Chapter 5: Efforts toward accident prevention

1 Publications

The JTSB prepares and issues various publications, as well as investigation reports, regarding specific cases.

We place these publications on our website and, in order to make them more accessible to the public, we also introduce them through our monthly JTSB E-Mail Magazine service (only available in Japanese).

Our e-mail magazine service is widely used by people in the aviation, railway, and shipping industries, as well as administrative agencies and educational/research organizations.

2 Issuance of the JTSB Digest

With the aim of fostering awareness of safety, and preventing similar accidents from occurring, we issue “JTSB Digests.” This publication introduces you to statistics-based analyses and must-know cases of accidents.

We also issue the English version of “JTSB Digests” as part of our efforts to disseminate information overseas.

In 2014, we released four issues of "JTSB Digests" (February, April, June and August: Issues No. 12-15) as well as two issues of "JTSB Digests" (English version, April and November).

The contents of each issue are as follows.

① JTSB Digests Issue No. 12 [Analyses of Railway and Marine Accidents] "Toward the prevention of accidents involving heavy rains, snow, or winds" (Issued on February 26, 2014)

- Circumstances of each accident
- Case study of an accident investigation (railway): "Slope collapsed due to heavy rains, causing a train to run into and derail on soil and sand built up on the tracks."
- Case study of an accident investigation (railway): "The train was impacted by spindrift due to strong winds, and the insulation resistance of the pantograph declined, resulting in a fire from the heat of the arc discharge."
- Case study of an accident investigation (marine): "A cargo ship was hit by a windswell due to a typhoon, and was pushed into a contact with a seawall."
- Case study of an accident investigation (marine): "The anchoring cable of a diving ship was cut off by sudden winds, and was pushed by the wind to become grounded on reefs."

② JTSB Digests Issue No. 13 [Analyses of Marine Accidents] "Toward the prevention of collision accidents caused by limited visibility on the bow side" (Issued on April 23, 2014)

- Circumstances of each accident
- Case study of an accident investigation: "Collision while on passage due to a blind spot of about 90° due to the lifting of the bow side"
- Case study of an accident investigation: "Mistaken perception of fishing boat that entered the blind spot on the bow side while turning to starboard, and of another fishing boat that had emerged from the blind spot, therefore sailing forward and resulting in collision."
- Case study of an accident investigation: "Motorboat that had entered the blind spot of the bow was lost in the ship's heading marker on the radar, so the ship did not notice it, resulting in a collision."
- Case study of an accident investigation: "While the bow had been lifted, the crew believed that there were no other ships on the bow and continued to sail without turning the bow of the ship, resulting in a collision."

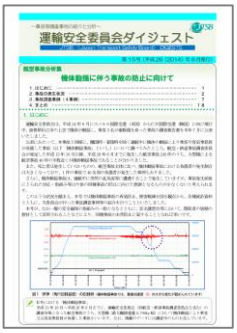
③ JTSB Digests Issue No. 14 [Analyses of Marine Accidents] "Toward preventing collision accidents in congested waters" (Issued on June 25, 2014)

- Circumstances of each accident
- Case study of an accident investigation: "Lookout was carried out only visually under hazy conditions, resulting in a collision due to the belief that there were no other ships in the vicinity"
- Case study of an accident investigation: "Navigation was carried out without keeping a proper lookout, resulting in a collision due to the belief that it was

possible to cross ahead of the other ship”

- Case study of an accident investigation: “After collision between Ships A and B, which had not been keeping a lookout, Ship A collided with Ship C while turning to starboard due to inertia.”
- Case study of an accident investigation: “Collision under conditions of intersections between the routes of ships entering and exiting the west exit of the Kurushima Strait route during the south flow”

④ JTSB Digests Issue No. 15 [Analyses of Aviation Accidents] “Toward the prevention of accidents resulting from aircraft turbulence” (Issued on August 27, 2014)



- Circumstances of each accident
- Case study of an accident investigation: “While descending in a convection cloud region, the aircraft encountered atmospheric disturbances, causing aircraft turbulence that resulted in injury among passengers and crew.”
- Case study of an accident investigation: “Aircraft turbulence caused by clear-air turbulence occurring in local areas resulted in serious injuries for one cabin crew and minor injuries for four others.”
- Case study of an accident investigation: “Aircraft that entered a cumulonimbus cloud that had developed rapidly encountered turbulence, resulting in injuries to the cabin crew.”
- Case study of an accident investigation: “Aircraft encountered violent disturbances in the atmosphere, causing major turbulence for the aircraft and resulting in minor to serious injuries for passengers.”

⑤ For Prevention of Helicopter Accidents (Issued on April 23, 2014)

⑥ For prevention of “Collision Accidents in Congested Areas” (Issued on November 25, 2014)

Chapter 5

3 Issuance of the Analysis Digest Local Office Edition

The JTSB has issued the analysis digest local office edition (only available in Japanese). It has issued this publication in order to provide various kinds of information to help prevent marine accidents. The information is based on the analyses made by our regional offices and relates to specific accidents that occurred in their respective jurisdictions. This information focuses on cases with characteristic features such as the sea area, the type of vessel, and the type of accident.

(Analysis Digest Local Office Edition in 2014)

Hakodate	Status of marine accidents as viewed from the J-MARISIS
Sendai	Marine accidents in Lake Inawashiro
Kobe	Unexpected mini boat accidents that you would wish to prevent on your own efforts
Nagasaki	Beware of the breakwater at Tabira Port for ships proceeding north in Hiradoseto at night!

Naha	Situation of grounding accidents for fishing vessels in coral reef waters

As you read these local office digests, you can not only find out the circumstances of local accidents, but can also gain some tips for accident prevention.

The local offices will make further efforts to regularly issue the analysis digest local office editions. By doing so, they will ensure that you will be provided with more satisfactory content.

4 Issuance of the JTSB Annual Report

In June 2014, we issued the JTSB Annual Report 2014. We did so in order to share the lessons learned from accidents and incidents with interested parties, by introducing our general activities in 2013.

As part of our efforts to provide information overseas, we issued the "Japan Transport Safety Board Annual Report 2014" on October 2014. We did so to let people overseas know about the topics in this Annual Report.

Column Occurrence of mini boat accidents/incidents

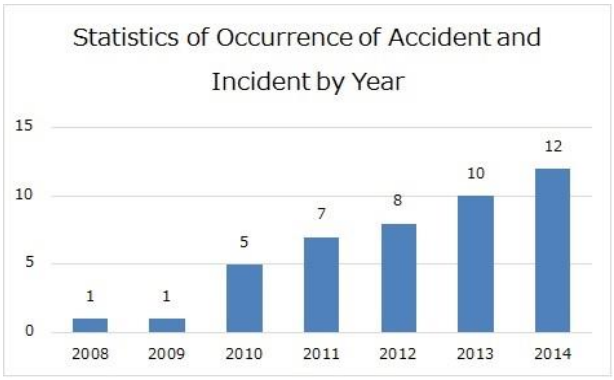
Director for Analysis, Recommendation and Opinion

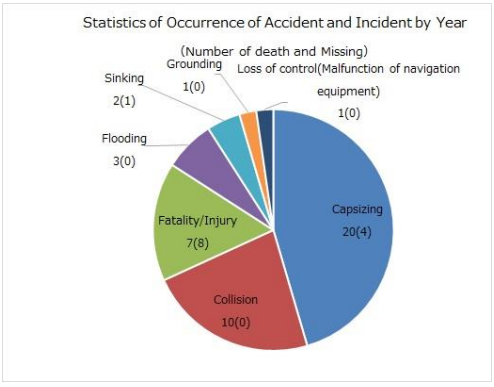
In recent years, in tandem with the growing interest in marine leisure activities, there has been rapid growth in the popularization of mini boats (small ships of length below 3m and engine output below 1.5kW) that people can take out for leisure activities easily without the need for ship inspections or a license for operating small ships. On the other hand, there has also been an increase in the number of mini boat accidents.

The Japan Transport Safety Board made the following findings about the occurrence of mini boat accidents during the target study period between October 2008 and December 2014.

1 Occurrence of mini boat accidents by year/accident type

With regard to the 44 cases that served as the study target during the aforementioned period, there is an increasing trend for the occurrence of mini boat accidents by year, as shown in the figure below. Furthermore, with regard to the number of cases for each accident type, capsizing ranks first with the highest number, followed by collision with other ships, and fatality and injury (not arising as a result of other accidents such as capsizing or collision).

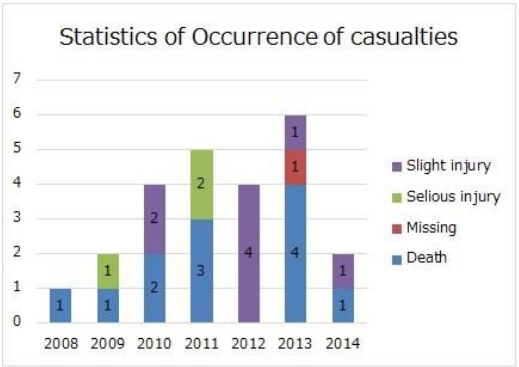


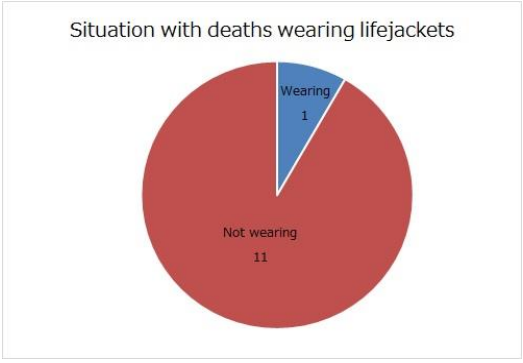


2 Fatality, missing persons, injury

As a result of these accidents, 12 people died, one went missing, and 11 sustained injuries.

With regard to the 12 fatalities, about 90% (11 people) were not wearing life jackets at the time of the accident.





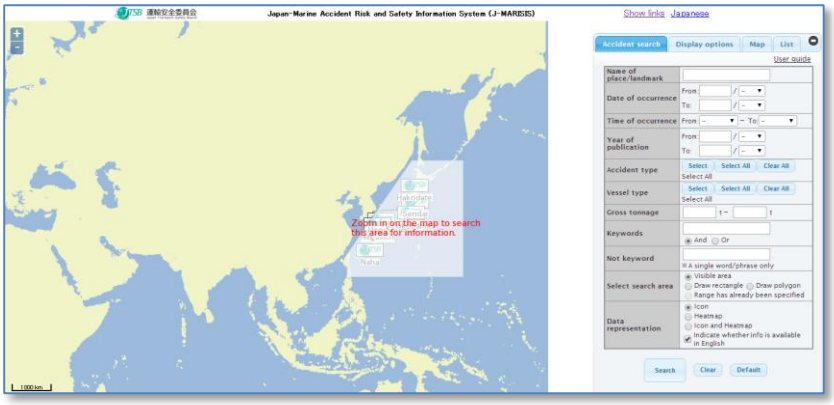
Mini boats flood and capsize easily when they are hit by waves due to their small size and light weight. Hence, please ensure that you are constantly wearing a life jacket when boarding mini boats.

5 Global version of the J-MARISIS – Sharing accident information globally

The Japan Transport Safety Board began offering the Japan-Marine Accident Risk and Safety Information System (J-MARISIS) as an online service from the end of May 2013. This service allows users to search for reports through a map, and aims to facilitate effective use of published reports on marine accidents and other topics.

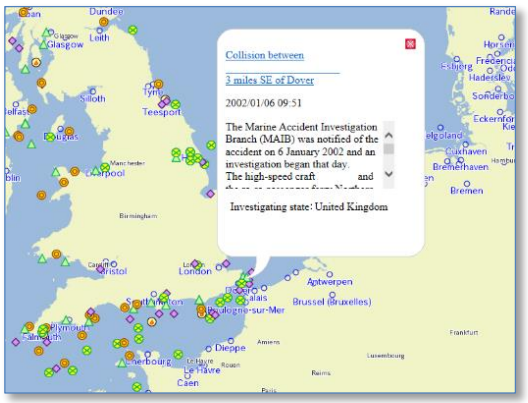
Operation of the English version commenced in September the same year. In response to requests from users for information on marine accidents that have occurred in their planned navigational waters when sailing not only in Japan, but also overseas, the global version of J-MARISIS, which enables users to search for published investigation reports from overseas marine accident investigation agencies, was launched in April 2014.

With regard to marine accident information for various countries, J-MARISIS has been introduced at various international conferences held to date, and 11 countries (United Kingdom, Canada, Australia, United States, France, New Zealand, Netherlands, Germany, Indonesia, Bahamas, and Norway) have given their consent to provide the required data. It is currently possible to search for about 600 investigation reports that have been published by the accident investigation agencies of the respective countries.

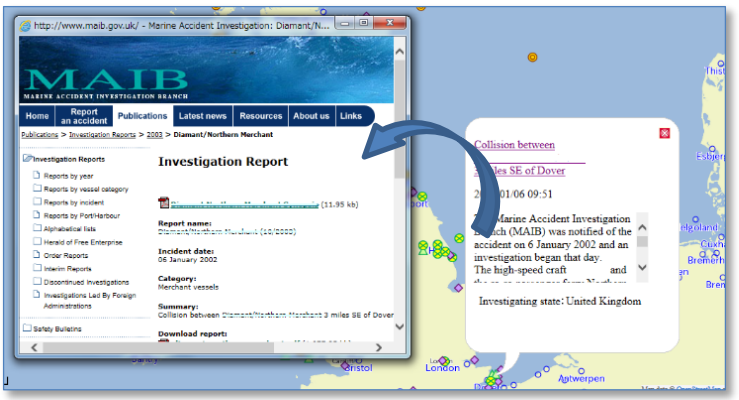


Landing page for the global version

In the J-MARISIS system, searches can be conducted based on the date of occurrence of the accident, type of accident, type of ship, gross tonnage, and keywords, among other search criteria. By clicking on the marks of accidents displayed on the screen, they are then able to view information pertaining to the accident headline, date of occurrence, summary of the accident, and investigating country. Furthermore, by clicking on the accident headline, they are then able to access the links to view the reports published by the accident investigation agency of the respective countries.



Example of a display of accident information summary



Example of the website display for an accident investigation report from the United Kingdom

Column

Launch of the mobile version of the J-MARISIS

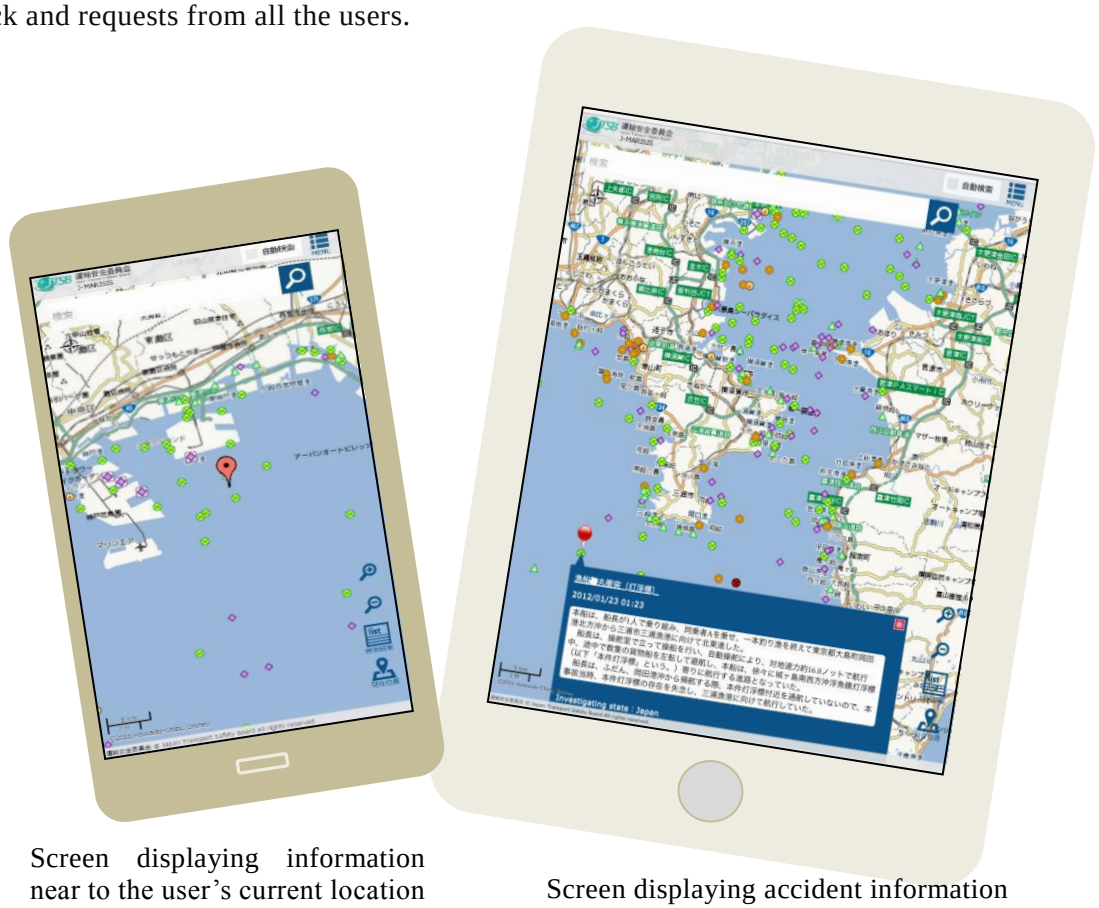
Director for Analysis, Recommendation and Opinion

Although the Japan Transport Safety Board launched the J-MARISIS in May 2013, at recent usage of the Internet site showed an increase in usage through smartphones and tablets. Hence, in response to users' demand for a website that can be viewed easily on smartphone devices, the mobile version was launched at the end of June 2015.

This was created through the development of a browser-based version for smartphones as a web application, thereby enabling users to view marine accident information that is largely similar to that on the computer version of the site.

It is also possible to make use of the GPS function on the mobile device to display information on the area near to the user's current location, thereby allowing users to check information about marine accidents, as well as information on weather and sea conditions, for the waters that they plan to navigate in before they set sail. The Japan Transport Safety Board hopes that the mobile version of the site can play a useful role in enhancing the safe navigation of ships.

Going forward, we aim to further improve on the contents of the mobile application, based on feedback and requests from all the users.



Screen displaying information near to the user's current location

Screen displaying accident information

URL: http://jtsb.mlit.go.jp/hazardmap/mobile/index.html

6 Outreach lectures (dispatch of lecturers to seminars, etc.)

The Japan Transport Safety Board launched a series of outreach lectures in April 2014, as part of its efforts to raise awareness on the work of the Board, and to create an opportunity for collecting the feedback and opinions of the general public.

Seminars that lecturers can be dispatched to cover topics that are useful in preventing or mitigating damage from aircraft, railway, and marine accidents. Members of the staff are dispatched as lecturers to various seminars and schools.

Scene of an outreach lecture

Please refer to the website of the Japan Transport Safety Board on application procedures.

http://www.mlit.go.jp/jtsb/demaekouza.html

List of outreach lectures

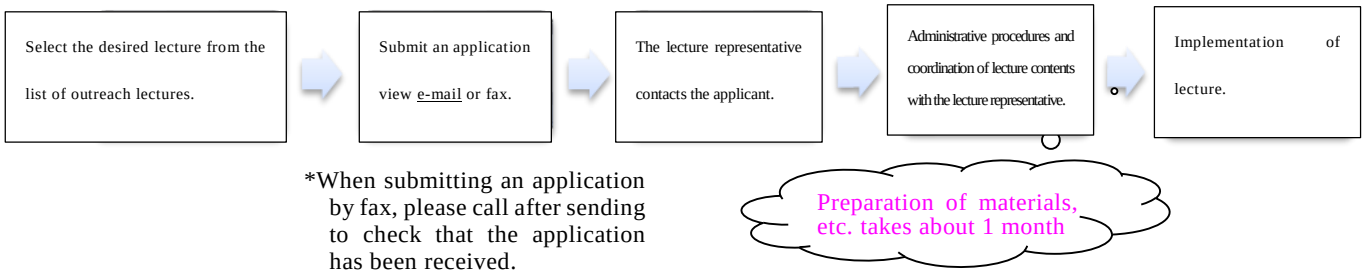
No.	Course	Main audience	Contents
1	About the Japan Transport Safety Board	General (High school students and older), transportation businesses, etc.	Easy-to-understand explanation about the organizational background, work, etc. of the Japan Transport Safety Board
2	What is accident investigation?	Elementary school students	Easy-to-understand explanation about accident investigation for elementary school students and older
3	About aircraft accident investigation	General (High school students and older), aviation businesses, etc.	Easy-to-understand explanation about aircraft accident investigations, including the background, concrete examples, etc.
4	About railway accident investigation	General (High school students and older), railway businesses, etc.	Easy-to-understand explanation about railway accident investigations, including the background, concrete examples, etc.
5	About marine accident investigation	General (High school students and older), maritime businesses, etc.	Easy-to-understand explanation about marine accident investigations, including the background, concrete examples, etc.
6	About the JTSB Digests	General (High school students and older), transportation businesses, etc.	Introduction to case studies of accidents and explanation of various statistical materials across various modes, based on the JTSB Digests that have been issued to date.
7	About the JTSB Digests (Analyses of Aircraft Accidents)	General (High school students and older), aviation businesses, etc.	Explanation about various themes taken up in the analyses of aircraft accidents in the JTSB Digests.
8	About the JTSB Digests (Analyses of Railway Accidents)	General (High school students and older), railway businesses, etc.	Explanation about various themes taken up in the analyses of railway accidents in the JTSB Digests.
9	About the JTSB Digests (Analyses of Marine Accidents)	General (High school students and older), maritime businesses, etc.	Explanation about various themes taken up in the analyses of marine accidents in the JTSB Digests.

10	Trends in the occurrence of marine accidents, and preventing recurrence	General (High school students and older), maritime businesses, etc.	Schematic explanations about risks and waters where marine accidents frequently occur using the J-MARISIS, and explanations about accident prevention methods.
11	Collision accidents between ships along the Hokkaido coastline [Hakodate Office]	General (High school students and older), maritime businesses, etc.	Easy-to-understand explanations about collision accidents between ships along the Hokkaido coastline, using the analysis digest local office edition.
12	Accidents involving fatalities of fishing vessel crew [Sendai Office]	General (High school students and older), maritime businesses, etc.	Easy-to-understand explanations about accidents involving fatalities of fishing vessel crew, using the analysis digest local office edition.
13	Pleasure boat accidents in Hamanako and Hamanako Imagireguchi [Yokohama Office]	General (High school students and older), maritime businesses, etc.	Easy-to-understand explanations about pleasure boat accidents in Hamanako and Hamanako Imagireguchi, using the analysis digest local office edition.
14	Before enjoying yourself on a personal water craft [Kobe Office]	General (High school students and older), maritime businesses, etc.	Easy-to-understand explanations for before enjoying yourself on a personal water craft, using the analysis digest local office edition.
15	Grounding accidents in the Seto Inland Sea [Hiroshima Office]	General (High school students and older), maritime businesses, etc.	Easy-to-understand explanations about grounding accidents in the Seto Inland Sea, using the analysis digest local office edition.
16	Grounding accidents in Kanmon Port [Kanmon Office]	General (High school students and older), maritime businesses, etc.	Easy-to-understand explanations about grounding accidents in Kanmon Port, using the analysis digest local office edition.
17	Grounding accidents in Hiradoseto [Nagasaki Office]	General (High school students and older), maritime businesses, etc.	Easy-to-understand explanations about grounding accidents in Hiradoseto, using the analysis digest local office edition.
18	Toward preventing the recurrence of leisure boat accidents [Naha Office]	General (High school students and older), maritime businesses, etc.	Easy-to-understand explanations toward preventing the recurrence of leisure boat accidents, using the analysis digest local office edition.

*Lectures can be delivered on other themes based on request. Please also refer to the JTSB Digests and pages on analysis digest local office edition.

*No. 11 – 18, in principle, are restricted to requests from the areas under the jurisdiction of the local office.

Flow chart from application to implementation of lecture



*When submitting an application by fax, please call after sending to check that the application has been received.

7 Activities of the Accident Victim Information Liaison Office

The Japan Transport Safety Board gives full consideration to the emotions of the victim and their families, as well as bereaved families. In addition to providing information on accident investigations in an appropriate manner at the appropriate time, a contact point for providing accident investigation information to victims, etc. was established in April 2011 with the aim of providing attentive response to opinions and feedback. Furthermore, in order to promote the provision of information, the Accident Victim Information Liaison Office was established under the directive of the organization in April 2012. Contact points for the provision of information were also set up in local offices to provide integral support alongside with Tokyo.

In 2014, information on accident investigation and other matters was provided to 55 persons, including the victims, of 24 cases of aircraft/railway/marine accidents.

The status for other activities is as follows.

○ Participation in "Memorial and Safety Meeting 2014" for the derailing accident on the JR Fukuchiyama Line

On April 25, 2014, which marks the 10th year of the derailing accident on the JR Fukuchiyama Line that occurred on April 25, 2005, the "Memorial and Safety Meeting 2014 – Summary and Achievements of the JR West Japan Safety Follow-Up Conference" was held.

Members of the bereaved families spoke about the conflict they faced in their two positions, as members of bereaved families and as members of the investigation team. In the investigation work for the accident, the bereaved families shared the common question of "Why did such an accident occur?" In response to talks about how the growing clarity of the overall picture has helped in the healing process, there was a reaffirmation on the importance of providing information in investigations, including the disclosure of accident investigation reports to the bereaved families.

○Climbing Mount Osutaka in memory of those lost

In order to raise the awareness among staff of the offices toward preventing recurrence of accidents, and to enhance understanding about the mission and work of the Japan Transport Safety Board, an activity involving the climbing of Mount Osutaka in Ueno Village, Tano District, Gunma Prefecture, which was the site of the crash of Japan Airlines flight 123, was carried out in July and September 2014 in memory of those lost in the crash.

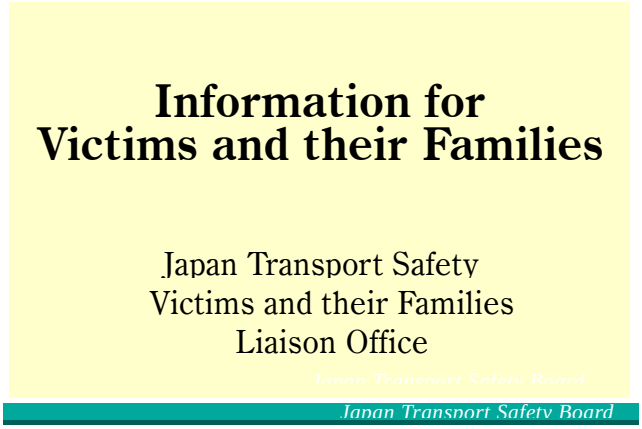
Climbing Mount Osutaka in memory of those lost

Mount Osutaka is the accident site for the most serious airplane crash that has taken place in Japan. By visiting the memorial monuments "Shokon no hi" and "Sugeno Sawa," staff empathized with the thoughts and feelings of the victims and bereaved families, who are still suffering even today, and reaffirmed the importance of standing in the position of the victims and empathizing with their feelings.

The Accident Victim Information Liaison Office hands out “Contact Information Cards” to victims of accidents.

The Office receives inquiries and consultation about the accident investigations from victims and families of accidents, as well as bereaved families. Please feel free to contact the following where necessary.

Contact Information Cards



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Column

Disseminating information about safety
～Raising awareness among operators of small ships～

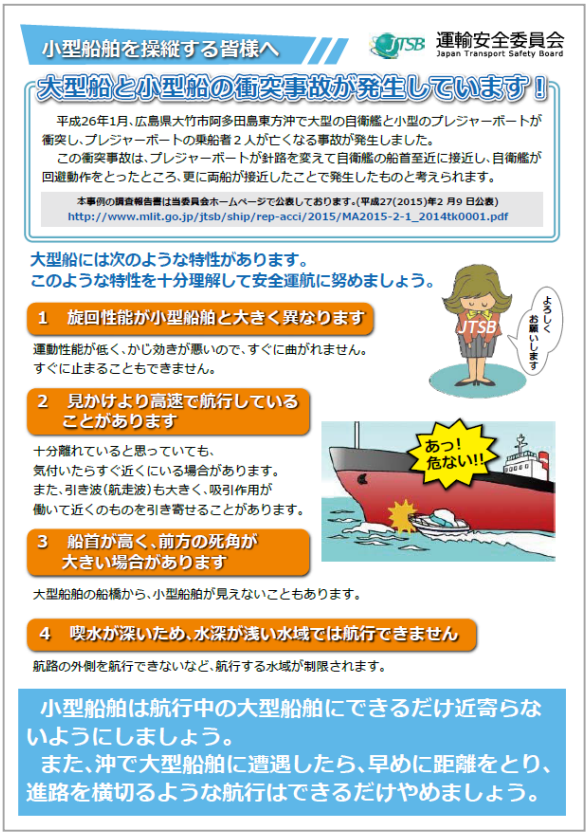
Director for Analysis, Recommendation and Opinion

The Japan Transport Safety Board undertakes various initiatives to disseminate information in order to contribute to safety.

As part of these initiatives, in light of the occurrence of collision accidents between large and small ships, it has produced a leaflet to raise awareness. Targeted at the operators of small ships, the contents summarize precautions to be taken when operating small ships, including the characteristics of large ships that small ship operators should take note of.

In order to distribute this leaflet to as many people as possible, the Japan Transport Safety Board called for the cooperation of related organizations and marinas across Japan to assist in the distribution of the leaflet, and actively raised awareness by distributing the leaflet at maritime events. This leaflet serves as a notice for those who receive it, and is anticipated to play a useful role in improving maritime safety.

Furthermore, activities to raise awareness at events also served as a valuable opportunity for observing the reactions of visitors and receiving their opinions.



Precautionary leaflet for small ships

Among those who received the leaflet, there were those who were enthusiastic in raising questions about how to obtain accident information, as well as those who provided their views on securing safety. There was a strong sense that people were not unconcerned about safety, and required information about safety. There is a need for the Japan Transport Safety Board to engage in two-way information dissemination through such opportunities, by interpreting needs based on the reactions and opinions provided by people, and by feeding that back as information.

Raising awareness at the JAPAN BOAT SHOW 2015 event