

Overview of the 2015 White Paper on Fire Service

Materials created by the Fire and Disaster Management Agency were translated by the International Fire Service Information Center

**Fire and Disaster Management Agency
(FDMA)**

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Introduction

Twenty Years since the Great Hanshin-Awaji Earthquake: **Enhancing Fire Protection Systems based on Two Major Earthquakes**

The year 2015 is a milestone year in that it marks the 20-year anniversary since the Great Hanshin-Awaji Earthquake. Over these 20 years a variety of different responses have been taken in fire prevention based on the lessons of the Great Hanshin-Awaji Earthquake.

The first of these has been the Emergency Fire Response Teams. These were established in June 1995 to make it possible to quickly and effectively carry out life-saving efforts during large-scale disasters, which came in response to the problems that were made manifest through the Great Hanshin-Awaji Earthquake. In the 20 years since then, the Emergency Fire Response Teams have been mobilized a total of 30 times, and were mobilized in 2015 in response to the disaster from the volcanic eruption of Kuchinoerabu-jima Island and the torrential rains in Kanto and Tohoku in September 2015.

The Great Hanshin-Awaji Earthquake also drew attention to the importance of local disaster prevention capabilities. Emergency activities were carried out by local residents immediately after the earthquake struck, and the self-defense firefighting squads of residents and local companies conducted firefighting activities to prevent fires from spreading. The volunteer fire corps were also actively engaged in rescue work to detect if people were buried alive at certain locations. Owing to this experience, organizations were proactively formed in different regions to enhance and strengthen regional disaster prevention capabilities, such as by cultivating voluntary disaster prevention organizations.

During the Great East Japan Earthquake, the Emergency Fire Response Teams rushed to the scene immediately after the earthquake struck, saving the lives of approximately 5,000 people in cooperation with local fire defense headquarters and others. They were actively involved in various different contexts, such as activities to drain water from the Fukushima Daiichi Nuclear Power Plant and firefighting activities for fires at large-scale industrial complexes, which have served to provide residents in disaster-stricken regions with an enormous sense of relief. What is more, immediately after the earthquake struck firefighting personnel from the afflicted region led evacuations and engaged in disaster defense activities that saved a great many lives. At the same time, the loss of nearly 300 lives as a result of the tsunami highlighted the importance of volunteer fire corps, which form the core of regional disaster prevention. This has led to enhancing safety management during disaster responses, equipment, and more.

The Emergency Fire Response Teams epitomize the organizations that are strengthening and enhancing their wide-area firefighting and rescue, as well as regional disaster prevention capabilities. Having such organizations respond to mega earthquakes like a Nankai Trough earthquake or an earthquake directly below Tokyo, as well as disasters from torrential rains, volcanos, and others that frequently occur throughout Japan based on this 20-year's of experience and the experience of the Great East Japan Earthquake will come to pose an increasingly important challenge in the future.

Moving forward, the FDMA will work to enhance and strengthen fire protection systems and continue to promote fire and disaster prevention administration that safeguards the lives of the public. This will be done based on the various findings of the Fire and Disaster Management Council and the Act on Enhancing and Strengthening Regional Disaster Prevention Capabilities Centered around Volunteer Fire Corps, as well as the lessons from natural disasters like the Great East Japan Earthquake and fire accidents. Examples of this will include enhancing and strengthening the Emergency Fire Response Teams, which have marked their 20-year anniversary since their establishment, as well as enhancing and strengthening regional disaster prevention capabilities centered around volunteer fire corps.



Firefighting activities by a firefighting squad
(Kobe City after the Great Hanshin-Awaji Earthquake)



Rescue efforts by an Emergency Fire Response Team
(Natori City after the Great East Japan Earthquake)

Twenty Year Anniversary since the Founding of the Emergency Fire Response Teams (Special Feature 1)

[Enhancing and Strengthening the Emergency Fire Response Teams]

In order for the Emergency Fire Response Teams to achieve greater development and growth, they must work on a number of challenges. These include rapid mobilization and deployment, strengthening the use of fire and disaster prevention helicopters, coordination with related agencies, enhancing their vehicles and equipment, and actively utilizing ICT.

- Immediately after a disaster occurs a **Joint Task Force** is mobilized in advance, and **efforts are made to substantiate the practical use of the teams**. In addition, **they promote initiatives for securing transport**, such as securing several transport routes and combing them together, and securing transport planes and ships from the Japan Self-Defense Forces (JDSF) and private sector in order to deploy the team rapidly.
- During the torrential rains in Kanto and Tohoku in September 2015, the **prefectural disaster response headquarters coordinated the use of aircraft so that rescue efforts could be carried out smoothly in limited airspace**. This was done by coordinating things like zones for helicopter usage and the allocation of functions, including among related organizations, as well as the transport destinations for relief workers.
- During large-scale disasters, **information is shared and functions are coordinated at field joint command posts. The teams also broadly cooperate with related agencies**, such as coordinating with TEC-FORCE over wide-area medical transport in partnership with DMAT and air ambulances, as well as on safety management during rescue efforts.
- **The teams are equipped with vehicles and equipment which are necessary for conducting firefighting activities in exacting environments**. This includes radio relay vehicles for gathering information in regions where communication has been cut off, vehicles that function as bases for performing protracted firefighting and rescue activities in disaster-stricken regions, and vehicles for responding to tsunamis and large-scale wind and flood damage that are equipped with amphibious buggies.
- **The Emergency Fire Response Team movement information system is set up** to be capable of visually sharing the status of mobilized teams, damage information, and more over maps, as well as the **helicopter movement management system** that can share the location information and transport information of fire and disaster prevention helicopters all over Japan.



Coordinating activities between related agencies at the field joint command post (Joso City Hall, September 16, 2015)



Rescue efforts in a flooded region using an amphibious buggy (Joso City, September 16, 2015) (Provided by the Hitachi City Fire Defendant Headquarters)

[Promoting Training]

It is important that education and training be carried out for Emergency Fire Response Teams on a routine basis so that these teams can quickly form and deploy response teams, and so that each team can carry out coordinated activities under a centralized command.

- Nationwide joint training drills are held every five years. **The fifth round of nationwide joint training drills was held in Chiba Prefecture in November 2015.**
 - About 3,000 people participated, including those from related agencies like the police, JSDF, Japan Coast Guard, and DMAT.
 - Map-based training, team convergence training, and operating training were performed in tandem by hypothesizing a composite, wide-area disaster.
 - The teams converge not just by advancing over overland routes, but via multiple means such as JSDF transport planes and large helicopters, as well as private ferries and airplanes.
- The whole of Japan is divided into six blocks, and **every year joint training drills are carried out for each regional block.**



Scene from the fifth Emergency Fire Response Team nationwide joint training drill (Ichihara City, November 14, 2015)

[The Evolving Emergency Fire Response Teams]

In Japan, where disasters are a frequent occurrence, the role of the Emergency Fire Response Teams is growing more and more important. Based on the accumulated experience to date, it will be necessary to work to further enhance and strengthen these teams in both a qualitative and a quantitative sense in order to predict and set new challenges, and then respond to these challenges.

- It will be crucial to set in place structures to rapidly deploy the teams on a large scale in preparation for a Nankai Trough earthquake, which is expected to exceed the Great East Japan Earthquake in damage, or similar disasters. Therefore, **the target for the number of teams to register by the end of FY2018 is to augment these to somewhere on the order of 6,000 teams.**
 - Augmenting the three major sub-teams of firefighting, rescue, and ambulance service to 1,100 teams in total to **strengthen the firefighting, rescue, and ambulance service structures**
 - Augmenting Command Response Teams to 20 teams and Municipal Team Commanding Teams to 50 teams to **strengthen the command structures**
 - Augmenting logistical support sub-teams to 160 teams to **strengthen logistical support structures**
 - Newly establishing Joint Task Forces (50) to **increase the speed and accuracy of first responses**
 - Newly establishing communication support sub-teams (50) to **strengthen communication structures**
- **Newly establishing Emergency Response Units for Disasters with Energy and Industrial Infrastructure (Dragon Hyper Command Units)**, which are specialized to handle unique disasters to safeguard against damage to energy and industrial infrastructure in the form of petrochemical complexes, chemical plants, and so on, which were organized at two fire defense headquarters in FY2014

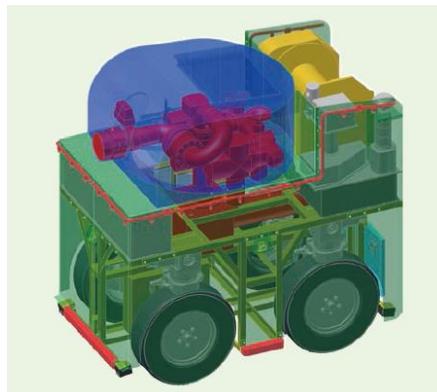


The core vehicles of the Dragon Hyper Command Unit:
A large water cannon truck (left) and a large-capacity water pump vehicle (right)



The logo mark for the Dragon Hyper Command Unit, which is the same nationwide

- During the large-scale, unique disasters at petrochemical complexes, firefighting squads cannot approach the scene. Given such problems, the **FDMA is carrying out a five-year plan starting from FY2014 to perform research and development on firefighting robots** that can autonomously engage in firefighting activities like transmitting images of the disaster status to a safe location and spraying water.



Outline of the planned firefighting robots
[Mobile reconnaissance robot (left) and a water cannon robot (right)]

- The austere conditions concerning terrorism are changing, and Japan is preparing to hold large-scale events such as the 2020 Tokyo Olympics and Paralympic Games. In light of these factors, the **FDMA is promoting initiatives like setting up the wide-area aid structures that will be needed to stay prepared to fight fires at the event venues, and equipping them with the necessary vehicles, equipment, and so on.**

Enhancing and Strengthening Regional Disaster Prevention Capabilities Centered around Volunteer Fire Corps (Special Feature 2)

[Initiatives following the Enactment of the Act on Enhancing and Strengthening Regional Disaster Prevention Capabilities Centered around Volunteer Fire Corps]

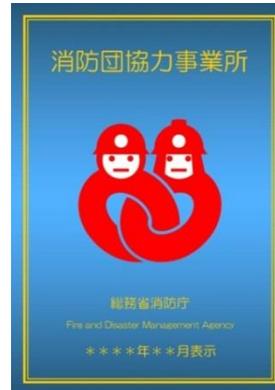
The Act on Enhancing and Strengthening Regional Disaster Prevention Capabilities Centered around Volunteer Fire Corps was enacted in December 2013 as a bill introduced by a Diet member.

(Promoting Enrollment in Volunteer Fire Corps)

- **The Minister of Internal Affairs and Communications sends letters to the heads of various regional public organizations** requesting that they make additional efforts to secure volunteer fire corps members from among local government employees and the like, as well as to improve treatment of said members. **The Minister also send letters to economic organizations** calling upon businesses to lend their understanding and cooperation with volunteer fire corps activities.

- Because it is crucial to gain the understanding and cooperation of the businesses that employ the volunteer fire corps members in volunteer fire corps activities, the FDMA is working to popularize the Volunteer Fire Corps Office Symbol System. In September 2015 it also held a **session to exchange opinions with businesses that had received a letter of gratitude from the Minister of Internal Affairs and Communications** (for being businesses where a large number of employees have enrolled to volunteer fire corps) **and economic organizations**.

- As part of support for job hunting activities for students enrolled in volunteer fire corps, the **FDMA is calling for the adoption of the Certification System for Student Volunteer Fire Corps Activities**, in which municipalities certify the track record of their activities.



A display card issued by the FDMA (gold mark; left) and a display card issued by municipalities and others (silver mark; right)

- In order to further increase the number of women and young people who make up volunteer fire corps members, the **FDMA is conducting model projects to promote enrollment to volunteer fire corps and asking that municipalities without any female volunteer fire corps members take proactive action to rectify this**.
- In July 2015 the **Minister of Internal Affairs and Communications sent letters of gratitude** to volunteer fire corps that had considerably increased their number of members.

(Improving Treatment of Volunteer Fire Corps Members)

- The relevant government ordinances were revised to raise the retirement compensation for all ranks by 50,000 yen across the board (minimum payment: 200,000 yen) starting from April 2014.
- The law encourages regional public organizations to offer appropriate payment in accordance with activities regarding annual compensation and dispatch allowances, and also **requests that allowances be raised, particularly by organizations with low allowances** (expected to do away with organizations offering no compensation in FY2015).

(Enhancing and Strengthening Equipment)

- **The Volunteer Fire Corps Equipment Standards was revised** in February 2014 in the aim of enhancing safety equipment like life jackets, while also substantially expanding local tax grant measures starting from FY2014.

(Enhancing and Standardizing Education and Training)

- In March 2014 **the Education and Training Standards for Fire Academies was revised** to expand and strengthen education for leadership members among the volunteer fire corps. **Educational materials for teaching volunteer fire corps members at fire academies were also prepared**.
- Fire academies **were systematically equipped with fire pump-mounted vehicles with onboard rescue equipment and so forth**.

(Fire and Disaster Management Council)

- In January 2014 an inquiry was held over the Modalities for Enhancing and Strengthening Regional Disaster Prevention Capabilities Centered around Volunteer Fire Corps with the 27th meeting of the Fire and Disaster Management Council. An interim report that compiles items that should be handled urgently was released in July 2014, and currently an examination is underway geared towards pulling together a report.

[Recent Activities by Volunteer Fire Corps and Others]

- For the earthquake with a hypocenter in northern Nagano Prefecture that struck in November 2014, volunteer fire corps and volunteer firefighting organizations carried out rescue efforts and led evacuations using support maps that contain information like the homes of elderly people.
- For the volcanic eruption of Kuchinoerabu-jima Island in May 2015, volunteer fire corps initiated activities such as confirming the safety of residents and leading evacuations immediately following the eruption. They instituted accurate safety confirmations by using rosters designed for that purpose.
- During the torrential rains in Kanto and Tohoku in September 2015, volunteer fire corps engaged in rescue work and led evacuations in partnership with firefighting squads and others in various different regions, and performed night patrols to guard houses that had been vacated by their inhabitants.



Activity status for an earthquake with its hypocenter in northern Nagano Prefecture



Activity status for the torrential rains in Kanto and Tohoku in September 2015

[Measures for Enhancing and Strengthening Volunteer Fire Corps to be instituted in an Ongoing Manner]

- The number of members of volunteer fire corps have been falling year by year, so this decline must be halted and their numbers increased.
- The share of employees in such organizations has remained at high levels. As such, it will be necessary to seek the cooperation and understanding of businesses in volunteer fire corps activities.
- The average age of members continues to rise. Therefore, it will be necessary to work to promote enrollment by university students, vocational school students, and other members of the younger generation.
- The activities of the volunteer fire corps are growing increasingly diverse and it is anticipated that female members will become actively involved. As such, proactive initiatives geared towards getting women to join will be needed.

- Holding nationwide sessions for exchanging opinions among volunteer fire corps members and offer commendations for the regional activities of volunteer fire corps
- Expanding nationwide campaigns to promote enrollment of volunteer fire corps members
- Conducting PR for volunteer fire corps activities using advertising media like magazine advertisements
- Introducing measures to diversify volunteer fire corps organizations and programs, such as function-specific members
- Setting up support structures for securing members via a program to dispatch advisors to secure volunteer fire corps members
- Holding conventions for enhancing and strengthening regional disaster prevention capabilities centered around volunteer fire corps



A poster soliciting for volunteer fire corps members to join

[Strengthening Regional Fire Prevention Systems]

- In working to enhance and strengthen regional disaster prevention capabilities, it will be important to revitalize the activities of volunteer firefighting organizations and the like.
- To reduce the damage from disasters, it is important to instill each and every member of the public with knowledge and skills related to disaster prevention.

- **Promoting the fostering of leaders for volunteer firefighting organizations and the like in partnership with volunteer fire corps**, while also preparing Volunteer Firefighting Organization Guidelines that contain excellent case examples of activities and other information
- **Carrying out the Ten-year Project to Pass Down the Lessons of Disasters**, which dispatches firefighting personnel who were active in the areas afflicted by the Great East Japan Earthquake to serve as storytellers

Further Promoting the Active Involvement of Women in Firefighting (Topic 1)

[Promoting the Active Involvement of Female Firefighting Officials at Fire Departments]

- Efforts have been made slowly but surely to increase the number of female firefighting officials and expand their occupational range, but the share of firefighting officials comprised of women is still at the low level of 2.4%.
- It will be important to set in place an environment that invigorates organizations by harnessing the capabilities of women to the greatest extent possible within the field of firefighting.

- The Review Committee for Further Promoting the Active Involvement of Female Personnel in Fire Departments was held from March to July 2015, and recommendations were given on ways of thinking about promoting the active involvement of women.
- Based on the contents of the recommendations by the review committee, the Vice Commissioner of the FDMA sent out a notice requesting that the municipalities carry out the following initiatives.
 - The FDMA is setting the shared target of **raising the nationwide ratio of female firefighting officials to all firefighting officials to 5% by the beginning of FY2026 for firefighting as a whole**. In order to achieve this, each fire department must set numerical targets with the following used as yardsticks as they tailor it to the actual conditions at each headquarters, then work to systematically increase the number of female personnel on the basis of this.

[Yardsticks for setting targets]

- (1) Doubling the share of female firefighting officials over ten years by raising the number of women hired every year from the previous two-fold to 2.5-fold or higher (for fire defense headquarters at or above a certain size, such as local core regional fire defense headquarters, increase this by a level of at least 5%)
 - (2) Securing several female employees as quickly as possible for fire defense headquarters without any female firefighting officials, in order to improve such situations in a short period of time
- In order to expand the hiring of women, efforts must be made for things like **rolling-out proactive PR activities** and considering smooth personnel management based on the future increase in female firefighting officials.
 - For firefighting work, it must be fully understood that restrictions cannot be placed on the work that people can engage in based on their gender, except where restricted by law. **As such, personnel must be allocated in accordance with the desires and aptitude of female firefighting officials.**
 - **Various personnel considerations must be factored in according to the person's life stage**, such as support for balancing work and family life, offering role models, and expanding training opportunities in the form of "positive action."
 - Fire departments, fire stations, and so forth must systematically **promote the installation of facilities like female restrooms and nap rooms**.
 - **Visualization**, such as by posting the status of initiatives to promote the active involvement of women to the website, **should be promoted**.



Female firefighting officials who are active as members on a ladder equipped vehicle (provided by the Tokyo Fire Department)

[Promoting the Active Involvement of Female Members in Volunteer Fire Corps]

- While the number of female volunteer fire corps members has been climbing year by year, the number of volunteer fire corps with female members is only around 64.3% of the total.
- The activities of the volunteer fire corps are growing increasingly diverse and it is anticipated that female members will become actively involved. As such, proactive initiatives geared towards getting women to join will be needed.

- The letters from the Minister of Internal Affairs and Communications (see Special Feature 2) request proactive initiatives to encourage women to join volunteer fire corps, and also call for understanding and cooperation from companies when it comes to having their female employees join volunteer fire corps.
- The **Minister of Internal Affairs and Communications has sent letters of gratitude** to volunteer fire corps that have considerably increased their number of female members.
- The **FDMA is instituting measures conducive to encouraging women to join, such as model projects to promote enrollment in volunteer fire corps**. It is also requesting proactive initiatives geared towards getting women to join volunteer fire corps in municipalities with no female volunteer fire corps members.
- The FDMA holds the **Nationwide Female Firefighting Skills Convention**, which aims to improve the firefighting skills of female volunteer fire corps members and boost their moral. It also holds the **National Convention to Encourage Female Volunteer Fire Corps Members**, which is designed to further encourage the activities of female volunteer fire corps members.



National Convention to Encourage Female Volunteer Fire Corps Members

Recent Developments in International Exchange related to International Emergency Relief and Fire and Disaster Prevention (Topic 2)

[Dispatch of International Emergency Relief Teams for the Nepal Earthquake Disaster]

A massive earthquake with a magnitude of 7.8 struck Nepal at approximately 15:11 on April 25, 2015 (Japan time). This caused enormous damage that left more than 8,000 people dead and over 20,000 people injured, primarily in the capital of Kathmandu.

- Based on the decision to mobilize by the Commissioner of the FDMA, **an International Rescue Team of Japanese Fire-service comprised of 17 people from the FDMA and seven fire departments** gathered at Narita International Airport by 12:00 on April 26.
(The international emergency relief team that was dispatched consisted of 70 people in total from firefighting (International Rescue Team of Japanese Fire-service), the Ministry of Foreign Affairs, the police, the Japan Coast Guard, JICA, and more.)
- Due to the impact from the congestion at the Kathmandu airport in the afflicted region, the rescue team arrived a day later than scheduled at 11:44 on April 28 (local time). The team **promptly initiated its search and rescue efforts** starting from the afternoon of the same day by gathering advance information via the local Japanese embassy and other sources.
(The search and rescue efforts concluded on May 6, and they returned home early in the morning on May 9 (Japan time).)
- The international emergency relief team has acquired a capacity evaluation of “Heavy,” which is the highest category, from the International Search and Rescue Advisory Group (INSARAG). The scope of the search and rescue activities were demarcated by the On-Site Operations Coordination Centre (OSOCC), which coordinates with the rescue teams from each country (spearheaded by the United Nations) and the disaster response headquarters in the afflicted country. As a result of this, the international emergency relief team **carried out search and rescue efforts in locations where advanced search and rescue skills were required**. Their responsible areas included highly dangerous places where an enormous amount of rubble had been accumulated and also there were buildings that had been about to collapse.



Search and rescue efforts by means of manually removing rubble (Saku)



Search and rescue efforts using jackhammers (Gonggabu Municipality)

[Participation in the Third UN World Conference on Disaster Risk Reduction]

The Third UN World Conference on Disaster Risk Reduction was held in Sendai City from March 14 to 18, 2015. The Minister of Internal Affairs and Communications served as a co-chair for a session on “Mobilizing Women’s Leadership,” in addition to which related events were held by cosponsoring forums.

- Minister of Internal Affairs and Communications Takaichi served as the co-chair at the “Mobilizing Women’s Leadership” session. In her opening address, she introduced examples of activities by female volunteer fire corps members and women’s firefighting clubs during the Great East Japan Earthquake, **while also remarking on the importance of female leadership at each stage of disaster response**.
- **A forum was held on the theme of “The Role of Volunteer Fire Corps and Local Residents during Earthquakes, Tsunamis, Landslides, and Other Disasters.”** Presentations on examples of activities during recent disasters and exchanges of opinions were also carried out for activities by junior high schools and volunteer fire corps in the afflicted regions during the Great East Japan Earthquake.
- **Japan’s outstanding firefighting science and technology and its countermeasures based on the Great East Japan Earthquake were introduced**, and firefighting drills, firefighting vehicles, and firefighting science and technology were displayed with the cooperation of four fire defense headquarters.



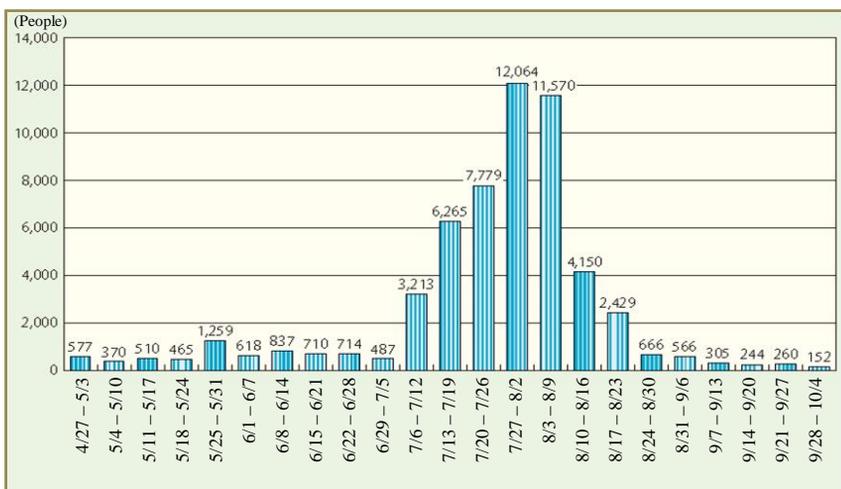
Minister of Internal Affairs and Communications Takaichi serving as co-chair of a session

Handling Heatstroke (Topic 3)

- In an ordinary year, more than 40,000 people will receive emergency transport for heatstroke in Japan in the summertime, making this an extremely important issue regarding the people's lives and safety.
- Since such cases are concentrated within a certain time period, it is important to transport people to medical institutions quickly and properly and carry out awareness-raising activities in partnership with related institutions from the perspective of smoothly carrying out ambulance services.

(Surveys on the Number of People Requiring Emergency Transport due to Heatstroke in the Summer)

- **Surveys on the number of people requiring ambulance transport due to heatstroke have been carried out** since 2008. This is designed to clarify the actual status of ambulance transport due to heatstroke across Japan and provide information to the media and research agencies, to thereby promote awareness-raising activities on preventing heatstroke and contribute to the development of scientific knowledge on it.



State of emergency transport due to heatstroke in 2015 (changes by week)



Leaflet on Heatstroke Countermeasures

(Overview of the Survey)

- The number of people requiring ambulance transport due to heatstroke surpasses 40,000 people in an ordinary year, with said number of people surpassing 50,000 in 2010, 2013, and 2015, which were years in which the heat was particularly intense.
- In 2015 (survey period: April 27 - October 4) the **number of people requiring ambulance transport due to heatstroke came to 55,852 people** (the number of people requiring ambulance transport in July came to 24,567, which is a record high for said number of people in July since the survey began in 2008). The majority of the people transported were elderly people, with this being the first time since the survey began that the recorded number of elderly people exceeded 50%.

(Initiatives by Firefighting Agencies)

- In order to prevent heatstroke, it will be important to raise awareness of it nationwide by announcing the results of the survey. It will also be important to roll-out ongoing awareness-raising activities in partnership with concerned parties in each region.
- The FDMA **distributes the Leaflet on Heatstroke Countermeasures** to firefighting agencies throughout Japan, and urges them to make use of opportunities such as various events, voluntary firefighting training, and first-aid treatment training. It also **disseminates finely detailed information via Twitter and its website**.
- The FDMA also provides support to ensure that effective heatstroke prevention measures are carried out at fire departments. It does this by sending notifications to regional public organizations and urging them to actively spread the word on heatstroke prevention measures by taking every available opportunity, while also introducing advanced case examples.

(Initiatives for the 2020 Tokyo Olympics and Paralympic Games)

- The FDMA will continue to collaborate with the related government ministries and agencies over setting in place ambulance service systems for heatstroke suffered by guests, and also for **launching an examination structure regarding providing relevant information on heatstroke and other issues** to foreign visitors.
- The FDMA is considering issues like strengthening education on heatstroke prevention aimed at foreign visitors and the general public in the area around where the games will be held, preparing and distributing foreign language versions of educational materials (Twitter, leaflets), and raising public awareness about heatstroke prevention measures through first-aid drills.

Handling the Heavy Rains that Continued after Typhoon No. 18 (Including the Torrential Rains in Kanto and Tohoku in September 2015) (Topic 4)

- The effects of Typhoon No. 18 and the low-pressure system that resulted from the typhoon gave rise to heavy rains over an extensive region spanning from western Japan to northern Japan. There were record heavy rains, particularly in the Kanto and Tohoku Regions.
- In Joso City, Ibaraki Prefecture, embankments along the Kinugawa River burst, killing two people and causing damage to a great many houses.
- A total of eight people died in Miyagi Prefecture, Ibaraki Prefecture, and Tochigi Prefecture.

[FDMA Disaster Bulletin No. 36 (November 30, 2015)]

(Response by Firefighting Agencies)

- In Joso City, Ibaraki Prefecture, rescue efforts were implemented for people requiring rescue in partnership with local fire departments and volunteer fire corps, wide-area firefighting and mutual aid teams within Ibaraki Prefecture, and Emergency Fire Response Teams.
- In response to a relief request from the governor of Ibaraki Prefecture, the Commissioner of the FDMA sought the mobilization of Emergency Fire Response Teams to the capital region and five prefectures (Tokyo, Gunma Prefecture, Saitama Prefecture, Chiba Prefecture, Niigata Prefecture, and Yamanashi Prefecture), **where a total of 572 teams and 2,246 people carried out activities over eight days.**
- The Emergency Fire Response Teams' land teams used amphibious buggies and boats, waders, and dry suits to **rescue residents who had been left behind in water-logged areas,** and also engaged in activities to confirm the resident's personal safety via door-to-door visits.
- The Emergency Fire Response Teams' aerial teams partnered with local aerial teams, the JSDF, police, the Japan Coast Guard, and others to **carry out rescue efforts for residents who were isolated in their homes, and also collect information on the damage from the skies above.**



Rescue efforts by boat
(September 11, 2015) (Provided by the Tokyo Fire Department)



Aerial rescue efforts
(September 11, 2015) (Provided by the Tokyo Fire Department)

(Cooperation with Related Agencies)

- Decisions on action plans to carry out rescue and transport quickly and efficiently for the enormous number of people requiring rescue, as well as the determining criteria for suspending activities given the rainfall in order to ensure the safety of the team members, were examined and fine-tuned in partnership with related agencies (Ibaraki Prefecture, firefighters, JSDF, police, Japan Coast Guard, DMAT, IMA, Ministry of Infrastructure, Land, Transport and Tourism (MLIT), and others).
- Coordination was carried out over the regions in which helicopters were active, the sharing of roles, transport of rescue teams, and so on to **smoothly carry out rescue efforts in the limited air space.**



Ibaraki Prefecture disaster response headquarters
(September 11, 2015, Ibaraki Prefectural Government Office)

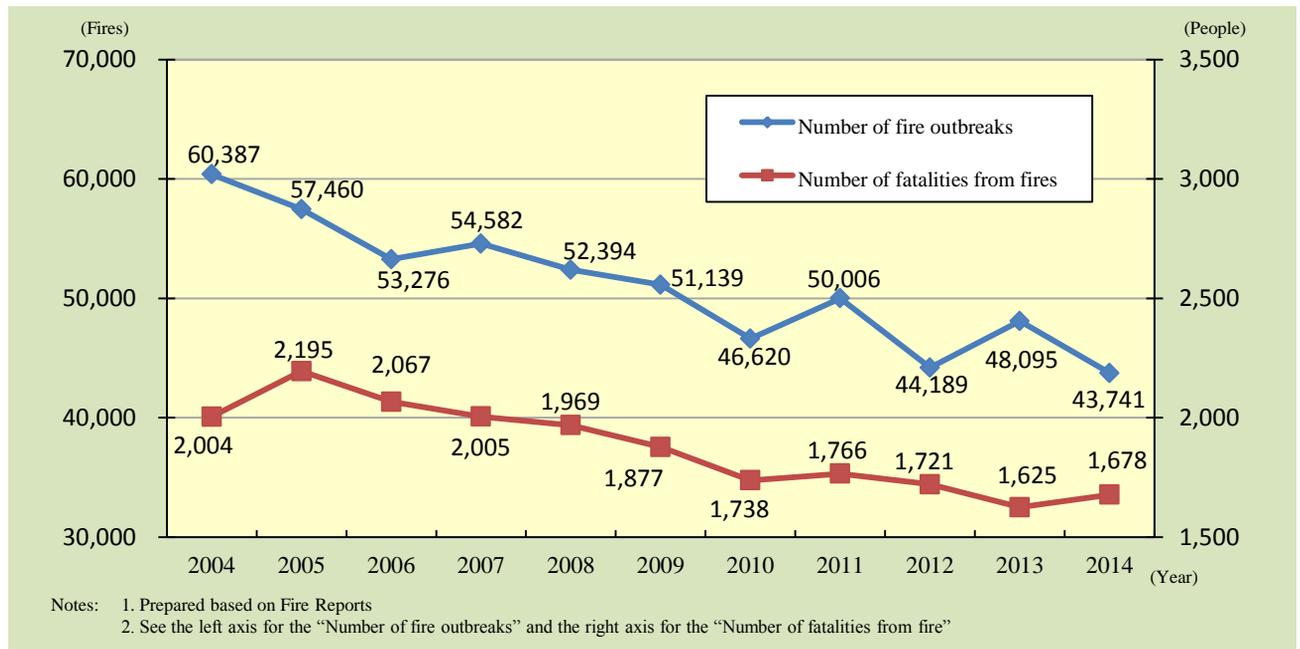
Major Statistical Figures

Current Status of Fires and Recent Trends (Chapter 1, Section 1)

○ The number of fire outbreaks and number of fatalities from fires have been largely trending downward over the past ten years

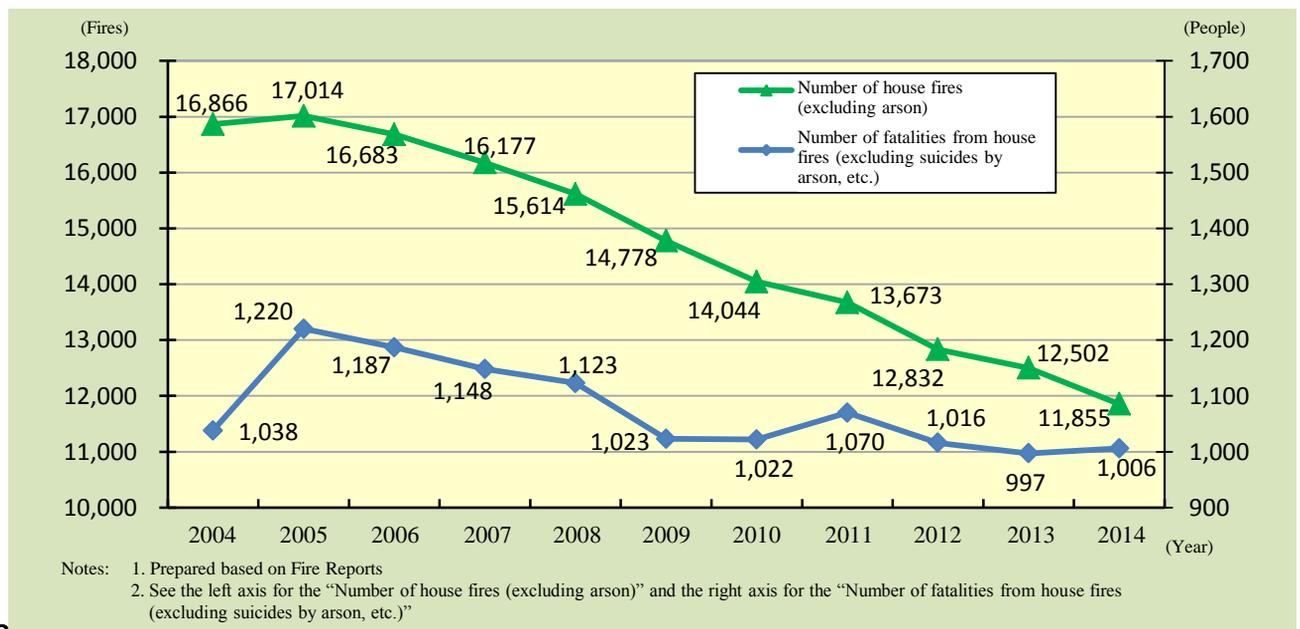
- The number of fire outbreaks in 2014 came to 43,741, with the number of fatalities from these fires coming to 1,678 people.
- The number of fire outbreaks decreased compared to the previous year (a decrease of 4,354 fires), coming to **72.4% versus ten years ago**.
- The number of fatalities from fires rose compared to the previous year (increase of 53 people), **coming to 83.7% versus ten years ago**.
- There were 4,884 cases of fires caused by arson, which has been the number one cause of outbreaks of fire for 18 years in a row.

[Trends in the number of fire outbreaks and the number of fatalities from fires]



- The number of house fires (excluding arson) in 2014 came to 11,855 fires, while the number of fatalities from house fires (excluding suicides by arson, etc.) came to 1,006 people.
- The number of house fires decreased from the previous year (a decrease of 647 fires), coming to 70.3% versus ten years ago.
- While the number of fatalities from house fires increased from the previous year (an increase of nine people), it represents a drop of 214 people compared with 2005, when 1,220 fatalities were recorded.
- The installation rate for home fire alarms is 81.0% (as of June 1, 2015).

[Trends in the number of house fires (excluding arson) and the number of fatalities from house fires (excluding suicides by arson, etc.)]



Major Storms and Floods in 2015 (Chapter 1, Section 5)

○ Heavy rains accompanying Typhoon No. 11

- This typhoon made landfall near Muroto City, Kochi Prefecture around 23:00 on July 16
- Typhoon No. 11 and the intermixing of the warm, damp air facing the typhoon resulted in a great deal of precipitation, primarily centered around western and eastern Japan. In the Kinki Region, in particular, there were lots of locations in which the precipitation that fell in a 24-hour period exceeded the monthly average precipitation figures for all of July, and some locations saw their single highest maximum precipitation in 24-hours in recorded history

○ Heavy rains accompanying Typhoon No. 15

- This typhoon made landfall near Arao City, Kumamoto Prefecture after 6:00 on August 25
- As a result of Typhoon No. 15 and the warm, damp air blowing from the south, heavy rains blanketed the Nansei Islands, western Japan, and the Tokai Region, while intense rains fell in a localized manner in Kyushu, Yamaguchi Prefecture, and Mie Prefecture

○ Heavy rains accompanying Typhoon No. 18 (including the torrential rains in Kanto and Tohoku in September 2015)

- Typhoon No. 18 and the damp air blowing from the south towards the low pressure system resulting from the typhoon resulted in heavy rains that blanketed a wide region from western Japan to northern Japan. The Kanto and Tohoku Regions in particular saw record heavy rains
- The Japan Meteorological Agency (JMA) issued special warnings for heavy rains for Tochigi Prefecture at 00:20 on September 10, for Ibaraki Prefecture at 07:45 the same day, and for Miyagi Prefecture at 03:20 the next day on September 11

[Status of damage from major storms and floods in 2015]

No.	Disaster name	Major afflicted regions	Human harm (people)			Damage to homes (buildings)					No. of prefectures that established disaster response headquarters
			Fatalities	Missing persons	Injured	Totally destroyed	Half destroyed	Partial damage	Above-floor flooding	Below-floor flooding	
(1)	Heavy rains accompanying Typhoon No. 11	Tohoku, Kansai, Shikoku	2		59	2	3	38	63	180	5
(2)	Heavy rains accompanying Typhoon No. 15	Chubu, Chugoku, Kyushu, Okinawa	1		134	10	90	2,075	28	192	5
(3)	Heavy rains accompanying Typhoon No. 18 (including the torrential rains in Kanto and Tohoku in Sept. 2015)	Tohoku, Kanto, Chubu	8		79	79	6,014	410	2,870	10,059	5

Major Volcanic Activity in 2015 (Chapter 1, Section 8)

○ Kuchinoerabu-jima Island

- An explosive eruption occurred at 9:59 on May 29, and a plume of black ash-colored smoke rose more than 9,000m above the crater rim.
- At 10:07 the same day the JMA raised the volcanic alert level from 3 (Do not approach the volcano) to 5 (Evacuate).
- Yakushima Town instituted an island-wide evacuation (137 people) that same day.
- On October 21 the JMA issued an eruption warning in which the range requiring rigorous warnings for evacuations and the like extended over a range stretching roughly 2 km from Shindake Crater, and roughly 2.5 km to the west of Shindake Crater.

○ Mount Asama

- At 15:30 on June 11 the JMA raised the volcanic alert level from 1 (Potential for increased activity) to 2 (Do not approach the crater).
- Extremely minor eruptions occurred at the summit crater on June 16 and 19.

○ Mount Hakone

- Extremely minor eruptions occurred in Okuwadani from the night of June 29 until the morning of June 30.
- At 12:30 on June 30 the JMA raised the volcanic alert level from 2 (Do not approach the crater) to 3 (Do not approach the volcano). (Thereafter, the volcanic alert level was lowered from 3 to 2 on September 11, and from 2 to 1 (Potential for increased activity) on November 20.)

○ Sakurajima Island

- Volcanic earthquakes with their hypocenter located in the vicinity directly under Minamidake Crater began frequently occurring starting from around 7:00 on August 15.
- At 10:15 the same day the JMA raised the volcanic alert level from 3 (Do not approach the volcano) to 4 (Prepare to evacuate). (Thereafter, the volcanic alert level was lowered from 4 to 3 on September 1, and from 3 to 2 (Do not approach the crater) on November 25.)

○ Mount Aso

- At 9:43 on September 14 an eruption occurred at the No. 1 craterlet at the volcano's Nakadake Crater, and an enormous amount of ejected material was scattered in the vicinity around the craterlet and a pyroclastic flow began flowing downward.
- At 10:10 the same day the JMA raised the volcanic alert level from 2 (Do not approach the crater) to 3 (Do not approach the volcano). (Thereafter, the volcanic alert level was lower from 3 to 2 on November 24).
- The JMA issued a Volcanic Activity Bulletin the same day at 9:50 (the first one issued since they began to be used in August 4, 2015).

Status for Firefighting Organizations (As of April 1, 2015) (Chapter 2, Section 1)

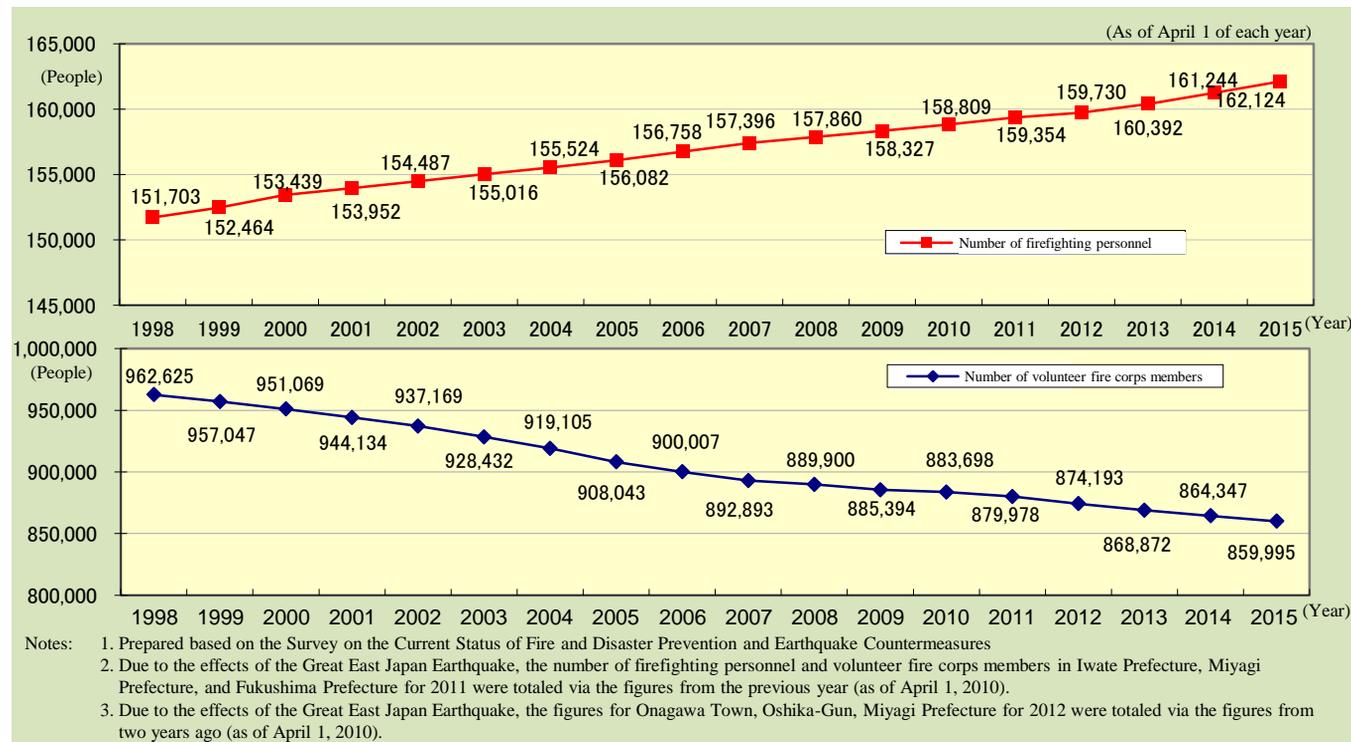
○ Fire departments

- 750 fire departments and 1,709 fire departments have been established, with the number of firefighting personnel coming to 162,124 people.

○ Volunteer fire corps

- The number of volunteer fire corps is 2,208 and the number of members is 859,995 people. Volunteer fire corps have been established in every municipality.

[Trends in the number of firefighting personnel and volunteer fire corps members]



Ambulance Service Implementation Status (Chapter 2, Section 5)

- The number of times ambulances have been dispatched for emergencies has risen year by year. In 2014 they were **dispatched a record high 5,984,921 times, which is a roughly 19% increase compared to ten years ago.**
- The number of ambulance service teams established as of April 1, 2015 is **5,069 teams (an increase of 41 teams compared with the previous year), which is a roughly 7% increase compared with ten years ago.**
- The **average time required to take someone to a hospital was 39.4 minutes** in 2014 (this is 9.4 minutes longer compared with ten years ago).
- The **average time required to reach the scene was 8.6 minutes** in 2014 (this is 2.2 minutes longer compared with ten years ago).

[Trends in the time required to reach the scene and the time required to take someone to a hospital by ambulances]

