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e-NAV6/19/3

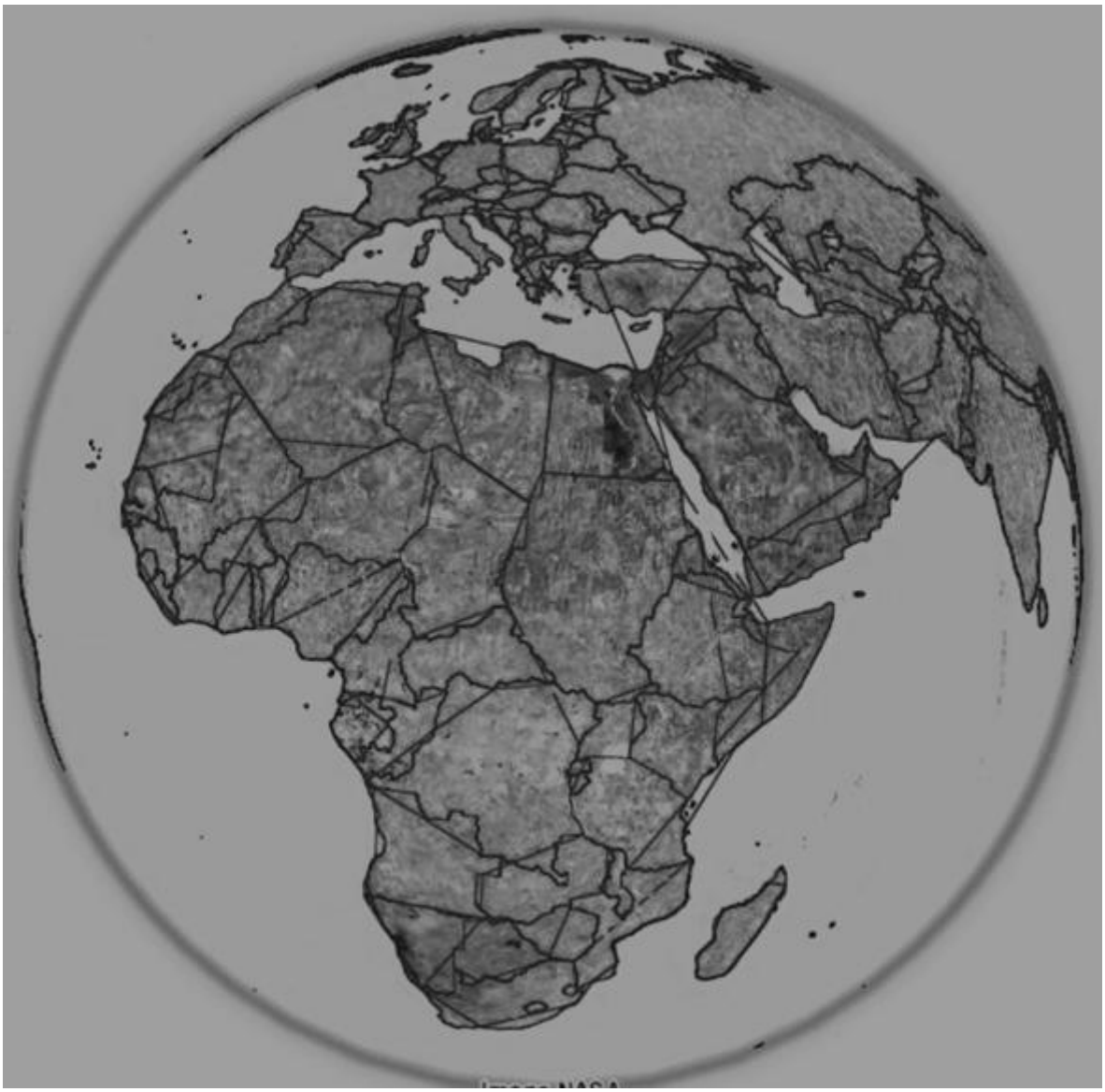
INTERNATIONAL ASSOCIATION OF MARINE AIDS TO NAVIGATION AND LIGHTHOUSE AUTHORITIES

ASSOCIATION OF INTERNATIONALE de SIGNALISATION MARITIME

Maritime Buoyage System

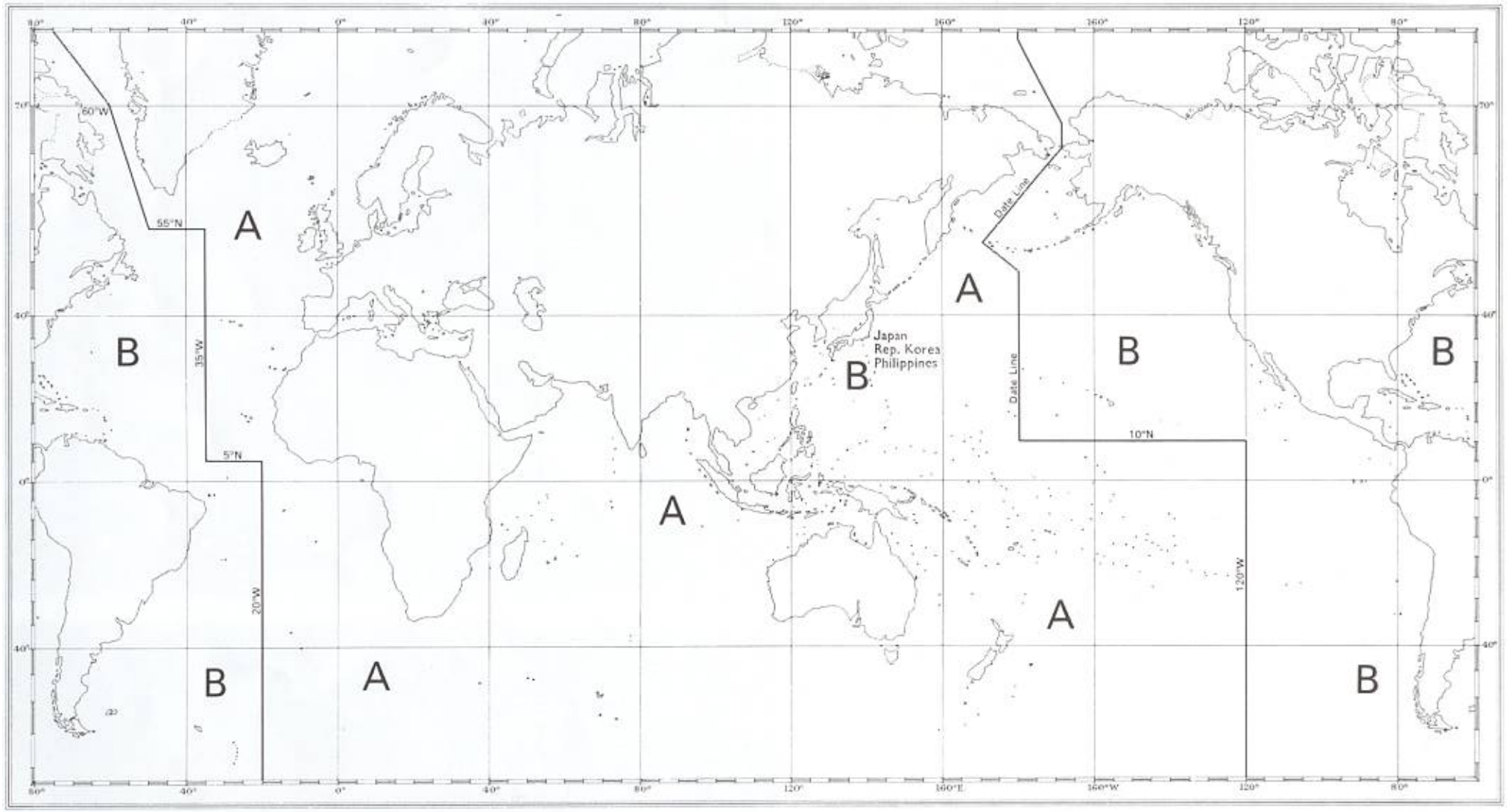
And

Other Aids to Navigation



IALA MARITIME BUOYAGE SYSTEM

Buoyage Regions A and B, November 1980



International Association of Lighthouse Authorities

MARITIME BUOYAGE SYSTEM

HISTORICAL BACKGROUND

PRIOR TO 1976

There were more than thirty different buoyage systems in use world wide, many of these systems having rules in complete conflict with one another.

There has often been disagreement over the way in which buoy lights should be used since they first appeared towards the end of the 19th century. In particular, some countries favoured using red lights to mark the port hand side of channels and others favoured them for marking the starboard hand.

Another major difference of opinion revolved around the principles to be applied when laying out marks to assist the mariner. Most countries adopted the principle of the Lateral system whereby marks indicate the port and starboard sides of the route to be followed according to some agreed direction. However, several countries also favoured using the principle of Cardinal marks whereby dangers are marked by one or more buoys or beacons laid out in the quadrants of the compass to indicate where the danger lies in relation to the mark, this system being particularly useful in the open sea where the Lateral buoyage direction may not be readily apparent.

The nearest approach to international agreement on a unified system of buoyage was reached at Geneva in 1936. Unfortunately, this Agreement, drawn up under the auspices of the League of Nations, was never ratified due to the outbreak of World War II. The Agreement proposed the use of either Cardinal marks or Lateral marks but separated them into two different systems. It also provided for the use of the colour red on port hand marks and largely reserved the colour green for wreck marking.

At the end of World War II many countries found their aids to navigation destroyed and the process of restoration had to be undertaken urgently. In the absence of anything better, the Geneva rules were adopted with or without variation to suit local conditions and the equipment available. This led to wide and sometimes conflicting differences particularly in the crowded waters of North Western Europe.

In 1957 the International Association of Lighthouse Authorities (IALA) was formed in order to support the goals of the technical lighthouse conferences which had been convening since 1929.

Attempts to bring complete unity had little success. Fresh impetus was given to the task of the IALA Technical Committee, by a series of disastrous wrecks in the Dover Strait area in 1971. These wrecks, situated in one lane of a traffic separation scheme, defied all attempts to mark them in a way that could be readily understood by mariners.

There were three basic issues to address:

i) the need to retain existing equipment as far as possible to avoid undue expense
ii) the need to define how the colours green and red were to be used when marking channels
iii) the need to combine Lateral and Cardinal rules.

To meet the conflicting requirements, it was thought necessary as a first step to formulate two systems, one using the colour red to mark the port hand side of the channels and the other using the colour red to mark the starboard hand side of channels. These were called System A and System B, respectively.

The rules for System A which included both cardinal and lateral marks were completed in 1976 and agreed by the

Inter-Governmental Maritime Consultative Organization (IMCO). The System was introduced in 1977 and its use has gradually spread throughout Europe, Australia, New Zealand, Africa, the Gulf and some Asian Countries.

From 1980

The rules for System B were completed in early 1980 and these were felt to be suitable for application in the countries of North, Central and South America, Japan, Korea and The Philippines.

The rules for the two Systems were so similar that the IALA Executive Committee felt able to combine the two sets of rules into one, known as "The IALA Maritime Buoyage System". This single set of rules allows Lighthouse Authorities the choice of using red to port, or red to starboard, on a regional basis, the two regions being known as Region A and Region B.

At a Conference convened by IALA in November 1980 with the assistance of IMCO and the International Hydrographic Organization (IHO), the Lighthouse Authorities from 50 countries and the representatives of 9 International Organisations concerned with aids to navigation met, and agreed to adopt the rules of the new combined System. The boundaries of the buoyage regions were also decided and illustrated on the map annexed to the rules. The Conference also underlined the need for cooperation between neighbouring countries and with Hydrographic Services in the introduction of the new System.

From 2010

Although the maritime buoyage system (MBS) has served the maritime community well since its inception in the 1970s, after the IALA Conference 2006 in Shanghai, China, it was determined to review the system in light of changes in the navigation environment and the development of digital aids to navigation.

The results of a widespread consultation found the fundamental principles of the MBS should be retained. However, due to changes in navigation practices and patterns, as well as innovations and technological developments, some enhancements to the MBS were identified.

Ideally, a unified marking arrangement would, in principle, be desirable for Regions A and B. However, all IALA Members view this change as impractical, detrimental to safety, and probably unachievable

The most significant changes in the 2010 revision are the inclusion of aids to navigation recommended by IALA that are additional to the floating aids system previously included in the MBS. This is aimed at giving the user a more complete description of aids to navigation that may be used, including the Emergency Wreck Marking Buoy, description of other aids to navigation specifically excluded from the original MBS, and the integration of electronic marks via radio transmission.

Thus, the IALA Maritime Buoyage System will continue to help all Mariners, navigating anywhere in the world, to fix their position and avoid dangers without fear of ambiguity, now and for the years to come.

GENERAL PRINCIPLES OF THE SYSTEM

The responsibility for safe navigation resides with the mariner, through the appropriate use of aids to navigation in conjunction with official nautical documents and prudent seamanship, including voyage planning as defined in IMO Resolutions. This booklet provides guidance on the Maritime Buoyage System and other aids to navigation.

The IALA Aids to Navigation system is comprised of two components: The Maritime Buoyage System and other aids to navigation. This is primarily a physical system, however all of the marks described may be provided by electronic (digital) means.

Within this system there are seven types of marks which may be used in combination. The mariner can easily distinguish between these marks by readily identifiable characteristics. Lateral marks differ between Buoyage Regions A and B, as described below, whereas the other six types of marks are common to both regions.

LATERAL MARKS

Following the sense of a **"conventional direction of buoyage"**, lateral marks in Region A utilize red and green colours by day and night to denote the port and starboard sides of channels respectively. However, in Region B these colours are reversed with red to starboard and green to port.

A modified lateral mark may be used at the point where a channel divides to distinguish the preferred channel, that is to say the primary route or channel that is so designated by an Authority.

CARDINAL MARKS

Cardinal marks indicate that the deepest water in the area lies to the named side of the mark. This convention is necessary even though for example, a North mark may have navigable water not only to the North but also East and West of it. The mariner will know he is safe to the North, but shall consult his chart for further guidance.

Cardinal marks do not have a distinctive shape but are normally pillar or spar. They are always painted in yellow and black horizontal bands and their distinctive double cone top-marks are always black.

An aide-memoire to their colouring is provided by regarding the top-marks as pointers to the positions of the black band(s):

- Top-marks pointing upward: black band above yellow band
- Top-marks pointing downward: black band below yellow band
- Top-marks pointing away from each other: black bands above and below a yellow band
- Top-marks pointing towards each other: black band with yellow bands above and below.

Cardinal marks also have a special system of flashing white lights. The rhythms are basically all "very quick" (VQ) or "quick" (Q) flashing but broken into varying lengths of the flashing phase. "Very quick flashing" is defined as a light flashing at a rate of either 120 or 100 flashes per minute, "quick flashing" is a light flashing at either 60 or 50 flashes per minute.

The characters used for Cardinal marks will be seen to be as follows:

- **North:** Continuous very quick flashing or quick flashing;
- **East:** Three "very quick" or "quick" flashes followed by darkness;
- **South:** Six "very quick" or "quick" flashes followed immediately by a long flash, then darkness;
- **West:** Nine "very quick" or "quick" flashes followed by darkness.

The concept of three, six, nine is easily remembered when one associates it with a clock face. The long flash, defined as a light appearance of not less than 2 seconds, is merely a device to ensure that three or nine "very quick" or "quick" flashes cannot be mistaken for six.

It will be observed that two other marks use white lights. Each has a distinctive light rhythm that cannot be confused with the very quick or quick flashing light of the Cardinal marks.

ISOLATED DANGER MARK

The Isolated Danger mark is placed on, or near to a danger that has navigable water all around it. Because the extent of the danger and the safe passing distance cannot be specified for all circumstances in which this mark may be used, the mariner shall consult his chart and nautical publications for guidance. Distinctive double black spherical top-marks and Group flashing (2) white lights, serve to associate Isolated Danger marks with Cardinal marks.

SAFE WATER MARKS

The Safe Water mark has navigable water all around it, but does not mark a danger. Safe Water marks can be used, for example, as fairway, mid-channel or landfall marks.

Safe Water marks have an appearance quite different from danger marking buoys. They are spherical, or alternatively pillar or spar with red and white vertical stripes and a single red spherical top-mark. Their lights, if any, are white using isophase, occulting, one long flash or Morse "A" rhythms.

SPECIAL MARKS

Special marks are used to indicate a special area or feature whose nature may be apparent from reference to a chart or other nautical publication. They are not generally intended to mark channels or obstructions where the MBS provides suitable alternatives.

Special marks are yellow. They may carry a yellow “X” top-mark, and any light used is also yellow. To avoid the possibility of confusion between yellow and white in poor visibility, the yellow lights of Special marks do not have any of the rhythms used for white lights.

Their shape will not conflict with that of navigational marks, this means, for example, that a special buoy located on the port hand side of a channel may be cylindrical, but will not be conical. Special marks may be lettered or numbered, and may also include the use of a pictogram to indicate their purpose.

MARKING NEW DANGERS

“New Dangers” are newly discovered hazards, natural or man made, that may not yet be shown in nautical documents and publications, and until the information is sufficiently promulgated, may be indicated by:

- marking a danger using normal marks, such as; Lateral, Cardinal, Isolated Danger marks, or
- Using the Emergency Wreck Marking Buoy (EWMB)

If the Authority considers the risk to navigation to be especially high at least one of the marks should be duplicated.

The Emergency Wreck Marking Buoy has blue and yellow vertical stripes in equal number, with a vertical/perpendicular yellow cross top-mark, and displays a blue and yellow alternating light.

Marking of a new danger may include use of a Racon coded Morse “D” or other radio transmitting device such as automatic identification systems.

Marking of a new danger may be discontinued when the appropriate Authority is satisfied that information concerning the “New Danger” has been sufficiently promulgated or the danger has been resolved.

OTHER MARKS

Marks including lighthouses, beacons, sector lights, leading lines, major floating aids, and information marks. These marks are intended to aid navigation as information to mariners, not necessarily regarding channel limits or obstructions.

- **Lighthouses, Beacons** and other fixed aids of lesser ranges are fixed aids to navigation that display different colours and/or rhythms over designated arcs.
- **Sector lights** display different colours and/or rhythms over designated arcs. The colour of the light provides directional information to the mariner.
- **Leading lines / Ranges** allow ships to be guided with precision along a portion of a straight route using the alignment of lights (leading lights) or marks (leading marks).
- **Major floating aids** include lightvessels, light floats and large navigational buoys intended to mark approaches from off shore areas.
- **Information marks,** such as aids of non-lateral significance include those minor aids that are usually outside of well defined channels and otherwise do not indicate the port and starboard sides of the route to be followed.

International Association of Lighthouse Authorities

MARITIME BUOYAGE SYSTEM

And Other Aids to Navigation

RULES

1. GENERAL

1.1. Scope

The Maritime Buoyage System and Other Aids to Navigation provides rules that apply to all fixed, floating and electronic marks serving to indicate:

1.1.1. The lateral limits of navigable channels.

1.1.2. Natural dangers and other obstructions such as wrecks.

1.1.3. Landfall, course to steer, and other areas or features of importance to the mariner.

1.1.4. New dangers.

1.2. Types of marks

A Mark is defined as a signal available to the Mariner to convey encoded guidance in safe navigation. The Maritime Buoyage System and Other Aids to Navigation provides six types of marks that may be used in combination:

1.2.1. **Lateral marks**, used in conjunction with a “conventional direction of buoyage”, generally used for well defined channels. These marks indicate the port and starboard sides of the route to be followed. Where a channel divides, a modified lateral mark may be used to indicate the preferred route. Lateral marks differ between Buoyage Regions A and B as described in MBS Sections 2 and 8.

1.2.2. **Cardinal marks**, used in conjunction with the mariner's compass, to indicate where the mariner may find navigable water.

1.2.3. **Isolated Danger marks** to indicate isolated dangers of limited size that have navigable water all around them.

1.2.4. **Safe Water marks** to indicate that there is navigable water all around their position, e.g. mid-channel marks.

1.2.5. **Special marks** not primarily intended to assist navigation but to indicate an area or feature referred to in nautical documents.

1.2.6. **Other marks** used to provide information to assist navigation.

1.3. Method of characterising marks

The significance of the mark depends upon one or more of the following features:

1.3.1. By night, colour and rhythm of light.

1.3.2. By day, colour, shape, top-mark, with or without light (including colour and rhythm).

1.3.3. By electronic (digital) symbol.

2. LATERAL MARKS

2.1. Definition of “conventional direction of buoyage”

The “conventional direction of buoyage”, which must be indicated in appropriate nautical documents, may be either:

2.1.1. The general direction taken by the mariner when approaching a harbour, river, estuary or other waterway from seaward, or

2.1.2. The direction determined by the proper authority in consultation, where appropriate, with neighbouring countries. In principle it should follow a clockwise direction around land masses.

2.2. Buoyage Regions

2.2.1. There are two international Buoyage Regions A and B where lateral marks differ. The current geographical divisions of these two Regions are shown on the world map on the inside front cover which will, if necessary, be updated from time to time.

2.3. General Rules for Lateral Marks

2.3.1. Colour

The colour of lateral marks must comply with the IALA MBS Regions as specified in Section 2.2 and 2.3

2.3.2. Shapes

Lateral marks should be of cylindrical and conical shape. However, where they do not rely on such buoy shapes for identification they should, where practicable, carry the appropriate topmark.

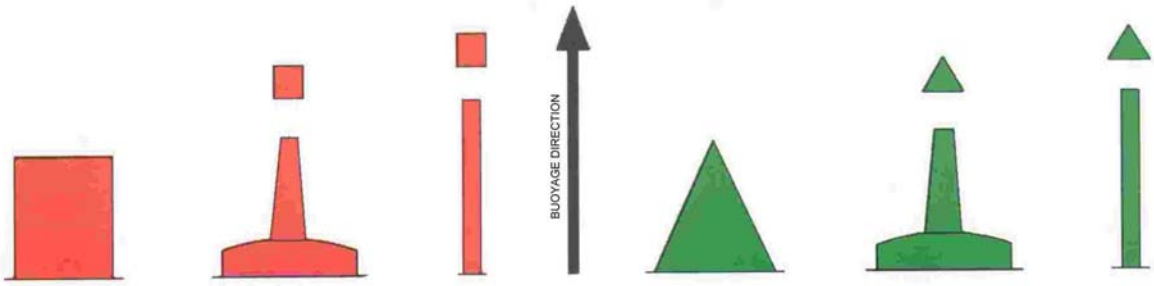
2.3.3. Numbering or lettering

If marks at the sides of a channel are numbered or lettered, the numbering or lettering shall follow the “conventional direction of buoyage” ie numbered from seaward. The protocol for numbering lateral marks, especially in confined waterways, should be “even numbers on red ~ odd numbers on green”

2.3.4. Synchronisation

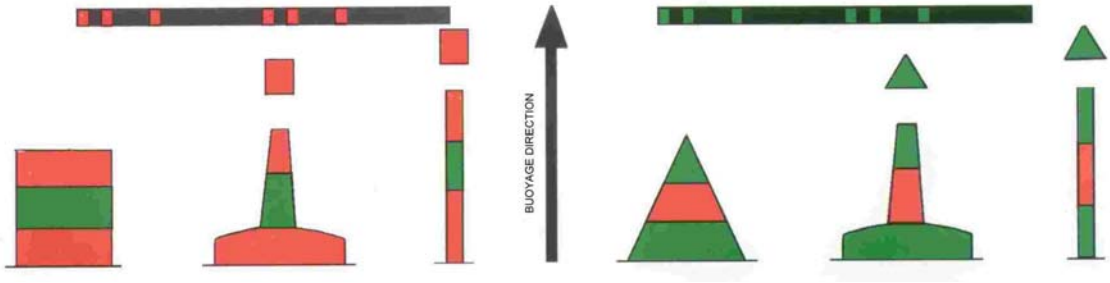
If appropriate synchronised or sequential lights may be utilized.

2.4. Description of Lateral Marks used in Region A



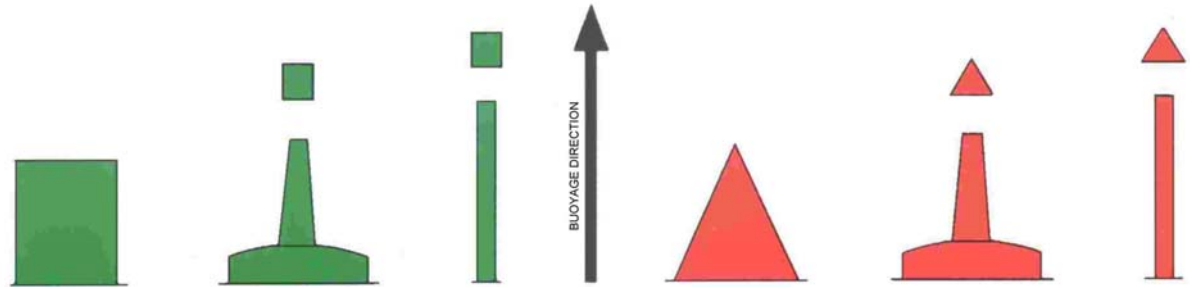
	2.4.1 Port hand Marks	**2.4.2. Starboard hand Marks**
Colour	Red	Green
Shape (Buoys)	Cylindrical (can), pillar or spar	Conical, pillar or spar
Topmark (if any)	Single red cylinder (can)	Single green cone, point upward
Light (when fitted)		
Colour	Red	Green
Rhythm	Any, other than that described in section 2.4.3.	Any, other than that described in section 2.4.3.

2.4.3 At the point where a channel divides, when proceeding in the “conventional direction of buoyage”, a preferred channel may be indicated by a modified Port or Starboard lateral mark as follows:



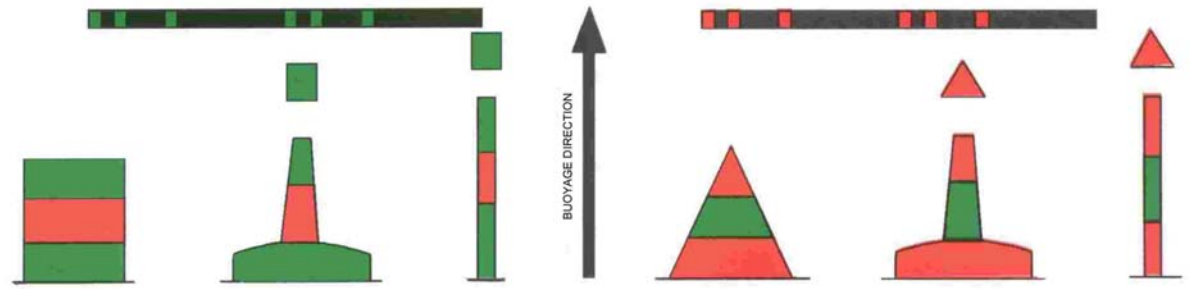
	2.4.3.1. Preferred channel to Starboard	**2.4.3.2. Preferred channel to Port**
Colour	Red with one broad green horizontal	Green with one broad red horizontal
Shape (Buoys)	Cylindrical (can), pillar or spar	Conical, pillar or spar
Topmark (if any)	Single red cylinder (can)	Single green cone, point upward
Light (when fitted)		
Colour	Red	Green
Rhythm	Composite group flashing (2 + 1)	Composite group flashing (2 + 1)

2.5. Description of Lateral Marks used in Region B



	2.5.1. Port hand Marks	2.5.2. Starboard hand Marks
Colour	Green	Red
Shape (Buoys)	Cylindrical (can), pillar or spar	Conical, pillar or spar
Topmark (if any)	Single green cylinder (can)	Single red cone, point upward
Light (when fitted)		
Colour	Green	Red
Rhythm	Any, other than that described in section 2.5.3.	Any, other than that described in section 2.5.3.

2.5.3 At the point where a channel divides, when proceeding in the “conventional direction of buoyage”, a preferred channel may be indicated by a modified Port or Starboard lateral mark as follows:



	2.5.3.1. Preferred channel to Starboard	2.5.3.2. Preferred channel to Port
Colour	Green with one broad red horizontal	Red with one broad green horizontal
Shape (Buoys)	Cylindrical (can), pillar or spar	Conical, pillar or spar
Topmark (if any)	Single green cylinder (can)	Single red cone, point upward
Light (when fitted)		
Colour	Green	Red
Rhythm	Composite group flashing (2 + 1)	Composite group flashing (2 + 1)

3. CARDINAL MARKS

3.1. Definition of Cardinal quadrants and marks

The four quadrants (North, East, South and West) are bounded by the true bearings NW-NE, NE-SE, SE-SW, SW-NW, taken from the point of interest.

3.1.1. A Cardinal mark is named after the quadrant in which it is placed.

3.1.2. The name of a Cardinal mark indicates that it should be passed to the named side of the mark.

3.1.3. The Cardinal Marks in Region A and Region B, and their use, are the same

3.2. Use of Cardinal Marks

A Cardinal mark may be used, for example:

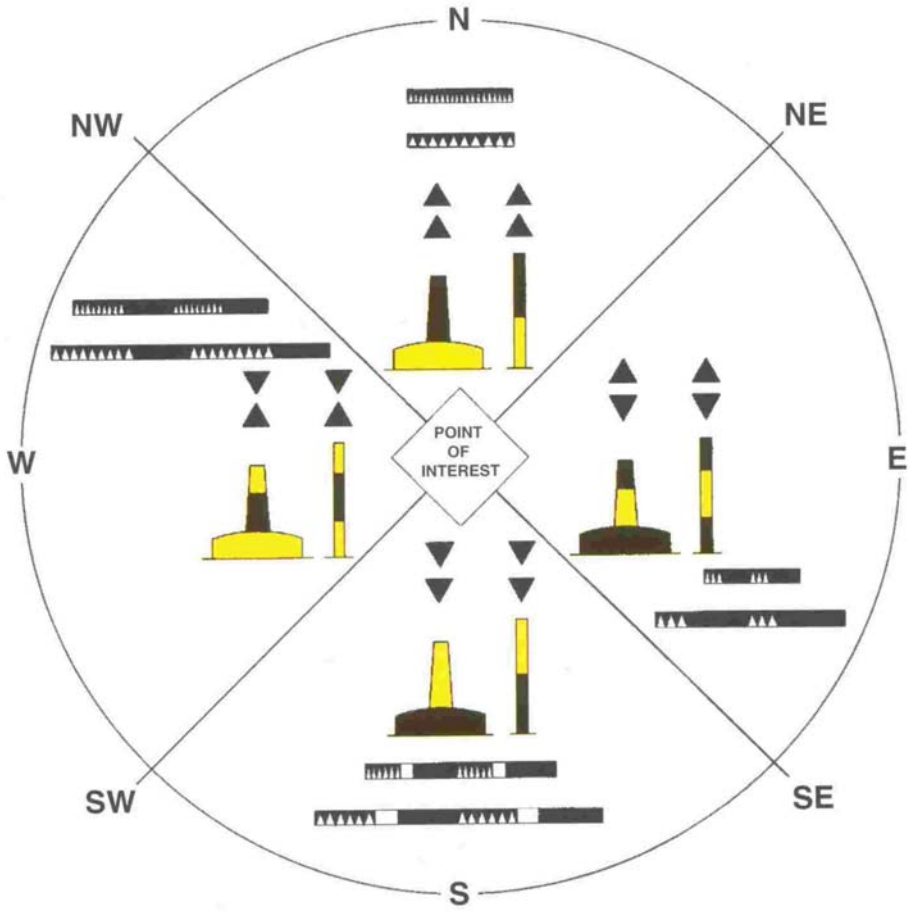
3.2.1. To indicate that the deepest water in that area is on the named side of the mark.

3.2.2. To indicate the safe side on which to pass a danger.

3.2.3. To draw attention to a feature in a channel such as a bend, a junction, a bifurcation or the end of a shoal.

3.2.4. Authorities should consider carefully before establishing too many cardinal marks in a waterway or area as this can lead to confusion, given their white lights of similar characteristics.

3.3 Description of Cardinal Marks



	3.3.1. North Cardinal Mark	3.3.2. East Cardinal Mark
Topmark [a]	2 black cones, one above the other, points upward	2 black cones, one above the other, base to base
Colour	Black above yellow	Black with a single broad horizontal yellow band
Shape (Buoys)	Pillar or spar	Pillar or spar
Light (when fitted)		
Colour	White	White
Rhythm	VQ or Q	VQ(3) every 5s or Q(3) every 10s

	3.3.3. South Cardinal Mark	3.3.4. West Cardinal Mark
Topmark [a]	2 black cones, one above the other, points downward	2 black cones, one above the other, point to point
Colour	Yellow above black	Yellow with a single broad horizontal black band
Shape (Buoys)	Pillar or spar	Pillar or spar
Light (when fitted)		
Colour	White	White
Rhythm	VQ(6) + Long flash every 10s or Q(6) + Long flash every 15s	VQ(9) every 10s or Q(9) every 15s

Note: [a] The double cone top-mark is a very important feature of every Cardinal mark by day, and should be used wherever practicable and be as large as possible with a clear separation between the cones.

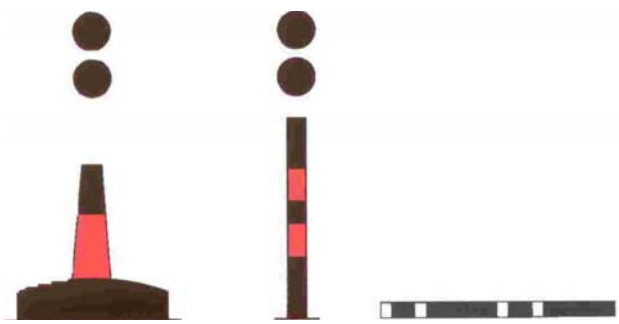
4. ISOLATED DANGER MARKS

4.1. Definition of Isolated Danger Marks

An Isolated Danger mark is a mark that is established on or near to an isolated danger that has navigable water all around it. Because the extent of the danger and the safe passing distance cannot be specified for all circumstances in which this mark may be used, the mariner shall consult his chart and nautical publications for guidance.

4.2. Description of Isolated Danger Marks

Top-mark [b]	2 black spheres, one above the other
Colour	Black with one or more broad horizontal red bands
Shape (Buoys)	Optional, but not conflicting with lateral marks
Light (when fitted)	
Colour	White
Rhythm	Group flashing (2)



Note: [b] The double sphere topmark is a very important feature of every Isolated Danger mark by day, and should be used wherever practicable and be as large as possible with a clear separation between the spheres.

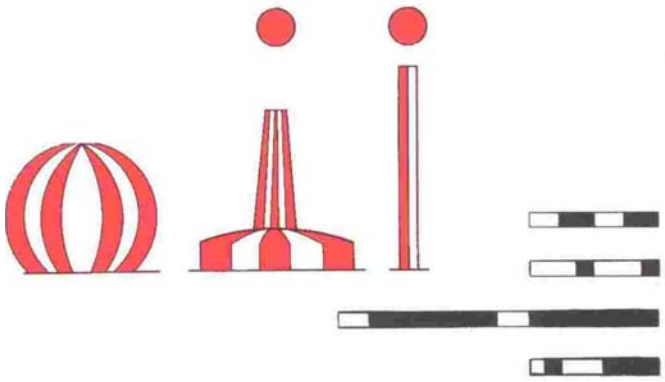
5. SAFE WATER MARKS

5.1. Definition of Safe Water Marks

Safe Water marks serve to indicate that there is navigable water all round the mark; these include centre line marks and mid-channel marks. Such a mark may also be used to indicate channel entrance, port or estuary approach, or landfall.

5.2. Description of Safe Water Marks

Colour	Red and white vertical stripes
Shape (Buoys)	Spherical; pillar or spar with spherical topmark
Topmark (if any)	Single red sphere
Light (when fitted)	
Colour	White
Rhythm	Isophase, occulting, one long flash every 10s or Morse “A”



6. SPECIAL MARKS

6.1. Definition of Special Marks

Marks used to indicate a special area or feature whose nature may be apparent from reference to a chart or other nautical publication. They are not generally intended to mark channels or obstructions where other marks are more suitable.

Some examples of uses of Special Marks are:

6.1.1. Ocean Data Acquisition Systems (ODAS) marks.

6.1.2. Traffic separation marks where use of conventional channel marking may cause confusion.

6.1.3. Spoil Ground marks.

6.1.4. Military exercise zone marks.

6.1.5. Cable or pipeline marks.

6.1.6. Recreation zone marks.

6.1.7. Boundaries of anchorage areas

6.1.8. Structures such as offshore renewable energy installations

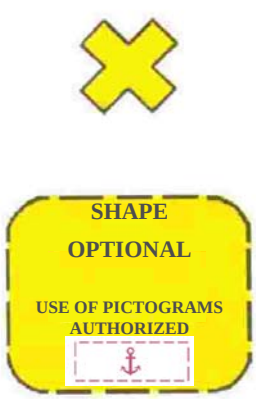
6.1.9. Aquaculture

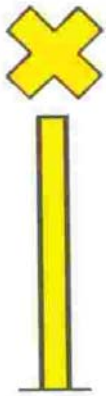
6.2. Additional Special Marks

Special marks of other colours than those listed in paragraph 6.1 and described in paragraph 6.3 may be established by the responsible administration to meet exceptional circumstances. These additional marks shall not conflict with other navigational marks and shall be promulgated in appropriate nautical documents and the International Association of Lighthouse Authorities notified as soon as practicable. These marks can display various types of information valuable to the mariner.

6.3. Description of Special Marks

Colour	Yellow
Shape (Buoys)	Optional, but not conflicting with lateral marks
Topmark (if any)	Single yellow “X” shape
Light (when fitted)	
Colour	Yellow
Rhythm	Any, other than those reserved for cardinal, isolated danger and safe water marks.
Pictogram	The use of pictograms is authorized, as defined by a competent authority.





7. MARKING NEW DANGERS

7.1. Definition of New Dangers

The term “New Danger” is used to describe newly discovered hazards not yet shown in nautical documents. “New Dangers” include naturally occurring obstructions such as sandbanks or rocks or man-made dangers such as wrecks.

7.2. Marking of New Dangers

7.2.1. “New Dangers” shall be marked using normal marks, such as Lateral, Cardinal, Isolated Danger marks or by using the Emergency Wreck Marking Buoy. If the Authority considers the risk to navigation to be especially high at least one of the marks should be duplicated.

7.2.2. If using a Cardinal or Lateral lighted mark for this purpose a VQ or Q light character shall be used.

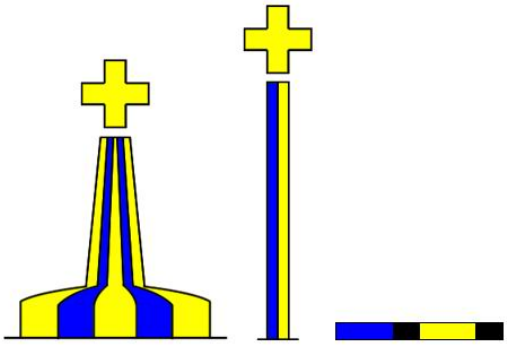
7.2.3. Any duplicate mark shall be identical to its partner in all respects.

7.2.4. A “New Danger” may be marked by a Racon, coded Morse “D” or other electronic means, such as automatic identification systems.

7.2.5. The marking of the new danger may be removed when the appropriate Authority is satisfied that information concerning the “New Danger” has been sufficiently promulgated or the danger otherwise resolved.

7.2.6. Emergency Wreck Marking Buoy is described below:

Colour	Blue/Yellow vertical stripes in equal number dimensions (minimum 4 stripes and maximum 8)
Shape (Buoys)	Pillar or spar
Topmark (if any)	Vertical/perpendicular Yellow cross
Light (when fitted)	
Colour	Yellow/blue alternating
Rhythm	One second of blue light and one second of yellow light with 0.5 sec. of darkness between



8. OTHER MARKS

8.1. LEADING LINES / RANGES

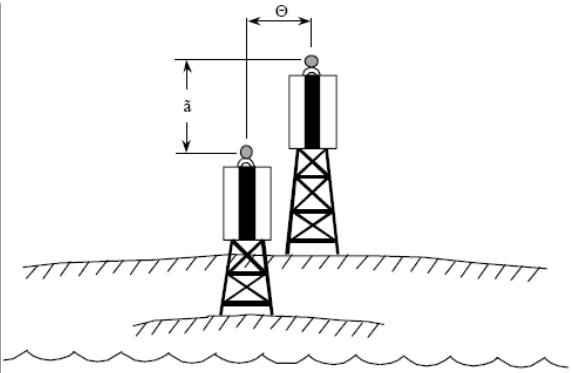
8.1.1. Definition of Leading Lines

A group of two or more marks or lights, in the same vertical plane such that the navigator can follow the leading line at the same bearing.

8.1.2. Description of Leading Lines

Leading Line structures can be any colour or shape that provide a distinctive mark that cannot be confused with adjacent structures.

Colour	No colour significance. Competent authority determines the optimum colours to contrast with the dominant background colour at the location.
Shape	No shape significance. Square geometrical figures are recommended.
Light (when fitted)	
Colour	Any colour. Competent authority determines the optimum colour to contrast with the dominant background colour at the location.
Rhythm	Any, however fixed characteristics should be used sparingly.



8.2. SECTOR LIGHTS

8.2.1. Definition of Sector Lights

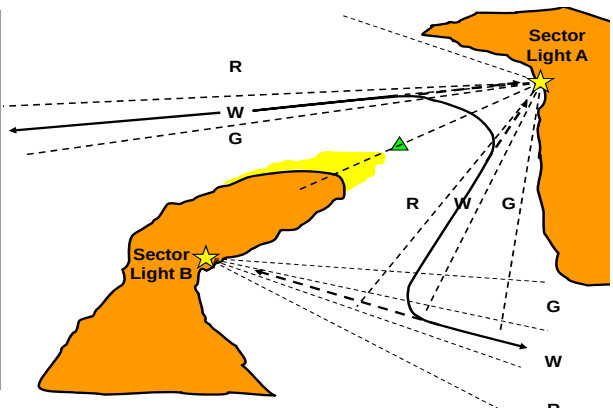
A sector light is a fixed aid to navigation that displays a light of different colours and/or rhythms over designated arcs. The colour of the light provides directional information to the mariner.

8.2.2. Description of Sector Lights

A sector light may be used:

- To provide directional information in a fairway
- To indicate a turning point, a junction with other channels, a hazard or other items of navigational importance

Colour	Not applicable
Shape	None, light only
Light	
Colour	If using to mark channel limits follow convention for IALA region indicated in Section 2
Rhythm	As appropriate



8.3. LIGHTHOUSES

8.3.1. Definition of a Lighthouse

A lighthouse is a fixed mark providing a light of a distinctive character and to mark a known geographical location in order to assist navigation. May display different light colours and/or rhythms over designated arcs as well as serve as a significant daymark.

8.3.2. Description of Lighthouses

A lighthouse is a structure that provides a long or medium range light for identification by night and may provide a day mark for identification by day. A sector light may be used:

Colour	Any specifically utilized elsewhere in the MBS, to allow readily identifiable
Shape (Buoys)	Lighthouse structures can be any shape or colour, generally designed to provide a distinctive day mark that cannot be confused with an adjacent structures
Light (when fitted)	
Colour	White, Red, or Green
Rhythm	Any not specified elsewhere to allow light to be readily identifiable.

8.4 Beacons

8.4.1. Definition of a Beacon

A beacon is a fixed mark that displays different light colours and/or rhythms with or without a daymark.

8.4.2. Description of Beacon

A beacon is a short range light for identification by night and may provide a day mark for identification by day. A sector light may be incorporated:

Colour	Any
Shape	As appropriate
Light (when fitted)	
Colour	White, Red, or Green
Rhythm	As appropriate

8.5. MAJOR FLOATING AIDS

8.5.1. Definition of Major Floating Aids

Major floating aids include lightsvessels, light floats and large navigational buoys.

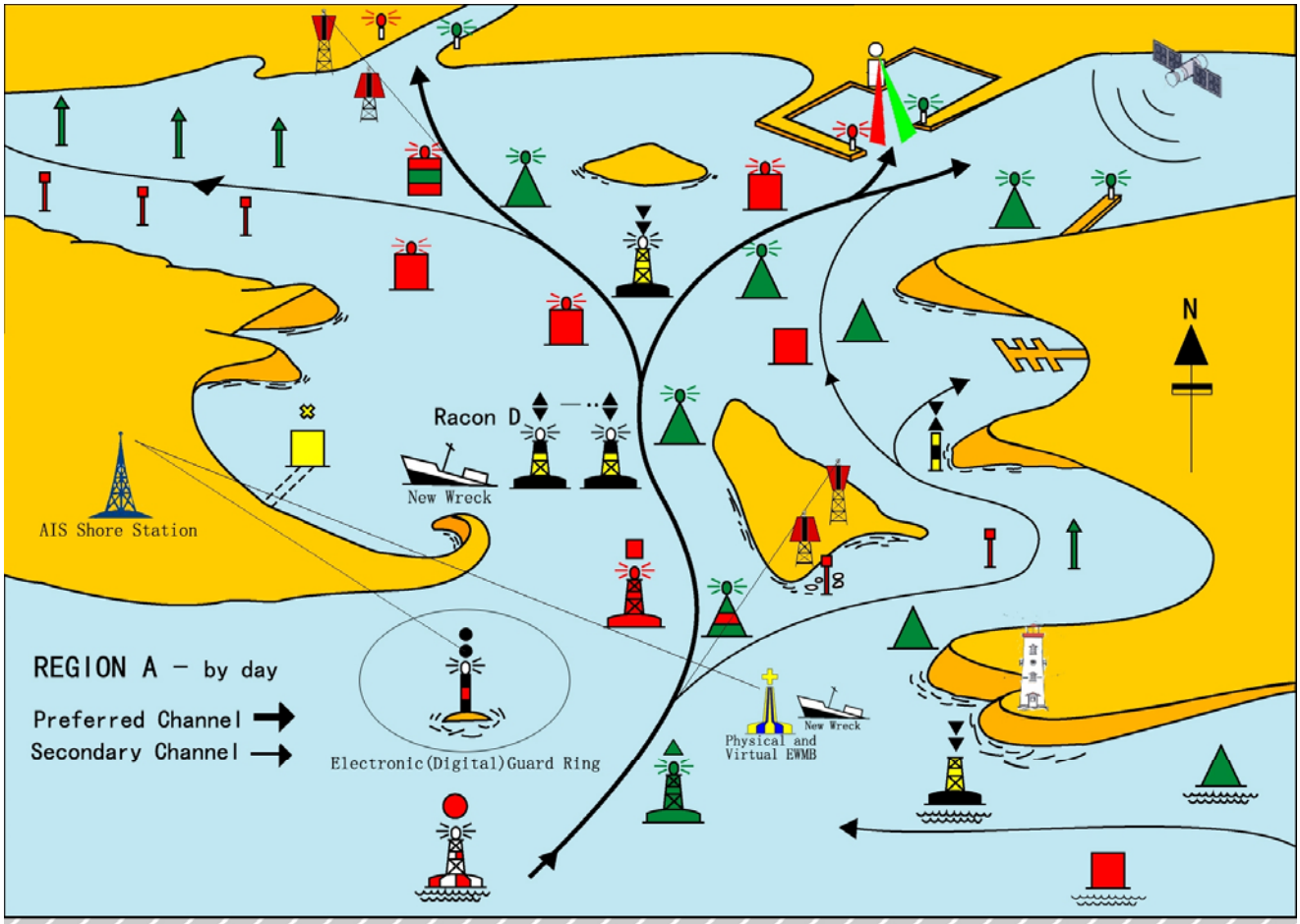
8.5.2. Description of Major Floating Aids

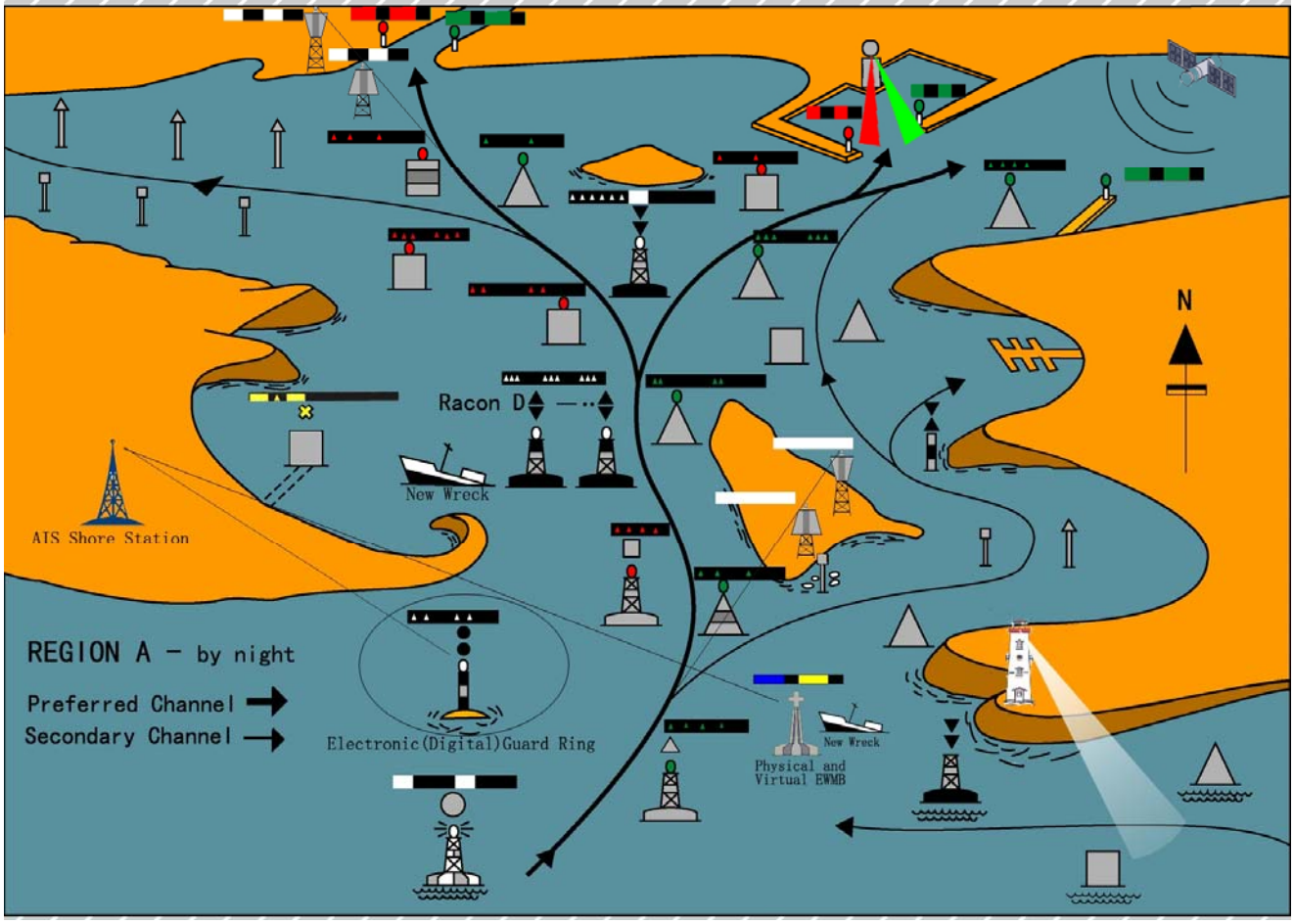
Major floating aids are generally deployed at critical locations, intended to mark approaches from off shore areas, where shipping traffic concentrations are high. May carry a Racon or other radio transmission device

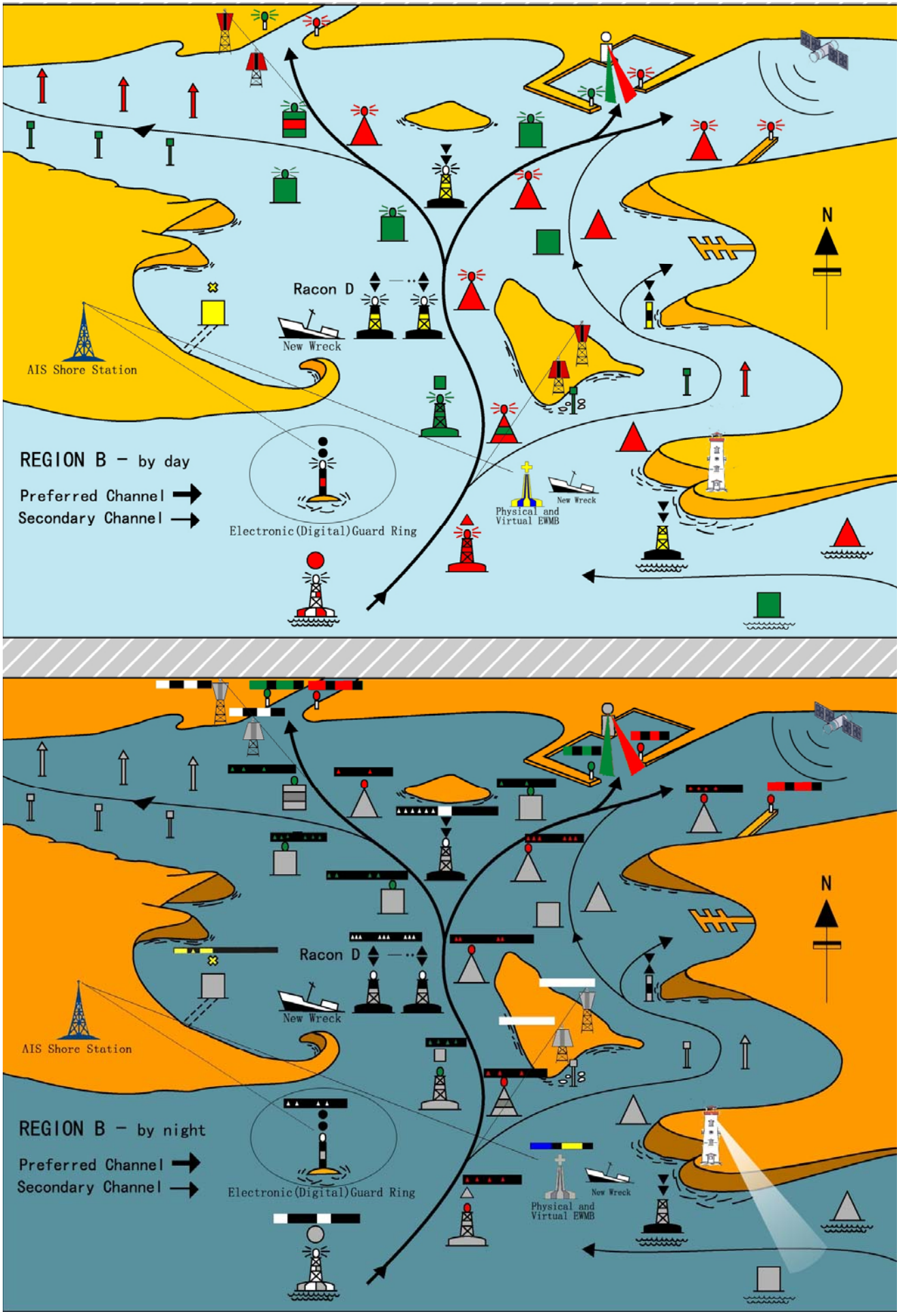
Colour	As appropriate - predominantly red
Shape (Buoys)	Vessel or buoy shape with light tower
Light (when fitted)	
Colour	As appropriate
Rhythm	As appropriate

9. IALA RECOMMENDATIONS AND GUIDELINES

IALA Recommendations and Guidelines provide information on planning, operating, managing, and implementing the marks authorized by the MBS.


N
Racon D
New Wreck
AIS Shore Station
REGION A – by day
Preferred Channel
Secondary Channel
Electronic(Digital)Guard Ring
New Wreck
Physical and
Virtual EWMB


N
Racon D
New Wreck
AIS Shore Station
REGION A – by night
Preferred Channel
Secondary Channel
Electronic(Digital)Guard Ring
New Wreck
Physical and
Virtual EWMB


N
Racon D
New Wreck
AIS Shore Station
REGION B – by day
Preferred Channel
Secondary Channel
Electronic(Digital)Guard Ring
Physical and
Virtual EWMB
New Wreck
N
Racon D
New Wreck
AIS Shore Station
REGION B – by night
Preferred Channel
Secondary Channel
Electronic(Digital)Guard Ring
Physical and
Virtual EWMB
New Wreck

INTERNATIONAL ASSOCIATION OF MARINE AIDS TO NAVIGATION AND LIGHTHOUSE AUTHORITIES

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