

## HOW TO USE MAIB DATA

The MAIB data that is publicly available is made up of 3 datasets, the 'Occurrences' table, 'Vessels' table and the 'Affected Persons' table.

A description of each table is provided below:

### **Occurrences Table**

This table includes data on each reported occurrence, such as main event, severity, location, description and number of vessels involved.

As an example, this table could be used to calculate the number of occurrences within a set of parameters.

### **Vessels Table**

This table includes data on each vessel involved in an occurrence, such as details of the vessel category, damage, pollution and summary fatalities and injuries.

As an example, this table could be used to calculate the number of vessels that have been lost.

### **Affected Persons Table**

This table includes data on fatalities and injuries, such as details of each affected person, type of injury, gender, and age of the individual.

As an example, this table could be used to calculate the number of crew suffering bone fractures.

How you intend to use the data will determine the table most appropriate for you to download. The three (3) tables are provided as CSV files containing releasable data. The tables are linked with unique keys. These keys (Occurrence\_Id & Vessel\_Profile\_Id & Affected\_Person\_Id) can be used to link the tables and create models for more robust data analysis. Each occurrence in the occurrence table has a unique Occurrence\_Id, each vessel in the vessel table has a unique Vessel\_Profile\_Id and respective Occurrence\_Id, each affected person in the affected person table has a unique Affected\_Person\_Id and, its respective Vessel\_Profile\_Id and Occurrence\_Id.

The tables can be used with open-source analysis tools.

### **Points to Note:**

- Local\_Date\_Main\_Event is rounded down to the 1st of the month.
- Date\_Main\_Event\_Unconfirmed is "Yes" when the date the event happened was not able to be confirmed by the MAIB. For example if a vessel capsized and was lost with no survivors, the MAIB may not be able to establish exactly when the vessel capsized.

- If Crew\_Voyage is 1 then the MAIB has recorded that the vessel was being operated as a single-handed operation.
- Registered\_Length\_In\_Metres, LOA\_Length\_Overall\_in\_Metres, GT\_Gross\_Tonnage are floored to 2 significant figures.
- Short\_Description and Description may not be available or have been redacted in which case you will see "Not available Under Permanent Cooperation Framework (PCF)". This is where the state reporting is non-UK.
- If there is a published Report there will be no Short Description and Description. In this instance please refer to the published report for detail of the accident.
- National\_Location\_L2 is only available for UK locations.
- Latitude and Longitude are in decimal degrees.
- Port\_Of\_Accident\_L2 is only available for UK locations.
- Vessel\_Category is a MAIB definition of vessel types.
- Missing (death presumed) is where a body has not been recovered. MAIB considers such as dead.
- The MAIB considers pollution to be severe when equal to or over 10,000 litres.
- In Physical\_Condition, MAIB does not count minor injuries as injuries.
- Sequence\_No relates to the number of persons per vessel and is unique to every affected person on a vessel. Note that there are more than one affected persons in the dataset with the same Sequence\_No as there are more than one vessels in the dataset.
- If age is unknown, MAIB does not have information on the age of the affected person.

## **Download a pre-configured Power BI dashboard**

Depending on your experience with reporting/data analysis tools, you may download the MAIB dashboard as a .pbix file. It contains a pre-built Power BI dashboard wherein the three (3) tables have already been linked to enable the creation of ad-hoc analysis. Users can interact with the downloaded dashboard and carry out analysis to reveal insights according to their needs.

Users will need MS Power BI Desktop installed on their workstation to open and edit the file. The free version of Power BI Desktop can be downloaded directly from [Microsoft's site](#).

## How to use the MAIB dashboard

On opening the downloaded file, you will see the “MAIB Overview” tab which gives headline statistics of marine accidents during the entire period for which MAIB data is available on the data portal. You will see the total number of occurrences, the number of occurrences by severity and year, total number of vessels, number of vessels by category and number of injuries and deaths by year.

The next tab is the “All Data” page that shows all occurrences on a map. The next 4 tabs represent one for each of the 4 MAIB vessel categories: Merchant Vessels, Small Commercial Vessels, Fishing Vessels and Non-commercial Vessels where you can see statistics about each vessel category.

If you wish to filter the report to view only a certain group of items, click “Filter the Data” in the top right corner (in Power BI Desktop, press and hold “ctrl” on your keyboard and click). You will see filter boxes where you can filter the data as you wish. You may deselect the selected filters or click on “Clear Filters” (in Power BI Desktop, press and hold “ctrl” on your keyboard and click) to clear the filters you added.

## Glossary

- Capsizing/Listing is a casualty where the ship no longer floats in the right-side-up mode due to: negative initial stability (negative metacentric height), or transversal shift of the centre of gravity, or the impact of external forces.
- Capsizing is when the ship tips over until disabled; Listing is when the ship has a permanent heel or angle of loll.
- Coastal state affected is the country in whose waters (12 nautical miles from shore or as otherwise defined) the accident takes place.
- Collision is a casualty caused by ships striking or being struck by another ship, regardless of whether the ships are underway, anchored or moored. This type of casualty event does not include ships striking underwater wrecks. The collision can be with other ship or with multiple ships or ship not underway. In the event of a near miss, Main\_Event\_L1 will be set to collision and the Occurrence Severity will read ‘Marine Incident’. The short\_Description and Description fields will also refer to there being a near miss or close quarters situation.
- Crew Voyage is the number of crew members on board during the voyage in which the accident occurs.
- Damage to equipment is damage to equipment, system or the ship not covered by any of the other casualty types.
- Deviation is the last event differing from the normal working process and leading to an injury/fatality.

- Grounding/stranding is a moving navigating ship, either under command, under power, or not under command, Drift(ing), striking the sea bottom, shore or underwater wrecks.
- Fire/explosion is an uncontrolled ignition of flammable chemicals and other materials on board of a ship:
- Fire is the uncontrolled process of combustion characterised by heat or smoke or flame or any combination of these.
- Explosion is an uncontrolled release of energy which causes a pressure discontinuity or blast wave.
- Flooding/foundering is a casualty event where the ship is taking water on board. Foundering will be considered when the vessel has sunk.
  - \* Foundering should only be regarded as the first casualty event if we do not know the details of the flooding which caused the vessel to founder. In the chain of events foundering can be the last casualty event in this case there is the need to add accidental events.
  - \* Flooding refers to a casualty where a vessel takes water on board and can be:
    - Progressive if the water flow is gradual.
    - Massive if the water flow is extensive.
- Hull failure is a failure affecting the general structural strength of the ship.
- Latitude is the angular distance on the earth measured in degrees, minutes and hundredths of a minute, North or South of Equator, where the casualty/incident has happened. If the ship is missing it could be its last position known.
- Longitude is the angular distance on the earth measured in degrees, minutes and hundredths of a minute, West or East of the Greenwich meridian, where the occurrence has happened. If the ship is missing it could be its last position known.
- Loss of control is a total or temporary loss of the ability to operate or manoeuvre the ship, failure of electric power, or to contain on board cargo or other substances:
  - \* Loss of electrical power is the loss of the electrical supply to the ship or facility.
  - \* Loss of propulsion power is the loss of propulsion because of machinery failure.
  - \* Loss of directional control is the loss of the ability to steer the ship.
  - \* Loss of containment is an accidental spill or damage or loss of cargo or other substances carried on board a ship.
- Loss of vessel could be Constructive Loss when the vessel has been damaged and cannot be fixed or Actual Loss where the vessel sinks and can't be recovered.
- Main Event is the first event that takes place leading to the event that is considered the resultant casualty to the vessel. Contact is a casualty caused by ships striking or being struck by an external object. The objects can be: Floating object (cargo, ice, other or unknown); Fixed object, but not the sea bottom; or Flying object.
- Missing is a casualty to a ship whose fate is undetermined with no information having been received on the loss and whereabouts after a reasonable period of time.
- National location area is the region of the country in whose waters (12 nautical miles from shore or as otherwise defined) the accident takes place.

- Non-accidental events are intentional events as a result of illegal or hostile acts therefore they are not marine casualties or incidents. They are: Acts of war, any act, against a ship or the people on board, by a State that would effectively terminate the normal international law of peacetime and activate the international law of war; Criminal acts, Any crime, including an act, omission, or possession under the laws of a State or local government, which poses a substantial threat to people on board of a ship or to property (e.g. terrorism, sabotage, piracy); Illegal discharge is an intentional discharge of polluting substances, oil or other noxious substances, from ships; and other, other intentional act that incur loss of or damage to a ship or environmental damage or harm to people on board.
- Ship's boat includes the following: Fast rescue craft, Lifeboat, Rescue, Tender and, may include Personal watercraft.

### **Ship craft type (Types of Ships)**

Classification is according to the ship's main activity:

- Cargo ship is a ship designed for the carriage of various types of cargo, goods or products and up to a maximum of 12 passengers, for commercial gain.
- Fishing vessel means any vessel equipped or used commercially for catching fish or other living resources of the sea.
- Passenger ship is a ship designed to transport more than twelve passengers.
- Service ship is a ship designed for special services.
- Inland waterway vessel is a vessel intended solely or mainly for navigation on inland waterways.
- Recreational craft means a boat of any type, regardless of the means of propulsion, intended for sports or leisure purposes.
- Navy ship means any ship operating under a navy or other military organisation.