



BUOYAGE

Understanding the differences between the various beacons and buoys used is fundamental to safe navigation.



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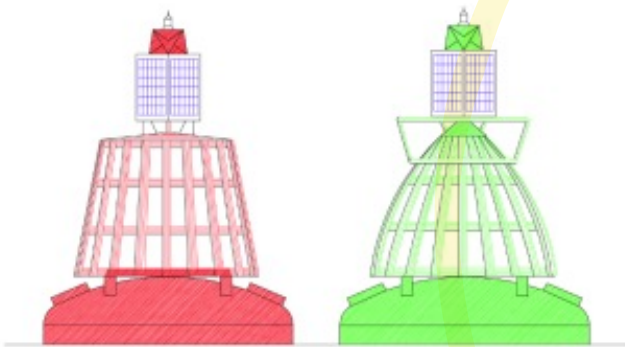
BUOYAGE SYSTEMS

Until the 1980's there were several different buoyage systems being used around the world. Numerous different buoys and navigational data sets were confusing for captains and navigation officers, and regrettably accidents happened, sometimes deadly.

The International Association of Lighthouse Authorities simplified the buoyage systems and managed a global agreement of just two systems; IALA 'A' and IALA 'B'.

Understanding the differences between the beacons and buoys is fundamental to safe navigation. Buoys and beacons are different colours, shapes and sizes, using different sequences of flashing coloured lights. The colours, shapes and flashing light sequences enable us to understand where we are and when we are safe, day or night. **Buoys and beacons identify dangerous areas, safe channels and recreational areas.**

Lateral Marks



Red and green lateral marks are primarily used to indicate a channel into and out of a harbour.

IALA 'A' and IALA 'B' have one difference which is in the lateral marks; the colour of the marks and lights are the only difference - shapes are the same.

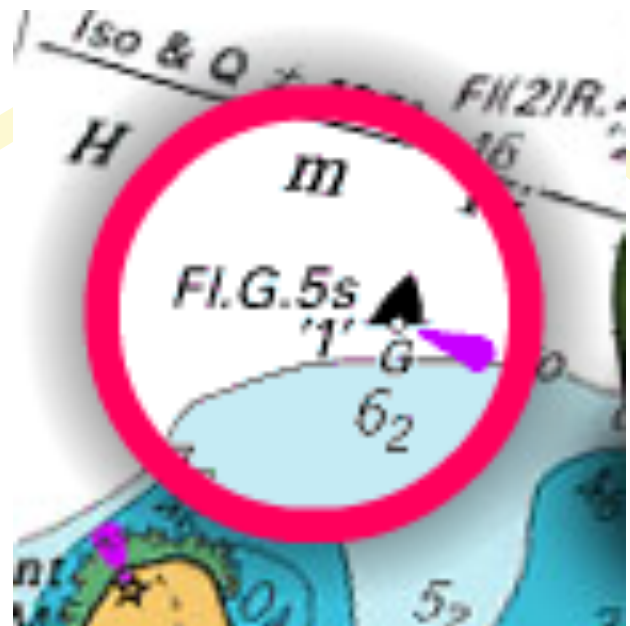
In an **IALA 'A'** area, when entering a harbour, can-shaped red marks are on your port side and green cone-shaped marks on your starboard side. If there is a top mark, the port mark will be can-shaped and a starboard mark will be a cone shape pointing upwards.

In an **IALA 'B'** area, when entering a harbour, the can-shaped green marks are on your port side and cone-shaped red marks on your starboard side. If there is a top mark, the port mark will be a can-shaped top mark and starboard mark will be a cone-shaped top mark pointing upwards.

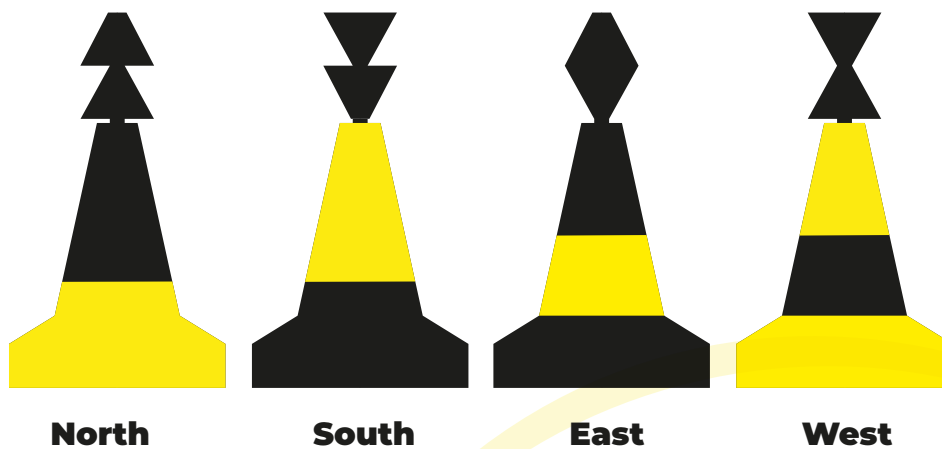
FL.G.5s

Each buoy on a chart will have a description next to it saying FL.G.5s. This is the identifying information about the characteristics of the individual buoy.

- **FL** The light is flashing
- **G** Indicates that it is green
- **5s** tells us from the beginning of the flash to the beginning of the next flash will be five seconds



Cardinal Marks



Cardinal Marks are used to identify which side of a point of interest the safe water lies.

There are four types of cardinal mark: North, South, East and West. The top mark is pointing at the position of the black band.

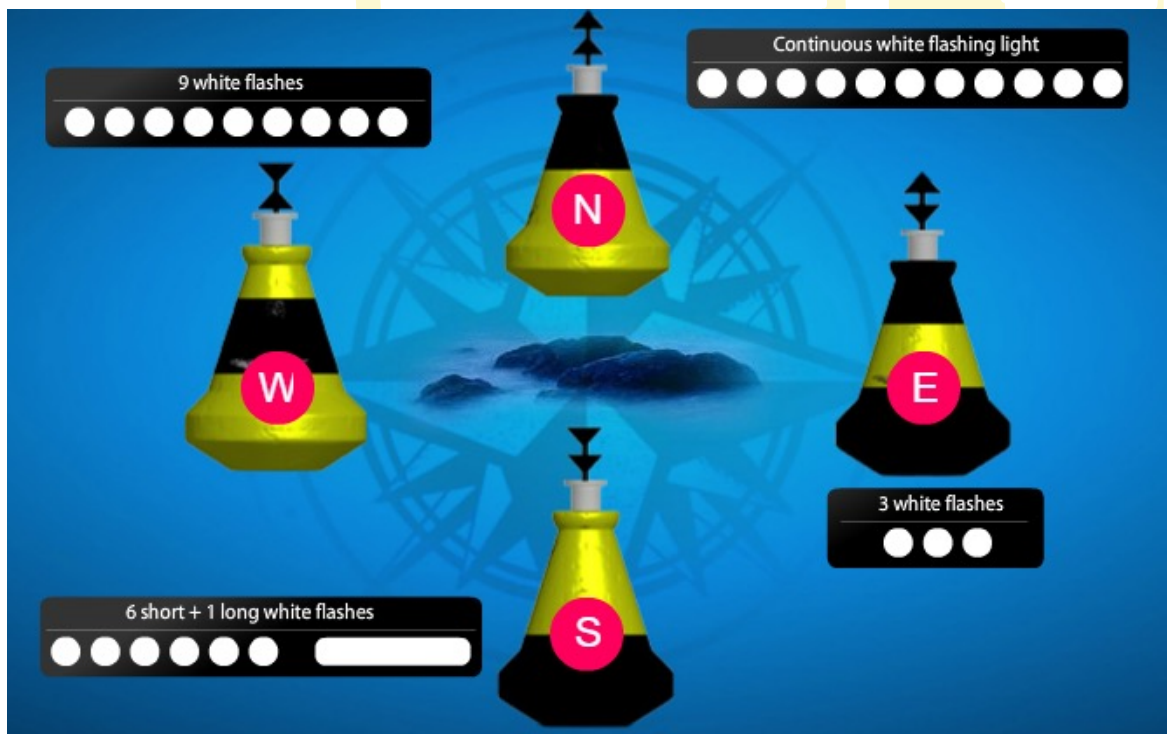
North Cardinal: the top mark has two arrows pointing up the black band is at the top of the buoy.

South Cardinal: the top mark has two arrows pointing to the bottom the black band is at the bottom.

East Cardinal: the top mark has two arrows pointing to the top and the bottom it has two black bands.

West Cardinal: the top mark has two arrows pointing to the middle, the black band is in the middle.

At night a cardinal buoy has it's own distinct sequence of flashing lights like the numbers on a clock face. Below shows a South Cardinal directing passage to the side it represents: safe water is to the south of the mark.

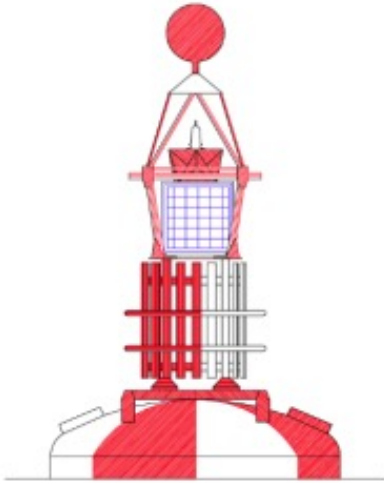




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Safe Water Mark

Safe Water Marks show the start or finish of a fairway and/or safe water. They are commonly found at the entrance to a channel or as a landfall mark.



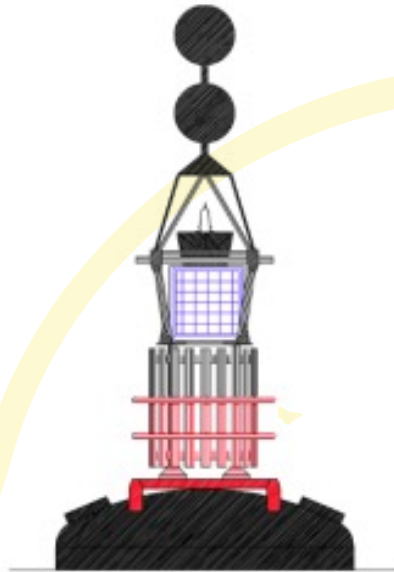
Safe Water Marks have red and white vertical stripes. Some have a single red sphere as a top mark which is a single red sphere.

Safe Water marks have a white light and the lighting sequence will always be different from isolated danger marks and cardinal buoys. Charts identify the exact sequence for individual Safe Water Marks.

Isolated Danger Mark

Isolated Danger Marks warn of an isolated danger such as a small wreck or pinnacle of rock.

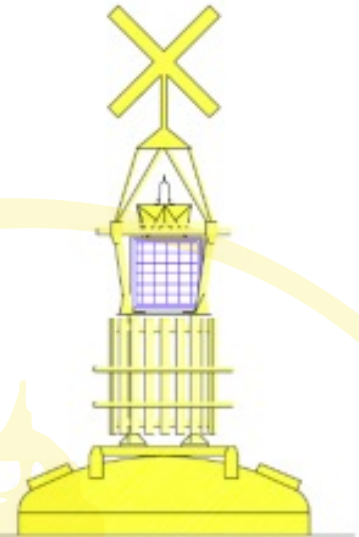
If the danger is isolated to a small area like a small wreck or a pinnacle rock, and the area around it is navigable, an isolated danger mark is used.



Isolated Danger Marks have red and black horizontal stripes and two spheres above one another as the top mark. The Mark light flashes white in groups of two (the same as the number of spheres).

Special Marks

Special Marks commonly indicate recreational areas, such as for water skiing, military areas and are often used for races.



Special Marks are always yellow and sometimes have a cross as a top mark.

Their light is always yellow, and the sequence will be such that it cannot be confused with a white light. You should check charts to determine what the Special Marks are indicating as you may need to avoid the area.

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Emergency Wreck Marking Buoy

The Emergency Wreck Marking Buoy is designed to provide high visual and radio aid to navigation recognition. It is placed as close to the wreck as possible, or in a pattern around the wreck, and within any other marks that may be subsequently deployed.

THV Alert, delivered in 2006, is Trinity House's Rapid Intervention Vessel, deployed primarily to cover the southeast coast of the UK where she will be able to respond rapidly to any maritime incident, including marking wrecks.

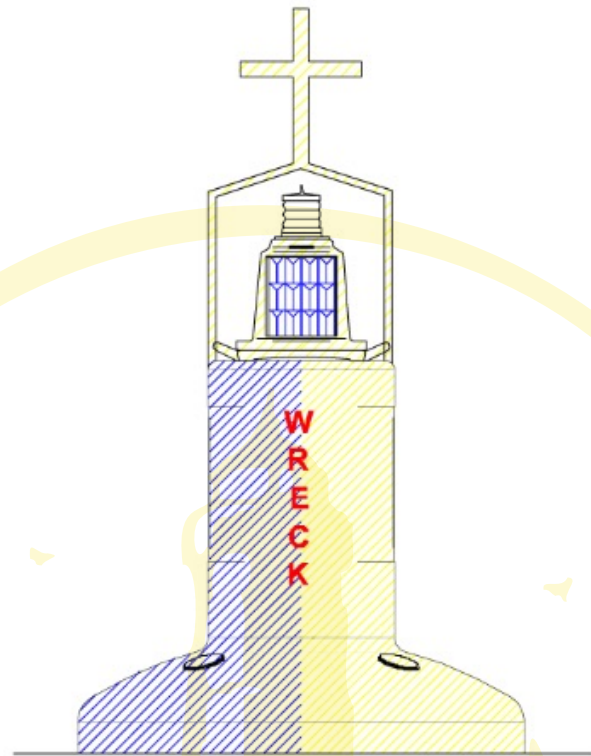
The Emergency Wreck Marking Buoy is maintained in position until:

- the wreck is well known and has been promulgated in nautical publications;
- the wreck has been fully surveyed and exact details such as position and least depth above the wreck are known;
- a permanent form of marking of the wreck has been carried out.

The buoy has the following characteristics:

- A pillar or spar buoy, with size dependent on location.
- Coloured in equal number and dimensions of blue and yellow vertical stripes (minimum of 4 stripes and maximum of 8 stripes).
- Fitted with an alternating blue* and yellow flashing light with a nominal range of 4 nautical miles where the blue and yellow 1 second flashes are alternated with an interval of 0.5 seconds.
- If multiple buoys are deployed then the lights should be synchronised.
- Consideration should be given to the use of a racon Morse code "D" and/or AIS transponder.
- The top mark, if fitted, is to be a standing/upright yellow cross.

* The light characteristic was chosen to eliminate confusion with blue lights to identify law enforcement, security and emergency services.



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