# U.S. Chart No. 1

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



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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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#### 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 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 <a href="https://msi.nga.mil/NGAPortal/MSI.portal">https://msi.nga.mil/NGAPortal/MSI.portal</a>.

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

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 <a href="https://www.navcen.uscg.gov/?pageName=lightLists">https://www.navcen.uscg.gov/?pageName=lightLists</a>.

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 <a href="https://msi.nga.mil/NGAPortal/MSI.portal">https://msi.nga.mil/NGAPortal/MSI.portal</a>.

Other important information that cannot be shown conveniently on nautical charts can be found in the NOAA *U.S. Coast Pilot*<sup>®</sup>. 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 <a href="https://msi.nga.mil/NGAPortal/MSI.portal">https://msi.nga.mil/NGAPortal/MSI.portal</a>.

U.S. Nautical Chart Catalogs and Indexes

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

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 <a href="https://nauticalcharts.noaa.gov/charts/list-of-latest-editions.html">https://nauticalcharts.noaa.gov/charts/list-of-latest-editions.html</a>.

#### **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 <a href="https://msi.nga.mil/NGAPortal/MSI.portal">https://msi.nga.mil/NGAPortal/MSI.portal</a>.

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 <a href="https://www.nauticalcharts.noaa.gov/customer-service/assist">www.nauticalcharts.noaa.gov/customer-service/assist</a>.

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

(C)	Ro	cks					(D) Supplementary r	national symbol: a
(E)	Pla	ne of Reference for Heights →						
	No. INT Description NOAA NGA Other NGA							CDIS
							*	rock which covers and uncovers or is awash at low water
	11	<b>22</b> <sub>7</sub> * (1 <sub>6</sub> ) (₹)(1 <sub>6</sub> )	Rock which covers and uncov- ers, height above chart datum	* (2) (2) (4)	* $\frac{(Q_6)}{Uncov 1m}$ $\frac{(Q_6)}{Uncov 1m}$	<b>※</b> ⊛	4	underwater hazard which covers and uncovers with drying height
		Height datum Chart datum 5m					8	isolated danger of depth less than the safety contour
	(1)	(2)	3	(4a)	(4b)	(5)	6	7

	Section designation
(A)	Section designation
B	Section
©	Sub-section
D	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.



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.

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.

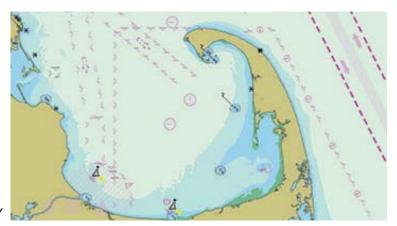
- The Day Color Table, meant to be used in bright sunlight, uses a white background for deep water and looks the most like a traditional paper chart.
- The Dusk Color Table uses a black background for deep water and colors are subdued, but slightly brighter than those used in the Night Color Table.
-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

### Day, Dusk and Night Color Palettes





DAY

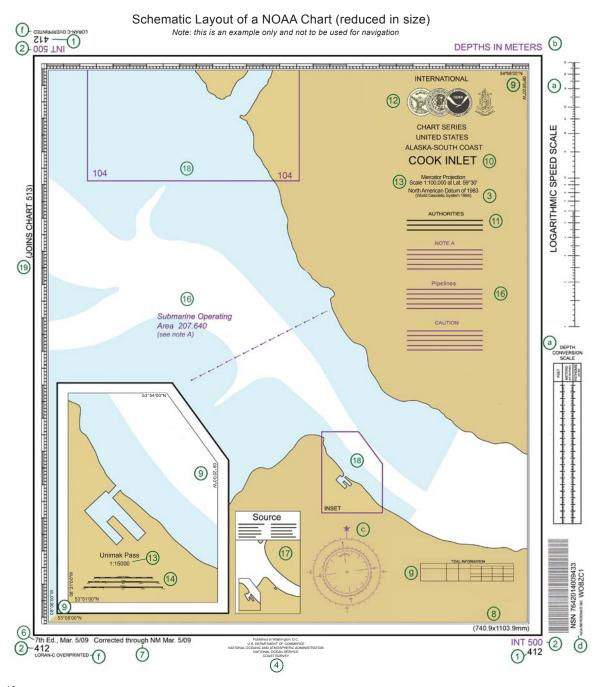


**DUSK** 



**NIGHT** 

### A Chart Number, Title, Marginal Notes

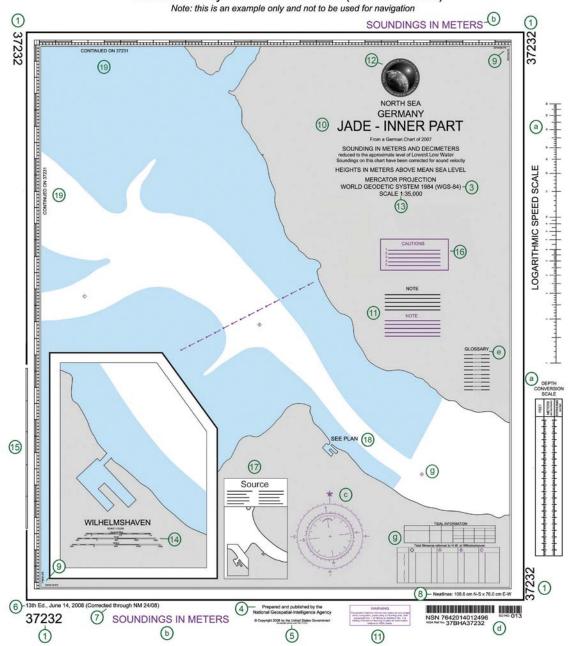


Magnetic Features → B Tidal Data → H							
1	Chart number in national chart series						
2	Chart number in international (INT) series (if any)						
3	Reference ellipsoid of the chart						
4	Publication note (imprint)						
(5)	Copyright note						
6	Date of current edition						
7	Notice to Mariners 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

### Schematic Layout of an NGA Chart (reduced in size)

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 features, 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
©	Compass rose
d	Bar code and stock number
е	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	ohical 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 (PA)		š	Point feature or area of low accuracy
						21	Sounding of low accuracy
8	PD	Position doubtful (reported in various positions)	PD	(PD)		š	Point feature or area of low accuracy
		,				21	Sounding of low accuracy
9	N	North					
10	Е	East					
11	S	South					
12	W	West					
13	NE	Northeast					
14	SE	Southeast					
15	NW	Northwest					
16	SW	Southwest					

### Positions, Distances, Directions, Compass

$\boldsymbol{\vdash}$

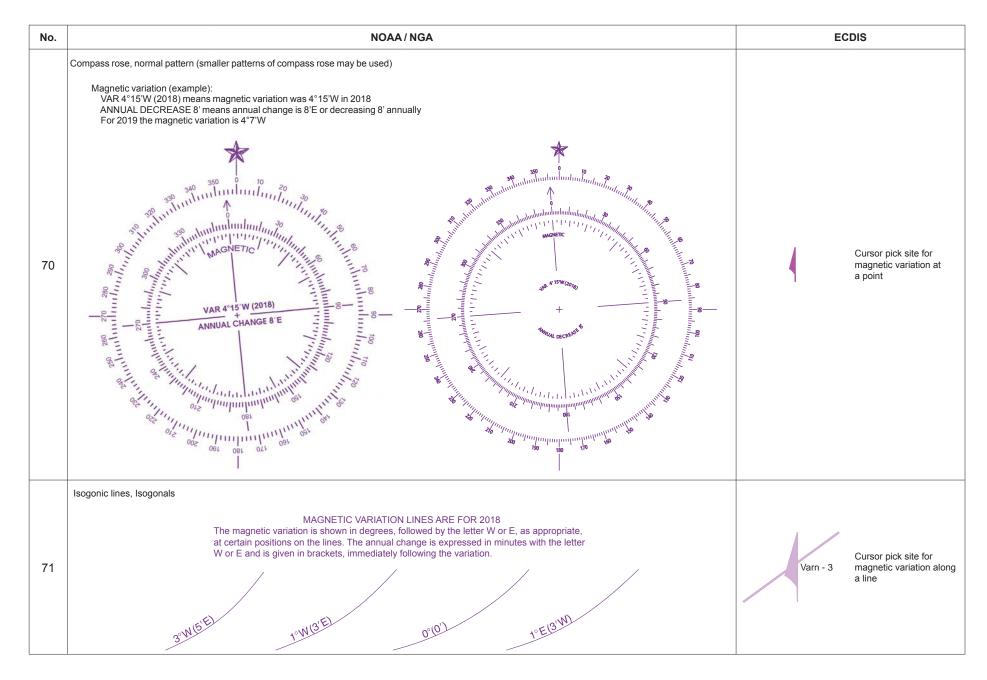
No.	INT	Description	NOAA NGA Other NGA		ECDIS			
Control Points								
20	Δ	Triangulation Point						
21	†	Observation spot	⊕ Ob	s Spot		0	Position of an elevation or control point	
22	· •	Fixed point	G	)				
25.1	o km 32	Distance along waterway, no visible marker	St M 32			km 7	Canal and distance point 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	nbol to represent distance marks. How	vever, the distances show	wn along waterways on I	NOAA-produced ENCs are displaye	ed in statute miles.		
Symbol	zed Positions (Examples)							
30	## # # # # ## Wk	Symbols in plan—position is center of primary symbol				ECDIS follows the paper of		
31		Symbols in plan—position is at bottom of symbol				position of symbols, except for simplified sy buoys and beacons (see Q 1).		
32	o Mast ⊙ MAST ★	Point symbols	⊙ N	MAST		0	Position of a point feature	
33	† ° Mast PA	Point symbols—approximate positions	0 1	Mast		ECDIS indicates approximate position only for wrecks, obstructions, islets 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	cm	Centimeter(s)						
44	mm	Millimeter(s)						
45	М	International nautical mile(s) (1852m), sea mile(s)	Mi NN	⁄li NM				
47	ft	Foot / Feet						
48	fm, fms	Fathom(s)						

# B Positions, Distances, Directions, Compass

No.	I	NT	Description	NOAA	NGA	Other NGA	ECDIS	
49		h	Hour(s)	hr				
50	m	min	Minute(s) of time					
51	S	sec	Second(s) of time					
52		kn	Knot(s)					
53		t	Ton(s), Tonnage (weight)					
54	54 cd		Candela(s)					
Magneti	c Compass						Supplementary national symbols n	
68.1		c Variation 2011 (8'E)	Note of magnetic variation, in position				Cursor pick site for magnetic variation at a point  Cursor pick site for magnetic variation over an area	
68.2		ation at 55°N 8°W 2011 (8'E)	Note of magnetic variation, out of position					

# Positions, Distances, Directions, Compass B





# 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					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						
а		Square meter(s)	m²				
b		Cubic meter(s)	m	3			
С		Inch(es)	ir	1			
d		Yard(s)	y	d			
е		Statute mile(s)	St M	St Mi			
f		Microsecond(s)	μsec	μs			
g		Hertz	н	z			
h		Kilohertz	kH	łz			
i		Megahertz	MI	<del>l</del> z			
j		Cycles/second	cps	c/s			
k		Kilocycle(s)	k	c			
I		Megacycle(s)	M	С			
m		Ton(s) (U.S. short ton) (2,000lbs)	Т	-			
0		Benchmark	BI	M			
р		Variation	var	VAR		Varn	Magnetic variation

# 

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 national	symbols: a-e			
Foresl	$Foreshore \to I, J$									
1		Coastline, surveyed					Coastline			
2		Coastline, unsurveyed				000000000000000000000000000000000000000	Coastline or shoreline construction of low accuracy in position			
	11//		high	/ow			Presence of cliffs coincident with coastline is obtained by cursor pick			
3		Cliffs, Steep coast	†	· 為外,所以 ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (			Sloping ground crest line distant from coastline, radar or visually conspicuous			
			4 Sall EVALLE	Warming Manager			Cliff as an area			
4	mit the same	Hillocks	†	¢ .		**	Conspicuous hill or mountain top			
5		Flat coast								
6		Sandy shore	t				Nature of coastline is obtained by cursor pick			
7	Stones Stones	Stony shore, Shingly shore	مُعْلَىٰ نِي	prisite se a se		r\\				
8	Dunes	Sandhills, Dunes	†			洪	Conspicuous hill or mountain top			

# Natural Features C

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Relief						Supplementary national	ıl symbols: e–g
Plane o	of reference for heights → H						
10	250 - 200 - 150 - 200 - 100	Contour lines with values and spot height				<b>●</b> 109 m	Elevation contour with spot height, contour value is obtained by cursor pick
11	· 389 · 189 115,	Spot heights				<b>○</b> 119 m	Position of an elevation or control point
12	(360) 250 50	Approximate contour lines with values and approximate height					Elevation contour with spot height, contour
13	1 359	Form lines with spot height	†	9.250		● 189 m	value is obtained by cursor pick
14	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Approximate height of top of trees (above height datum)		135 TT		Approximate obtained by	e height of trees is cursor pick
Water	Features, Lava						
20	Name	River, Stream				>	River
21		Intermittent river, intermittent lake					INVE

### C Natural Features

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
22		Rapids, Waterfalls					Rapids  Waterfall  Waterfall, visually conspicuous
23		Lakes					Lake
24	Salt	Salt pans					
25	Glacier	Glacier					Continuous pattern for an ice area (glacier, etc.)
26		Lava flow	Lava				
Vege	tation					Supplementary national s	symbols: i–t
30	ΛαΛΛ αλλα αλλ λαλ ααλ	Woods in general	Wooded †	# # & ~ 4			Line of trees  Wooded area

# Natural Features C

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
31	Prominent trees (isolated or in groups)						
31.1	ð ÖÖÖ	Unspecified tree				<b>†</b>	Tree
31.2	t	Evergreen (except conifer)				1	Tiee
31.3	<b>\$ \$ \$ \$</b>	Conifer, Casuarina					Vegetation, line of trees
31.4	文	Palm					vegetation, line of trees
31.5	+ * ***	Nipa Palm				# 1	
31.6	+ 秦 秦 秦	Casuarina				f f f f,	Wooded area
31.7	† Ψ Ψ Ψ	Filao				<b># # #</b> /	wooded area
31.8	t ÎÎÎ	Eucalypt				<b>† † ≠</b>	
32		Mangrove, Nipa palm	(us	sed in small areas)			Mangrove with coastline or shoreline construction of low accuracy in position
33	Mar/sh	Marsh, Swamp, Reed beds	(used in small areas)	Swamp		,。。* * * * * * * * * * * * * * * * * * *	Marsh with coastline or shoreline construction of low accuracy in position
Supp	lementary National Symbols						
а		Chart sounding datum line (surveyed)	Uncov	/ers			
b		Approximate sounding datum line (inadequately surveyed)					
С		Foreshore; Strand (in general); Stones; Shingle; Gravel; Mud; Sand	Mud				
d		Breakers along a shore	Hallos dellos	extensive)			

### C Natural Features

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
е		Rubble	t projektive			
f		Hachures	†	610		
g		Shading	†			
i		Deciduous woodland	† Wooded			
j		Coniferous woodland	† Wooded	NA.		
k		Tree plantation	† *** *** ***	000000		
I		Cultivated fields	† Cultivated			
m		Grassfields	Grass	alle, alle, alle, alle,		
n		Paddy (rice) fields	Rice †			
0		Bushes	† Bushes	00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 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	NGA	Other NGA	EC	DIS
Settle	ments, Buildings						
Height	of objects → E Landma	arks → E					
1		Urban area					Built-up area
2		Settlement with scattered buildings					
3	o Name □ Name	Settlement (on medium and small scale charts)	<i>-</i>	‡ o		Name	Built-up area as a point
4	H Name ■ Name HOTEL	Village	Vil			Name	built-up area as a point
5		Buildings	■ 図 □				Conspicuous single building
6	Hotel	Important building in built-up area					Conspicuous single building in built-up area
7	NAME	Street name, Road name				Street name	is obtained by cursor pick
8	[Ru	Ruin, Ruined landmark	[i Ruins	o Ru		Status of rui pick	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
13		Lindarkinent					Embankment, visually or radar conspicuous
40		T					Tunnel
16	<del></del>	Tunnel					Tunnel with depth below the seabed encoded
	Air- field Airport, Airfield				4	Airport as a point	
17		Airport, Airfield	Airport		<b>X</b>	Runway as a line	
					72	Airport area, with runway area and visually conspicuous runway area	
18	oximes	Heliport, Helipad					
Othe	r Cultural Features					Supplementary Nationa	al Symbols: d–i
20.1		Fixed bridge					
20.2	<del>-</del>	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	<u>20</u> (8 <u>9</u> )	Vertical clearance (see introduction)	HOR CL 25 FT VERT CL 20 FT	VERT CL 6 M T 6 L		clr 20.0	Bridge
23.1	20	Opening bridge (in general) with vertical clearance				clr cl 8.2	
23.2	20	Swing bridge with vertical clearance				clr op 20.0	Opening bridge
23.3	Lifting Bridge  42 (open 12)	Lifting bridge with vertical clearance (closed and open)				CII OD 20.0	
23.4	Bascule Bridge	Bascule bridge with vertical clearance					
23.5	Pontoon Bridge	Pontoon bridge				clr 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				clr 20.0	Bridge

### D Cultural Features

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS			
25	••••••••••••••••••••••••••••••••••••••	Overhead transporter, Aerial cableway with vertical clearance				clr 20.0	Aerial cableway			
	<u> </u>	casional, marrottoa oleatario				clr 20.0	Aerial cableway, radar conspicuous			
26.1	$\begin{array}{c} Pyl \\ 0 \bullet - \\ \hline \\$	Overhead power cable with pylons and physical vertical clearance	OVERHEAD POWER CABLE AUTHORIZED CL 140 FT			sf clr 20.0	Transmission line			
26.2	<b>Ś</b> -৩-	Overhead power cable with pylons and safe vertical clearance	TOWER			sf clr 20.0	Transmission line, radar conspicuous			
	Note D26.2: The safe vertical clearance defined by the responsible authority, to avoid risk of electrical discharge, has been obtained by applying a reduction to the physical vertical clearance of the cable.  The reduction is variable and depends upon the transmission voltage. See H20.									
27		Overhead cable, Telephone line, with vertical clearance	Tel • • • • • • • • • • • • • • • • • • •		clr 20.0	Overhead cable				
21	<u>ক</u>			• •		clr 20.0	Overhead cable, radar conspicuous			
28	Overhead	Overhead pipe with vertical		OVHD PIPE		clr 20.0	Overhead pipeline			
20		clearance		VERT CL 6FT		clr 20.0	Overhead pipeline, radar conspicuous			
29		Pipeline on land				-	Oil, gas pipeline, submerged or on land			
Supp	lementary National Symbols									
а		Highway markers	=20=5	95						
С		Abandoned railroad	+++	+ + +						

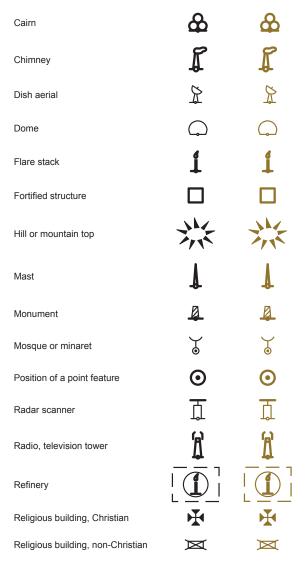
# Cultural Features D

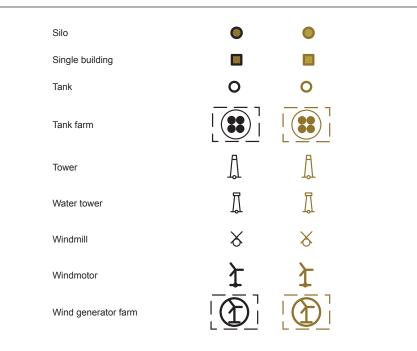
No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
d		Bridge under construction	+ + + ====			
f		Viaduct		Viaduct		
g		Fence	00			
h		Power transmission line				
i		Approximate vertical clearance		abt <u>21</u>		



### Conspicuous and Non-conspicuous Features

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.

Cranes	1
Flagstaff, flagpole	1
Mangrove	<u> </u>
Mine, quarry	*
Quarry	
Timber yard	#
Tree	青

# Landmarks E

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Plane	of Reference for Height → H	Lighthouses → P	Beacons → Q				
Gene	ral						
						0	Non-conspicuous point feature
1	Factory ☐ ○ Hotel	Examples of landmarks		MONUMENT			Non-conspicuous building
						Ī	Non-conspicuous water tower
	4	Examples of conspicuous landmarks (On NOAA charts,	EMPIRE STATE     BUILDING	E ⊙ SPIRE		0	Conspicuous point feature
2	capita is acc lower	a large circle with dot and capitals indicates that position is accurate; a small circle with					Conspicuous building
		lowercase indicates that position is approximate.)	O RADAR MAST	• CHIMNEY		Ī	Conspicuous water tower
3.1		Pictorial sketches (in true position)					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	A(30)	Height of top of a structure above height datum				Height is ob	tained by cursor pick
5	I (30)	Height of structure above ground level				Theight is ob	tained by cursor pick
Landr	marks						
10.1	₩ ch	Church			<u></u>	¥	Church as a point
10.1		Ondron			<del>∆1.</del> ■		Church as an area
10.2	Tr ∯ Tr	Church tower					
10.3	₩ Sp	Church spire	SPIRE	O Spire	å å å	¥	Church tower, spire, or dome
10.4	Crub	Church cupola (dome)	⊙ CUPOLA	O Cup	9		
13	×	Temple, Pagoda, Shrine, Marabout, Joss house			<del>+</del>	×	Religious building, non-Christian

# E Landmarks

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
17	¥	Mosque, Minaret			ζ	7	Mosque or minaret
19		Cemetery	Cem	[++++]			Landmark area, type is obtained by cursor pick
20	Д Tr	Tower	<ul><li>TOWER</li><li>Tr</li></ul>	Tr o		$\Lambda$	Tower
21	Ī	Water tower, Water tank on a tower	<ul><li>STANDPIPE</li><li>S'pipe</li></ul>	O Wtr Tr		Ī	Water tower
22	€ Chy	Chimney	<ul><li>CHIMNEY</li><li>Chy</li></ul>	о сну	Ů Ū	P	Chimney
23	ţ	Flare stack (on land)	• FLARE	O Flare		1	Flare stack
24	å Mon	Monument (including column, pillar, obelisk, statue, calvary cross)	<ul><li>MONUMENT</li></ul>	O Mon	J &	<u> </u>	Monument
25.1	*	Windmill	<ul><li>WINDMILL</li></ul>	O Windmill	*	× 🌣	Windmill, status of ruins is obtained by cursor
25.2	<b>X</b> Ru	Windmill (without sails)				<b>◇ ⅓</b>	pick
26.1	ļ + ‡	Wind turbine, Windmotor	<ul><li>WINDMOTOR</li></ul>	O Windmotor		ኒ	Wind motor
26.2		Onshore wind farm	WIND FARM	O Wind Farm			Wind generator farm
27	₽ FS	Flagstaff, Flagpole	• FS • FP	O FS O FP		\$	Flagstaff, flagpole
28	(I)	Radio mast, Television mast	R MAST     TV MAST	O R Mast O TV Mast		1	Mast
29	(Î)	Radio tower, Television tower	<ul><li>R TR</li><li>TV TR</li></ul>	O R Tr		Į	Radio, television tower
30.1	⊙ Radar Mast ↓ Radar	Radar mast	RADAR MAST	O Radar Mast		Ţ	Mast
30.2	o Radar Tr	Radar tower	RADAR TR	O Radar Tr		Ţ	Radar tower

# Landmarks E

No.	INT		Description	NOAA	NGA	Other NGA	EC	DIS
30.3	∘ Radar Sc		Radar scanner				耳	Radar scanner
30.4	⊙ Radome		Radome	DOME (RADAR)     Dome (Radar)	RADOME     Radome		Q	Dome
31	\$		Dish aerial	ANT (RADAR)     Ant (Radar)			¥	Dish aerial
							0	Tank
32	₩ ₩ •	Tanks	Tanks	⊙ TANK ∰ Ø O TK				Tank farm
33	◯ Silo	⊚ Silo	Silo	SILO O Silo     ELEVATOR O Elevator		ÅÅ	•	Silo
34.1			Fortified structure (on large scale charts)		Д		D	Fortified structure
34.2	н		Castle, Fort, Blockhouse (on small scale charts)					Contified attricture
34.3	<b>B</b>		Battery, Small fort (on small scale charts)					Fortified structure
35.1	MILLIN		Quarry (on large scale charts)					Quarry area
35.2	3	č	Quarry (on small scale charts)				*	Quarry
36	3	č.	Mine					
37.1	.00		Recreational vehicle site					
37.2	2 Χ		Camping site (including recreational vehicles)					
Supp	Supplementary National Symbols							
а			Muslim shrine	†				
b			Tomb	†				
С			Watermill	4 كم	X.	≎		

### E Landmarks

No.	INT	Description	NOAA NGA		Other NGA	EC	DIS
d		Factory	<b>▶</b> ☐ Facty				
е		Well	O 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	Govt Ho				
n		Institute	Inst				
0		Courthouse	Ct	Но			
р		Pavilion	Pa	av			
q		Telephone		Г			
r		Limited	Ltd				
S		Apartment	Apt				
t		Capitol	Сар				
u		Company	Со				
V		Corporation	Co	orp			

# Ports F

No.	INT	Description	NOAA	NGA	Other 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						Causeway as a line Causeway, covers and				
3		Causeway	Cswy			++	uncovers as a line  Causeway as an area  Causeway, covers and uncovers as an area				
4.1		Breakwater (in general)		<u> </u>			Breakwater as a line				
4.2		Breakwater (loose boulders, tetrapods, etc.)					Breakwater as an area				
4.3		Breakwater (slope of concrete or masonry)	[								
5	Training Wall (covers)	Training wall (partly submerged at high water)				<b></b>	Training wall				

# F Ports

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS			
6		Groin (partly submerged at high water)		<u>Groin</u>			Groin (intertidal)			
Harbo	Harbor Installations									
Depths	s → I Anchorages, Limi	ts → N Beacons an	d other fixed marks →	Q Marina	$a \rightarrow U$					
10	$\Theta$	Fishing harbor					Fishing harbor			
11.1	<b>(A)</b>	Boat harbor, Marina					Yacht harbor, marina			
11.2	4	Yacht berths without facilities								
11.3	<u> </u>	Yacht club, Sailing club								
12		Mole (with berthing facility)	[				Mole as a line  Mole as an area			
13		Quay, Wharf	Whf			1	Wharf (quay)			
14	Pier	Pier, Jetty	Pier			_/ //	Pier (jetty), promenade pier			
15	Promenade Pier	Promenade pier								
16	Pontoon	Pontoon				7	Pontoon as a line  Pontoon as an area			
17		Landing for boats	Lr	ndg			Landing			

# Ports F

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
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	<b>(</b>	Dangerous cargo berth					
20	□ □ Dn □ Dns	Dolphin	O Dol  Dol (Great Lakes)	♦ Dn	М ∘ •		Mooring dolphin
21	Ψ	Deviation dolphin				Ф	Deviation mooring dolphin
22		Minor post or pile	O Pile † ● Pile (Great Lakes)			•	Pile or bollard
23	Slip Ramp	Slipway, Patent slip, Ramp					Slipway, ramp
24		Gridiron, Scrubbing grid, Careening grid				12	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	0	Tidal basin, Tidal harbor					Dock
20		Tidai basiii, Tidai Harboi					Dock, under construction or ruined
	,						Floating hazard
	Log Pond	Floating barrier, e.g. security,					Boom
29.1	Floating Barrier	containment booms (ice, logs, oil), shark nets: - with supports - without supports					Floating oil barrier, oil retention (high pressure pipe)
							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)	Underconstr		1-1	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	constr )		***	of under construction or ruin is obtained by cursor pick
33.1	Ru	Ruin	-1	Ruins			
33.2	Pier (ru)	Ruined pier, partly submerged at high water		-1 Pier		7-1	Pier, ruined and partly submerged
34	Hulk Hulk	Hulk	Hk	◯> Hk			Hulk

# Ports F

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Cana	ls, Barrages			,		Supplementary national s	ymbol: d
Cultura	al Features → B Cleara	nces → D Signal S	stations → T				
40		Canal	Canal Ditch				Canal
41.1	Lock	Lock (on large scale charts)					Lock gate as a line
41.2		Lock (on small scale charts)	Canal Ditch	Lock Sluice Tidegate, Floodgate)	<u> </u>		Navigable lock gate
42		Gate, Caisson					Non-navigable lock gate  Caisson as a line  Caisson as an area
43	Flood Barrage	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

# F Ports

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Trans	hipment Facilities					Supplementary national	al symbols: e–f
Roads	$\rightarrow$ D Railways $\rightarrow$ D	$Tanks \rightarrow E$					
50	RoRo	Roll-on, Roll-off Ferry Terminal (RoRo Terminal)				RoRo	RoRo terminal
51	2 3	Transit shed, Warehouse (with designation)				■ <b>%</b>	Conspicuous single building, designation is obtained by cursor pick
						#	Timber yard as a point
52	#	Timber yard	†	φ-		[#]	Timber yard as an area
50.4		Crane with lifting capacity,		\ <del>\</del> \\		Ä	Lifting capacity is obtained by cursor pick
53.1	(31)00	Traveling crane (on railway)		<del>                                      </del>	ф † †	T	Crane as a point
				175			Crane as an area
53.2	do (50 t)	Container crane (with lifting capacity)	<b>о</b> -	Stane			Crane, visually conspicuous as an area
Public	Buildings		I			Supplementary national s	symbol: g
60	<b>(</b>	Harbormaster's office	Н	br Mr			Conspicuous single building
61	$\Theta$	Custom office	■ C	us Ho			Conspicuous single building
			■ Cus no			$\Rightarrow$	Customs
62.1	0	Health office, Quarantine building	† Health Office				
62.2	Hospital	Hospital	■ Hosp				Conspicuous single building
63	† 🖂	Post office	■ P(	0			

# Ports **F**

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

### H Tides, Currents

#### Terms Relating to Tide Levels

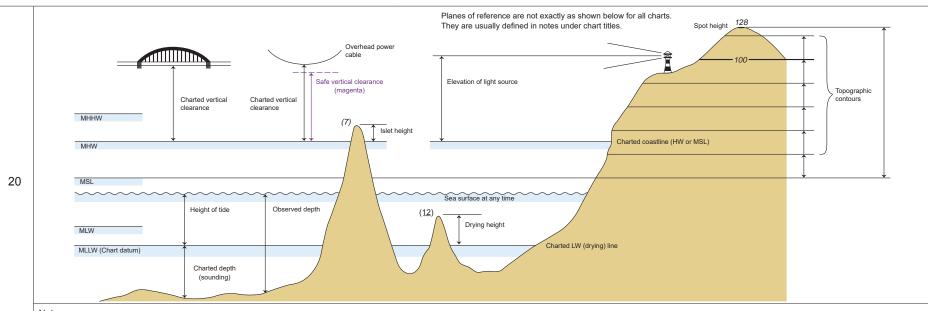
INT Terms					
No.	Term	Description			
1	CD	Chart Datum, Datum for sounding reduction			
2	LAT	Lowest Astronomical Tide			
3	HAT	Highest Astronomical Tide			
4	MLW	Mean Low Water			
5	MHW	Mean High Water			
6	MSL	Mean Sea Level			
8	MLWS	Mean Low Water Springs			
9	MHWS	Mean High Water Springs			
10	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	tary 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

#### No.

#### Tidal Levels and Charted Data

#### Tide Gauge $\rightarrow$ T



#### Notes:

- 1) The numbers 128, 100, (7) and (12), shown above, are examples of how spot heights, topographic contour labels, islet heights and drying heights appear on NOAA paper charts. The numbers are enclosed in (parentheses) if the value is offset into the water to more clearly show the islet or rock.
- 2) On NOAA charts, except for lake charts, the HW (coast) line is equal to the MHW line.

#### Tide Tables

No.	INT							Description	NOAA				
									TIDAL INFORMATION				
	Tidal Levels referred to datum of soundings					PLACE		Height referred to datum of soundings (MLLW)		ındings (MLLW)			
	Place	idal Levels r	eferred to e	_	oundings ghts in metr		datum	Tabular statement of	NAME	(LAT/LONG)	Mean Higher High Water	Mean High Water	Mean Low Water
	1 lace	N	E	MHWS	MHWN	MLWN	MLWS	semi-diurnal or diurnal tides			feet	feet	feet
30	Norderney, Riffgat Langeoog	53°42′ 53°43′	7°09′ 7°30′	3.2 3.4	2.8 3.0	0.9 0.9	0.4 0.4	Note: The order of the columns of levels will be the	Baltimore, Ft. McHenry	(39°16'N/76°35'W)		1.4	0.2
				MHHW	MLHW	MHLW	MLLW	same as that used in nation-	Annapolis, U.S. Naval Academy	(38°59'N/76°29'W)		1.2	0.2
								al tables of tidal predictions.	Washington D.C., Washington Channe	el (38°52'N/77°01'W)	3.2	2.9	0.1
									Dashes () located in datum columns levels, tide predictions, and tidal curre http://tidesandcurrents.noaa.gov.				Real-time water
						(Nov 2011)							

# H Tides, Currents

No.			INT			EC	DIS
31	Tidal stream table	High Water High Water C 2 4 9 9 9 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9	aphical Position    -6 261 0.8 ( -5 170 0.2 ( -4 097 1.1 ( -3 095 1.5 ( -2 094 1.3 ( -1 092 1.0 ( -4 097 0.7	0.7 0.1 0.8 0.8 0.9 0.9 0.6 0.2 0.4 0.8 0.0 0.0 0.0 0.0 0.0 0.0 0.0			Point or area for which a tidal stream table is available  Boundary of an area for which there is tidal information
Tidal	Streams and Currents					Supplementary nationa	l symbols: m–t
Break	$\operatorname{Kers} \to K$ Tide Gauge $\to$					T	
No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
40	3.0 kn →	Flood tide stream with mean spring rate				2.5 kn ? \( \frac{2}{2} \)	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 ? \( \frac{1}{2} \)	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	CDIS
42	»»»	Current in restricted waters					Non-tidal current
43	2.5 – 4.5 kn Jan – Mar (see Note)	Ocean current with rates and seasons	~~~~		(see Note)	2.5 KII	Non-tidal current
44		Overfalls, tide rips, races	symbol used only in small areas  © © © © Eddies © © © © symbol used only in small areas		≈≈	M M	Overfalls, tide rips; ed-
45	© 6 © 6 0 0	Eddies				(m)	dies; breakers as point, line, and area
46	♠	Position of tabulated tidal stream data with designation				$\Diamond$	Point for which a tidal stream table is available
47	а	Offshore position for which tidal levels are tabulated					
Suppl	ementary National Symbols (Su	upplementary national terms r	elating to tidal leve	els are listed after H 1	7)		
I		Stream	;	Str			
m		Current, general, with rate	) <del>))))</del>	2 kn →			
n		Velocity, Rate	,	vel			
0		Knots		kn			
р		Height		ht			
q		Flood		fl			
u		Gulf Stream Limits	Approximate location	n of Axis of Gulf Stream			

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Gene	ral						
1	ED	Existence doubtful				25	Sounding of low accuracy
						25	Sounding of low accuracy
2	SD	Sounding of doubtful depth				(212)	Underwater hazard with depth greater than 20 meters
						8	Isolated danger of depth less than the safety contour
0.4	-					25	Sounding of low accuracy
3.1	Rep	Reported, but not confirmed					Point feature or area of low accuracy
3.2	Rep (2011)	Reported (with year of report), but not confirmed					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
4	(184) (212)	sounding or danger (on small scale charts only)				(212)	Underwater hazard with depth greater than 20 meters
						8	Isolated danger of depth less than the safety contour
						ĵ.	Point feature or area of low accuracy

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Sound	dings					Supplementary national s	ymbols: a-c
Plane	of Reference for Depths → H	Plane of Reference for Heigh	nts → H				
10	Sounding in true position (NOAA shows fathoms and feet with vertical numbers and meters	12 3 <sub>2</sub> 2 <sup>1</sup> <sub>2</sub>			97	Sounding shoaler than or equal to safety depth	
		with sloping numbers)				30	Sounding deeper than safety depth
11	. (48) +(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	<del></del> 200	No bottom found at depth shown				(200)	Status of no bottom found is obtained by cursor pick
14	12 9 <sub>7</sub>	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	36 38 2 38 2 0 Wallet o Wall	Drying heights and contours above chart datum	3 <u>6</u>	ww.		<u>4</u>	Drying height, less than or equal to safety depth
16	$2_5$ $2_5$ $2_6$ $1_7$ $2_6$ $1_7$	Natural watercourse (in intertidal area)				Y	Tideway

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Depth	ns in Fairways and Areas					Supplementary national s	symbols: a, b
Plane	of Reference for Depths → 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 survey and other
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				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 8 22 7 21	<u>7</u> 6_ (1930)		swept to 9.6	Swept area
25	Unsurveyed (see ZOC Diegram)  Depths (see Note)	Unsurveyed or inadequately surveyed area; area with	Unsurveyed		(Unsurveyed (see Note) (Depths (see Note)		Incompletely surveyed area
20	( Inadequately surveyed ) Unsurveyed	inadequate depth information	13 11 12 10 17 13 rky 22 20		Unsurveyed (see Note)  Depths (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.

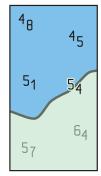
#### Soundings

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**



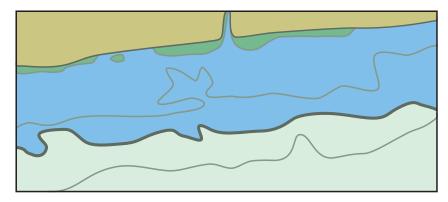
ECDIS depth contour labels are not centered and oriented along isolines as they appear on paper charts. They are displayed upright and may appear either on or next to the contour lines that they describe. The labels are black and the same size as soundings, but the labels have a light "halo" to set them 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.

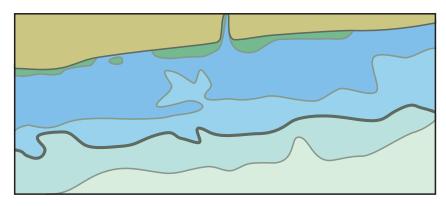
#### Two or Four Tints for Shading Depth Areas

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.

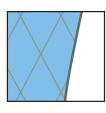


Portrayal of Depth Areas with 2 Color Settings

Some ECDIS enable mariners to define two additional depth areas for medium-deep 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.



# 

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Types	of Seabed					Supplementary nationa	l 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)	В	lds		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	Wa	Weed (including kelp)				<i>&gt;&gt;&gt;-</i>	Weed, kelp
13.2	<del>~~</del>	Kelp, Weed		Kelp			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	$\Delta \Delta $	Sandwaves	11/	Sandwaves		1	Sand waves as a line
		cananavos	700	Garianares			Sand waves as an area
15	1	Spring in seabed	1	Spring		T	Spring
Types	of Seabed, Intertidal Areas		1				
20	G St	Area with stones and grave	el G	iravel		gravel	Areas of gravel and stone
21	12 S * (42)	Rocky area, which covers uncovers	and Extension of the second	Rock Rock		1 V 1 X	Rocky ledges or coral reef
22	The state of the s	Coral reef, which covers at uncovers	nd Egg C	oral Muhh	Elimis .		
Qualit	fying Terms		·			Supplementary nationa	l symbols: ah–bf
30	f	Fine only use	ed in				
31	m	Medium > relation	to				
32	С	Coarse J sand					
33	bk	Broken					
34	sy	Sticky					
35	SO	Soft					
36	sf	Stiff					
37	V	Volcanic		vol			.1
38	са	Calcareous		Са		V 1	Rocky ledges or coral reef
39	h	Hard					

# 

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
Suppleme	ntary National Abbreviatio	ons				
а		Ground	Grd			
b		Ooze	С	)z		
С		Marl	٨	Л		
d		Shingle	S	n		
f		Chalk	С	Ck		
g		Quartz	G	)z		
h		Schist	So	ch		
i		Coral head	Со	Hd		
j		Madrepores	М	ds		
k		Volcanic ash	Vol	Ash		
I		Lava	L	а		
m		Pumice	P	m		
n		Tufa		Τ		
0		Scoriae	S	Sc .		
р		Cinders	С	în		
q		Manganese	M	1n		
r		Oysters	0.	ys		
S		Mussels	N	1s		
t		Sponge	Sį	og		
u		Kelp	· ·	<		
V		Grass	G	rs		
W		Sea-tangle	S	tg		
Х		Spicules	S	pi		
у		Foraminifera	F	r		
Z		Globigerina	0	GI		
aa		Diatoms		Di		
ab		Radiolaria	R	?d		
ac		Pteropods	F	Pt		
ad		Polyzoa	P	<sup>2</sup> 0		
ae		Cirripedia	C	ir		
af		Fucus	F	·u		

### J Nature of the Seabed

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
ag		Mattes	Ма			
ah		Small	sm	I		
ai		Large	Irg			
aj		Rotten	rt			
ak		Streaky	str			
al		Speckled	spi	(		
am		Gritty	gty	,		
an		Decayed	dec	;		
ao		Flinty	fly			
ар		Glacial	gla	C		
aq		Tenacious	ter	1		
ar		White	wh			
as		Black	bl; b	k		
at		Violet	vi			
au		Blue	bu			
av		Green	gn			
aw		Yellow	yl			
ax		Orange	or			
ay		Red	rd			
az		Brown	br			
ba		Chocolate	ch			
bb		Gray	gy			
bc		Light	It			
bd		Dark	dk			
be		Varied	vard			
bf		Uneven	une	v		

### Rocks, Wrecks, Obstructions and Aquaculture

e	K
$lue{}$	

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Gene	eral						
						•	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
<b>'</b>		its symbol (e.g. isolated rock) or delimits an area containing numerous dangers, through which it is unsafe to navigate				8	Isolated danger of depth less than the safety contour
		WINCH It IS UISAIE (O HAVIGATE				X X X X	Foul area, not safe for navigation
2		Depth swept by wire drag or confirmed by diver (This symbol may be combined	.21,Rk .35,F	Rk 46 Obstn	<u>#</u> , (15 <sub>7</sub> )	_4_	Swept sounding, less than or equal to safety depth
		with other symbols, e.g. wrecks, obstructions, wells.)	46 Wk 46 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	4 <sub>6</sub> Wk 35 F	Rk 46 Obstn		ECDIS displays safe clearance depths in the same manner as known depths.	
Rock	(S						
Plane	of Reference for Heights → H	Plane of Reference for Dep	oths → H				
	(3,1) (1,7)	Rock (islet) which does not				•	Land as a point at small scale
10	Height datum Chart datum	cover, height above height datum	25	O <sub>(21)</sub>	▲ (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		Rock which covers and uncovers, height above chart datum	* (2) \$\frac{4}{2}	* Uncov 1m	<b>◎</b> ⊛	4	Underwater hazard which covers and uncovers with drying height
	Chart datum 5m		<b>≒</b> Uñcov 1m			8	Isolated danger of depth less than the safety contour

## K Rocks, Wrecks Obstructions and Aquaculture

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
	* *					*	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 5 m					8	Isolated danger of depth less than the safety contour
12	+ + +	Underwater rock of unknown				<b>+</b>	Dangerous underwater rock of uncertain depth
13	Height datum Chart datum 5m	depth, dangerous to surface navigation				8	Isolated danger of depth less than the safety contour
14	2 <sub>5</sub> +(4 <sub>8</sub> ) 12 <sub>1</sub> R 18 +(12 <sub>1</sub> )	Underwater rock of known depth					
14.1	Height datum Chart datum 5m 10m	inside the corresponding depth area	12 <i>Rk</i>	27 Rk 21		5	Underwater hazard with a depth of 20 meters or less
	20 m			R		25	Underwater hazard with depth greater than 20
	5 (4g) R ⊕ (4g) / (12₁)	outside the corresponding depth		$\langle \stackrel{4}{2} \rangle Rk$			meters
14.2	Height datum Chart datum 5m 10m 20m	area, dangerous to surface navigation	(5) Rk	(5) Rk (5) R		8	Isolated danger of depth less than the safety contour
15	35	Underwater rock of known depth, not dangerous to surface	25	Rk	35 +(35) R.	10	Underwater hazard with a depth of 20 meters or less
10	15 35 R	navigation		/	R. ' '	25	Underwater hazard with depth greater than 20 meters

### Rocks, Wrecks, Obstructions and Aquaculture

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No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS	
						<b>+</b>	Dangerous underwater rock of uncertain depth	
						•	Obstruction, depth not stated	
						8	Isolated danger of depth less than the safety contour	
16	+ + + + + + + + + + + + + + + + + + +	Coral Reef which is always covered	+Co + 3 <sub>1</sub> + Reef	line +++		× × × × ×	Safe clearance shoaler than safety contour	
			·			128	Safe clearance deeper than safety contour	
						256	stated Isolated danger of depth less than the safety contour  Safe clearance shoaler than safety contour  Safe clearance deeper	
17	(5 <sub>8</sub> ) Br	Breakers	Breakers	Br	₩est Breaker PA		eddies; breakwaters as	
Wrec	ks and Fouls					\ \/		
Plane	of Reference for Depths → 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 (1 <sub>2</sub> )	Wreck, covers and uncovers, on large scale charts, height above		.> Hk	Wk Wk	12	Wreck, covers and uncovers	
21	Wk	chart datum			Wk  OOO WK		Distributed remains of wreck	

## K Rocks, Wrecks Obstructions and Aquaculture

No.	INT	Description	NOAA	NGA	Other NGA	EC	CDIS
22	52. WK 65 WK	Submerged wreck, depth known, on large scale charts			(	25	Submerged wreck with depth of 20 meters or less  Submerged wreck with depth greater than 20 meters  Distributed remains of
23	Wk	Submerged wreck, depth unknown, on large scale charts		::::::::::::::::::::::::::::::::::::::	======================================		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 Wk HH+ Wk	4	Wreck showing any portion of hull or superstructure at level of chart datum
25	₩ Masts	Wreck of which the mast(s) only are visible at chart datum	∰ Masts	Mast (10ft) Funnel			
26	€ Wk 25 Wk	Wreck, least depth known by sounding only			<b>⊕</b> (11)	25	Underwater hazard with depth of 20 meters or less  Underwater hazard with depth greater than 20 meters
						8	Isolated danger of depth less than the safety contour
						46	Swept sounding for underwater hazard less than safety depth
27	<u>46</u> Wk <u>25</u> 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
						8	Isolated danger of depth less than the safety contour

# 

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
		Dengaraya yaradı, danth				-	Dangerous wreck, depth unknown
28	₩	Dangerous wreck, depth unknown				8	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.			( <del>4</del> )Wk	25	Underwater hazard with safe clearance greater than 20 meters
						8	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)				# A	Foul ground
01.2	# [_#]	wieck, dealed platform)				X X X	Distributed remains of wreck
Obst	ructions and Aquaculture						
Plane	of Reference for Depths → H	$Kelp, Seaweed \to J$	Underwater In	stallations → L			
						•	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	G Obstn 6 Obstn	Obstruction, least depth known by sounding only				25	Underwater hazard with depth greater than 20 meters
						8	Isolated danger of depth less than the safety contour
						swept	Less than or equal to safety depth
					depth  Method of depth measurement i		Greater than safety depth
		Obstruction, depth swept by wire				Method of depth mobilities of depth mobilities of depth mobilities of the mobilities	pth measurement is cursor pick
42	6 Obstn 6 Obstn	drag or confirmed by diver				known by diver or	Underwater hazard with depth of 20 meters or less
						other means	Underwater hazard with depth greater than 20 meters
						8	Isolated danger of depth less than the safety contour
43.1	7 T 7 Obstn	Stumps of posts or piles, wholly submerged	o <sup>o</sup> Subm piles	Piles	T 7		Obstruction, depth not stated
			○ Subm piles	○ Well		5	Underwater hazard with depth of 20 meters or less
43.2	Ī	Submerged pile, stake, snag, or stump (with exact position)	Stakes     Snags	Deadhead     Stump	⊕ ~ ~	8	Isolated danger of depth less than the safety contour
						ШШ	Fish stakes as a point
44.1	<i>шиши</i> шиши	Fishing stakes	шшш	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

# 

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
	8 (2)		Obstn			8	Isolated danger of depth less than the safety contour
46.2	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	P   S	Shellfish beds				<b>X</b>	Marine farm as a point
				  r		ر شک	wamie iaim as a point
48.1		Marine farm (on large scale charts), area of marine farms					
48.2		Marine farm (on small scale charts)		Obstn (Marine Farm)			Marine farm as an area
Suppl	lementary National Symbols						
а		Rock which covers and uncovers, (height unknown)	* (*)				

## K Rocks, Wrecks Obstructions and Aquaculture

No.	INT	Description	NOAA	NGA	Other NGA	ECC	DIS
b		Shoal sounding on isolated rock or rocks	(5) Rk (21) Rks		<ul><li>9<sub>R</sub> ②<sub>r</sub></li><li>(²) ⊕<sub>(8)</sub></li></ul>		
С		Sunken wreck covered 20 to 30 meters	+ +		₩/		
d		Submarine volcano	( ) su	ib vol			
е		Discolored water	( ) Di	scol water			
f		Sunken danger, least depth cleared by wire drag	21.Rk 4 <sub>6</sub> 3	35 Rk 4 Obstn			
g		Reef of unknown extent	Re	eef			
h		Coral reef, detached (uncovers at sounding datum)	⊕	Co) (Coral)  ⊕ co ♀ co			
i		Submerged crib	Subm Crib	[_] Crib			
j		Crib, duck blind (above water)	■ Duck Blind □ Crib				
k		Submerged duck blind	[]] Du	ck Blind			
I		Submerged platform	Subm platform	[]] Platform			
m		Coral reef which covers and uncovers		Hay Reef			
n		Sinkers		Situate 134.			
0		Foul area, foul with rocks or wreckage, dangerous to navigation	(Foul) (Wks) (Wreckage)				
р		Unexploded ordnance	Unexploded Ordnance	Unexploded Ordnance			
q		Float	☐ Float				
r		Stumps of posts or piles, which cover and uncover	o <sup>o</sup> Subm piles				

## Offshore Installations L

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Gene	eral						
Areas	s, Limits $\rightarrow$ N						
1	Ekofisk Oilfield	Name of oilfield or gasfield		CORRIB Well 348, 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				E SIN	Area where entry is prohibited or restricted or to be avoided, with other cautions
4		Limit of development area				A DA	Cautionary area, navigate with caution
5.1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Wind turbine, floating wind turbine, vertical clearance under blade			FI.Y	上	Wind motor visually conspicuous
5.2		Offshore wind farm				AVA	Wind farm (offshore)
5.2		Offshore wind farm (floating)				A TIN	wind faint (distrote)
6	(3)	Wave farm, Renewable energy device					Wave farm
Platfo	orms and Moorings						
Moori	ng Buoys → Q						
10	•	Production platform, Platform, Oil derrick	•	•		R	Offshore platform
11	●Fla	Flare stack (at sea)			>	Ė	Conspicuous flare stack on offshore platform

#### L Offshore Installations

No.	INT	Description	NOAA	NGA	Other NGA	E	CDIS	
12	• 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	<u> </u>	Single Buoy Mooring (SBM), Oil or gas installation buoy including Catenary Anchor Leg Mooring (CALM)					Installation buoy and mooring buoy, simplified Installation buoy, paper chart	
17	<u>.</u>	Moored storage tanker, Accommodation vessel		Tanker		B	Offshore platform	
18	<del>-</del>	Mooring ground tackle					Ground tackle	
Unde	Underwater Installations Supplementary national symbol: a							
Plane	of Reference for Depths $\rightarrow$ H	$Obstructions \rightarrow K$						
20	) Well	Submerged production well	Well (cov 21ft) Well (cov 83ft)	○ Well	(5) Prod Well  Prod Well	25	Underwater hazard with depth of 20 meters or less Underwater hazard with depth greater than 20 meters	
			+			8	Isolated danger of depth less than the safety contour	
21.1	⊜ Well	Suspended well, depth over wellhead unknown	Pipe			8	Isolated danger of depth less than the safety contour	
						5	Underwater hazard with depth of 20 meters or less	
21.2	(4 <sub>3</sub> ) Well (1 <sub>5</sub> ) Well	Suspended well, with depth over wellhead	Pipe (cov 24ft) Pipe (cov 92ft)			25	Underwater hazard with depth greater than 20 meters	
			(			8	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	o Pipe Pipe	Above-water wellhead (lit or unlit)	∘ Pipe		⊚ Pipe (2 <sub>4</sub> )		Obstruction in the water which is always above water level			
24	∴ FI(2)  ☐ Turbine Underwater Turbine	Underwater turbine				i	Underwater turbine or			
25	ODAS	Subsurface Ocean(ographic) Data Acquisition System (ODAS)				i	subsurface ODAS			
Subm	Submarine Cables									
30.1	^^^	Submarine cable				-~ < ~ -	Submarine cable			
30.2	++++**********+++	Submarine cable area	† Cable Area			r \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				
31.1	^	Submarine power cable				/ / /	Submarine cable area			
31.2	~~+++~\\\ ~++++~\\	Submarine power cable area				\(\frac{1}{2} \)				
32		Disused submarine cable				-~ > ~ ½	Status of disused is obtained by cursor pick			
Subm	narine Pipelines									
40.1	Oil Gas (see Note)  Chem Water	Supply pipeline: unspecified, oil, gas, chemicals, water				-	Oil, gas pipeline, submerged or on land			
40.2	Oil Gas (see Note)  Chem Water	Supply pipeline area: unspecified, oil, gas, chemicals, water	† — Pipeline Area —				Submarine pipeline area with potentially dangerous contents			

#### L Offshore Installations

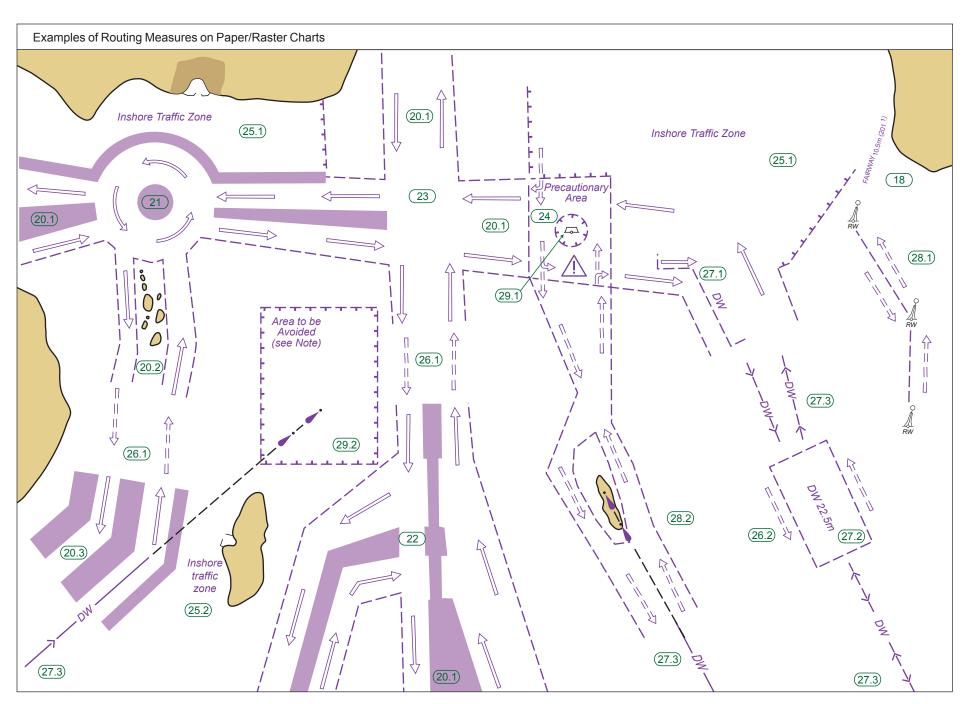
No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS	
41.1	Water Sewer Outfall Intake	Outfall and intake: unspecified, water, sewer, outfall, intake				<u> </u>	Water pipeline, sewer, etc.	
41.2	Water Sewer Outfall Intake	Outfall and intake area: unspecified, water, sewer, outfall, intake	Pipeline Area				Submarine pipeline area with generally non-dangerous contents	
42.1	Buried 1.6m	Buried pipeline/pipe (with nominal depth to which buried)				<b>→ →</b> <del>\</del>	Nominal depth of buried pipeline is obtained by cursor pick	
42.2	<b>→→→→</b> ) ( <b>→</b> →→	Pipeline tunnel				<u> </u>	Pipeline tunnel	
43	→ → → → → → → → ⑤ Obstn	Diffuser, Crib					Underwater hazard with depth of 20 meters or less Isolated danger of depth less than the safety contour	
44		Disused pipeline/pipe	<b></b>			- ~ ~ ~ *	Status of disused is obtained by cursor pick	
Supp	Supplementary National Symbols							
а		Submerged well (buoyed)	& Well & Well	₩ell				
b		Potable water intake	PWI  Depth over  Crib 17 ft	∭ → → → Crib				

# Tracks, Routes $\,M\,$

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
Tracl	KS					Supplementary national symbols: a–c
Track	s Marked by Lights → P	Leading Beacons → Q				
1		Leading line (solid line is the track to be followed, # means "in line")		Lights in line 090°		Leading line bearing a non-regulated, recommended track  - < ? > < Direction not encoded  < 270 deg One-way  - 270 deg Two-way
2	J	Transit (other than leading line), clearing line		_Beacons in line 090°	<b>↓</b> _ <b>↓</b> _ 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  - < ? > < Direction not encoded  - 30 deg
4	<>- <u>090.5°-270.5°</u>	Recommended track not based on a system of fixed marks		-> ->		Non-regulated, recommended track not based on fixed marks  - < ?> — — < Direction not encoded  — > — — > One-way  - < — > — — < Two-way
5.1	± → - ± DW (see Note)	One-way track and DW track based on a system of fixed marks	>>			Based on fixed marks, one-way  90 deg Non-regulated recommended track  Deep water route
5.2		One-way track and DW track not based on a system of fixed marks				Not based on fixed marks, one-way  90 deg Non-regulated recommended track  Deep water route centerline
6	<7.3m>	Recommended track with maximum authorized (or recommended) draft stated		7 m >< 7 <sub>3</sub> m >		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
Routi	ng Measures					Supplementary national	al symbols: d-e
Basic	Symbols						
10	$\longrightarrow\!$	Established (mandatory) direction of traffic flow					Traffic direction in a one-way lane of a traffic separation scheme
11	===⇒	Recommended direction of traffic flow				C==;>	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))		TED AREA			
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	Ver lees Workey	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 designated by regulatory authority: with minimum depth	SAFETY FAIRWAY	166.200 (see note A)			Fairway, depth is obtained by cursor pick
	FAIRWAY <7.3m>	with maximum authorized draft (may be highlighted by gray tint)				The state of the s	tailled by cursor pick



# M Tracks, Routes

-							
Exam	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 F	Precautionary area						
(25.1) I	Inshore Traffic Zone (ITZ), with defined end limits						
25.2) I	Inshore Traffic Zone, without defined end limits						
26.1) I	Recommended direction of traffic flow, between traffic separation schemes						
26.2) I	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) F	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	( Ra			<b>©</b>	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	Ra090°–270°	Radar reference line coinciding				- <	
32.2	114 000 270	with a leading line				> > 90 deg >	One-way
						< > <sup>270 deg</sup> < >	Two-way
Radio	Reporting Points						
						Nr 13 ch 74	Radio calling-in point for traffic in one direction only
40.1	(B) (B) (7) VHF 80	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
		Chamer				? ? ? Nr 13 ch 74	Radio calling-in point, direction not encoded
						Nr 13 ch 74 -	Radio calling-in point for traffic in one direction only
40.2	<del>\</del>	Radio reporting line				Nr 13 ch 74	Radio calling-in point for traffic in both directions
						? $\bigcirc$ ? ? $^{\frac{Nr}{74}}$	Radio calling-in point, direction not encoded

# Tracks, Routes $\,M\,$

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	olementary 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				DIS			
Gene	eral *									
Dredg	ed and Swept Areas → I	Submarine Cables, Submarine F	Pipelines → L	Tracks, Routes $\rightarrow$	M					
On mu	On multi-colored charts, symbols in Section N may 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)	F RESTRICT	TTTT			Area where entry is prohibited or restricted or to be avoided			
2.2	• • • • • • • • • • • • • • • • • • • •	Limit of area into which entry is		ED AREA			Area where entry is prohibited or restricted or to be avoided, with other cautions			
	Entry Prohibited	prohibited		ED AREA		Area where entry is prohibited or restricted or to be avoided, with other information				
Anch	orages, Anchorage Areas									
10	\$	Reported anchorage (no defined limits)			\$ \$	t	Anchorage area as a point at small scale, or anchor points of mooring trot at large scale			
11.1	$ \begin{array}{ccc} & & & & & & & \\ & & & & & & \\ & & & & $	Anchor berths	(1	4)	6 ♣ No 1	Nr 6	Anchor berth			
11.2	$\begin{pmatrix} \widehat{Q} \\ \widehat{A} \end{pmatrix} \begin{pmatrix} \widehat{Q} \\ \widehat{E} \widehat{53} \end{pmatrix} \begin{pmatrix} \widehat{Q} \\ \widehat{44} \end{pmatrix}$	Anchor berths with swinging circle	O D-17	D17		Radius of so cursor pick	wing circle is obtained by			

<sup>\*</sup> 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 $\,\,\,\,$

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
12.1	0+ +++++++++++++++++++++++++++++++++++	Anchorage area in general		Anchorage			
12.2	Γ — — — — — - ;	Numbered anchorage area	ANCH NO 1 110.000 (see note A)	Anchorage No. 1			
12.3	Г — — — — — -;; — — — — — — ; → Name ;; 	Named anchorage area	SOUTH ANCH 110.000 (see note A)	Neufeld Anchorage			
12.4	 	Deep water anchorage area, Anchorage area for deep draft vessels		DW Anchorage			
12.5	Γ — — — — — - ↓ — — — ∘	Tanker anchorage area		Tanker Anchorage			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	Γţ ψ ψ ψ	Quarantine anchorage area	QUAR   ANCH   QUARANTINE   ANCHORAGE	Quarantine Anchorage			
12.9	F Reserved t (see Note)	Reserved anchorage area					
Note: Ar	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	PLANE   DING   DEA			Seaplane landing area
14	<b>⊕</b> \$	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 national	al symbols: d, e, g
On mu	ulti-colored charts, the magenta symbols	may be in green when associated wit	h environmental areas.				
						+ + + + + + + + + + + + + + + + + + + +	Area where anchoring is prohibited or restricted
20		Anchoring prohibited	ANCH PROHIBITED	ANCH   PROHIB		F T T X 4	Area where anchoring is prohibited or restricted, with other cautions
						-	Area where anchoring is prohibited or restricted, with other information
						FT TX T	Area where fishing or trawling is prohibited or restricted
21.1	Fr + + + + + + + + + + + + + + + + + + +	Fishing prohibited	FISH     PROHIBITED	FISH PROHIB  TTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT		+	Area where fishing or trawling is prohibited or restricted, with other cautions
						+ + + + + + + + + + + + + + + + + + +	Area where fishing or trawling is prohibited or restricted, with other information

## 

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
21.2	######################################	Diving prohibited					Area where diving is prohibited
22		Environmentally Sensitive Sea Areas  Bird sanctuary				F F F F F F F F F F F F F F F F F F F	Environmentally Sensitive Sea Area (ESSA)
	Note: Other animal silhouettes (e.g. sea	Seal sanctuary	d as appropriate				Area with minor restric-
		Non-specific nature reserve, National parks, Marine Reserves (MR)	u, as арргорпаte.	F T T T MR T H H			tions or information notices
	PSSA PSSA  Tint band may vary in width between 1–5 mm	Particularly Sensitive Sea Area (PSSA)		PSSA			PSSA

## 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 DUMPING AREA			i	Explosives or chemical dumping ground as a point
23.2	Explosives Dumping Ground (disused)	Explosives dumping ground (disused), Foul (explosives)	EXPLOSIVES   DUMPING   AREA DISUSED				Explosives or chemical dumping ground as an
24	H Dumping Ground for Chemicals	Dumping ground for chemical waste	— — — — —     Dump Site	Dumping Ground			area
25	H Degaussing Range	Degaussing range (DG range)	DEGAUSSING   RANGE	† TTTTTT † DEGAUSSING † RANGE †			Degaussing area
27	5kn	Maximum speed				If a speed relimit is obtain	striction exists, the speed ed by cursor pick
Milita	ry Practice Areas						
30	F	Firing practice area					Restricted area
31	Entry Prohibited	Military restricted area, entry prohibited	PROHIBITED AREA	Prohibited 1 Area 1			Area where entry is prohibited or restricted or to be avoided, with other cautions
32	, — — — — — — — — — — — — — — — — — — —	Mine-laying (and counter- measures) practice area					Destricted and
33		Submarine transit lane and exercise area			SUBMARINE EXERCISE AREA		Restricted area
34	Minefield (see note)	Minefield					Minefield
Interr	national Boundaries and Nationa	al Limits				Supplementary national	al 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	CANADA + - + - + - + - + UNITED STATES	International maritime boundary				<b></b>	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			— ØX—++—		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 \			Harbor area, symbolized
Vario	us Limits					Supplementary national	ıl symbols: a, b
60.1	(2012) เหมาะสามาภาษาการสามารถสามารถสามารถสามารถสามารถสามารถสามารถสามารถสามารถสามารถสามารถสามารถสามารถสามารถสามารถสามาร	Limit of fast ice, Ice front (with date)			ture		Continuous pattern for an
60.2	(2012) กษาโทศใหม่ทำไทการที่ที่สหให้ให้ให้ให้	Limit of sea ice (pack ice) seasonal (with date)			tute		ice area (glacier, etc.)
62.1	Spoil Ground	Spoil ground	İ	I Area			HO information note
62.2	Spoil Ground (disused)	Spoil ground (disused)	j	Discontinued			TIO IIIOIIIIation note
63	Extraction Area	Extraction (dredging) area					Dredging area
64	Cargo Transhipment Area	Cargo transhipment area					HO information note
65	Incineration Area	Incineration area					TIO IIIIOIIII AUOIII IIIOLE

### N Areas, Limits

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
Supp	olementary National Symbols					
а		COLREGS demarcation line				
b		Limit of fishing area (fish trap areas)				
С		Dumping ground				
d		Dumping area (Dump site)	Disposal / Depths fro of 2010	Area 92   om survey   85		
f		Reservation line (Options)		=		
g		Dump site		 np Site		
h		Three Nautical Mile Line	THREE NAUTI	CAL MILE LINE		
i		No Discharge Zone	NO-DISCH	ARGE ZONE		

# Lights P

No.	INT	Description	NOAA	NGA	Other NGA	E	CDIS
Light	Structures and Major Floating Li	ghts					
Minor I	ight Floats → Q30, 31						
1.1	☆ ★ Lt LtHo	Position of navigation light (size and style of "star" may vary) light, lighthouse		•	<b>☆ ◆ ● ·</b>	68	Light, lighthouse, paper chart
1.2	*	Light on standard charts	•				
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	•	Lighted offshore platform on multicolored charts					
3	∯ By ★ BnTr	Lighted beacon tower	o Marker (lighted)	•		$\Delta$	Lighted beacon tower, paper chart
4	D H BAB ★ Bn	Lighted beacon	•			Î	Lighted beacon,
5	₩ Bn	Articulated light, buoyant beacon, resilient beacon	○ Art	•			paper chart
Note: N	Ainor lights, fixed and floating, usually	conform to IALA Maritime Buoyage	System characteristics	S.			
7		Navigational lights on landmarks or other structures					
8	320° Hollie Bach Best Strings Hollie Bach Best	Important light off chart limits					

### P Lights

No.	Abbre	viaton	Class of Light	Illustration	Period Shown		ECDIS
140.	INT	NOAA	Olass of Light	iliustration	<del></del>		ESSIS
Light	Characters						
Light	Characters on Ligh	t Buoys → Q					
10.1	F	F	Fixed			F	
	Occulting (total	duration of light lor	nger than total duration of darknes	s)			
	Oc	Oc	Single-occulting			Oc	
10.2	Oc(2) Example	Oc (2)	Group-occulting		11 11	Oc (2)	
	Oc(2+3) Example	Oc (2+3)	Composite group-occulting			Oc (2+3)	
	Isophase (durat	ion of light and dar	kness equal)				
10.3	Iso	Iso	Isophase			Iso	
	Flashing (total o	luration of light sho	orter than total duration of darknes	s)			
	FI	FI	Single-flashing	<b>A A</b>	<b>A A</b>	FI	When text for lights is displayed, ECDIS uses INT abbreviations.
10.4	FI(3) Example	FI (3)	Group-flashing	<b>A A A</b>	<b>A A A</b>	FI (3)	
	FI(2+1) Example	FI (2+1)	Composite group-flashing	<b>A A</b>	<b>A A</b>	FI (2+1)	
10.5	LFI	L FI	Long-flashing (flash 2s or longer)			LFL	
	Quick (repetition	n rate of 50 to 79 - ı	usually either 50 or 60 - flashes pe	r minute)			
	Q	Q	Continuous quick				
10.6	Q(3) Example	Q (3)	Group quick	A A A A	A A A	Q(3)	
	IQ	IQ	Interrupted quick			IQ	

# Lights P

No.	Abbre	viaton	Class of Light	Illustration Period Shown		ECDIS
NO.	INT	NOAA	Class of Light	Illustration		ECDIO
	Very quick (repe	etition rate of 80 to 1	159 - usually either 100 or 120 - flas	shes per minute)		
	VQ	VQ	Continuous very quick		VQ	
10.7	VQ(3) Example	VQ (3)	Group very quick	AAA AAA AAA AAA AAA	VQ(3)	
	IVQ	IVQ	Interrupted very quick	111111111111111111111111111111111111111		
	Ultra quick (repe	etition rate of 160 or	r more - usually 240 to 300 - flashe	s per minute)		
40.0	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	A A A	FFI	
10.11	AI.WR	AIWR	Alternating	W R W R W R	AI WR	

### P Lights

No.	II	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 sho	<del></del>		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	I	Зи	Blue		on multicolored cha	arts		Red
11.5		Vi	Violet					Green
11.6		Υ	Yellow		on multicolored ch			White, yellow, amber or orange
11.7	Y	Or	Orange		at sector lights			Sector lights
11.8	Y	Am	Amber			\		W Cooley Highlia
Perio	d							
12	2.5s	90s	Period in seconds and tenths of a second					
Eleva	ation							
Plane	of reference for Heig	ghts → H	Tidal Levels → H					
13	1	2m	Elevation of light given in meters or feet	36ft			V	When text for lights is displayed,
Rang	je							ECDIS uses INT abbreviations.
	1	5M	Light with single range					
14	15/	10M	Light with two different ranges	10M only lesser of two ranges is charted		15/10M		
	15	-7M	Light with three or more ranges	7M only least of three ranges is charted				
Note: (	Charted ranges are	nominal ranges gi	ven in Nautical Miles.					
Dispo	osition							
	(h	nor)	Horizontally disposed					
15	(v	ert)	Vertically disposed					Disposition of light is obtained by cursor pick
	(Δ)	(সু	3 lights disposed in the shape of a triangle				,,,,	outon pion

# Lights P

No.		INT	Description	NOAA	NGA	Other NGA	ECDIS
Exan	ple of a Full Light Description						
	INT Example  Name  ☆ FI(3)WRG.15s 21m15-11M			Name	Example :15s 21ft 11M	NGA Example Name FI (3) WRG 15s 21m 15-11M	FIR15s21m11M
	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) WRG	flashes		The descriptions of non-sector lights are shown in ECDIS when the display of text is turned on, 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	Period: the time taken to exhibit one full sequence of three flashes and eclipses: 15 seconds			15s	Period: the time taken to exflashes and eclipses: 15 se	xhibit one full sequence of three econds	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 p	lane 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 ligi white 15M, green 11M, red		€ € = - )
Light	s Marking Fair	ways					
Leadir	ng Lights and Ligi	nts in Line					
20.1	Name Oc.3s 8m 12M 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		**		Leading lights with sectors

## P Lights

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
20.2	Name Oc.3s 8m12M Name Oc.6s 24m15M	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 ★ 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	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°— 270°— 270° 270°	Lights in line, marking the sides of a channel on standard charts				FIG FIG 270 deg 270 deg	Lights in line, marking the sides of a channel
21.2	FI.G 270° 2FI.R 270°	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	tion Lights						
30.1	FI(2)5s10m11M	Direction light with narrow sector and course to be fol- lowed, flanked by darkness or unintensified light				Directional light with sector	269 deg
						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	Oc12s6M
30.3	Dir WRG. 15-5M ALWG F.W.4s 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  AI.WG  Oc. W.4s  AI.WR	Direction light with narrow fairway sector flanked by light sectors of different character on multicolored charts				=======================================	Light, directional
31	▲ <sub>o</sub> Dir	Moiré effect light (day and night), arrows show when course alteration needed			♣ <sub>o.</sub> Dir	FY 270 deg	Category of light as moiré effect is obtained by cursor pick
Quote	ed bearings are always from seaward.						

### P Lights

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
Sect	or Lights					
40.1	FIWRG.4s 21m18-12M	Sector light on standard charts				
40.2	FI.WRG.4s 21m18-12M > FI.WRG.4s 21m18-12M	Sector light on multicolored charts				<b>€</b>
40.3	Fl.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. 10-6M	Sector lights on standard charts, the white sector limits marking the sides of the fairway				
41.2	Oc.WRG. 10-6M	Sector lights on multicolored charts, the white sector limits marking the sides of the fairway				

## Lights P

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
42.1	FI(3)10s62m25M F.R.55m12M	Main light visible all-round with red subsidiary light seen over danger		RED		Light, danger
43.1	FI.5s 41m 30M	All-round light with obscured sector		OBSC		Light, obscured
44.1	Iso.WRG	Light with arc of visibility deliberately restricted				Light, restricted

### P Lights

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS			
45.1	Q.14m5M	Light with faint sector				Light, faint			
46.1	Oc.R.8s 7M  R.Intens  Oc.R.8s	Light with intensified sector				Intensified light visibility is obtained by cursor pick  Light, intensified			
Linda	A STATE OF THE STA								
Ligh	ts with Limited Times of Exhibition								
50	F.R.(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 (Fl.5s Fog)	Fog light (exhibited only in fog, or character changes in fog)				Status and condition of light is obtained by cursor pick			
53	† ↓ Fl.5s (U)	Unwatched (unmanned) light with no standby or emergency arrangements							
54	(temp)	Temporary							
55	(exting)	Extinguished							
56	(man)	Manually activated							
Spec	cial Lights								
		are Stack (on land) → E	Signal Stations –	→ T					
60	Å 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.	IN	Г	Description	NOAA	NGA	Other NGA		ECDIS	
61.1	Aero F.F	<b>R.313m11M</b> MAST (353)	Air obstruction light of high intensity (e.g. on radio mast)		AERO F R 77m 11M		AeroF	FR313m11M	Conspicuous mast with
61.2	(89) ↓ (I	R Lts)	Air obstruction light of low intensity (e.g. on radio mast)		TR (RLts)				light
62	Fog Do	et Lt	Fog detector light				The state of the s	Category of pick	light is obtained by cursor
63	₩ ₩	(Illuminated)	Floodlit, floodlighting of a structure				0=	Floodlight	
64		W M	Strip light				W	Strip light	
On m	ulticolored charts, Po	63 and P64 may b	pe any appropriate color.				1		
65	(priv	<b>v</b> )	Private light other than one exhibited occasionally	Priv	FR (priv)	<b>♦</b> ● Priv maintd	*	Status of private is obtained by pick	
66	(syn	c)	Synchronized light						
Sup	plementary Natio	nal Symbols							
а			Riprap surrounding light						
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
* 🛕	4	Cardinal buoy, north
* 🌲	<b>4 7</b>	Cardinal buoy, east
* 🔻		Cardinal buoy, south
* 🗶	4	Cardinal buoy, west
<b>Q</b> ?	⊙?	Default symbol for buoy (used when no defining attributes have been encoded in the ENC)
* •	•	Isolated danger buoy
A		Conical lateral buoy, green
A		Conical lateral buoy, red
$\Box$	<u>-</u>	Can shape lateral buoy, green
$\Box$	·	Can shape lateral buoy, red
څ		
٩		Installation buoy and mooring buoy
٦		
**	•	Safe water buoy
Q	<u>•</u>	Special purpose buoy, spherical or barrel shaped, or default symbol for special purpose buoy
4	<u>.</u>	Special purpose TSS buoy marking the starboard side of the traffic lane
$\Box$	<u>·</u>	Special purpose TSS buoy marking the port side of the traffic lane
4	<u> </u>	Special purpose ice buoy or spar or pillar shaped buoy
<b>\</b>		Super-buoy ODAS & LANBY
7	-	Light float
4 T		Light vessel

#### **Fixed Marks**

Paper Chart	Simplified	Simplified Symbol Name
* 🛕		Cardinal beacon, north
* 🔷	<b>\rightarrow</b>	Cardinal beacon, east
* 🔻	$\overline{\lor}$	Cardinal beacon, south
* 🔻	X	Cardinal beacon, west
<b>1</b> ?	•?	Default symbol for a beacon (used when no defining attributes have been encoded in the ENC)
1	•	Isolated danger beacon
1	•	Major lateral beacon, red
	•	Major lateral beacon, green
-8-	•	Minor lateral beacon, green
$\wedge$	•	Major safe water beacon
797	•	Minor safe water beacon
B	•	Major special purpose beacon
\$	•	Minor special purpose beacon

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

#### **Day Marks**

Paper Chart	Simplified	Simplified Symbol Name
Ţ	Image: Control of the	Square or rectangular daymark
\$	•	Triangular daymark, point up
$\searrow$	•	Triangular daymark, point down
E	E	Retro reflector

<sup>\*\*</sup> Several different paper chart symbols correspond to this simplified symbol.

No.	INT	Description	NOAA	NGA	Other NGA		ECDIS	
Buoys	and Beacons							
IALA Ma	ritime Buoyage System, which include	des Beacons → 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	<b>→</b> -	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	of Buoys and Beacon Topmark	<b>(S</b>				Supplementary national	al symbols: p	
Abbrevia	tions for Colors → P							
2		Green and black (symbols filled black)	<b>∲</b> G	* 1				
3		Single color other than green and black	<b>∲</b> R	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				
4	A A A A A A A A A A A A A A A A A A A	Multiple colors in horizontal bands, the color sequence is from top to bottom	<b>8</b> I	RG 🔈				
5	A A A AW AW	Multiple colors in vertical or diagonal stripes, the darker color is given first	\$ RI	v o				
6		Retroreflecting material						
Lighted	Marks					Supplementary national	al symbols: p	
Marks wi	th Fog Signals → R					Supplementary national	al symbols: p	
7	FI.G FI.R	Lighted marks on standard charts	FIG FIR	<u></u> FIR				
8	ET FI.R Q Iso	Lighted marks on multicolored charts						
Note: O	n standard charts, the light flares of	buoys and beacons are shown in ma	agenta. On multicolore	d charts, the light flares	are shown in the colors of the ap	propriate light		

## Q Buoys, Beacons

No.	INT	Description	NOAA	NGA	Other NGA		EC	DIS	
Topma	arks and Radar Reflectors								
For Ap	oplication of Topmarks within the IALA	System → Q 130 Fo	or other topmarks (spec	ial purpose buoys and b	peacons) → Q				
					are always symbol, as Simplified marks, isc only the to Simplified of topmark		displayed abo in Q 10 and Q symbols (on thated dangers a symark without symbology for will display on appe symbol wit	s for topmarks (on the left, below) d above a buoy or beacon shape and Q 11. (on the right, below) for cardinal gers and safe water consist of thout the buoy shape symbol. If you for marks with any other type ay only the simplified buoy or bool without a topmark.	
						<b>A</b>		2 cones point upward	
						*		2 cones point downward	
						<b>*</b>	4	2 cones base to base	
						X	4	2 cones point to point	
	4 7 4 7 0	IALA System buoy topmarks				•	•	2 spheres	
9	<b> </b>	(beacon topmarks shown upright)	<b>4 V</b>			•	•	Sphere	
				Cone point up					
						•		Cone point down	
						<b>D</b>		Cylinder, square, vertical rectangle	
						*		X-shape	
						/		Flag or other shape	
								Board, horizontal rectangle	
						•		Cube point up	
						+		Upright cross over a circle	
						7		T-shape	
10	₹0 - <b>J. No2</b>	Beacon with topmark, color, radar reflector and designation	■ G Ra	'3" Ref		bn N	lo 2	Beacon in general with topmark, paper chart	

## Buoys, Beacons Q

No.	INT	Description	NOAA	NGA	Other NGA		ECDIS				
11	No3	Buoy with topmark, color, radar reflector and designation	<b>∂</b> G N "3"	No 3		by No 3		Conical buoy with topmark, paper chart			
Note: R	Radar reflectors on floating marks usually	are not charted. ECDIS does not dis	play radar reflectors on t	fixed or floating aids; this	information is obtained by cursor p	ick.					
Buoys	Buoys										
Shape	Shapes of Buoys										
Featur	Features Common to Buoys and Beacons → Q 1–11										
						Paper Chart	Simplified				
20	۵ <b>۸</b>	Conical buoy, nun buoy, ogival buoy	§N △			4		Conical buoy			
21	<b>₽</b>	Can buoy or cylindrical buoy	&c =			<b>₽</b>		Can buoy			
22	ф Ф	Spherical buoy	\$SP Q			Q	•	Spherical buoy			
23	1 1	Pillar buoy; Buoy with no distinctive shape	Øp A			4	<u>/</u>	Pillar buoy			
24	I	Spar buoy, spindle buoy	Øs ⊸			1	<u> </u>	Spar buoy			
25	Φ. Φ.	Barrel buoy, tun buoy				$\Box$	•	Barrel buoy			
26	Ę	Superbuoy	Ţ.	<b>4</b>		*		Super-buoy  Lanby, super-buoy			
	†							Super-buoy odas & lanby			
Light '	Vessels and Minor Light Floats										
30.1	FI.G.3s Name	Light float on standard charts	*		_*_	\$		Light float			
30.2	FI.G.3s Name	Light float on multi-colored charts						-9			
31	†	Light float not part of IALA System	8			1		Light float			
32	F)-1	Light vessel		*	*	森		Light vessel, paper chart			

## Q Buoys, Beacons

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS						
Moori	Mooring Buoys											
Oil or G	Oil or Gas Installation Buoy → L											
						٦	Mooring buoy, can shape, paper chart					
40	& & B	Mooring buoys	-			ద్ది	Mooring buoy, barrel shape, paper chart					
							Istallation buoy and mooring buoy, simplified					
41.1	₫. Fl.Y.2.5s	Lighted mooring buoy (example) on standard charts		FIY2s		ధ	Mooring buoy with light flare, barrel shape,					
41.2	♣ Fl.Y.2,5s	Lighted mooring buoy (example) on multi-colored charts					paper chart					
42	2 2	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		\$-~\\\ \$-\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Mooring buoy, can shape, paper chart Mooring buoy, barrel shape, paper chart Installation buoy and					
				T = telephonic			mooring buoy, simplified					
44	Small Craft Moorings	Numerous moorings (example)	Numerous mooring buoys	(5 buoys)  Moorings			Small-craft mooring area					
45	Ø	Visitors' mooring					Availability of visitor mooring at marina is obtained by cursor pick					

## Buoys, Beacons Q

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS					
Specia	al Purpose Buoys										
Note: S	Note: Shapes of buoys are variable. Lateral or Cardinal buoys may be used in some situations.										
			Purpose of is obtained	buoy and other information by cursor pick							
Purpos	se of buoy may be shown by label.										
50	ζ <sup>‡</sup> DZ	Firing danger area (Danger Zone) buoy				Ă	Conical buoy with topmark, paper chart				
54	Ģ <sup>*</sup> DG	Degaussing Range buoy				•	Special purpose buoy, spherical or barrel shaped, or default symbol for special purpose buoy, simplified				
58	ದ್ದಾ ODAS ್ಲ ODAS	ODAS buoy (Ocean Data Acquisition System), data collecting buoy	₼ ODAS	료 ODAS		<b>↓</b>	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	Ç (priv)	Buoy privately maintained (example)	◊,	Priv	Δ (occas) Υ (01.04.– Υ 31.10.)	Status as pri	vate is obtained by cursor				
71	ڳ (Apr–Oct)	Seasonal buoy (example)			Status as pe stop dates a	riodic and period start and re obtained by cursor pick					
Beaco	ons										
Lighted Beacons → P Features Common to Beacons and Buoys → Q1–11											
80	_ <b>j</b> _ ⊙Bn	Beacon in general, characteristics unknown or chart scale too small to show	□ Bn	<b>★</b> Bn ⊗ Bn G R		<b>↓</b> ? <b>□</b> ? <b>↓</b>	Default symbol for a beacon, paper chart  Default symbol for a beacon, simplified  Beacon in general,				
81	J. BW	Beacon with color, no distinctive topmark	▲ R RW Bn			Beacon color is obtained by cursor pick					
82	□ ♣ ♣ ♣ ♣ R BY BRB	Beacons with colors and topmarks (examples)				10	r is obtained by cursor pick nation about topmarks and by  Beacon in general with topmark, paper chart  Major red lateral bea- con, simplified  Beacon in general with topmark, paper chart  Cardinal beacon, north, simplified  Beacon in general with topmark, paper chart  Isolated danger beacon, simplified				

## Buoys, Beacons Q

No.	ı	NT	Description	NOAA	NGA	Other NGA		ECDIS
83	E	<b>P</b> SAB	Beacon on submerged rock with colors (topmark as appropriate)		# BRB		ļ	Beacon in general with topmark, paper chart  Isolated danger beacon, simplified
Minor	Impermanent I	Marks Usually in	⊥ Drying Areas (Lateral Marks	of Minor Channels)				
Minor F	Pile → F							
90		1	Stake, pole	† o Stake • Stake † o Pole • Pole	R +		1	Minor, stake or pole beacon, paper chart
91	Port Hand	Starboard Hand	Perch, withy		P 1		1	Minor, stake or pole beacon, paper chart
91	Y	1	Y 1 1 Perch, withy		R R		•	Minor red lateral bea- con, simplified
92	± †	<b>\$</b>	Withy				•	Minor green lateral beacon, simplified
Minor	Marks, Usually	on Land						
Landm	narks → E							
100		&	Cairn	o Cairn	O CAIRN		<u>&amp;</u>	Conspicuous cairn
							Ţ	Square or rectangular day mark, paper chart
								Square or rectangular day mark, simplified
101		ПМЬ	Colored or white mark				$\triangle$	Triangular day mark, point up, paper chart
101	□ Mk		Colored of white mark				$\Diamond$	Triangular day mark, point up, simplified
							$\bigvee$	Triangular day mark, point down, paper chart
							$\bigvee$	Triangular day mark, point down, simplified

## Q Buoys, Beacons

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
102.1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Colored topmark (color known or unknown) with function of a beacon					
102.2	1	Painted boards with function of leading beacons					
Beaco	on Towers						
110	A G R G BY BRB	Beacon towers without and with topmarks and colors (examples)	□ RW Bn				Beacon tower, paper chart  Beacon tower with topmarks, paper chart
						•	Major red lateral bea- con, simplified
						•	Major green lateral beacon, simplified
111	ā.	Lattice beacon				<b>A</b>	Lattice beacon, paper chart
Speci	al Purpose Beacons						
Leadin	g Lines, Clearing Lines → M						
Note: T	opmarks and colors shown where scal	e permits.					
120	II	Leading beacons		Bns in line 270°		270 deg	Leading beacons
121	J	Beacons marking a clearing line		Bns in line 270°		270 deg	Beacons marking a clearing line or transit
122	Measured Distance 1852m 090°–270°	Beacons marking measured distance with quoted bearings	O MARKERS COURSE			270 deg	Beacons marking measured distance
123	<b>‡</b> ~~~~~	Cable landing beacon (example)		<b>!</b> ~~~~~~		<b>1</b> - ~ < ~ -	Cable landing beacon (example)

#### IALA Maritime Buoyage System

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IALA International Association of Marine Aids to Navigation and Lighthouse Authorities

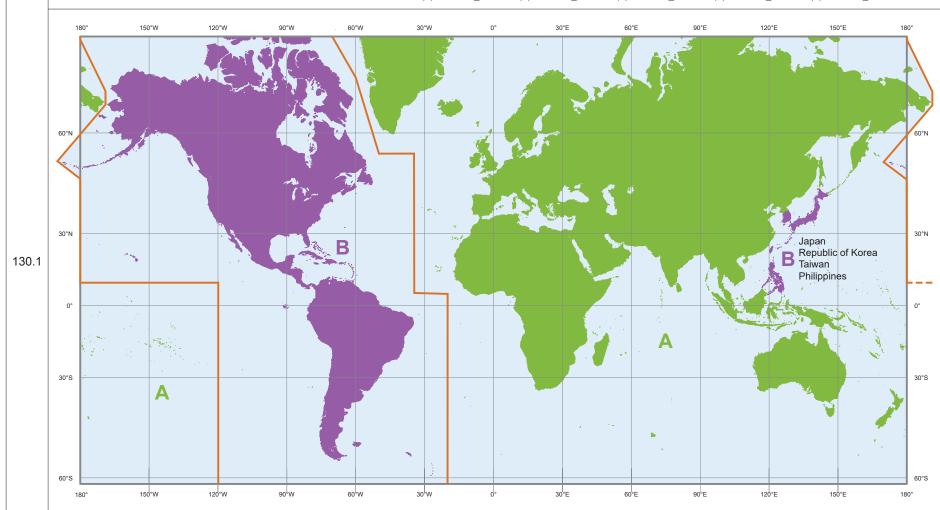
Where in force, the IALA System applies to all fixed and floating marks except landfall lights, leading lights and marks, sectored lights and major floating lights. The standard buoy shapes are: cylindrical (can)  $\Box$ , conical  $\Box$ , spherical  $\Box$ , pillar  $\Box$ , and spar  $\Box$ , but variations may occur, for example: minor light floats  $\Box$ .

There are two international buoyage regions where lateral marks differ. Each region is primarily comprised of the waters surrounding the areas shown below.

Region A: Greenland, Africa, Europe, Australia and Asia (except for Japan, the Republic of Korea, Taiwan and the Philippines).

Region B: North and South America, Japan, the Republic of Korea, Taiwan and the Philippines.

ECDIS marks the boundary between IALA regions A and B with this symbol:  $- \land - - \bigcirc - - \bigcirc - - \land - - \bigcirc -$ 



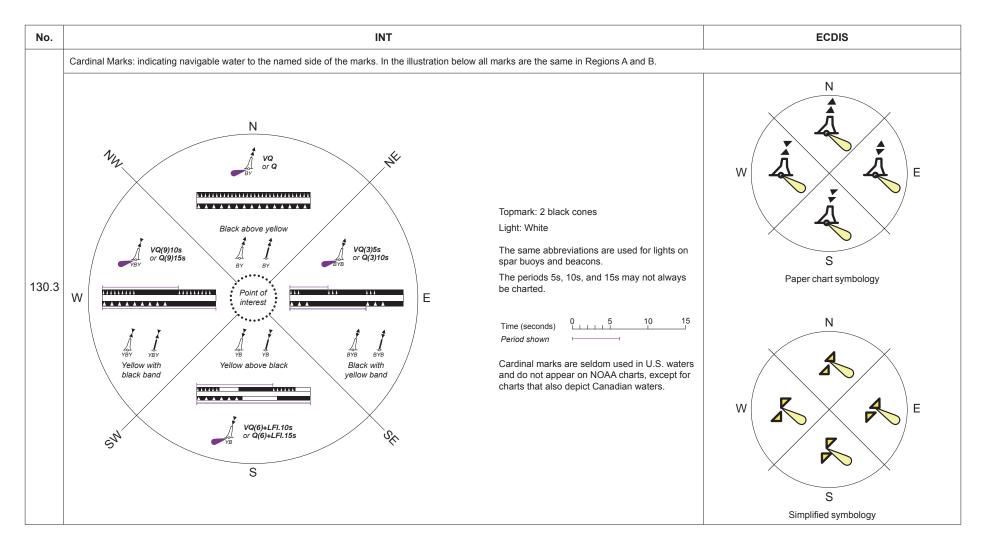
### Q Buoys, Beacons

Lateral Marks are generally for well-defined channels. There are two international buoyage regions—A and B—where lateral marks differ by color, but not by shape or topmark. \$ Port-hand marks are green with cylindrical topmarks (if any). If lit, light is green. Port-hand marks are red with A cylindrical topmarks (if any). If lit, light is red. ₽ / FIR INT FIG Starboard-hand marks are green Starboard-hand marks are red with conical topmarks (if any). If lit, light is green. with conical topmarks (if any). If lit, light is red. 0 Buoy shape may be cylindrical or conical (to indicate port **REGION A REGION B** or starboard) but may be another shape with appropriate topmark. Marks which indicate a junction with a side channel have three horizontal color bands and, if lit, the 130.1 rhythm will be Fl(2+1). Port-hand marks are red with Port-hand marks are green with Buoys in U.S. waters generally do not have topmarks. cylindrical topmarks (if any). If lit, light is red. cylindrical topmarks (if any). If lit, light is green. NOAA FI(2+1)G Starboard-hand marks are green Starboard-hand marks are red with conical topmarks (if any). If lit, light is red. with conical topmarks (if any). If lit, light is green. **REGION A REGION B** Direction of Buoyage: The direction of buoyage is that taken when approaching a harbor from seaward. Along coasts, the direction is determined by buoyage authorities, normally clockwise around land masses. Symbols showing direction of buoyage where it is not obvious INT IALA Region A IALA Region B General symbol for direction of buoyage on multicolored charts on multicolored charts 130.2 **ECDIS** General symbol for direction of buoyage IALA Region A IALA Region B

 $\triangle$ 

 $\triangle$ 

### Buoys, Beacons Q



### Q Buoys, Beacons

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
124	₽ L Ref	Refuge beacon				Purpose as a beacon is ob	refuge or firing danger area stained by cursor pick
126	<b>T</b>	Notice board				모	Notice board
130.4	Isolated Danger Marks stationed ove	r dangers with navigable water arour	nd them. Body: black	with red horizontal band(s	S) Topmark: two black spheres	Light: white	
		Unlit Marks				Å	Pillar buoy with 2 spheres topmark
	FI(2)	Lighted Marks on standard charts	<b>∳</b> BR			į	Spar buoy with 2 spheres topmark
	∯	Unlit Marks on multicolored charts					Isolated danger buoy, simplified
130.5	Safe Water Marks, including mid-char	nnel and landfall marks. Body: re	ed and white vertical stripe	es Topmark (if any): re	ed sphere Light: white		
	A Å Å	Unlit marks				Q	Spherical buoy, paper chart
	Iso or Oc or Few Mo(A)	Lighted Marks on standard charts	$\mathring{\mathbb{Q}}_{RW}$			į	Pillar buoy with sphere topmark
	Iso or Oc or FW FW MW (A)	Lighted Marks on multicolored charts				į	Spar buoy with sphere topmark
							Safe water buoy, simplified
130.6	Special Marks not primarily to assist r	navigation but to indicate special feat	ures. Body (shape op	tional): yellow* Topma	ark (if any): yellow X or upright cross	Light: yellow, rhythm	optional*
	\$ \$ \hat{\hat{\hat{\hat{\hat{\hat{\hat{\hat	Unlit Marks				Q	Spherical buoy, paper chart
	FIY	Lighted Marks on standard charts	<b>◊</b> Y			Q.	Can buoy
	F A J FIY	Lighted Marks on multicolored charts				4	Conical buoy
						ž	Spar buoy with x-shape topmark
							Special purpose buoy, simplified
	* In special cases, yellow may be used	in conjunction with another color					

## Buoys, Beacons Q

No.	INT	Description	NOAA	NGA	Other NGA	E	CDIS
130.7	New Danger Marks. Body (shape	optional): yellow and blue Topma	ark: yellow cross				
	Å J	Unlit marks				Į.	Pillar buoy with upright cross topmark
	Buy Buy	Lighted Marks on standard charts				+	0
	Buy Buy	Lighted Marks on multicolored charts					Spar buoy with upright cross topmark
Suppl	ementary National Symbols	1					
а		Bell buoy		A BELL			
b		Gong buoy					
С		Whistle buoy		${\mathbb A}$ whis			
d		Fairway buoy (red and white vertical stripe)	<b>∲</b> F	ew			
е		Mid-channel buoy (red and white vertical stripe)	<b>₿</b> F	PW			
f		Starboard-hand buoy (entering from seaward - US waters)	<b>8</b> #	₹ 2″			
g		Port-hand buoy (entering from seaward - US waters)	<b>∲</b> "1"	<b>§</b> "1"			
<b>L</b>		Bifurcation/Junction buoys	∲RG ∲GR				
h		Isolated danger, Wreck or Obstruction buoy	<b>₿</b> BR				
i		Fish trap (area) buoy					
j		Anchorage buoy (marks limits)					
		Triangular shaped beacons	▲R	△ RG Bn			
I		Square shaped beacons	■G □GR Bn	□W □B Bn Bn			
		Beacon, color unknown	□в	n			
0		Lighted beacon	1	<i>J</i>	. Bn . D		
q		Security barrier	Securit	y barrier			
r		Scientific mooring buoy	8				
s		Float (unlighted)	8				
t		White and blue buoy		√ WBuW			

## R Fog Signals

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS						
Gene	eral											
Fog D	etector Light → P Fog I	_ight → P										
1	IIIO III (III) AIS	Position of fog signal, type of fog signal not stated	Fog Sig 111	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										
Type	Types of Fog Signals, with Abbreviations  Supplementary national symbol: a											
10	Explos	Explosive	G	UN								
11	Dia	Diaphone	Di	Α								
12	Siren	Siren	SI	REN								
13	Horn	Horn (nautophone, reed, tyfon)	H	ORN			es are obtained by cursor					
14	Bell	Bell	ВІ	ELL								
15	Whis	Whistle	W	HISTLE								
16	Gong	Gong	G	ONG								
Exam	ples of Fog Signal Descriptions											
Note:	The fog signal symbol will usually be or	mitted 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			Light with fog signal					
21	A Bell	Wave-actuated bell buoy	₱ BELL	A BELL		Y	Pillar buoy, paper chart with fog signal					
22	Q(6)+LFI.15s vs Horn(1)15sWhis	Light buoy, with horn giving a single blast every 15 seconds, in conjunction with a waveactuated whistle	Q(6)+LFI 15s HORN(1) 15s WHIS	Q(6)+LFI 15s We HORN WHIS		Paper Chart Simplified	Lighted pillar buoy, paper chart with fog signal					
Supp	lementary National Symbol											
а		Morse Code fog signal	1	Мо								
		3 - 3 -	1									

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

No.	INT	Description	NOAA	NGA	Other NGA	EC	DIS
Rada	ar						
Radaı	Structures Forming Landmarks → E	Radar Surveillance	Systems → M		,	_	
1	o Ra	Coast radar station, providing range and bearing service on request		Ra			Radio station
2	© Ramark	Ramark, radar beacon transmitting continuously		Ramark			
3.1	(3 cm)	Radar transponder beacon, with morse identification, responding within the 3 cm (X) band	t	RACON			
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			© Racon (Z) (3 & 10 cm)		
3.4	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					
2.5	Racon Racon	Leading radar transponder beacons (‡: objects in line)					
3.5	Lts $\neq$ 270° Racon Racon	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	,Jul.,	Radar reflector		×			
Radarı	eflectors are not charted on buoys in re	egions where they are fitted to near	ly all buoys			*	Symbol indicating this object is radar
5	u.			conspicuous			

## S Radar, Radio, Satellite Navigation Systems

No.	INT	Description	NOAA	NGA	Other NGA		ECDIS
Radio	)						
Radio	Structures Forming Landmarks → E	Radio Reporting (Ca	alling-in or Way) points	$\rightarrow M$			
10	† Name	Circular (non-directional) marine or aeromarine radiobeacon	†	†			
11	† RD 269.5°	Directional radiobeacon with bearing line	†	RD 270°			Radio station
11	tts # 270°  RD 270°	Directional radiobeacon coincident with leading lights					
12	† e RW	Rotating pattern radiobeacon	t	RW			Additional information regarding radio,
13	† © Consol	Consol beacon	CONSOL Bn 190 kHz MMF ===	† © 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		RDF			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 physical aid.
15	† O R	Coast radio station providing QTG service	O R Sta	†			
16	† Aero RC	Aeronautical radiobeacon	† <u>(</u> )	SERO R Bn			
17.1	o AIS	Automatic Identification System transmitter					
17.2	AIS AIS	Automatic Identification System transmitter on floating marks (examples)					
18.1	o v-ais	Virtual AIS (with unknown IALA-defined function)					
	v-AIS					V-AIS	North cardinal virtual aid
18.2	V-AIS V-AIS	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 $\,\,$

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
10.5	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	8 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					
30	Note: A note may be shown to indicate are referred to WGS 84) to relate them		one, two or three decim	al places of a minute, de	pending on the chart scale, which s	hould be mad	e to satellite-derived positions (which
51	© DGPS	Station providing DGPS corrections				DGPS	DGPS reference station

### T Services

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS		
Pilota	age							
1.1	•	Boarding place, position of a pilot cruising vessel	Pilots				Pilot boarding place	
1.2	Name	Boarding place, position of a pilot cruising vessel, with name (e.g. District, Port)		Name				
1.3	Note	Boarding place, position of a pilot cruising vessel, with note (e.g. Tanker, Disembarkation)		(see note)			Pilot boarding area	
1.4	<b>●</b> H	Pilots transferred by helicopter						
2	† Pilot Lookout	Pilot office with pilot lookout, Pilot lookout station						
3	■ Pilots	Pilot office	O PIL STA	■ Pilots				
4	Port name (Pilots)	Port with pilotage service (boarding place not shown)						
Coas	t Guard, Rescue							
10	■ce oce ‡ce	Coast Guard station	CG R TR CG WALLIS SANDS			CG	Coast guard station	
						•		
11	<b>=</b> cg+ ∘cg+ ‡cg+	Coast Guard station with Rescue station		SAINDS		.CG →	Coast guard station  Rescue station	
12	+	Rescue station, Lifeboat station, Rocket station	<b>+</b>	- LSS				
13	₽♦	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 (INT)	Signal station, showing international port traffic signals				SS	Signal station	
22	o SS (Traffic)	Traffic signal station, Port entry and departure signals					gris. 300,011	
23	SS (Port Control)	Port control signal station	0	HECP				

## Services T

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	o SS (Storm)	Storm signal station	S Sig	g Sta			
29	SS (Weather)	Weather signal station, Wind signal station, National Weather Service (NWS) signal station	NWS SIG STA				
30	⊙ SS (Ice)	Ice signal station				CC	O'construction
31	○ SS (Time)	Time signal station				SS	Signal station
32.1	<u>‡</u>	Tide scale or gauge		O Tide Gauge			
32.2	⊙ Tide Gauge	Automatically recording tide gauge					
33	⊙ SS (Tide)	Tide signal station					
34	o SS (Stream)	Tidal stream signal station					
35	⊙ SS (Danger)	Danger signal station					
36	⊙ SS (Firing)	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		₹			
е		Lookout station; Watch tower	(	O LOOK TR			
f		Semaphore	S	em			
g		Park Ranger station		P			

### U Small Craft (Leisure) Facilities

No.		INT	Descr	iption			NOAA			NG	iΑ			01	her NG	SA .		ECDIS	
Sma	mall Craft (Leisure) Facilities																		
Traffic																			
	Marina facilities																		
а	THE LOC THE TAB THE TAB	LOCATION  LAS VEGAS BOAT  LAKE MEAD MAR  HEMENWAY HARBOR  TEMPLE BAR HAR  ECHO BAY RESORT  OVERTON BEACH  CALLVILLE BAY M  DIES HOURS LATER (-) DENOTES H- CATIONS OF THE ABOVE PUBLIC MARI ULATED "PUMPING STATION" IS DEFIN	CHARLER NE FACILITIES ARE SHOWLD' IS THE DEPTH AVAILA	20	S E S S SN SN S S SART BY LA E NEARES	HM HM M	RPLE NUMBERS	M M M M M M M	H H	JPPLIES  FC  FL  FLC  FLC  FC  FC  FC  FC  FC	T P TSL TS P	WD (	c wi	GH GH GH G	BT G BT G BT G BT G BT G				

Α		
abt	About	Di
Accom	Accommodation vessel	L 17
AERO, Aero	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
Al	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
Aug	August	
auth	Authorized	K 46.2
Ave	Avenue	
В		
В	Bay, bayou	
В	Black	Q 2
Bdy Mon	Boundary mark (monument)	B 24
Bk	Bank	
bk	Black	J as
bk	Broken	J 33
Bkw	Breakwater	F 4.1
bl	Black	J as
BM	Bench Mark	B 23
Bn, 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	J az
brg	Bearing	B 62
brk	Broken	J 33
Bu	Blue	P 11.4
С		
С	Can, cylindrical	Q 21
С	Cape	
С	Cove	
С	Coarse	J 32
Ca, ca	Calcareous	J 38
CALM	Catenary Anchor Leg Mooring	L 16
Сар	Capitol	Εt
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, Chy, Chys	Chimney(s)	E 22
Cir	Cirripedia	J ae
Ck	Chalk	J f
CL	Clearance	D 20-21, 26, 28
CI	Clay	J 3
cm	Centimeter(s)	B 43
Cn	Cinders	Jр
Co	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	N a
Consol	Consol Beacon	S 13
constr	Construction	F 32

Corn	Corporation	Εv
Corp		L 21.2
COV	Covers	
cps	Cycles per second	Вј
Cr	Creek	
CRD	Columbia River Datum	Нј
crs	Coarse	J 32
c/s	Cycles per second	Вј
Cswy	Causeway	F 3
Ct Ho	Courthouse	Ео
Cup	Cupola	E 10.4
Cus Ho	Customs house	F 61
Су	Clay	J 3
D		
D	Destroyed	
dec	Decayed	J an
Dec	December	
Deg	Degree(s)	Bn
Destr	Destroyed	
dev	Deviation	B 67
DF	Direction Finder	
DG	Degaussing Range	N 25, Q 54
DGPS	Differential Global Positioning System	S 51
	-,	
Di	Diatoms	J aa
Di DIA, <b>Dia</b>	•	J aa R 11
	Diatoms	
DIA, <b>Dia</b>	Diatoms  Diaphone	R 11
DIA, Dia	Diatoms Diaphone Direction light	R 11 P 30-31
DIA, <b>Dia Dir</b> Discol	Diatoms  Diaphone  Direction light  Discolored	R 11 P 30-31
DIA, Dia Dir Discol dist	Diatoms Diaphone Direction light Discolored Distant	R 11 P 30-31 K e
DIA, Dia Dir Discol dist dk	Diatoms  Diaphone  Direction light  Discolored  Distant  Dark	R 11 P 30-31 K e
DIA, Dia  Dir  Discol  dist  dk  dm	Diatoms  Diaphone  Direction light  Discolored  Distant  Dark  Decimeter(s)  Dolphin(s)	R 11 P 30-31 K e  J bd B 42 F 20
DIA, Dia  Dir  Discol  dist  dk  dm  Dn, Dns	Diatoms  Diaphone  Direction light  Discolored  Distant  Dark  Decimeter(s)	R 11 P 30-31 K e  J bd B 42
DIA, Dia  Dir  Discol  dist  dk  dm  Dn, Dns  Dol	Diatoms  Diaphone  Direction light  Discolored  Distant  Dark  Decimeter(s)  Dolphin(s)  Dolphin(s)	R 11 P 30-31 K e  J bd B 42 F 20 F 20 M 27.1,
DIA, Dia  Dir  Discol  dist  dk  dm  Dn, Dns  Dol  DW	Diatoms  Diaphone  Direction light  Discolored  Distant  Dark  Decimeter(s)  Dolphin(s)  Dolphin(s)  Deep Water Route	R 11 P 30-31 K e  J bd B 42 F 20 F 20 M 27.1, N 12.4
DIA, Dia  Dir  Discol  dist  dk  dm  Dn, Dns  Dol  DW  DZ  E	Diatoms  Diaphone  Direction light  Discolored  Distant  Dark  Decimeter(s)  Dolphin(s)  Dolphin(s)  Deep Water Route  Danger Zone	R 11 P 30-31 K e  J bd B 42 F 20 F 20 M 27.1, N 12.4 Q 50
DIA, Dia  Dir  Discol  dist  dk  dm  Dn, Dns  Dol  DW  DZ  E  E	Diatoms  Diaphone  Direction light  Discolored  Distant  Dark  Decimeter(s)  Dolphin(s)  Dolphin(s)  Deep Water Route  Danger Zone	R 11 P 30-31 K e  J bd B 42 F 20 F 20 M 27.1, N 12.4 Q 50
DIA, Dia  Dir  Discol  dist  dk  dm  Dn, Dns  Dol  DW  DZ  E	Diatoms  Diaphone  Direction light  Discolored  Distant  Dark  Decimeter(s)  Dolphin(s)  Dolphin(s)  Deep Water Route  Danger Zone	R 11 P 30-31 K e  J bd B 42 F 20 F 20 M 27.1, N 12.4 Q 50

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	E d
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, ft	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	H k
Gl	Globigerina	Jz

glac	Glacial	J ap
gn	Green	J av
Govt Ho	Government House	E m
Gp Fl	Group flashing	P 10.4
Gp Oc	Group occulting	P 10.2
GPS	<b>Global Positioning System</b>	
Grd	Ground	J a
Grs	Grass	Jν
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	H 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	H h
Hz	Hertz	B g
1		
IALA	International Association of Lighthouse Authorities*	Q 130
IHO	International Hydrographic Organization	
illum	Illuminated	P 63
IMO	International Maritime Organization	on

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	H g
Iso	Isophase	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	
K		
K	Kelp	Ju
kc	Kilocycle	Вk
kHz	Kilohertz	Вh
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	Не
Lndg	Landing for boats	F 17
LNG	Liquified Natural Gas	

<sup>\*</sup>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
It	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	ΕI
Maintd	Maintained	P 65
man	Manually activated	P 56, R 2
Mar	March	
Mc	Megacycles	ВІ
Mds	Madrepores	Јj
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
N		
N	North	B 9
N	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
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OVHD	Overhead	D 28
Oys	Oysters	Jr
P		
Р	Pebbles	J 7
Р	Pillar	Q 23
(P)	Preliminary (NTM)	
PA	Position approximate	B 7
Pass	Passage, Pass	
Pav	Pavilion	Εp
PD	Position doubtful	B 8
Pk	Peak	
PLT STA	Pilot station	T3
Pm	Pumice	J m
PO	Post office	F 63
Ро	Polyzoa	J ad
pos, posn	Position	
Post Off	Post office	F 63
Priv, <b>priv</b>	Private	P 65, Q 70
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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, r	Rock, Rocky	J 9.1, K b

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           RTR, R Tr         Radio tower         E 29           Ra         Radar         M 31-32, S 1           Ra         Radar reference line         M 32.1           Ra         Radar conspicuous point         S 5           Ra Ref         Radar conspicuous point         S 5           Ra Ref         Radar conspicuous point         S 5           Ra Ref         Radar conspicuous point         S 5           Ra (conspic)         Radar conspicuous point         S 5           Ra (conspic)         Radar conspicuous point         S 5           Ra (conspicuous point         S 5         S           Ra (conspicuous point         S 5         S           Rad         Radar conspicuous point         S 5           Ra (conspicuous point         S 5         R           Rad (conspicuous point         S 5         R           Rad (conspicuous point         S 5         R           Rad (conspi			
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 effector         M 32.1           Ra (conspic)         Radar conspicuous point         S 5           Ra Ref         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           RC         Circular radiobeacon         S 10           RD         Directional radiobeacon         S 11           Rd         Radiolaria         J ab           Rd         Radio direction finding station         S 14           Ref         Refuge         Q 124           Rep         Reported         I 3           Rf         Ref         Refuge         Q 124           Rky         Rocks         J 9.1, K b           Rky         Rocky         J 9.1 <td>R Bn</td> <td>Circular radiobeacon</td> <td>S 10</td>	R Bn	Circular radiobeacon	S 10
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         M 32.1           Ra         Radar reference line         M 32.1           Ra (conspic)         Radar conspicuous point         S 5           Ra Ref         Radar conspicuous point         S 5           Ra Ref         Radar conspicuous point         S 5           Ra Ref         Radar reflector         S 4           Racon         Radar reflector         S 4           Racon         Radar transponder beacon         S 3           Radar Sc         Radar scanner         E 30.3           Radar Sc         Radar scanner         E 30.2           RADAR TR         Radar tower         E 30.2           RC         Circular radiobeacon         S 10           RD         Directional radiobeacon         S 11           Rd         Radio direction finding station         S 14           Ref         Refuge         Q 124           Rep         Reported         I 3           Rk         Rocks         J 9.1, K b<	R Lts	Air obstruction lights	P 61.2
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 conspicuous point         S 5           Ra Ref         Radar reflector         S 4           Racon         Radar reflector         S 4           Racon         Radar transponder beacon         S 3           Radar Sc         Radar scanner         E 30.3           Radar Tr, Radar tower         E 30.2           RC         Circular radiobeacon         S 10           RD         Directional radiobeacon         S 10           RD         Directional radiobeacon         S 11           Rd         Radiolaria         J ab           Rd         Radio direction finding station         S 14           Ref         Refuge         Q 124           Rep         Reported         I 3           Rk         Rocks         J 9.1, K b           Rky         Rocky         J 9.1           RoRo         Roll-on, Roll-off Ferry (RoRo Terminal)         F 50	R Mast	Radio mast	E 28
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 conspicuous point         S 5           Ra Ref         Radar reflector         S 4           Racon         Radar reflector         S 4           Racon         Radar transponder beacon         S 3           Radar Sc         Radar scanner         E 30.3           Radar Tr, Radar tower         E 30.2           Radar Tr, RADAR TR         Radar tower         E 30.2           RC         Circular radiobeacon         S 10           RD         Directional radiobeacon         S 10           RD         Directional radiobeacon         S 11           Rd         Radiolaria         J ay           RD         Rediolaria         J ay           RDF         Radio direction finding station         S 14           Ref         Refuge         Q 124           Rep         Reported         I 3           Rk         Rocks         J 9.1, K b           Rky         Rocky         J 9.1 <tr< td=""><td>R Sta</td><td>Radio Station</td><td>S 15</td></tr<>	R Sta	Radio Station	S 15
Ra         Radar         M 31-32, S 1           Ra         Radar reference line         M 32.1           Ra (conspic)         Radar conspicuous point         S 5           Ra Ref         Radar conspicuous point         S 5           Rade         Radar conspicuous point         S 4           Racon         Radar tower         S 4           Racon         Radar tarnsponder beacon         S 3           Radar tower         E 30.2         2           Radar tower         E 30.2         2           RC         Circular radiobeacon         S 10           RC         Circular radiobeacon         S 11           Rd         Radiolaria         J ay           RDF         Radio direction finding station         S 14           Ref         Refuge         Q 124           Rep         Radio direction finding station         S 14           Rk	R Tower	Radio tower	E 29
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           RC         Circular radiobeacon         S 10           RD         Directional radiobeacon         S 11           Rd         Radiolaria         J ab           Rd         Radiolaria         J ab           Rd         Road, roadstead         Td           rd         Red         J ay           RDF         Radio direction finding station         S 14           Ref         Refuge         Q 124           Rep         Reported         I 3           Rf         Reef         Refuge         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         D 8, E 25.2, F 33           RW         Rotating-pattern radiobeacon	R TR, R Tr	Radio tower	E 29
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           RC         Circular radiobeacon         S 10           RD         Directional radiobeacon         S 11           Rd         Radiolaria         J ab           Rd         Radiolaria         J ab           Rd         Road, roadstead         Td           rd         Red         J ay           RDF         Radio direction finding station         S 14           Ref         Refuge         Q 124           Rep         Reported         I 3           Rf         Reef         Red           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           RW         Rotating-pattern radiobeacon         S 12      <	Ra	Radar	M 31-32, S 1
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           RC         Circular radiobeacon         S 10           RD         Directional radiobeacon         S 11           Rd         Radiolaria         J ab           Rd         Radiolaria         J ab           Rd         Road, roadstead         Td           rd         Red         J ay           RDF         Radio direction finding station         S 14           Ref         Refuge         Q 124           Rep         Reported         I 3           Rf         Reef         Radio direction finding station         S 14           Rk         Rocks         J 9.1, K b           Rky         Rocky         J 9.1         K b           Rky         Rocky         J 9.1         K b           Ru, (ru)         Ruin, ruined         D 8, E 25.2, F 33         RW           Rotten         J 1         S         Sand         J 1           S         Sand         J 1         S	Ra	Radar reference line	M 32.1
Racon         Radar transponder beacon         S 3           Radar Sc         Radar scanner         E 30.3           Radar Tr, RADAR TR         Radar tower         E 30.2           Remark         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         I 3           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         Sand         J 1           S         South	Ra (conspic)	Radar conspicuous point	S 5
Radar Sc         Radar scanner         E 30.3           Radar Tr, RADAR TR         Radar tower         E 30.2           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         I 3           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           Rw         Rotating-pattern radiobeacon         S 12           S         Sand         J 1           S         South         B 11           S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12	Ra Ref	Radar reflector	S 4
Radar Tr, RADAR TR         Radar tower         E 30.2           RC         Circular radiobeacon         S 10           RD         Directional radiobeacon         S 11           Rd         Radiolaria         J ab           Rd         Radiolaria         J ay           Rd         Road, roadstead           rd         Red         J ay           RDF         Radio direction finding station         S 14           Ref         Refuge         Q 124           Rep         Reported         I 3           Rf         Reef           RG         Radio direction finding station         S 14           Rk         Rocks         J 9.1, K b           Rk         Rocks         J 9.1, K b           Rky         Rocky         J 9.1           RoRo         Roll-on, Roll-off Ferry (RoRo Terminal)         F 50           Ru, (ru)         Ruin, ruined         D 8, E 25.2, F 33           RW         Rotating-pattern radiobeacon         S 12           S         Sand         J 1           S         South         B 11           S         South         B 11           S         Spar, spindle         Q 24 <t< td=""><td>Racon</td><td>Radar transponder beacon</td><td>S 3</td></t<>	Racon	Radar transponder beacon	S 3
RADAR TR         Ramark         Radar marker beacon         \$ 2           RC         Circular radiobeacon         \$ 10           RD         Directional radiobeacon         \$ 11           Rd         Radiolaria         J ab           Rd         Road, roadstead         J ay           RDF         Radio direction finding station         \$ 14           Ref         Refuge         Q 124           Rep         Reported         I 3           Rf         Reef         Reef           RG         Radio direction finding station         \$ 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         \$ 12           S         Sand         J 1           S         South         B 11           S         South         B 11           S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12	Radar Sc	Radar scanner	E 30.3
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         I 3           Rf         Reef         Reg           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         Sand         J 1           S         South         B 11           S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12		Radar tower	E 30.2
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         I 3           Rf         Reef         Reg           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         F 50           Terminal)         Tt         Rotten         J aj           Ru, (ru)         Ruin, ruined         D 8, E 25.2, F 33           RW         Rotating-pattern radiobeacon         S 12           S         Sand         J 1           S         South         B 11           S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12	Ramark	Radar marker beacon	S 2
Rd         Radiolaria         J ab           Rd         Road, roadstead           rd         Red         J ay           RDF         Radio direction finding station         S 14           Ref         Refuge         Q 124           Rep         Reported         I 3           Rf         Reef         RG           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         Sand         J 1           S         South         B 11           S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12	RC	Circular radiobeacon	S 10
Rd         Road, roadstead           rd         Red         J ay           RDF         Radio direction finding station         \$ 14           Ref         Refuge         Q 124           Rep         Reported         I 3           Rf         Reef         R           RG         Radio direction finding station         \$ 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         \$ 12           S         Sand         J 1           S         South         B 11           S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12	RD	Directional radiobeacon	S 11
rd         Red         J ay           RDF         Radio direction finding station         \$ 14           Ref         Refuge         Q 124           Rep         Reported         I 3           Rf         Reef         Reg           RG         Radio direction finding station         \$ 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         \$ 12           S         Sand         J 1           S         South         B 11           S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12	Rd	Radiolaria	J ab
RDF         Radio direction finding station         S 14           Ref         Refuge         Q 124           Rep         Reported         I 3           Rf         Reef         Ref           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         Sand         J 1           S         South         B 11           S         South         B 11           S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12	Rd	Road, roadstead	
Ref         Refuge         Q 124           Rep         Reported         I 3           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         Sand         J 1           S         South         B 11           S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12	rd	Red	J ay
Rep         Reported         I 3           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         Sand         J 1           S         South         B 11           S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12	RDF	Radio direction finding station	S 14
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         Sand         J 1           S         South         B 11           S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12	Ref	Refuge	Q 124
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         Sand         J 1           S         South         B 11           S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12	Rep	Reported	13
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         Sand         J 1           S         South         B 11           S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12	Rf	Reef	
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         Sand         J 1           S         South         B 11           S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12	RG	Radio direction finding station	S 14
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         Sand         J 1           S         South         B 11           S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12	Rk	Rocks	J 9.1, K b
Terminal	Rky	Rocky	J 9.1
Ru, (ru)         Ruin, ruined         D 8, E 25.2, F 33           RW         Rotating-pattern radiobeacon         S 12           S         Sand         J 1           S         South         B 11           S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12	RoRo		F 50
F 33	rt	Rotten	J aj
S         Sand         J 1           S         South         B 11           S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12	Ru, (ru)	Ruin, ruined	
S         Sand         J 1           S         South         B 11           S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12	RW	Rotating-pattern radiobeacon	S 12
S         South         B 11           S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12	S		
S         Spar, spindle         Q 24           s         Second(s) of time         B 51, P 12	S	Sand	J 1
s Second(s) of time B 51, P 12	S	South	B 11
	S	Spar, spindle	Q 24
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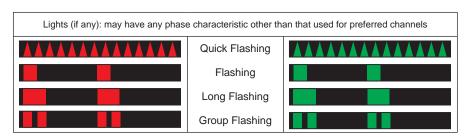
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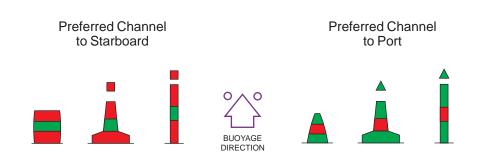
#### Appendix 1 IALA Maritime Buoyage System

#### Region A Lateral Marks

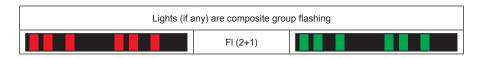


red	Color	green	
cylindrical (can), pillar, spar	Buoy	conical (nun), pillar, spar	
single red cylinder (can)	Topmark (if any)	single green cone, point upward	



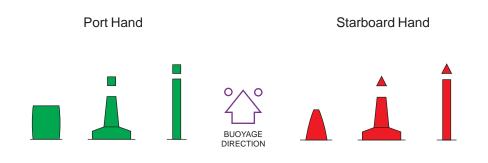


red with one green horizontal band	Color	green with one red horizontal band	
cylindrical (can), pillar, spar	Buoy	conical (nun), pillar, spar	
single red cylinder (can)	Topmark (if any)	single green cone, point upward	

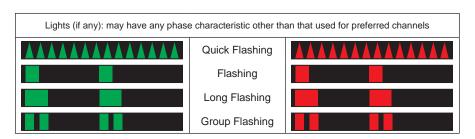


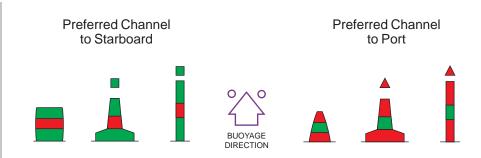
#### IALA Maritime Buoyage System Appendix 1

Region B Lateral Marks

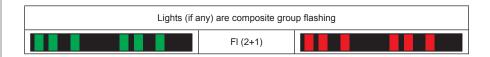


green	Color	red
cylindrical (can), pillar, spar	Buoy	conical (nun), pillar, spar
single green cylinder (can)	Topmark (if any)	single red cone, point upward





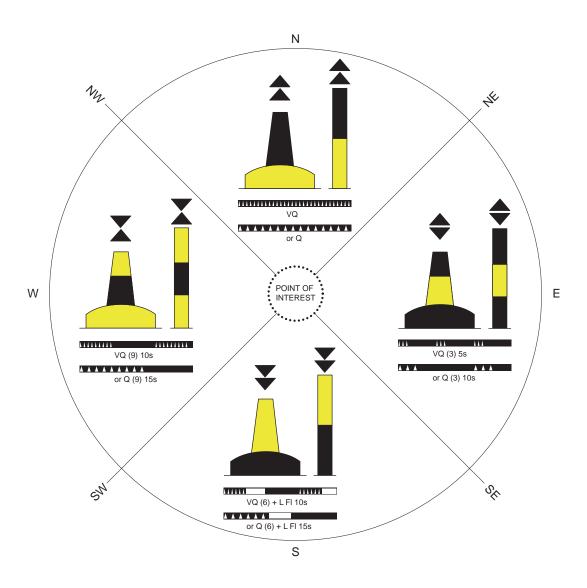
green with one red horizontal band	Color	red with one green horizontal band	
cylindrical (can), pillar, spar	Buoy	conical (nun), pillar, spar	
single green cylinder (can)	Topmark (if any)	single red cone, point upward	



### Appendix 1 IALA Maritime Buoyage System

#### Cardinal Marks in Regions A and B

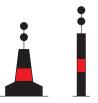
Lights, when fitted, are white



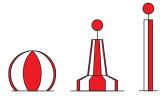
### IALA Maritime Buoyage System Appendix 1

#### Regions A and B

#### Isolated Danger Marks



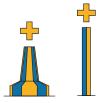
Safe Water Marks	3
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Special Marks



**New Danger Marks** 



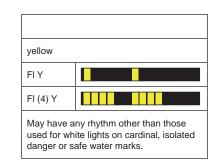
Color	black with one or more red horizontal band(s)
Buoy	optional, but not conflicting with lateral marks; pillar or spar preferred
Topmark (if any)	always fitted with double spheres

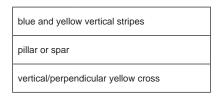
Lights (if any)		
Color	white	
Rhythm	group flashing	

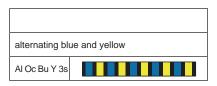
red and white vertical stripes
spherical, pillar or spar
single red sphere

white	
ISO	
Ос	
L FI 10s	
Morse "A"	

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



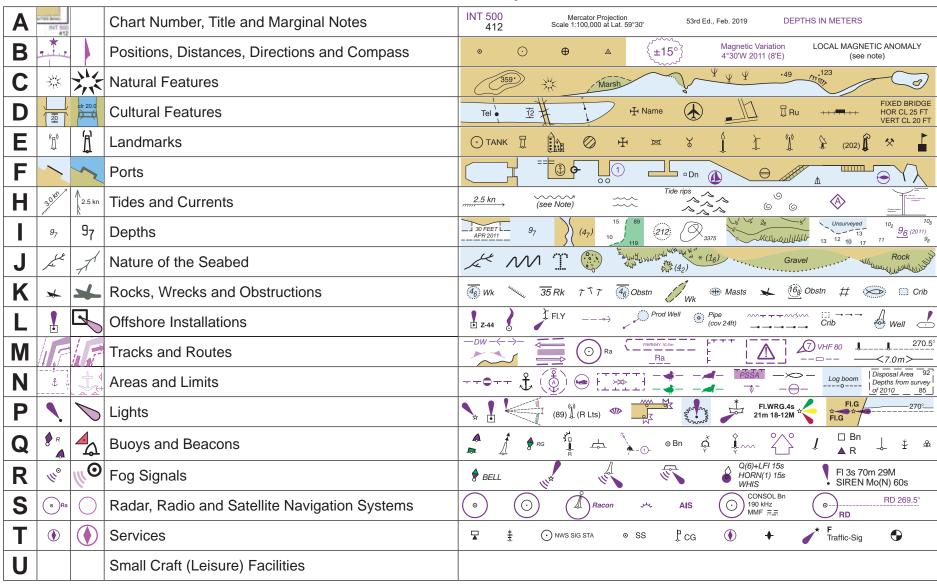




#### **Record of Corrections**

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

#### **Section Key**





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