

U.S. Chart No. 1

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

12th Edition
April 6, 2012

WORKING DRAFT - NOT TO BE USED OPERATIONALLY

Prepared Jointly by
Department of Commerce
National Oceanic and Atmospheric Administration

Department of Defense
National Geospatial-Intelligence Agency

Record of Corrections

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SYMBOLS, ABBREVIATIONS AND TERMS

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PREFACE

Presentation of Two Symbology Sets

This edition of U. S. Chart No. 1 has a new name and a new look. Its title is now *Symbols, Abbreviations and Terms used on Paper and Electronic Navigational Charts*. For the first time, Chart No. 1 presents both of the major symbology sets used for marine navigation.

As in previous editions, the symbols depicted on paper nautical charts produced by the National Oceanic and Atmospheric Administration (NOAA) and the National Geospatial-Intelligence Agency (NGA) and digital raster representations of those charts, such as NOAA Raster Nautical Charts (NOAA RNCs®), are presented in lettered sections organized in categories, such as Landmarks, Depths, and Lights. New in this edition is the inclusion of the corresponding symbols used to portray Electronic Navigational Chart (ENC) data on Electronic Chart Display and Information Systems (ECDIS) as specified by the International Hydrographic Organization (IHO).

Other Non-ECDIS Digital Displays May Portray Data Differently

Navigation systems certified to meet the exacting performance standards proscribed by the International Maritime Organization (IMO) are said to be ECDIS “type approved.” The symbology used to display ENCs or other non-ENC nautical 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 EDCIS*.

INTRODUCTION

New Column Headers

The orientation of this edition of U.S. Chart No. 1 has been rotated 90° into a landscape format to allow two additional columns to be added to the right side of the page. These columns hold the ECDIS symbols corresponding to the paper chart symbols shown on the left side.

“INT 1” symbols, as specified in the *Regulations of the IHO for International (INT) Charts and Chart Specifications of the IHO*, appear in the second column from the left, after the symbol number. Any variations from INT 1 symbology that are used on charts produced by NOAA or NGA are shown in the NOAA, NGA and the “Other NGA” columns (columns 4, 5, and 6 respectively), ECDIS symbols and their descriptions are shown in columns 7 and 8 respectively.

When columns 4 and 5 are combined, this indicates that NOAA and NGA both use the same non-INT1 symbol for that particular feature. When any of columns 4, 5, or 6 are blank, then the INT 1 symbol has been adopted for use by the organization for which that column applies. The schematic layout following this introduction shows a typical symbol table page. It provides details about the table headers and the types of information presented in each of the columns.

Sample Chart Layouts

Section A presents two schematics showing typical layouts of the major elements of NOAA and NGA charts.

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 Ab 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 influ-

ence, 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 C1). 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 C32, C33, Cp, Cq and Cr).

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, a landmark legend that is shown in capital letters indicates that the 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 the 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 Chart No. 1. See the ECDIS “Conspicuous Symbols” page in front of Section D 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 and mineral lease blocks, which are outlined in red.

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 Routing*. 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 <http://msi.nga.mil/NGAPortal/MSI.portal>.

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

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 <http://www.navcen.uscg.gov/?pageName=lightLists>. Information about aids to navigation in foreign waters is in the NGA *List of Lights*, available through the “Publications” link on the NGA Maritime Safety Information portal at <http://msi.nga.mil/NGAPortal/MSI.portal>.

Other important information that cannot be shown conveniently on nautical charts can be found in the NOAA *U.S. Coast Pilot®*, at <http://www.nauticalcharts.noaa.gov/staff/chartspubs.html> and NGA *Sailing Directions*, available through the “Publications” link on the NGA Maritime Safety Information portal at <http://msi.nga.mil/NGAPortal/MSI.portal>.

U.S. Nautical Chart Catalogs and Indexes

NGA catalogs are available through the “Product Catalog” link on the NGA Maritime Safety Information portal at <http://msi.nga.mil/NGAPortal/MSI.portal>. NOAA catalogs are available at <http://www.nauticalcharts.noaa.gov/mcd/ccatalogs.htm>. A list of the dates of the latest editions of NOAA charts is at <http://www.nauticalcharts.noaa.gov/mcd/dole.htm>.

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 <http://msi.nga.mil/NGAPortal/MSI.portal>.

Users may send corrections or comments to the NOAA Discrepancy Reporting System at <http://ocsddata.ncd.noaa.gov/idrs/discrepancy.aspx> or by mail to:

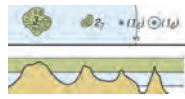
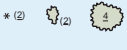






National Ocean Service, NOAA (N/CS2)

Attention: U.S. Chart 1

1315 East West Highway

Silver Spring, MD 20910-3282

Schematic Layout of Chart No. 1:

(A) K		(B) Rocks, Wrecks, Obstructions					
(C) Rocks		(D) Supplementary national symbol: a					
(E) Plane of Reference for Heights → H		Plane of Reference for Depths → H					
No.	INT	Description	NOAA	NGA	Other NGA	ECDIS	
11		Rock which covers and uncovers, height above chart datum					rock which covers and uncovers or is awash at low water
							underwater hazard which covers and uncovers with drying height
							underwater hazard with depth greater than 20 metres
							isolated danger of depth less than the safety contour
(1)	(2)	(3)	(4a)	(4b)	(5)	(6)	(7)


(A)	Section designation
(B)	Section
(C)	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 symbols, 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 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 is the case for K11). 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 T11–T13).

† Signifies that this representation is obsolete, but it may appear on older charts.

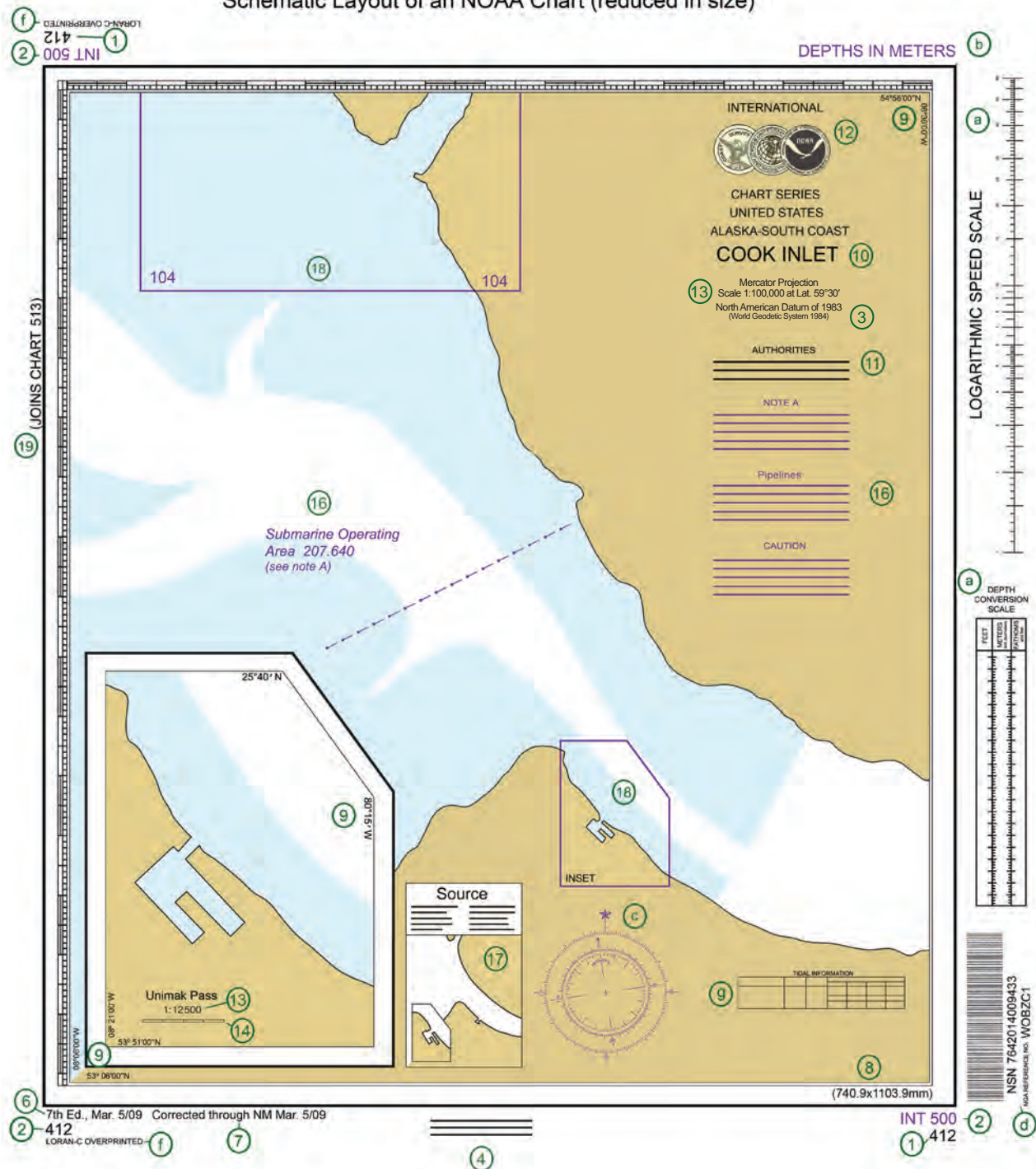
‡ Signifies that this feature is not portrayed on respective agency's charts.

 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 C14 is an example.

A

Chart Number, Title, Marginal Notes

Schematic Layout of an NOAA Chart (reduced in size)

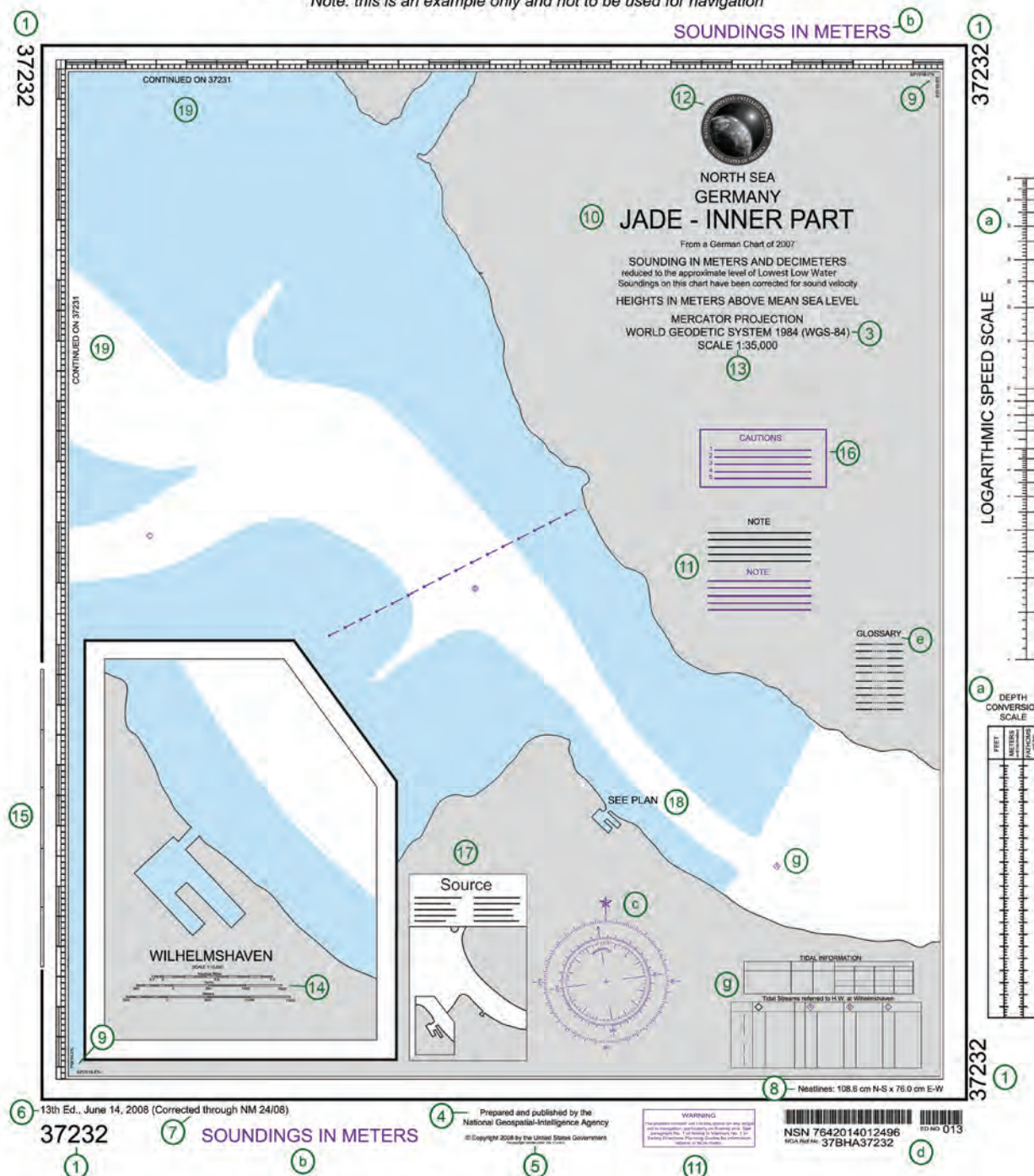


Magnetic Features → B	
Tidal Data → H	
①	Chart number in national chart series
②	Chart number in International (INT) series (if any)
③	Reference ellipsoid of the chart
④	Publication note (imprint)
⑤	Copyright note
⑥	Date of current edition
⑦	Notice to Mariners corrections
⑧	Dimensions of inner borders
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





Schematic Layout of an NGA Chart (reduced in size)

Note: this is an example only and not to be used for navigation

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
20	Instruction to refer to complementary nautical publications
a	Conversion scales
b	Reference to the units used for depth measurement
c	Compass Rose
d	Bar code and stock number
e	Glossary: Translation of words on chart that are not in English
f	Identification of a latticed chart (if any)
g	Tidal and Tidal Stream information within the chart coverage



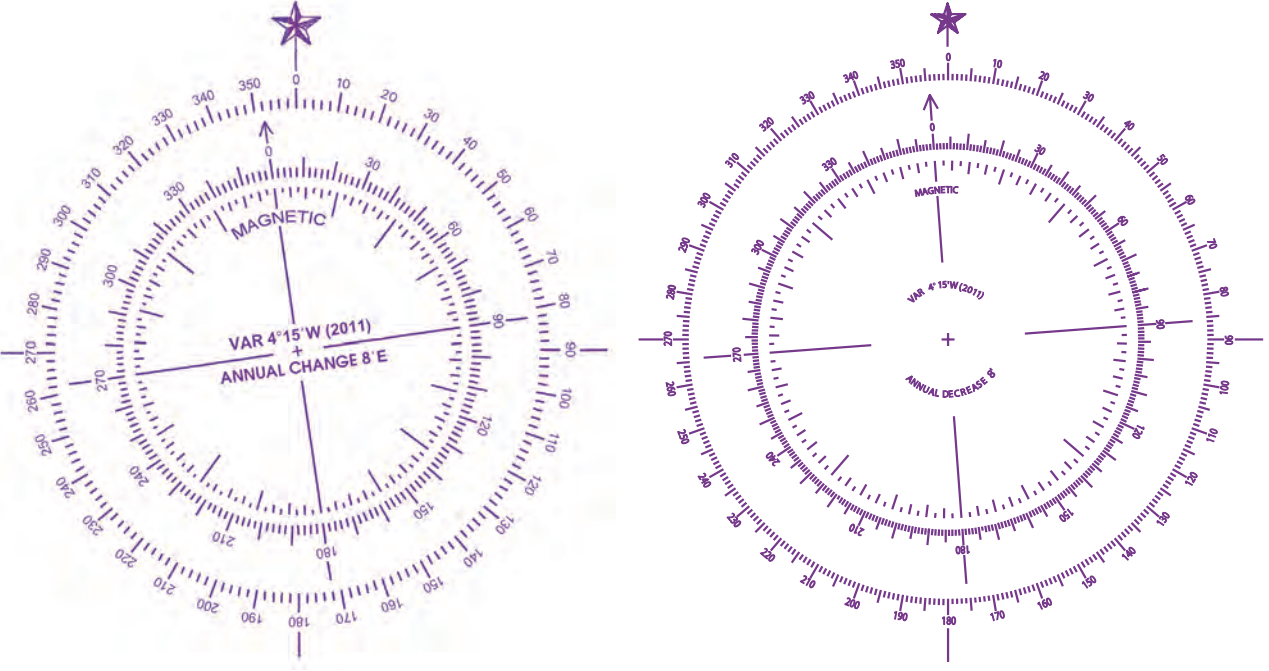

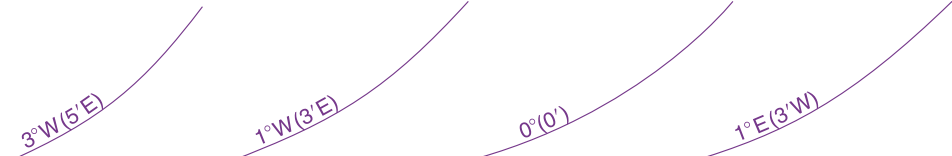

B Positions, Distances, Directions, Compass

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS	
Geographical Positions							
1	Lat	Latitude					
2	Long	Longitude					
3		International Meridian (Greenwich)					
4	°	Degree(s)					
5	'	Minute(s) of arc					
6	"	Second(s) of arc					
7	PA	Position approximate	PA	(PA)		<div>PA </div>	<div>position approximate</div> <div>point feature or area of low accuracy</div> <div>sounding of low accuracy</div>
8	PD	Position doubtful	PD	(PD)		<div></div>	<div>point feature or area of low accuracy</div> <div>sounding of low accuracy</div>
9	N	North					
10	E	East					
11	S	South					
12	W	West					
13	NE	Northeast					
14	SE	Southeast					
15	NW	Northwest					
16	SW	Southwest					
Control Points							
20		Triangulation point					position of an elevation or control point


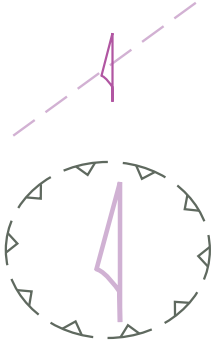

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS	
21		Observation spot		Obs Spot			position of an elevation or control point
22		Fixed point					
23		Benchmark		BM			
24		Boundary mark		Bdy Mon			
25.1		Distance along waterway, no visible marker					canal and distance point
25.2		Distance along waterway with visible marker					canal and distance point with no mark
Symbolized Positions (Examples)							
30		Symbols in plan: position is center of primary symbol					
31		Symbols in profile: position is at bottom of symbol					
32		Point symbols: accurate positions		MAST			
33		Approximate position		Mast			
Units						Supplementary national symbols: a – m	
40	km	Kilometer(s)					
41	m	Meter(s)					
42	dm	Decimeter(s)					
43	cm	Centimeter(s)					
44	mm	Millimeter(s)					
45	M	International nautical mile(s) (1852m), sea mile(s)	Mi	NMi	NM		
46		Cable(s) (0.1M)		cbl			
47	ft	Foot/Feet					
48		Fathom(s)		fm			




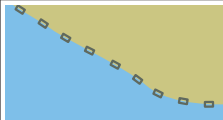
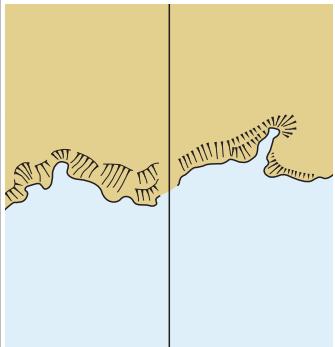


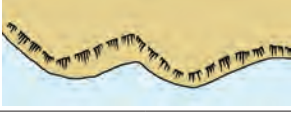

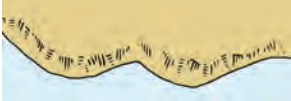






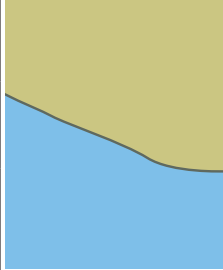
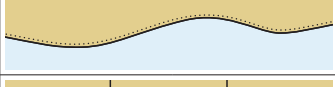

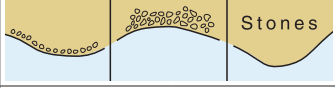




B Positions, Distances, Directions, Compass

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
49	h	Hour	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	cd	Candela				
Magnetic Compass						Supplementary national symbols: n
60		Variation	var VAR			
61		Magnetic	mag			
62		Bearing	brg			
63		True	T			
64		Decreasing				
65		Increasing				
66		Annual change				
67		Deviation	dev			
68.1	Magnetic Variation 4°30' W 2011 (8' E)	Note of magnetic variation, in position				 <p>cursor pick site for magnetic variation at a point</p> <p>cursor pick site for magnetic variation along a line or over an area</p>
68.2	Magnetic Variation at 55°N 8°W 4°30' W 2011 (8' E)	Note of magnetic variation, out of position				

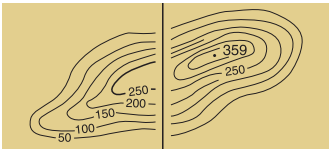
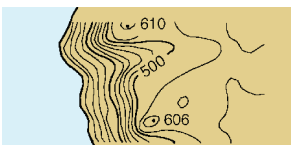
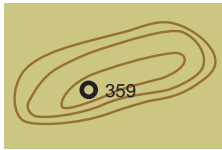
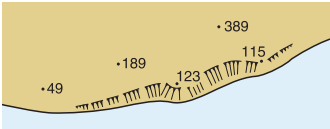
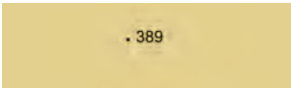

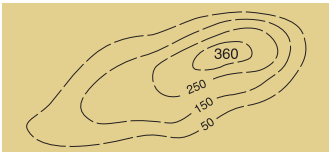
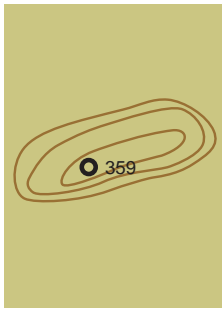


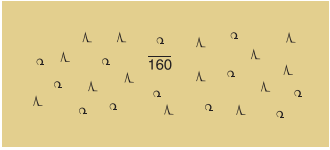
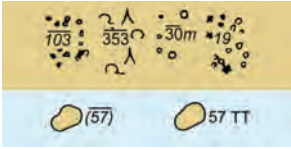

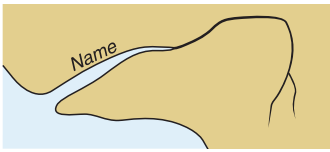
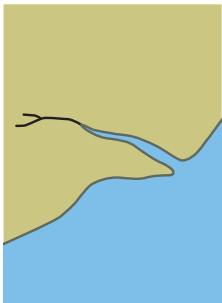
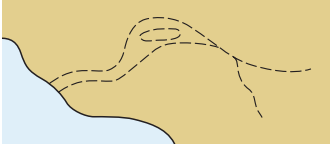

No.	NOAA / NGA	ECDIS	
70	<p>Compass rose, normal pattern (smaller patterns of compass rose may be used)</p> <p>Magnetic variation (example): VAR 4°15'W (2011) means magnetic variation was 4°15'W in 2011 ANNUAL DECREASE 8' means annual change is 8'E or decreasing 8' annually For 2012 the magnetic variation is 4°7'W</p> 		<p>cursor pick site for magnetic variation at a point</p>
71	<p>Isogonic lines, Isogonals</p> <p>MAGNETIC VARIATION LINES ARE FOR 2011 The magnetic variation is shown in degrees, followed by the letter W or E, as appropriate, at certain positions on the lines. The annual change is expressed in minutes with the letter W or E and is given in brackets, immediately following the variation.</p> 		<p>cursor pick site for magnetic variation along a line or over an area</p>

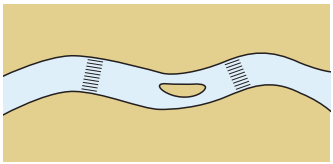
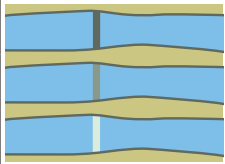
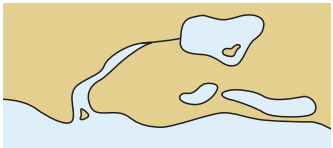

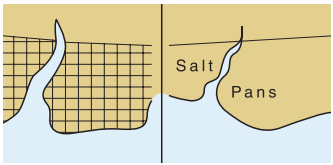
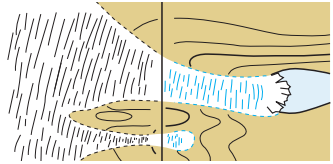

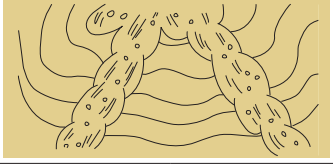

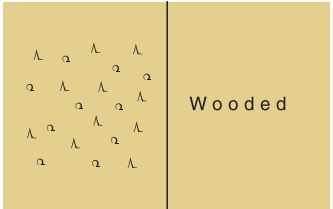
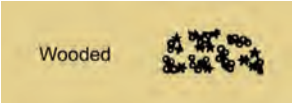
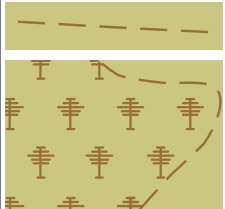
B Positions, Distances, Directions, Compass

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
82.1		Local magnetic anomaly: Within the enclosed area the magnetic variation may deviate from the normal by the value shown				 cursor pick site for magnetic variation 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 DISTURBANCE (see note)	 cursor pick site for magnetic variation at a point
Supplementary National Symbols						
a		Square meter	m ²			
b		Cubic meter	m ³			
c		Inch(es)	in			
d		Yard(s)	yd			
e		Statute mile	St M St Mi			
f		Microsecond	μsec μs			
g		Hertz	Hz			
h		Kilohertz	kHz			
i		Megahertz	MHz			
j		Cycles/second	cps c/s			
k		Kilocycle	kc			
l		Megacycle	Mc			
m		Ton(s) (U.S. short ton) (2,000lbs)	T			
n		Degree(s)	deg			



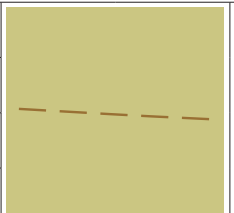







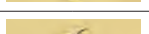
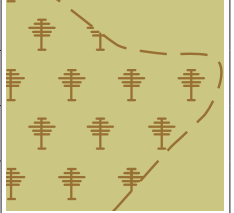

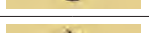


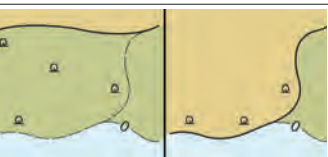

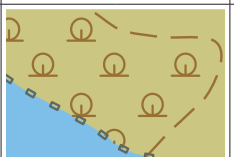
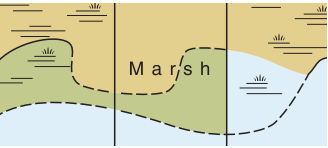

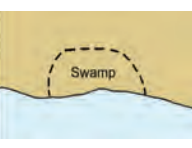




No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
Coastline						Supplementary national symbols: a – f
Foreshore → I, J						
1		Coastline, surveyed				 coastline
2		Coastline, unsurveyed				 coastline or shoreline construction of low accuracy in position
3		Cliffs, Steep coast	 high low			 cliffs coincident with coastline
						 sloping ground crest line distant from coastline
						 sloping ground crest line distant from coastline, radar or visually conspicuous
4		Hillocks				 conspicuous hill or mountain top
5		Flat coast				 coastline
6		Sandy shore				
7		Stony shore, Shingly shore				
8		Sandhills, Dunes				 conspicuous hill or mountain top

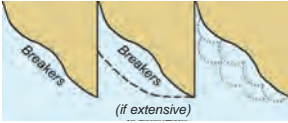
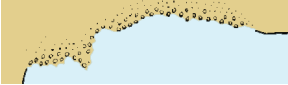




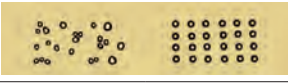

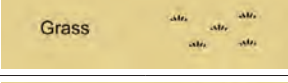

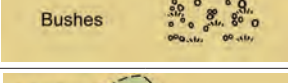


C Natural Features

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
Relief						Supplementary national symbols: e – g
Plane of reference for heights → H						
10		Contour lines with values and spot height				 elevation contour with spot height
11		Spot heights				 position of an elevation or control point
12		Approximate contour lines with values and approximate height				 elevation contour with spot height
13		Form lines with spot height				
14		Approximate height of top of trees (above height datum)				 approximate height is obtained by cursor pick
Water Features, Lava						Supplementary national symbols: i
20		River, Stream				 river
21		Intermittent river				

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
22		Rapids, Waterfalls				 <div> <div>rapids</div> <div>waterfall</div> <div>waterfall, visually conspicuous</div> </div>
23		Lakes				 <div>lake</div>
24		Salt pans				
25		Glacier				 <div>continuous pattern for an ice area (glacier, etc.)</div>
26		Lava flow				
Vegetation						
30		Woods in general				 <div> <div>line symbol for vegetation</div> <div>general symbol for a tree or pattern of symbols for wooded areas</div> </div>



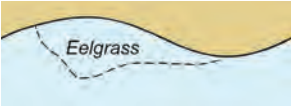
C Natural Features

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
31	Prominent trees (isolated or in groups)					
31.1		Deciduous tree				 line symbol for vegetation
31.2		Evergreen (except conifer)				
31.3		Conifer				
31.4		Palm				
31.5		Nipa Palm				 general symbol for a tree or pattern of symbols for wooded areas ECDIS does not display single tree features
31.6		Casuarina				
31.7		Filao				
31.8		Eucalypt				
32		Mangrove				 pattern of symbols for mangroves with coastline or shoreline construction of low accuracy in position
33		Marsh, Swamp, Reed beds	 			 pattern of symbols for a marsh with coastline or shoreline construction of low accuracy in position
Supplementary National Symbols						
a		Chart sounding datum line (surveyed)				
b		Approximate sounding datum line (inadequately surveyed)				
c		Foreshore; Strand (in general) Stones; Shingle; Gravel; Mud; Sand				

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
d		Breakers along a shore				
e		Rubble				
f		Hachures				
g		Shading				
i		Deciduous woodland				
j		Coniferous woodland				
k		Tree plantation				
l		Cultivated fields				
m		Grassfields				
n		Paddy (rice) fields				
o		Bushes				
p		Apparent shoreline				
q		Vegetation or topographic (Feature Area Limit- in general)				



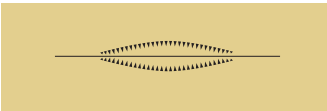


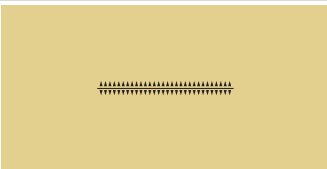

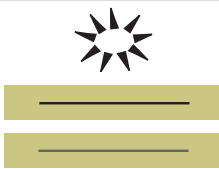
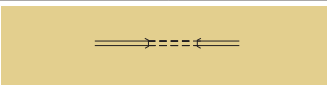
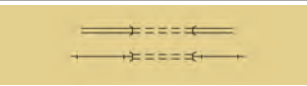

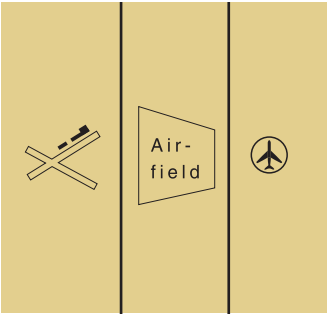


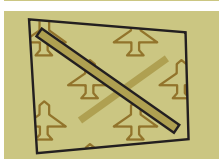
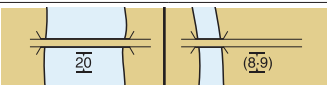

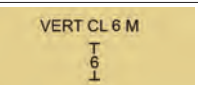
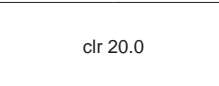
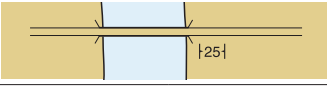
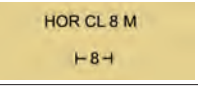
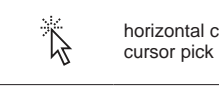
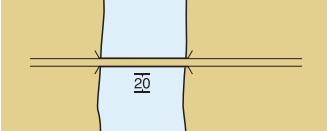


C

Natural Features

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
r		Cypress				
s		Grass				
t		Eelgrass				

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
Settlements, Buildings						
Height of objects → E Landmarks → E						
1		Urban area				built-up area
2		Settlement with scattered buildings				
3		Settlement (on medium and small-scale charts)				built-up area as a point at small scale
4		Village				
5		Buildings				conspicuous single building as a point
6		Important building in built-up area				conspicuous single building as an area
7		Street name, Road name				street name is obtained by cursor pick
8		Ruin, Ruined landmark				conspicuous single building
Roads, Railways, Airfields						
Supplementary National Symbols: a – c						
10		Motorway, highway				road as a line
11		Road (hard surfaced)				
12		Track, Path (loose or unsurfaced)				road as an area

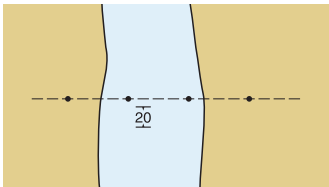

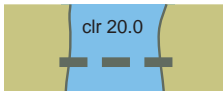
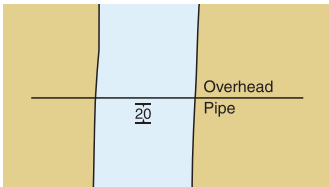

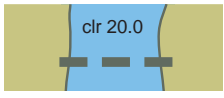
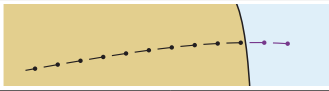
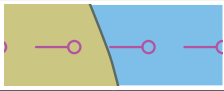

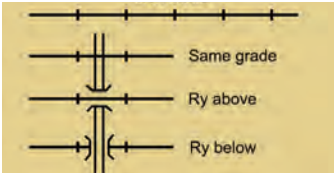
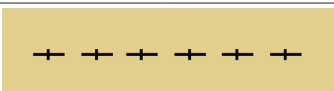
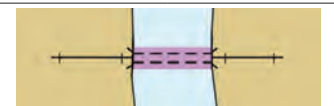


D Cultural Features

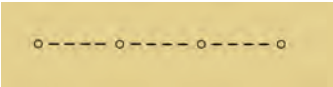
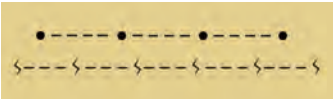

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS	
13		Railway, with station					railway
14		Cutting					conspicuous hill or mountain top cutting
15		Embankment					conspicuous hill or mountain top embankment, radar conspicuous embankment
16		Tunnel					tunnel tunnel with depth below the sea bed encoded
17		Airport, Airfield				  	symbol for airport as a point symbol for runway as a line airport area, with runway area and visually conspicuous runway area
Other Cultural Features						Supplementary National Symbols: d – i	
20		Vertical clearance above High Water					vertical clearance
21		Horizontal clearance					horizontal clearance is obtained by cursor pick
22		Fixed bridge with vertical clearance					bridge

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS	
23.1		Opening bridge (in general) with vertical clearance					opening bridge
23.2		Swing bridge with vertical clearance					
23.3		Lifting bridge with vertical clearance (closed and open)					
23.4		Bascule bridge with vertical clearance					
23.5		Pontoon bridge					
23.6		Draw bridge with vertical clearance					
24		Transporter bridge with vertical clearance below fixed structure					bridge
25		Overhead transporter, Aerial cableway with vertical clearance					aerial cableway
							aerial cableway, radar conspicuous
26		Overhead power cable with pylons and safe vertical clearance					transmission line
							transmission line, radar conspicuous

Note: The safe vertical clearance above the height datum, as defined by the responsible authority, is given in magenta where known; otherwise the physical vertical clearance is shown in black (also see diagram at H 20). ECDIS shows only the physical clearance.





















D Cultural Features

















No.	INT	Description	NOAA	NGA	Other NGA	ECDIS	
27		Overhead cable, Telephone line, Telegraph line with vertical clearance					overhead cable
28		Overhead pipe with vertical clearance					overhead pipeline
29		Pipeline on land					oil, gas pipeline, submerged or on land
Supplementary National Symbols							
a		Highway markers					
b		Railway (Ry) (single or double track) Railroad (RR)					
c		Abandoned railroad					
d		Bridge under construction					
e		Footbridge					
f		Viaduct					

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
g		Fence				
h		Power transmission line				
i		Approximate vertical clearance				








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 it is not. Only conspicuous landmarks are depicted on NOAA paper charts and ENC's. Therefore, only the conspicuous symbol versions are shown in the symbol tables. Both versions of the symbols for these features are shown on this page.

Cairn		
Chimney		
Dish aerial		
Dome		
Flare stack		
Fortified structure		
Hill or mountain top		
Mast		
Monument		
Mosque or minaret		
Position of a point feature		
Radar scanner		
Radio, television tower		
Refinery		
Religious building, Christian		
Religious building, non-Christian		
Silo		

Single building		
Tank farm		
Tank		
Tower		
Water tower		
Windmill		
Windmotor		
Wind generator farm		

























































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 value of the feature's CONVIS (conspicuous, visually) attribute.

Cranes	
Flagstaff, flagpole	
Mangrove	
Mine, quarry	
Quarry	
Timber yard	
Tree	

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS	
Plane of reference for Height → H		Lighthouses → P	Beacons → Q				
General							
1	Factory Hotel	Examples of landmarks	TANK Tk 			 	non-conspicuous point feature non-conspicuous building non-conspicuous water tower
2	FACTORY WATER TR HOTEL WATER TOWER	Examples of conspicuous landmarks (On NOAA charts, a large circle with dot and capitals indicate that position is accurate, small circle and lowercase indicates position is approximate)	EMPIRE STATE BUILDING			 	conspicuous point feature conspicuous building conspicuous water tower
3.1		Pictorial sketches (in true position)					
3.2		Pictorial sketches (out of position)					
4	(30)	Height of top of a structure above height datum		(30)			height is obtained by cursor pick
5	(30)	Height of structure above ground level		(30)			
Landmarks							
10.1	Ch	Church		Ch			conspicuous religious building, Christian
10.2	Tr Tr	Church tower					
10.3	Sp Sp	Church spire	SPIRE Spire			 	conspicuous religious building, Christian position of a point feature
10.4	Cup Cup	Church cupola	CUPOLA Cup			 	conspicuous religious building, Christian conspicuous dome
11		Chapel		Ch			conspicuous religious building, Christian
12		Cross, Calvary					

E Landmarks

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS	
13		Temple					conspicuous religious building, non-Christian
14		Pagoda					
15		Shinto shrine, Joss house					
16		Buddhist temple or shrine					
17		Mosque, Minaret					position of a conspicuous point feature
18		Marabout					conspicuous mosque or minaret
19		Cemetery					
20	Tr	Tower	TOWER Tr	Tr			conspicuous tower
21		Water tower, Water tank on a tower	STANDPIPE S'pipe	WTR TR Wtr Tr			conspicuous water tower
22	Chy	Chimney	CHIMNEY Chy	CHY (208) (202)			conspicuous chimney
23		Flare stack (on land)	FLARE Flare				conspicuous flare stack
24	Mon	Monument (including column, pillar, obelisk, statue)	MONUMENT Mon				conspicuous monument
25.1		Windmill	WINDMILL Windmill				conspicuous windmill
25.2	Ru	Windmill (without sails)					
26.1	†	Wind turbine, Windmotor	WINDMOTOR Windmotor				conspicuous wind motor
26.2		Wind farm	WIND FARM Wind Farm				conspicuous wind generator farm
27	FS	Flagstaff, Flagpole	FS FP FP	FS FP			flagstaff, flagpole
28		Radio mast, Television mast	R MAST TV MAST TV MAST	R Mast TV Mast			conspicuous mast

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS	
29		Radio tower, Television tower	 R TR  TV TR	 R Tr  TV Tr			conspicuous radio, television tower
30.1	 Radar Mast  Radar	Radar mast	 RADAR MAST	 Radar Mast			conspicuous mast
30.2	 Radar Tr  Radar	Radar tower	 RADAR TR	 Radar Tr			
30.3	 Radar Sc	Radar scanner					conspicuous radar scanner
30.4	 Radome	Radome	 DOME (RADAR)  Dome (Radar)	 RADOME  Radome			conspicuous dome
31		Dish aerial	 ANT (RADAR)  Ant (Radar)				conspicuous dish aerial
32	    Tanks	Tanks	 TANK    Tl				conspicuous tank
							conspicuous tank farm
33	 Silo  Silo	Silo	 SILO  ELEVATOR	 Silo  Elevator	 	 	conspicuous silo conspicuous tank
34.1		Fortified structure (on large-scale charts)	 				fortified structure
34.2		Castle, Fort, Blockhouse (on smaller-scale charts)					conspicuous fortified structure
34.3		Battery, Small fort (on smaller-scale charts)					

E Landmarks

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS	
35.1		Quarry (on large-scale charts)					conspicuous hill or mountain top
35.2		Quarry (on smaller-scale charts)					mine, quarry
36		Mine					quarry
							quarry area
37.1		Recreational vehicle site					
37.2		Camping site (including recreational vehicles)					
Supplementary National Symbols							
a		Muslim shrine					
b		Tomb					
c		Watermill					
d		Factory					
e		Well					
f		School					
g		Hospital					
h		University					
i		Gable					
k		Telegraph Telegraph office		Tel Tel Off			
l		Magazine		Magz			
m		Government house		Govt Ho			





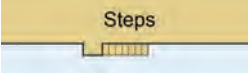





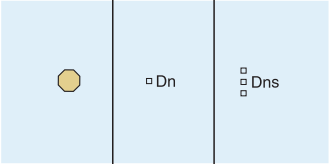
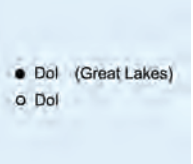






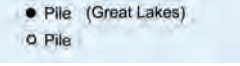

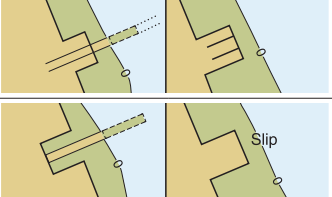
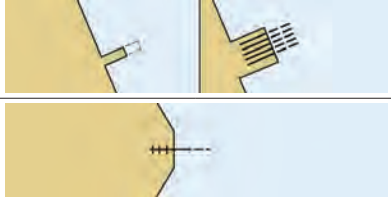
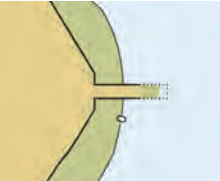
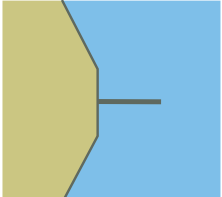
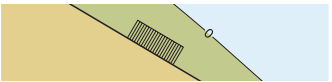
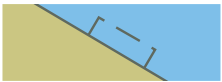
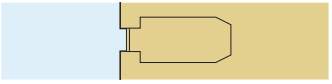
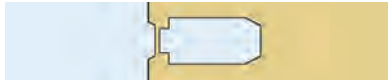

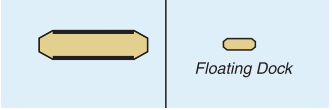



No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
n		Institute	Inst			
o		Courthouse	Ct Ho			
p		Pavilion	Pav			
q		Telephone	T			
r		Limited	Ltd			
s		Apartment	Apt			
t		Capitol	Cap			
u		Company	Co			
v		Corporation	Corp			

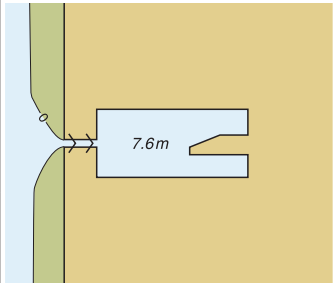
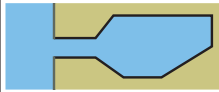

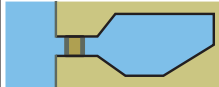
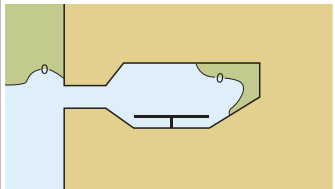
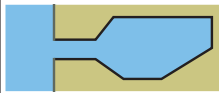

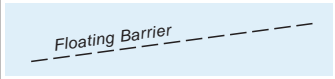



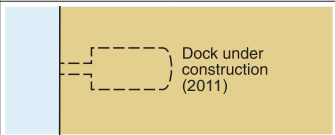

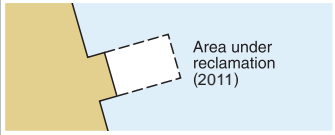


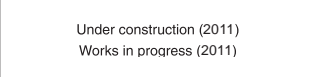

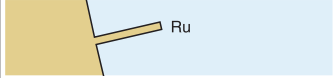

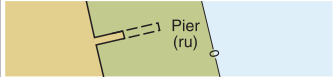
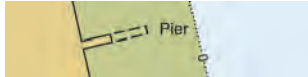



F Ports

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
Protective Structures						Supplementary national symbols: a – c
1		Dike, Levee, Berm				 dike as a line, conspicuous dike as a line dike as an area
2.1		Seawall (on large-scale charts)				 sea wall
2.2		Seawall (on smaller-scale charts)				
3		Causeway				 causeway as a line causeway as an area causeway, covers and uncovers as a line causeway, covers and uncovers as an area
4.1		Breakwater (in general)				 breakwater
4.2						
4.3						
5		Training wall (partly submerged at high water)				 training wall

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS	
6.1		Groin (always dry)					groynes (groins)
6.2		Groin (intertidal)					
6.3		Groin (always under water)					
Harbor Installations							
Depths → I Anchorages, Limits → N Beacons and other fixed marks → Q Marina → U							
10		Fishing harbor				 	fishing harbor HO information note
11.1		Boat harbor, Marina					
11.2		Yacht berths without facilities					
11.3		Yacht club, Sailing club					
12		Mole (with berthing facility)					mole
13		Quay, Wharf					wharf (quay)
14		Pier, Jetty					pier (jetty)
15		Promenade pier					promenade pier
16		Pontoon					pontoon as a line
							pontoon as an area

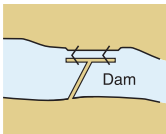

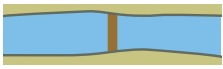

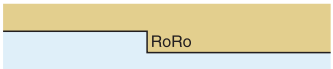



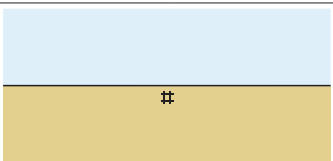



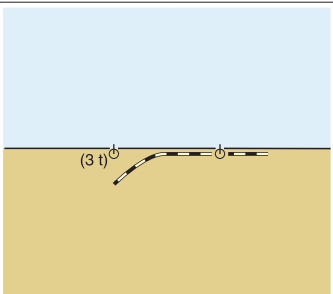



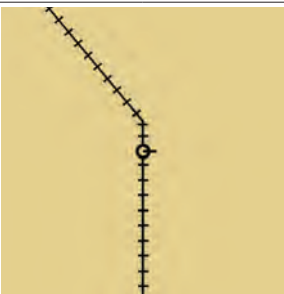


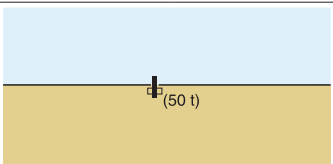
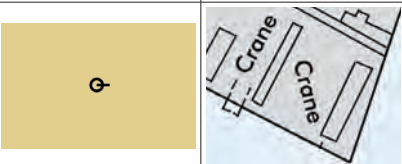
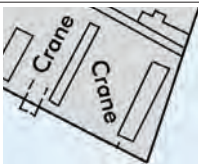
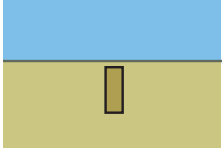
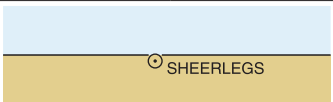
F Ports

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
17		Landing for boats				 yacht harbour, marina
18		Steps, Landing stairs				 landing steps
19.1		Designation of berth				 berth number
19.2		Visitors' berth				
20		Dolphin				 mooring dolphin
21		Deviation dolphin				 deviation mooring dolphin
22		Minor post or pile				 pile or bollard
23		Slipway, Patent slip, Ramp				 slipway, ramp
24		Gridiron, Scrubbing grid				 gridiron
25		Dry dock, Graving dock				 dry dock
26		Floating dock				 floating dock as a line  floating dock as an area








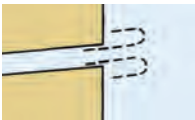
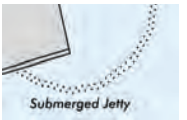
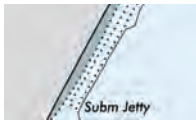





No.	INT	Description	NOAA	NGA	Other NGA	ECDIS	
27		Non-tidal basin, Wet dock					dock
							dock, under construction or ruined
							wetdock and gate
28		Tidal basin, Tidal harbor					dock
							dock, under construction or ruined
29.1		Floating barrier, e.g. oil barrier, security barrier					oil barrier
29.2		Oil retention barrier (high pressure pipe)					boom; obstruction, floating
30		Works on land, with year date					coastline or shoreline construction of low accuracy in position
31		Works at sea, Being reclaimed, with year date					
32		Works under construction, with year date					
33.1		Ruin					
33.2		Ruined pier, partly submerged at high water					
34		Hulk					hulk

F Ports

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
Canals, Barrages						Supplementary national symbol: d
Clearances → D		Signal Stations → T	Cultural Features → B			
40		Canal				canal canal, under construction or ruined
41.1		Lock (on large-scale charts)				
41.2		Lock (on smaller-scale charts)				navigable lock gate lock gate as a line lock gate as an area
42		Caisson, Gate				non-navigable lock gate caisson as a line caisson as an area
43		Flood barrage				non-navigable lock gate flood barrage as a line flood barrage as an area

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS
44		Dam, Weir (direction of flow)				 dam as a line  dam as an area
Transshipment Facilities						Supplementary national symbols: e – f
	Roads → D	Railways → D	Tanks → E			
50		Roll-on, Roll-off (Ro Ro) Ferry Terminal				 RoRo terminal
51		Transit shed, Warehouse (with designation)				 conspicuous single building, designation is obtained by cursor pick
52		Timber yard				 timber yard as a point  timber yard as an area
53.1		Crane with lifting capacity, Traveling crane (on railway)	  			 cranes as a point  cranes as an area
53.2		Container crane (with lifting capacity)				 cranes, visually conspicuous as an area
53.3		Sheerlegs (conspicuous)				

F Ports

No.	INT	Description	NOAA	NGA	Other NGA	ECDIS	
Public Buildings						Supplementary national symbol: g	
60		Harbormaster's office	Hbr Mr				conspicuous single building
61		Custom office	Cus Ho				
62.1		Health office, Quarantine building	Health Office				
62.2	 Hospital	Hospital	Hosp				
63		Post office	PO				
Supplementary National Symbols							
a		Jetty (partly below MHW)					
b		Submerged jetty	  Submerged Jetty		 Subm Jetty		
c		Jetty (on smaller-scale charts)					
d		Mooring Canal					
e		Conveyor					
f		Pump-out facilities					
g		Quarantine office	 Quar				