

# Fire and Disaster Management Agency



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#### ACCESS

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「全国消防イメージキャラクター」



# The spirit to "protect people and communities" gets the team united.

「守りたい」、その想いがチームをひとつにする。

Across the country, 732 Fire Service Institutes, around 160,000 personnel, and around 850,000 Volunteer Fire Corps members. Fire and Disaster Management Agency (FDMA) embodies the spirit of each and every one of them (FDMA).

Through fire prevention, firefighting, rescue operations and ambulance services, the agency is "the security and safety of the people", and along with Fire Service Institutions across the country and the crisis management bureaus of prefectures and municipalities, it plays a large role at keeping damage to a minimum and enhancing fire and disaster prevention systems.

In order to properly confront against large-scale disasters that threaten to occur in the future, such as the Nankai Trough Earthquake and the Tokyo Inland Earthquake, we will work hard at making all of the communities in our country safer places where all people can live securely.

"Protecting" beloved communities." "Protecting beloved people."

Their spirits inspire the team members to run to the disaster field.

全国の消防本部732本部、職員約16万人、消防団員約85万人。その一人ひとりの想いを束ねるのが消防庁です。火災の予防や消火、救急、救助など「国民の安心・安全」の担い手として、消防防災体制を強化するとともに、全国の消防本部や都道府県・市町村の危機管理部局と共に被害を最小限に防ぐ大きな役割を果たしてきました。今後、発生が懸念される南海トラフ地震や首都直下地震などの大規模地震などにも、一丸となって立ち向かうべく、誰もが安心して暮らせる全国の地域づくりに取り組んでいきます。大好きな街を守りたい。大切な人を守りたい。チームをひとつにして、想いは現場へと走ります。



















石油コンビナート災害に対応するドラゴンハイパー・コマンドユニ ■ 住民への災害情報伝達手段の多重化・多様化

5 ■ 災害情報伝達手段に関するアドバイザー派遣事業 ■人命救助の専門部隊「レスキュー隊」の活動

■ 国際緊急援助・国際協力





## Mission of Fire and Disaster Management Agency (FDMA)

消防庁の役割

(消防組織法第1条)

disaster administrations. 消防行政の礎として!

Local communities Voluntary disaster Municipal governments

develops requisite legislation and guidelines, and 'secure and safe communities' strategically and and local governments across the nation.

社会経済情勢等の変化とこれに伴う地域社会の変化の中で、「安心・安全な地域づくり」を戦略的 かつ実践的に推進していくため、全国の消防本部や地方公共団体と連携して、必要な法令・ガイド ラインの整備、車両・資機材の配備を行います。

FDMA

**Prefectural** 

Local governments

Fire service institutions

FDMA works as the control tower to deal with disasters. 災害対応の司令塔として!

In the event of emergencies such as extraordinary natural disasters including large-scale earthquakes and typhoons, catastrophic accidents and terror attacks, with which each local fire and disaster team alone cannot cope, FDMA grabs the big picture of damage immediately, and at the same time, dispatches Emergency Fire Response Teams to the disaster hit area, in order to minimize the

地域の消防力では対処できない大規模地震や台風などの自然災害、大規模事故、テロや有事な どの緊急事態に際し、被害の全貌を迅速に把握するとともに、全国的な見地から緊急消防援助隊の 派遣などを行い、被害の抑制に当たります。

災害の種類

#### Tasks of fire service 消防の任務

Utilizing the available facilities and human resources, fire service shall protect the lives, physical being and property of the public from fire, and take precautions against disasters such as storms, floods, fires and earthquakes, while mitigating the damage of these disasters. Fire service is also responsible for the appropriate transport of persons who have sustained injuries due to a disaster. (Fire and Disaster Management Organization Act, Clause 1)

消防は、その施設及び人員を活用して、国民の生命、身体及び財産を火災から保 護するとともに、水火災又は地震等の災害を防除し、及びこれらの災害による被害 を軽減するほか、災害等による傷病者の搬送を適切に行うことを任務とする。

•Earthquake •Tsunami •Wind and flood damage •Volcanic eruption Fire ·Hazardous material accident ·Nuclear disaster

 Aviation accident •Marine accident •Railroad accident •Road accident ・地震災害・津波災害・風水害・火山災害・火災・危険物事故・原子力災害

•航空事故 •海上事故 •鉄道事故 •道路事故 ·Aerial piracy ·Mass killing terror attack

> Terror attack on principal facilities ・ハイジャック・大量殺傷型テロ・重要施設テロ

·Landing invasion ·Missile attack

Attack by guerrillas or special operation forces
Aerial intrusion

・着上陸侵攻・ミサイル攻撃・ゲリラ・特殊部隊による攻撃・航空攻撃

#### Save lives that can be saved

■ Development of firefighting systems and activity

■ Response to large-scale natural disasters in recent years

■ Activities of "Rescue Teams " special lifesaving units"

 $rescue\,from\,every\,region\,of\,the\,country$ 

■ "Emergency Fire Response Teams," the elite units that rush to the

● TOPICS 1/The fire disaster team, "Dragon Hyper Command Unit,"

■ Multiplexed and diversified disaster information channels for residen Project to dispatch advisors on disaster information channels

■ International emergency assistance and international cooperation

which specializes in coping with petroleum complex fires

■ Integration of fire departments ■ TOPICS 2/ Promotion of countermeasure for great fires based on the lessons of the large fire at Itoigawa City

Preparedness against large-scale disasters, such as the

Nankai Trough Earthquake and the Tokyo Inland Earthquake

- Step-up of lifesaving and ambulance service systems ●TOPICS 3/Foreign language support in ambulance services
- 消防体制・活動環境の整備

■ 消防の広域化

- TOPICS 2
- 糸魚川市大規模火災の教訓を踏まえた対応策の推進
- 救急救命体制の充実強化 ● TOPICS 3/救急現場の外国語対応



多様化する火災・企業災害を未然に防ぐ

### Prevent fires and industrial disasters recently becoming diversified

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■ Prevent fires facing greater complexity in form

- Promotion of residential fire prevention measures ■ Investigations into the causes of fires and leakage of hazardous materials and promotion of prevention of fire caused by ignition of products
- TOPICS 4/Multi-lingual support of evacuation guidance in facilities used by foreign isitors and disabled persons
- Enhancement of disaster prevention measures at petroleum complexes, etc. ● TOPICS 5/Skill contest of self-defense disaster management groups at petrolet
- Safety at hazardous materials facilities Preparedness for nuclear disasters
- TOPICS 4 外国人来訪者や障害者等が利用する
- 施設における避難誘導等の多言語対応等
- 石油コンビナート等の防災体制の強化 ● TOPICS 5
- 石油コンビナート等における自衛防災組織の技能コンテス
- 危険物施設の安全確保 原子力災害への備え

■ 多様化する火災の予防 ■ 住宅防火対策の推進

■ 火災原因・流出事故原因調査、製品火災対策の推進

#### Enhance disaster management at communities with Volunteer Fire Corps playing the central role

MISSION

P19~P20

MISSION

P21~P22

MISSION

- TOPICS 6/The law to step up disaster management capacity for the community with Volunteer Fire Corps playing the central role
- Activities to promote participation in Volunteer Fire Corps ■ Development of voluntary disaster prevention organizations which support disaster prevention for communities

■ Volunteer Fire Corps as the core of local communities

- 地域・コミュニティの核としての消防団員
- TOPICS 6 消防団を中核とした地域防災力の充実強化に関する法律
- 消防団への加入促進に関する取組
- 地域防災を支える自主防災組織等の育成



## Protect people from terrorism and armed attacks

■ Joint training for civil protection

- Preparation of equipment for NBC disasters
- Nationwide immediate warning system (J-ALERT)

■ 国民保護共同訓練

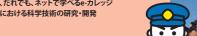
■ 全国瞬時警報システム「Jアラート」



#### Develop human resources and employ new technologies

■ Educational training for firefighters and Volunteer Fire Corps ■ 消防職員・団員の教育訓練

- "e-COLLEGE" anyone can learn via the Internet no matter where
- Technological research and development in fire and disaster
- ・どこでも、だれでも、ネットで学べるe-カレッジ





■ Organizations and Facilities ■ Emergency Management Center

■ 組織・施設 ■ 消防防災・危機管理センター

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FDMA serves as the foundation for fire and

Within a rapidly changing socio economy and the consequently changing societies of communities, FDMA strategically and practically creates secure and safe communities through developing requisite laws and guidelines, and preparing vehicles and equipment, through cooperation with Fire Service Institutes and local governments across the country.

With the changes in the socioeconomic situation and the consequent changes of local communities, FDMA

prepares vehicles and equipment in order to promote practically in cooperation with Fire Service Institutions

Prefectural

and Volunteer Fire Corps **Local residents** 

**Disaster types** 

accident

大規模災害・事故

Serious incidents

**Armed attack** 

重大事件

武力攻撃事態



etc.

mmmm

Preparedness for large-scale disasters, such as the Nankai Trough Earthquake and the Tokyo Inland Earthquake

南海トラフ地震・首都直下地震などの大規模災害に備える





#### Utilize the lessons learned from past disasters to prepare for future large-scale disaster situations 過去の災害の教訓を活かし、今後の大規模災害に備える

Since the Great East Japan Earthquake, the most serious disaster since World War II, we have faced numerous challenges in various aspects such as the preparation of diversified disaster information tools for residents, secure and rapid mobilization of firefighting forces, support for long-term firefighting activities, and the safety of firefighters and Volunteer Fire Corps. In addition, frequent large-scale disasters, such as landslide disasters and volcanic eruptions, have caused enormous damage recently.

Utilizing the lessons learned from these disasters, FDMA is building fire and disaster management systems to protect citizens by functional enhancement of the Emergency Fire Response Teams and other measures, in preparation for anticipated large-scale earthquakes like the Nankai Trough Earthquake and the Tokyo Inland Earthquake.

戦後最大の災害となった東日本大震災では、住民への多様な災害情報伝達手段の確保、消防力の確実かつ迅速な投入、長期に及ぶ消防活動への対応及び消防職団員の安全確保など、 さまざまな課題が残されました。

また、近年、大規模土砂災害や火山噴火災害など、甚大な被害をもたらす災害が多発しています。

消防庁では、これらの災害の教訓を活かし、今後発生が懸念される南海トラフ地震、首都直下地震などの大規模地震に備え、緊急消防援助隊の機能強化など、国民の命を守る消防防災体

#### Response to large-scale natural disasters in recent years 近年の大規模自然災害への対応

#### The Great East Japan Earthquake 東日本大震災

At 14:46, March 11th 2011, the Great East Japan Earthquake, a trench-type earthquake with an epicenter offshore at Sanriku, occurred and a massive tsunami followed, causing heavy damage to Japan. The fatalities reached up to 22,199, including missing persons. 120,000 houses/buildings were completely destroyed and 280,000 partially damaged (as of March

The FDMA commissioner ordered the dispatch of Emergency Fire Response Teams in all prefectures, excluding the heavily-damaged lwate, Miyagi, and Fukushima prefectures, immediately after the earthquake. Thus approx. 31,000 units (approx. 110,000 members) went to the disaster hit areas and performed search and rescue activities for 88 days. The air teams performed rescue activities, ambulance services, and information gathering. The land teams performed firefighting activities, rescue operations, and ambulance services. They

Also, when the Fukushima Daiichi nuclear disaster occurred, FDMA received a request from the Prime Minister and the Minister for Internal Affairs and Communications for the Emergency Fire Response Teams to discharge water to the used nuclear fuel pools at the power plant.

津波によって引き起こされた東日本大震災は、死者・行方不明者あわせて2万2,199人の人的被 害と、全壊約12万棟、半壊約28万棟の住家被害(平成30年3月1日時点)をもたらしました。

地震発生直後、岩手県、宮城県及び福島県の被災県以外の44都道府県に対して、消防庁長官 から緊急消防援助隊の出動を指示しました。発災日から88日間にわたり、延べ約3万1,000隊、

平成23年3月11日14時46分に発生した三陸沖を震源とする海溝型地震とそれに伴う巨大な約11万人の隊員が被災地へ派遣され、活動を展開しました。主な活動として、航空部隊は人命 救助、救急搬送及び情報収集など、陸上部隊は消火、救助、救急活動などを行い、現在までに 5,064人の人命を救助しました。

また、福島第一原子力発電所事故に際しては、内閣総理大臣や総務大臣からの要請を受けて、 緊急消防援助隊が使用済核燃料プールへの放水活動を行いました。



onse Teams being called out to the disaster hit areas/ Otsuchi-cho, Iwate, the Great Fast Japan Farthquake 被災地へ出動中の緊急消防援助隊/ 東日本大震災・岩手県大槌町



Kesennuma City, Miyagi, the Great East Japan Earthquake 宮城県における救急活動 東日本大震災・宮城県気仙沼市





#### **Mount Ontake Eruption** 御嶽山噴火災害

On September 27th 2014, Mount Ontake along the border of Nagano and Gifu Prefectures erupted, killing 63 people (including missing people).

FDMA dispatched 1.049 units of Emergency Fire Response Teams consisting of 4.332 members, including hyper rescue units with equipment for detecting volcanic gas, and rescue and aerial units specializing in mountainous regions. The Emergency Fire Response Team implemented information gathering with FDMA heliconters, and search and rescue on the top of the mountain while combatting the pile of volcanic ash.

平成26年9月27日、長野県・岐阜県の県境にある御嶽山が噴火し、死者・行方不明者63名という甚大な被害が

消防庁では、火山ガスの検知が行える資機材を保有する高度救助隊、山岳地域での活動に精通した救助隊及び 航空隊など、延べ1,049隊4,332人の緊急消防援助隊を派遣し、消防庁へりによる被害情報の収集、火山灰をかき

# The Kumamoto Earthquake

The Kumamoto Earthquake, which occurred in April 2016, caused a series of violent tremors, and seasonal heavy rain brought about landslide disasters in places where the guake had loosened the ground. These incidents led to great damage, including the deaths of 258 people and the destruction of over 200,000 residences (as of

FDMA dispatched 4,336 units of the Emergency Fire Response Team consisting of 15,613 members to Kumamoto Prefecture. The ground units conducted searches and rescue operations and ambulance services, and the aerial units put into effect rescue operations, information gathering using a helicopter satellite communication system. and video distribution. In Kumamoto Prefecture they rescued 86 people and took 388 people to hospitals.

平成28年4月に発生した熊本地震では、一連の地震による激しい揺れ、さらに梅雨前線等の影響による大雨では 地震によって地盤が緩んだところに土砂災害を発生させるなどして、死者258名、住家被害20万戸以上(平成30年 2月14日時点)という甚大な被害が発生しました。

消防庁では、熊本県に対して、延べ4,336隊1万5,613人の緊急消防援助隊を派遣し、陸上隊による捜索・救助活 動や救急搬送、また、航空隊による救助活動やヘリサットシステムを活用した情報収集や映像配信などを実施し、 熊本県内において、86人を救助、388人を救急搬送しました。

#### Torrential rain in Northern Kyushu, July 2017 平成29年7月九州北部豪雨

Torrential rain in the Northern Kyushu area from the 5th to the 6th of July 2017 caused overflow of small and medium-sized rivers in the mountainous area, as well as landslides. This resulted in great damage in Fukuoka and Oita Prefectures including 42 people either dead or missing (as of January 16th 2018), and also brought on great

FDMA dispatched 3,090 units of the Emergency Fire Response Team consisting of 11,256 members to Fukuoka and Oita Prefectures. They conducted searches and rescue operations and information gathering on the damage, utilizing FDMA helicopters and special vehicles such as amphibious buggies.

平成29年7月5日から6日に九州北部地方で発生した豪雨の影響で、山間部の中小河川が増水、氾濫し、土砂 崩れ等が発生したことにより、福岡県及び大分県では、死者・行方不明者42名(平成30年1月16日時点)という 甚大な被害が発生し、住家等にも多大な被害がもたらされました。

消防庁では、福岡県及び大分県に対して、延べ3.090隊1万1.256人の緊急消防援助隊を派遣し、水陸両用 バギー等の特殊車両や消防庁へりを活用しての捜索・救助、被害情報の収集などを実施しました。

#### Preparation for large-scale disasters in the future 今後発生が懸念される大規模災害への備え

The Nankai Trough Earthquake and the Tokyo Inland Earthquake are forecasted in the future. The damages caused by these earthquakes are expected to be more severe than the Great East Japan Earthquake. Therefore, FDMA is on the way to expand the Emergency Fire Response Team significantly and upgrade their activity systems. In addition, FDMA is making every effort to enhance the fire and disaster management in such measures as strengthening the community's capability in disaster prevention with a focus on Volunteer Fire Corps and sophisticating disaster and risk managements of local governments by utilizing ICT and so forth.

東日本大震災を上回る被害が想定される南海トラフ巨大地震や首都直下地震等に備え、 消防庁では、緊急消防援助隊の大幅増隊、活動体制の充実強化などを図るとともに、消防団を 中核とした地域防災力の充実強化、ICT等を活用した地方公共団体の防災・危機管理体制の 高度化など、消防防災体制の充実強化に取組んでいます。



otember 28th 2014, Otaki-guchi Mountain Trail Mount Ontake rtesy of Tokyo Fire Department 平成26年9月28日・御嶽山王滝口登山道

the FDMA commissioner, October 9th 2014. Hakkai Mountain Villa, Otaki Village -消防庁長官による消防隊員の激励/ 平成26年10月9日・王滝村・八海山荘 バスケット担架等を用いた搬送/

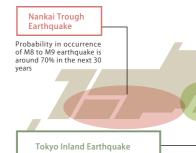




n Minamiaso Village 南阿蘇村の土砂災害の状況



#### ■Large-scale earthquakes that may occur in the future



the Japan Trench and Kuril–Kamchatka

n the next 30 years, M7 to

M8 earthquakes may occur offshore from Nemuro to Ibaraki Prefecture with high

Probability in occurrence of M7 earthquake is

#### "Emergency Fire Response Teams," elite units that rush to the rescue from every region of the country 全国各地から駆けつける精鋭部隊「緊急消防援助隊」

The fire service organization in each region is primarily responsible for defending the security and safety of its local residents. However, when a large-scale, or extraordinary disaster occurs, the fire service organization in the disaster hit area alone might not be able to respond adequately to all requests for firefighting, rescue operations, and ambulance services. Such cases require support beyond the borders of local governments.

According to this concept, the Emergency Fire Response Team was established based on the lessons learned from the Great Hanshin-Awaji Earthquake in 1995.

The Emergency Fire Response Team is formed with the elite units which serve specific functions in order to respond to various types of disaster. They have gone into action in various disasters - the Great East Japan Earthquake in 2011, the Kumamoto Earthquake in 2016, the Torrential Rain of Northern Kyushu in 2017, just to name a few - and performed firefighting, search and rescue operations, and other activities.

消防機関は、それぞれの地域における住民の安心・安全を守っていますが、大規模・特殊災 緊急消防救助隊です。緊急消防援助隊は、様々な災害に対応できるよう機能別に編成された 害が発生した際、被災地の消防機関だけでは消火、救助、救急活動等の要請に対応できない 場合には、自治体の枠を超えて対応する必要があります。

精鋭部隊から構成されており、平成23年の東日本大震災、平成28年の熊本地震、平成29年 の九州北部豪雨等の様々な災害に出動し、消火・救助等の活動を実施しています。

こうした考えから、平成7年に発生した阪神・淡路大震災の教訓をもとに創設されたのが、

#### **Development of Emergency Fire Response Teams** 緊急消防援助隊の体制整備

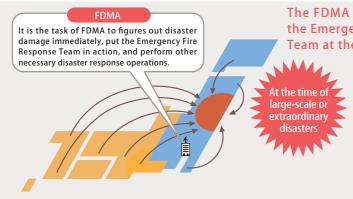
As the Emergency Fire Response Team was active for a longer period and in wider areas during the Great East Japan Earthquake, FDMA has formulated the "Plan regarding the basics of Emergency Fire Response Team formation and facility arrangement", and decided to substantially increase the number of units registered as the Emergency Fire Response Teams to 6,000 by the end of fiscal 2018.

In addition, an exclusive action plan for Emergency Fire Response Teams is also being made to minimize possible damage from the anticipated Nankai Trough Earthquake and the Tokyo Inland Earthquake. By sharing the action plans with all of the Fire Service Institutions in advance, we have made sure that the Emergency Fire Response Teams can be swiftly dispatched, even in turbulent situations just after a large-scale disaster strikes.

消防庁では、東日本大震災での緊急消防援助隊の派遣が広域化・長期化したことを踏まえ、「緊急消防援助隊の編成及び施設の 整備等に係る基本的な事項に関する計画」を策定し、平成30年度末までに緊急消防援助隊の登録隊数を6,000隊に大幅増強する こととしました。

また、懸念される南海トラフ地震、首都直下地震に備え、各地震の被害想定を踏まえた緊急消防援助隊のアクションプランも作成 しています。アクションプランを全国の消防本部と予め共有することにより、発災初期の混乱した状態においても緊急消防援助隊が





The FDMA commissioner requests or instructs the dispatch of the Emergency Fire Response Team at the time of large-scale or extraordinary disasters.



regarding disaster hit areas, and instructs the dispatch of the Emergency Fire Response Team



Emergency Fire Response Teams action, and head for the disaster

operations under the leadership of municipal mayors of the disaster hit area

## Dragon Hyper Command Unit, which copes with petroleum complex fires

#### 石油コンビナート災害に対応するドラゴンハイパー・コマンドユニット

In 2003, the crude oil storage tanks in the Hokkaido Refinery of Idemitsu Kosan were on fire due to an earthquake offshore of Tokachi, and in the Great East Japan Earthquake in 2011, several petroleum complex sites suffered from fire. When fire or explosions occur in energy facilities, not only the surrounding area is put at risk, but the daily lives of people are also affected by long-term oil and other energy shortages.

Therefore, FDMA has deployed the Dragon Hyper Command Unit, a rapid reaction force in the Emergency Fire Response Team for energy and industrial infrastructure disasters, such as petroleum complexes and chemical plants. The main driver of the team is the water system for energy and industrial infrastructure disaster responses, which can discharge large volumes of water for long time periods.

平成15年十勝沖地震で発生した出光興産(株)北海道製油所原油貯蔵タンク火災や、平成23年 東日本大震災では、複数の石油コンビナートにおいて火災が発生しました。エネルギー関連施設で 爆発・火災が発生した場合、周辺地域に危険を及ぼすだけでなく、石油などの不足から国民生活に 長期にわたって深刻な影響が生じる可能性があります。

このため、消防庁では、石油コンビナート・化学プラント等のエネルギー・産業基盤の被災に備え、 緊急消防援助隊に特殊災害の対応に特化した部隊であるエネルギー・産業基盤災害即応部隊 (ドラゴンハイパー・コマンドユニット)の配備を進めています。この部隊は、長時間かつ大容量の 放水ができるエネルギー・産業基盤災害対応型消防水利システムを中核に構成されています。



Crude oil storage tank fire at the Hokkaido Fire at Chiba Refinery of COSMO Oil, which tsu Kosan, which occurred occurred in Ichihara Ćity, Chiba Prefecture in mai City. Hokkaido in 2003 平成15年北海道苫小牧市で発生した出光興産(株) 平成23年千葉県市原市で発生したコスモ石油(株)

北海道製油所での原油貯蔵タンク火災

Hose extension car equipped with 大型放水砲搭載ホース延長車





#### Functional enhancement of Emergency Fire Response Teams 緊急消防援助隊の機能強化

FDMA has been promoting functional enhancement of the Emergency Fire Response Team, based on the Jessons Jearned from the Great Fast Japan Farthquake. To make the initial response of the Emergency Fire Response Teams quicker and more proper, FDMA has set up the joint task forces, which are supposed to swiftly arrive in the disaster areas and perform the initial action of firefighting and rescue operations. Also, to respond to tsunami and landslide disasters, FDMA enhances the mobility of the rescuers' activities in flood areas by preparing amphibious buggies. In addition, on the assumption that the Emergency Fire Response Teams sometimes needs to operate for an extended period of time, FDMA promotes preparation of the operational base-forming vehicles, which are equipped with large air tents, lavatories, shower facilities, and information and communication equipment, and are capable of accommodating 100 firefighters.

緊急消防援助隊の初動対応をより迅速・的確にするため、先遣的に被災地に出動し、消火や

消防庁では、東日本大震災の教訓を踏まえ、緊急消防援助隊の機能強化を進めています。 用バギーの整備等により、浸水地域における活動の機動力を強化しています。さらに、緊急 消防援助隊が長期にわたり活動することを想定し、大型エアーテント、トイレ、シャワー、情報 救助活動等を行う統合機動部隊の創設や、津波災害や土砂災害等に対応するため、水陸両 通信機器等を積載し、100人規模の宿営が可能な拠点機能形成車の配備も進めています。

Tsunami/large-scale storm and flood disaster countermeasure vehicles 津波·大規模風水害対策車



#### Mobility enhancement by preparation of firefighting helicopters 消防防災へリコプターの配備等による機動力強化

With their high speed and mobility, the firefighting helicopters are expected to perform firefighting and disaster response such as rescue operations in mountains and at sea, aerial firefighting in forest fires, and emergency ambulance transport of sick people from distant places. At the time of a large-scale disaster, they play an important role in revealing damage conditions immediately in order to determine the required scale, equipment, and deployment of the Emergency Fire Response Team.

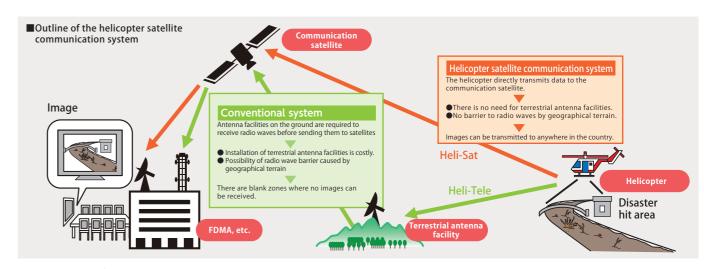
In order to step up the broad-based disaster information gathering arrangement, FDMA promotes the preparation of its own helicopters and the installation of helicopter satellite communication systems, which can directly transmit image information to satellites.

消防防災へリコプターには、山岳や海上での救助活動のほか、林野火災における空中消火、 緊急性の高い傷病者の遠隔地への救急搬送など、ヘリコプターの高速性・機動性を活かした 消防防災活動が期待されています。

大規模災害時には、派遣する緊急消防援助隊の必要規模や装備、進出場所を判断するため

被害状況を迅速に把握する重要な役割を担っています。

消防庁では、広域的な災害情報収集体制の充実強化のため、消防庁へリコプターの整備を 進めるとともに、人工衛星へ直接映像情報を伝送するヘリサットシステムの搭載などを進め



#### ■Dispatch history of Emergency Fire Response Teams

#### Emergency Fire Response Team established in June 1995 March 25th 2007 Noto Peninsula earthquake (seismic intensity: upper 6) December 6th 1996 Sand and stone avalanche in Gamaharazaw April 15th 2007 Earthquake with its origin in Central Mie Prefecture (seismic intensity: upper 5) September 4th 1998 Earthquake with its origin inland of Northern Iwate Prefecture (seismic intensity: lower 6) July 16th 2007 Earthquake offshore of Chuetsu, Niigata Prefecture (seismic intensity: upper 6) March 29th 2000 Mount Usu eruption June 14th 2008 Iwate and Miyagi inland earthquake (seismic intensity: upper 6) October 6th 2000 Earthquake in Western Tottori Prefecture (seismic intensity: upper 6) July 24th 2008 Earthquake with its origin in the Northern Coast of Iwate Prefecture March 24th 2001 Geiyo earthquake (seismic intensity: lower 6) (seismic intensity: lower 6) July 26th 2003 Earthquake with its origin in Northern Miyagi Prefecture (seismic intensity: lower 6 - upper 6) August 11th 2009 Earthquake with it origin in Suruga Bay (seismic intensity: lower 6) August 22nd 2003 Explosion fire accident at Mie Prefecture Refuse-Derived Fuel Power Plant March 11th 2011 Tohoku Earthquake and Tsunami September 8th 2003 Bridgestone Tochiqi factory fire in Kuroiso City, Tochiqi Prefecture (the Great East Japan Earthquake) (seismic intensity: 7) Sentember 26th 2003 Farthquake offshore of Tokachi (seismic intensity: lower 6) October 16th 2013 Landslide in Izu Oshima due to Typhoon Winha September 28th 2003 Idemitsu Kosan Hokkaido refinery naphtha storage tank fire August 20th 2014 Landslide in Hiroshima City due to torrential rains After legislation, April 1st 2004 September 27th 2014 Mount Ontake eruption July 3rd 2004 Torrential rain in Niigata and Fukushima November 23rd 2014 Earthquake with its origin in Northern Nagano Prefecture July 18th 2004 Torrential rain in Fukui May 29th 2015 Kuchinoerabu-jima eruption October 21st 2004 Flood damage from Typhoon Tokage in Toyooka City, Hyogo Prefectur September 10th 2015 Kanto and Tohoku torrential rain April 14th 2016 Kumamoto earthquake (seismic intensity: 7) October 23rd 2004 Earthquake in Chuetsu, Niigata Prefecture (seismic intensity: 7) March 20th 2005 Earthquake with its origin offshore of Western Fukuoka Prefecture (seismic intensity: lower 6) August 31st 2016 Damage from Typhoon Lionrock March 27th 2017 Avalanche in Nasu Town, Tochigi Prefecture April 25th 2005 JR West Fukuchiyama Line rail crash January 30th 2007 Buried vehicles due to landslide in Kamikitayama Village, Yoshino District, Nara Prefecture July 5th 2017 Torrential rain in Northern Kyushu

#### To multiplex and diversify disaster information channels for residents 住民への災害情報伝達手段の多重化・多様化

FDMA has developed the fire and disaster prevention communication network – which must be robust for quick and proper information gathering and sharing at the time of large-scale disasters. The network includes the central wireless communication network used for sharing information in the government, the fire and disaster prevention wireless communication network connecting FDMA and the prefectural governments, and the municipal disaster information wireless broadcast system to transmit information from the municipal governments to the residents.

防災通信ネットワークの整備が不可欠です。消防庁では、政府内の情報収集に使用する中央 村防災行政無線等の消防防災通信ネットワークの充実強化に取組んでいます。

大規模災害時に、迅速かつ確実に災害情報の収集及び伝達を行うため、災害に強い消防 防災無線網、消防庁と都道府県を結ぶ消防防災無線、市町村から住民に情報を伝達する市町

#### Rapid and reliable transition of disaster information to residents 災害情報の住民への迅速かつ確実な伝達

In large-scale disasters, the collection of damage information, and reliable transmission of instructions for evacuation and other information to residents are important. In the Great East Japan Earthquake, some of the disaster information wireless broadcast systems were disabled due to breakage, damage, and loss of power caused by the earthquake and the tsunami.

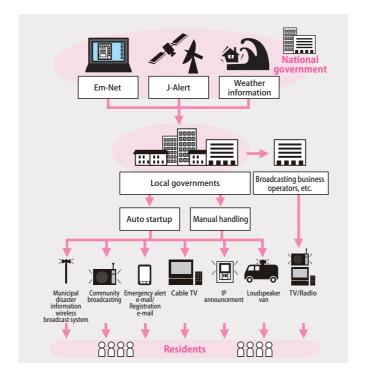
Therefore, to secure reliable and rapid transmission of damage information to all residents, we have to increase communication methods such as cable TVs. community broadcasting services, emergency alert e-mail, and TVs, rather than just depending on the disaster information wireless broadcast systems.

FDMA enhances the disaster-proof performance of the communication methods and combines multiple communication methods for the multiplexing and diversification of the disaster information channels.

大規模災害時においては、被災情報などの収集と住民への避難指示等の確実な伝達が重要 です。東日本大震災において、市町村防災行政無線が活用される一方で、地震の揺れや津波に よる倒壊・破損や電源喪失などにより防災行政無線が利用できたくなった事例はありました

このため、災害時に、災害情報をすべての住民に確実かつ迅速に伝達する体制を確保する ため、防災行政無線のほか、ケーブルテレビやコミュニティ放送、緊急速報メール、テレビなど 、様々な伝達手段を確保する必要があります。

消防庁では、情報伝達手段の耐災害性の強化や複数の伝達手段を組み合わせることなどに より、災害情報伝達手段の多重化・多様化を進めています。



#### Project to dispatch disaster information channel advisors 災害情報伝達手段に関するアドバイザー派遣事業

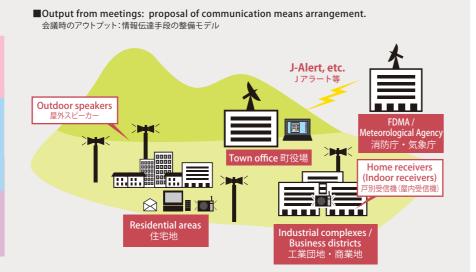
In order to accurately provide information to residents of each city, town and village in the time of disaster, the multiplexing and diversification of communication channels is necessary in accordance with the actual circumstances of the community. FDMA dispatches advisors with technical knowledge to municipal governments to provide them with technical proposals and advice on multiplexing and diversification of communication channels, as well as advice on financial support measures for the development of these communication channels

応じ、情報伝達手段の多重化・多様化を図る必要があります。

各市町村においては、災害時における住民への情報伝達を的確に行うため、地域の実情に 化・多様化に係る技術的提案・助言や情報伝達手段整備に対する財政支援措置に関する助 言を行っています。

消防庁では、技術的な知見を有するアドバイザーを市町村に派遣し、情報伝達手段の多重

■Outline of the advisor dispatch project アドバイザー派遣事業のイメージ Analysis, etc. **Issue identification** 



## Activities of "Rescue teams" special lifesaving units" 人命救助の専門部隊「レスキュー隊」の活動

The rescue teams are special units whose mission is lifesaving in various disasters, such as fires, traffic accidents, natural disasters and terror attacks. They have special advanced vehicles equipped with water cutters and other advanced rescue tools and advanced rescue vehicles for large-scale earthquakes, and conduct specialist training routinely

To appropriately carry out rescue operations, which require more advanced and diversified skills year by year, FDMA has endeavored to level up the rescue activity across the nation through deploying advanced rescue vehicles and equipment, enhancing training programs and highly developing rescue techniques.

救助隊は、火災、交通事故、自然災害やテロ災害等、様々な災害に際し、人命を救うこと 消防庁では、年々高度化・多様化する救助事 を任務とする専門部隊です。救助隊は、ウォーターカッター装置などを搭載した特別高度工作 案に適切に対応するため、救助隊の車両・資機 車や、大規模地震等に備えた高度救助車等、高度な車両・資機材を擁し、専門的な教育を受け、 材の整備や教育訓練の充実、救助技術の高度化 日頃から訓練を重ねています。

等、全国的な救助体制の強化に取組んでいます。

A rescue team conducting trainin

# in a damaged area. がれき現場で訓練をする救助隊

# International emergency assistance and international cooperation

The International Rescue Team of Japanese Fire- Service (IRT-JF) was founded in 1986, and has been sent on rescue missions 21 times to large-scale disasters overseas. For the 599 rescue team members registered as IRT-JF members, FDMA has developed a proper arrangement for their mobilization, and conducted training for their effective activities in disaster hit areas overseas.

FDMA also provides capacity building opportunities to firefighters and emergency responders in developing countries, and holds the International Forum on Fire and Disaster Management to share our knowledge and experience with these countries.

消防庁では救助隊員599人を国際消防救助隊員として登録し、派遣に備えた準備体制を

物的援助 資金援助

海外の大規模災害の被災地へ派遣される国際消防救助隊は、昭和61年に設立され、これ 整備し、海外の被災地で効果的に活動するための訓練等を実施しています。 また、開発途上国等の消防防災機関職員の研修員の受入れや、国際消防防災フォーラムの 開催などを通じて、国際協力に取り組んでいます。

FDMA, Fire Service Institutions, National Police Agency, Prefectural Police, Japan Coast Guard, Ministry of Foreign Affairs, JICA ■Outline of international emergency assistance 国際緊急援助の概要 消防庁·消防本部、警察庁·都道府県警察 海上保安庁、外務省、JICA Medical teams 医療チーム Doctors, nurses, etc. nfectious diseases response team national Emergence Related government offices, etc. 関係行政機関等 Expert teams 専門家チーム 国際緊急援助 Material Assistance

国際消防救助隊

International Rescue Team of Japanese Fire-Service Abbreviated as IRT-JF/ Known in Japan as Ai Aru Te 略称IRT-JF/愛称「愛ある手」

Self-Defense Force Units 自衛隊部隊



#### ■IRT-JF activities (in the last 10 years)

Dispatch dates	Name of disaster	Damage status	No. of dispatched personnel	Operation summary
May 15th to 21st 2008 (7 days)	Earthquake in Sichuan Province, China	69,227 deaths 374,643 injured	17	Search and rescue operations at collapsed buildings.
October 1st to 8th 2009 (8 days)	Earthquake offshore of Padang, Sumatra Province, Indonesia	1,117 deaths approx. 2,900 injured	17	Search and rescue operations at collapsed buildings, along with other activities.
February 22nd to March 12th 2011 (19 days)	Earthquake on New Zealand South Island	181 deaths	33	Search and rescue operations at collapsed buildings, along with other activities.
April 26th to May 9th 2015 (14 days)	Earthquake in Nepal	8,896 deaths 22,302 injured	17	Search and rescue operations at collapsed buildings.
September 21st to 28th 2017 (8 days)	Earthquake in Mexico	369 deaths approx.8,800 injured	17	Search and rescue operations at collapsed buildings.
February 8th to 11th, 2018 (4 days)	Earthquake in Eastern Taiwan	17 deaths, approx. 285 injured	2	Support of search and rescue operations at collapsed buildings



child victims

救出した母子に対して黙祷を捧げる救助隊員



A search and rescue operation at the Christchurch CTV building. (February 2011, New Zealand South Island earthquake) 



A search and rescue operation in Tlalpan, Mexico City (courtesy of JICA). (The earthquake in Mexico in September 2017) 

## Save lives that can be saved 救える命を救う







## Expand and upgrade the firefighting and lifesaving systems

The fire service organizations have appropriately responded to the changes in their activity environment including more diversified and larger disasters and accidents, more complicated urban structures, and more diversified needs of people . They conduct a diverse range of activities including fire prevention, firefighting, and rescue and ambulance services for the sake of protecting the security and safety of the people.

Currently, there are 732 Fire Service Institutions and 1,718 fire stations in Japan, and 163,814 professional firefighters are working there. Also, there are 2,209 Volunteer Fire Corps consisting of 850,331 members to protect the security and safety of people in communities. (As of April 1st 2017)

消防は、災害や事故の多様化及び大規模化、都市構造の複雑化、住民ニーズの多様化等の環境の変化に的確に対応し、住民の安心・安全を確保するため、火災の予防や消火はもとより、救急救助 など、多岐にわたる活動を行っています。

現在、日本全国に732消防本部、1,718消防署が設置されており、16万3,814人の消防職員が勤務しています。

また、消防団は2,209団、85万331人が活動し、地域住民の安心・安全を守っています。(平成29年4月1日現在)

# Development of firefighting systems and activity environment

Fire service in Japan is comprised of the Fire Service Institutions, which are always on standby, and the Volunteer Fire Corps, which are assembled in response to calls, These organizations are established under the responsibility of local governments, which stand closely to people and are controlled under the jurisdiction of the municipality mayors. In 2016, 36,831 fires occurred, 6,209,964 ambulance services were sent out, and 57,148 rescue operations were recorded across the nation. Fire Service Institutions and Volunteer Fire Corps collaboratively deal with such emergency operations 24/7

FDMA provides financial support to prepare fire and disaster prevention facilities, vehicles, and equipment, and sets up training and activity manuals, in order to develop the activity environment for firefighters and Volunteer Fire Corps, who are working at the frontline of fire services.

日本における消防機関は、常備消防と呼ばれる消防本部・消防署と、非常備消防である 救助活動事案が発生しており、消防本部、消防団が協力して日夜対応しています。 消防団によって構成されています。いずれの組織も、住民に最も身近な地方公共団体で ある市町村の青仟のもとに設置され、市町村長の管理下で活動しています。

日本では、平成28年の1年間で、3万6,831件の火災、620万9,964件の救急出動、5万7,148件の

消防庁では、消防防災施設、車両・資機材等の整備に係る財政支援や訓練・活動マニュアルの 策定などを通じ、最前線で活躍する消防職団員の活動環境の整備に取組んでいます。

#### ■Municipal fire service organizations Fire volunteer organizations Fire departments and stations 1,719 municipalitie • Fire departments are established by municipality. In ●Volunteer Fire Corps are established in each ome cases, they are created jointly by multiples. They are involved in activities related to fire The headquarters administrate personnel, budgets. and general affairs related to fire services. 2 209 denartment 850,331 members ● Fire stations are established under Fire Service Institutions according to population size and other factors. They operate fire prevention activities, patrols, Usually established in each community of a municipality. Branches and disaster prevention activities. 22,458 branches 1.718 station ●Small-scale fire substations may be established under As of April 1st 2017

# Integration of fire departments for reinforcement

Due to the occurrence of large-scale disasters such as the Great East Japan Earthquake, the higher risks of future disasters, and the decrease in the population of Japan, we must reinforce the fire departments through the integration of multiple departments. The small size of Fire Service Institutions, which make up 60% of the total number of the organizations. should be a focus of this effort because it is hard for these organizations to clear the organizational/financial challenges when doing improvement of readiness for more complicated and diversified disasters, preparation of advanced devices and equipment, development of human resources with special knowledge and expertise, etc. Therefore, it is important to expand the scale of each small Fire Service Institution and strengthen its structure/establishment.

To further promote the integration of fire departments, FDMA provides concentrated support and sends advisors to the local areas which could suffer from insufficient preparation of fire and disaster prevention systems and the areas that have momentum of integration, whilst respecting their actual conditions

東日本大震災のような大規模災害等の発生、今後の災害リスクの高まり、さらに日本全 体の人口減少を踏まえると、消防の広域化による消防本部の体制強化が必要となっていま す。特に、全体の6割を占める小規模な消防本部では、複雑化・多様化する災害への対応力、 高度な装備や資機材の導入及び専門的な知識・技術を有する人材の養成等、組織管理や 財政運営面における対応に課題があることから、小規模消防本部の規模を拡大し、体制を

充実強化することが重要です。

消防庁では、消防の広域化をさらに推進するため、地域の実情を尊重しながら、十分 な消防防災体制が確保できないおそれがある地域や、広域化の気運が高い地域として指 定された重点地域に対し、支援を集中的に実施するとともに、アドバイザーの派遣などを







## Promotion of contingency plans based on the lessons of the large fire at Itoigawa City 糸魚川市大規模火災の教訓を踏まえた対応策の推進

On December 22nd 2016, a large-scale fire occurred in the built-up area of Itoigawa City, Niigata Prefecture, due to a strong southerly wind which simultaneously created flying sparks in multiple locations, leading to the spread of fire. The series of fires destroyed 147 buildings, including general residences. This fire incident was the first application of the Natural Disaster Victims Relief Law (in wind damage disaster). The lesson from this large fire is, "in any region nationwide where wooden buildings are prevalent, strong winds can cause fires in unexpected scale". Along with encouraging fire service organizations across the nation to identify the areas with high possibility of large-scale fires and set up exclusive Fire Defense Plan for these places, FDMA advised these organizations to enhance the mutual support systems with neighboring fire service organizations and secure water resources for fire suppression. As the cause of the large fire was that a small-sized restaurant forgot to turn off large stoves before the workers had left, FDMA carried out a pilot project to mutually transmit fire warnings between adjacent buildings that include restaurants, using interlocking-type residential fire alarms. Along with this, the requirements for installing fire extinguishers have been strengthened through revising the fire preventative regulation.

平成28年12月22日、新潟県糸魚川市の市街地で、強い南風により複数箇所で同時多発的に飛び火による延焼 が発生したこと等により、一般住居など147棟が被災する大規模な火災が発生しました。本火災には、被災者生活 再建支援法(風害による)が初めて適用されま

消防庁では、「全国どこでも木造の建築物が多い地域においては強風下で大規模な火災の可能性がある」ことを 教訓として、全国の消防機関に対し、大規模な火災につながる危険性が高い地域を確認・指定し、「火災防ぎょ計画」 を策定するよう促すとともに、応援体制の充実強化、消防水利の確保を図るよう通知

また、小規模飲食店における大型こんろの消し忘れが出火原因であったことから、連動型住宅用火災警報器を 活用して飲食店を含む隣接建物間で相互に火災警報を伝達するモデル事業を行うとともに、消防法令の改正による 消火器の設置基準の強化に取り組みました。



Burnt area which was once a shopping district (courtesy of the Itoigawa City Fire Service Institute) 商店街が焼け野原に(糸魚川市消防本部提供)

# Step-up of lifesaving and ambulance service systems

With the increase of elderly people, the number of ambulance services for emergency callouts is going up every year, and reached its highest level (approx. 6,210,000) in 2016. The time taken to transport a patient to hospital is also seeing an increasing trend.

Every second taken to arrive at hospitals from emergency sites is invaluable for saving people's lives. It depends on the ambulance service team's treatment during the transportation time if seriously injured or ill patients can be saved or not.

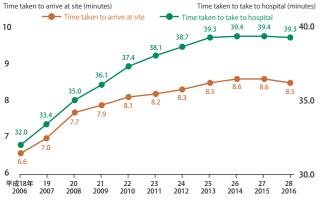
Therefore, FDMA enhances cooperation between the fire service organizations and the medical institutions, and also actively promotes the development of Emergency Life-Saving Technicians for advanced ambulance services, and the preparation of equipment and tools for advanced emergency lifesaving treatment.

高齢化の進展などにより、救急出動件数は年々増加しており、平成28年には約621万件と 過去最多を更新するとともに、病院収容までの時間も延伸傾向です。

救急現場から病院に到着するまでの一分一秒は、「救える命」を確実に救うためのかけが えのない時間です。この間における対応が重度傷病者の明暗を分けると言っても過言では

このため、消防庁では、消防機関と医療機関の連携強化を推進するとともに、救急業務の 高度化に伴って必要となる救急救命士の養成や高度救急救命処置用資器材等の整備を積

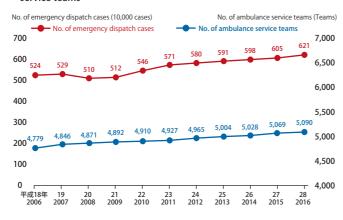
## ■Trends in time taken to arrive at the scene and to transport patients



\*\*The total data excludes that of Fire Service Institutions of the Kamaishi Otsuchi District Administration Affairs Union and Rikuzentakata City in 2010 and 2011, which were fully damaged by the Great Fast Japan Farthquake.

極的に進めています。

## ■Trends in the number of emergency dispatch cases and ambulance



#### Triage System 緊急度判定体系の構築

The emergency callout of ambulance services has been increasing every year, and reached approx. 6,210,000 in 2016, an 18.5% increase compared to 10 years ago in 2006. On the other hand, the number of ambulance service teams rose just by 6.5% in the same period, and the ambulance transport time tends to be longer. There are concerns that the lifesaving

To send ambulance teams rapidly to patients who genuinely need them, to respond appropriately at emergency sites, and to transport them to suitable medical institutes quickly to increase the lifesaving rate, FDMA is stepping up the consideration about the triage system

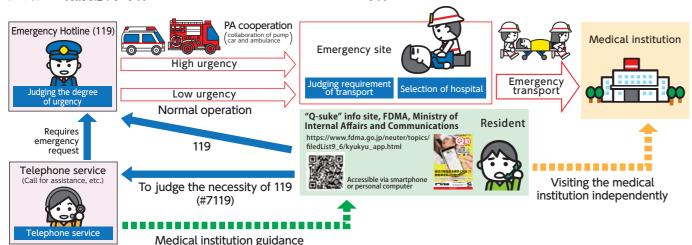
As part of the effort, FDMA has promoted the nationwide expansion of the telephone services (Emergency Hotline #7119), where advice can be received from experts when people are in doubt whether to call for an ambulance service or go straight to the hospital in cases of sudden sickness or injury. Also a nationwide emergency consulting app called "Q-suke" has been developed so that people can see the degree of seriousness of sickness/injury, assisting in their judgement whether or not to carry out the emergency call. In addition, FDMA is aiming for the systemization and spreading of the urgency degree assignment for each step, - when calling 119 and at the place of emergency

救急自動車による救急出動件数は年々増加し、平成28年中は約621万件と、10年前の 平成18年に比べ約18.5%増加しています。一方、救急隊数は同時期で約6.5%の増加にとど まっており、救急搬送時間も延伸傾向となるなど、救命率の低下が懸念されています。

消防庁では、真に救急を必要とする傷病者に迅速に救急出動し、救急現場において的確に 対応し、速やかに適切な医療機関へ搬送して救命率の向上を図るため、緊急度の判定(トリ アージ) について検討を進めています。

この取組として急な病気やけがをしたときに、救急車を呼んだほうがいいのか、今すぐ 病院に行ったほうがいいのかなど迷った際、専門家からアドバイスを受けることができる 電話相談窓口「救急安心センター事業(#7119)」の全国展開を推進するとともに、住民によ る緊急度判定を支援する全国版救急受診アプリ「Q助」を開発しました。

また、119番通報時、救急現場の各段階における緊急度判定体系の構築と普及を目指して



#### Promotion of advanced ambulance services, in cooperation with medical institutions 医療と連携した救急業務高度化の推進

The number of firefighters currently certified as Emergency Life-Saving Technicians, the system of which started in Japan in 1991, is 35,775 (as of April 1st 2017).

Emergency Life-Saving Technicians are allowed to perform lifesaving treatment for patients in cardiac or respiratory arrest, such as defibrillation, tracheal intubation, and medication (transfusion and medication before cardiac or respiratory arrest in some cases), and are playing an active role at emergency sites. To respond to the demand of more advanced emergency treatments, FDMA promotes the development of Emergency Life-Saving Technicians and arrangement of the operation system aiming to deploy one or more Emergency Life-Saving Technicians to every ambulance service team.

Also, some local governments have started to prepare a smooth and proper transport and reception system by equipping each ambulance car with information and communication tablets, which allows viewing of the reception condition of medical institutions and inputting the patients' information. Utilizing this kind of ICT, FDMA promotes the advancement of ambulance services.

平成3年に救急救命十制度が導入され、現在救急救命十の資格を持つ消防職員は、3万 5,775人(平成29年4月1日現在)となっています。

救急救命士は、心肺停止状態の傷病者に対し、除細動や気管挿管、薬剤の投与(一部、 心肺停止前に行う輸液や薬剤投与もあります。)といった救命処置を行うことができ、救急 現場で活躍しています。消防庁では、高度化する救急需要に応えるため、全ての救急隊に救 急救命士が少なくとも1人配置される体制を目標に救急救命士の養成と運用体制の整備を

また、いくつかの地方公共団体においては、各救急自動車にタブレット型情報通信端末等を



Tracheal intubation 気管挿管

配備し、医療機関の受入情報や傷病者に係る情報を入力・閲覧すること等により、円滑かつ 適切な搬送・受入体制を確保する取組も始まっており、消防庁では、このようなICTの活用に よる救急業務の高度化を推進しています。

#### Diffusion and enlightenment of first aid 応急手当の普及・啓発

An ambulance service team needs 8.5 minutes on average (as of in 2016) to reach a site after receiving an emergency call. If people at the site treat a patient with appropriate first aid, the patient survival rate significantly increases. Therefore, the diffusion of first aid knowledge and procedures to the public is important.

In 2016, about 1,400,000 people participated in emergency lifesaving training, and the rate of first aid undertaken by residents for patients in cardiac or respiratory arrest was 48.9%. This shows that the diffusion of first aid to the public is progressing. FDMA promotes it further by giving lectures on cardio-pulmonary resuscitations and AED operations.

救急出動の要請から救急隊が現場に到着するまでは、平均で8.5分(平成28年中の平均時間) を要します。この間に、現場に居合わせた人による適切な応急手当が実施されれば、大きな救命 効果が期待されるため、一般市民の間に応急手当の知識と技術を広く普及することが重要です。

平成28年は、約140万人が救命講習を受講し、住民による心肺機能停止傷病者への応急手当 の実施率は48.9%となるなど、応急手当の一般市民への普及は進みつつあり、消防庁では、心肺 蘇牛やAFDの使用方法など応急手当の普及啓発を推進しています。



#### Foreign language support at emergency sites 救急現場の外国語対応

Based on an increase of foreign visitors to Japan, the National Research Institute of Fire and Disaster and The National Institute of Information and Communications Technology have developed a multi-lingual voice translation app for ambulance service teams -called "Emergency VoiceTra". It has been provided to Fire Service Institutions across the country since April 2017.

"Emergency VoiceTra" allows smooth communication between ambulance service team personnel and foreign language speaking casualties at emergency sites through audio and screen text in foreign languages. It handles not just English but multiple languages including Chinese and Russian.



ယ

# Prevent fires and industrial disasters of greater complexity

多様化する火災・企業災害を 未然に防ぐ







#### Investigate and identify the causes of fires and accidents, and promote fire prevention measures. 火災・事故の原因等を調査・検証し、防火安全対策を推進する

In recent years, new forms of facilities have appeared, such as small scale welfare facilities that include group homes, large-scale distribution warehouses, and vacation rental houses. This has led to the need for consideration of new fire prevention measures.

In addition, more robust measures for earthquakes in petroleum complexes and hazardous materials facilities are also demanded.

FDMA investigates and identifies the causes and factors that expand the damage of these complicated and diversified fires and accidents, and promotes improvement of both hard

近年、グループホームなどの小規模福祉施設や大規模物流倉庫、民泊などの新しい形態の施設が出てきており、新たな火災予防対策の検討が必要となっています。

また、石油コンビナートや危険物施設における震災対策の推進も求められています。

消防庁では、複雑・多様化する火災・事故に対し、原因や被害拡大要因などを調査・検証し、ハード・ソフト両面からの防火安全対策の強化を図っています。

### Prevent fires of greater complexity 多様化する火災の予防

FDMA investigated the cause, especially of large scale fires and has strived to enhance fire prevention administrations by revising fire protection laws...

This effort has worked to stop the fire incidents in large buildings which cause a number of deaths, such as the Sennichi Department Store Fire (118 deaths) or the Hotel New Japan Fire (33 deaths), from

On the other hand, new forms of facilities have appeared in recent years, such as small scale welfare facilities including group homes, large-scale distribution warehouses, and vacation rental homes, So there is a need for consideration of new fire prevention measures

FDMA responds flexibly to changes occurring in social structure and the usage of buildings, and carries out necessary revisions of fire protection laws and promotes training for business operators.

消防庁では、火災が発生するたびに原因を追求し、消防法令の改正を重ね、火災予防行 政の強化を図ってきました。その結果、千日デパートビル火災(死者 118人)やホテルニュー ジャパン火災(死者 33 人)のような、大規模な建物で多数の死者が発生する火災は現在 では見られなくなっています。

The occurrences of the Nagasaki City Dementia Patient Group Home Fire in February 2013 (5 deaths, 7 injured) and the Fukuoka City Medical Clinic Fire in October 2013 (10 deaths, 5 injured) were the turning points that brought about the obligation to install sprinklers in social welfare

facilities which accommodate people who have difficulty evacuating by themselves (nursing homes, etc.) and medical clinics, regardless of the size of

平成25年2月長崎市の認知症高齢者 グループホーム火災(死者5名・負傷者 7名)、平成25年10月福岡市の有床診療 所火災(死者10名・負傷者5名)が発生し たことを契機に、自力避難が困難な方が 入所する社会福祉施設(養護老人ホー ム等)や有床診療所について、建物の 規模に関係なくスプリンクラーの設置を



for small sized welfare facilities 小規模な福祉施設に対応した新たなスプリンクラーの消火実験

一方、近年は、グループホームなどの小規模福祉施設や大規模物流倉庫、民泊などの新 しい形態の施設が出てきており、新たな火災予防対策の検討が必要となっています。

消防庁では、社会構造の変化や建物の利用形態の変化に柔軟に対応し、必要な消防法 令の改正や、事業者への指導の推進などを行っています。

A fire lasting for around 12 days burnt out an area of approximately 45,000m² (under investigation) in a large warehouse in Miyoshi, Saitama Prefecture in February 2017. In the wake of this fire incident, FDMA started to promote implementation of more effective fire

prevention training by business operators in order to thoroughly plan fire prevention measures for large

平成29年2月埼玉県三芳町の大規模倉 庫において、焼損床面積約45,000㎡(調 杏中)、発生から鎮火までに約12日間を 要する火災(負傷者2名)が発生したこと を契機に、大規模倉庫の防火安全対策 の徹底を図るため、事業者による効果 的な消防訓練の実施等を推進。



Warehouse fire in Miyoshi, Saitama Prefecture, 2017 (courtesy of Saitama Prefecture Disaster Prevention Aerial Units) 平成29年 埼玉県三芳町倉庫火災(埼玉県防災航空隊提供)

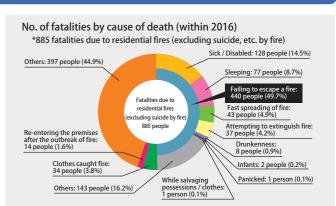
#### Promotion of residential fire prevention measures 住宅防火対策の推進

The annual number of fatalities due to residential fires in Japan is close to a thousand. Elderly people account for nearly 70% of the fatalities - the main cause is failure to escape the fires. The installation rate of residential fire alarms, which has been required since 2006, stopped at approximately 80%, so further promotion is vital.

As more than 10 years have passed since their installation became mandatory, there are concerns over the deterioration of existing residential fire alarms. Considering the fact, it is necessary to promote the replacement of outdated alarms as well as appeal the need for maintenance work that includes regular inspections.

FDMA promotes public awareness in fire prevention - the publicizing of proper fire handling and the installation, inspection and replacement of residential fire alarms. These promotion have been implemented through fire prevention campaigns and symposiums for promotion of residential fire prevention measures in cooperation with Fire Service Institutions, Volunteer Fire Corps, Female (Women's) Fire Prevention Clubs, and voluntary disaster prevention organizations. FDMA also enhances residential fire prevention measures such as the diffusion of fire proof products in residential houses.

住宅火災の死者は毎年1.000人近く発生しており、そのうち高齢者が約7割を占め、特に逃げ 遅れによる死者が多い状況です。平成18年から設置が義務付けられた住宅用火災警報器の設 置率は約80%となっており、さらなる設置の促進や、設置義務化から10年を超え、既設の住宅 用火災警報器の機能劣化が懸念されることから、定期的な点検など維持管理の必要性を呼び かけるとともに、老朽化した住宅用火災警報器の取替えを推進する必要があります。



消防庁では、火災予防運動、住宅防火・防災キャンペーン等を通じ、消防本部、消防団、女性 (婦人)防火クラブ及び自主防災組織等と協力して、適正な火気の取扱いの周知や住宅用火災 警報器の設置・点検・交換を促進するとともに、防炎品の普及促進などの住宅防火対策を推進

#### Investigations into the causes of fires and leakage of hazardous materials, and promotion of prevention of fire caused by ignition of products 火災原因・流出事故原因調査、製品火災対策の推進

When a fire occurs, the fire service organizations investigate the causes, and use the results for enhancing fire prevention measures and firefighting activities.

When a large-scale or unprecedented fire occurs. FDMA investigates the causes through the FDMA commissioner in order to assist the investigation activities of the fire service organizations. Also, when the leakage of hazardous materials occurs, a municipal mayor, who holds authority over the hazardous materials facility, investigates the causes. For an unprecedented leakage accident, the FDMA commissioner investigates the causes at the mayor's request.

In addition, the causes of recent fires have been significantly diversified, and in some cases, household products like electrical appliances and burning appliances cause fires. To protect the security and safety of consumers, FDMA prepares a system to gather information on fires caused by the ignition of products and publishes the fire information to alert the public, and at the same time, shares the information with the Consumer Affairs Agency and other related agencies, in order to enhance the measures against fires caused by ignition of products.

火災が発生した場合、消防機関は、火災の原因調査を行い、防火安全対策や効果的な消防 活動に役立てています。

消防庁では、大規模かつ特殊な火災において、消防機関の火災原因調査を補完するため、消 防庁長官による火災原因調査を行います。また、危険物の流出事故が発生した場合について は、危険物施設に対して許可を行う市町村長等が流出事故の原因調査を行い、さらに特殊な流 出事故の場合には、市町村長等からの求めに応じて消防庁長官が事故の原因を調査します。

さらに、近年の火災の出火原因は極めて多様化し、電気用品や燃焼機器等、生活に身近な製

品が発火源となる火災が発生しているため、 消費者の安心・安全の確保の観点から、製品 火災情報の収集体制を確保し、火災情報を公 表し、注意喚起を図るとともに、消費者庁等の 関係省庁と情報共有を図るなど、製品火災対 策の取組を強化しています。



Institute of Fire and Disaster 消防研究センターによる鑑識

#### Multi-lingual support of evacuation guidance in facilities used by foreign visitors and disabled persons

外国人来訪者や障害者等が利用する施設における避難誘導等の多言語対応等

With the holding of the 2020 Tokyo Olympic and Paralympic Games, a great number of foreign visitors and disabled persons are expected to utilize train stations, airports, stadiums, rvokan and hotels In the event of disaster such as fire, foreign visitors and disabled persons may require special arrangement of disaster information and evacuation guidance, because

the Japanese voice announcement is not sufficiently understood by these visitors. Based on this, FDMA consulted experts and has created guidelines for facility personnel. The guidelines include the translation of evacuation guidance, the visualization of words and the appropriate care to visitors in accordance with their conditions such as the disabled, by utilizing technologies such as digital signage and

Looking towards the 2020 Tokyo Olympic and Paralympic Games, efforts in evacuation training and other necessary measures in each facility will be advanced.

2020年東京オリンピック・パラリンピック競技大会が開催されるにあたり、多数の外国人来訪者や障害者等が、駅・空港や競技場、旅館・ホテル等を利用するこ とが想定されます。

外国人来訪者や障害者等は、日本語音声のみでは災害情報の内容を十分に理解できないことや、障害などの様々な特性があることから、火災等の災害が発生 した場合には、施設利用者の事情に配慮した災害情報の伝達及び避難誘導が求められます。

このようなことを踏まえ、消防庁では、有識者を交えて検討し、デジタルサイネージやスマートフォンアプリ等を活用して、避難誘導等の多言語化や文字等によ る視覚化、障害などの施設利用者の様々な特性に応じた対応などを施設関係者が行うためのガイドラインをとりまとめました。

今後、2020年東京オリンピック・パラリンピック競技大会に向けて、各施設における避難訓練の実施等の取組を促進していきます。

\* These photos were taken in "test training of disaster information conveyance and evacuation quidelines that consider foreign visitors and disabled persons 写真は、「外国人来訪者や障害者等に配慮した災害情報の伝達・避難誘導のための試行訓練」時のもの。

hen disasters happen, taking foreign 外国人来訪者等に配慮した





Electronic billboard usage



(翻訳等)の活用

# Enhancement of disaster prevention measures for petroleum complexes, etc. 石油コンビナート等の防災体制の強化

To ensure the safety of petroleum complexes that store vast quantities of hazardous materials and high pressure flammable gases, they are controlled in accordance with the Fire Service Act, the High Pressure Gas Safety Act, and also the Law on the Prevention of Disasters in Petroleum Industrial Complexes and Other Petroleum Facilities. In petroleum complexes, large-scale explosions or fires are liable to spread flames outside the factory sites, and have serious impacts on the security and safety of the public. In the Great East Japan Earthquake, large-scale fires at petroleum complexes occurred, causing huge damages.

To minimize disasters at petroleum complexes, with the object of preventing expansion of disasters and secondary disasters, as well as of ensuring early suppression, FDMA instructs the business operators of petroleum complexes to share the information about the complex with the fire service organizations in advance, and also to make sure of reporting to the fire service organizations at the time of fire, explosion, and leakage. Furthermore, FDMA requires the operators to maintain and manage the facilities properly, and allocate and maintain disaster prevention equipment, in order to enhance the disaster prevention systems at the petroleum complexes, etc.

危険物や高圧ガスなどの可燃性物質が大量に集積する石油コンビナートでは、消防法、高圧 ガス保安法などとともに石油コンビナート等災害防止法により、様々な保安上の対策が行われ ています

石油コンビナートでは、大規模な爆発、火災の延焼等により、工場の敷地外にまで影響が及ぶなど、国民の安心・安全に大きな影響を及ぼす恐れがあります。東日本大震災では、石油コンビナート等で大規模な火災により甚大な被害が発生しました。

消防庁では、石油コンビナート災害を防止できるよう、災害の拡大防止、早期鎮圧、二次災害防止等の観点から、石油コンビナート事業者に対し、災害時に消防機関等へ情報提供を行う体制を整備させるとともに、火災、爆発、漏えい等が発生した際の消防機関への通報の徹底、さらには施設の適切な維持管理、防災資機材の配備・維持管理などの徹底を通じて、石油コンビナート等の防災体制の強化を図っています。

Facilities including oil refineries and petrochemical industry 石油精製業や石油化学工業などの施設





Fire at a petroleum complex (Great East Japan Earthquake) 石油コンドナート火災 (東日本大震災)



Firefighting at a petroleum complex 石油コンビナート火災における消火活動



Rapid Reaction Force for Energy and Industrial Infrastructure Disasters (Dragon Hyper Command Unit) エネルギー・産業基盤災害即応部隊 (ドラゴンハイパー・コマンドユニット)

# 5

# ${\bf Skill\ Contest\ of\ Self-Defense\ Disaster\ Management\ Groups\ at\ Petroleum\ Complexes.}$

石油コンビナート等における自衛防災組織の技能コンテスト

Designated business institutions of petroleum complexes are required to establish self-defense disaster management groups equipped with firefighting vehicles. To improve the operating skills of the firefighting vehicles and others, FDMA holds Skill Contests of Self-defense Disaster Management Groups at Petroleum Complexes for the purpose of ensuring safety at petroleum complexes and preventing the expansion of disaster damages. In the contest, which is held around the Tsunami and Disaster Prevention Day on November 5th, the participants demonstrate firefighting operations with large-size chemical fire pumpers, among other equipment. The self-defense disaster management groups that displays excellent skills and technique will receive an award from the Minister for Internal Affairs and Communications.

石油コンビナートの特定事業所には、消防車両等を備えた自衛防災組織等が置かれています。 消防庁では、石油コンビナート等の保安の確保、被害拡大の防止の観点から、これらの自衛防 災組織等において、消防車両等の操作技能を高めていくため、「石油コンビナートにおける自衛防 災組織の技能コンテスト」を開催しています。

11月5日の「津波防災の日」の前後に実施されるコンテストでは、大型化学高所放水車等を活用した消火活動競技を行い、優秀な自衛防災組織等に対し総務大臣表彰を行っています。

Scene of Skill Contest of Self-Defense Disaster Management Groups at Petroleum Complexes 「石油コンビナート等における自衛防災組織の技能コンテスト」の様子



# Safety of hazardous materials facilities 危険物の安全確保

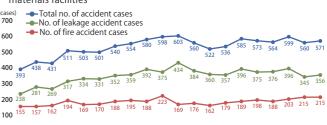
# Accident prevention measures in hazardous materials facilities 危険物施設における事故防止対策

Facilities with hazardous materials such as highly flammable gasoline and diesel oil operate in various forms all over the country, ranging from industrial facilities including chemical plants and petroleum tanks, to more familiar facilities such as gas stations. If accidents such as fire and leakage occur in these facilities, the security and safety of people are seriously affected.

FDMA has stepped up the responses measures to incidents in hazardous materials facilities that occur through a variety of causes. Such measures include inspection methods that use new technology to prevent incidents which occur due to the aging of facilities. Also FDMA has enhanced earthquake measures based on the lessons learnt through the Great East Japan Earthquake, along with promoting accident prevention countermeasures where the national government, local governments, fire service organizations, and business operators work closely together.

火災危険性の高いガソリンや軽油などの危険物を取り扱う危険物施設は、化学ブラントや 石油タンクなどの産業施設から、ガソリンスタンドのような身近なものまで、様々な形で全国に 設置されています。ひとたびこれらの施設で火災・流出などの事故が発生すると、国民の安心・ 安全に大きな影響を与えることとなります。

消防庁では、危険物施設の経年変化による事故を防止するための新しい技術を用いた点検 方法等の検討等、様々な要因で発生する危険物施設における事故への対応や、東日本大震災を 踏まえた震災対策の推進に取り組むとともに、国、地方公共団体、消防機関、事業者等、関係者が 一体となった事故防止対策を推進しています。 ■Trends in number of fire and leakage accidents in hazardous materials facilities



平成9年10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 26 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 (Kee

\* Excluding earthquakes above a lower 6 seismic intensity



Leakage of hazardous materials from an outside storage tank – in the Great East Japan Earthquake (courtesy of Sendai City Fire Bureau) 屋外タンク貯蔵所からの危険物流出/東日本大震災 (仙台市消防局提供)

#### Safety measures in response to social needs

社会ニーズに応じた危険物の安全対策

As the progress of technology and the industrial economy has brought about a variety of uses of hazardous materials in the daily lives of citizens, the safety measures for hazardous materials need to be upgraded in response to social needs.

FDMA has studied the safety measures for new forms of hydrogen stations which are set up within gas stations, and engaged in the rationalization of technical standards for hazardous materials storage facilities through early recognizing the hazards of new materials and employing new technologies.

科学技術や産業経済の進展に伴い、危険物は国民生活の中で様々な用途に用いられており、 社会のニーズに応じて危険物の安全対策を進める必要があります。

消防庁では、新たな形態の水素ステーションをガソリンスタンドに併設する場合の安全対策 について検討を進めているほか、新たな物質の危険性の早期把握や新技術の活用による危険 物施設の技術基準の合理化等に取り組んでいます。



Hydrogen station built in a gas station ガソリンスタンドに併設して設置された水素ステーション

### Preparing for nuclear disasters 原子力災害への備え

Based on the lessons learned from TEPCO's Fukushima Daiichi nuclear disaster, the Act on Special Measures Concerning Nuclear Emergency Preparedness was revised, and other nuclear disaster prevention measures have been thoroughly reviewed.

Based on the experience of the firefighting activities at the Fukushima Daiichi power plant and the current technical progress, FDMA has revised the firefighting activity procedures to ensure that the fire brigade members can safely and effectively perform firefighting activities. It is a part of FDMA support for the fire service organizations' operation at the nuclear power facilities.

In addition, in order to improve the response to accidents related to radioactive substances, FDMA has deployed personal alarm dosimeters and other equipment for radioactive substance accidents to fire service organizations, and also is creating a specialist course at the Fire and Disaster Management College for nuclear disaster prevention training.

東京電力福島第一原子力発電所で発生した事故の教訓を踏まえ、原子力災害対策特別措置法が改正されるなど、 原子力防災対策の抜本的な見直しが行われています。

消防庁では、福島原発事故等における消防活動事例や近年の技術的進展を踏まえ、事故等の発生時に消防隊員の 安全を確保しながら効果的な消防活動が展開できるよう、消防活動マニュアルを見直すなど、消防機関による原子力 施設等における活動対策に関する支援等を行っています。

さらに、放射性物質の事故等への対応力を強化するため、個人警報線量計などの放射性物質事故対応資機材を消防本部へ配備するほか、消防職員に対する原子力防災研修として消防大学校に専門コースを設けるなど、消防機関の消防活動能力の向上等に取組んでいます。



Nuclear facility disaster response training 原子力施設災害対応訓練

# Enhance disaster management in communities with

# 消防団を中核に地域の防災力を高める





## Cooperate with local residents to protect the security and safety of communities.

Volunteer Fire Corps are municipal fire volunteer organizations. While having regular vocations, Volunteer Fire Corps members perform firefighting and disaster prevention activities to protect security in communities based on the loyalty slogan "Protection of our communities by ourselves."

To ensure the security and safety of communities, the construction of the fire service and the disaster management systems, primarily operated by the Volunteer Fire Corps, who are familiar with their community, is essential.

消防団は、市町村の非常備の消防機関です。消防団員は、他に本業を持ちながらも、「自らの地域は自らで守る」という郷土愛護の精神に基づき、地域の安全を守るために消防・防災活動を行っています。 地域のことをよく知る消防団を中心とした消防防災体制を構築することが、地域の安心・安全の確保に不可欠です。

### Volunteer Fire Corps as the core of local communities 地域・コミュニティの核としての消防団員

There are 2,209 Volunteer Fire Corps across the country, and approximately 850,000 members are working day and night.

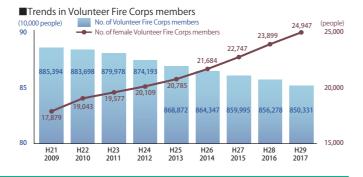
Volunteer Fire Corps perform not only firefighting activities, but also disaster protection activities, public awareness for residents, and the rescue of those affected at the time of natural disasters such as earthquakes and wind and flood damage, in order to protect people and their properties. Also in normal times, they conduct activities closely related to the local communities, and their role in the security and safety of the community is becoming more important.

On the other hand, the number of Volunteer Fire Corps is decreasing due to social and economic changes, such as aging of the population resulting from the decline in the birthrate. To maintain and improve disaster management for communities, we need to stop the reduction in the number of members to enhance the Volunteer Fire Corps system.

消防団は全国に2,209団あり、約85万人の団員が昼夜を問わず、活躍しています。

消防団は、消火活動をはじめ、地震や風水害などの自然災害などにおける災害防除活動、 住民の避難支援、被災者の救出・救助などの活動を行い、地域住民の生命・身体・財産を守る とともに、平常時においても地域に密着した活動を行い、地域コミュニティの活性化に貢献し ており、地域住民の安心・安全の確保のために果たす役割はますます大きくなっています。

一方で、少子高齢化の進展などの社会経済情勢の変化から、消防団員数は年々減少しており、 地域防災力の維持・向上のためには、消防団員数の減少に歯止めをかけ、消防団の充実強化を 図ることが重要です。



### The law to step up disaster management ability for the community with Volunteer Fire Corps playing the central role

消防団を中核とした地域防災力の充実強化に関する法律

Large scale disasters such as the Great East Japan Earthquake have grown in frequency While the importance of disaster management ability at the community level has increased, maintaining sufficient numbers of Volunteer Fire Corp members to carry out disaster prevention operations in communities is becoming increasingly difficult. Under the circumstances, in December 2013 The Law to Step Up Disaster Management Ability for the Community with Volunteer Fire Corps Playing the Central role was enacted in order to contribute to the safety of residents.

This law stipulates policies to step up Volunteer Fire Corps operations such as the promotion of admissions to the corps and the improvement of treatment of the members and the equipment, as well as enhancement of the disaster prevention systems of communities.

東日本大震災をはじめとする大きな災害が頻発し、地域防災力の重要性が増大している一方、消防団等の地域における防災活動の担い手を十分に確保することが困難となっていることから、 消防団を中核とした地域防災力の充実強化を図り、住民の安全に資するため、平成25年12月、「消防団を中核とした地域防災力の充実強化に関する法律」が制定されました。

この法律では、消防団への加入の促進や消防団員の処遇や装備の改善といった消防団の活動の充実強化のための施策に加え、地域における防災体制の強化についても規定されています。

#### Activities to promote participation in Volunteer Fire Corps 消防団への加入促進に関する取組

In recent years, while disasters have grown in diversity and scale and a variety of roles have been required of Volunteer Fire Corps, the number of members has been decreasing year by year. In addition, preparations are necessary for possible future large-scale disasters such as the Tokyo Inland Earthquake and the Nankai Trough Earthquake. For the sake of this, FDMA is engaging the transfer of the sake of this properties of the transfer of the sake of this properties. The transfer of the sake of this properties of the transfer of the sake of this properties of the sake ofin the step up of Volunteer Fire Corps, which are crucial in disaster management for communities.

Specifically these efforts include: 1. Promoting Volunteer Fire Corps member participation through Volunteer Fire Corps recruitment posters and campaign events; 2. Supporting the efforts of local government to promote Volunteer Fire Corps participation for women and young people: 3. Spreading and educating about the Student Volunteer Fire Corps Activity Certificate System, which recognizes the achievement of university students who engage in Volunteer Fire Corps activities earnestly and continuously to make a great contribution to the community; 4. Spreading and educating about "Volunteer Fire Corp Cooperative Offices Certification System", which honors companies that cooperate for fire corps activities; 5. Improvement of treatment such as the raising of members' rewards and dispatch allowance; 6. Enhancement of Volunteer Fire Corps equipment for safety and tools for rescue operations.

年々減少しています。さらに、今後発生が危惧される首都直下地震や南海トラフ地震等の大 規模災害等に備えることも必要です。

このため、消防庁では、地域防災の中核となる消防団の充実強化に取り組んでいます。 具体的には、①消防団員募集ポスター等の配布やイベントの開催を通じた消防団への加 入促進、②地方公共団体が実施する女性や若者を対象とする消防団への加入促進の取組へ

近年、災害が多様化・大規模化し、様々な役割が消防団に求められる一方で、消防団員数はの支援、③真摯かつ継続的に消防団活動に取り組み、地域社会へ多大なる貢献をした大学生 等に対して実績を認定する「学生消防団活動認証制度」の普及・啓発、④消防団活動に協力的 な事業所を顕彰する「消防団協力事業所表示制度」の普及・啓発、⑤消防団員の報酬や出動手 当等の引き上げ等による処遇の改善、⑥安全確保のための装備や救助活動用資機材などの 消防団の装備の充実などに取り組んでいます。



Volunteer Fire Corps participation promotion via publicity posters



An event about disaster management for comm地域防災に関するイベントの開催



Presentation of the award by the Commissioner to a model Volunteer Fire

他の模範となる活動を行った消防団への長官表彰

#### Development of voluntary disaster prevention organizations, which support disaster prevention for communities 地域防災を支える自主防災組織等の育成

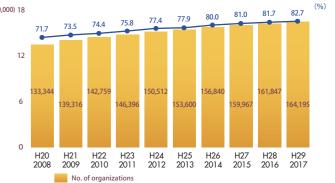
In the event of a large-scale disaster, with the emphatic belief of "Protection of our communities by ourselves" and strong bonds, residents should individually perform disaster prevention activities, such as fire extinguishing, rescue and treatment of those (-0.000) 18 affected, and evacuation guidance, so it is important to energize their own disaster prevention organizations.

In order to foster these voluntary disaster prevention organizations, FDMA creates guidelines compiled with educational training principles, and awards the excellent

地域住民一人ひとりが「自分たちの地域は自分たちで守る」という問い信念と連帯意識の下、 大規模災害時には、消火、被災者の救出・救護、避難誘導等の自主的な防災活動を行うことが重 要であり、自主防災組織の活動を活性化していくことが大切です。

消防庁では、自主防災組織を育成するために、教育、訓練の指針等をまとめた手引の作成や優 良な活動事例の表彰等を実施しています。

■Trends in voluntary disaster prevention organizations



Ratio of households covered by organizations' activities(%)

## Protect people from terrorism and armed attacks テロや武力攻撃から国民を守る





### Protect people through the exertion of all efforts by the entire nation.

国の総力を挙げて国民保護を実施する

The national government, prefectures, and municipalities are responsible for jointly protecting public safety in the event ofarmed attacks or large-scale terror attacks in our country. FDMA takes charge of issuing warnings, announcing instructions on evacuation measures, advising for evacuation across prefectural borders, gathering and providing information about disasters and the safety of people, as well as coordinating contact between the national headquarters and municipalities.

Also, FDMA manages the civil protection system, runs joint exercises with national and local governments, prepares the equipment required to deal with terror attacks, and operates the system for residents to receive disaster information quickly and reliably.

我が国に対する武力攻撃や大規模テロ等が発生した場合、国や都道府県、市町村は相互に連携協力し、国民の安全を確保する責務を有しています。

消防庁では、警報の発令や避難措置の指示の通知、都道府県の区域を越える避難における勧告、被災情報及び安否情報の収集・提供等のほか、国の対策本部と地方公共団体との連絡 調整を担当します。

また、国民保護体制を整備し、国と地方公共団体との共同訓練、テロ災害への対応に必要な資機材の整備及び住民が緊急情報を迅速・確実に受け取ることができる体制整備などに取り 組んでいます。

# Jointexercises for civil protection

It is important to carry out practical exercises for various possible situations to strengthen the collaboration between related institutions and improve the coping abilities for civil

FDMA collaborates with the cabinet secretariat and other related institutions to step up the joint exercises for civil protection, which are carried out in cooperation with national and local governments. Also through the exercises they check the operations that are required by the Civil Protection Law and push to improve its efficacy.

The joint exercises for civil protection include the field exercises and the tabletop exercises for possible large-scale terror attacks and ballistic missiles that are carried out by local governments, and resident evacuation exercises for ballistic missiles.

平素から様々な事態を想定した実践的な訓練を行い、国民保護措置に関する対処能力の向上 性の向上に努めています。

や関係機関との連携強化を図ることが重要です。

消防庁では、内閣官房等の関係機関と連携し、国と地方公共団体が共同で行う国民保護共同 訓練の実施を促進するとともに、訓練を通じて国民保護法等に基づく対応を確認し、その実効

国民保護共同訓練には、地方公共団体が行う大規模テロや弾道ミサイル等を想定した実動 訓練、図上訓練や弾道ミサイルを想定した住民避難訓練があります。

#### ■Joint exercises for citizen protection – Photos 国民保護共同訓練写真



## Resident evacuation exercises 住民避難訓練



vacuation procedures a fired ballistic missile, each ant makes judgment concernir



# uation procedures are in progress

# Preparation of equipment for NBC disasters

For proper defense against terror attack disasters caused by NBC (Nuclear, Biological, and Chemical) substances, the expert knowledge and techniques and special equipment are vital. FDMA deploys equipment for NBC disasters, such as chemical and biological agent detectors, positive pressure chemical protection suits, and decontamination showers, to major Fire Service Institutions across the country

Also, the Fire and Disaster Management College steps up risk management educational training, and promotes the development of experts, such as by preparing educational training courses for teaching proper responses to NBC terror attacks.

核物質 (Nuclear)、生物剤 (Biological)、化学剤 (Chemical) を使用したテロ災害に適切に対処 るための資機材を全国の主要な消防本部に配備しています。 するためには、専門的な知識と技術、そして資機材が必要です。

消防庁では、化学剤・生物剤検知器、陽圧式化学防護服、除染シャワーなどNBC災害等に対応す

また、消防大学校では、NBCテロ災害発生時に適切に対処するための教育訓練課程を設ける



Chemical agent detector 化学剂桳知器



Decontamination shower 除染シャワー



Positive pressure chemical protection suit 陽圧式化学防護服

#### National Early Warning System(J-ALERT) 全国瞬時警報システム「」アラート」

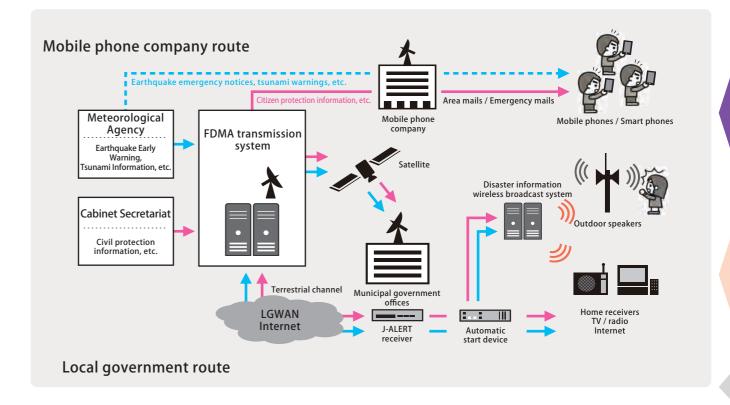
J-ALERT is a system that instantly transmits warnings from the national government to residents. Such warnings include ballistic missile information, Earthquake Early Warnings, and Tsunami Information. The warnings on J-ALERT are transmitted through the emergency mails sent out to people's mobile phones and the disaster information wireless broadcast systems in municipalities.

Biological agent detector

J-ALERT began its operation in 2006, and since 2016, all of the municipalities have been able to automatically transmit the J-ALERT emergency warnings to residents via the tools such as disaster information wireless broadcast systems.

Jアラートは、弾道ミサイル情報、緊急地震速報、津波警報など、対処に時間的余裕のない 事態に関する情報を携帯電話等に配信される緊急速報メールや、市町村防災行政無線等により、 国から住民まで瞬時に伝達するシステムです。

Jアラートは、平成18年度から運用が開始され、平成28年度には、すべての市町村で、受信し た緊急情報を防災行政無線などの情報伝達手段を自動起動させて住民へ伝達することが可能



## Develop human resources and employ new technologies 人材育成と新たな技術に挑戦する





# **Educational training for firefighters and Volunteer Fire Corps**

In order for firefighters and Volunteer Fire Corps to appropriately respond to increasingly complex and diversified disasters, as well as more advanced emergency and fire prevention work, they need to enhance their knowledge and skills which form the basis of their emergency activities. Training and education for firefighters and Volunteer Fire Corps is being run collaboratively by the national, prefectural and municipal governments.

FDMA provides advanced educational training required for the top management of firefighters and Volunteer Fire Corps across the country at the Fire and Disaster Management College. In addition, fire academies, Fire Service Institutions, fire stations, and Volunteer Fire Corps in each prefecture conduct educational training, and the emergency lifesaving training institutes are also providing expert educational training.

複雑多様化する災害や救急業務、火災予防業務の高度化に消防職団員が適切に対応するためには、活動の基礎となる知識・技能の向上が不可欠です。消防職団員に対する教育訓練については、 国・都道府県・市町村が機能を分担し、相互に連携しながら実施しています。

消防庁では、消防大学校において全国の消防職団員に対し、幹部に必要とされる高度な教育訓練を行っています。

D	General Education	Executive dept., Top level executive dept., Newly appointed fire chief and fire academy principal dept., Volunteer Fire Corps chief dept.		
Department S	Specialty Education	Fire suppression dept., Rescue dept., Emergency medical service dept., Fire prevention dept., Hazardous materials dept., Fire investigation dept., Newly appointed local instructor dept., Local instructor dept.		
Training class	Emergency Fire Respo Team education dept.			
	Risk management and d preparedness education			
ire Acaden	ny (prefectures, e	etc.)		
professional firefighters Hazard		it training, Specialty education (Fire defense dept., Extraordinary disaster dept., Fire prevention inspection dept., dous materials dept., Fire investigation dept., Ambulance service dept., Rescue dept.), nanagement education, Special education		
		c education, Specialty education (Fire defense dept., Fire engine dept.), management education, Special education		

## "e-COLLEGE" - anyone can learn via the Internet no matter where

どこでも、だれでも、ネットで学べるe-カレッジ

 $With \,e-COLLEGE, \,residents, \,fire fighters \,and \,Volunteer \,Fire \,Corps, \,and \,government \,staff \,can \,easily \,learn \,about \,disaster \,prevention \,and \,risk \,management \,on \,and \,an extended and \,an extended$ 

As a diverse range of disasters have been occurring in recent years, it is important to that each and every local resident improves their own risk management capacity and the ability to make correct judgment for the enhancement of community's disaster prevention capabilities. e-COLLEGE allows you to learn what preparations are necessary through questions and animated explanations. It doesn't require any registration procedures and can be used by anyone. 「e-カレッジ」では、インターネットを利用して、住民や消防職団員、自治体職員が簡単に防災や危機管理について学習することが可能です。

近年様々な災害が起こっている中、地域防災力の充実強化を図るため、地域住民一人でとりの危機管理・判断力の向上が重要となります。質問形式でアニ メーションによる解説などを通してどのような準備が必要か学習することができます。登録などの手続きは必要なく、だれでも利用可能となっています。

URL (http://www.e-college. fdma.go.jp) | e-COLLEGE





#### Technological research and development in fire and disaster prevention 消防防災における科学技術の研究・開発

By further promoting research and development with a view to practical application for the security and safety of society, FDMA sets their basic policy as the contribution to highly developing societal systems in the field of fire and disaster prevention, and aims for further cooperation with related parties.

消防庁では、安心・安全な社会の実現に向けて、実用化を目的とした研究開発を一層推進す ることにより、その成果が消防防災分野における社会システムの高度化に大きく貢献することを

基本方針とし、関係者の一層の連携を図っています。

#### Strategy for highly developing technologies in fire and disaster 消防防災科学技術高度化戦略プラン

In order to aim for next-generation firefighting systems that can respond to large-scale disasters in an aging society with population decline, a mid to long-term plan is being formulated, which intends to establish a new fire and disaster prevention technology

大規模災害の発生、人口減少や高齢化社会に対応可能な次世代の消防システムを目指すた めに、AIやロボット技術を取り入れた新たな消防防災科学技術の確立を目指した中長期的計画 としてのプランが策定されています。

#### System to promote technology research in fire and disaster 消防防災科学技術研究推進制度

A competitive research funding system was established in 2003 and is open to proposals from the public with the purpose of cultivating and utilizing innovative and practical techniques in the field of fire and disaster prevention. It advances technological development through collaboration with industry, academia, and government

消防防災分野における革新的かつ実用的な技術の育成・利活用を目的とした提案公募の 形式による競争的研究資金制度を平成15年度に創設し、産学官連携による技術開発を進め

#### Research and development of the National Research Institute of Fire and Disaster

消防研究センターの研究開発

The firefighting research center is the unique national research body of our country, in relation to fire and disaster prevention. It supports the activities of firefighters and Volunteer Fire Corps on the frontline and meets the demands of the security and safety of society. They conduct investigation of causes of accidents such as large-scale fires and leakages of hazardous materials and advance research and development of effective technologies and measures that are based on the above-mentioned strategy and the results of the cause investigations. Furthermore, as well as supporting the firefighting activities at such extraordinary disaster sites as hazardous materials storage facility fires, the research center is also engaged in applying research and investigation results to frontline firefighting operations, which includes advice to Fire Service Institutions of knowledge accumulated over many years.

我が国唯一の消防防災に関する国立研究機関である消防研究センターは、第一線で活躍す る消防職団員の活動を科学技術の面から支え、社会の安心・安全に関する要請に応えていま す。大規模火災や危険物流出等の事故に係る原因調査を行い、上記の戦略プランや原因調査

結果を踏まえた効果的な対策や技術の研究開発を進めています。さらに、危険物施設での火 災など特殊災害現場での支援活動をはじめ、永年にわたって蓄積されてきた知見を消防本部 に助言するなど、研究成果や調査結果を最前線の消防活動に反映させる取組も行っています。

#### Research and development of firefighting robot systems

In particularly difficult, large-scale/extraordinary disasters where the dispatch of firefighters to the scene would be extremely dangerous, an automated robot is able to be put into operation from a safe location. Multiple robots can cooperate together, and also a firefighting robot system with abilities to endure high radiation heat are currently under research and development.

消防隊員が災害現場で活動することが 極めて危険であり、困難な大規模・特殊な 災害において、自律技術により安全な場所 からロボットを稼働させることができ、複 数のロボットが協調連携し、さらに、高い放 射熱に耐えられる性能を備えた消防ロボッ トシステムの研究開発を進めています。



#### Research and development for enhancement of firefighting performance and operations in times of disaster 災害時の消防力・消防活動能力向上に係る研究開発

The technology for enhancing firefighting ability in times of disaster is under research and development in preparation for the Nankai Trough Earthquake or and the Tokyo Inland Earthquake. This includes R&D projects for highly advanced ambulance services, amphibious buggies, rescue support operations in landslide disasters, a simulation system

of fire spreading in city areas and fire whirlwinds and leaping flames.

南海トラフ巨大地震、首都直下地震の発 生に備え、災害時の消防活動能力を向上さ せるための技術として、救急業務の高度化 技術、水陸両用バギー、土砂災害現場での 救助活動支援技術、市街地火災延焼シミュ レーション、火災旋風や飛び火に関する研 究開発を行っています。



crumbled cliffs caused by the 2016 Kumamoto Earthquake n order to evaluate the dangers of secondary disasters in

平成28年能本地震により引き起てされた十砂災害現場に おいて、救助活動現場での二次災害の危険性を評価する ため、崩れた崖の周辺の地形と地質を調査を実施

#### Research and development related to enhancing safety in hazardous materials storage facilities 危険物施設の安全性向上に関する研究開発

To make sure of the resilience of industry and energy facilities, the National Research Institute of Fire and Disaster has carried out research and development for the measuring of oil tank earthquake damage, the foam firefighting ability for oil tank fires, and the evaluation of fire risk in stored chemical substances.

産業・エネルギー施設の強靭化のため、石油タンク地震被害予測、石油タンク火災の泡消火 技術、貯蔵化学物質の火災危険性評価の研究開発を行っています。

#### Research and development for preventing fires and reducing damage 火災予防と火災による被害の軽減に係る研究開発

The National Research Institute of Fire and Disaster conducts research and development for enhancing the ability to inspect fire causes, which helps implement effective measures for fire prevention, and also regarding the effective evacuation method for people who cannot leave buildings on fire by themselves.

有効な火災予防対策が行えるよう、火災原因調査能力の向上に関する研究開発を行うとと もに、自力避難困難者の建物からの効果的な避難に関する研究開発を行っています。

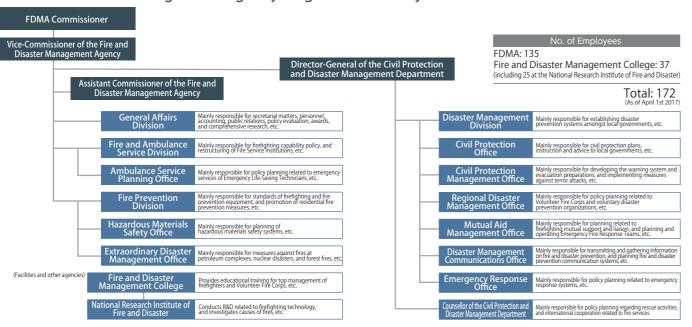
## We are the Fire and Disaster Management Agency (FDMA).

私たちは『消防庁』で

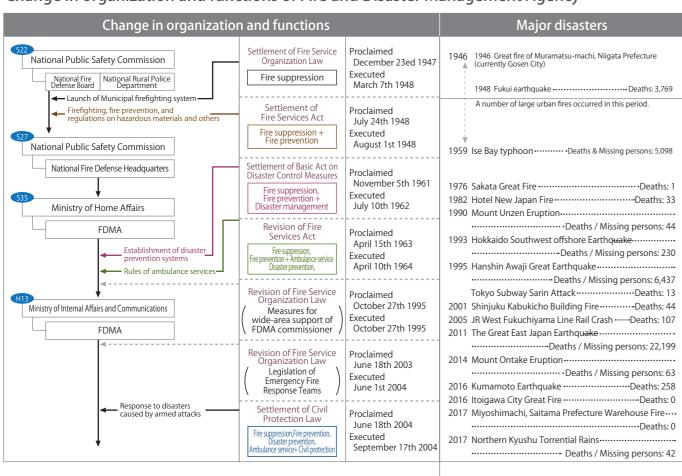
After the foundation of the National Fire Defense Board in 1948 and the National Fire Defense Headquarters in 1952, FDMA started as an affiliated agency of the Ministry of Home Affairs in 1960, and now operates as an affiliated agency of the Ministry of Internal Affairs and Communications. Since many large-scale fires, disasters, and accidents have occurred in the past, FDMA has enhanced its organization accordingly. We will continue our efforts to minimize the damage caused by fires, earthquakes, storms, floods, and other disasters, in order to realize a secure and safe society.

消防庁は、昭和23年の国家消防庁、昭和27年の国家消防本部を経て、昭和35年に自治省の外局として発足し、現在は総務省の外局となっています。現在までの間、多くの大規模な火災や災害、事故が発生したことを受け、組織体制も充実強化してきました。これからも、安心・安全な社会を実現するため、火災・地震・風水害などの災害による被害を最小限にとどめる努力を続けていきます。

## Fire and Disaster Management Agency: Organization and jurisdiction



## Change in organization and functions of Fire and Disaster Management Agency

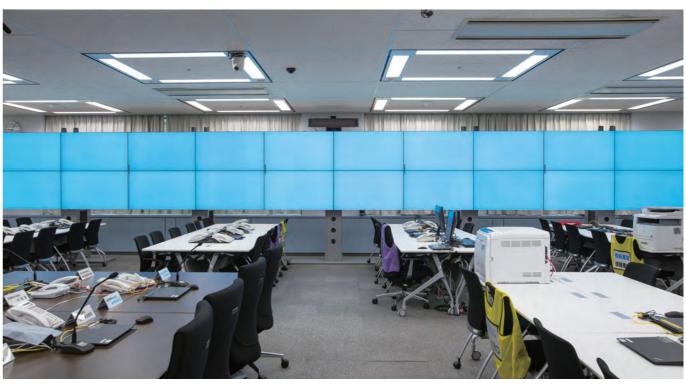


## **Emergency Management Center**

当防防災・危機管理センター

To prevent and minimize disaster damage, FDMA arranges the necessary procedures including the legislative aspect, and prepares materials and equipment. Also, when a large-scale disaster occurs, the FDMA commissioner sets up headquarters for the disaster management to gather information on the disaster damage and operate the Emergency Fire Response Teams.

消防庁は、災害を未然に防ぎ、災害が発生した場合の被害を最小限に抑えるため、法令の整備や資機材の配備などを行っています。また、大規模な災害が発生した場合には、速やかに消防庁 長官を本部長とする災害対策本部を設置し、情報収集や緊急消防援助隊のオペレーションなどを行います。



The Emergency Management Center, which is built in FDMA office, is the operations room. The center has the fire and disaster prevention wireless communication network, a regional satellite communication network and a helicopter TV broadcasting system so that we can share various kinds of disaster information with the Prime Minister's Office, the Cabinet Office, local governments and Fire Service Institutions in the event of a large-scale disaster.

消防庁内に設置されている消防防災・危機管理センターは、災害対応を行う消防庁のオペレーションルームです。有事の際、総理大臣官邸や内閣府をはじめ、都道府県や市町村、消防本部などの 関係機関との情報共有が行えるよう、消防防災無線、地域衛星通信ネットワーク、ヘリコプターテレビ伝送システムなどを整備しています。

#### FDMA vehicles and helicopter 消防庁の車両等



Command vehicle 指揮車



Personnel transit vehicle 人員搬送車



Satellite communication vehicle 衛星車載局車



Command support vehicle 指揮支援車



FDMA helicopter 消防庁へリコプター