Chapter 6 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.

We also exchange opinions with business operators and other parties on effective information dissemination from the JTSB, and we will continue to make improvements based on the opinions that we receive.

JTSB Website

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 2017, we released three issues of “JTSB Digests” (March, June and December: Issues No. 24-26) as well as one issue of the English version of “JTSB Digests” (February).

The contents of each issue are as follows.

① JTSB Digests Issue No.24 [Analyses of Aircraft Serious Incidents] “For prevention of aircraft accidents, taking clues from serious incidents” (issued on March 28, 2017)

- Circumstances of occurrence
- Serious incident investigation case: “Nearing of aircraft behind due to false recognition of plane to follow”
- Serious incident investigation case: “Attempt to land on closed runway due to pilot’s assumption”
- Serious incident investigation case: “Approval for incoming plane’s landing while forgetting work vehicle on runway, etc.”

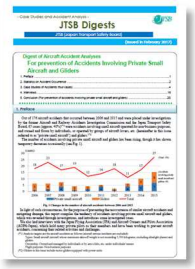
② JTSB Digests Issue No.25 [Analyses of Marine Accidents] “For safe operation of pleasure boats” (issued on June 27, 2017)

- Circumstances of accidents, etc.
- Accident investigation case study: ”Engine failure”
- Accident investigation case study: ”Failure to supply fuel”
- Accident investigation case study: ”Excess discharge from battery”
- Accident investigation case study: ”Fuel shortage”
- Accident investigation case study: ”Hull inspection”

③ JTSB Digests No. 26, [Analyses of Aircraft Accident] “Injuries, etc. during use of escape slide in case of emergency” (issued on December 21, 2017)

- Circumstances of occurrence
- Accident investigation case study: ”Emergency escape as white smoke filled inside plane”
- Accident investigation case study: ”Emergency escape due to report on tire catching fire”
- Accident investigation case study: ”Bursting into flame as fuel leaked from fuel tank on fire”
- Accident investigation case study: ”Emergency escape due to report on smoke coming out of cargo compartment”
- Accident investigation case study: ”Emergency escape due to abnormal odor and smoke inside plane and blaze coming out of engine”

④ For prevention of Accidents Involving Private Small Aircraft and Gliders (issued on February 21, 2017)

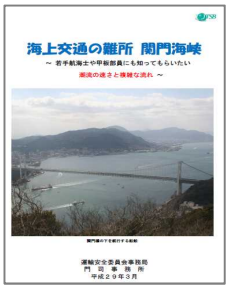


3 Issuance of the Analysis Digest Local Office Edition

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 2017）

Hakodate	**Fixed fishing net may be close to where you are sailing!** **—For prevention of accidents damaging fixed nets in waters off coast of Hokkaido—** (Main content) ・Circumstances of accidents damaging fixed nets ・Accident case studies (3 cases) ・Summary - Prevention of accidents damaging fixed nets	
Sendai	**Let's prevent fatal and injury accidents during fishing operations!** **—For prevention of fatal and injury accidents involving workers pulled into fishing machines or falling into sea—** (Main content) ・Occurring circumstances of fatal and injury accidents during fishing operations ・Accident case studies (3 cases) ・Summary	
Yokohama	**For prevention of accidents during mooring and unmooring work** **—Full attention needed for handling mooring rope!—** (Main content) ・About mooring rope ・Occurring circumstances of accidents during mooring and unmooring work ・Accident case studies (2 cases) ・Measures to prevent recurrence of accidents	
Kobe	**Let's make sure to conduct pre-departure inspections!** **—Always keep safety in mind—** (Main content) ・Accident case studies (6 cases) ・Measures to prevent recurrence ・Checking list for pre-departure inspection	

Hiroshima	**To enjoy fishing from boats —Circumstances of accidents involving pleasure boats during anchoring or roving—** (Main content) ・Circumstances of occurrence ・Accident case studies (3 cases) ・Summary	
Moji	**Kanmon Strait, chokepoint in marine traffic —Speed and complexity of tidal flows young navigation officers and deck men should know.—** (Main content) ・Outline of Kanmon Strait ・Accident case studies (3 cases) ・Summary	
Nagasaki	**Collision of small ship under way and small ship during anchoring or drifting** (Main content) ・Circumstances of occurrence ・Circumstances of both ships and ship operators before collision ・Summary	

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 2017, we issued the JTSB Annual Report 2017. We did so in order to share the lessons learned from accidents and incidents with interested parties, by introducing our general activities in 2016.

As part of our efforts to provide information overseas, we issued the English version of the report “Japan Transport Safety Board Annual Report 2017” on September 2017. We did so to let people overseas know about the topics in this Annual Report.

5. Preparation of safety leaflet

When the Japan Transport Safety Board published the JTSB Digest or releases investigation reports on accidents and incidents for which measures to prevent the recurrence thereof need to be urgently implemented, it prepared single-page, A4-sized leaflets to let as many people as possible see various safety information mentioned in them. To raise attention to the prevention of accidents, the board distributed the leaflets at event venues and asked organs concerned for cooperation in distributing them.

For safe operation of pleasure boats.

Issues that should be kept in mind when being towed.

Column

Accident caused by gusty wind

Moji Office

Grasping weather information is an important factor indispensable for the safe maneuvering of ships. Stormy weather and limited visibility bring tremendous tensions to crew members and operators of ships and directly or indirectly threaten the safe maneuvering of ships. We believe that people involved in the operation of ships therefore should make use of TV, newspapers, the internet and weather information services to pay keen attention to weather changes day after day and take the best possible countermeasures as occasion demands. Greater attention may be necessary for the operation of small ships because their safety can be greatly affected even by moderate changes in weather conditions.

As far as general weather changes are concerned, we do not think great risks will occur if information provided by TV and other sources are firmly followed and if reckless maneuvering is avoided. From time to time, however, strong wind, which is hardly predictable, causes huge damage to ships and human lives. The wind of such a kind is a furious gusting wind from cumulonimbus clouds created by a typhoon or low atmospheric pressure.

In September 2015, six small fishing boats were overturned by a gusting wind off the east cost of Tsushima and five people were killed in the accidents. In August last year, furthermore, a sudden gust of wind toppled a fishing vessel in Fukuoka Bay. Both cases occurred while an atmospheric depression with a front was moving and cumulonimbus clouds are considered to have been involved, according to surveys by the Fukuoka Regional Headquarters of the Japan Meteorological Agency and others concerned.

In investigating the Fukuoka Bay accident, we, the Moji Office, conducted research in the form of a questionnaire in cooperation with the Fukuoka City Passenger Vessel Office and crew members of ships belonging to the office in order to understand weather conditions in detail around the accident site at that time. As a result, all respondents were found to have shared a recognition of a temporary drop in visibility and a sudden increase in rain precipitation and the velocity of wind. We held direct talks with a number of respondents who said dark clouds had suddenly appeared along with a sudden gust of wind under fine and benign weather. But the changed weather conditions shortly settled and sunny spells were observed, they said. Combing their remarks with the speed of wind recorded at a place near the accident site, sudden and temporary changes in weather evidently occurred. Exposed to such a condition, it is considered difficult for skippers of small fishing vessels and pleasure boats, even if well experienced, to avoid risks. While, therefore, it is important to fully grasp weather information on a sailing area through TV, the internet and other means, careful maneuvering, such as escaping to a safe area when a disturbing cloud is seen, should be kept in mind.

Both accidents occurred in autumn, as it was after the first day of autumn according to the calendar. A Japanese proverb says, “A woman’s mind and autumn wind will change often.” Regardless of season, sufficient attention should be paid to changes in weather conditions. If you sail aboard a small fishing vessel or a pleasure boat, please don’t forget life jackets.

We would like to this opportunity to thank the Fukuoka City Passenger Vessel Office and crew members of ships belonging to it for their cooperation.

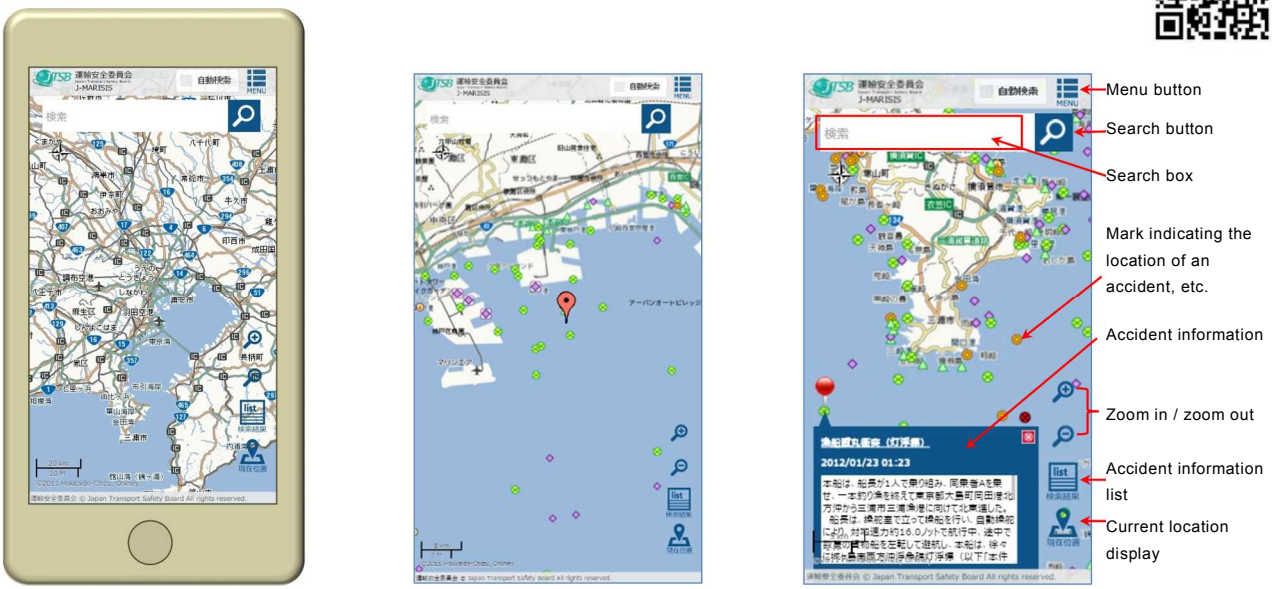
6 J–MARISIS – Now even easier to use

So that more effective use can be made of published marine accident investigation reports, the Japan Transport Safety Board began providing the Japan-Marine Accident Risk and Safety Information System (J - MARISIS) as an Internet service from the end of May 2013, allowing users to search reports from maps. In April 2014, we also released the global version of J-MARISIS, further allowing users to search investigation reports published by overseas marine accident investigation organizations from world maps.

Given the increase in the number of people using the Internet on mobile terminals, as well as requests to make this system easier to use on smartphones and tablets, we released the mobile version of J-MARISIS at the end of June 2015.

With touch panel support as well as revised display buttons and layouts, its ease of use has been increased, and the GPS functions of mobile terminals can be used to display information on areas near the user's current location. As a result, users on pleasure boats, recreational fishing boats or other small vessels can easily check information on accidents and other relevant information on navigation in sea areas they are planning to visit.

J-MARISIS http://jtsb.mlit.go.jp/hazardmap/mobile/index_en.html



Screen displaying accident information

The Japan Transport Safety Board welcomes your views, requests and other comments/communication from users of J-MARISIS. Please use the "Contact us" section of our website.

Contact us http://www.mlit.go.jp/jtsb/contact.html

Column

Recording device and accident investigation

Director for Analysis, Recommendation and Opinion

There was a malignant incident on an expressway last year, in which a parking spat prompted a driver involved to chase the other vehicle, resulting in a traffic accident killing a married couple. I feel my heart wrung when I think of the couple's surviving children. While the accident has led to toughing of punishments against tailgating, an increasing number of cars are reportedly having drive recorders installed as self-defense against such an atrocity. While recorded videos serve as evidence of tailgating and accidents, tailgating is said to be prevented by making the installation of drive recorders clear.

In the meantime, aircraft, trains and ships, which are subject to investigations by the Japan Transport Safety Board when accidents occur, are required to have devices under set standards to record operations and other matters of concern in case of accidents. As for aircrafts' digital flight data recorders and cockpit voice recorders which are generally known as "black boxes," the "aviation law" and its "enforcement regulations" set forth aircraft required to install them and what should be recorded. In the case of trains, the "ordinance setting technological standards related to trains" states that "trains, operation control centers and other places concerned must have "devices to record train operations (skip the rest)." Ships are required to have voyage data recorders under the "ship equipment regulations." Deliberations on each of such recording devices started following a series of accidents or major accidents. For devices to record train operations, in particular, deliberation began after a proposal based on an investigation report on the derailment accident on the Fukuchiyama Line compiled by the Aircraft and Railway Accidents Investigation Commission, the predecessor of the JTSB.

Unlike drive recorders, recording devices, aimed at analyzing causes of accidents, are not expected to prevent accidents while driving. In the case of aircraft and ships, data protection capsules have eye-catching colors, such as fluorescent orange, as they are supposed to be recovered in devastating accidents or from the bottom of the ocean. But there is no emphasis on the installation of any of them. Train passengers during commuting to and from schools and workplaces may see devices to record train operations as some types are designed to be partially placed on the control platform. In any case, most machine sections are not in places open to the general public and so there are no opportunities for train and ship passengers to see them.

While videos taken by drive recorders are used for self-protection, there reportedly are videos for listening and viewing enjoyment and those put on video sites for earnings. Data of recording devices are used only for accident investigations in principle.

Data from recording devices are very important to accident investigations. But as they are neither recorded to show the minds of pilots, train drivers and navigation officers nor record various developments in an accident, it is difficult to determine the causes of an accident by the data alone. Purposes of maneuvering planes, trains and ships can be analyzed using voice recording, altitude, velocity and other data. Investigation results on airframes, train bodies, hulls and others, related reference materials and information gathered from people concerned through interviews and others need to be added to recorded data for integrated studies in order to determine specifics such as "why the plane flew low for entry," "why the train exceeded the speed limit" and "why the ship changed its course to port" at "that time."

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

Scene of an outreach lecture

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.

We can provide flexible support for the content of lectures, such as by incorporating content to match the needs of participants, based on courses chosen by requesting groups.

http://www.mlit.go.jp/jtsb/demaekouza.html (in Japanese)

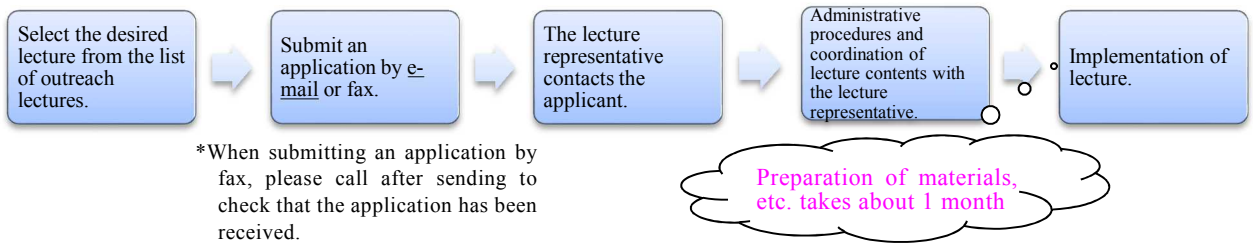
List of outreach lectures

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 marine accident investigation (fire, explosion, engine failure)	General (High school students and older), maritime businesses, etc.	Explanation about marine accident investigations related to fire, explosion and engine failure, including the background, concrete examples, countermeasures, etc.
7	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.
8	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.
9	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.

10	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.
11	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.
12	Analysis digests of regional offices (marine accident-related) [each regional office in Hakodate, Sendai, Yokohama, Kobe, Hiroshima, Moji, Nagasaki, and Naha]	General (High school students and older), maritime businesses, etc.	Explanations on each topic regarding analysis digests from regional offices. *Lists can be found by clicking the link below. http://www.mlit.go.jp/jtsb/bunseki-kankoubutu/localanalysis/localanalysis_new.html

*No. 12, in principle, is restricted to requests from the areas under the jurisdiction of the local office.

Flow chart from application to implementation of lecture



8 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 2017, information on accident investigation and other matters was provided to 80 persons, including the victims, of 36 cases of aircraft/railway/marine accidents.

The status for other activities is as follows.

○Memorials for accident victims

The JTSB made memorial visits to accident sites including Mount Osutaka in Ueno Village, Tano District, Gunma Prefecture, the site of the JAL Flight 123 crash, and presented offerings of flowers from the Board members and the Director-General at each accident site to express our deepest sympathy for those lost in these accidents.

By presenting these memorial offerings first-hand, we deeply felt the emotions of those who still have painful memories of these events, and renewed our awareness of the importance of closely sharing

the feelings of bereaved families and victims.

Prayer at the altar for flowers at the Mount Osutaka crash site

Prayer at the alter for flowers at the site of the Fukuchiyama Line derailment

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

Information for Victims and their Families

Japan Transport Safety
Victims and their Families
Liaison Office

Japan Transport Safety Board

(Front)

Japan Transport Safety Board
Victims and their Families
Liaison Office

2-1-2 Kasumigaseki, Chiyoda,
Tokyo, Japan 100-8918

Tel: +81-3-5253-8823 Fax: +81-3-5253-1680
e-mail: jtsb_faminfo@mlit.go.jp

Japan Transport Safety Board

(Back)

Column

Relocation of JTSB

General Affairs Division

Please be informed that the Tokyo office of the Japan Transport Safety Board was temporarily relocated from the 15th floor of the Central Government Building No. 2 at 2 Kasumigaseki, Chiyoda Ward, Tokyo, to the 8th floor of the Central Government Otemachi Building No. 3 at 1 Otemachi, Chiyoda Ward, Tokyo, effective on June 4, 2018.

The relocation followed the review of the arrangement of the Land, Infrastructure, Transport and Tourism Ministry-related departments and bureaus located in the Central Government Building No. 2 and the adjacent building No. 3. The Tokyo office of the JTSB also become subject to the review.

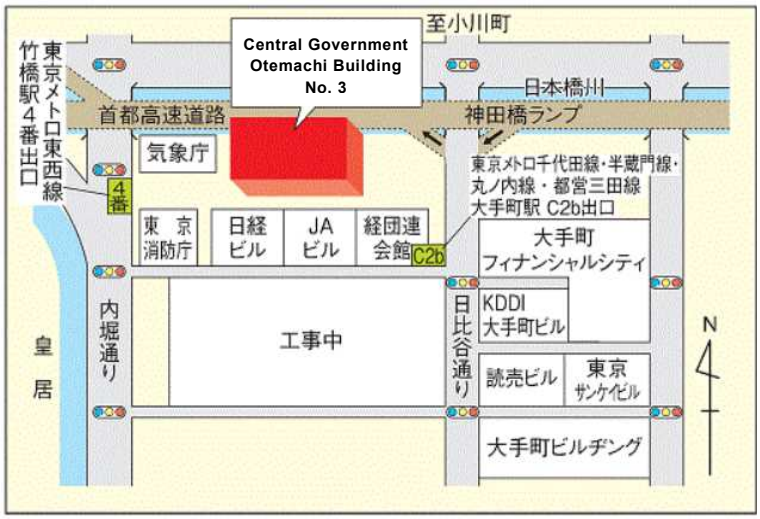
The temporary relocation will end within fiscal 2018 and the JTSB will be officially relocated to the Central Government Building No. 2 again by the end of the fiscal year.

We would like to ask visitors to the JTSB to avoid confusion.

While the Aircraft Accident Investigation Commission, the predecessor of the JTSB, was established in the Central Government Building No. 3 in January 1974, the large-scale relocation was the first in 17 years since the move to the Central Government Building No. 2 in October 2001 when the Aircraft and Railway Accidents Investigation Commission was founded. In addition, the relocation straddling two districts from Kasumigaseki to Otemachi is the first, having strong strains on unfamiliar officials concerned. In any case, we are heaving a sigh of relief as the temporary relocation has been completed.

Temporary location of Japan Transport Safety Board
Central Government Otemachi Building No. 3, 8F
1-3-3 Otemachi, Chiyoda Ward, Tokyo 100-0004

* Although the telephone number of the secretariat of the Japan Transport Safety Board remains unchanged at 03-5253-8486, calls to the Ministry of Land, Infrastructure, Transport and Tourism (03-5253-8486) cannot be forwarded to it.



Central Government Otemachi Building No. 3