

# M 5.8, NEAR THE EAST COAST OF HONSHU, JAPAN

Origin Time: Sun 2013-08-04 03:28:50 UTC (12:28:50 local)

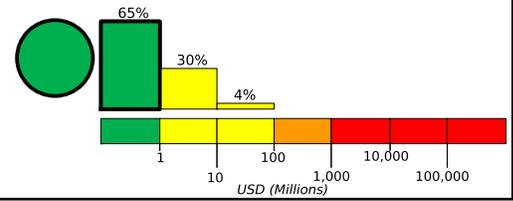
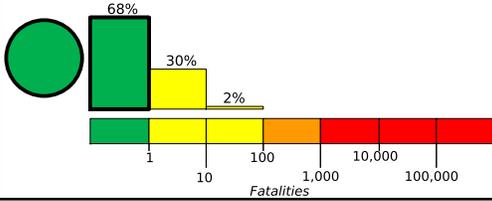
Location: 38.21°N 141.86°E Depth: 56 km

Created: 7 weeks, 3 days after earthquake

## Estimated Fatalities

Green alert for shaking-related fatalities and economic losses. There is a low likelihood of casualties and damage.

## Estimated Economic Losses



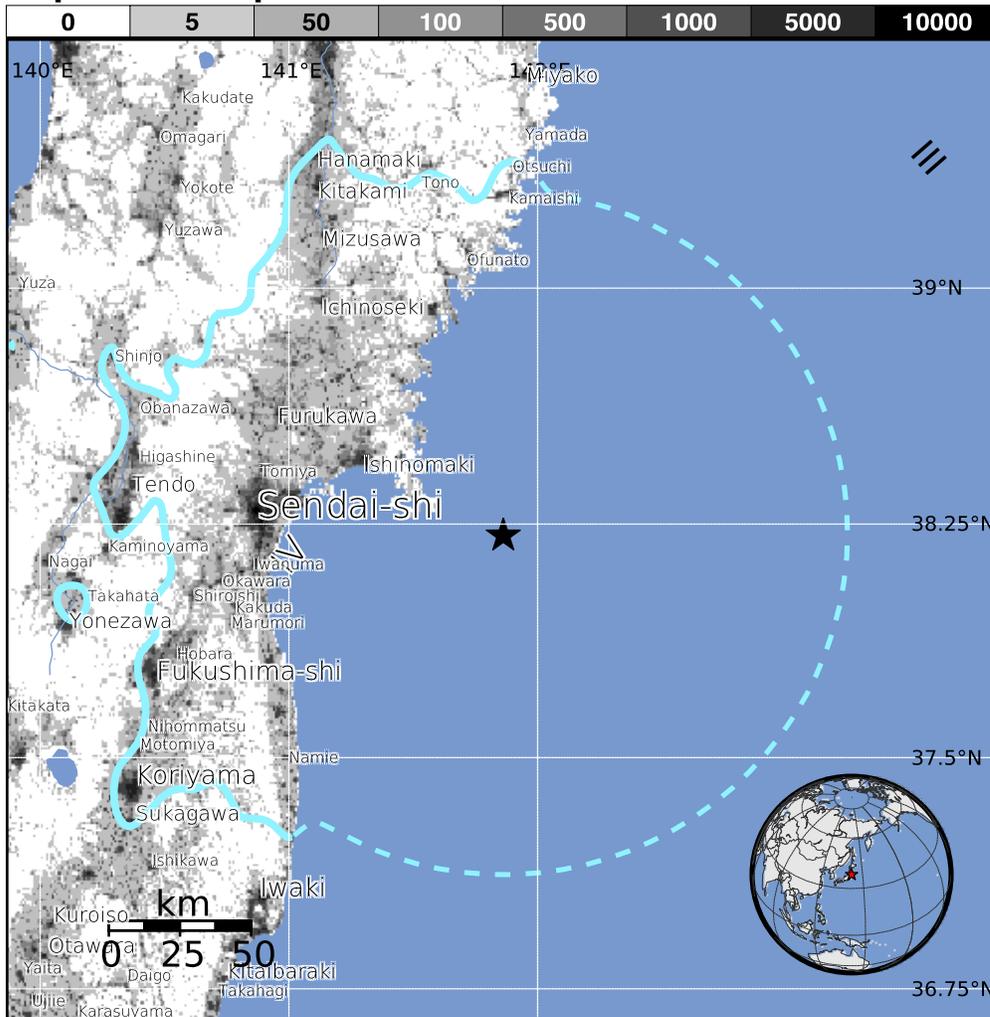
## Estimated Population Exposed to Earthquake Shaking

| ESTIMATED POPULATION EXPOSURE (k = x1000) | - -*                  | 2,485k* | 4,955k | 178k     | 0        | 0           | 0              | 0              | 0        |          |
|---|-----------------------|---------|--------|----------|----------|-------------|----------------|----------------|----------|----------|
| ESTIMATED MODIFIED MERCALLI INTENSITY     | I                     | II-III  | IV     | V        | VI       | VII         | VIII           | IX             | X+       |          |
| PERCEIVED SHAKING                         | Not felt              | Weak    | Light  | Moderate | Strong   | Very Strong | Severe         | Violent        | Extreme  |          |
| POTENTIAL DAMAGE                          | Resistant Structures  | none    | none   | none     | V. Light | Light       | Moderate       | Moderate/Heavy | Heavy    | V. Heavy |
|   | Vulnerable Structures | none    | none   | none     | Light    | Moderate    | Moderate/Heavy | Heavy          | V. Heavy | V. Heavy |

\*Estimated exposure only includes population within the map area.

## Population Exposure

population per ~1 sq. km from Landsat



## Structures:

Overall, the population in this region resides in structures that are resistant to earthquake shaking, though some vulnerable structures exist.

## Historical Earthquakes (with MMI levels):

| Date (UTC) | Dist. (km) | Mag. | Max MMI(#) | Shaking Deaths |
|------------|------------|------|------------|----------------|
| 2004-10-23 | 305        | 5.7  | V(144k)    | 0              |
| 1980-09-23 | 310        | 5.3  | V(12,718k) | 1              |
| 1983-05-26 | 349        | 7.7  | VII(174k)  | 104            |

Recent earthquakes in this area have caused secondary hazards such as landslides and fires that might have contributed to losses.

## Selected City Exposure

from GeoNames.org

| MMI | City          | Population |
|-----|---------------|------------|
| IV  | Yamoto        | 32k        |
| IV  | Ishinomaki    | 117k       |
| IV  | Rifu          | 35k        |
| IV  | Sendai-shi    | 1,038k     |
| IV  | Kogota        | 20k        |
| IV  | Onagawa Cho   | < 1k       |
| IV  | Fukushima-shi | 294k       |
| IV  | Morioka-shi   | 295k       |
| IV  | Iwaki         | 357k       |
| III | Yamagata-shi  | 255k       |
| III | Akita Shi     | 326k       |

bold cities appear on map

(k = x1000)

PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty.

<http://earthquake.usgs.gov/pager>

Event ID: usb000iv4w