Section 3 Regional activities and different applications

Chapter 5 **Names in nautical charts**

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5.1 Introduction

This chapter is directed to cartographers that have to include names of maritime features (seas, gulfs, straits, inlets, shoals, banks, etc) into nautical or similar charts. It is based on the Regulations of the International Hydrographic Organisation (IHO) for its International (INT) Charts and Chart Specifications, edition 4.7.0 July 2017 (https://www.iho.int/iho_pubs/standard/S-4/S-4%20Ed%204.7.0%20July%202017%20EN.pdf) which are used in the German and a lot of other Hydrographic Offices. Before 1982 most national nautical administrations followed their own national rules for the production of nautical charts.

History

The IHO was formed as the result of a desire for standardization of nautical charts and associated publications and consequently for greater safety of mariners. It was felt that this standardization could be achieved in such a way that language differences would be minimized and that a chart produced by one country would be perfectly comprehensible to a navigator from another country.

Although measures have been taken since the formation of the International Hydrographic Bureau (IHB) in 1921 to develop standards to follow when producing charts and publications, it was not until 1967 that the concept of an INTernational chart was proposed. It was felt that, instead of several different Hydrographic Offices each producing different charts of the same ocean area, often with different data, scales and limits, it would be more economic and safer if one Hydrographic Office ('producer nation') would compile and produce an original chart to internationally agreed specifications, and that other Hydrographic Offices ('producer nations') would be able to print the chart, using the basic reproductive material provided by the original producer nation but substituting their own language, if they so wished. After the standardization of the format and symbols in 1967 the International Hydrographic Conference established a Commission which developed the "Chart Specifications of the IHO" which were adopted in 1982. This commission now works as the Nautical Cartography Working Group under the IHO Hydrographic Services and Standards Committee (HSSC) and is still developing the standards further.

5.2 Place names on charts

The consistent use of standardized place names is an essential element of effective communication worldwide and is therefore a requirement for nautical charts.

Terms and definitions

The following terms and definitions are consistent with the UNGEGN 'Glossary of Terms' (2002 edition as updated by addendum 2007 (https://unstats.un.org/unsd/geoinfo/UNGEGN/docs/glossary.pdf) or with the Hydrographic Dictionary (S-32) (http://hd.iho.int/en/index.php/Main_Page):

Toponymy: The place names or the study of place names of a country or district (S-32) or;
The study of toponyms in general and of geographical names in particular, and;
The totality of toponyms in a given region (UNGEGN).
Official language: A language that has legal status in a particular legally constituted political entity such as a State or part of a State, and that serves as a language of administration, for example Spanish in Chile.

National language: A language in widespread and current use throughout a specific country or in parts of its territory, and often representative of the identity of its speakers. It may or may not have the status of an official language.

Minority (Regional) language: In a specific region, a language that is different from the official language of State administration and that is spoken by a national minority. It may or may not have official status.
Examples: Welsh in UK; Breton in France; Swedish in Finland (Regional languages may give rise to original forms of toponyms in the areas where they are spoken).

5.3 General language rules

English is the working language for navigational purposes and for communication at sea, according to the International Convention for the Safety of Life at Sea (SOLAS, Chapter V Regulation 14). The International Hydrographic Conference decided in 1997 that:
"each hydrographic office which does not issue charts in the English language should give all legends on charts affecting its territorial waters in its national language and in English."
Consequently, English language versions of all notes should be included on all non-English charts.
Navigationally significant legends should also be given in English, or if more convenient, listed in a glossary (key)

on the chart, see figure 5-1. English language versions of notes and legends are particularly appropriate on charts used for international shipping.

DÄNISCH / *DANISH*

Bg.	Bjerg	Berg
Ga.	Gamle	Alt
Gd., gd.	G(g)ård	Hof, Gehöft
Gr., gr.	Grund, grund	Untiefe
hm(e).	holm(e)	Insel(n)
Hn.	Havn	Hafen
L.	Lille	Klein
N-	Nord(re), Nørre	Nord, nördlich
Ø- (E)	Øst(er), Østlig	Ost, östlich
S-	Syd, Sønder	Süd, südlich
sk.	skær	Schäre, Klippe
St.	Stor	Groß
V- (W)	Vest(er), Vestlig	West, westlich
Vg.	Vig	Bucht, Wiek

Figure 5-1 Example of a glossary from German chart symbology Karte1/INT 1 (2015. Such glossaries are often found in charts if no national symbology booklet has been issued. In this example, Danish generics are translated into German.

States having two or more official languages may adopt double or multiple legends (including toponyms) on charts of their own territory.

Figure 5-2 Legend example from Finnish chart 57 (2011) showing a note in the two official languages Finnish and Swedish. English is added for international shipping.

Language on adopted charts. Printer nations may translate any elements of adopted charts into their own national language, in whole or in part, or add to those elements such translations, explanations, annotations, etc. as they may deem appropriate. However, toponyms and international abbreviations should not be translated. Printer nations may add alternative name variants to those incorporated by the producer nation. Printer nations may add partial glossaries to adopted charts in order to permit their user to understand the generic terms appearing in legends and composite names.

5.4 Writing Systems

If the national language in which a toponym is normally expressed does not use the same alphabet or writing system as that of the producer nation, the toponym may be rendered into the printing nation's language by means of a transliteration or transcription system. Various different transliteration systems exist, including UNGEGN, ISO 9:1995 and regional systems such as Russia's ГОСТ (transliterated GOST) and BGN/PCGN (US Board on Geographic Names/UK Permanent Committee on Geographical Names). Hydrographic offices may be subject to national government requirements regarding the system to be used for charts.

The rules presented here are intended to standardize and simplify the Roman alphabet used on international charts as much as possible, for the benefit of printer nations and users. In the case of nations which do not use the Roman alphabet, alternative forms of toponyms (transliterated using the Roman alphabet) and legends (translated into English) should be shown, in addition to showing them in the national writing system.

The Roman alphabet used on international charts comprises the 26 letters of the basic Roman alphabet, augmented if necessary by the special letters, or the letters modified by diacritical marks, particular to certain languages. Accents and diacritical marks must normally be retained. A letter of the basic Roman alphabet with diacritical mark should always be used in preference to a special (non-Roman) letter. The standard alphabetical order, for example as used in glossaries should be derived from the usual order of the basic 26-letter Roman alphabet. The order of words in an alphabetical list should not be affected by the presence of accents or diacritical marks. Special (non-Roman) letters may be placed after the basic alphabet, or incorporated into appropriate places in the basic order, according to usual national practice.

5.5 Numbers

All numbers should normally be in Arabic numerals, except:

- those forming an integral part of composite names, which must be spelled in full, for example: Les Sept Îles, *Three Kings*.
- Roman numerals which are part of composite names in the convention of the national language, for example: King George V Land.
- Roman numerals may be used for the numbering of paragraphs, sub-paragraphs, and columns (for example in the title block and related notes, in tables) and outside the chart border. When a number consists of only four digits it may be shown without using a space to isolate a single digit, for example either 1 500 or 1500 are acceptable. A year date must be written without a space, for example, 2014.

5.6 Abbreviations

For those terms for which an international abbreviation exists, full words and differing national abbreviations should not normally be used, except in toponyms. However, full words may be used in the chart title, tables and notes. For example, the chart title „Norderpiep und Süderpiep "is prefered to „Norder- und Süderpiep ".

D		
DG	Degaussing	N25, Q54
DGPS	Differential Global Positioning System	S51
Dia	Diaphone	R 11
Dir	Direction light	P 30, 31
dm	Decimetre(s)	B 42
Dn, Dns	Dolphin(s)	F 20
DW	Deep Water route	M 27, N 12.4
dwt	Dead Weight Tonnage	
DZ	Danger Zone	Q 50

Figure 5-3 Chapter D of the INT List of abbreviations with reference to INT 1 symbols at German chart symbology Karte 1/INT 1(2015)

Abbreviations should not be used within composite names except where necessary, for example because of lack of space. Where such abbreviations are necessary, national abbreviations may be used irrespective of the existence of a corresponding international abbreviation.

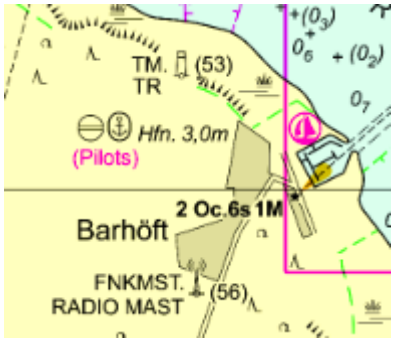


Figure 5-4 - Example for German and English abbreviations in German chart 1622 (2012): TM for Turm, TR for Tower, Hfn. for Hafen (Harbour) FNKMST. for Funkmast (Radio Mast). 2Oc.6s1M is the light description which means: 2 lights in line occulting all 6 seconds with the nominal range (maximum distance a light can be seen in clear weather) of 1 nautical mile

Abbreviations and the use of full stops. International abbreviations should not be terminated by full stops, except where forming the generic part of a toponym or for separating seabed qualities and light descriptions. Abbreviations of national generic terms in toponyms should be terminated by full stops in order to indicate clearly to chart users, that the abbreviation is not a full word. Full stops should also be used for other national abbreviations (see figure 5-3).

5.7 Toponym selection rules

A toponym should serve an identifying or a reference function for the chart user. It may also be required to identify features mentioned in other nautical publications. Chart producers must ensure agreement on toponyms across charts of different scales and between charts and other nautical publications. To ensure consistency of toponyms appearing on official charts, the following general rules apply:

a) On charts of its own territory, a national hydrographic office must show land and sea names as prescribed by the most authoritative source, in its own official writing system.

b) Where names are in Roman script, other hydrographic offices should show names (including generic parts of names) in agreement with the charts and publications of the national hydrographic office of the country having sovereignty, including all diacritical marks.

c) Where the names shown on the charts of the national hydrographic office of the country having sovereignty are not in Roman script, other hydrographic offices should transliterate or transcribe the names according to the rules of their national government.

d) As an exception to the above general rules, a hydrographic office may apply its conventional national usage to names of:

- countries
- major territorial divisions and boundary features (for example: mountain ranges, deserts extending through more than one sovereign state)
- oceans
- water areas which are not confined within one nation's territorial waters.

If a nation is charting an area in which the original toponyms are not in that nation's own language, it may add an exonym to an original name form. The alternative form should be shown in a font and/or text size which is different from and subordinate to that of the original toponym.

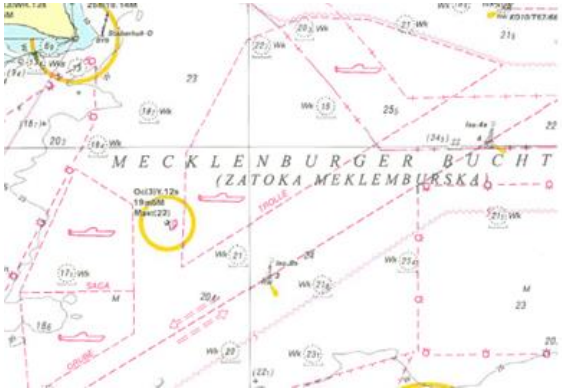


Figure 5-5 Example from Polish Chart 311 (2007), where the German sea area name MECKLENBURGER BUCHT is shown with the Polish exonym in brackets and smaller size (ZATOKA MEKLEMBURSKA)

5.8 Descriptive terms and toponyms

On charts of foreign coasts, toponyms should not be translated. Descriptive terms should be translated, if they are not the generic part of a toponym. However, it is not always easy to distinguish which legends are toponyms and which are descriptive terms. Their usage may provide a guide:

• If the requirement is to know the function of a feature for navigational purposes, for example *Puerto pesquero*, it is a descriptive term and should be translated.
• If it is required for reference, for example Vorhafen, it requires a distinctive designation and should be treated as a toponym and not translated. However, a translation of the generic term may be included in a glossary on the chart, in the index of abbreviations in the national version of INT1 or in another publication.
Descriptive terms should be reduced to a minimum by the use of symbols wherever possible, for example use of symbol F10 (from INT1) instead of descriptive term 'Fishing Harbour'.

5.9 Toponym references and authorities

International references.
The most important international reference for limits (but not names) of sea areas is: **IHO S-23 'Limits of Oceans and Seas'** (https://www.iho.int/iho_pubs/standard/S-23/S-23_Ed3_1953_EN.pdf). This publication names and defines the exact limits of the world's oceans, seas and major gulfs and straits, for the convenience of hydrographic offices when compiling charts and nautical publications. Generic terms are in English only. How those areas are named on a nation's cartographic products will depend on the national policy of each country. During the last 30 years several attempts were made to agree on an updated version of this IHO special publication but it was impossible to achieve consensus, especially in naming the sea area between the Korean peninsula and the Japanese archipelago. The Regional Hydrographic Commisions can decide for their area of responsibility to adopt parts of the 2002 draft (https://www.iho.int/mtg_docs/com_wg/S-23WG/S-23WG_Misc/Draft_2002/Draft_2002.htm). For the Baltic Sea, the Hydrographic Commision agreed to use Chapter 2. At the Baltic Sea International Chart Coordinating Working Group (BSICCWG), the work is still continuing to define sub-areas and their limits more precisely.

The most important international references for names of undersea features are:

- **IHO B-6 'Standardization of Undersea Feature Names'** (http://www.gebco.net/data_and_products/undersea_feature_names/documents/b6_ef_e4.1.0_2013_rev2017.pdf **).** This IHO-IOC publication has been published through collaboration between the Joint IHO-IOC Guiding Committee for GEBCO and the United Nations Group of Experts on Geographical Names. It is intended to ensure maximum international standardization of the names of undersea features, and includes in particular Guidelines for naming features, a name proposal form and a list of terms and definitions.
- **IHO B-8 'Gazetteer of Geographical Names of Undersea Features'.** (https://www.iho.int/iho_pubs/misc/gebco_system upgrades.htm) This is a Gazetteer of Geographical Names of Undersea Features shown on the GEBCO sheets, on the small-scale international (INT) chart series, on the sheets of the Regional International Bathymetric Chart projects or of significance to charts at small scale. Proposals for new names should be checked first against any published gazetteers and then submitted for clearance, either to the appropriate national authority or, where no such authority exists, to the IHB or IOC for consideration by the GEBCO Sub-Committee on Undersea Feature Names (SCUFN), which may advise on any potentially confusing duplication of names.
- **IHO B-9 'GEBCO Digital Atlas'.** The GEBCO Digital Atlas (GDA) contains, amongst other data sets, the GEBCO gazetteer of undersea feature names. The IHO website should be consulted for the date of the most recent edition of the publications detailed above. See http://www.iho.int/iho_pubs/IHO_Download.htm and 'Data and products' at www.gebco.net.

Names of routeing measures (as specified in IMO publication Ships' Routeing) may not conform to official names. These reference names should be shown in capitals, e.g. *TSS SOUTH OF GEDSER,* on charts, specifically linked to the feature they are referencing, to assist the chart user, see figure 5-6.

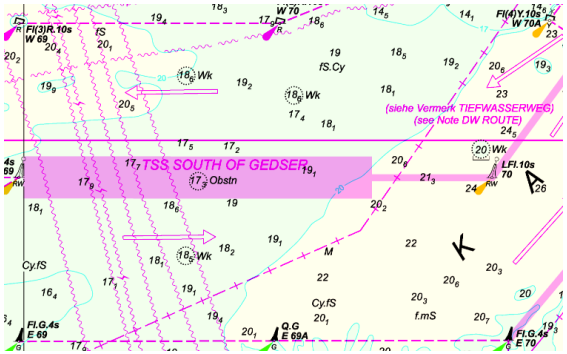


Figure 5-6 The name for the routeing measure „Traffic Separation Scheme TSS South of Gedser" in the German chart 163 (2016) according to IMO publication Ships' Routeing

National authorities. Most nations have set up a permanent or semi-permanent bureau responsible for determining toponomy for national mapping and charting. It is particularly important that states ensure that toponyms on charts of their own territory conform to forms authorized by these national names bureaus.

Non-national waters. The national bureaus will advise on the existence of official toponymy in other states and may be able to specify maps or other official publications or sources of toponyms for topographic and major sea features. It is possible in such cases, or if no national geographic names body exists, that there will be no official forms of toponyms of undersea and minor sea features. If so, charts of the area will probably have been produced by other hydrographic offices (which may have made hydrographic surveys in the past) and the names incorporated there should be used or adapted until official forms of toponymy are assigned to such features.

5.10 Topographic features

Agreed international forms must be used for the names of topographic features of continental or international extent and the names of oceans, seas, arms of the sea and major gulfs. If such forms do not exist, the form in common maritime use by the producer nation should be used. Alternative names may be added if the printer nation considers it useful to do so.

Country names
Names of sovereign states should be given in the original (endonym) form. The variant name (exonym) used by the printer nation may be added, underneath, unbracketed and in a text style and/or size which is subordinate to the original form.

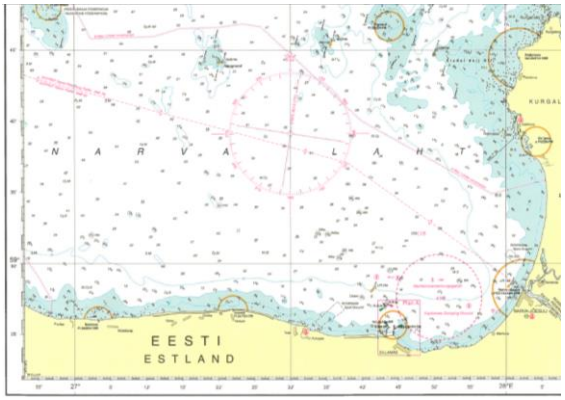


Figure 5-7 - Example in German chart 152 (2014): EESTI is the endonym and ESTLAND the exonym (in smaller size). The endonym for the sea area NARVA LAHT is shown.

Features marking or containing boundaries
If adjacent states do not agree on the names of features (for example: headlands, rivers) which mark an international boundary, or which contain an international boundary (for example: bay, strait), both forms should be given, in the same text style and size.

5.11 Chart lettering principles

In the context of this section, 'names' is used to include toponyms, descriptive terms and abbreviations.
The selection of names to be shown on a chart is an integral part of its design. Position, font, size, style, spacing and placement of names are also important to ensure optimum clarity. A chart must carry all significant names according to its scale. Names should be included on the chart only if they have some significance for the mariner. Names may be used to emphasise features, but irrelevant names may interfere with, or distract from, the reading of essential information. The insertion of names on charts should follow a number of well-established cartographic 'rules', most of which are consistent with other chart or map producing organizations. These rules are listed below, adapted to the specific case of nautical charts; if followed, they will significantly improve the clarity of the chart for the benefit of the user.

Placement and arrangement.
Each name must clearly refer to the relevant object; ambiguity must be avoided. Therefor a name must not be separated from the object to which it relates and must not be placed between two objects in such a way that it is unclear to which it refers. Letters must be evenly spaced. Spacing, if unduly wide, could make a name difficult to read as a unit because of other detail; against a blank background, there is almost no limit to the spacing, but as a general guide it should not be more than 5 times the height of the letters. Inter-letter spaces are measured between the adjacent edges of letters, not between their centres. Where names or descriptions consist of more than one word in line, the spaces between words must be consistent and should be approximately three times the space between consecutive letters of a word. Care must be taken when placing names on water areas to ensure that channels, estuaries, harbour entrances, etc, are not obstructed by names. In most cases, it is better to place names of towns, headlands, etc, on the land rather than on the water. Where possible, place the names of islands, lakes, large shoal areas, etc, on the features concerned rather than adjacent to them. Names and legends should be placed so that they do not break meridians and parallels unnecessarily or clash with detail in other colours. Names should not break the coastline unless unavoidable.
Examples of many of the rules governing the placement and arrangement of names are to be found on INT3 'Use

of Symbols and Abbreviations' published by the United Kingdom Hydrographic Office on behalf of the IHO (https://www.iho.int/iho_pubs/standard/S-4/index_INT3.htm) as a working tool for nautical cartographers.

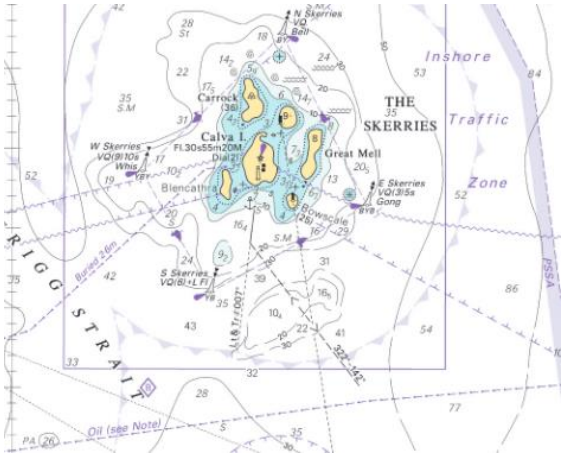
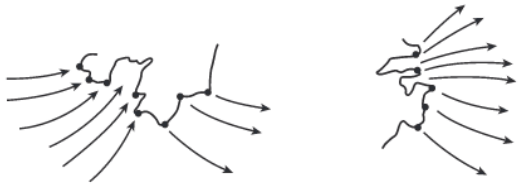


Figure 5-8 - Example for name placement in INT 3(2011)

Straight or curved names

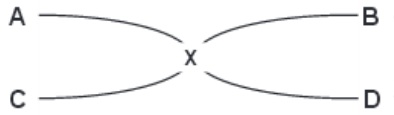
For maximum clarity, horizontal, straight names are preferred. Curved names tending to the horizontal are more readable than oblique straight names, except along linear features. Curved coastal names should meet the coast nearly at right-angles. Where curved names are used, the curve must become more nearly horizontal as it moves away from the point named. Where the trend of the coast changes, adjacent curved names should be either parallel with each other, or gradually diverge.



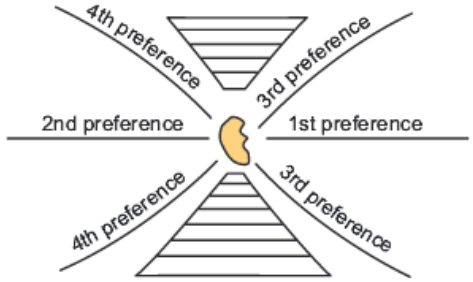
With the increasing extension of digital name placing curved names disappear from nautical paper charts.

Figure 5-9 - Example for curved name placement with curved light depiction in INT 3(2011)

It is useful for a national Hydrographic Office to provide preference guidance to its cartographers, while recognizing that other factors may dictate positioning. Here are some examples:
In the absence of other considerations curves B and C above are preferred in the western part of the chart, A and D in the eastern part (for ease of reading from the centre of the lower border).



The diagram below covers straight and curved names:



Point names and area names where the name cannot be fitted within the area

Ambiguity must be avoided by placing names close to the symbols or areas they describe, without obscuring them. Land names should, if possible, be placed on the landward side of symbols so that lines drawn from seaward will reach the symbols first. Names of towns, islands and headlands should, if possible, be placed on the land. If they have to be placed on the sea, headland names must not obscure depths or other important detail close in to the headlands. At sea, channel buoy and beacon descriptions should, if possible, be clear of the fairway, and must leave space for flares where buoys or beacons are lit. A name or legend describing a point symbol should, if possible, start immediately right of, or end immediately left of, the symbol. If a name cannot be placed immediately right or left of the symbol, the name may be placed above the symbol or, providing no detail is obscured, below it. Names and legends should be placed clear of radio circles, where that can be done without ambiguity.

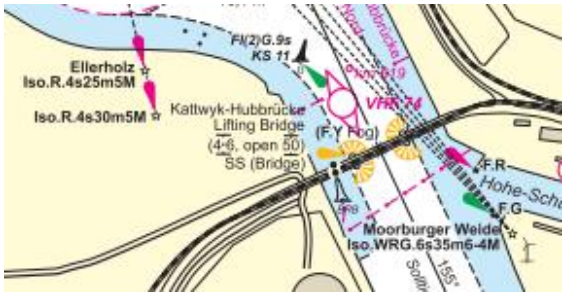
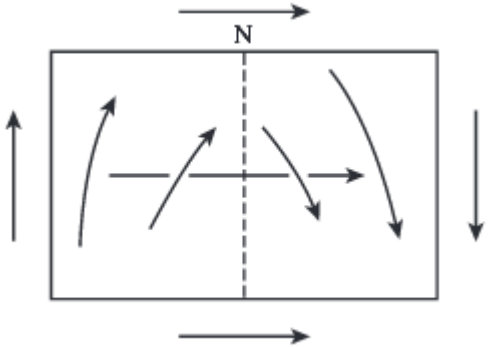


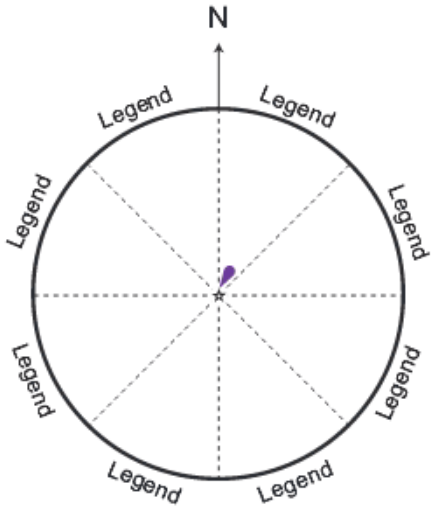
Figure 5-10 - Example for name and light description placement in German chart 48 (2017). The light description "F.R" is placed right of the symbol. The name "KS 11" is placed left of the symbol. The light description and the light name "Moorburger Weide" were moved down to prevent obscuring of light detail.

Consideration should be given to placing long names (consisting of more than two words) in two or more lines if they refer to a small feature. Names in two or more lines, such as the description of a light float, should be aligned vertically, justified on the side nearer the symbol or feature. The alignment of names of island groups, etc, occupying more than one line may, however, reflect the trend of the group rather than be left- or right- justified.

Names of Linear Features (for example: rivers; canals; pipelines) and along area limits.
Names are generally better placed above linear features rather than under. For rivers, name a section where it bends least and is as horizontal as possible. Very exceptionally, a double curve may be acceptable for winding rivers. Names and legends associated with lines representing area limits must be parallel to the line and within the area which the limit defines rather than outside it. Names and legends associated with area limits which run north-south should be oriented so as to be most easily read from the bottom centre of the chart (that is: if a name must be vertical), it should read from south to north in the western half of the chart, north to south in the eastern half. If curved, some of it may be partly inverted, but only if unavoidable. This may be illustrated thus:



Legends on arcs of light-sectors should be outside the arcs, rightway reading from the bottom of the chart, in accordance with the following diagram.



Where the arc is too narrow to contain the text along the arc, text should be rotated at right angles to the arc.

Figure 5-11 - Example for light description placement at light sectors in German chart 33 (2016)

Area names which can be fitted within the areas
Area names must reflect the extent of the area but must not be so fragmented or open-spaced that the letters or words are difficult to associate. The reading of important fine detail within the area must not be obscured. There should always be a close relationship between text size, weight and spacing. Names should cross the centre of the area. If names are divided into more than one line, each line should consist of whole words. Lines should appear to be linked together; if there are three or more lines, the spaces between them must be equal.

Where an area does not have charted limits:
• The name should be spread along the longer axis of the area to show its extent.

• The name of a mountain range or ocean ridge should follow the trend of the crestline, although offset to allow portrayal.
The name of a bank should indicate the overall mass of the bank, not necessarily be confined by the shoalest contour. It may be preferable to offset the name of a bank to display a clear sounding pattern. Exceptionally, names may be repeated over a large area with uncharted limits in order to suggest the extent.
Where limits are charted:
• The name should extend for more than half the length of the area.
• A space should be left at each end of a name or legend of at least 1.5 times the inter-letter space; longer spaces at the ends are acceptable to avoid unduly wide spacing.
The name of a strait takes the coastlines as its limits.
• The name of a channel takes either coastlines or the banks which confine it as its limits.

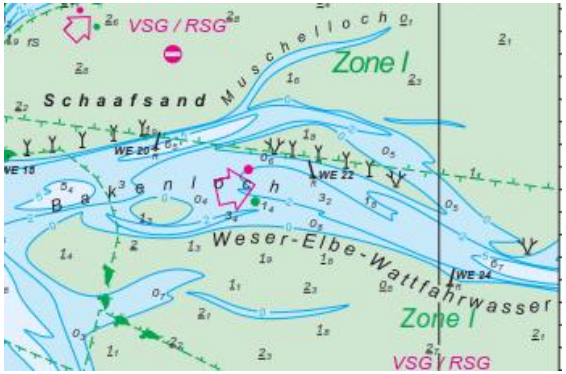


Figure 5-12 - Example for a bank name Schaafsand in German chart 2 (2017). There is a national rule to offset the Wadden fairway names as Muschelloch or Elbe-Weser-Wattfahrwasser to read soundings and buoyage better

5.12 Text styles and fonts

The choice of text styles (for example: upright; sloping; light; bold) and fonts (for example: Arial, Times) is an integral aspect of nautical chart standardization and the creation of a homogeneous set of international charts. A certain degree of standardization is required to achieve a reasonable level of compatibility between the charts of different nations, so that users moving from one to another will feel no practical difference and so that international or national charts can be adopted by nations with a minimum of change: it should be easy for printers to match fonts sufficiently close.

Text styles: general rules
Except for the title, explanatory and cautionary notes and marginalia, the use of different text styles on charts should satisfy the following general rules:
a) A distinction should be made between geographic names referring to land features (including islets, above-water rocks, fixed marks, etc) and those referring to water features (whether on land or part of the sea).
b) A distinction should be made between those legends, words and abbreviations which relate to general or 'background' geographic information and those which relate to significant navigational information. The latter should be shown prominently while the former should be subordinated.

Distinction between land and water names and legends
Names and legends referring to land features should be in an upright (Roman) style and those relating to water features in a style sloping to the right (italic). For features, such as pontoons or locks, which are difficult to define as either 'land' or 'water' objects, there are special specifications.

Distinction between general geographic and navigationally significant names and legends should be achieved by making use of either different weights and/or sizes within a single font family (all based on the same design), or of different families, for example serif and sans-serif fonts.

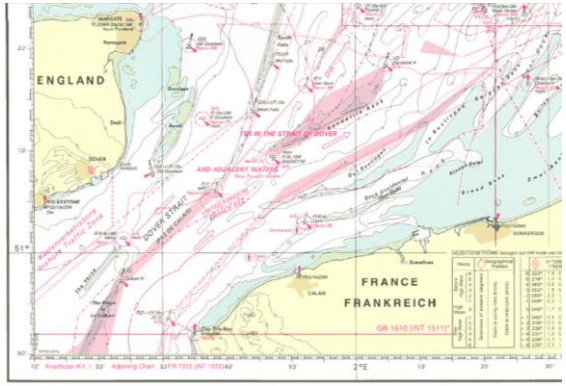


Figure 5-13 Distinction between upright land and sloping water names in German chart 53 (2013)

Prominence of navigational information. Text weights and sizes must be selected according to the relative importance of the various names and legends to be shown, whether general geographic or navigational. However, it is important to ensure that navigational information, such as for example the traffic Separation Schemes in figure 5-7, predominates.
Certain classes of features should, irrespective of their relative importance, be shown consistently in a particular size and weight of lettering. This applies particularly to such features as light descriptions and legends describing landmarks.

Choice of font
The choice of font should be limited to a few, common families. If a single font style is used it should be a sans-

serif family, and if two font styles are used they should comprise one sans-serif and one serif family.
To assist chart adoption by printer nations, fonts should be selected from those which are universely available, for example: Univers (sans-serif), Times (serif). Note: The font that currently (2013) contains the broadest range of Unicode compliant encodings is Arial Unicode MS.

Use of sans-serif fonts.
If a single, sans-serif font is used for navigationally significant features (for example for landmarks, summit names and heights, aids to navigation and underwater hazards), these should be differentiated by thickness (the use of bold or light lettering).

Use of serif fonts.
If a serif font is used (in addition to the sanserif font), its use should be restricted to the more important geographic names which are not navigationally significant features. Minor non-navigational names and legends should be in a light sanserif font.

Title. The choice of font used for the title, explanatory and cautionary notes and marginalia is left to national discretion, subject to being universely available (see figure 5-13).

In German charts, there exist no more serif fonts – a sans serif family is used.

5.13 Chart titles

The titles of charts, in English or national language of the producer, shall preferably be arranged in one block, located in the land area if possible, clear of essential detail. The title block shall include the following items, reading from top to bottom:

- The seal of the producer nation and the IHO seal shall be placed above the title, side by side and of equal height, with the producer nation's seal on the left.
- The words 'INTERNATIONAL', or equivalent, shall be shown above and 'CHART SERIES', or equivalent, below the seals.
- The name of the ocean area on the chart according to S-23, Limits of Oceans and Seas.
- The geographical area reference, if appropriate for example: Asia; South America; Europe, etc.
- The scale and the common mid-latitude
- The unit of measure for depths and for heights
- The projection used and
- a note citing the producer nation and the sources used in the compilation.

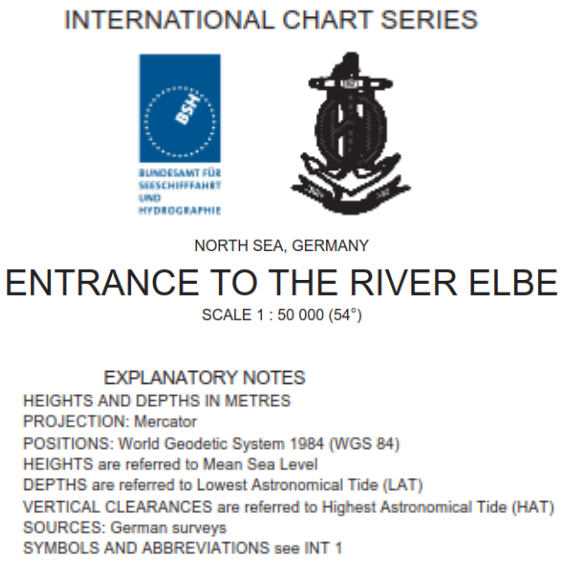


Figure 5-14 English title and explanatory notes
In German chart 44 (New Edition planned 2017)

5.14 Antarctic Chart Names

Topographic names in German Antarcti charts are used according to the StAGN principle: Who discovered the land area first and published a name for it – this name has to be used in this language; so, the generic parts are not translated.
In the case of Germany, sea names on Antarctic charts have been decided in agreement with the local institute in charge of (ant)arctic research (here the Alfred Wegener Institute Helmholtz centre for Polar and Marine Research) to show in English language as the preferred language for nautical use. If a German well established exonym exists, it can be added. The German charts for the Antarctic region are part of the international INT chart system of the International Hydrographic Organization and especially the Electronic Nautical versions are used by the English-speaking sailor and research community.
Furthermore, the Antarctic region is an area offshore from territorial waters and economic zones and south of 60°S the Antarctic Treaty is valid. The principle to use an official name of a corresponding country is not applicable.
Here are some examples for names from different sources and languages used in German Antarctic charts.

Norwegian sources:
- Auståsen
- Ekströmisen
- Halvfarryggen
- Unneruskollen
- Jelbartisen
- Blåskimen
- Fimbulisen
- Trolltunga
- Dronning Maud Land
- Guttom Jakobsenbukta
- Muskegbukta

• Byrdbukta

German sources:
• Neumayereishöcker
• Rüsseleishöcker
• Atka-Eiskuppel
• Sicheleishöcker
• Neuschwabenland

Russian sources:
• kupol Novyj
• zaliv Pribylova
• kupol Moskovskij

US American and South African sources:
• Atka Iceport
• Apollo Island

Finally, the German charts for Antarctica incorporate endonyms in Norwegian, English and Russian, apart from German endonyms and exonyms.

Examples of names used on German Antarctic Charts
[Name - Source - description]
Atka Bank SCAR CG Endonym
Atka Iceport SCAR CGA Endonym
Austasen Bank GEBCO-SCUFN Gazetteer Endonym
Bayer Canyon GEBCO-SCUFN Gazetteer Endonym
Bungenstock Plateau GEBCO-SCUFN Gazetteer Endonym
Byrdbukta SCAR CGA Endonym
Drygalski Canyon GEBCO-SCUFN Gazetteer Endonym
Ekström Basin SCAR CGA Endonym
Fimbul Canyon GEBCO-SCUFN Gazetteer Endonym
Imhof Knoll GEBCO-SCUFN Gazetteer Endonym
Jelbart Basin SCAR CGA Endonym
Mercator Knoll GEBCO-SCUFN Gazetteer Endonym
Muskegbukta SCAR CGA Endonym
Neumayer Canyon GEBCO-SCUFN Gazetteer Endonym
Pribylova Zaliv SCAR CGA Endonym
Sanae Bank GEBCO-SCUFN Gazetteer Endonym
Sanae Canyon GEBCO-SCUFN Gazetteer Endonym
Torge Plateau SCAR CGA Endonym
Weiken Basin GEBCO-SCUFN Gazetteer Endonym
Lazarevmeer StAGN Exonym
König-Håkon-VII-Meer StAGN Exonym

[Name – Source – Description]
Apollo Island CGA Endonym
Atka-Eiskuppel StAGN, CGA Endonym
Austasen StAGN, CGA Endonym
Blåskimen StAGN, CGA Endonym
Dronning Maud Land StAGN, CGA Endonym
Ekströmisen StAGN, CGA Endonym
Fimbulisen StAGN, CGA Endonym
Halvfarryggen StAGN, CGA Endonym
Jelbartisen StAGN, CGA Endonym
Kronprinsess Märtha Kyst StAGN Endonym
kupol Moskovskij StAGN, CGA Endonym
kupol Novyj StAGN, CGA Endonym
Neumayereishöcker StAGN Endonym
Neuschwabenland StAGN Endonym
Rüsseleishöcker StAGN Endonym
Sicheleishöcker StAGN Endonym
Trolltunga StAGN, CGA Endonym
Unneruskollen StAGN, CGA Endonym

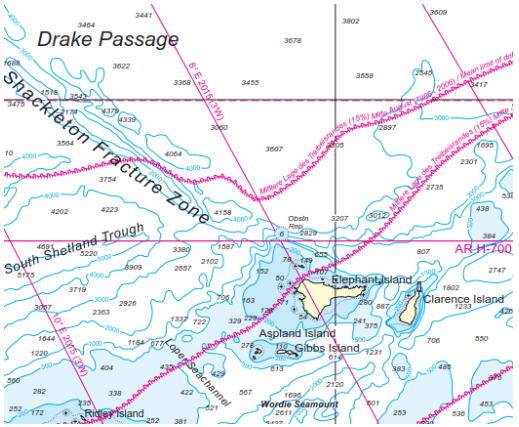


Figure 5-15 Sea and land names in the German chart 1700 (2017)

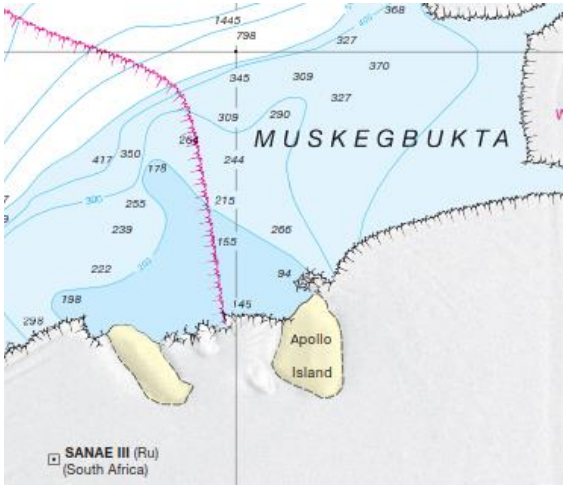


Figure 5-16 Sea and land names in the German chart 1701 (2009)

5.15 List of acronyms used

BSICCWG Baltic Sea International Chart Coordinating Working Group
CGA Composite Gazetteer of Antarctica
GEBCO General Bathymetric Chart of the Oceans
HCA Hydrographic Commission on Antarctica
IHB International Hydrographic Bureau
IHO International Hydrographic Organisation
IOC Intergovernmental Oceanographic Commisiion
SCAR Scientific Committee on Antarctic Research
SCUFN Sub-Committee on Undersea Feature Names (of the IHO)
StAGN Ständiger Ausschuss für geographische Namen: Body that standardizes the spelling of geographical names in German