USGS science for a changing world

Earthquake Shaking Green Alert

GSN ANSS USAID FROM THE AMERICAN PEOPLE

# M 5.1, ASSAM, INDIA

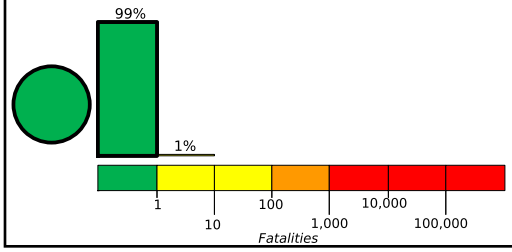
Origin Time: Sun 2015-06-28 01:05:28 UTC (06:35:28 local)

Location: 26.64°N 90.41°E Depth: 26 km

**PAGER Version 8**

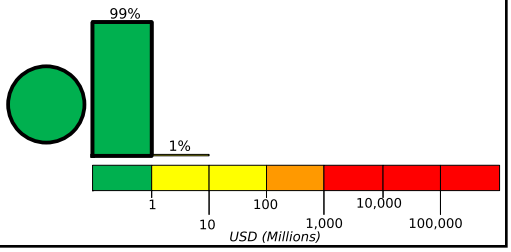
Created: 9 weeks, 3 days after earthquake

## Estimated Fatalities




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

## Estimated Economic Losses



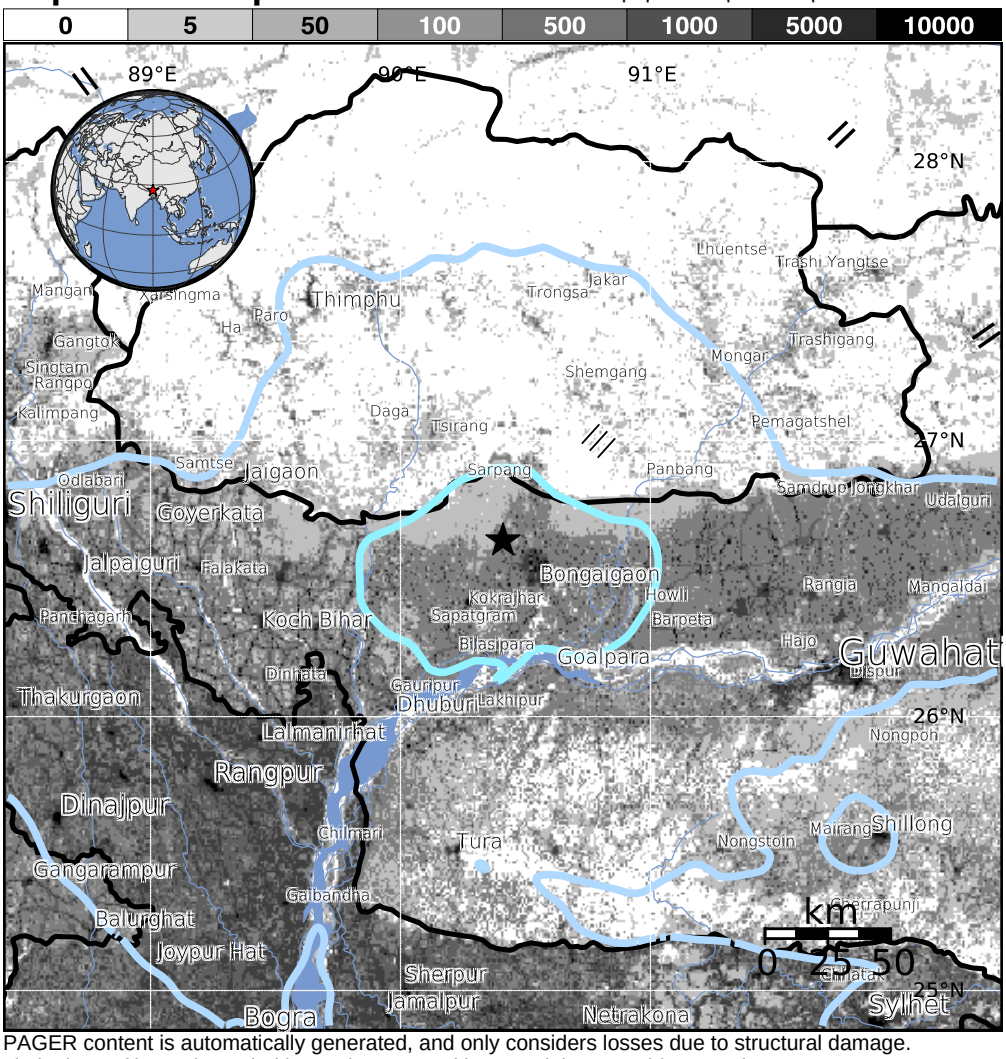

## Estimated Population Exposed to Earthquake Shaking

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ESTIMATED POPULATION EXPOSURE (k = x1000) | | - -* | 55,156k* | 4,094k | 0 | 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 Landscan




**Structures:**
Overall, the population in this region resides in structures that are highly vulnerable to earthquake shaking, though some resistant structures exist. The predominant vulnerable building types are unreinforced brick masonry and rubble/field stone masonry construction.

**Historical Earthquakes (with MMI levels):**

| Date (UTC) | Dist. (km) | Mag. | Max MMI(#) | Shaking Deaths |
|---|---|---|---|---|
| 2004-12-09 | 300 | 5.3 | VI(2,873k) | 0 |
| 1980-11-19 | 176 | 6.3 | VII(264k) | 3 |
| 1984-12-30 | 333 | 6.0 | IX(4k) | 20 |

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

## Selected City Exposure

from GeoNames.org

| MMI | City | Population |
|---|---|---|
| IV | Basugaon | 13k |
| **IV** | **Bongaigaon** | **65k** |
| **IV** | **Kokrajhar** | **32k** |
| IV | Bijni | 13k |
| IV | Chapar | 19k |
| **IV** | **Sapatgram** | **12k** |
| **III** | **Thimphu** | **99k** |
| **III** | **Shillong** | **133k** |
| **II** | **Sylhet** | **237k** |
| **II** | **Trashi Yangtse** | **3k** |
| **II** | **Gangtok** | **31k** |

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: us10002m67