

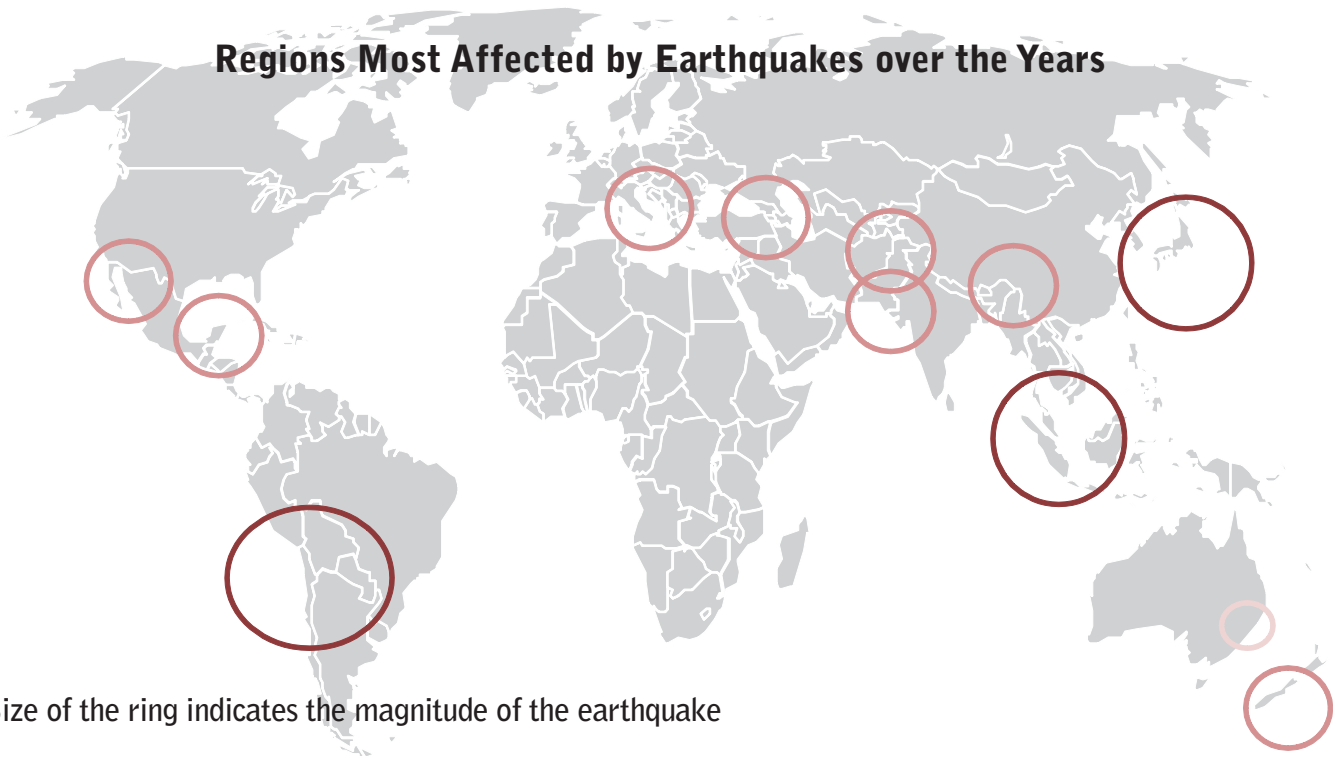


# Japan's Earthquake and Its Impact

The recent massive 8.9 magnitude earthquake that hit northeast Japan was the fifth largest recorded worldwide since 1900 and one of the worst in Japan. Following the earthquake, there were several strong aftershocks. Rail transport and nuclear plants were shut down in the affected area. Power transmission has been adversely affected in these areas.

## Introduction

Japan is one of the world's most seismically active areas and earthquakes are common in. The country accounts for about 20% of the world's earthquakes of magnitude 6 or greater. A tremor occurs in Japan at least every five minutes, and each year there are up to 2,000 quakes that can be felt by people



The earthquake on March 11th struck about 382 kilometres north-east of Tokyo at a depth of 24 kilometres. It was upgraded to 8.9 on Richter scale making it the fifth largest recorded worldwide since 1900 and one of the worst in Japan. Eight strong aftershocks have been reported, including a 6.8 quake on the mainland 66 kilometres north-east of Tokyo.

North-eastern Japan, which was affected due to earthquake and tsunami has 5 prefectures. These fall under

- **Tohoku region**, which includes Miyagi, Fukushima, Iwate
- **Kanto region**, which includes Ibaraki and Chiba.

## Impacts of the Earthquake

### Production Shutdowns

Some Japanese nuclear power plants and oil refineries were shut down and a major steel plant was ablaze after the powerful earthquake struck Japan, triggering tsunami, buckling roads, and resulting in a massive power cut across Japan.

The major manufacturing and industrial zones, which include many chemical, petrochemical and electronics plants, are located in the Miyagi prefecture and surrounding areas.

### List of Shutdowns

- Electronics giant Sony Corporation shut its six factories in the region.
- Hokuriku Electric Co has shut down three reactors at its Onagawa nuclear plant in Northern Japan.
- Toyota Motor supplier closed three factories. It also reported damage at a plant in Miyagi.
- JX Nippon Oil & Energy Corp, Japan's top refiner, halted operations at three refineries in Sendai, Kashima and Negishi, Jiji.
- Electric Power Development (J-Power) also halted operations of its Isogo thermal power plant in Yokohama, Jiji.
- Nuclear power stations on the Pacific coast in Miyagi and Fukushima prefectures shut down operations automatically after the quake hit.

## Economic & Financial Impact

Due to the large presence of car and semiconductor factories in northern Japan, the economy is bound to be impacted. Although the full scale of the earthquake's effect could not be assessed immediately, but taking into account the after effects of the Kobe earthquake, the Japanese government might have to come up with an emergency budget.

The total consumption is also expected to fall, which could temporarily pull down the country's gross domestic product. After shrinking slightly in the final quarter of last year, Japan's economy had been widely expected to resume growth early in 2011 as exports and industrial production picked up. But the earthquake has increased the prospect of major disruptions for many key businesses at least in the short term.

Commodities may get affected as crude prices will come down. Sectors like insurance and auto may face disruptions. The Tokyo stock market extended losses after the earthquake. However, the Japan's central bank ensured that it would maintain financial stability and liquidity in the market.

Stocks are expected to fall, especially of those companies that have factories in the affected areas.

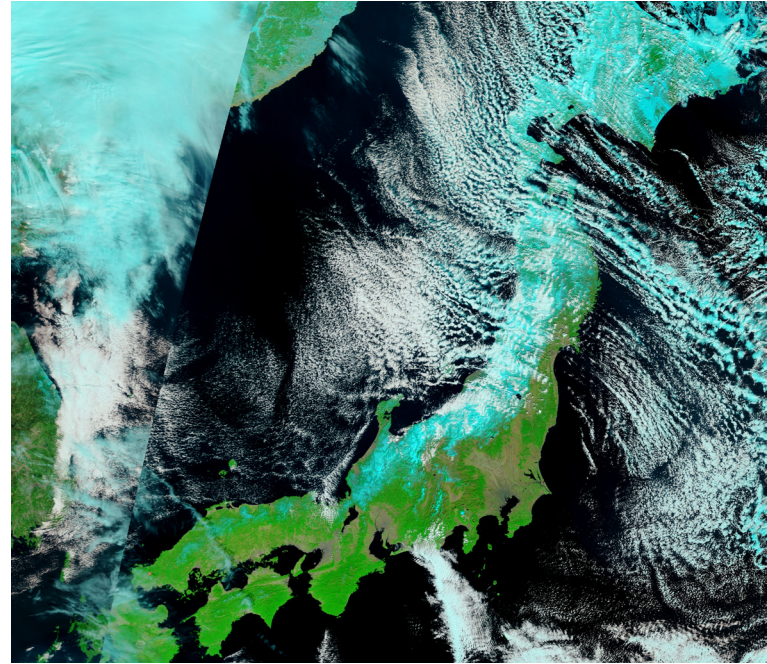


## Transportation

The quake affected the nation's key transportation systems, including Narita airport, which were closed for safety checks as the runway was flooded. The tsunami also reached Sendai airport, submerging the runway, in Miyagi Prefecture and hence the airport was closed. Adding to these, the airports in Iwate Hanamaki, Aomori and Yamagata were also closed. Rail services are completely halted. Roads developed cracks throughout Japan. Tokyo metropolitan expressways and Tokyo subways and suburban rail services were also closed following the earthquake.

## Future Warnings

The Pacific Tsunami Warning Center in Hawaii also issued a tsunami warning for Japan, Russia, Marcus Island and the Northern Marianas. A tsunami watch has been issued for Guam, Taiwan, the Philippines, Indonesia and the U.S. state of Hawaii. The Pacific Tsunami Warning Center issued alerts for countries as far away as Colombia and Peru.



## Reducing the Impact

DISCO's manufacturing units in Kure and Kuwabata are gradually replacing its current buildings with the new buildings that use seismic base isolation structures to prevent earthquake damage. Meanwhile, the current building, with earthquake resistant structure, that houses the grinding wheel manufacturing lines, has been assessed by a company specializing in earthquake risk evaluation, and has implemented facility reinforcement and other safety measures as advised, which helped the company in reducing the impacts of the current earthquake to a large extent. In November 2011, DISCO plans to add an earthquake-proof building for the dicing blade production in the Kure Plant.

## Conclusion

The complete losses and damages are yet to be ascertained, however, major damages in the manufacturing and industrial zones in Miyagi and Tokyo may have an adverse effect on the supply chain of chemical, petrochemical and electronics segments. The supply will be severely affected in the area if the transportation facilities are not restored to normal conditions soon.

Source: businessinsider,reuters, cnn, japan-supplier

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