DGSDifferential Global Positioning SystemS 51DiDiatomsJ aaDIA, DiaDiaphoneR 11DirDiscoloredK edistDistantJ bddhDecimeter(s)B 422Dn, DnsDolphin(s)F 20DVDeep Water RouteM 27.1, N 12.4DZDanger ZoneQ 500EEastB 10EDExistence Doubtful11	D		
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DGPSDifferential Global Positioning SystemS 51DiDiatomsJ aaDIA, DiaDiaphoneR 11DirDirection lightP 30-31DiscolDiscoloredK edistDistantJ bddmDecimeter(s)B 42Dn, DnsDolphin(s)F 20DolDolphin(s)F 20DWDeep Water RouteM 27.1, N 12.4EEastB 10EDExistence DoubtfulI 1	DF	Direction Finder	
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dkDarkJ bddkDarkJ bddmDecimeter(s)B 42Dn, DnsDolphin(s)F 20DolDolphin(s)F 20DWDeep Water RouteM 27.1, N 12.4DZDanger ZoneQ 50EEastB 10EDExistence DoubtfulI 1	Discol	Discolored	Ke
dmDecimeter(s)B 42Dn, DnsDolphin(s)F 20DolDolphin(s)F 20DWDeep Water RouteM 27.1, N 12.4DZDanger ZoneQ 50EEastB 10EDExistence DoubtfulI 1	dist	Distant	
Dn, DnsDolphin(s)F 20DolDolphin(s)F 20DWDeep Water RouteM 27.1, N 12.4DZDanger ZoneQ 50EEEastEDExistence DoubtfulI 1	dk	Dark	J bd
DolDolphin(s)F 20DWDeep Water RouteM 27.1, N 12.4DZDanger ZoneQ 50EEEastEDExistence DoubtfulI 1	dm	Decimeter(s)	B 42
DWDeep Water RouteM 27.1, N 12.4DZDanger ZoneQ 50EEastB 10EDExistence DoubtfulI 1	Dn, Dns	Dolphin(s)	F 20
N 12.4DZDanger ZoneQ 50EEastB 10EDExistence DoubtfulI 1	Dol	Dolphin(s)	F 20
E Est B 10 ED Existence Doubtful   1	DW	Deep Water Route	
EEastB 10EDExistence DoubtfulI 1	DZ	Danger Zone	Q 50
ED Existence Doubtful   1	Е		
	E	East	B 10
EEZ Exclusive Economic Zone N 47	ED	Existence Doubtful	11
	EEZ	Exclusive Economic Zone	N 47

Entr	Entrance	
ESSA	Environmentally Sensitive Sea Area	N 22
Est	Estuary	
exper	Experimental	
Explos	Explosive	R 10
Exting, exting	Extinguished	P 55
F		
f	Fine	J 30
F FI	Fixed and flashing	P 10.10
F Gp Fl	Fixed and Group Flashing	Pd
Facty	Factory	Ed
FAD	Fish Aggregating Device	
Fd	Fjord	
FISH	Fishing	N 21
FI	Flashing	P 10.4
fl	Flood	Нq
Fla	Flare stack	L 11
fly	Flinty	J ao
fm, fms	Fathom(s)	B 48
fne	Fine	J 30
Fog Det Lt	Fog detector light	P 62
Fog Sig	Fog Signal	R 1
FP	Flagpole	E 27
FPSO	Floating Production, Storage and Offloading Vessel	L 17
Fr	Foraminifera	Jу
Fs, <b>FS</b>	Flagstaff	E 27
Fsh stks	Fishing stakes	K 44.1
FT, <b>ft</b>	Foot, Feet	B 47, D 20
Fu	Fucus	J af
G		
G	Gravel	J 6
G	Green	P 11.3, Q 2
G	Gulf	
GAB, Gab	Gable	Ei
GCLWD	Gulf Coast Low Water Datum	Hk
GI	Globigerina	Jz

glac	Glacial	J ap
gn	Green	Jav
Govt Ho	Government House	Em
Gp Fl	Group flashing	P 10.4
Gp Oc	Group occulting	P 10.2
GPS	Global Positioning System	
Grd	Ground	Ja
Grs	Grass	Jv
grt	Gross Register Tonnage	
GT	Gross Tonnage	
gty	Gritty	J am
gy	Gray	J bb
Н		
Н	Helicopter	T 1.4
h	Hard	J 39
h	Hour	B 49
HAT	Highest Astronomical Tide	Н 3
Hbr Mr	Harbormaster	F 60
HHW	Higher High Water	Нb
Hk	Hulk	F 34, K 20–21
Но	House	
hor	Horizontally disposed	P 15
Hor CL	Horizontal clearance	D 21
Hosp	Hospital	E g, F 62.2
hr	Hour	B 49
hrd	Hard	J 39
ht	Height	Нр
HW	High Water	На
HWF&C	High Water Full & Change	Hh
Hz	Hertz	Вg
I		
IALA	International Association of Lighthouse Authorities*	Q 130
IHO	International Hydrographic Organization	
illum	Illuminated	P 63
IMO	International Maritime Organization	1

In	Inlet	
in, ins	Inch(es)	Вс
Inst	Institute	En
INT	International	A 2, T 21
Intens	Intensified	P 46
IQ	Interrupted quick	P 10.6
ISLW	Indian Spring Low Water	Нg
lso	lsophase	P 10.3
ITZ	Inshore Traffic Zone	M 25.1
IUQ	Interrupted ultra quick	P 10.8
IVQ	Interrupted very quick	P 10.7
J		
Jan	January	
Jul	July	
Jun	June	
К		
К	Kelp	Ju
kc	Kilocycle	Βk
kHz	Kilohertz	Βh
km	Kilometer(s)	B 40
kn	Knot(s)	B 52
L		
L	Lake, loch, lough	
L FI	Long-flashing	P 10.5
La	Lava	JI
Lag	Lagoon	
LANBY	Large Automatic Navigational Buoy	P6
LASH	Lighter Aboard Ship	
LAT	Lowest Astronomical Tide	H 2
Lat	Latitude	B 1
Ldg	Landing	F 17
Ldg	Leading Lights	P 20.3
Le	Ledge	
LLW	Lower Low Water	Нe
Lndg	Landing for boats	F 17
LNG	Liquified Natural Gas	

*Now known as the International Association of Marine Aids to Navigation and Lighthouse Authorities. The organization, formerly called the International Association of Lighthouse Authorities/Association Internationale de Signalisation Maritime (IALA/AISM), continues to use IALA as an abbreviation for its full name.

LoLo	Load-on, Load-off	
Long	Longitude	B 2
LPG	Liquified Petroleum Gas	
Lrg	Large	Ja
LSS	Life saving station	T 12
lt	Light	J bc
Lt Ho	Light house	P1
Lt, Lt(s)	Light(s)	P 1
Ltd	Limited	Er
LW	Low Water	Нс
LWD	Low Water Datum	H d
LWF&C	Low Water Full and Change	Нi
М		
М	Mud, muddy	J 2
М	Nautical mile(s)	B 45
m	Medium (in relation to sand)	J 31
m	Meter(s)	B 41
m	Minute(s) of time	B 50
Ма	Mattes	J ag
mag	Magnetic	B 61
Magz	Magazine	EI
Maintd	Maintained	P 65
man	Manually activated	P 56, R 2
Mar	March	
Mc	Megacycles	BI
Mds	Madrepores	Jj
MHHW	Mean Higher High Water	H 13
MHLW	Mean Higher Low Water	H 14
MHW	Mean High Water	H 5
MHWN	Mean High Water Neaps	H 11
MHWS	Mean High Water Springs	H9
Mi	Nautical mile(s)	B 45
min	Minimum	K 46.2
min	Minute(s) of time	B 50
Mk	Mark	Q 101
MI	Marl	Jс
MLHW	Mean Lower High Water	H 15
MLLW	Mean Lower Low Water	H 12

MLW	Mean Low Water	H 4
MLWN	Mean Low Water Neaps	H 10
MLWS	Mean Low Water Springs	H 8
mm	Millimeter(s)	B 44
Mn	Manganese	Jq
Мо	Morse Code	P 10.9, R 20
MON, Mon	Monument	E 24
MR	Marine Reserve	N 22
MRCC	Maritime Rescue and Coordination Center	
Ms	Mussels	Js
MSL	Mean Sea Level	H 6
Mt	Mountain, Mount	
Mth	Mouth	
MTL	Mean Tide Level	H 1
Ν		
N	North	В9
Ν	Nun	Q 20
NE	Northeast	B 13
NGA	National Geospatial-Intelligence Agency	
NM	Nautical miles(s)	B 45
NMi	Nautical mile(s)	B 45
No	Number	N 12.2
NOAA	National Oceanic and Atmospheric Administration	
NOS	National Ocean Service	
Nov	November	
Np	Neap tide	H 17
NT	Net Tonnage	
NTM	Notice to Mariners	
NW	Northwest	B 15
NWS SIG STA	National Weather Service signal station	T 29
0		
Obs Spot	Observation spot	B 21
OBSC, Obscd	Obscured	P 43
Obstn	Obstruction	K41
Oc	Occulting	P 10.2

Occas	Occasional	P 50
Oct	October	1 50
ODAS	Ocean Data Acquisition System	Q 58
Or	Orange	P 11.7
	Overhead	D 28
		Jr
Oys P	Oysters	J I
P	Pebbles	J 7
<b>Р</b>	Pillar	
	-	Q 23
(P)	Preliminary (NTM)	D 7
PA	Position approximate	B 7
Pass	Passage, Pass	
Pav	Pavilion	Ep
PD	Position doubtful	B 8
Pk	Peak	
PLT STA	Pilot station	Т3
Pm	Pumice	Jm
PO	Post office	F 63
Po	Polyzoa	J ad
pos, posn	Position	
Post Off	Post office	F 63
Priv, <b>priv</b>	Private	P 65, Q 70
Prod well	Production well	L 20
PROHIB	Prohibited	N 2.2
PSSA	Particularly Sensitive Sea Area	N 22
Pt	Pteropods	J ac
Pyl	Pylon	D 26
Q		
Q	Quick	P 10.6
QTG	Service producing DF signals	S 15
Quar	Quarantine	Fe
Qz	Quartz	Jg
R		
R	Coast radio station providing QTC service	S 15
R	Radio Station	S 15
R	Red	P 11.2

R Bn	Circular radiobeacon	S 10
R Lts	Air obstruction lights	P 61.2
R Mast	Radio mast	E 28
R Sta	Radio Station	S 15
R Tower	Radio tower	E 29
R TR, R Tr	Radio tower	E 29
Ra	Radar	M 31-32, S 1
Ra	Radar reference line	M 32.1
Ra (conspic)	Radar conspicuous point	S 5
Ra Ref	Radar reflector	S 4
Racon	Radar transponder beacon	S 3
Radar Sc	Radar scanner	E 30.3
Radar Tr, RADAR TR	Radar tower	E 30.2
Ramark	Radar marker beacon	S 2
RC	Circular radiobeacon	S 10
RD	Directional radiobeacon	S 11
Rd	Radiolaria	J ab
Rd	Road, roadstead	
rd	Red	J ay
RDF	Radio direction finding station	S 14
Ref	Refuge	Q 124
Rep	Reported	13
Rf	Reef	
RG	Radio direction finding station	S 14
Rk	Rocks	J 9.1, K b
Rky	Rocky	J 9.1
RoRo	Roll-on, Roll-off Ferry (RoRo Terminal)	F 50
rt	Rotten	J aj
Ru, (ru)	Ruin, ruined	D 8, E 25.2, F 33
RW	Rotating-pattern radiobeacon	S 12
S		
S	Sand	J 1
S	South	B 11
S	Spar, spindle	Q 24
S	Second(s) of time	B 51, P 12
SALM	Single Anchor Leg Mooring	L 12

SBM	Single Buoy Mooring	L 16
Sc	Scanner	E 30.3
Sc	Scoriae	Jo
Sch	Schist	J h
Sch	School	Ef
SD	Sailing Directions	
Sd	Sound	
SD	Sounding doubtful	12
SE	Southeast	B 14
sec	Seconds of time	B 51
Sep	September	
sf	Stiff	J 36
sft	Soft	J 35
Sg	Seagrass	J 13.3
Sh	Shells	J 11
Shl	Shoal	
Si	Silt	J 4
Sig	Signal	R 1, T 25.2
Sig Sta	Signal station	T 20
S-L FI	Short-Long Flashing	Рb
S/M	Sand over mud	J 12.1
sml	Small	J ah
SMt	Seamount	
Sn	Shingle	Jd
so	Soft	J 35
Sp	Church spire	E 10.3
SP	Spherical	Q 22
Sp	spire	E 10.3
Sp	Spring tide	H 16
Spg	Sponge	Jt
Spi	Spicules	Jх
Spipe, S'pipe	Standpipe	E 21
spk	Speckled	J al
SPM	Single Point Mooring	L 12
SS	Signal station	T 20-36
St	Stones	J 5
St M, St Mi	Statute mile(s)	Ве

STA, Sta	Station	F 41.1, S 15, T 3
stf	Stiff	J 36
Stg	Sea-tangle	Jw
stk	Sticky	J 34
Str	Strait	
Str	Stream	ні
str	Streaky	J ak
sub	Submarine	K d
Subm	Submerged	K 43.1
SW	Southwest	B 16
sy	Sticky	J 34
Т		
Т	Short ton(s)	Bm
Т	Telephone	Eq
Т	TRUE	B 63
Т	Tufa	Jn
t	Ton(s), Tonnage (weight)	B 53, F 53
Tel	Telegraph	D 27
Tel off	Telegraph office	Ek
Temp, temp	Temporary	P 54
ten	Tenacious	J aq
Tk	Tank	E 32
TR, Tr, Trs	Tower(s)	E 10.2, E 20
TSS	Traffic Separation Scheme	M 20.1
TT	Tree tops	C 14
TV Mast	Television mast	E 28
TV Tower	Television tower	E 29
U		
ULCC	Ultra Large Crude Carrier	
Uncov	Uncovers	K 11
unev	Uneven	J bf
Univ	University	Eh
UQ	Ultra quick	P 10.8
UTC	Coordinated Universal Time	
UTM	Universal Transverse Mercator	
V		
v	Volcanic	J 37

var, VAR	Variation	B 60
vard	Varied	J be
vel	Velocity	Ηn
vert	Vertically disposed	P 15
Vert CL	Vertical clearance	D 20, 28
Vi	Violet	P 11.5
Vil	Village	D 4
VLCC	Very Large Crude Carrier	G 187
vol	Volcanic, Volcano	J 37
Vol Ash	Volcanic ash	Jk
VQ	Very quick	P 10.7
VTS	Vessel Traffic Service	
W		
W	West	B 12
W	White	P 11.1
Wd	Weed	J 13.1
Well	Wellhead	L 21
WGS	World Geodetic System	S 50
Wh	White	J ar
Whf	Wharf	F 13
WHIS, Whis	Whistle	R 15
Wk, Wks	Wreck(s)	K 20
Wtr Tr, WTR TR	Water tower	E 21
Y		
Y	Yellow, Orange, Amber	P 11.6-11.8
yd, yds	Yard(s)	B d
yl	Yellow	Jaw
μ		
µs, µsec	Microsecond(s)	B f

Α	
Abandoned railroad	Dc
Accommodation vessel	L 17
Accurate position	B 32, E 2
Aerial	D.05
cableway	D 25 E 31
dish Aero light	P 60
Aeronautical radiobeacon	S 16
Air obstruction light	P 61.1–61.2
Airfield	D 17
Airport	D 17
AIS	S 17.1–17.2
All-round light	P 42.1–43.2
Alternate course	M c
Alternating light	P 10.11
Amber	P 11.8
Anchor berth	N 11.1–11.2
Anchorage areas	N 10–14 Q j
buter sea-planes	N 14
Anchoring prohibited	N 20
Annual change	B 70
Anomaly, magnetic	B 82.1–82.2
Antenna	E 31
Apparent shoreline	Ср
Approximate	
depth contour height of top of trees	I 31 C 14
poeijegraphic contour	B 7, 33, E 2 C 12
vertical clearance	Di
Aquaculture	K 44.1–48.2
Archipelagic Sea Lane (ASL)	M 17
Areas	N
pipeline restricted	L 40.2, L 41.2 M 14, N 2.1
to be avoided	M 14, 29.1–29.2
wire drag	1 24
Articulated Loading Column (ALC)	L 12
Ash, volcanic	Jk
Astronomical tide	H 2–3

Automatic Identification System (AIS) transmitter	S 17.1–17.2
Awash, rock	K 12
В	
Band, S & X	S 3.1–3.2
Bar code	Ad
Barrage, flood	F 43
Barrel buoy	Q 25
Barrier floating oil retention security Bascule bridge	F 29.1 F 29.2 F 29.1, Q q D 23.4
Basin	F 27–28
Battery	E 34.3
Battery (fortification)	E 34.3
Bacon articulated buoyant leading	Q 80–126 P 5 P 5 Q 102.2, 120
lightafking a clearing line marking measured distance on submerged rock radar radio resilient topmarks towers	P 3–5 Q 121 Q 122 Q 83 S 2–3.6 S 10–16 P 5 Q 9–11, 82, 102.1 P 3, Q 110–111
Bearing	Br
Being reclaimed	F 31
Bell bugay land	R 14 Q a, R 21 T a
Benchmark	Во
Berth anchor dangerous cargo designation visitors yacht	N 11.1–11.2 F 19.3 F 19.1, N 11.1–11.2, Q 42 F 19.2 F 11.2
Bifurcation buoy	Q h
Black	J as, Q 2
Blind, duck	K j–k
Blockhouse	E 34.2
	J au, P 11.4

Board (leading beacon)	Q 102.2
Boarding place, pilot	T 1.1–1.4
Boat harbor, marina	F 11.1
Boom	F 29.1
Boulders	J 9.2 N 40–41
international Boundary	
IALA region	Q 130
Breakers	C d, K 17
Breakwater	F 4.1–4.3
Bridge bascule draw fixed lifting light (traffic signal) passage signal station pontoon swing transporter under construction	D 20.1–24 D 23.4 D 23.6 D 20.1 D 23.3 T 25.2 T 25.1 D 23.5 D 23.2 D 24 D d
Broken	J 33
Brown	J az
Bubbler curtain, bubbler	F 29.2
Buildings	D 2, 5–6, 8
Buoyage system, IALA	Q 130–130.7
Buoyant beacon	P 5
Buoy cardinal isolated danger lateral moveringanger safe water fic mooring sciggiticial	Q 20–71 Q 130.3 Q 130.4 Q 130.1 Q 40–45 Q 130.7 Q 130.5 Q r Q 130.6
Buried pipeline	L 42.1
Bushes	Со
С	
Cable ferry landing beacon overhead submarine Cableway (aerial)	M 51 Q 123 D 26–27, H 20 L 30.1–32 D 25
Cairn	Q 100
	3,100

CALM (Catenary Anchor Leg Mooring)	L 16
Caisson	F 42
Calcareous	J 38
Calling-in point	M 40.1
Calvary cross	E 24
Camping site	E 37.1–37.2
Can buoy	Q 21
Canal distance mark	F 40 B 25.1–25.2
Candela	B 54
Cardinal marks	Q 130.3
Careening grid	F 24
Cargo transhipment area	N 64
Castle	E 34.2
Casuarina	C 31.6
Causeway	F 3
Cautionary notes	A 16
Cemetery	E 19
Centimeter	B 43
Chalk	Jf
Channel	I 20–22
Chart datum	A 3, C a, H 1, 20 A 8
dimension nu <b>relea</b> ence to another	A1–2 A 18–19 A 13
scale	A 13 A 10
<i>title</i> Chemical dumping ground	N 24
Chemical pipeline	L 40.1–40.2
Chimney	E 22
Chocolate	J ba
Church	E 10.1 E 10.4
dome spire	E 10.4 E 10.3 E 10.2
tower Cinders	Jр
Circular (non-directional) aeromarine radiobeacon	S 10
Circular (non-directional) marine radiobeacon	S 10
Cirripedia	J ae

Clay	J 3
Clearance	D 21
hosizentelrtical	D 26, i D 22, 23.1, 23.4, 23.6–28
<i>vertical</i> Cleared platform	L 22
Clearing line	M 2
Clearing line beacon	Q 121
Cliffs	C 3
Coal head	Ji
Coarse	J 32
Coast flat radar station radio station providing QTG service	C 5 S 1 S 15 C 3
<i>steep</i> Coast Guard station	T 10–11
Coastline <i>surveyed</i>	C 1–8 C 1
unsurveyed	C 2
Cobbles Colored mark	J 8 Q 101
	Q 101
Colored topmark Colors	Q 102.1
beacons buoys lights	Q 2–5 Q 2–5 P 11.1–11.8
topmarks COLREGS demarcation line	Q 2–5
Columbia River Datum	N a
Column	E 24
Compass rose	A c, B 70
Composite group-flashing	P 10.4 P 10.2
<i>group-occulting</i> Conical buoy	Q 20
Conifer	C 31.3, j
Consol beacon	S 13
Conspicuous landmark	E 2
Conspicuous, radar	S 5
Container crane	F 53.2
Contiguous zone	N 44
Continental shelf	N 46

Continuous guick	P 10.6
ultra quick	P 10.8
very quick	P 10.7
Contour	
depth	I 30–31
	l 15, 30
drying	C 10, 12, H 20
<i>topographic</i> Control point	B 20–24
Conversion scales	Aa
Conveyor	Fg
Copyright note	A 5
Coral	J 10, 22, K 16, h, m
Coral reef	
always covers	K 16
covers and uncovers	J 22, K m
datashad	Kh
<i>detached</i> Coralline algae	J 10
Corner coordinates	A 9
Covers	J 21–22, K 11, 16, 21
Crane	F 53.1–53.3
Crib	K i–j, L 43, b
Crossing gates	M 22
Crossing, traffic separation	M 23
Cubic meter	B b
Cultivated	
fields	CI
fish	K 47
shell Cultural features	D
Cupola	E 10.4
Current	H 42–43, m, t
diagrastricted waters	H t H 42
Customs house	F 61
nouse	N 48
limit _{fice}	F 61
of Cutting	D 14
Cycles per second	Вj
Cylindrical buoy	Q 21
Cypress buoy	Cr

Dam Danger firing area isolated mark line signal station Zone Dangerous cargo berth rock	F 44 N 30, Q 50, 125 Q 130.4 K 1 T 35 Q 50 F 19.3 K 10–13, 14.2
firing area isolated mark line signal station zone Dangerous cargo berth	Q 130.4 K 1 T 35 Q 50 F 19.3
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wreck	K 28
Dark	J bd
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Datum chart sounding reduction	H 1, 20 H 1
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Deadhead	K 43.2
Decayed	J an
Deciduous woodland	Ci
Decimeter	B 42
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route Degaussing range	N 25 Q 54
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Depth	
charted contours minimum	H 20 I 30 K 46.2, M 27.2
observed	H 20
out of position	I 11
safe clearance swept	K 3, 30, f I 24, a, b, K 2, 27, 42, f
swepi units used for	124, a, b, k 2, 27, 42, 1 A b
unknown	K 3, 13, 23, 28, 30, 40, a, L 21.1
Depths	I
Derrick, oil	L 10

Designation of	0.40
peberu	Q 10 F 19.1
	Q 11
buplátform	L2
reporting point tidal stream, position of tabulated data	M 40.1 H 46
transit shed	F 51
Detector light	P 62
Development area	L4
Deviation	
dolphin	F 21
DGPS correction transmitter	S 51
Diaphone	R 11
Diatoms	J aa
Diffuser	L 43
Dike	F 1
Direction	
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Directional radiobeacon	S 11
Directions, compass	В
Discolored water	Ke
Dish aerial	E 31
Disposition of lights	P 15
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along waterway	B 25.1–25.2
measured, beacons marking	Q 122
Disused	
pipeline/pipe	L 44
nlotform :	L 14
platformarine cable	L 32
Diurnal tide	H 30
Dock	F 25
dry, graving floating	F 25 F 26
nounig	F 27
wet Dolphin	F 20–21
Dome	E 30.4
Doubtful	
depth	12
depth existence	12  1  88

Draft	M 6, N 12.4 I 20–22
aremannel	I 20–22
Dredging (extraction) area	N 63
Drying contour	l 30 H 20, I 15
<i>height</i> Duck blind	K j–k
Dumping ground chemical waste explosives	N c, d, g N 24 N 23.1–23.2
Dunes	C 8
E	
East cardinal mark	B 10 Q 130.3
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Eelgrass	C t
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Embankment	D 15
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Example of conspicuous landmarks fog signal descriptions full light description	E 2 R 20–22 P 16 E 1
landmangsmeasures	M 18–29.2
Exclusive Economic Zone (EEZ)	N 47
Exercise area, submarine	N 33
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Explosives anchorage area dumping ground	N 12.7 N 23.1–23.2
Extinguished light	P 55

Extraction area	N 63
F	
Factory	E d
Faint sector	P 45.1–45.2
Fairway	M 18
Farm marine	K 48.1–48.2 L 6
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Fast ice, limit	N 60.1
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Fence	Dg
Ferry <i>terminal, RoRo</i>	M 50–51 F 50
Filao	C 31.7
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Fireboat station	Тс
Firing danger area danger area buoy practice signal station	N 30 Q 50 T 36
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<i>weir</i> Fishery zone limit	N 45
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Flinty	1.5.5
-7	J ao

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do <b>6h</b> barrier wind farm	F 29.1 L 5.2
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Flood	Нq
borrogo	F 43
ba <b>titee (</b> stream)	H 40
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<i>signals</i> Foot	B 47
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Fort	E 34.2
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Fucus	J af
G	
Gable	Ei
Gas	
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Gasfield name	L1
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Glacial	J ap
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Globigerina	J z
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Gray	J bb
Green	J av, P 11.3, Q 2
Gridiron	F 24
Gritty	J am
Groin	F 6
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-tackle Group fixed and flashing flashing occulting quick short flashing very quick	P d P 10.4 P 10.2 P 10.6 P 20.7 P 10.7
Gulf Coast Low Water Datum	Hk
Gulf Stream limits	Hu
Gun	R 10
н	
Hachures	Cf
Harbor installations lim桷aster's office	F 10–34 N 49 F 60
Harbors	F
Hard	J 39
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Height datum drying light (elevation of) rocks spot of structure tide of top of trees of wellhead	H p H 20 H 20, I 15 H 20, P 13 K 10–11 C 10–11, 13, H 20 E 4–5 H 20, P 13 C 14 L 23
Heliport, Helipad	D 18
Hertz	Вg
High water	H 20, a
High Water Full and Change	Hh
Higher High Water	H 20, b
Highest Astronomical Tide (HAT)	Н 3
Highway	D 10 D a
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Horizontal	P 15
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<i>clearance</i> Horizontally disposed	P 15
Horn	R 13
Hospital	E g, F 62.2
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I	
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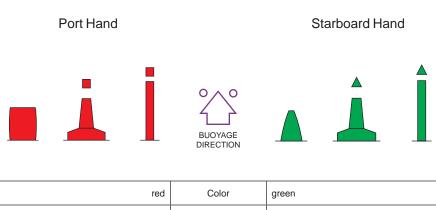
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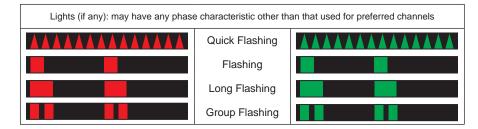
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ViewsE 3.1-3.2VillageD 4VillageD 4VioletJ at, P 11.5Virtual AISS 18.1-18.7Visitor'sF 19.2berthF 19.2mooringQ 45VolcanicJ 37ashJ 1VolcanoK 6WWaterdiscoloredK 6featuresC 20-25intakeL 41.1-41.2, tpipeline areaL 40.2, L 41.2tankE 22WaterfallsC 22WaveC 22waveC 22waveC 22WaveC 22WaterfallsC 22WeedJ 13.1-13.2Weir, fishK 44.2WeilE 6submergedL 21.1-21.2, 23WestB 12	Vessel, light	Ρe
VillageD 4VillageD 4VioletJ at, P 11.5Virtual AISS 18.1–18.7Visitor's berthF 19.2mooring VolcanicJ 37ashJ 1VolcanoK cWWall, trainingWater discoloredF 57Water pipelineL 40.2, L 41.2tankE 22intakeL 40.2, L 41.2tankE 22WaterfallsC 22WeedJ 13.1–13.2WeedJ 13.1–13.2Weir, fishK 44.2WellE 6SubmergedL 22WellE 6WellheadL 21.1–21.2, 23WestB 12	Viaduct	Di
VioletJ at, P 11.5Virtual AIS\$ 18.1–18.7Visitor's berthF 19.2mooring VolcanicJ 37ashJ 1VolcanoK cWWall, trainingF 5WarehouseF 57Water discoloredK cgenerationL 40.1, 41.7pipeline areaL 40.2, L 41.2, tpipeline areaL 40.2, L 41.2, ttankE 27WaterfallsC 22WaterfallsC 22Wave actuated fog signalT 26Way pointM 40.7WeedJ 13.1–13.2Weir, fishK 44.2WellE 6submergedL 21.1–21.2, 23WestB 12	Views	E 3.1–3.2
Virtual AISS 18.1–18.7Visitor's berthF 19.2 Q 44mooring VolcanicJ 37 J 37 J 38 ashVolcanoK 60WWall, trainingF 50 C 20-25 intakeWater discolored featuresC 20-25 C 20-25 intakeJuakeL 41.1–41.2, b pipelineJuakeL 41.1–41.2, t C 20-25 intakeWater discoloredK 60 C 20-25 C 20-25 intakeWater discoloredK 60 C 20-25 C 20-25 intakeWater discoloredK 60 C 20-25 C 20-25 intakeWater discoloredC 22 C 20-25 (L 41.1–41.2, t pipeline areaL 40.1, 41.7 tankL 40.2, L 41.2 E 27 towerWaterfallsC 22 C 22 WaterfallsWaterfallsC 22 C 22 WatermillWeedJ 13.1–13.2 C 24 Weir, fishWeilE 60 L 21.1–21.2, 23 WestWestB 12	Village	D 4
Visitor's berth F 192 Q 44 mooring Volcanic J 37 ash Volcano K C W Wall, training F 5 Warehouse F 57 Water discolored K 6 features C 20–22 intake L 41.1–41.2, t pipeline area L 40.2, L 41.2 tank E 27 tower E 27 Waterfalls C 22 Waterfalls C 22 Watermill E C Wave actuated fog signal R 21–22 farm Way point M 40.7 Weather signal station T 25 Weed J 13.1–13.2 Weir, fish K 44.2 Well E C submerged L 21.1–21.2, 22 West L 21.1–21.2, 22 West B 12	Violet	J at, P 11.5
berthF 19.2 Q 48mooring VolcanicJ 37 J 1 ashashJ 1 StocanoWMall, trainingWall, trainingF 5 F 57Water discoloredK 6 F 67Water discoloredK 6 F 67Water discoloredC 20-25 C 20-25 intakeUtal tankL 40.1, 41.1 E 27Water tankE 27WaterfallsC 22WaterfallsC 22WaterfallsC 22WatermillE 6 C 22Wave actuated fog signalR 21-22 C 26WeedJ 13.1-13.2WeedJ 13.1-13.2Weir, fishK 44.2WellE 6 C 23WeedJ 13.1-13.2Weir, fishK 44.2WellE 6 WeedJ 13.1-13.2WeilE 6 WeilE 6 <t< td=""><td>Virtual AIS</td><td>S 18.1–18.7</td></t<>	Virtual AIS	S 18.1–18.7
mooring VolcanicJ 37 J 1 J 1 ashashJ 1 J 1 VolcanoWWall, trainingF 5WarehouseF 51Water discoloredK 6 featuresdiscoloredK 6 featuresintakeL 41.1-41.2, t pipelinepipeline areaL 40.2, L 41.2 tanktankE 22 towerWaterfallsC 22 C 22 towerWaterfallsC 22 C 22 towerWaterfallsC 22 C 22 towerWave actuated fog signalR 21-22 R 21-22 L 6 farm Way pointWeedJ 13.1-13.2 L 6 L 6 farm Way pointWeedJ 13.1-13.2 L 20 L 21.1-21.2, 22 West		F 19.2 Q 45
ash         Volcano       K d         W       Wall, training       F 5         Warehouse       F 57         Water       discolored       K de         discolored       K de       C 20–22         intake       L 41.1–41.2, t       pipeline         pipeline area       L 40.2, L 41.2       tank         tank       E 22       tower       E 21         Waterfalls       C 222       Waterfalls       C 222         Waterfalls       C 224       Waterfalls       C 224         Water mill       E de       L 40.2, L 41.2       L 40.2, L 41.2         tank       E 22 for tower       E 21       E 21       E 21         Waterfalls       C 222       Waterfalls       C 224         Water mill       E de       E de       E de         Wave       actuated fog signal       R 21–22       E de         farm       W 40.1       E de       E de         Way point       M 40.1       E de       E de         Weed       J 13.1–13.2       Weir, fish       K 44.2       Well       E de         submerged       L 21.1–21.2, 23       Wellhead       L 21.1–21.2, 23       West	<i>mooring</i> Volcanic	J 37
W         Wall, training       F 5         Warehouse       F 57         Water       C 20-25         discolored       K 6         features       C 20-25         intake       L 41.1-41.2, 15         pipeline       L 40.1, 41.7         pipeline area       L 40.2, L 41.2         tank       E 27         Waterfalls       C 22         Waterfalls       C 22         Watermill       E 6         Wave       R 21-22         farm       L 40.7         Way point       M 40.7         Weather signal station       T 26         Weed       J 13.1-13.2         Weir, fish       K 44.2         Well       E 6         submerged       L 22         vest       B 12	<i>ash</i> Volcano	Ko
WarehouseF 57WaterdiscoloredK 66featuresC 20-25intakeL 41.1-41.2, tpipelineL 40.2, L 41.2tankE 27WaterfallsC 22WaterfallsC 22WatermillE 6WaveR 21-22farmL 40.2Way pointM 40.7WeedJ 13.1-13.2Weir, fishK 44.2WellE 6submergedL 21.1-21.2, 22WestB 12		
WarehouseF 57WaterdiscoloredK 66featuresC 20-25intakeL 41.1-41.2, tpipelineL 40.2, L 41.2tankE 27WaterfallsC 22WaterfallsC 22WatermillE 6WaveR 21-22farmL 40.2Way pointM 40.7WeedJ 13.1-13.2Weir, fishK 44.2WellE 6submergedL 21.1-21.2, 22WestB 12	Wall, training	F٤
WaterdiscoloredK defeaturesC 20-25intakeL 41.1-41.2, tpipelineL 40.1, 41.1pipeline areaL 40.2, L 41.2tankE 2'WaterfallsC 22WaterfallsC 22WatermillE cWaveR 21-22actuated fog signalR 21-22farmM 40.1WeedJ 13.1-13.2WeedJ 13.1-13.2Weir, fishK 44.2WellE csubmergedL 21.1-21.2, 22WestB 12		F 51
Watermill       E d         Wave actuated fog signal       R 21–22         farm       L d         Way point       M 40.1         Weather signal station       T 25         Weed       J 13.1–13.2         Weir, fish       K 44.2         Well       E d         submerged       L 21         submerged       L 20         Wellhead       L 21.1–21.2, 23         West       B 12	discolored features intake pipeline pipeline area tank	K e C 20-25 L 41.1-41.2, t L 40.1, 41.1 L 40.2, L 41.2 E 21 E 21
Wave actuated fog signal     R 21-22 L 6       farm Way point     M 40.1       Weather signal station     T 29       Weed     J 13.1-13.2       Weir, fish     K 44.2       Well     E 6       submerged     L 21       submerged     L 21.1-21.2, 23       West     B 12	Waterfalls	C 22
actuated fog signalR 21-22 L 6farmL 6Way pointM 40.1Weather signal stationT 25WeedJ 13.1-13.2Weir, fishK 44.2WellE 6submergedL 21suppontionL 20WellheadL 21.1-21.2, 22WestB 12	Watermill	Ec
farm Way pointM 40.1Way pointM 40.1Weather signal stationT 29WeedJ 13.1–13.2Weir, fishK 44.2WellE 6submergedL 21submergedL 20WellheadL 21.1–21.2, 23WestB 12		R 21–22 L 6
Weather signal station     T 29       Weed     J 13.1–13.2       Weir, fish     K 44.2       Well     E 6       submerged     L 2       suppendention     L 20       Wellhead     L 21.1–21.2, 23       West     B 12		M 40.1
Weed         J 13.1–13.2           Weir, fish         K 44.2           Well         E e           submerged         L 2           suppontion for         L 20           Wellhead         L 21.1–21.2, 23           West         B 12		T 29
Well     E       submerged     L       suppendention     L       Wellhead     L       West     B		J 13.1–13.2
Well     E       submerged     L       suppendention     L       Wellhead     L       West     B	Weir, fish	K 44.2
submerged         L 2           suppossion         L 20           Wellhead         L 21.1–21.2, 23           West         B 12	Well	Ee
West B 12	•	L a L 21 L 20
	Wellhead	L 21.1–21.2, 23
	West cardinal mark	B 12 Q 130.3

Wet dock	F 27
Wharf	F 13
Whistle	R 15 Q c
buoy White	J ar, P 11.1
Wind farm signal station	E 26.2, L 5.2 T 29
<i>turbine</i> Windmill	E 26.1, L 5.1 E 25.1–25.2
Withy	Q 91–92
Woodland coniferous	Cj
<i>deciduous</i> Woods, wooded	C 30
Works at sea, (reclamation area) on land under construction, works in progress	F 31 F 30 F 32
World Geodetic System (WGS)	S 50
Wreck buoy (marking new danger)	K 20–30, c Q 130.7 K 25
mast Y	
Yacht berths without facilities	F 11.2 F 11.3
<i>club</i> Yard	B d F 52
<i>timber</i> Yellow	J aw, P 11.6
Z	
Zone Exclusive Economic Zone (EEZ)	N 47 N 45
fishiggore traffic seaward, contiguous	M 25.1–25.2 N 44 M 13, 20.1–20.3
separation	10, 20.1–20.3

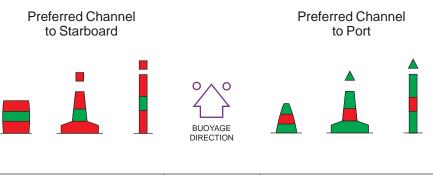
## Appendix 1 IALA Maritime Buoyage System



red	Color	green
cylindrical (can), pillar, spar	Buoy	conical (nun), pillar, spar
single red cylinder (can)	Topmark (if any)	single green cone, point upward



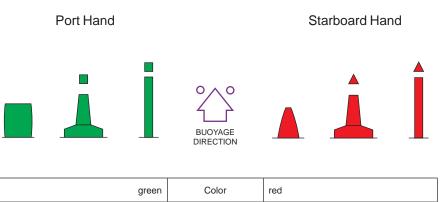




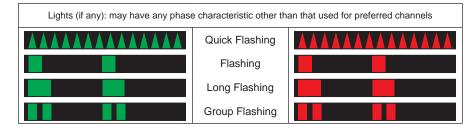
red with one green horizontal band	Color	green with one red horizontal band	
cylindrical (can), pillar, spar	Buoy	conical (nun), pillar, spar	
single red cylinder (can)	Topmark (if any)	single green cone, point upward	

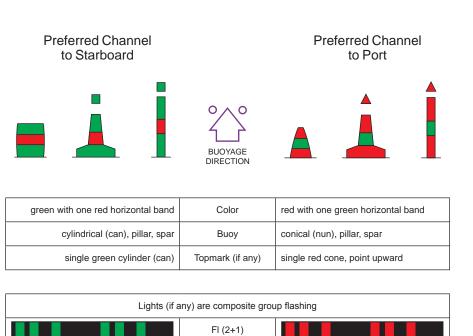
Lights (if any) are composite group flashing				
	FI (2+1)			

#### IALA Maritime Buoyage System Appendix 1



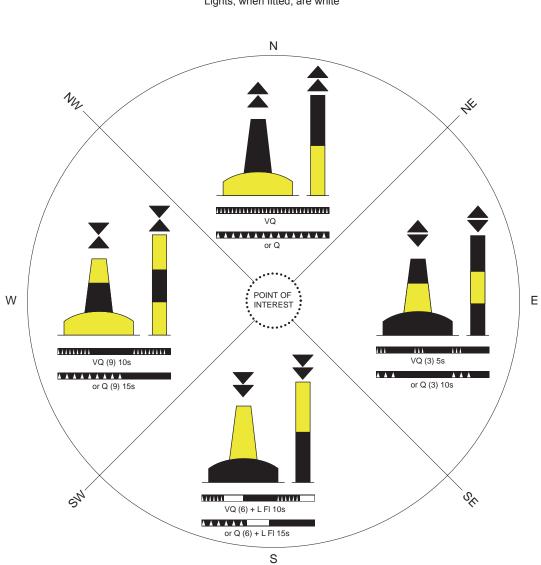
green	Color	red
cylindrical (can), pillar, spar	Buoy	conical (nun), pillar, spar
single green cylinder (can)	Topmark (if any)	single red cone, point upward





#### Region B Lateral Marks

#### Appendix 1 IALA Maritime Buoyage System



Cardinal Marks in Regions A and B

Lights, when fitted, are white

#### IALA Maritime Buoyage System Appendix 1



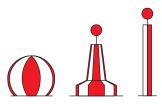


Color	black with one or more red horizontal band(s)
Buoy	optional, but not conflicting with lateral marks; pillar or spar preferred
Topmark (if any)	always fitted with double spheres

Lights (if any)		
Color	white	
Rhythm	group flashing	

Safe Water Marks

Regions A and B



red and white vertical stripes
spherical, pillar or spar
single red sphere

white	
ISO	
Oc	
L FI 10s	
Morse "A"	



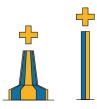
Special Marks

yellow
optional, but not conflicting with lateral marks
single yellow "X" shape

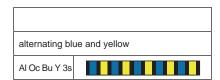
yellow	
FLY	
FI (4) Y	

May have any rhythm other than those used for white lights on cardinal, isolated danger or safe water marks.

New Danger Marks



blue and yellow vertical stripes
pillar or spar
vertical/perpendicular yellow cross



#### **Record of Corrections**

Notice No.	Corrected on	Corrected by	Notice No.	Corrected on	Corrected by	Notice No.	Corrected on	Corrected

#### **Section Key**

Α	INT 500	Chart Number, Title and Marginal Notes	INT 500 Mercator Projection 412 Scale 1:100,000 at Lat. 59°30' 53rd Ed., Feb. 2019 DEPTHS IN METERS
Β		Positions, Distances, Directions and Compass	● ● ▲ (±15°) Magnetic Variation 4°30'W 2011 (8'E) LOCAL MAGNETIC ANOMALY (see note)
С	茶	X Natural Features	359
D	120	Cultural Features	Tel 12 H Name Ru HRU
Ε	<u>ل</u> م) ا	] Landmarks	⊙ TANK II 🏠 ⊘ + ∞ ४ û î î û û (202) 🛱 × 👗
F		Ports	
Η	3.049	Tides and Currents	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
	9 ₇	7 Depths	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
J	Let 1	A Nature of the Seabed	Cravel Rock
Κ	* 3	Rocks, Wrecks and Obstructions	🐻 Wk 🛰 35 Rk 7 ↑ 7 🐻 Obstn 🥖 Wk ↔ Masts 🖌 🔮 Obstn # 🛞 🗆 Crib
L		Offshore Installations	$\blacksquare \mathbf{z}_{-44} \ O \qquad \qquad$
Μ	I.F.	Tracks and Routes	$ \begin{array}{c} -DW - \leftarrow \rightarrow \\ \hline \end{array} \\ \\ \\ \hline \end{array} \\ \\ \hline \end{array} \\ \\ \\ \hline \end{array} \\ \\ \hline \end{array} \\ \\ \\ \hline \end{array} \\ \\ \\ \\$
Ν	·*	Areas and Limits	$\neg \neg \bigcirc \neg \neg \uparrow \downarrow ( \bigcirc \bigcirc$
Ρ		Lights	
Q		a Buoys and Beacons	$ \begin{array}{c} \bullet \\ \bullet $
R		O Fog Signals	ℓ              ℓ              ℓ              ℓ              Γ              S              FI 3s 70m 29M HORN(1) 15s WHIS               FI 3s 70m 29M SIREN Mo(N) 60s
S	• Ra	Radar, Radio and Satellite Navigation Systems	$ \textcircled{O} \qquad \textcircled{O} \qquad$
Т	•	Services	□     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓     ↓ </th
U		Small Craft (Leisure) Facilities	



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