

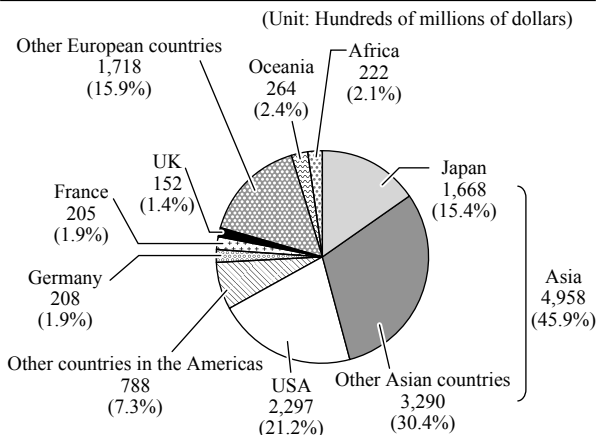
[The high instance of threats to safety and security]

○ High frequency of natural disasters

(1) Fragile national land

Asia has an especially high incidence of natural disasters among the continents of the world, with a commensurately large amount of damage from these disasters. As a country in Asia, Japan's land and natural characteristics render it vulnerable to earthquakes, typhoons, torrential rains, and other natural disasters.

World Natural Disaster Damage Cost Ratios by Region



Note: Figures shown are the total damage costs from 1970 to 2004.
 Source: Compiled from the website (<http://www.cred.be/>) for the Centre for Research on the Epidemiology of Disasters (CRED) at the Université Catholique de Louvain

(One of the most earthquake-prone countries in the world)

As one of the most earthquake-prone countries in the world, Japan accounted for 22.2% of all earthquakes of magnitude 6.0 or larger occurred around the globe from 1995 to 2004.

(Topography vulnerable to tsunami damage with its long coastline)

Japan has a long coastline with a total length of approximately 35,000 kilometers. Even compared to other countries, the length of Japan's coastline in proportion to its total land area is approximately 45 times of that of the USA, approximately four times of that of Rep. Korea, and approximately double that of the UK.

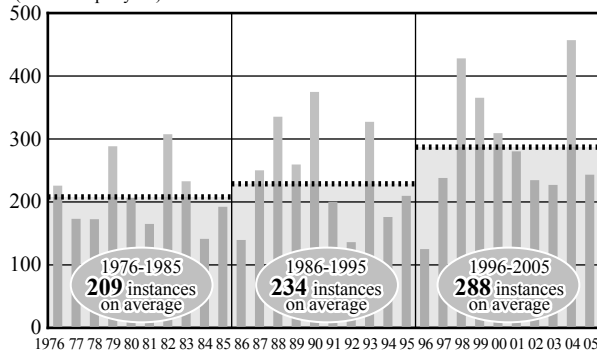
(National land vulnerable to flood damage and sediment related disasters caused by typhoons, torrential rains, and so on)

Japan's national land is vulnerable to flood damage and sediment related disasters. Occurrence of torrential rains has been increasing in recent years. In addition, from the long-term viewpoint, variations of annual precipitation amounts between wet and dry years have been broadened since the mid-1960s.

Trends in the Number of Occurrence of Hourly Precipitation over 50mm / 100mm

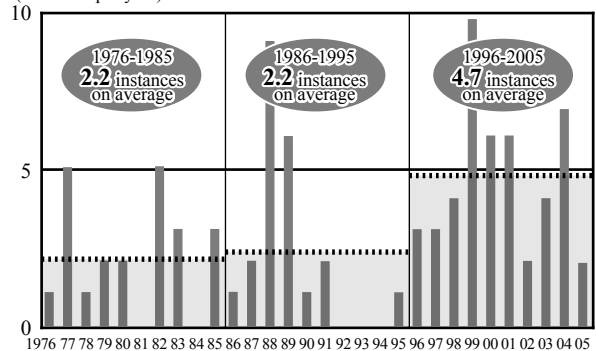
1. Number of Occurrence of Hourly Precipitation over 50mm

(Instances per year)



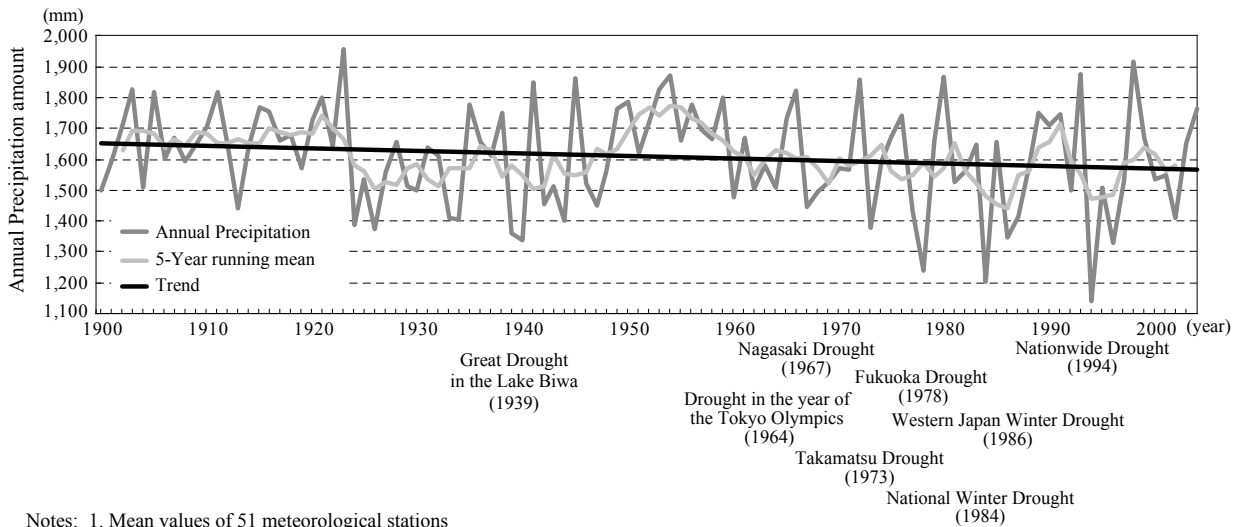
2. Number of Occurrence of Hourly Precipitation over 100mm

(Instances per year)



Note: Figures show the number of occurrence of the indicated hourly precipitation over the whole year at approximately 1300 AMeDAS points located throughout the country
 Source: Compiled from the data of Japan Meteorological Agency

Time series of Annual Precipitation amounts (from 1900 to 2004)



Notes: 1. Mean values of 51 meteorological stations
 2. The "Trend" line is derived from a regression line.
 3. The number of stations in each year may not be 51, because of lack of observations.
 Source: Compiled from the data of Japan Meteorological Agency

It is probable that the long-term increase of the heavy precipitation events is caused by global warming, which has been progressing in recent years.

(Topography vulnerable to damage from snow)

Under the atmospheric pressure pattern in the winter season, the monsoon from Siberia, which is supplied with moisture over the Sea of Japan, brings heavy snowfall mainly in areas along the Sea of Japan on the windward side of Japan's Backbone mountains, including urban area. In particular, the intermountain areas along the Sea of Japan are known as some of the heaviest snowfall areas in the world.

(2) Frequent incidence of earthquakes, typhoons, torrential rains, and so on

① Earthquakes

Earthquakes hit various parts of the country from 2004 to 2005. Especially, the Mid Niigata Prefecture Earthquake of October 2004, which was the first earthquake of recorded seismic intensity 7 after the Great Hanshin-Awaji Earthquake caused extensive damage, with many victims still being forced to live in provisional housing to this day.

MLIT conducted disaster relief programs under its direct control on river channels, roadways, and so forth, carrying out disaster restoration activities as well as rescue and support activities.

In 2005, various parts of the country were damaged by following several large earthquakes; Earthquake occurred west off Fukuoka Prefecture where seismicity of focal region was so low that people had not expected such disaster, Earthquake occurred in northwestern part of Chiba Prefecture which caused stop of elevators and many people were stuck in them, and Earthquake occurred off Miyagi Prefecture which caused a ceiling cave-in at an athletic facility.

Scene of a sediment related disaster (Yamakoshi Village, Niigata Prefecture (present-day Nagaoka City))



Scene of a slope failure (Genkai Island, Nishi Ward, Fukuoka City)



Internationally, in December 2004 the major earthquake off the coast of Sumatra Island and the Indian Ocean Tsunami devastated Indian Ocean coastal nations. Responding to calls from governments in the region, MLIT dispatched experts on tsunami measures and relief and rebuilding activities to the scene, while the Japan Coast Guard dispatched members to work with international disaster relief teams.

Scene of damage from a tsunami (Southern Coast of Calang in Indonesia's Aceh Province)



Source: Provided by the OYO Corporation

② Typhoons, torrential rains, and so on

Damage from typhoons, torrential rains, and so on occurred frequently in various parts of the country from 2004 to 2005.

In 2004, a record 10 named tropical storms made landfall on Japan, including Typhoon Chaba (0416) which brought flood damage from storm surge, Typhoon Ma-on (0422) which caused flooding of subways and underground shopping arcades in the Tokyo metropolitan area, and Typhoon Tokage (0423) which caused the greatest amount of human suffering by any typhoon in the Heisei period (the period from 1989 to the present). Torrential rainfalls in excess of 50mm or 100mm per hour were observed at many places over the country, and the highest records ever are observed at some weather stations. These precipitations led to floods and sediment related disasters of "The Niigata and Fukushima Heavy Rainfall in July 2004" and "The Fukui Heavy Rain fall in July 2004", causing breaches in levees and other damage on small and medium sized rivers. This resulted in frequent occurrence of serious flooding and sediment related disasters in various parts of the country.

Scene of flooding after the Maruyama River burst its banks (Toyooka City, Hyogo Prefecture)



Scene of flooding after the Ikarashigawa River burst its banks (Sanjo City, Niigata Prefecture)



In 2005, while the number of typhoons made landfall on Japan was small, there were frequent sediment related disasters from heavy rains causing extensive damage in many areas as can be seen with Typhoon Nabi (0514), as well as record-breaking torrential rains that caused flooding in many parts of the Tokyo metropolitan area.

Scene of a sediment related disaster (Tarumizu City, Kagoshima Prefecture)



Scene of flooding brought on by torrential rains (Suginami Ward, Tokyo)



In response to these typhoons, torrential rains, and other disasters, MLIT dispatched staffs to the affected areas, issued advanced flood warnings and flood protection alerts, and conducted site analysis and data collection. The Ministry is also carrying out emergency river improvements in areas where extensive damage from flooding and other disasters occurred in order to prevent recurrence of these kinds of catastrophes.

In the USA, a series of hurricanes that included Hurricane Katrina brought devastating storm surge damage to areas along the Gulf coast of Mexico, including the city of New Orleans, resulting in tremendous damage to many areas.

From the beginning of December 2005 to the beginning of February 2006, several periods of cold weather affected various parts of Japan due to cold air that traveled southward from the Arctic region. There was heavy snowfall with storm winds in many areas along the Sea of Japan, and that resulted in record snowfall. The heavy snowfall caused a lot of damage, including collapse of residential buildings by accumulated snow and accidents during work to remove snow from roofs.

○ Recurring accidents, operating problems, and other incidents
(Railway accidents)

In 2005, passenger and train crew member lives were lost in three railway accidents: the Tosa Kuroshio Railway derailment (March), the West Japan Railway Fukuchiyama Line derailment (April), and the East Japan Railway Uetsu Line derailment (December). In response to these accidents, MLIT is promoting safety improvement measures for railway transportation, including emergency improvements like ATS (automatic train stop) systems to prevent speed overrun on sharp curves, with its Aircraft and Railway Accident Investigation Committee currently conducting an inquiry into the causes of the accidents.

Accidents causing death and injury at so-called “un-opening railroad crossings,” where traffic is blocked for 40 minutes or more per hour at peak times, occurred as well, as in the railroad crossings accident at Takenotsuka Station on the Tobu Isesaki Line. MLIT is accelerating measures to ensure safety at railroad crossings in response.

Scene of the West Japan Railway Fukuchiyama Line derailment



Scene of the East Japan Railway Uetsu Line derailment



(Safety problems in the aviation sector)

Since the beginning of 2005, there has been a spate of safety problems attributable to human errors and equipment malfunctions that could lead to hazardous material accidents on Japan's airlines, including repeated noncompliance with air traffic control instructions at the New Chitose Airport and Komatsu Airport, forgotten operations on emergency exits by cabin attendants, flying according to faulty altimeter indications, and an emergency landing at Fukuoka Airport due to engine trouble. In addition to taking measures like the issuance of a business improvement order to the Japan Airlines Group, MLIT is enforcing and reviewing the strengthening of airline surveillance and supervision system.

A series of air traffic control-related trouble also came up, including an air traffic control error landing on a closed runway at Tokyo International Airport (Haneda), trouble related to the granting of flight plan clearance at Niigata Airport and Miyazaki Airport, and a case of landing clearance not being granted by the air traffic controller at Osaka International Airport. MLIT is making efforts to prevent the recurrence of these kinds of trouble, including the auditing air traffic control services.

(Accidents involving marine vessels and buses)

In marine vessel accidents 2005 saw the collision of a ferry into a breakwater (May) and a tanker collision off the coast of Kumano City (July), while bus accidents included the overturning of an express bus on the Ban-etsu Expressway (July). MLIT enacted inspections and administrative measures in response.

Scene of a tanker collision off the coast of Kumano City



Scene of an overturned express bus on the Ban-etsu Expressway



(Incidents of terrorism and piracy)

While acts of terrorism targeting public transportation like the March 2004 synchronized terrorist train bombings in Madrid, Spain and the July 2005 synchronized terrorist bombings targeting the subway system and other public transportation in London, UK occurred all over the world, incidents of so-called piracy included the March 2005 attack of Japanese ships in the Malacca Strait. Besides giving instructions for emergency inspection of public transportation systems and enacting other measures against terrorism, MLIT gathered information in coordination with the Japan Coast Guard among other measures in response to the incidents of piracy.

Recent Major Acts of Terrorism Targeting Public Transportation Systems

Year	Month	Day	Act of Terrorism	Summary
2004	February	6 th	Terrorist bombing of a subway train in Moscow, Russia	A bomb exploded in a subway train in Moscow, Russia, leaving about 40 dead and at least 130 injured.
	February	27 th	Terrorist bombing of a ferry in Manila Bay, Philippines	A ferry went up in flames in Manila Bay, Philippines, leaving about 100 dead or missing.
	March	11 th	Synchronized terrorist train bombings in Madrid, Spain	Multiple trains were bombed simultaneously in Madrid, Spain, leaving about 190 dead and at least 1600 injured.
	August	24 th	Synchronized terrorist bombing of two airplanes in Russia	Two domestic passenger planes were simultaneously bombed in the Tula and Rostov regions south of Moscow, leaving 90 crew members and passengers dead.
	August	31 st	Terrorist bombing of a subway train in Moscow, Russia	A suicide bombing near a subway station in Moscow, Russia left 10 dead and about 50 injured.
2005	July	7 th	Synchronized terrorist bombings targeting the subway system and other public transportation in London, UK	Explosions in three subway locations and inside a bus in London, UK left about 60 dead and about 700 injured.
	July	21 st		There were explosions in three subway station locations and inside a bus, but there were no casualties.

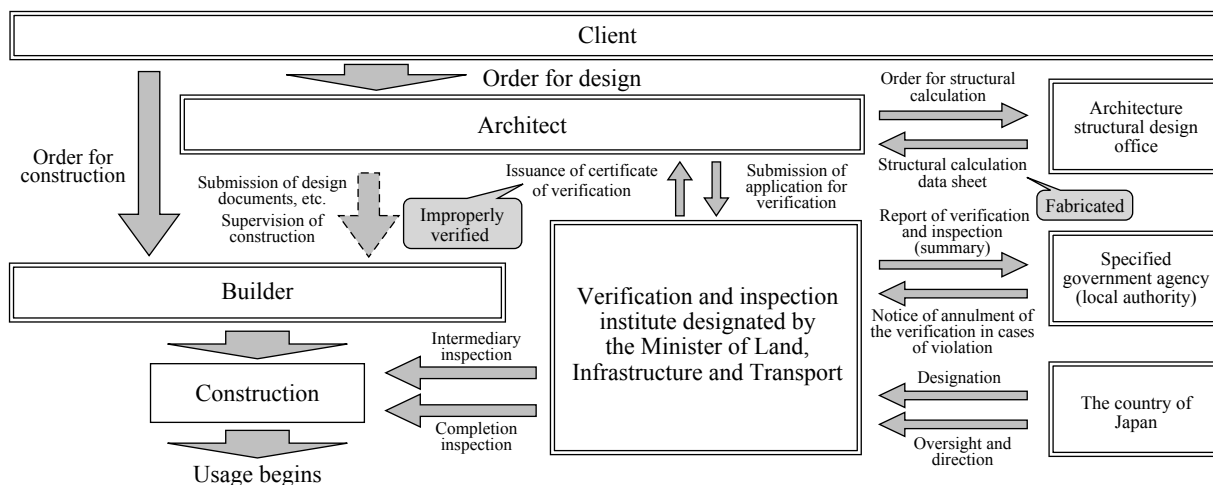
Sources: Compiled from the following:

MLIT data; Japan Coast Guard, *Kaijō Hoan Repo-to* (Coast Guard Report); National Police Agency, *Keisatsu Hakusyo* (Police White Paper); Defense Agency, *Bouei Hakusyo* (White Paper on Defense); Ministry of Foreign Affairs, *Gaikou Seisyo* (Diplomatic Blue Book)

○ Issues with fabricated structural calculation data sheets

On the issue of fabricated structural calculation data sheets for buildings, MLIT went forward with efforts to secure the safety of residents living in apartment buildings and the stability of housing in partnership with the concerned ministries and local authorities based on the “Immediate Response to the Issue of Fabricated Structural Calculation Data Sheets for Buildings” put together at the “Ministerial Meeting on the Issue of Fabricated Structural Calculation Data Sheets”, as well as reexamining the current system and reviewing measures to prevent recurrences.

Dependency Diagram on the Issue of Fabricated Structural Calculation Data Sheets



Source: MLIT

○ Spreading problems with asbestos

In June of 2005, asbestos-related health problems became a social issue as it came to be widely recognized that these problems affected not only the workers dealing with the substance but also many other citizens. MLIT is taking several measures to deal with these problems based on the “Comprehensive Countermeasures for Asbestos Problems”, put together by the Japanese government in December, 2005. Specifically, these are measures to prevent future harm, measures to ensure solid support for those with health problems, and measures to address the unease felt by the general public about this issue.

Status on MLIT's Implementation of Measures to Deal with Asbestos (as of the end of February 2006)				
		No. of Inspections	No. of Inspections Confirming the Use of Sprayed Asbestos or Similar Materials	Status on the Implementation of Measures
(1)	Railway Stations (passenger areas)	201 companies	20 stations	Measures to prevent dispersal have been completed in 15 stations. In the 5 stations with exposed sprayed asbestos or similar materials, the operator has confirmed that asbestos is not currently prone to be dispersed, and is working on removal and other measures to prevent dispersal, which are scheduled to be completed within FY2005.
(2)	Bus Terminals (passenger areas)	2,253 companies	4 bus terminals	Measures to prevent dispersal have been completed in 1 bus terminal. Plastic covering and other measures have been completed in the other 3 terminals, with removal work and other measures planned to be performed within FY2005.
(3)	Airport Terminals (passenger areas)	95 airports	2 airports	All measures to prevent dispersal have been completed.
(4)	Government Buildings	84,276 buildings	936 buildings	Measures to prevent dispersal (enclosure, etc.) have been completed in 325 buildings. While immediate harm from dispersal is seen as unlikely, measures to prevent dispersal will be performed on the remaining facilities (an adjusted budget for FY2005 will be appropriated for buildings under the jurisdiction of the Government Buildings Department requiring urgent response).
(5)	Public Housing	40,200 complexes (247,401 buildings)	228 complexes (809 buildings) *As well as 26 complexes that have had asbestos removed	Measures to prevent dispersal (enclosure, etc.) have been completed in 220 complexes. While immediate dispersal is seen as unlikely, measures to prevent dispersal will be appropriately and speedily performed on the remaining 8 complexes (of which, 4 have been started on at present, with measures for the remaining 4 scheduled for the future).
(6)	Private Buildings	254,689 buildings	13,099 buildings *As well as 3,250 buildings that have had asbestos removed	Promoting removal and other measures in coordination with local authorities. An adjusted budget for FY2005 will be appropriated to support removal and other measures for sprayed asbestos and similar materials in buildings used by many people. Residences will be supported through the existing system. The Building Standards Law will also be amended with regulations restricting the use of sprayed asbestos and similar materials in buildings (to be submitted at the opening of the 164 th session of the Diet as a package bill, to be officially announced on February 10th, 2006).

Notes: 1. “Sprayed asbestos and/or similar materials” refers to sprayed asbestos and asbestos-containing sprayed rock wool.

2. MLIT plans to carry out follow-up surveys on the actual progress of measures to deal with asbestos in (1) through (6).

3. Out of the total 254,689 inspected buildings for (6), the number of inspections confirming the use of sprayed asbestos or similar materials was tabulated based on reports on 189,971 private buildings from the building owners or related parties.