

Great East Japan Earthquake and Resulting Damage

Great East Japan Earthquake

The Great East Japan Earthquake on March 11, 2011 caused widespread devastation. DOCOMO was forced to suspend service in the Tohoku region and other parts of East Japan because of damage to base station facilities, power outages and breaking down of transmission lines caused by the earthquake. In the immediate aftermath of the earthquake, DOCOMO established a disaster response office at its Tokyo Headquarters and at the Tohoku Regional Office and worked to ascertain the extent and nature of the damage. We also began restoration of communications facilities and provide relief for people directly affected.

DOCOMO's Immediate Response After the Great East Japan Earthquake

We immediately established a disaster response office and initiated facility restoration and disaster relief efforts.

Hironori Fukushima
Executive Manager, Disaster Countermeasures Office



DOCOMO has drilled many times on securing communications and information transmission channels in the event of a disaster, so eleven minutes after the Great East Japan Earthquake struck on March 11 at 2:46 p.m., we put the Disaster Message Board Service into operation. And at 3:37 p.m. we established a disaster response office and promptly initiated restoration activities. In responding to the Great East Japan Earthquake DOCOMO gathered some 4,000 people. We set in motion Level 1 emergency measures, the highest level, and quickly made decisions and implemented our response under the direction of the president, who headed the disaster response office.

Main Initiatives in the First Week After the Earthquake

Friday, March 11

- 2:46 p.m. Great East Japan Earthquake occurs
- 2:57 p.m. Put Disaster Message Board Service into operation
- 3:37 p.m. Established a disaster response office
- 5:09 p.m. Set into motion Level 1 emergency measures, the highest level (disaster response office headed by the president)



Disaster response office

Saturday, March 12

- Deployed nationwide mobile base station vehicles and mobile power generators to the Tohoku region
- President visited disaster region
- Began free loans of satellite mobile phones and mobile phones to government agencies, evacuation centers, etc.



Emergency vehicle



Phones lent out free of charge

Sunday, March 13

- Began providing free phone battery charging service at evacuation centers, etc.



Free phone battery charging service

Monday, March 14

- Mobile base station vehicles, mobile power generators and portable generators put into operation
- Launched docomo Disaster Relief Charity Website

Tuesday, March 15

- Issued press release on support measures being implemented for the disaster (Payment due dates extended, repair fees reduced, mobile phone data recovery service for FOMA handsets that have been damaged by water provided free of charge, special discounts offered for mobile phone purchases, some service charges waived, etc.)

Friday, March 18

- Disaster Message Board Service made available on smartphones
(Initially scheduled for end of March, but accelerated the progress and completed ahead of time)



Disaster Message Board Service

Saturday, March 19

- Began lending solar battery chargers free of charge at evacuation centers

Sunday, March 20

- Began providing Restoration Area Maps on the DOCOMO website

Impact on Communications Facilities and Restoration Measures

Level and Nature of Damage to Communications Facilities

The earthquake resulted in 6,720 base stations being unable to provide service in East Japan. This was the result of base stations being damaged by the earthquake or flooded in the tsunami, transmission lines ^{* 1} being broken off by the earthquake, and extended power outages that depleted base station batteries. After the earthquake struck, DOCOMO immediately established a disaster response office at the Headquarters and Tohoku Regional Office as well as a system for keeping the two offices in close contact 24 hours a day. With the help of NTT Group companies and communications facility construction companies, we quickly began working to restore communications facilities and other equipment that had been damaged.

* 1 Lines that connect base stations to switching stations and switching stations to one another. They are normally connected by optical fiber.

Restoration of Communications Facilities

Taking emergency measures immediately after the earthquake occurred, we deployed approximately 30 mobile base station vehicles from across the country to take the place of base stations that could no longer provide service. We also deployed around 30 mobile power generators and some 400 portable generators in order to supply power to base stations and other facilities and steadily made progress in temporarily restoring transmission lines and power supplies as we worked to restore the service area. As a result of these efforts, out of the 307 base stations in Iwate, Miyagi and Fukushima Prefectures (excluding those within a 30 kilometer radius of Fukushima Daiichi Nuclear Power Station) where service had been disrupted as of March 30, we completed emergency restoration on 301, or 98% of the total, by the end of May. We plan to address the remaining six as government services are reestablished. DOCOMO intends to conduct full-fledged restoration to the facilities by the end of September in order to ensure coverage quality equivalent to pre-disaster levels. For base stations in areas devastated by the tsunami, we plan to move forward with full-fledged restoration on a town by town basis as the recovery progresses in the region.

Service Area Restoration (Tohoku) ■ Usable Area ■ Unusable Area



Main Initiatives for Facilities Restoration

Installation of Optical Fiber and Emergency Optical Fiber



We installed optical fiber or emergency optical fiber to restore transmission lines that had been broken off. In addition, we set up temporary stations in case optical link aggregation stations that support multiple subordinated base stations had been damaged. These measures resulted in 154 stations being restored.

Expansion of Base Station Zones



When multiple base stations located in lowland areas along the coastline were damaged, base stations in mountainous areas that escaped damage were utilized. By altering the antenna angle and output power, one mountain base station was made to service a larger zone that had been covered by multiple lowland stations. This has allowed us to restore service in areas that had been served by 67 base stations.

Utilization of Microwave Transmission Lines



When restoring transmission lines with optical fiber proved exceedingly difficult, mobile base station vehicles capable of wireless microwave communications were deployed and ensured transmission between base stations and central and switching stations, as well as between different switching stations. This resulted in 44 base stations being restored.

Utilization of Satellite Lines



Satellite lines were utilized to take the place of base stations rendered inoperable by the tsunami and transmission lines that were out of service due to breaking off of optical fiber. Mobile satellite base station vehicles were deployed to connect base stations with switching stations and other facilities. This resulted in 36 base stations being restored.

Restoration Near the Fukushima Daiichi Nuclear Power Station

As of March 30, 68 base stations were out of service within a 30 kilometer radius of the Fukushima Daiichi Nuclear Power Station, where the earthquake caused a major nuclear accident. To help restore service, on April 1 we deployed a mobile satellite base station vehicles to J-Village in Narahamachi, Fukushima Prefecture. Additionally, in order to establish service within a 20 kilometer radius of the power station, a restricted area, on April 13 we installed high performance antennas on base stations in Iwaki, Fukushima Prefecture, which is located approximately 25 kilometers from the power station. We also conducted optical fiber replacement work for transmission lines at a communications building within the 20 kilometer radius. As of the end of April, we had restored 51 base stations and resume FOMA service near the Fukushima Daiichi Nuclear Power Station, where there was strong demand associated with accident response efforts, and along National Route 6 and other major highways.



Replacing base station transmission lines
(communications building in Tomiokamachi,
Fukushima Prefecture)



Installing high performance antenna
(base station in Iwaki, Fukushima Prefecture)

Support for Customers Affected by the Disaster

Support Activities in the Disaster Region

DOCOMO quickly began providing support in the disaster region. The day after the earthquake hit, we began free loans of satellite mobile phones and other mobile phones, providing a free phone battery charging service at evacuation centers and other facilities without power, conducting donation and fund-raising activities, and providing relief in an effort to support people directly affected by the disaster.

Main Support Initiatives in Disaster Region

Restoration Area Maps



Rendering of Restoration Area Maps

We built a system on an emergency basis that renders maps showing progress made in restoring FOMA service, locations for the free mobile phone service, free satellite mobile phone service and free phone battery charging service, and status of operations of docomo Shops. The maps were posted on our website starting March 20. They were color-coded to show service coverage areas and restoration schedules for areas without service in an easy-to-understand manner. They were also searchable by address and keyword to improve usability. Within ten days of putting the maps online, they had been accessed a total of approximately 200,000 times.

Free Loans of Mobile Phones



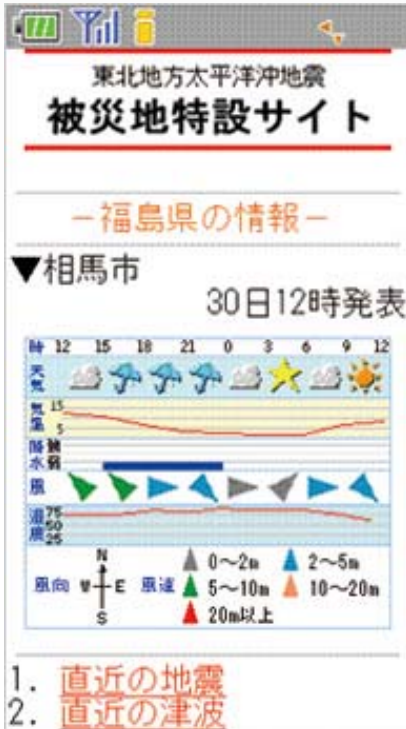
Lending out mobile phones

In order to help the disaster region and ensure communications, we lent out approximately 900 satellite mobile phones, 2,100 mobile phones, and 670 tablet terminals to government agencies, evacuation centers and other agencies. We also provided a free phone battery charging service at approximately 410 locations.

Disaster Relief Charity Website

On March 14 we established the docomo Disaster Relief Charity Website and began raising money by enabling donations to be made through the purchase of various charity-related contents, through docomo "Keitai Soukin" (docomo Mobile Remittance) or additionally by converting docomo Points. The initial round of donations totaled 780 million yen and money was distributed to recipients on April 4 so that the goodwill of all the customers who donated would be quickly transformed into disaster relief. (A total of 1,022.38 million yen has been distributed to donation recipients as of August 5.)

Special Weather Report Site for Disaster Region



Rendering of special weather report site

Partnering with affiliate Weather Service Co., Ltd., DOCOMO launched a weather report site for mobile phones that provides detailed information on regions most affected by the disaster. * 1 On April 1 the site began providing earthquake and tsunami information, weather forecasts, and detailed information on temperatures, humidity levels, wind direction and velocity, and rainfall amounts collected by environment sensors installed on DOCOMO base stations, all free of charge.

* 1 Aomori Prefecture, Akita Prefecture, Iwate Prefecture, Yamagata Prefecture, Miyagi Prefecture, Fukushima Prefecture, Ibaraki Prefecture and Chiba Prefecture

Free Wireless LAN Areas

From March 18 until the end of June we set up public wireless LAN areas provided by the NTT Group free of charge so that customers impacted by the disaster, customers forced to evacuate and people working as volunteers could access and use the Internet. The areas included cafes, fast food restaurants and hotels with DOCOMO's Mzone and other Wi-Fi services offered by the NTT Group in Iwate Prefecture, Miyagi Prefecture, Yamagata Prefecture, Fukushima Prefecture, Ibaraki Prefecture and Nagano Prefecture. Also, areas were made free of charge from March 25 until the end of June in Aomori Prefecture, Akita Prefecture, Tochigi Prefecture, Gunma Prefecture and Niigata Prefecture. In some regions (Iwate Prefecture, Miyagi Prefecture and Fukushima Prefecture), the free period was extended until the end of September.

"Otayori Photo Panel"

"Otayori Photo Panels," which can display photos and messages, were set up at 66 evacuation centers in Miyagi Prefecture, Fukushima Prefecture and Iwate Prefecture. From April 2 to the end of June, a variety of information was provided, including operating status of docomo Shops and special measures being taken in regions subject to the Disaster Relief Act.

Mobile Phone Fee Exemptions for Customers Affected by the Disaster

Discounting or Waiving Service Charges and Basic Monthly Charges

To help customers directly affected by the disaster, we extended payment due dates for charges, discounted repair charges, and provided our mobile phone data recovery service for *FOMA* handsets that have been damaged by water free of charge. Moreover, we also waived basic monthly charges for customers affected by the disaster for the period of time that phones could not be used beginning March 12.

Providing Equipment and Information for Disaster Relief

Providing Tablet Terminals and Data Cards

DOCOMO provided communication devices, weather data and other information to support relief and recovery activities in the disaster region.

DOCOMO Support and Recipients

Cooperation/support recipient	Provided equipment/data	How equipment/data was used by recipient
Evacuation center surveillance systems (support for research and medical institutions)	<ul style="list-style-type: none"> ▪ 300 GALAXY Tab devices Free basic monthly charges and communications charges (March 31 to end-June)	Utilized by local officials and nurses involved in managing evacuation centers to input information on infectious diseases, etc. for more efficient medical services and pharmaceutical distribution.
National Research Institute for Earth Science and Disaster Prevention	<ul style="list-style-type: none"> ▪ 100 data cards Free basic monthly charges and communications charges (March 23 to end-June)	Utilized as a means of communication when providing map data and related information through the Disaster Risk Information Platform to municipalities lost information access.
Elementary and Junior high schools in Iwate Prefecture	<ul style="list-style-type: none"> ▪ 60 mobile Wi-Fi routers Free basic monthly charges and communications charges (April 25 to end-July)	Utilized as an information sharing tool between and among the prefectural government and 60 elementary and junior high schools in Iwate Prefecture that had lost their network availability.
Japan Primary Care Association	<ul style="list-style-type: none"> ▪ 42 GALAXY Tab devices ▪ 3 data cards Free basic monthly charges and communications charges (April 12 to end-July)	Utilized as a communication tool for volunteer doctors making rounds at evacuation centers and providing support for medical institutions with compromised diagnostic functions based on requests from medical institutions in Iwate Prefecture, Miyagi Prefecture and Fukushima Prefecture.
Japan Chamber of Commerce and Industry	<ul style="list-style-type: none"> ▪ 30 data cards ▪ 10 mobile phones Free basic monthly charges and communications charges (April 11 to mid-July)	Utilized as an information communication tool for people helping in the recovery of small businesses impacted by the earthquake who were sent by nationwide chapters of the Japan Chamber of Commerce and Industry.
Japan Meteorological Agency	<ul style="list-style-type: none"> ▪ Observation data provided by Environment Sensor Network (Ongoing since March 23)	Data on temperatures, rainfall totals and wind direction and velocity provided by the Environmental Sensor Network utilized as a replacement for data observed by the Automated Meteorological Data Acquisition System (AMeDAS), which was damaged in the earthquake.

Support Provided by DOCOMO Group Companies

Disaster Relief and Recovery Initiatives

Group companies also quickly initiated relief and recovery efforts in the disaster region. They have provided support for people affected by the disaster by distributing their own products, making donations and raising money for relief funds.

Disaster Relief and Recovery Initiatives of DOCOMO Group Companies

Company	Initiative	Donation amount, etc.
NTT DOCOMO, INC.	<ul style="list-style-type: none"> Donation of money raised from customers through the docomo Disaster Relief Charity Website Recipients: Japan Platform, Central Community Chest of Japan (Disaster Relief for the Japan Earthquake) 	1,022,386,050 yen (as of August 5)
	<ul style="list-style-type: none"> Corporate donation Recipients: Japan Platform, Central Community Chest of Japan (Disaster Relief for the Japan Earthquake) 	500 million yen
	<ul style="list-style-type: none"> Donations by DOCOMO Group employees Recipients: Japan Platform, Central Community Chest of Japan (Disaster Relief for the Japan Earthquake) 	9,583,500 yen
	<ul style="list-style-type: none"> Coordinated mobile phone battery charging service and free loans of mobile and satellite phones Sent 100 newly joined employees to disaster area Purchased non-restricted agricultural products on a priority basis and used them in employee cafeteria 	---
Oak Lawn Marketing, Inc.	<ul style="list-style-type: none"> Established relief fund, made donations, and called on overseas business partners to make donations Directly provided own products to evacuation centers (low-bounce mattresses, blankets), milk for infants, disposable diapers, and medical and health supplies Provided support for local product sales 	150 million yen
D2 Communications Inc.	<ul style="list-style-type: none"> Corporate donation (10 million yen) Recipient: Japanese Red Cross Society Donated 100 laptop computers to elementary and junior high schools in Ogatsucho, Ishinomaki, Miyagi Prefecture 	10 million yen
net mobile AG (Germany)	<ul style="list-style-type: none"> Fundraising using SMS 	Ongoing (as of end-June)
DOCOMO PACIFIC, INC. (Guam & Northern Mariana Islands)	<ul style="list-style-type: none"> Joint fundraising with other companies Fundraising utilizing SMS and charity auction Donated 15% of proceeds from sales of prepaid phones, SIM cards, etc. 	Approx. \$50,000
NTT DOCOMO USA, Inc.	<ul style="list-style-type: none"> Partial free international calling to Japan and free international roaming charges while in Japan 	---

Help for Damaged docomo Shops

Helping Shops Reopen Quickly



docomo Shop damaged
by the earthquake

In the Tohoku and Kanto regions, 90 docomo Shops were destroyed or damaged their buildings, and in the Tohoku region, 159 of 195 shops were temporarily closed.

DOCOMO worked to reopen damaged docomo Shops as quickly as possible so that they could help customers with lost or damaged mobile phones due to the earthquake. With the exception of shops with severely damaged buildings and shops in the nuclear evacuation area, we were able to reopen approximately 90% of shops as of the end of March.

In addition, a total of 38 million yen in special payments was made to sales agents operating shops that had been damaged. We also called on sales agents around the country to contribute relief funds and DOCOMO provided additional support by matching the donations that were made. Moreover, DOCOMO provided assistance and free financing for store rebuilding, products and other expenses to shops trying to reopen.

Initiatives of docomo Shops

Onsite Sales

For customers living close to docomo Shops not likely to be reopened in the immediate future, neighboring docomo Shops made trips to evacuation centers and other facilities to sell mobile phones and accessories.

Reinforcing Disaster Preparedness

New Disaster Preparedness Based on Great East Japan Earthquake

We are committed to fulfilling the responsibility as a communications infrastructure provider by focusing on ensuring that communications capabilities during an emergency.

Fumio Iwasaki
Executive Vice President



DOCOMO has long had a variety of countermeasures in place for potential disasters. However, the Great East Japan Earthquake had an unprecedentedly large impact on communication facilities. The enormous earthquake, the fourth largest ever recorded in the world, and resulting tsunami destroyed and flooded communications facilities, and long-term, widespread power outages and scheduled rolling blackouts put facility functions out of service and depleted emergency power supplies (batteries). Immediately after the earthquake the NTT DOCOMO Group marshaled its collective strengths and worked to restore damaged facilities and suspended services.

The earthquake served to reaffirm the societal importance of communications services, and DOCOMO intends to reinforce disaster preparedness accordingly. The basic policy of our new disaster preparedness centers on securing key service areas, preparing for rapid responses in disaster zones, and improving customer convenience.

DOCOMO intends to fulfill its responsibilities as a communications provider by continuing to proactively work to secure communications services.

Basic Policy of New Disaster Preparedness

Secure key service areas Secure communications in heavily populated areas and for government agencies	(1) Establish large-zone base stations nationwide (approx. 100 locations) to secure communications when disasters occur. ⇒Population coverage of approx. 35%
	(2) Promote uninterrupted power and 24-hour batteries for base stations (approx. 1,900 stations) ⇒Population coverage of approx. 65% and coverage of approx. 50% of core disaster hospitals
Prepare for rapid responses in disaster zones	(3) Secure communications for evacuation centers, etc. via immediate provision of satellite mobile phones (plan of approx. 3,000 phones)
	(4) Rapidly secure communications coverage areas using satellite systems Increase base stations with satellite links (double mobile satellite base station vehicles to 19 and add 24 new portable satellite base stations)
	(5) Secure the capability to set up communications coverage areas flexibly using microwave trunk Deploy emergency microwave link equipment (100 zones)
Improve customer convenience	(6) Develop file-based voice message service utilizing disaster-resistant packet communications
	(7) Upgrade Restoration Area Maps
	(8) Improve usability of Disaster Message Board Service by adding voice guidance
	(9) Promote use of Area Mail Disaster Information Service
	(10) Further promote ICT utilization by linking with social networking services, etc.

Electricity-Saving Measures

Meeting Public Requirements Regarding Electricity Conservation

In order to fully meet public requirements regarding conserving electricity, we are turning off half the lights at offices, including R&D centers, and reducing power consumption by changing weekends to Monday and Tuesday during the period from July 1 to September 30, 2011.

Electricity-Saving Measures at Offices

(1) Lights	Turn off half the lights in rooms
	Turn off lights near office windows during the daytime
	Turn off lights during lunch break
(2) Air conditioning	Shorten times in operation
(3) Common areas	Elevators <ul style="list-style-type: none"> ▪ Use stairways ▪ Reduce number in operation
	Restrooms <ul style="list-style-type: none"> ▪ Turn off power to warm water cleansing, heated toilet seats, hot water heaters for washing hands, and electric hand dryers, etc.
	Halls and lobbies <ul style="list-style-type: none"> ▪ Turn off all lights during the day or reduce lighting by half ▪ Turn off power to hot water heaters ▪ Switch to energy efficient vending machines
(4) Office equipment and electrical devices	Computers <ul style="list-style-type: none"> ▪ Turn off power when not in use for certain period ▪ Turn off displays when not at desk
	Printers and copiers <ul style="list-style-type: none"> ▪ Reduce number in operation ▪ Reduce copy/print sheets
	Change refrigerator temperature setting (from high to medium or low)
(5) Working formats	Change weekends (from Sat/Sun to Mon/Tues) * For offices in Kanto and Koshinetsu regions (including business offices of Group companies)
	Partially relax rules for summer dress code