



## Updated USGS Aftershock Advisory for the Magnitude 7.8 Gorkha earthquake in Nepal April 25, 2015 (as of June 25, 2015)

[Aftershocks](#) are earthquakes that occur following a large earthquake, in the same general area as the earthquake and during the following days-to-years. Both the magnitude 7.8 Gorkha [mainshock](#) and the subsequent May 12 magnitude 7.3 aftershock have triggered aftershocks. Aftershocks have the potential to create damage, just like other earthquakes.

**The aftershocks are a normal occurrence after large earthquakes, and are expected to continue in Nepal but occur less often with time.**

**There is no way to predict the exact date or time of an earthquake, including aftershocks.** The USGS produces a statistical analysis of the expected number or probability of aftershocks, in a given time period, based on past earthquakes and the aftershocks recorded in Nepal.

As is normal, there will continue to be many felt aftershocks that do little or no damage. Some aftershocks may be strong enough to be felt widely throughout the area and may cause additional damage, particularly to vulnerable structures and those already weakened by the mainshock and the aftershocks. **Although aftershocks may occur less often, people should remain aware of the possibility of aftershocks in the coming weeks and months, especially when working in or around vulnerable structures or in landslide-prone areas.**

This analysis for a 1-year time period is a reminder to be prepared for earthquakes and may be useful for planning recovery and rebuilding projects. While aftershocks can occur at any time during the next year, they are more likely to occur earlier in this time period and so actions to prevent further damage or injuries are better done sooner than later.

The values in this yearlong forecast are lower than for the yearlong forecast in the previous analysis due to the passage of time. **Note that the previous advisory presented values for a month. The yearlong values are higher than the monthly values only because they represent the expected activity in a longer period of time. The expected daily rate of earthquakes continues to decline.**

- Within the year of June 25, 2015 to June 24, 2016, the USGS estimates that it is most likely that 0 to 7 earthquakes from magnitude 5 to 6 will occur and that the chance of at least one such aftershock is about 80%.
- A magnitude 6 to 7 earthquake has a probability of 17% or a 1-in-6 chance of occurring within this year. A magnitude 7 to 7.8 aftershock is possible, but less likely with about a 1-in-50 chance of occurring.
- The potential for an aftershock larger than the mainshock remains, but is even lower with about a 1-in-250 chance within this year. If an earthquake larger than the mainshock does occur, the USGS expects that it would most likely be about the size of the mainshock.

The technical details of the analysis are available at

<http://earthquake.usgs.gov/earthquakes/eventproducts/us20002926/aftershock-statistics.pdf>

Larger magnitude earthquakes have lower probabilities but larger consequences than smaller magnitude earthquakes. In making decisions based on the aftershock statistics, it is important to consider both the probability that an earthquake may happen and the potential consequences if it does happen.

In comparison to this forecast, prior to the recent M7.8 mainshock this region has experienced about 1 magnitude 5 or greater earthquake per year over the last 20 years; due to the



aftershock sequence the rate of earthquakes is currently higher than that.

The expected location of the aftershocks will be in the zone of past aftershocks and near its perimeter with a few located further away.

This information is preliminary and subject to change as more data becomes available. This is the final scheduled update but further updates will be made if new data, such as a large aftershock, suggests that an update will be useful.

For more information on the Gorkha earthquake, including updates to this advisory visit:

<http://earthquake.usgs.gov/earthquakes/eventpage/us20002926>

Or, to get the most recent advisory directly, use:

<http://earthquake.usgs.gov/earthquakes/eventproducts/us20002926/aftershock-advisory.pdf>