U.S. Chart No. 1
Symbols, Abbreviations and Terms used on Paper and Electronic Navigational Charts

Corrected through NM Nov. 16, 2013
Corrected through LNM Nov. 12, 2013

Prepared Jointly by
Department of Commerce
National Oceanic and Atmospheric Administration

Department of Defense
National Geospatial-Intelligence Agency
New in Edition 12: ECDIS Symbols and Other ECDIS Information

Symbology for displaying Electronic Navigational Charts (ENCs) on an Electronic Chart Display and Information System (ECDIS) has been added to U.S. Chart No. 1. See the Preface and Introduction sections for more details.

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.

No man is an island and no single reference document stands on its own. 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. We want to know what you think works well, which parts are a little rocky, and what additional information you would like to have included in the next edition of U.S. Chart No. 1.

Please send any recommendations or corrections to:
USChart1@noaa.gov
or
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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</tr>
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</table>
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, U.S. Chart No. 1 presents both of the major symbology sets used for marine navigation.

As in previous editions, the symbols used 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 established 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 ECDIS.

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 4a, 4b, and 5 respectively).

ECDIS symbols and their descriptions are shown in columns 6 and 7 respectively. 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 in column 7. The ECDIS symbols shown use the day color palette (see page 9). When columns 4a and 4b are combined, this indicates that NOAA and NGA both use the same non-INT 1 symbol for that particular feature. When any of columns 4a, 4b, or 5 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 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, Fl 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, Fl 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 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 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 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 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 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 www.nauticalcharts.noaa.gov/staff/chartspubs.html and NGA *Sailing Directions*, available through the “Publications” link on the NGA Maritime Safety Information portal at 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 msi.nga.mil/NGAPortal/MSI.portal. NOAA catalogs are available at www.nauticalcharts.noaa.gov/mcd/ccatalogs.htm. A list of the dates of the latest editions of NOAA charts is at 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 msi.nga.mil/NGAPortal/MSI.portal.

Users may send corrections or comments to USChart1@noaa.gov or by mail 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**

### Schematic Layout

- **K**: Rocks, Wrecks, Obstructions

### Table: Rocks, Wrecks, Obstructions

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td></td>
<td>Rock which covers and uncovers, height above chart datum</td>
<td><img src="image" alt="NOAA Symbol" /></td>
<td><img src="image" alt="NGA Symbol" /></td>
<td><img src="image" alt="Other NGA Symbol" /></td>
<td><img src="image" alt="ECDIS Symbol" /></td>
</tr>
</tbody>
</table>

- **Supplementary national symbol: a**

### Section Designation

- **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

### Column Descriptions

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.
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

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

Note: this is an example only and not to be used for navigation.
### Geographical Positions

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
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<tbody>
<tr>
<td>1</td>
<td>Lat</td>
<td>Latitude</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Long</td>
<td>Longitude</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>International Meridian (Greenwich)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>&quot;</td>
<td>Degree(s)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5</td>
<td>'</td>
<td>Minute(s) of arc</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>6</td>
<td>&quot;</td>
<td>Second(s) of arc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>PA</td>
<td>Position approximate (not accurately determined or does not remain fixed)</td>
<td>PA</td>
<td></td>
<td></td>
<td>PA</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>(PA)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>PD</td>
<td>Position doubtful (reported in various positions)</td>
<td>PD</td>
<td></td>
<td></td>
<td>?</td>
</tr>
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<td></td>
<td></td>
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<td>(PD)</td>
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<td></td>
<td>21</td>
</tr>
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<td>East</td>
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</tr>
<tr>
<td>11</td>
<td>S</td>
<td>South</td>
<td></td>
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<tr>
<td>12</td>
<td>W</td>
<td>West</td>
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<tr>
<td>13</td>
<td>NE</td>
<td>Northeast</td>
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<td>14</td>
<td>SE</td>
<td>Southeast</td>
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<td>15</td>
<td>NW</td>
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<td></td>
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<tr>
<td>16</td>
<td>SW</td>
<td>Southwest</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 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
- **33**: Point symbol: approximate position

### Units

- **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)
- **46**: Cable(s) (0.1M)

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**Positions, Distances, Directions, Compass**

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
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<tr>
<td><strong>Control Points</strong></td>
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<td></td>
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</tr>
<tr>
<td>20</td>
<td></td>
<td>Triangulation point</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>†</td>
<td>Observation spot</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>22</td>
<td></td>
<td>Fixed point</td>
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</tr>
<tr>
<td>23</td>
<td>†</td>
<td>Benchmark</td>
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<tr>
<td>24</td>
<td></td>
<td>Boundary mark</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25.1</td>
<td></td>
<td>Distance along waterway, no visible marker</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25.2</td>
<td></td>
<td>Distance along waterway with visible marker</td>
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<td></td>
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</tbody>
</table>

**Note:** ECDIS uses a magenta “km” symbol to represent distance marks. However, the distances shown along waterways on NOAA-produced ENCs are displayed in statute miles.

**Units**

<table>
<thead>
<tr>
<th>No.</th>
<th>Symbol</th>
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<tbody>
<tr>
<td>40</td>
<td>km</td>
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<tr>
<td>41</td>
<td>m</td>
<td>Meter(s)</td>
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<tr>
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<td>dm</td>
<td>Decimeter(s)</td>
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<tr>
<td>43</td>
<td>cm</td>
<td>Centimeter(s)</td>
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<tr>
<td>44</td>
<td>mm</td>
<td>Millimeter(s)</td>
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<td>45</td>
<td>M</td>
<td>International nautical mile(s) (1852m), sea mile(s)</td>
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<td>Mi</td>
<td>NMi</td>
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<td>46</td>
<td>cbl</td>
<td>Cable(s) (0.1M)</td>
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# Positions, Distances, Directions, Compass

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<tr>
<td>47</td>
<td>ft</td>
<td>Foot/Feet</td>
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<tr>
<td>48</td>
<td>h</td>
<td>Fathom(s)</td>
<td>fm</td>
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<td>Hour(s)</td>
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<td>50</td>
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<td>Minute(s) of time</td>
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<tr>
<td>51</td>
<td>s</td>
<td>Second(s) of time</td>
<td>hr</td>
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<td>Ton(s), Tonnage (weight)</td>
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<td>54</td>
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<td>Candela(s)</td>
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## Magnetic Compass

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<tr>
<td>60</td>
<td>Variation</td>
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<td>Magnetic</td>
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</tr>
<tr>
<td>62</td>
<td>Bearing</td>
<td></td>
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<tr>
<td>63</td>
<td>True</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>64</td>
<td>Decreasing</td>
<td></td>
<td></td>
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<tr>
<td>65</td>
<td>Increasing</td>
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<tr>
<td>66</td>
<td>Annual change</td>
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<tr>
<td>67</td>
<td>Deviation</td>
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</tr>
</tbody>
</table>

### Supplementary national symbols: n

- **Variation (var)**
- **Magnetic (mag)**
- **Bearing (brg)**
- **True (T)**

## Magnetic Compass

- **Note of magnetic variation, in position**
- **Note of magnetic variation, out of position**

**Cursor pick site for magnetic variation at a point**

**Cursor pick site for magnetic variation over an area**
### Compass rose, normal pattern (smaller patterns of compass rose may be used)

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

### Isogonic lines, Isogonals

**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.
### Positions, Distances, Directions, Compass

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
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<th>NGA</th>
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<th>ECDIS</th>
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</thead>
<tbody>
<tr>
<td>82.1</td>
<td><img src="image1.png" alt="Label" /></td>
<td>Local magnetic anomaly: Within the enclosed area the magnetic variation may deviate from the normal by the value shown</td>
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<tr>
<td>82.2</td>
<td><img src="image2.png" alt="Label" /></td>
<td>Local magnetic anomaly: Where the area affected cannot be easily defined, a legend only is shown at the position</td>
<td>LOCAL MAGNETIC DISTURBANCE (see note)</td>
<td>LOCAL MAGNETIC ANOMALY (see note)</td>
<td>LOCAL MAGNETIC DISTURBANCE (see note)</td>
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#### Supplementary National Symbols

<table>
<thead>
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<th>Symbol</th>
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<td>a</td>
<td>m²</td>
</tr>
<tr>
<td>b</td>
<td>m³</td>
</tr>
<tr>
<td>c</td>
<td>in</td>
</tr>
<tr>
<td>d</td>
<td>yd</td>
</tr>
<tr>
<td>e</td>
<td>St M St Mi</td>
</tr>
<tr>
<td>f</td>
<td>μsec μs</td>
</tr>
<tr>
<td>g</td>
<td>Hz</td>
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<tr>
<td>h</td>
<td>kHz</td>
</tr>
<tr>
<td>i</td>
<td>MHz</td>
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<td>T</td>
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<td>7</td>
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Supplementary national symbols: a–e
### Natural Features

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<td>Relief</td>
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<td>Supplementary national symbols: e–g</td>
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<td>Plane of reference for heights → H</td>
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</tr>
<tr>
<td>10</td>
<td>Contour lines with values and spot height</td>
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<td></td>
<td></td>
<td></td>
<td>Elevation contour with spot height, contour value is obtained by cursor pick</td>
</tr>
<tr>
<td>11</td>
<td>Spot heights</td>
<td></td>
<td></td>
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<tr>
<td>12</td>
<td>Approximate contour lines with values and approximate height</td>
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<td>Form lines with spot height</td>
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</tr>
<tr>
<td>14</td>
<td>Approximate height of top of trees (above height datum)</td>
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### Water Features, Lava

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<th>Other NGA</th>
<th>ECDIS</th>
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</thead>
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<td>Intermittent river</td>
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<td>Other NGA</td>
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</tr>
<tr>
<td>22</td>
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<td>Rapids, Waterfalls</td>
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<td>Rapids</td>
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<td>Waterfall</td>
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<td>Waterfall, visually conspicuous</td>
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<td>23</td>
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<td>Lakes</td>
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<td>Lake</td>
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<td>24</td>
<td></td>
<td>Salt pans</td>
<td></td>
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<td>Continuous pattern for an ice area (glacier, etc.)</td>
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<td>Glacier</td>
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<td>26</td>
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<td>Lava flow</td>
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**Vegetation**

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<th>NGA</th>
<th>Other NGA</th>
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<tbody>
<tr>
<td>30</td>
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<td>Woods in general</td>
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<td>Line of trees</td>
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<td></td>
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<td>Wooded area</td>
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Supplementary national symbols: i–t
## Natural Features

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</thead>
<tbody>
<tr>
<td>31</td>
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<td>Prominent trees (isolated or in groups)</td>
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<td>31.1</td>
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<td>Deciduous tree</td>
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<td>31.2</td>
<td></td>
<td>Evergreen (except conifer)</td>
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<td>31.3</td>
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<td>Conifer</td>
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<td>31.4</td>
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<td>Nipa Palm</td>
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<td>Filao</td>
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<td>Mangrove</td>
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<td>33</td>
<td></td>
<td>Marsh, Swamp, Reed beds</td>
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### Supplementary National Symbols

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<tr>
<th>Symbol</th>
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<tbody>
<tr>
<td>a</td>
<td>Chart sounding datum line (surveyed)</td>
</tr>
<tr>
<td>b</td>
<td>Approximate sounding datum line (inadequately surveyed)</td>
</tr>
<tr>
<td>c</td>
<td>Foreshore; Strand (in general); Stones; Shingle; Gravel; Mud; Sand</td>
</tr>
<tr>
<td>d</td>
<td>Breakers along a shore</td>
</tr>
<tr>
<td>No.</td>
<td>INT</td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>e</td>
<td>INT</td>
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<tr>
<td>f</td>
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<td>g</td>
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<tr>
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### Cultural Features

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<th>Other NGA</th>
<th>ECDIS</th>
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<tr>
<td>1</td>
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<td>Urban area</td>
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<tr>
<td>2</td>
<td></td>
<td>Settlement with scattered buildings</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Name</td>
<td>Settlement (on medium and small scale charts)</td>
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</tr>
<tr>
<td>4</td>
<td>Name</td>
<td>Village</td>
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<tr>
<td>5</td>
<td></td>
<td>Buildings</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6</td>
<td></td>
<td>Important building in built-up area</td>
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<tr>
<td>7</td>
<td></td>
<td>Street name, Road name</td>
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<td></td>
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<tr>
<td>8</td>
<td>Ru</td>
<td>Ruin, Ruined landmark</td>
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#### Roads, Railways, Airfields

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<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
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<tr>
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<td>11</td>
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<td>Road (hard surfaced)</td>
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<tr>
<td>12</td>
<td></td>
<td>Track, Path (loose or unsurfaced)</td>
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</tbody>
</table>

### Supplementary National Symbols: a–c

- a: Road, track or path as a line
- b: Road as an area
- c: Road, track or path as an area
### Cultural Features

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td></td>
<td>Railway, with station</td>
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<td></td>
<td></td>
<td>Railway, with station</td>
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<td>14</td>
<td></td>
<td>Cutting</td>
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<td>Cutting</td>
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<td>Embankment</td>
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<tr>
<td></td>
<td></td>
<td>Embankment, visually or radar conspicuous</td>
<td></td>
<td></td>
<td></td>
<td>Embankment, visually or radar conspicuous</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>Tunnel</td>
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<td>Tunnel</td>
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<tr>
<td></td>
<td></td>
<td>Tunnel with depth below the seabed encoded</td>
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<td></td>
<td>Tunnel with depth below the seabed encoded</td>
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<td>17</td>
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<td>Airport, Airfield</td>
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<td>Airport as a point</td>
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<td>Airfield</td>
<td></td>
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<td>Runway as a line</td>
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<tr>
<td></td>
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<td>Airfield area, with runway area and visually conspicuous runway area</td>
<td></td>
<td></td>
<td></td>
<td>Airfield area, with runway area and visually conspicuous runway area</td>
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</table>

### Other Cultural Features

<table>
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<tr>
<th>No.</th>
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<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
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<tr>
<td>20</td>
<td></td>
<td>Vertical clearance above high water</td>
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<td></td>
<td>clr 20.0</td>
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<td></td>
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<td>clr cl 20.0</td>
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<td></td>
<td></td>
<td></td>
<td>clr op 20.0</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td>sf clr 20.0</td>
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<tr>
<td>21</td>
<td></td>
<td>Horizontal clearance</td>
<td></td>
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<td>clr 20.0</td>
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<td></td>
<td>Horizontal clearance is obtained by cursor pick</td>
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<tr>
<td>22</td>
<td></td>
<td>Fixed bridge with vertical clearance</td>
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<td></td>
<td></td>
<td>clr 20.0</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bridge</td>
</tr>
</tbody>
</table>

### Supplementary National Symbols: d–i

- clr 20.0: Vertical clearance
- clr cl 20.0: Closed clearance
- clr op 20.0: Open clearance
- sf clr 20.0: Safe clearance
- Horizontal clearance is obtained by cursor pick
## Cultural Features

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>23.1</td>
<td>Opening bridge (in general) with vertical clearance</td>
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<tr>
<td>23.2</td>
<td>Swing bridge with vertical clearance</td>
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<tr>
<td>23.3</td>
<td>Lifting bridge with vertical clearance (closed and open)</td>
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<tr>
<td>23.4</td>
<td>Bascule bridge with vertical clearance</td>
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<td>23.5</td>
<td>Pontoon bridge</td>
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<td>23.6</td>
<td>Draw bridge with vertical clearance</td>
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<tr>
<td>24</td>
<td>Transporter bridge with vertical clearance below fixed structure</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>25</td>
<td>Overhead transporter, Aerial cableway with vertical clearance</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>26</td>
<td>Overhead power cable with pylons and safe vertical clearance</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

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 as in D 20 (also see diagram at H 20).
### Cultural Features

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
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<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td></td>
<td>Overhead cable, Telephone line, Telegraph line with vertical clearance</td>
<td>Tel</td>
<td></td>
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</tr>
<tr>
<td>28</td>
<td></td>
<td>Overhead pipe with vertical clearance</td>
<td></td>
<td></td>
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<tr>
<td>29</td>
<td></td>
<td>Pipeline on land</td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

#### 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
- **g**: Fence
- **h**: Power transmission line
- **i**: Approximate vertical clearance
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.

<table>
<thead>
<tr>
<th>Cairn</th>
<th>Silo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chimney</td>
<td>Single building</td>
</tr>
<tr>
<td>Dish aerial</td>
<td>Tank</td>
</tr>
<tr>
<td>Dome</td>
<td>Tank farm</td>
</tr>
<tr>
<td>Flare stack</td>
<td>Tower</td>
</tr>
<tr>
<td>Fortified structure</td>
<td>Water tower</td>
</tr>
<tr>
<td>Hill or mountain top</td>
<td>Windmill</td>
</tr>
<tr>
<td>Mast</td>
<td>Windmotor</td>
</tr>
<tr>
<td>Monument</td>
<td>Wind generator farm</td>
</tr>
<tr>
<td>Mosque or minaret</td>
<td>Cranes</td>
</tr>
<tr>
<td>Position of a point feature</td>
<td>Flagstaff, flagpole</td>
</tr>
<tr>
<td>Radar scanner</td>
<td>Mangrove</td>
</tr>
<tr>
<td>Radio, television tower</td>
<td>Mine, quarry</td>
</tr>
<tr>
<td>Refinery</td>
<td>Quarry</td>
</tr>
<tr>
<td>Religious building, Christian</td>
<td>Timber yard</td>
</tr>
<tr>
<td>Religious building, non-Christian</td>
<td>Tree</td>
</tr>
</tbody>
</table>

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.
### General

1. **Examples of landmarks**
   - Factory
   - Hotel
   - **Examples of conspicuous landmarks (On NOAA charts, a large circle with dot and capitals indicates that position is accurate; a small circle with lowercase indicates that position is approximate.)**
   - Factory
   - Water Tower
   - **Church as a point**
   - **Church as an area**
   - **Church tower**
   - **Church spire**
   - **Church cupola**
   - **Church tower, spire, or dome**
   - **Chapel**

2. **Pictorial sketches (in true position)**

3. **Pictorial sketches (out of position)**

4. **Height of top of a structure above height datum**
   - (30)

5. **Height of structure above ground level**
   - (30)

### Landmarks

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>Examples of landmarks</td>
<td>TANK</td>
<td>Tr</td>
<td>MONUMENT</td>
<td></td>
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<tr>
<td>2</td>
<td>FACTORY</td>
<td>WATER TR</td>
<td>EMPIRE STATE BUILDING</td>
<td>SPIRE</td>
<td>RADAR MAST</td>
<td>CHIMNEY</td>
</tr>
<tr>
<td>3.1</td>
<td></td>
<td>Pictorial sketches (in true position)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.2</td>
<td></td>
<td>Pictorial sketches (out of position)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4</td>
<td></td>
<td>Height of top of a structure above height datum</td>
<td>(30)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5</td>
<td></td>
<td>Height of structure above ground level</td>
<td>(30)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Non-conspicuous point feature**
- **Non-conspicuous building**
- **Non-conspicuous water tower**
- **Conspicuous point feature**
- **Conspicuous building**
- **Conspicuous water tower**
- **The information symbol is displayed if a supplemental image is available, which may be accessed by cursor pick**
- **Height is obtained by cursor pick**

**Church**

- Church as a point
- Church as an area
- Church tower
- Church spire
- Church cupola
- Church tower, spire, or dome
- Chapel
<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td></td>
<td>Cross, Calvary</td>
<td></td>
<td></td>
<td></td>
<td><img src="image" alt="Image" /> Position of a point feature</td>
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<tr>
<td>13</td>
<td></td>
<td>Temple</td>
<td></td>
<td></td>
<td></td>
<td><img src="image" alt="Image" /> Religious building, non-Christian</td>
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<tr>
<td>14</td>
<td></td>
<td>Pagoda</td>
<td></td>
<td></td>
<td></td>
<td><img src="image" alt="Image" /></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>Shinto shrine, Joss house</td>
<td></td>
<td></td>
<td></td>
<td><img src="image" alt="Image" /></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>Buddhist temple or shrine</td>
<td></td>
<td></td>
<td></td>
<td><img src="image" alt="Image" /></td>
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<tr>
<td>17</td>
<td></td>
<td>Mosque, Minaret</td>
<td></td>
<td></td>
<td></td>
<td><img src="image" alt="Image" /> Mosque or minaret</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>Marabout</td>
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<td></td>
<td></td>
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<td>19</td>
<td></td>
<td>Cemetery</td>
<td></td>
<td></td>
<td></td>
<td><img src="image" alt="Image" /> Landmark area, type is obtained by cursor pick</td>
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<tr>
<td>20</td>
<td></td>
<td>Tower</td>
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<td></td>
<td></td>
<td><img src="image" alt="Image" /> Tower</td>
</tr>
<tr>
<td>21</td>
<td></td>
<td>Water tower, Water tank on a tower</td>
<td></td>
<td></td>
<td></td>
<td><img src="image" alt="Image" /> Water tower</td>
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<td>22</td>
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<td>Chimney</td>
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<td></td>
<td></td>
<td><img src="image" alt="Image" /> Chimney</td>
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<td>23</td>
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<td>Flare stack (on land)</td>
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<td><img src="image" alt="Image" /> Flare stack</td>
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<tr>
<td>24</td>
<td></td>
<td>Monument (including column, pillar, obelisk, statue)</td>
<td></td>
<td></td>
<td></td>
<td><img src="image" alt="Image" /> Monument</td>
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<td></td>
<td>Windmill</td>
<td></td>
<td></td>
<td></td>
<td><img src="image" alt="Image" /> Windmill, status of ruins is obtained by cursor pick</td>
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<tr>
<td>25.2</td>
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<td>Windmill (without sails)</td>
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<td></td>
<td></td>
<td><img src="image" alt="Image" /> Windmill (without sails)</td>
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<td>Wind turbine, Windmotor</td>
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<td></td>
<td></td>
<td><img src="image" alt="Image" /> Wind motor</td>
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<td>Wind farm</td>
<td></td>
<td></td>
<td></td>
<td><img src="image" alt="Image" /> Wind generator farm</td>
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<td><img src="image" alt="Image" /> Flagstaff, flagpole</td>
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<td>No.</td>
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<td>Description</td>
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<td>NGA</td>
<td>Other NGA</td>
<td>ECDIS</td>
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</tr>
<tr>
<td>28</td>
<td></td>
<td>Radio mast, Television mast</td>
<td>R MAST</td>
<td>R Mast</td>
<td></td>
<td>Mast</td>
</tr>
<tr>
<td>29</td>
<td></td>
<td>Radio tower, Television tower</td>
<td>R TR</td>
<td>R Tr</td>
<td></td>
<td>Radio, television tower</td>
</tr>
<tr>
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<td>Radar mast</td>
<td>RADAR MAST</td>
<td>Radar Mast</td>
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<td>Mast</td>
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<td>Radar tower</td>
<td>RADAR TR</td>
<td>Radar Tr</td>
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<td>Radar tower</td>
</tr>
<tr>
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<td></td>
<td>Radar scanner</td>
<td>DOME (RADAR)</td>
<td>Dome (Radar)</td>
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<td>Ant (Radar)</td>
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<td>Fortified structure</td>
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<td>Castle, Fort, Blockhouse (on small scale charts)</td>
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<td>Quarry (on large scale charts)</td>
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<td>36</td>
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<td>37.1</td>
<td>🗺️</td>
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</tr>
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<td>💡</td>
<td>Camping site (including recreational vehicles)</td>
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</tr>
</tbody>
</table>

### 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
- **m**: Government house
- **n**: Institute
- **o**: Courthouse
- **p**: Pavilion
- **q**: Telephone
- **r**: Limited
- **s**: Apartment
- **t**: Capitol
- **u**: Company
- **v**: Corporation
<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
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<th>NGA</th>
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<th>ECDIS</th>
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</tr>
<tr>
<td>1</td>
<td></td>
<td>Dike, Levee, Berm</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2.1</td>
<td></td>
<td>Seawall (on large scale charts)</td>
<td></td>
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</tr>
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<td></td>
<td>Seawall (on small scale charts)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Causeway</td>
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<td></td>
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</tr>
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<td></td>
<td>Breakwater (in general)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>4.2</td>
<td></td>
<td>Breakwater (loose boulders, tetrapods, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.3</td>
<td></td>
<td>Breakwater (slope of concrete or masonry)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Training wall (partly submerged at high water)</td>
<td></td>
<td></td>
<td></td>
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</table>
## Ports

<table>
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<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td></td>
<td>Groin (always dry)</td>
<td></td>
<td>Groin</td>
<td></td>
<td>Groin (always dry)</td>
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<td>6.2</td>
<td></td>
<td>Groin (intertidal)</td>
<td></td>
<td>Groin</td>
<td></td>
<td>Groin (intertidal)</td>
</tr>
<tr>
<td>6.3</td>
<td></td>
<td>Groin (always under water)</td>
<td></td>
<td>Groin</td>
<td></td>
<td>Groin (submerged)</td>
</tr>
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</table>

### Harbor Installations

<table>
<thead>
<tr>
<th>Depths → I</th>
<th>Anchorages, Limits → N</th>
<th>Beacons and other fixed marks → Q</th>
<th>Marina → U</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
<td>Fishing harbor</td>
<td>Fishing harbor</td>
</tr>
<tr>
<td>11.1</td>
<td></td>
<td>Boat harbor, Marina</td>
<td>Yacht harbor, marina</td>
</tr>
<tr>
<td>11.2</td>
<td></td>
<td>Yacht berths without facilities</td>
<td></td>
</tr>
<tr>
<td>11.3</td>
<td></td>
<td>Yacht club, Sailing club</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>Mole (with berthing facility)</td>
<td>Mole as a line</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>Quay, Wharf</td>
<td>Wharf (quay)</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>Pier, Jetty</td>
<td>Pier (jetty), promenade pier</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>Promenade pier</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>Pontoon</td>
<td>Pontoon as a line</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>Landing for boats</td>
<td>Pontoon as an area</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>Landing</td>
<td>Landing</td>
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32
<table>
<thead>
<tr>
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<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td></td>
<td>Steps, Landing stairs</td>
<td></td>
<td></td>
<td></td>
<td>Landing steps</td>
</tr>
<tr>
<td>19.1</td>
<td></td>
<td>Designation of berth</td>
<td>3</td>
<td>A</td>
<td>3</td>
<td>Nr 3  Berth number</td>
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<td>19.2</td>
<td></td>
<td>Visitors’ berth</td>
<td></td>
<td></td>
<td></td>
<td>Yacht harbor, marina</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>Dolphin</td>
<td></td>
<td></td>
<td></td>
<td>Mooring dolphin</td>
</tr>
<tr>
<td>21</td>
<td></td>
<td>Deviation dolphin</td>
<td></td>
<td></td>
<td></td>
<td>Deviation mooring dolphin</td>
</tr>
<tr>
<td>22</td>
<td></td>
<td>Minor post or pile</td>
<td></td>
<td></td>
<td></td>
<td>Pile or bollard</td>
</tr>
<tr>
<td>23</td>
<td></td>
<td>Slipway, Patent slip, Ramp</td>
<td></td>
<td></td>
<td></td>
<td>Slipway, ramp</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td>Gridiron, Scrubbing grid</td>
<td></td>
<td></td>
<td></td>
<td>Gridiron</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>Dry dock, Graving dock</td>
<td></td>
<td></td>
<td></td>
<td>Dry dock</td>
</tr>
<tr>
<td>26</td>
<td></td>
<td>Floating dock</td>
<td></td>
<td></td>
<td></td>
<td>Floating dock as a line</td>
</tr>
<tr>
<td>27</td>
<td></td>
<td>Non-tidal basin, Wet dock</td>
<td></td>
<td></td>
<td></td>
<td>Wet dock and gate</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>Tidal basin, Tidal harbor</td>
<td></td>
<td></td>
<td></td>
<td>Dock</td>
</tr>
</tbody>
</table>

Legend:
- **ECDIS**: Electronic Chart Display System
- **NOAA**: National Oceanic and Atmospheric Administration
- **NGA**: National Geospatial-Intelligence Agency
- **Other NGA**: Other National Geospatial-Intelligence Agency
- **Berth number**: Berth number
- **Yacht harbor, marina**: Yacht harbor, marina
- **Mooring dolphin**: Mooring dolphin
- **Deviation mooring dolphin**: Deviation mooring dolphin
- **Pile or bollard**: Pile or bollard
- **Slipway, ramp**: Slipway, ramp
- **Gridiron**: Gridiron
- **Dry dock**: Dry dock
- **Floating dock**: Floating dock
- **Wet dock and gate**: Wet dock and gate
- **Dock**: Dock
- **Dock, under construction or ruined**: Dock, under construction or ruined
<table>
<thead>
<tr>
<th>No.</th>
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<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>29.1</td>
<td></td>
<td>Floating barrier, e.g. oil barrier, security barrier</td>
<td></td>
<td></td>
<td></td>
<td><img src="example.png" alt="Floating Barrier" /></td>
</tr>
<tr>
<td>29.2</td>
<td></td>
<td>Oil retention barrier (high pressure pipe)</td>
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<td></td>
<td></td>
<td><img src="example.png" alt="Floating Barrier" /></td>
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<tr>
<td>30</td>
<td></td>
<td>Works on land, with year date</td>
<td></td>
<td></td>
<td></td>
<td><img src="example.png" alt="Floating Barrier" /></td>
</tr>
<tr>
<td>31</td>
<td></td>
<td>Works at sea, Area under reclamation, with year date</td>
<td></td>
<td></td>
<td></td>
<td><img src="example.png" alt="Floating Barrier" /></td>
</tr>
<tr>
<td>32</td>
<td></td>
<td>Works under construction, with year date</td>
<td></td>
<td></td>
<td></td>
<td><img src="example.png" alt="Floating Barrier" /></td>
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<tr>
<td>33.1</td>
<td></td>
<td>Ruin</td>
<td></td>
<td></td>
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<td><img src="example.png" alt="Floating Barrier" /></td>
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<tr>
<td>33.2</td>
<td></td>
<td>Ruined pier, partly submerged at high water</td>
<td></td>
<td></td>
<td></td>
<td><img src="example.png" alt="Floating Barrier" /></td>
</tr>
<tr>
<td>34</td>
<td></td>
<td>Hulk</td>
<td></td>
<td></td>
<td></td>
<td><img src="example.png" alt="Floating Barrier" /></td>
</tr>
<tr>
<td>No.</td>
<td>INT</td>
<td>Description</td>
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<td>NGA</td>
<td>Other NGA</td>
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<td>--------</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Canals, Barrages</strong></td>
<td></td>
<td></td>
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<td>40</td>
<td></td>
<td>Canal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41.1</td>
<td></td>
<td>Lock (on large scale charts)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41.2</td>
<td></td>
<td>Lock (on small scale charts)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td></td>
<td>Caisson, Gate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td></td>
<td>Flood barrage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td></td>
<td>Dam, Weir (direction of flow shown is left to right)</td>
<td></td>
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</table>

*Supplementary national symbol: d*
### Ports

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<tr>
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<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td></td>
<td>Roll-on, Roll-off (RoRo), Ferry Terminal</td>
<td></td>
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<td></td>
<td>RoRo terminal</td>
</tr>
<tr>
<td>51</td>
<td></td>
<td>Transit shed, Warehouse (with designation)</td>
<td></td>
<td></td>
<td></td>
<td>Cons-pituous single building, designation is obtained by cursor pick</td>
</tr>
<tr>
<td>52</td>
<td></td>
<td>Timber yard</td>
<td></td>
<td></td>
<td></td>
<td>Timber yard as a point</td>
</tr>
<tr>
<td>53.1</td>
<td></td>
<td>Crane with lifting capacity, Traveling crane (on railway)</td>
<td></td>
<td></td>
<td></td>
<td>Lifting capacity is obtained by cursor pick</td>
</tr>
<tr>
<td>53.2</td>
<td></td>
<td>Container crane (with lifting capacity)</td>
<td></td>
<td></td>
<td></td>
<td>Crane as an area</td>
</tr>
<tr>
<td>53.3</td>
<td></td>
<td>Sheerlegs (conspicuous)</td>
<td></td>
<td></td>
<td></td>
<td>Crane, visually conspicuous as an area</td>
</tr>
</tbody>
</table>

### Public Buildings

<table>
<thead>
<tr>
<th>No.</th>
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<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td></td>
<td>Harbormaster’s office</td>
<td></td>
<td></td>
<td></td>
<td>Cons-pituous single building</td>
</tr>
<tr>
<td>61</td>
<td></td>
<td>Custom office</td>
<td></td>
<td></td>
<td></td>
<td>Cons-pituous single building</td>
</tr>
<tr>
<td>62.1</td>
<td></td>
<td>Health office, Quarantine building</td>
<td></td>
<td></td>
<td></td>
<td>Customs</td>
</tr>
<tr>
<td>62.2</td>
<td></td>
<td>Hospital</td>
<td></td>
<td></td>
<td></td>
<td>Cons-pituous single building</td>
</tr>
<tr>
<td>63</td>
<td></td>
<td>Post office</td>
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<td></td>
<td></td>
<td>Cons-pituous single building</td>
</tr>
<tr>
<td>No.</td>
<td>INT</td>
<td>Description</td>
<td>NOAA</td>
<td>NGA</td>
<td>Other NGA</td>
<td>ECDIS</td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>------------------------------</td>
<td>---------------------------</td>
<td>---------------------------</td>
<td>---------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>a</td>
<td></td>
<td>Jetty (partly below MHW)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b</td>
<td></td>
<td>Submerged jetty</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>c</td>
<td></td>
<td>Jetty (on small scale charts)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d</td>
<td></td>
<td>Pump-out facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e</td>
<td></td>
<td>Quarantine office</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f</td>
<td></td>
<td>Mooring Canal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g</td>
<td></td>
<td>Conveyor</td>
<td></td>
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</table>
### Terms Relating to Tidal Levels

<table>
<thead>
<tr>
<th>No.</th>
<th>Term</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>CD</td>
<td>Chart Datum, Datum for sounding reduction</td>
</tr>
<tr>
<td>2</td>
<td>LAT</td>
<td>Lowest Astronomical Tide</td>
</tr>
<tr>
<td>3</td>
<td>HAT</td>
<td>Highest Astronomical Tide</td>
</tr>
<tr>
<td>4</td>
<td>MLW</td>
<td>Mean Low Water</td>
</tr>
<tr>
<td>5</td>
<td>MHW</td>
<td>Mean High Water</td>
</tr>
<tr>
<td>6</td>
<td>MSL</td>
<td>Mean Sea Level</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Height datum, Land survey datum</td>
</tr>
<tr>
<td>8</td>
<td>MLWS</td>
<td>Mean Low Water Springs</td>
</tr>
<tr>
<td>9</td>
<td>MHWS</td>
<td>Mean High Water Springs</td>
</tr>
<tr>
<td>10</td>
<td>MLWN</td>
<td>Mean Low Water Neaps</td>
</tr>
<tr>
<td>11</td>
<td>MHWN</td>
<td>Mean High Water Neaps</td>
</tr>
<tr>
<td>12</td>
<td>MLLW</td>
<td>Mean Lower Low Water</td>
</tr>
<tr>
<td>13</td>
<td>MHHW</td>
<td>Mean Higher High Water</td>
</tr>
<tr>
<td>14</td>
<td>MHLW</td>
<td>Mean Higher Low Water</td>
</tr>
<tr>
<td>15</td>
<td>MLHW</td>
<td>Mean Lower High Water</td>
</tr>
<tr>
<td>16</td>
<td>Sp</td>
<td>Spring tide</td>
</tr>
<tr>
<td>17</td>
<td>Np</td>
<td>Neap tide</td>
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</table>

### Supplementary National Terms (see l-t for other terms and symbols)

<table>
<thead>
<tr>
<th>No.</th>
<th>Term</th>
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<tr>
<td>a</td>
<td>HW</td>
<td>High Water</td>
</tr>
<tr>
<td>b</td>
<td>HHW</td>
<td>Higher High Water</td>
</tr>
<tr>
<td>c</td>
<td>LW</td>
<td>Low Water</td>
</tr>
<tr>
<td>d</td>
<td>LWD</td>
<td>Low Water Datum</td>
</tr>
<tr>
<td>e</td>
<td>LLW</td>
<td>Lower Low Water</td>
</tr>
<tr>
<td>f</td>
<td>MTL</td>
<td>Mean Tide Level</td>
</tr>
<tr>
<td>g</td>
<td>ISLW</td>
<td>Indian Spring Low Water</td>
</tr>
<tr>
<td>h</td>
<td>HWF&amp;C</td>
<td>High Water Full and Change (Vulgar establishment of the port)</td>
</tr>
<tr>
<td>i</td>
<td>LWF&amp;C</td>
<td>Low Water Full and Change</td>
</tr>
<tr>
<td>j</td>
<td>CRD</td>
<td>Columbia River Datum</td>
</tr>
<tr>
<td>k</td>
<td>GCLWD</td>
<td>Gulf Coast Low Water Datum</td>
</tr>
</tbody>
</table>
Tides, Currents

Tidal Levels and Charted Data

Tide Gauge → T

Planes of reference are not exactly as shown below for all charts. They are usually defined in notes under chart titles.

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 Levels referred to datum of soundings

No. Place Lat N Long E Heights in metres above datum

30 Norderney, Riffgat Langeoog 53°42' 3°09' 7°30' MHHW MHWN MLWN MLWS

3.2 3.4 2.8 3.0 0.9 0.9 0.4 0.4

MHHW MLHW MHLW MLLW

Tabular statement of semi-diurnal or diurnal tides

Note: The order of the columns of levels will be the same as that used in national tables of tidal predictions.

TIDAL INFORMATION

NAME LAT/LONG Mean Higher Mean Higher Mean Low

Baltimore, Ft. McHenry (39°16'N/76°35'W) 1.7 1.4 0.2

Annapolis, U.S. Naval Academy (38°59'N/76°28'W) 1.4 1.2 0.2

Washington D.C., Washington Channel (38°52'N/77°01'W) 3.2 2.9 0.1

Dashes (---) located in datum columns indicate unavailable datum values for a tide station. Real-time water levels, tide predictions, and tidal current predictions are available on the Internet from http://tidesandcurrents.noaa.gov.

(Dec 2011)
## Tides, Currents

<table>
<thead>
<tr>
<th>No.</th>
<th>Tidal stream table</th>
</tr>
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<tbody>
<tr>
<td>31</td>
<td>Tidal streams referred to...</td>
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<table>
<thead>
<tr>
<th>Hours</th>
<th>Geographical Position</th>
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<tr>
<td>0</td>
<td>081 0.7 0.6</td>
</tr>
<tr>
<td>+1</td>
<td>038 0.3 0.2</td>
</tr>
<tr>
<td>+2</td>
<td>231 0.6 0.4</td>
</tr>
<tr>
<td>+3</td>
<td>277 1.0 0.6</td>
</tr>
<tr>
<td>+4</td>
<td>270 1.2 1.0</td>
</tr>
<tr>
<td>+5</td>
<td>267 1.1 1.0</td>
</tr>
<tr>
<td>+6</td>
<td>254 1.0 0.9</td>
</tr>
</tbody>
</table>

### Tidal Streams and Currents

**NOAA**

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<tr>
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<th>Other NGA</th>
<th>ECDIS</th>
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</thead>
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<tr>
<td>40</td>
<td>K</td>
<td>Flood tide stream with rate</td>
<td></td>
<td></td>
<td></td>
<td>Current or tidal stream whose direction is not known</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.5 kn</td>
<td></td>
<td></td>
<td>Boundary of an area for which there is tidal information</td>
</tr>
<tr>
<td>41</td>
<td></td>
<td>Ebb tide stream</td>
<td></td>
<td></td>
<td></td>
<td>Current or tidal stream whose direction is not known</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.5 kn</td>
<td></td>
<td></td>
<td>Boundary of an area for which there is tidal information</td>
</tr>
</tbody>
</table>
### Tides, Currents

<table>
<thead>
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<th>INT</th>
<th>Description</th>
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<th>Other NGA</th>
<th>ECDIS</th>
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</thead>
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<tr>
<td>42</td>
<td></td>
<td>Current in restricted waters</td>
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<tr>
<td>43</td>
<td></td>
<td>Ocean current with rates and seasons</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>44</td>
<td></td>
<td>Overfalls, tide rips, races</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
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<td>Eddies</td>
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<td>Offshore position for which tidal levels are tabulated</td>
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#### Supplementary National Symbols

- **l**: Stream
- **m**: Current, general, with rate
- **n**: Velocity, Rate
- **o**: Knots
- **p**: Height
- **q**: Flood
- **r**: New moon
- **s**: Full moon
- **t**: Current diagram
- **u**: Gulf Stream Limits

**Diagram**: Approximate location of Axis of Gulf Stream

**Note**: Overfalls, tide rips; eddies; breakers as point, line, and area
<table>
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<td>Reported (with year of report), but not confirmed</td>
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<td><img src="?" alt="Image" /> Point feature or area of low accuracy</td>
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<td>Reported, but not confirmed sounding or danger (on small scale charts only)</td>
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<td>![Image](186, 212) Obstruction, depth not stated</td>
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Note: The images in the ECDIS column represent symbols used in electronic navigation systems to indicate the type of hazard or feature.
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<td>10</td>
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<td>(23)</td>
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<td>(43)</td>
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<td>No bottom found at depth shown</td>
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<td>14</td>
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<td>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)</td>
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<td>Drying heights and contours above chart datum</td>
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Supplementary national symbols: a–c
## Depths

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<td>21</td>
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<td>Dredged channel or area with depth of dredging in meters and decimeters</td>
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<tr>
<td>22</td>
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<td>Dredged channel or area with depth and year of the latest control survey</td>
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<tr>
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<td>24</td>
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<td>Area swept by wire drag. The depth is shown at chart datum. (The latest date of sweeping is shown in parentheses.)</td>
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<td>25</td>
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<td>Unsurveyed or inadequately surveyed area; area with inadequate depth information</td>
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</table>

Supplementary national symbols: a, b

Plane of Reference for Depths → H

- Dredged area
- Depth, date of latest survey and other information is obtained by cursor pick
- Swept area
- Incompletely surveyed area
- Unsurveyed area
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.
## Depths

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<td>Drying contour</td>
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<td>Low water line</td>
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<td>Blue tint, in one or more shades, or tint ribbons are shown to different limits according to the scale and purpose of the chart and the nature of the bathymetry.</td>
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<td>On some charts, contours and values are printed in blue.</td>
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<td>Approximate depth contours</td>
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<td>Approximate safety depth contour</td>
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### Supplementary National Symbols

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<td>a</td>
<td>Swept channel</td>
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<td>b</td>
<td>Swept area, not adequately sounded (shown by purple or green tint)</td>
<td><img src="" alt="Diagram" /></td>
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<td>c</td>
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# Nature of the Seabed

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## Types of Seabed

#### Rocks → K

- **1** S Sand
- **2** M Mud
- **3** Cy Clay
- **4** Si Silt
- **5** St Stones
- **6** G Gravel
- **7** P Pebbles
- **8** Cb Cobbles
- **9.1** R Rock; Rocky
- **9.2** Bo Boulder(s)
- **10** Co Coral, Coralline algae
- **11** Sh Shells (skeletal remains)
- **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
- **13.1** Wd Weed (including kelp)
- **13.2** Kelp, Weed

Supplementary national abbreviations: a–ag

Sand, Mud, Clay, Silt, Stones, Gravel, Pebbles, Cobbles, Rock; Rocky, Boulder, Coral, Coralline algae, Shells, Weed, Kelp.
## Nature of the Seabed

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<tr>
<td>15</td>
<td><img src="image" alt="Spring in seabed" /></td>
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<td><img src="image" alt="Spring" /></td>
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### Types of Seabed, Intertidal Areas

20. Area with stones and gravel

21. Rocky area, which covers and uncovers

22. Coral reef, which covers and uncovers

### Qualifying Terms

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# Rocks, Wrecks, Obstructions, Aquaculture

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<td>1</td>
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<td>Danger line: A danger line draws attention to a danger which would not stand out clearly enough if represented solely by its symbol (e.g., isolated rock) or delimits an area containing numerous dangers, through which it is unsafe to navigate</td>
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<td>(21) Rk</td>
<td>(35) Rk</td>
<td>(6) Obstr</td>
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<td>Depth unknown, but estimated to have a safe clearance to the depth shown</td>
<td>(26) Wk</td>
<td>(35) Rk</td>
<td>(6) Obstr</td>
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### Rocks

**Plane of Reference for Heights → H**

**Plane of Reference for Depths → H**

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<th>Height datum</th>
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<td>Rock (islet) which does not cover, height above height datum</td>
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<td>(1,7)</td>
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<td>Rock which covers and uncovers, height above chart datum</td>
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<td></td>
<td>(12)</td>
<td>(16)</td>
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<td>12</td>
<td>Rock awash at the level of chart datum</td>
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<td>Underwater rock of unknown depth, dangerous to surface navigation</td>
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<td>14.1</td>
<td>14.1.1</td>
<td>Underwater rock of known depth; inside the corresponding depth area</td>
<td>12 Rk</td>
<td>27 Rk</td>
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<td>14.1.2</td>
<td>Underwater rock of known depth; outside the corresponding depth area, dangerous to surface navigation</td>
<td>5 Rk</td>
<td>4 Rk</td>
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<td>35Rk</td>
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<td>35 Rk</td>
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<td>Coral reef which is always covered</td>
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<td>17</td>
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<tr>
<td>20</td>
<td></td>
<td>Wreck, hull never covers, on large scale charts</td>
<td>Hk</td>
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<td>21</td>
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<td>Wreck, covers and uncovers, on large scale charts</td>
<td>Hk</td>
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<tr>
<td>22</td>
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<td>Submerged wreck, depth known, on large scale charts</td>
<td>Hk</td>
<td>Wk</td>
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<td>Submerged wreck, depth unknown, on large scale charts</td>
<td>Hk</td>
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<td>Wreck showing any portion of hull or superstructure at level of chart datum</td>
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<td>Wk</td>
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<td>Wreck of which the mast(s) only are visible at chart datum</td>
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<td>Masts</td>
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<td>Wreck, least depth known, swept by wire drag or diver</td>
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<td>Swept sounding for underwater hazard less than safety depth</td>
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<td></td>
<td>Swept sounding for underwater hazard greater than or equal to safety depth</td>
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<td>Isolated danger of depth less than the safety contour</td>
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<td>Dangerous wreck, depth unknown</td>
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<td>Dangerous wreck, depth unknown</td>
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<td>Non-dangerous wreck, depth unknown</td>
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<td>Wreck, least depth unknown, but considered to have a safe clearance to the depth shown</td>
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<td>Underwater hazard with safe clearance of 20 meters or less</td>
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<td>Underwater hazard with safe clearance greater than 20 meters</td>
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<td>Isolated danger of depth less than the safety contour</td>
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<tr>
<td>31.1</td>
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<td>Foul ground, not dangerous to surface navigation, but to be avoided by vessels anchoring, trawling, etc. (e.g. remains of wreck, cleared platform)</td>
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<td>Foul area of seabed safe for navigation but not for anchoring</td>
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<td>31.2</td>
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<td>Foul ground</td>
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<td>Distributed remains of wreck</td>
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Obstructions and Aquaculture

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<thead>
<tr>
<th>Plane of Reference for Depths → H</th>
<th>Kelp, Seaweed → J</th>
<th>Underwater Installations → L</th>
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<tr>
<td>40</td>
<td>Obstr</td>
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<td>Obstruction, depth not stated</td>
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<td>Safe clearance shoaler than safety contour</td>
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<td><img src="image1" alt="Obstr" /> <img src="image2" alt="Obstr" /></td>
<td>Obstruction, least depth known by sounding only</td>
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<td><img src="image1" alt="Obstr" /> <img src="image2" alt="Obstr" /></td>
<td>Obstruction, least depth known, swept by wire drag or diver</td>
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<td>43.1</td>
<td><img src="image1" alt="Obstr" /></td>
<td>Stumps of posts or piles, wholly submerged</td>
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<td>43.2</td>
<td><img src="image1" alt="Obstr" /></td>
<td>Submerged pile, stake, snag, or stump (with exact position)</td>
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<td><img src="image1" alt="Fishing stakes" /></td>
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<tr>
<td>a</td>
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<td>Rock awash (height unknown)</td>
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<tr>
<td>b</td>
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<td>Shoal sounding on isolated rock or rocks</td>
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<tr>
<td>c</td>
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<td>Sunken wreck covered 20 to 30 meters</td>
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<td>d</td>
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<td>Submarine volcano</td>
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<tr>
<td>e</td>
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<td>Discolored water</td>
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<tr>
<td>f</td>
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<td>Sunken danger with depth cleared (swept) by wire drag</td>
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<td>g</td>
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<td>Reef of unknown extent</td>
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<td>h</td>
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<td>Coral reef, detached (uncovers at sounding datum)</td>
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<td>i</td>
<td></td>
<td>Submerged crib</td>
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<td>j</td>
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<td>Crib, duck blind (above water)</td>
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<td>k</td>
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<td>Submerged duck blind</td>
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<td>m</td>
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<td>Sinkers</td>
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<td>Stumps of posts or piles, which cover and uncover</td>
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## Offshore Installations

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<td>![Image]( Ekofisk Oilfield.png)</td>
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<td>Limit of safety zone around offshore installation</td>
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<td>![Image]( Limit of safety zone.png)</td>
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<td>Area where entry is prohibited or restricted or to be avoided, with other cautions</td>
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<td>Limit of development area</td>
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<td>![Image]( Limit of development area.png)</td>
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<td>Cautionary area, navigate with caution</td>
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<td>Wind turbine, floating wind turbine, vertical clearance under blade</td>
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<td>![Image]( Wind turbine.png)</td>
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<td>Wind motor visually conspicuous</td>
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<td>![Image]( Offshore wind farm.png)</td>
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<td>![Image]( Offshore wind farm (floating).png)</td>
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<td>Production platform, Platform, Oil derrick</td>
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<td>![Image]( Production platform.png)</td>
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<td>![Image]( Offshore platform.png)</td>
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<td>Flare stack (at sea)</td>
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<td>![Image]( Flare stack.png)</td>
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<td></td>
<td></td>
<td>![Image]( Conspicuous flare stack on offshore platform.png)</td>
<td></td>
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</table>
## Offshore Installations

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>SPM</td>
<td>Single Point Mooring (SPM), including Single Anchor Leg Mooring (SALM), Articulated Loading Column (ALC)</td>
<td></td>
<td></td>
<td></td>
<td><img src="image" alt="Offshore platform" /> Name</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>Observation/research platform (with name)</td>
<td><img src="image" alt="Name" /></td>
<td><img src="image" alt="Name" /></td>
<td><img src="image" alt="Name" /></td>
<td><img src="image" alt="Offshore platform" /> Name and status of disused is obtained by cursor pick</td>
</tr>
<tr>
<td>14</td>
<td>Ru</td>
<td>Disused platform with superstructure removed</td>
<td><img src="image" alt="Artificial Island" /></td>
<td><img src="image" alt="Artificial Island" /></td>
<td><img src="image" alt="Artificial Island" /></td>
<td><img src="image" alt="Disused" /></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>Artificial island</td>
<td><img src="image" alt="Artificial Island" /></td>
<td><img src="image" alt="Artificial Island" /></td>
<td><img src="image" alt="Artificial Island" /></td>
<td><img src="image" alt="Name" /></td>
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<tr>
<td>16</td>
<td></td>
<td>Single Buoy Mooring (SBM), Oil or gas installation buoy including Catenary Anchor Leg Mooring (CALM)</td>
<td><img src="image" alt="Installation buoy and mooring buoy, simplified" /></td>
<td><img src="image" alt="Installation buoy, paper chart" /></td>
<td><img src="image" alt="Installation buoy, paper chart" /></td>
<td><img src="image" alt="Installation buoy" /></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>Moored storage tanker</td>
<td><img src="image" alt="Tanker" /></td>
<td><img src="image" alt="Tanker" /></td>
<td><img src="image" alt="Tanker" /></td>
<td><img src="image" alt="Offshore platform" /></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>Mooring ground tackle</td>
<td><img src="image" alt="Ground tackle" /></td>
<td><img src="image" alt="Ground tackle" /></td>
<td><img src="image" alt="Ground tackle" /></td>
<td><img src="image" alt="Ground tackle" /></td>
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</table>

### Underwater Installations

- **Plane of Reference for Depths → H**
- **Obstructions → K**

<table>
<thead>
<tr>
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<th>Description</th>
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<th>Other NGA</th>
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<tr>
<td>20</td>
<td></td>
<td>Submerged production well</td>
<td><img src="image" alt="Well" /></td>
<td><img src="image" alt="Well" /></td>
<td><img src="image" alt="Well" /></td>
</tr>
<tr>
<td>21.1</td>
<td></td>
<td>Suspended well, depth over wellhead unknown</td>
<td><img src="image" alt="Pipe" /></td>
<td><img src="image" alt="Pipe" /></td>
<td><img src="image" alt="Pipe" /></td>
</tr>
<tr>
<td>21.2</td>
<td></td>
<td>Suspended well, with depth over wellhead</td>
<td><img src="image" alt="Pipe" /></td>
<td><img src="image" alt="Pipe" /></td>
<td><img src="image" alt="Pipe" /></td>
</tr>
<tr>
<td>21.3</td>
<td></td>
<td>Wellhead with height above the sea floor</td>
<td><img src="image" alt="Well" /></td>
<td><img src="image" alt="Well" /></td>
<td><img src="image" alt="Well" /></td>
</tr>
</tbody>
</table>

### Supplementary national symbol: a

- **5** Underwater hazard with depth of 20 meters or less
- **25** Underwater hazard with depth greater than 20 meters
- **Isolated danger of depth less than the safety contour**
- **Isolated danger of depth less than the safety contour**
- **Isolated danger of depth less than the safety contour**
- **Isolated danger of depth less than the safety contour**
- **Isolated danger of depth less than the safety contour**
# Offshore Installations

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<tr>
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<th>ECDIS</th>
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<tbody>
<tr>
<td>22</td>
<td>![Site of cleared platform]</td>
<td>Site of cleared platform</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>![Pipe]</td>
<td>Above-water wellhead (lit or unit)</td>
<td>![Pipe]</td>
<td></td>
<td>![Pipe]</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>![Underwater turbine]</td>
<td>Underwater turbine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>![ODAS]</td>
<td>Subsurface Oceanographic Data Acquisition System (ODAS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Submarine Cables

| 30.1 | Submarine cable | ![Submarine cable] | Submarine cable |
| 30.2 | Submarine cable area | ![Submarine cable area] | Submarine cable area |
| 31.1 | Submarine power cable | ![Submarine power cable] | Submarine power cable |
| 31.2 | Submarine power cable area | ![Submarine power cable area] | Submarine power cable area |
| 32   | Disused submarine cable | ![Disused submarine cable] | Status of disused is obtained by cursor pick |

### Submarine Pipelines

<p>| 40.1 | Supply pipeline: unspecified, oil, gas, chemicals, water | ![Supply pipeline] | Oil, gas pipeline, submerged or on land |
| 40.2 | Supply pipeline area: unspecified, oil, gas, chemicals, water | ![Supply pipeline area] | Submarine pipeline area with potentially dangerous contents |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>41.1</td>
<td>Water  Sewer</td>
<td>Outfall and intake: unspecified, water, sewer, outfall, intake</td>
<td></td>
<td></td>
<td></td>
<td>Water pipeline, sewer, etc.</td>
</tr>
<tr>
<td>41.2</td>
<td>Water  Sewer</td>
<td>Outfall and intake area: unspecified, water, sewer, outfall, intake</td>
<td></td>
<td></td>
<td></td>
<td>Submarine pipeline area with generally non-dangerous contents</td>
</tr>
<tr>
<td>42.1</td>
<td>Buried 1.6m</td>
<td>Buried pipeline/pipe (with nominal depth to which buried)</td>
<td></td>
<td></td>
<td></td>
<td>Nominal depth of buried pipeline is obtained by cursor pick</td>
</tr>
<tr>
<td>42.2</td>
<td></td>
<td>Pipeline tunnel</td>
<td></td>
<td></td>
<td></td>
<td>Pipeline tunnel</td>
</tr>
<tr>
<td>43</td>
<td>Diffuser, Crib</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Underwater hazard with depth of 20 meters or less</td>
</tr>
<tr>
<td>44</td>
<td></td>
<td>Disused pipeline/pipe</td>
<td></td>
<td></td>
<td></td>
<td>Status of disused is obtained by cursor pick</td>
</tr>
</tbody>
</table>

**Supplementary National Symbols**

| | | | | |
|---|---|---|---|
| a | Submerged well (buoyed) | Well | Well | Well |
| b | Potable water intake | PWI | Depth over Crib | Crib |

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## Tracks, Routes

### Tracks Marked by Lights → P

<table>
<thead>
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<th>INT</th>
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<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
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<td></td>
<td></td>
<td>Leading line (solid line is the track to be followed, ‡ means “in line”)</td>
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<td></td>
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<tr>
<td>1</td>
<td></td>
<td>Leading line bearing a non-regulated, recommended track</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Direction not encoded</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>270°</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Island open of Headland 270.5°</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transit (other than leading line), clearing line</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clearing line; transit line</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Recommended track based on a system of fixed marks</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Direction not encoded</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>90°</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Recommended track not based on a system of fixed marks</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Direction not encoded</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>90°</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.1</td>
<td></td>
<td>One-way track and DW track based on a system of fixed marks</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Based on fixed marks, one-way</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-regulated recommended track</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deep water route</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.2</td>
<td></td>
<td>One-way track and DW track not based on a system of fixed marks</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not based on fixed marks, one-way</td>
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<td>Non-regulated recommended track</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Deep water route centerline</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Recommended track with maximum authorized (or recommended) draft stated</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>If encoded, the shoalest depth range value along the track is obtained by cursor pick</td>
<td></td>
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</tbody>
</table>
## Routing Measures

### Supplementary national symbols: d–e

<table>
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<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
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<tbody>
<tr>
<td>10</td>
<td></td>
<td>Established (mandatory) direction of traffic flow</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>Recommended direction of traffic flow</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>Separation line (large scale, small scale)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>13</td>
<td></td>
<td>Separation zone</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>Limit of restricted routing measure (e.g. Inshore Traffic Zone (ITZ), Area to be Avoided (ATBA))</td>
<td></td>
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<tr>
<td>15</td>
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<td>Limit of routing measure</td>
<td></td>
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<tr>
<td>16</td>
<td></td>
<td>Precautionary area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>Archipelagic Sea Lane (ASL); axis line and limit beyond which vessels shall not navigate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>Fairway designated by regulatory authority with minimum draft</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Basic Symbols

- **10**: Traffic direction in a one-way lane of a traffic separation scheme
- **11**: Single traffic direction in a two-way route part of a traffic-separation scheme
- **12**: Traffic separation line
- **13**: Traffic separation zone
- **14**: Traffic separation scheme boundary
- **15**: Traffic precautionary area as a point
- **16**: Traffic precautionary area as an area
- **17**: Axis and boundary of archipelagic sea lane
- **18**: Fairway, depth is obtained by cursor pick
Tracks, Routes

Examples of Routing Measures on Paper/Raster Charts

Inshore Traffic Zone

Precautionary Area

Area to be Avoided (see Note)

Inshore traffic zone

20.1

25.1

23

20.1

26.1

20.2

26.1

20.3

27.3

25.2
<table>
<thead>
<tr>
<th>No.</th>
<th>Examples of Routing Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>Safety fairway</td>
</tr>
<tr>
<td>20.1</td>
<td>Traffic Separation Scheme (TSS), traffic separated by separation zone</td>
</tr>
<tr>
<td>20.2</td>
<td>Traffic Separation Scheme, traffic separated by natural obstructions</td>
</tr>
<tr>
<td>20.3</td>
<td>Traffic Separation Scheme, with outer separation zone separating traffic using scheme from traffic not using it</td>
</tr>
<tr>
<td>21</td>
<td>Traffic Separation Scheme, roundabout with separation zone</td>
</tr>
<tr>
<td>22</td>
<td>Traffic Separation Scheme, with “crossing gates”</td>
</tr>
<tr>
<td>23</td>
<td>Traffic Separation Scheme crossing, without designated precautionary area</td>
</tr>
<tr>
<td>24</td>
<td>Precautionary area</td>
</tr>
<tr>
<td>25.1</td>
<td>Inshore Traffic Zone (ITZ), with defined end limits</td>
</tr>
<tr>
<td>25.2</td>
<td>Inshore Traffic Zone, without defined end limits</td>
</tr>
<tr>
<td>26.1</td>
<td>Recommended direction of traffic flow, between traffic separation schemes</td>
</tr>
<tr>
<td>26.2</td>
<td>Recommended direction of traffic flow, for ships not needing a deep water route</td>
</tr>
<tr>
<td>27.1</td>
<td>Deep water route (DW), as part of one-way traffic lane</td>
</tr>
<tr>
<td>27.2</td>
<td>Two-way deep water route, with minimum depth stated</td>
</tr>
<tr>
<td>27.3</td>
<td>Deep water route, centerline as recommended one-way or two-way track</td>
</tr>
<tr>
<td>28.1</td>
<td>Recommended route, one-way and two-way (often marked by centerline buoys)</td>
</tr>
<tr>
<td>28.2</td>
<td>Two-way route, with one-way sections</td>
</tr>
<tr>
<td>29.1</td>
<td>Area to be Avoided (ATBA), around navigational aid</td>
</tr>
<tr>
<td>29.2</td>
<td>Area to be Avoided, e.g. because of danger of stranding</td>
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Examples of Routing Measures in ECDIS
<table>
<thead>
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<th>Description</th>
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<th>Other NGA</th>
<th>ECDIS</th>
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<td></td>
<td></td>
<td></td>
<td>Radar station</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Radar surveillance station</td>
<td>Ra</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>Radar range</td>
<td></td>
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<tr>
<td>31</td>
<td></td>
<td>Radar reference line coinciding with a leading line</td>
<td>Ra</td>
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<td></td>
</tr>
<tr>
<td>32.1</td>
<td></td>
<td>Radio range</td>
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<td>32.2</td>
<td></td>
<td>Non-regulated recommended track based on fixed marks</td>
<td>Ra</td>
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**Radio Reporting Points**

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<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Radio reporting (calling-in or way) points showing direction(s) of vessel movement with designation (if any) and VHF-channel</td>
<td>VHF 80</td>
<td></td>
<td></td>
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<td>40.1</td>
<td></td>
<td>Radio reporting line</td>
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<td>40.2</td>
<td></td>
<td>Radio reporting line</td>
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### Tracks, Routes

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<td><strong>Ferries</strong></td>
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<td>51</td>
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</tr>
<tr>
<td><strong>b</strong></td>
</tr>
<tr>
<td><strong>c</strong></td>
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**Areas, Limits**

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<td></td>
</tr>
<tr>
<td><strong>Dredged and Swept Areas → I</strong></td>
<td><strong>Submarine Cables, Submarine Pipelines → L</strong></td>
<td><strong>Tracks, Routes → M</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1.1</td>
<td></td>
<td>Maritime limit in general, usually implying permanent physical obstructions (tint band for emphasis)</td>
<td></td>
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</tr>
<tr>
<td>1.2</td>
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<td>Maritime limit in general, usually implying no permanent physical obstructions (tint band for emphasis)</td>
<td></td>
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<tr>
<td>2.1</td>
<td></td>
<td>Limit of restricted area</td>
<td>RESTRICTED AREA</td>
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</tr>
<tr>
<td>2.2</td>
<td></td>
<td>Limit of area into which entry is prohibited</td>
<td>PROHIBITED AREA</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Anchorages, Anchorage Areas** | | | | | | |
| 10 | | Reported anchorage (no defined limits) | | | | |
| 11.1 | | Anchor berths | 14 | 8 | No 1 | Nr 6 |
| 11.2 | | Anchor berths with swinging circle | 3 | D17 | | |

* 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

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
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<th>ECDIS</th>
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<tr>
<td>12.1</td>
<td>![Anchor symbol]</td>
<td>Anchorage area in general</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
</tr>
<tr>
<td>12.2</td>
<td>![Anchor symbol]</td>
<td>Numbered anchorage area</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
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<tr>
<td>12.3</td>
<td>![Anchor symbol]</td>
<td>Named anchorage area</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
</tr>
<tr>
<td>12.4</td>
<td>![Anchor symbol]</td>
<td>Deep water anchorage area, Anchorage area for deep draft vessels</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
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<tr>
<td>12.5</td>
<td>![Anchor symbol]</td>
<td>Tanker anchorage area</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
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<tr>
<td>12.6</td>
<td>![Anchor symbol]</td>
<td>Anchorage area for periods up to 24 hours</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
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<tr>
<td>12.7</td>
<td>![Anchor symbol]</td>
<td>Explosives anchorage area</td>
<td>![Anchor symbol]</td>
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<td>![Anchor symbol]</td>
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<tr>
<td>12.8</td>
<td>![Anchor symbol]</td>
<td>Quarantine anchorage area</td>
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<tr>
<td>12.9</td>
<td>![Anchor symbol]</td>
<td>Reserved anchorage area</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
<td>![Anchor symbol]</td>
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</tbody>
</table>

**Note:** Anchors as part of the limit symbol are not shown for small areas. Other types of anchorage areas may be shown.

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
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<tbody>
<tr>
<td>13</td>
<td>![Seaplane symbol]</td>
<td>Seaplane operating area</td>
<td>![Seaplane symbol]</td>
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<td>![Seaplane symbol]</td>
<td>![Seaplane symbol]</td>
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<tr>
<td>14</td>
<td>![Seaplane symbol]</td>
<td>Anchorage for seaplanes</td>
<td>![Seaplane symbol]</td>
<td>![Seaplane symbol]</td>
<td>![Seaplane symbol]</td>
<td>![Seaplane symbol]</td>
</tr>
</tbody>
</table>

Type of anchorage area is obtained by cursor pick.
<table>
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<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
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<tr>
<td></td>
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<tr>
<td>20</td>
<td></td>
<td>Anchoring prohibited</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.1</td>
<td></td>
<td>Fishing prohibited</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Supplementary national symbols: d, e, g

Area where anchoring is prohibited or restricted
Area where anchoring is prohibited or restricted, with other cautions
Area where anchoring is prohibited or restricted, with other information
Area where fishing or trawling is prohibited or restricted
Area where fishing or trawling is prohibited or restricted, with other cautions
Area where fishing or trawling is prohibited or restricted, with other information
<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
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</thead>
<tbody>
<tr>
<td>21.2</td>
<td></td>
<td>Diving prohibited</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>22.1</td>
<td></td>
<td>Bird sanctuary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22.2</td>
<td></td>
<td>Seal sanctuary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22.3</td>
<td></td>
<td>Non-specific nature reserve, National parks, Marine Reserves (MR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22.4</td>
<td></td>
<td>Particularly Sensitive Sea Area (PSSA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Description</td>
<td>NOAA</td>
<td>NGA</td>
<td>Other NGA</td>
<td>ECDIS</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>------------------------------------------------------------------------------</td>
<td>------------------------------------------------</td>
<td>------------------------------------------------</td>
<td>-----------</td>
<td>------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>23.1</td>
<td>Explosives dumping ground, individual mine or explosive</td>
<td>EXPLOSIVES DUMPING AREA</td>
<td>EXPLOSIVES DUMPING AREA DISUSED</td>
<td></td>
<td>Explosives or chemical dumping ground as a point</td>
<td></td>
</tr>
<tr>
<td>23.2</td>
<td>Explosives dumping ground (disused), Foul (explosives)</td>
<td>EXPLOSIVES DUMPING AREA DISUSED</td>
<td>EXPLOSIVES DUMPING AREA DISUSED</td>
<td></td>
<td>Explosives or chemical dumping ground as an area</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Dumping ground for Chemicals</td>
<td>Dump Site</td>
<td>Dump Site</td>
<td></td>
<td>Degaussing area</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Degaussing range (DG range)</td>
<td>Degaussing RANGE</td>
<td>Degaussing RANGE</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>27</td>
<td>Maximum speed</td>
<td></td>
<td></td>
<td></td>
<td>If a speed restriction exists, the speed limit is obtained by cursor pick</td>
<td></td>
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### Military Practice Areas

<table>
<thead>
<tr>
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<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
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</thead>
<tbody>
<tr>
<td>30</td>
<td>Firing practice area</td>
<td></td>
<td></td>
<td></td>
<td>Restricted area</td>
</tr>
<tr>
<td>31</td>
<td>Military restricted area, entry prohibited</td>
<td>PROHIBITED AREA</td>
<td>PROHIBITED AREA</td>
<td></td>
<td>Area where entry is prohibited or restricted or to be avoided, with other cautions</td>
</tr>
<tr>
<td>32</td>
<td>Mine-laying (and counter-measures) practice area</td>
<td></td>
<td></td>
<td></td>
<td>Restricted area</td>
</tr>
<tr>
<td>33</td>
<td>Submarine transit lane and exercise area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Minefield (see note)</td>
<td></td>
<td></td>
<td></td>
<td>Minefield</td>
</tr>
</tbody>
</table>

### International Boundaries and National Limits

<table>
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<tr>
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<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
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</thead>
<tbody>
<tr>
<td>40</td>
<td>International boundary on land</td>
<td></td>
<td></td>
<td></td>
<td>Jurisdiction boundary</td>
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</table>
# Areas, Limits

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td></td>
<td>International maritime boundary</td>
<td></td>
<td></td>
<td></td>
<td>Jurisdiction boundary</td>
</tr>
<tr>
<td>42</td>
<td></td>
<td>Straight territorial sea baseline with base point</td>
<td></td>
<td></td>
<td></td>
<td>Straight territorial sea baseline</td>
</tr>
<tr>
<td>43</td>
<td></td>
<td>Seaward limit of territorial sea</td>
<td></td>
<td></td>
<td></td>
<td>Territorial sea</td>
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<tr>
<td>44</td>
<td></td>
<td>Seaward limit of contiguous zone</td>
<td></td>
<td></td>
<td></td>
<td>Contiguous zone</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>Limits of fishery zones</td>
<td></td>
<td></td>
<td></td>
<td>Limits of fishery zone</td>
</tr>
<tr>
<td>46</td>
<td></td>
<td>Limit of continental shelf</td>
<td></td>
<td></td>
<td></td>
<td>Continental shelf area</td>
</tr>
<tr>
<td>47</td>
<td></td>
<td>Limit of Exclusive Economic Zone (EEZ)</td>
<td></td>
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<td>Exclusive economic zone</td>
</tr>
<tr>
<td>48</td>
<td></td>
<td>Customs limit</td>
<td></td>
<td></td>
<td></td>
<td>Custom regulations zone</td>
</tr>
<tr>
<td>49</td>
<td></td>
<td>Harbor limit</td>
<td></td>
<td></td>
<td></td>
<td>Harbor area, symbolized</td>
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</table>

### Various Limits

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Supplementary national symbols: a, b</th>
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</thead>
<tbody>
<tr>
<td>60.1</td>
<td>Limit of fast ice, Ice front (with date)</td>
<td>Continuous pattern for an ice area (glacier, etc.)</td>
</tr>
<tr>
<td>60.2</td>
<td>Limit of sea ice (pack ice) seasonal (with date)</td>
<td>Floating hazard</td>
</tr>
<tr>
<td>61</td>
<td>Floating barrier, including log ponds, security barriers, ice booms, shark nets</td>
<td>Boom, ice boom</td>
</tr>
<tr>
<td>62.1</td>
<td>Spoil ground</td>
<td>Boom, ice boom, floating obstruction, log pond</td>
</tr>
<tr>
<td>62.2</td>
<td>Spoil ground (disused)</td>
<td>HO information note</td>
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### Areas, Limits

<table>
<thead>
<tr>
<th>No.</th>
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<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
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</thead>
<tbody>
<tr>
<td>63</td>
<td></td>
<td>Extraction (dredging) area</td>
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<td>Dredging area</td>
</tr>
<tr>
<td>64</td>
<td></td>
<td>Cargo transhipment area</td>
<td></td>
<td></td>
<td></td>
<td>HO information note</td>
</tr>
<tr>
<td>65</td>
<td></td>
<td>Incineration area</td>
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#### Supplementary National Symbols

<table>
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<tbody>
<tr>
<td>a</td>
<td>COLREGS demarcation line</td>
</tr>
<tr>
<td>b</td>
<td>Limit of fishing area (fish trap areas)</td>
</tr>
<tr>
<td>c</td>
<td>Dumping ground</td>
</tr>
<tr>
<td>d</td>
<td>Dumping area (Dump site)</td>
</tr>
<tr>
<td>f</td>
<td>Reservation line (Options)</td>
</tr>
<tr>
<td>g</td>
<td>Dump site</td>
</tr>
<tr>
<td>h</td>
<td>Three Nautical Mile Line</td>
</tr>
<tr>
<td>i</td>
<td>No Discharge Zone</td>
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### Lights

<table>
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<th>ECDIS</th>
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<tbody>
<tr>
<td>1</td>
<td>Lt</td>
<td>LtHo Major light, minor light, light, lighthouse</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Lighted offshore platform</td>
<td>PLATFORM (lighted)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>BnTr</td>
<td>Lighted beacon tower</td>
<td>Marker (lighted)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Lighted beacon</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Bn</td>
<td>Articulated light, buoyant beacon, resilient beacon</td>
<td>Art</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Major floating light (light vessel, major light float, LANBY)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7</td>
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<td>Navigational lights on landmarks or other structures</td>
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<tr>
<td>8</td>
<td></td>
<td>Important light off chart limits</td>
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</table>

**Light Structures and Major Floating Lights**

Minor Light Floats → Q30, 31

Note: Minor lights, fixed and floating, usually conform to IALA Maritime Buoyage System characteristics.
## Lights

<table>
<thead>
<tr>
<th>No.</th>
<th>Abbreviation</th>
<th>Class of light</th>
<th>Illustration</th>
<th>Period shown</th>
<th>ECDIS</th>
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<td></td>
<td>INT</td>
<td>NOAA</td>
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### Light Characters

#### Light Characters on Light Buoys → Q

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<th>F</th>
<th>F</th>
<th>Fixed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Oc</td>
<td>Oc</td>
<td>Single-occulting</td>
</tr>
<tr>
<td></td>
<td>Oc (2)</td>
<td>Oc (2)</td>
<td>Group-occulting</td>
</tr>
<tr>
<td></td>
<td>Oc (2+3)</td>
<td>Oc (2+3)</td>
<td>Composite group-occulting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10.2</th>
<th>Oc</th>
<th>Oc</th>
<th>Single-occulting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Oc (2)</td>
<td>Oc (2)</td>
<td>Group-occulting</td>
</tr>
<tr>
<td></td>
<td>Oc (2+3)</td>
<td>Oc (2+3)</td>
<td>Composite group-occulting</td>
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</table>

<table>
<thead>
<tr>
<th>10.3</th>
<th>Iso</th>
<th>Iso</th>
<th>Isophase</th>
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</table>

<table>
<thead>
<tr>
<th>10.4</th>
<th>Fl</th>
<th>Fl</th>
<th>Flashing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fl (3)</td>
<td>Fl (3)</td>
<td>Group-flashing</td>
</tr>
<tr>
<td></td>
<td>Fl (2+1)</td>
<td>Fl (2+1)</td>
<td>Composite group-flashing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10.5</th>
<th>LFl</th>
<th>LFl</th>
<th>Long-flashing (flash 2s or longer)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>10.6</th>
<th>Q</th>
<th>Q</th>
<th>Quick (repetition rate of 50 to 79 - usually either 50 or 60 - flashes per minute)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q (3)</td>
<td>Q (3)</td>
<td>Group quick</td>
</tr>
<tr>
<td></td>
<td>iQ</td>
<td>iQ</td>
<td>Interrupted quick</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10.7</th>
<th>VQ</th>
<th>VQ</th>
<th>Very quick (repetition rate of 80 to 159 - usually either 100 or 120 - flashes per minute)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>VQ (3)</td>
<td>VQ (3)</td>
<td>Group very quick</td>
</tr>
<tr>
<td></td>
<td>iVQ</td>
<td>iVQ</td>
<td>Interrupted very quick</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10.8</th>
<th>UQ</th>
<th>UQ</th>
<th>Ultra quick (repetition rate of 160 or more - usually 240 to 300 - flashes per minute)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IUQ</td>
<td>IUQ</td>
<td>Interrupted ultra quick</td>
</tr>
</tbody>
</table>

When text for lights is displayed, ECDIS uses INT abbreviations.
### Lights

<table>
<thead>
<tr>
<th>No.</th>
<th>Abbreviation</th>
<th>Class of light</th>
<th>Illustration</th>
<th>Period shown</th>
<th>ECDIS</th>
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</thead>
<tbody>
<tr>
<td>10.9</td>
<td>Mo(K) Example</td>
<td>Morse Code</td>
<td><img src="image" alt="Morse Code Illustration" /></td>
<td>Mo (K)</td>
<td>When text for lights is displayed, ECDIS uses INT abbreviations.</td>
</tr>
<tr>
<td>10.10</td>
<td>FFI</td>
<td>Fixed and flashing</td>
<td><img src="image" alt="Fixed &amp; Flashing Illustration" /></td>
<td>F FI</td>
<td></td>
</tr>
<tr>
<td>10.11</td>
<td>AlWR</td>
<td>Alternating</td>
<td><img src="image" alt="Alternating Illustration" /></td>
<td>Al WR</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.1</td>
<td>W</td>
<td>White (only on sector and alternating lights)</td>
<td></td>
<td></td>
<td></td>
<td>Default light symbol if no color is encoded or color is other than red, green, white, yellow, amber, or orange</td>
</tr>
<tr>
<td>11.2</td>
<td>R</td>
<td>Red</td>
<td></td>
<td></td>
<td></td>
<td>Red</td>
</tr>
<tr>
<td>11.3</td>
<td>G</td>
<td>Green</td>
<td></td>
<td></td>
<td></td>
<td>Green</td>
</tr>
<tr>
<td>11.4</td>
<td>Bu</td>
<td>Blue</td>
<td></td>
<td></td>
<td></td>
<td>White, yellow, amber or orange</td>
</tr>
<tr>
<td>11.5</td>
<td>Vi</td>
<td>Violet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.6</td>
<td>Y</td>
<td>Yellow</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.7</td>
<td>Y</td>
<td>Or</td>
<td>Orange</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.8</td>
<td>Y</td>
<td>Am</td>
<td>Amber</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Colors of lights shown
- **on standard charts**

![Colors Illustration](image)

- **on multicolored charts**

![Colors Illustration](image)

- **at sector lights**

![Colors Illustration](image)

#### Period

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>2.5s</td>
<td>Period in seconds and tenths of a second</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Elevation

<table>
<thead>
<tr>
<th>Plane of reference for Heights — &gt; H</th>
<th>Tidal Levels — &gt; H</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>12m</td>
</tr>
</tbody>
</table>

#### Range

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>15M</td>
<td>Light with single range</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>15/10M</td>
<td>Light with two different ranges</td>
<td>10M only lesser of two ranges is charted</td>
<td></td>
<td>15/10M</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>15-7M</td>
<td>Light with three or more ranges</td>
<td>only least of three ranges is charted</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Charted ranges are nominal ranges given in Nautical Miles.
<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(hor)</td>
<td>Horizontally disposed</td>
<td></td>
<td></td>
<td></td>
<td>Disposition of light is obtained by cursor pick</td>
</tr>
<tr>
<td></td>
<td>(vert)</td>
<td>Vertically disposed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(∆) (∨)</td>
<td>3 lights disposed in the shape of a triangle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Example of a Full Light Description**

<table>
<thead>
<tr>
<th>INT Example</th>
<th>NOAA Example</th>
<th>NGA Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name</strong></td>
<td><strong>Name</strong></td>
<td><strong>Name</strong></td>
</tr>
<tr>
<td>Fl(3) WRG.15s 21m 15-11M</td>
<td>Fl(3) WRG 15s 21ft 11M</td>
<td>Fl(3) WRG 15s 21m 15-11M</td>
</tr>
</tbody>
</table>

*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.)*

*Sector lights (as described in the INT, NOAA and NGA examples at left) are depicted graphically in ECDIS, as shown below and in P40.*

*The description of a sector light or any other type of light may always be obtained by cursor pick.*
## Lights

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lights Marking Fairways</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Leading Lights and Lights in Line</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20.1</td>
<td></td>
<td>Leading lights with leading line (solid line is the track to be followed) and arcs of visibility Bearing given in degrees and tenths of a degree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="image1" alt="Diagram" /></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20.2</td>
<td></td>
<td>Leading lights (# means lights in line) Bearing given in degrees and tenths of a degree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="image2" alt="Diagram" /></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20.3</td>
<td></td>
<td>Leading lights on small scale charts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="image3" alt="Diagram" /></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
<td>Lights in line, marking the sides of a channel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="image4" alt="Diagram" /></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Rear Lt or Upper Lt</td>
<td>Rear or upper light</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Front Lt or Lower Lt</td>
<td>Front or lower light</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Lights

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Direction Lights</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.1</td>
<td></td>
<td>Direction light with narrow sector and course to be followed, flanked by darkness or unintensified light</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.2</td>
<td></td>
<td>Direction light with course to be followed, sector(s) uncharted</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.3</td>
<td></td>
<td>Direction light with narrow fairway sector flanked by light sectors of different character on standard charts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.4</td>
<td></td>
<td>Direction light with narrow fairway sector flanked by light sectors of different character on multicolored charts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td></td>
<td>Moiré effect light (day and night), arrows show when course alteration needed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Quoted bearings are always from seaward.
## Lights

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Sector Lights</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40.1</td>
<td></td>
<td>Sector light on standard charts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40.2</td>
<td></td>
<td>Sector light on multicolored charts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41.1</td>
<td></td>
<td>Sector lights on standard charts, the white sector limits marking the sides of the fairway</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41.2</td>
<td></td>
<td>Sector lights on multicolored charts, the white sector limits marking the sides of the fairway</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>INT</td>
<td>Description</td>
<td>NOAA</td>
<td>NGA</td>
<td>Other NGA</td>
<td>ECDIS</td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-------------</td>
<td>-------</td>
<td>-----</td>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>42</td>
<td></td>
<td>Main light visible all-round with red subsidiary light seen over danger</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td></td>
<td>All-round light with obscured sector</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td></td>
<td>Light with arc of visibility deliberately restricted</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>Light with faint sector</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ECDIS Diagrams:**
- Light, danger
- Light, obscured
- Light, restricted
- Light, faint
## Lights

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>46</td>
<td>Oc.R.8s7M</td>
<td>Light with intensified sector</td>
<td><img src="image.png" alt="Intensified light" /> Intensified light visibility is obtained by cursor pick</td>
<td><img src="image.png" alt="Light, intensified" /> Light, intensified</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Lights with Limited Times of Exhibition

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>F.R.(occas)</td>
<td>Lights exhibited only when specially needed (for fishing vessels, ferries) and some private lights</td>
<td><img src="image.png" alt="Occas" /> Status and condition of light is obtained by cursor pick</td>
<td><img src="image.png" alt="Occas" /> Status and condition of light is obtained by cursor pick</td>
<td></td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>Fl.10s 40m 27M (F.37m 11M Day)</td>
<td>Daytime light (charted only where the character shown by day differs from that shown at night)</td>
<td><img src="image.png" alt="F.37m 11M" /> Status and condition of light is obtained by cursor pick</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>Name Q.WRG.5m 10-3M (FL 5m Fog)</td>
<td>Fog light (exhibited only in fog, or character changes in fog)</td>
<td><img src="image.png" alt="F.37m 11M" /> Status and condition of light is obtained by cursor pick</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>Fl.5s (U)</td>
<td>Unwatched (unmanned) light with no standby or emergency arrangements</td>
<td><img src="image.png" alt="F.37m 11M" /> Status and condition of light is obtained by cursor pick</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>(temp)</td>
<td>Temporary</td>
<td><img src="image.png" alt="F.37m 11M" /> Status and condition of light is obtained by cursor pick</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>(exting)</td>
<td>Extinguished</td>
<td><img src="image.png" alt="F.37m 11M" /> Status and condition of light is obtained by cursor pick</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Special Lights

- **Flare Stack (as sea) → L**
- **Flare Stack (on land) → E**
- **Signal Stations → T**

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>Aero Ai.Fl.WG.7.5s 11M</td>
<td>Aero light (may be unreliable)</td>
<td><img src="image.png" alt="Aero Ai.Fl.WG.7.5s 11M" /> Light</td>
<td><img src="image.png" alt="Aero Ai.Fl.WG.7.5s 11M" /> Light</td>
<td></td>
<td></td>
</tr>
<tr>
<td>61.1</td>
<td>Aero F.R.313m 11M RADIO MAST (363)</td>
<td>Air obstruction light of high intensity (e.g. on radio mast)</td>
<td><img src="image.png" alt="Aero F.R.313m 11M RADIO MAST (363)" /> Conspicuous mast with light</td>
<td><img src="image.png" alt="Aero F.R.313m 11M RADIO MAST (363)" /> Conspicuous mast with light</td>
<td></td>
<td></td>
</tr>
<tr>
<td>61.2</td>
<td>Fl.5s (F Lts)</td>
<td>Air obstruction light of low intensity (e.g. on radio mast)</td>
<td><img src="image.png" alt="Fl.5s (F Lts)" /> Conspicuous mast with light</td>
<td><img src="image.png" alt="Fl.5s (F Lts)" /> Conspicuous mast with light</td>
<td></td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>Fog Det Lt</td>
<td>Fog detector light</td>
<td><img src="image.png" alt="Fog Det Lt" /> Category of light is obtained by cursor pick</td>
<td><img src="image.png" alt="Fog Det Lt" /> Category of light is obtained by cursor pick</td>
<td></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>(illuminated)</td>
<td>Floodlit, floodlighting of a structure</td>
<td><img src="image.png" alt="Floodlight" /> Floodlight</td>
<td><img src="image.png" alt="Floodlight" /> Floodlight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>INT</td>
<td>Description</td>
<td>NOAA</td>
<td>NGA</td>
<td>Other NGA</td>
<td>ECDIS</td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>-------------</td>
<td>------</td>
<td>-----</td>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>64</td>
<td></td>
<td>Strip light</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>(priv)</td>
<td>Private light other than one exhibited occasionally</td>
<td>! Priv</td>
<td>! F R (priv)</td>
<td>Priv maintd</td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>(sync)</td>
<td>Synchronized light</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Supplementary National Symbols**

a. Riprap surrounding light  

b. Short-Long Flashing

c. Group-Short Flashing  

d. Fixed and Group Flashing  

e. Unmanned light-vessel; light float  

f. LANBY, superbuoy as navigational aid

Status of private is obtained by cursor pick.
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

<table>
<thead>
<tr>
<th>Paper Chart</th>
<th>Simplified</th>
<th>Simplified Symbol Name</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Symbol" /></td>
<td><img src="image2" alt="Symbol" /></td>
<td>Cardinal buoy, north</td>
</tr>
<tr>
<td><img src="image3" alt="Symbol" /></td>
<td><img src="image4" alt="Symbol" /></td>
<td>Cardinal buoy, east</td>
</tr>
<tr>
<td><img src="image5" alt="Symbol" /></td>
<td><img src="image6" alt="Symbol" /></td>
<td>Cardinal buoy, south</td>
</tr>
<tr>
<td><img src="image7" alt="Symbol" /></td>
<td><img src="image8" alt="Symbol" /></td>
<td>Cardinal buoy, west</td>
</tr>
<tr>
<td><img src="image9" alt="Symbol" /></td>
<td><img src="image10" alt="Symbol" /></td>
<td>Default symbol for buoy (used when no defining attributes have been encoded in the ENC)</td>
</tr>
<tr>
<td><img src="image11" alt="Symbol" /></td>
<td><img src="image12" alt="Symbol" /></td>
<td>Isolated danger buoy</td>
</tr>
<tr>
<td><img src="image13" alt="Symbol" /></td>
<td><img src="image14" alt="Symbol" /></td>
<td>Conical lateral buoy, green</td>
</tr>
<tr>
<td><img src="image15" alt="Symbol" /></td>
<td><img src="image16" alt="Symbol" /></td>
<td>Conical lateral buoy, red</td>
</tr>
<tr>
<td><img src="image17" alt="Symbol" /></td>
<td><img src="image18" alt="Symbol" /></td>
<td>Can shape lateral buoy, green</td>
</tr>
<tr>
<td><img src="image19" alt="Symbol" /></td>
<td><img src="image20" alt="Symbol" /></td>
<td>Can shape lateral buoy, red</td>
</tr>
<tr>
<td><img src="image21" alt="Symbol" /></td>
<td><img src="image22" alt="Symbol" /></td>
<td>Installation buoy and mooring buoy</td>
</tr>
<tr>
<td><img src="image23" alt="Symbol" /></td>
<td><img src="image24" alt="Symbol" /></td>
<td>Safe water buoy</td>
</tr>
<tr>
<td><img src="image25" alt="Symbol" /></td>
<td><img src="image26" alt="Symbol" /></td>
<td>Special purpose buoy, spherical or barrel shaped, or default symbol for special purpose buoy</td>
</tr>
<tr>
<td><img src="image27" alt="Symbol" /></td>
<td><img src="image28" alt="Symbol" /></td>
<td>Special purpose TSS buoy marking the starboard side of the traffic lane</td>
</tr>
<tr>
<td><img src="image29" alt="Symbol" /></td>
<td><img src="image30" alt="Symbol" /></td>
<td>Special purpose TSS buoy marking the port side of the traffic lane</td>
</tr>
<tr>
<td><img src="image31" alt="Symbol" /></td>
<td><img src="image32" alt="Symbol" /></td>
<td>Special purpose ice buoy or spar or pillar shaped buoy</td>
</tr>
<tr>
<td><img src="image33" alt="Symbol" /></td>
<td><img src="image34" alt="Symbol" /></td>
<td>Super-buoy ODAS &amp; LANBY</td>
</tr>
<tr>
<td><img src="image35" alt="Symbol" /></td>
<td><img src="image36" alt="Symbol" /></td>
<td>Light float</td>
</tr>
<tr>
<td><img src="image37" alt="Symbol" /></td>
<td><img src="image38" alt="Symbol" /></td>
<td>Light vessel</td>
</tr>
</tbody>
</table>

### Fixed Marks

<table>
<thead>
<tr>
<th>Paper Chart</th>
<th>Simplified</th>
<th>Simplified Symbol Name</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image39" alt="Symbol" /></td>
<td><img src="image40" alt="Symbol" /></td>
<td>Cardinal beacon, north</td>
</tr>
<tr>
<td><img src="image41" alt="Symbol" /></td>
<td><img src="image42" alt="Symbol" /></td>
<td>Cardinal beacon, east</td>
</tr>
<tr>
<td><img src="image43" alt="Symbol" /></td>
<td><img src="image44" alt="Symbol" /></td>
<td>Cardinal beacon, south</td>
</tr>
<tr>
<td><img src="image45" alt="Symbol" /></td>
<td><img src="image46" alt="Symbol" /></td>
<td>Cardinal beacon, west</td>
</tr>
<tr>
<td><img src="image47" alt="Symbol" /></td>
<td><img src="image48" alt="Symbol" /></td>
<td>Default symbol for a beacon (used when no defining attributes have been encoded in the ENC)</td>
</tr>
<tr>
<td><img src="image49" alt="Symbol" /></td>
<td><img src="image50" alt="Symbol" /></td>
<td>Isolated danger beacon</td>
</tr>
<tr>
<td><img src="image51" alt="Symbol" /></td>
<td><img src="image52" alt="Symbol" /></td>
<td>Major lateral beacon, red</td>
</tr>
<tr>
<td><img src="image53" alt="Symbol" /></td>
<td><img src="image54" alt="Symbol" /></td>
<td>Major lateral beacon, green</td>
</tr>
<tr>
<td><img src="image55" alt="Symbol" /></td>
<td><img src="image56" alt="Symbol" /></td>
<td>Minor lateral beacon, green</td>
</tr>
<tr>
<td><img src="image57" alt="Symbol" /></td>
<td><img src="image58" alt="Symbol" /></td>
<td>Major safe water beacon</td>
</tr>
<tr>
<td><img src="image59" alt="Symbol" /></td>
<td><img src="image60" alt="Symbol" /></td>
<td>Minor safe water beacon</td>
</tr>
<tr>
<td><img src="image61" alt="Symbol" /></td>
<td><img src="image62" alt="Symbol" /></td>
<td>Major special purpose beacon</td>
</tr>
<tr>
<td><img src="image63" alt="Symbol" /></td>
<td><img src="image64" alt="Symbol" /></td>
<td>Minor special purpose beacon</td>
</tr>
</tbody>
</table>

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

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

### Day Marks

<table>
<thead>
<tr>
<th>Paper Chart</th>
<th>Simplified</th>
<th>Simplified Symbol Name</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image65" alt="Symbol" /></td>
<td><img src="image66" alt="Symbol" /></td>
<td>Square or rectangular daymark</td>
</tr>
<tr>
<td><img src="image67" alt="Symbol" /></td>
<td><img src="image68" alt="Symbol" /></td>
<td>Triangular daymark, point up</td>
</tr>
<tr>
<td><img src="image69" alt="Symbol" /></td>
<td><img src="image70" alt="Symbol" /></td>
<td>Triangular daymark, point down</td>
</tr>
<tr>
<td><img src="image71" alt="Symbol" /></td>
<td><img src="image72" alt="Symbol" /></td>
<td>Retro reflector</td>
</tr>
</tbody>
</table>
### Buoys, Beacons

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Buoys and Beacons</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>IALA Maritime Buoyage System, which includes Beacons → Q 130</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default buoy symbol if no other defining attribution is provided</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Default beacon symbol if no other defining attribution is provided</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Position of buoy or beacon</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Colors of Buoys and Beacon Topmarks

**Abbreviations for Colors → P**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Green and black (symbols filled black)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Single color other than green and black</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Multiple colors in horizontal bands, the color sequence is from top to bottom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Multiple colors in vertical or diagonal stripes, the darker color is given first</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Retroreflecting material</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Retroreflecting material may be fitted to some unit marks. Charts do not usually show it. Under IALA Recommendations, black bands will appear blue under a spotlight.

### Lighted Marks

**Marks with Fog Signals → R**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Lighted marks on standard charts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Lighted marks on multicolored charts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Buoys, Beacons

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Topmarks and Radar Reflectors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For Application of Topmarks within the IALA System → Q 130</td>
<td>For other topmarks (special purpose buoys and beacons) → Q</td>
<td>Paper chart symbols for topmarks (on the left, below) are always displayed above a buoy or beacon shape symbol, as in Q 10 and Q 11. Simplified symbols (on the right, below) for cardinal marks, isolated dangers and safe water consist of only the topmark without the buoy shape symbol. Simplified symbology for marks with any other type of topmark will display only the simplified buoy or beacon shape symbol without a topmark.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>IALA System buoy topmarks (beacon topmarks shown upright)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Beacon with topmark, color, radar reflector and designation</td>
<td>G “3” Ra Ref</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Buoy with topmark, color, radar reflector and designation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Note:** Radar reflectors on floating marks usually are not charted. ECDIS does not display radar reflectors on fixed or floating aids; this information is obtained by cursor pick.
### Buoys, Beacons

#### Shapes of Buoys

Features Common to Buoys and Beacons → Q 1–11

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Δ</td>
<td>Conical buoy, nun buoy, ogival buoy</td>
<td>N</td>
<td>Δ</td>
<td></td>
<td>Paper Chart</td>
</tr>
<tr>
<td>21</td>
<td>♄</td>
<td>Can buoy or cylindrical buoy</td>
<td>C</td>
<td>Δ</td>
<td></td>
<td>Paper Chart</td>
</tr>
<tr>
<td>22</td>
<td>♄</td>
<td>Spherical buoy</td>
<td>SP</td>
<td>Δ</td>
<td></td>
<td>Paper Chart</td>
</tr>
<tr>
<td>23</td>
<td>Δ</td>
<td>Pillar buoy</td>
<td>P</td>
<td>Δ</td>
<td></td>
<td>Paper Chart</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td>Spar buoy, spindle buoy</td>
<td>S</td>
<td>Δ</td>
<td></td>
<td>Paper Chart</td>
</tr>
<tr>
<td>25</td>
<td>Δ</td>
<td>Barrel buoy, tun buoy</td>
<td>Δ</td>
<td>Δ</td>
<td></td>
<td>Paper Chart</td>
</tr>
<tr>
<td>26</td>
<td></td>
<td>Superbuoy</td>
<td></td>
<td></td>
<td></td>
<td>Paper Chart</td>
</tr>
</tbody>
</table>

#### Minor Light Floats

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>Name</td>
<td>Light float as part of IALA System</td>
<td>↑</td>
<td></td>
<td></td>
<td>Paper Chart</td>
</tr>
<tr>
<td>31</td>
<td>Name</td>
<td>Light float not part of IALA System</td>
<td>↑</td>
<td></td>
<td></td>
<td>Paper Chart</td>
</tr>
</tbody>
</table>
# Buoys, Beacons

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td></td>
<td>Mooring buoys</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41</td>
<td></td>
<td>Lighted mooring buoy (example)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td></td>
<td>Trot, mooring buoys with ground tackle and berth numbers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td></td>
<td>Mooring buoy with telegraphic or telephonic communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td></td>
<td>Numerous moorings (example)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>Visitors’ mooring</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Oil or Gas Installation Buoy → L**

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td></td>
<td>Lighted mooring buoy (example)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td></td>
<td>Trot, mooring buoys with ground tackle and berth numbers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td></td>
<td>Mooring buoy with telegraphic or telephonic communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td></td>
<td>Numerous moorings (example)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>Visitors’ mooring</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Supplementary national symbols:** m, n

- **Mooring buoy, can shape, paper chart**
- **Mooring buoy, barrel shape, paper chart**
- **Installation buoy and mooring buoy, simplified**
- **Mooring buoy with light flare, barrel shape, paper chart**
- **Trot, mooring buoys with ground tackle and berth numbers**
- **Mooring buoy, can shape, paper chart**
- **Mooring buoy, barrel shape, paper chart**
- **Installation buoy and mooring buoy, simplified**
- **Small craft mooring area**
- **Availability of visitor moorings at marina is obtained by cursor pick**
### Buoys, Beacons

#### Special Purpose Buoys

Note: Shapes of buoys are variable. Lateral or Cardinal buoys may be used in some situations.

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>UZ</td>
<td>Firing danger area (Danger Zone) buoy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>Target</td>
<td>Target</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>Marker Ship</td>
<td>Marker Ship</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>Barge</td>
<td>Barge</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>DG</td>
<td>Degaussing Range buoy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>Cable</td>
<td>Cable buoy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56</td>
<td></td>
<td>Spoil ground buoy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>57</td>
<td></td>
<td>Buoy marking outfall</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>ODAS</td>
<td>ODAS buoy (Ocean Data Acquisition System), data collecting buoy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>59</td>
<td></td>
<td>Buoy marking wave recorder or current meter</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td></td>
<td>Seaplane anchorage buoy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61</td>
<td></td>
<td>Buoy marking traffic separation scheme</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62</td>
<td></td>
<td>Buoy marking recreation zone</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td></td>
<td>Emergency wreck marking buoy (EWMB)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Purpose of buoy and other information is obtained by cursor pick.
- Conical buoy with topmark, paper chart.
- Special purpose buoy, spherical or barrel shaped, or default symbol for special purpose buoy, simplified.
- Super-buoy, paper chart.
- Super-buoy odas & lanby, simplified.
- Spherical buoy, paper chart.
- Spherical buoy, simplified.
- Conical buoy with topmark, paper chart.
- Special purpose buoy, spherical or barrel shaped, or default symbol for special purpose buoy, simplified.
- Conical buoy, paper chart.
- Conical buoy with topmark, paper chart.
### Q  Buoys, Beacons

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td><img src="#" alt="Image" /></td>
<td>Buoy privately maintained (example)</td>
<td><img src="#" alt="Image" /></td>
<td><img src="#" alt="Image" /></td>
<td><img src="#" alt="Image" /></td>
<td><img src="#" alt="Image" /></td>
</tr>
<tr>
<td>71</td>
<td><img src="#" alt="Image" /></td>
<td>Seasonal buoy (example)</td>
<td><img src="#" alt="Image" /></td>
<td><img src="#" alt="Image" /></td>
<td><img src="#" alt="Image" /></td>
<td><img src="#" alt="Image" /></td>
</tr>
</tbody>
</table>

**Beacons**

**Lighted Beacons → P**

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td><img src="#" alt="Image" /></td>
<td>Beacon in general, characteristics unknown or chart scale too small to show</td>
<td><img src="#" alt="Image" /></td>
<td><img src="#" alt="Image" /></td>
<td><img src="#" alt="Image" /></td>
<td><img src="#" alt="Image" /></td>
</tr>
<tr>
<td>81</td>
<td><img src="#" alt="Image" /></td>
<td>Beacon with color, no distinctive topmark</td>
<td><img src="#" alt="Image" /></td>
<td><img src="#" alt="Image" /></td>
<td><img src="#" alt="Image" /></td>
<td><img src="#" alt="Image" /></td>
</tr>
<tr>
<td>82</td>
<td><img src="#" alt="Image" /></td>
<td>Beacons with colors and topmarks (examples)</td>
<td><img src="#" alt="Image" /></td>
<td><img src="#" alt="Image" /></td>
<td><img src="#" alt="Image" /></td>
<td><img src="#" alt="Image" /></td>
</tr>
<tr>
<td>83</td>
<td><img src="#" alt="Image" /></td>
<td>Beacon on submerged rock with colors (topmark as appropriate)</td>
<td><img src="#" alt="Image" /></td>
<td><img src="#" alt="Image" /></td>
<td><img src="#" alt="Image" /></td>
<td><img src="#" alt="Image" /></td>
</tr>
</tbody>
</table>
### Buoys, Beacons

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td></td>
<td>Stake, pole</td>
<td>†  Stake  †  Pole</td>
<td>†  Stake  †  Pole</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>91</td>
<td></td>
<td>Perch, withy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>92</td>
<td></td>
<td>Withy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Minor Impermanent Marks Usually in Drying Areas (Lateral Marks of Minor Channels)

<table>
<thead>
<tr>
<th>No.</th>
<th>Port Hand</th>
<th>Starboard Hand</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td></td>
<td></td>
<td>Stake, pole</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>91</td>
<td></td>
<td></td>
<td>Perch, withy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>92</td>
<td></td>
<td></td>
<td>Withy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Minor Marks, Usually on Land

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Cairn</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>101</td>
<td>Colored or white mark</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>102.1</td>
<td>Colored topmark (color known or unknown) with function of a beacon</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>102.2</td>
<td>Painted boards with function of leading beacons</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Buoys, Beacons

### Beacon Towers

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td></td>
<td>Beacon towers without and with topmarks and colors (examples)</td>
<td>![Symbol]</td>
<td>![Symbol]</td>
<td>![Symbol]</td>
<td>![Symbol]</td>
</tr>
<tr>
<td>111</td>
<td>![Symbol]</td>
<td>Lattice beacon</td>
<td>![Symbol]</td>
<td>![Symbol]</td>
<td>![Symbol]</td>
<td>![Symbol]</td>
</tr>
</tbody>
</table>

### Special Purpose Beacons

#### Leading Lines, Clearing Lines → M

Note: Topmarks and colors shown where scale permits.

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>121</td>
<td>![Symbol]</td>
<td>Beacons marking a clearing line</td>
<td>![Symbol]</td>
<td>![Symbol]</td>
<td>![Symbol]</td>
<td>![Symbol]</td>
</tr>
<tr>
<td>123</td>
<td>![Symbol]</td>
<td>Cable landing beacon (example)</td>
<td>![Symbol]</td>
<td>![Symbol]</td>
<td>![Symbol]</td>
<td>![Symbol]</td>
</tr>
<tr>
<td>124</td>
<td>![Symbol]</td>
<td>Refuge beacon</td>
<td>![Symbol]</td>
<td>![Symbol]</td>
<td>![Symbol]</td>
<td>![Symbol]</td>
</tr>
<tr>
<td>125</td>
<td>![Symbol]</td>
<td>Firing danger area beacons</td>
<td>![Symbol]</td>
<td>![Symbol]</td>
<td>![Symbol]</td>
<td>![Symbol]</td>
</tr>
</tbody>
</table>
IALA Maritime Buoyage System

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) \( \bigcirc \), conical \( \Delta \), spherical \( \bigcirc \), pillar \( \bigcirc \), and spar \( \bigcirc \), but variations may occur, for example: light floats \( \bigcirc \). In the illustrations in Q 130.1, only the standard buoy shapes are used. In the case of fixed beacons (lit or unlit), only the shape of the topmark is of navigational significance. Lateral marks are generally for well-defined channels.

There are two international buoyage regions where lateral marks differ. Region A is primarily comprised of the waters surrounding Greenland, Africa, Europe, Australia and Asia (except for Japan, the Republic of Korea and the Philippines). Region B is primarily comprised of the waters surrounding North and South America, Japan, the Republic of Korea and the Philippines.


![Map showing the boundary between IALA regions A and B](image)
Buoys, Beacons

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

<table>
<thead>
<tr>
<th>INT</th>
<th>130.2</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="General symbol for direction of buoyage" /></td>
<td><img src="image" alt="IALA Region A on multicolored charts" /></td>
<td><img src="image" alt="IALA Region B on multicolored charts" /></td>
</tr>
<tr>
<td><img src="image" alt="General symbol for direction of buoyage" /></td>
<td><img src="image" alt="IALA Region A" /></td>
<td><img src="image" alt="IALA Region B" /></td>
</tr>
</tbody>
</table>
Cardinal Marks: indicating navigable water to the named side of the marks. In the illustration below all marks are the same in Regions A and B.

- **Topmark:** 2 black cones
- **Light:** White

The same abbreviations are used for lights on spar buoys and beacons.

The periods 5s, 10s, and 15s may not always be charted.

Cardinal marks are seldom used in U.S. waters and do not appear on NOAA charts, except for charts that also depict Canadian waters.
### Buoys, Beacons

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>130.4</td>
<td></td>
<td>Isolated Danger Marks stationed over dangers with navigable water around them</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Body: black with red horizontal band(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Topmark: 2 black spheres</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Light: white</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>130.5</td>
<td></td>
<td>Safe Water Marks such as mid-channel and landfall marks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Body: red and white vertical stripes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Topmark (if any): red sphere</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Light: white</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>130.6</td>
<td></td>
<td>Special Marks not primarily to assist navigation but to indicate special features</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Body (shape optional): yellow*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Topmark (if any): yellow x or upright cross</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lights: yellow, rhythm optional*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>*in special cases yellow may be in conjunction with another color</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Pillar buoy with 2 spheres topmark
*Spar buoy with 2 spheres topmark
*Isolated danger buoy, simplified
*Spherical buoy, paper chart
*Spar buoy with sphere topmark
*Safe water buoy, simplified
*Can buoy
*Conical buoy
*Spar buoy with x-shape topmark
*Special purpose buoy, simplified
<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Supplementary National Symbols</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td></td>
<td>Bell buoy</td>
<td>🦀 BELL</td>
<td>🦀 BELL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b</td>
<td></td>
<td>Gong buoy</td>
<td>🦀 GONG</td>
<td>🦀 GONG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c</td>
<td></td>
<td>Whistle buoy</td>
<td>🦀 WHIS</td>
<td>🦀 WHIS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d</td>
<td></td>
<td>Fairway buoy (red and white vertical stripe)</td>
<td>🦀 RW</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e</td>
<td></td>
<td>Mid-channel buoy (red and white vertical stripe)</td>
<td>🦀 RW</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f</td>
<td></td>
<td>Starboard-hand buoy (entering from seaward - US waters)</td>
<td>🦀 R ƎƎ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g</td>
<td></td>
<td>Port-hand buoy (entering from seaward - US waters)</td>
<td>🦀 G ƎƎ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h</td>
<td></td>
<td>Bifurcation/Junction buoys</td>
<td>🦀 RG ƎƎ</td>
<td>🦀 GR ƎƎ</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Isolated danger, Wreck or Obstruction buoy</td>
<td>🦀 BR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i</td>
<td></td>
<td>Fish trap (area) buoy</td>
<td>🦀 Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>j</td>
<td></td>
<td>Anchorage buoy (marks limits)</td>
<td>🦀 Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>l</td>
<td></td>
<td>Triangular shaped beacons</td>
<td>🦀 R ƎƎ</td>
<td>🦀 RG ƎƎ</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Square shaped beacons</td>
<td>🦀 G ƎƎ</td>
<td>🦀 GR ƎƎ</td>
<td>🦀 W ƎƎ</td>
<td>🦀 B ƎƎ</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Beacon, color unknown</td>
<td>🦀 Bn</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>o</td>
<td></td>
<td>Lighted beacon</td>
<td>🦀 Bn ƎƎ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>q</td>
<td></td>
<td>Security barrier</td>
<td>🦀 Security barrier</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>r</td>
<td></td>
<td>Scientific mooring buoy</td>
<td>🦀</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>s</td>
<td></td>
<td>Float (unlighted)</td>
<td>🦀</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td></td>
<td>White and blue buoy</td>
<td>🦀</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Fog Signals

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### General

- **Fog Detector Light → P**
- **Fog Light → P**

<table>
<thead>
<tr>
<th>Position of fog signal, type of fog signal not stated</th>
<th>Fog Sig</th>
</tr>
</thead>
</table>

### Types of Fog Signals, with Abbreviations

<table>
<thead>
<tr>
<th>No.</th>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Explos</td>
<td>Explosive</td>
</tr>
<tr>
<td>11</td>
<td>Dia</td>
<td>Diaphone</td>
</tr>
<tr>
<td>12</td>
<td>Siren</td>
<td>Siren</td>
</tr>
<tr>
<td>13</td>
<td>Horn</td>
<td>Horn (nautophone, reed, tyfon)</td>
</tr>
<tr>
<td>14</td>
<td>Bell</td>
<td>Bell</td>
</tr>
<tr>
<td>15</td>
<td>Whis</td>
<td>Whistle</td>
</tr>
<tr>
<td>16</td>
<td>Gong</td>
<td>Gong</td>
</tr>
</tbody>
</table>

### Examples of Fog Signal Descriptions

**Note:** The fog signal symbol will usually be omitted when a description of the signal is given.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Siren at a lighthouse, giving a long blast followed by a short one (N), repeated every 60 seconds</td>
</tr>
<tr>
<td>21</td>
<td>Wave-actuated bell buoy</td>
</tr>
<tr>
<td>22</td>
<td>Light buoy, with horn giving a single blast every 15 seconds, in conjunction with a wave-actuated whistle</td>
</tr>
</tbody>
</table>

**Supplementary National Symbol**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Morse Code fog signal</td>
</tr>
<tr>
<td>No.</td>
<td>Description</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Coast radar station, providing range and bearing service on request</td>
</tr>
<tr>
<td>2</td>
<td>Ramark, radar beacon transmitting continuously</td>
</tr>
<tr>
<td>3.1</td>
<td>Radar transponder beacon, with morse identification, responding within the 3 cm (X) band</td>
</tr>
<tr>
<td>3.2</td>
<td>Radar transponder beacon, with morse identification, responding within the 10 cm (S) band</td>
</tr>
<tr>
<td>3.3</td>
<td>Radar transponder beacon, with morse identification</td>
</tr>
<tr>
<td>3.4</td>
<td>Radar transponder beacon with sector of obscured reception</td>
</tr>
<tr>
<td>3.5</td>
<td>Leading radar transponder beacons (‡: objects in line)</td>
</tr>
<tr>
<td>3.6</td>
<td>Radar transponder beacons on floating marks</td>
</tr>
<tr>
<td>4</td>
<td>Radar reflector</td>
</tr>
<tr>
<td>5</td>
<td>Radar conspicuous feature</td>
</tr>
</tbody>
</table>

**Legend:**
- **Ra**: Radar station
- **Ramark**: Ramark radar beacon
- **Racon**: Radar transponder beacon
- **Ra Ref**: Radar reflector
- **Ra (conspic)**: Radar conspicuous feature
- **Paper Chart**: Radar transponder on floating marks
- **Simplified**: Symbol indicating this object is radar conspicuous
# Radar, Radio, Satellite Navigation Systems

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio Structures Forming Landmarks → E</td>
<td>Radio Reporting (Calling-in or Way) points → M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Circular (non-directional) marine or aeromarine radiobeacon</td>
<td>RC</td>
<td>R Bn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>Directional radiobeacon with bearing line</td>
<td>RD</td>
<td>RD 269°</td>
<td>RD 270°</td>
<td>Radio station</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>Directional radiobeacon coincident with leading lights</td>
<td>RW</td>
<td></td>
<td></td>
<td>Additional information regarding radio, such as category of radio station, signal frequency, communication channel, call sign, estimated signal range, periodicity and status may be included in the cursor pick. The presence of an AIS transmitted signal intended for use as an aid to navigation associated with a physical aid, including the AIS MMSI Number, can be obtained by cursor pick on the physical aid.</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>Consol beacon</td>
<td>Consol Bn</td>
<td>190 kHz MMF</td>
<td>CONSOL</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>Radio direction-finding station</td>
<td>ROF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>Coast radio station providing QTG service</td>
<td>R Sta</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>Aeronautical radiobeacon</td>
<td>AERO R Bn</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17.1</td>
<td></td>
<td>Automatic Identification System transmitter</td>
<td>AIS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17.2</td>
<td></td>
<td>Automatic Identification System transmitter on floating marks (examples)</td>
<td>AIS</td>
<td>AIS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.1</td>
<td></td>
<td>Virtual AIS (with unknown IALA-defined function)</td>
<td>V-AIS</td>
<td></td>
<td></td>
<td>North cardinal virtual aid</td>
</tr>
<tr>
<td>18.2</td>
<td></td>
<td>Virtual AIS (with known IALA-defined function)</td>
<td>V-AIS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Satellite Navigation Systems

<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
<th>NGA</th>
<th>Other NGA</th>
<th>ECDIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>WGS</td>
<td>WGS72</td>
<td>WGS84</td>
<td>World Geodetic System, 1972 or 1984</td>
<td></td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>DGPS</td>
<td>Station providing DGPS corrections</td>
<td>DGPS</td>
<td></td>
<td></td>
<td>DGPS reference station</td>
</tr>
</tbody>
</table>

Note: A note may be shown to indicate the shifts of latitude and longitude, to one, two or three decimal places of a minute, depending on the chart scale, which should be made to satellite-derived positions (which are referred to WGS 84) to relate them to the chart.
<table>
<thead>
<tr>
<th>No.</th>
<th>INT</th>
<th>Description</th>
<th>NOAA</th>
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**Supplementary National Symbols**

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Traffic Features, Bridges → D  
Public Buildings, Cranes → F  
Pilots, Coast Guard, Rescue, Signal Stations → T

Marina facilities

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(*) DENOTES HOURS LATER  
(*) DENOTES HOURS EARLIER

THE LOCATIONS OF THE ABOVE PUBLIC MARINE FACILITIES ARE SHOWN ON THE CHART BY LARGE PURPLE NUMBERS.  
THE TABULATED "APPROACH FEET (REPORTED)" IS THE DEPTH AVAILABLE FROM THE NEAREST NATURAL OR DREDGED CHANNEL TO THE FACILITY.  
THE TABULATED "PUMPING STATION" IS DEFINED AS FACILITIES AVAILABLE FOR PUMPING OUT BOAT HOLDING TANKS.  
(H) APPROACH DEPTH FLUCTUATES WITH LAKE LEVELS.
### Index of Abbreviations

Note: INT abbreviations are in bold type

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*Note: INT abbreviations are in bold type*

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*Note: INT abbreviations are in bold type.*

*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 Signalement Maritime (IALA/AISM) continues to use IALA as an abbreviation for its full name.*

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jetty
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wreck
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Sunken
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Appendix 1  
IALA Maritime Buoyage System

Region A  
Lateral Marks

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<th>Port Hand</th>
<th>Starboard Hand</th>
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<tr>
<td>red</td>
<td>green</td>
</tr>
<tr>
<td>Buoy</td>
<td>Buoy</td>
</tr>
<tr>
<td>Topmark (if any)</td>
<td>single green cone, point upward</td>
</tr>
<tr>
<td>cylindrical (can), pillar, spar</td>
<td>conical (nun), pillar, spar</td>
</tr>
<tr>
<td>single red cylinder (can)</td>
<td></td>
</tr>
<tr>
<td>Lights (if any): may have any phase characteristic other than that used for preferred channels</td>
<td></td>
</tr>
<tr>
<td>Quick Flashing</td>
<td></td>
</tr>
<tr>
<td>Flashing</td>
<td></td>
</tr>
<tr>
<td>Long Flashing</td>
<td></td>
</tr>
<tr>
<td>Group Flashing</td>
<td></td>
</tr>
<tr>
<td>red with one green horizontal band</td>
<td>green with one red horizontal band</td>
</tr>
<tr>
<td>cylindrical (can), pillar, spar</td>
<td>conical (nun), pillar, spar</td>
</tr>
<tr>
<td>single red cylinder (can)</td>
<td>Topmark (if any)</td>
</tr>
<tr>
<td>Lights (if any): are composite group flashing</td>
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<tr>
<td>FI (2+1)</td>
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</table>

Preferred Channel to Starboard

Preferred Channel to Port
IALA Maritime Buoyage System

Appendix 1

Region B
Lateral Marks

**Port Hand**
- **BUOYAGE DIRECTION:** Green
- **Color:** Red
- **Buoy:** Cylindrical (can), pillar, spar
- **Topmark (if any):** Single green cylinder (can)

**Starboard Hand**
- **BUOYAGE DIRECTION:** Green
- **Color:** Red
- **Buoy:** Conical (nun), pillar, spar
- **Topmark (if any):** Single green cylinder (can)

**Preferred Channel to Starboard**
- **BUOYAGE DIRECTION:** Green with one red horizontal band
- **Color:** Red with one green horizontal band
- **Buoy:** Cylindrical (can), pillar, spar
- **Topmark (if any):** Single green cylinder (can)

**Preferred Channel to Port**
- **Lights (if any):** May have any phase characteristic other than that used for preferred channels
- **Quick Flashing:** Green
- **Flashing:** Green
- **Long Flashing:** Green
- **Group Flashing:** Green
- **Fl (2+1):** Fl (2+1)
Appendix 1  IALA Maritime Buoyage System

Cardinal Marks in Regions A and B

Lights, when fitted, are white.
## Isolated Danger Marks

<table>
<thead>
<tr>
<th>Color</th>
<th>black with one or more red horizontal band(s)</th>
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<tbody>
<tr>
<td>Buoy</td>
<td>optional, but not conflicting with lateral marks; pillar or spar preferred</td>
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<tr>
<td>Topmark (if any)</td>
<td>always fitted with double spheres</td>
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</table>

<table>
<thead>
<tr>
<th>Lights (if any)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Color</strong></td>
</tr>
<tr>
<td><strong>Rhythm</strong></td>
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## Safe Water Marks

<table>
<thead>
<tr>
<th>Color</th>
<th>red and white vertical stripes</th>
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<tbody>
<tr>
<td>Buoy</td>
<td>spherical, pillar or spar</td>
</tr>
<tr>
<td>Topmark (if any)</td>
<td>single red sphere</td>
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</table>

<table>
<thead>
<tr>
<th>Lights (if any)</th>
</tr>
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<tbody>
<tr>
<td><strong>Color</strong></td>
</tr>
<tr>
<td><strong>Rhythm</strong></td>
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## Special Marks

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<th>yellow</th>
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<td>Buoy</td>
<td>optional, but not conflicting with lateral marks</td>
</tr>
<tr>
<td>Topmark (if any)</td>
<td>single yellow “X” shape</td>
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<table>
<thead>
<tr>
<th>Lights (if any)</th>
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<tbody>
<tr>
<td><strong>Color</strong></td>
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<tr>
<td><strong>Rhythm</strong></td>
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May have any rhythm other than those used for white lights on cardinal, isolated danger or safe water marks.
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<th>Corrected by</th>
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Record of Corrections
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