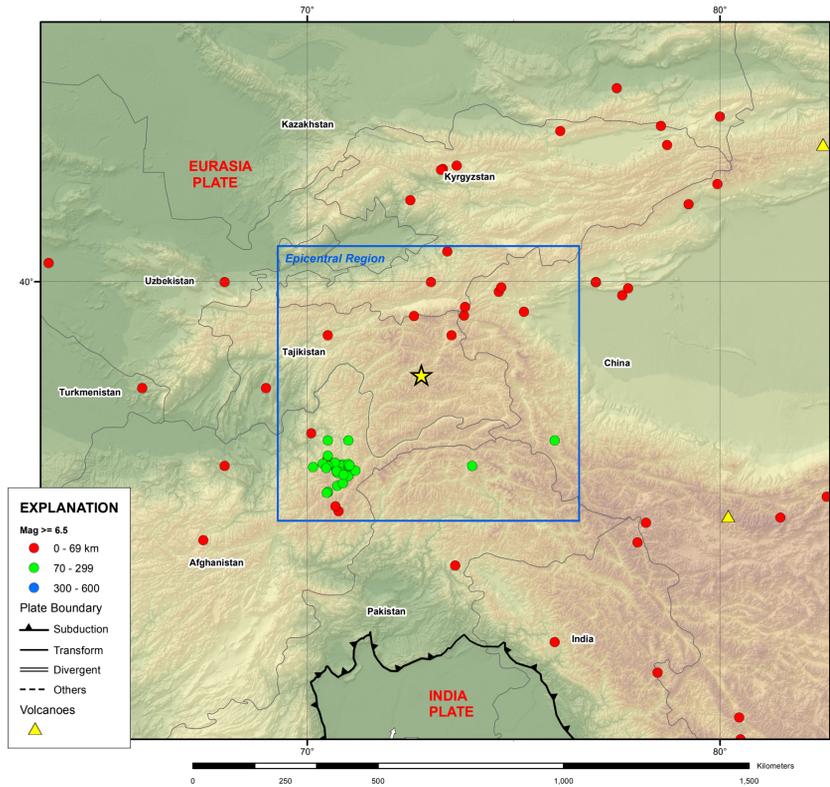


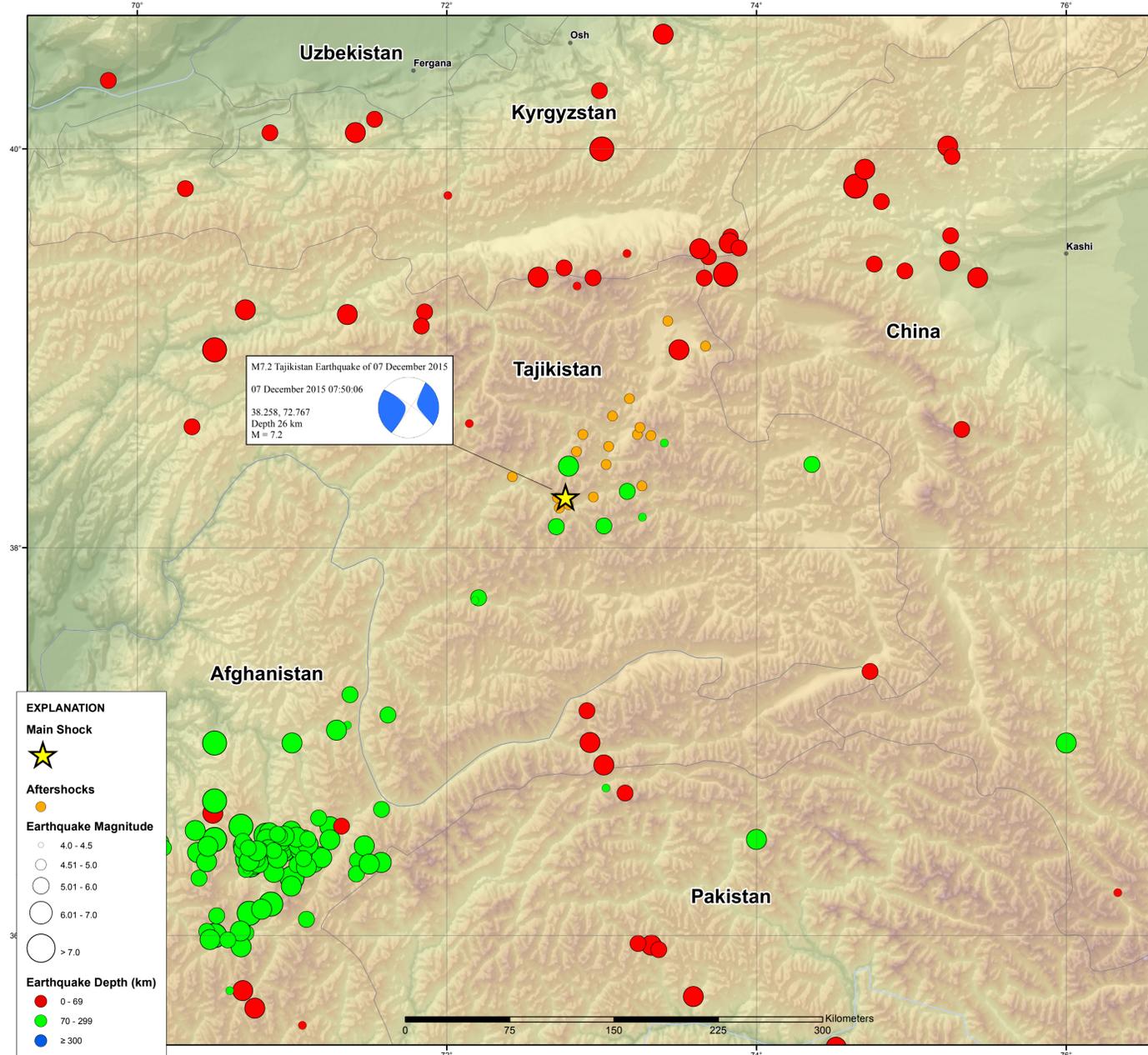
M7.2 Tajikistan Earthquake of 07 December 2015



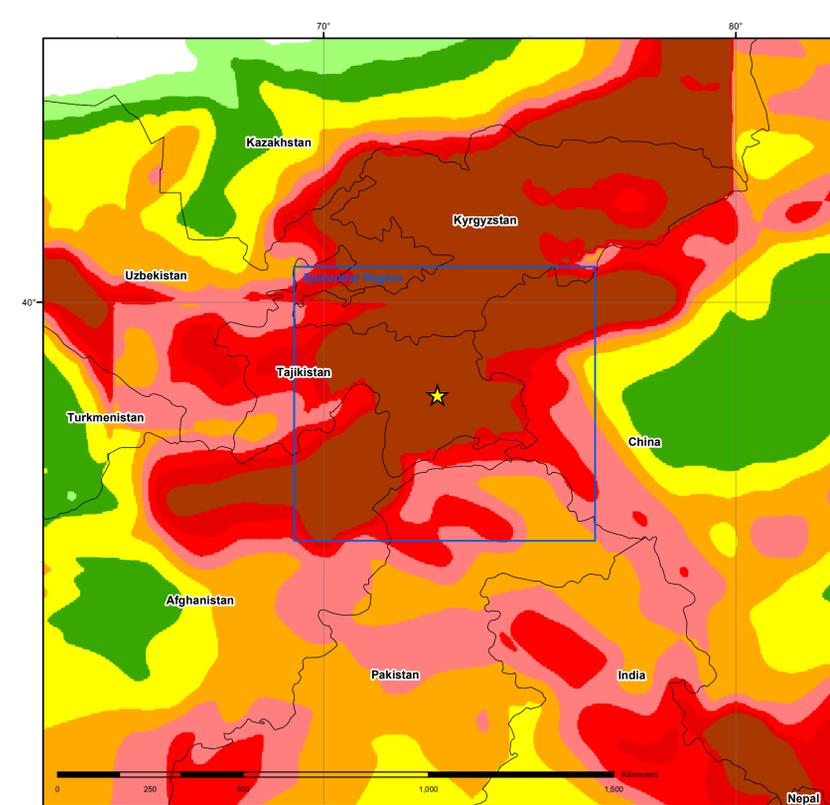
Tectonic Setting



Epicentral Region



Seismic Hazard



Tectonic Summary

The December 7, 2015 M7.2 earthquake in Tajikistan occurred as the result of strike-slip faulting within the crust of the Eurasia plate. Focal mechanisms indicate rupture occurred on either a northwest-southeast striking right-lateral fault, or on a southwest-northeast striking left-lateral fault. At the latitude of this earthquake, the India plate is moving northwards with respect to Eurasia at a rate of approximately 38 mm/yr.

The earthquake is located several hundred kilometers north of the India:Eurasia plate boundary, in the Pamir Mountains. The collision of these two plates drives the tectonics of the broad region surrounding the Himalayas and the Tibetan Plateau, and causes uplift that produces the highest mountain peaks in the world including the Himalayan, the Karakoram, the Pamir and the Hindu Kush ranges.

The location of the December 7, 2015 earthquake is close to Saraz Lake, which was formed in February 1911 when a nearby M 7.3 earthquake triggered a landslide that dammed the Murghab River. Over the past century, 18 other earthquakes of M 6.5 or larger have occurred within 250 km of the December 7, 2015 earthquake. Given the remoteness of the region, earthquakes here rarely cause shaking-related fatalities (though secondary hazards such as landsliding have caused both damage and fatalities in the past).

PAGER

USGS Earthquake Shaking Green Alert

M 7.2, TAJIKISTAN
Origin Time: Mon, 2015-12-07 07:50:06 UTC (12:50:06 local)
Location: 38.26°N 72.77°E; Depth: 26 km

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 EXPOSURE (N = 1,000)	I	II-III	IV	V	VI	VII	VIII	IX	X+
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	Moderate	Moderate/Heavy	Heavy	V. Heavy	V. Heavy
Vulnerable Structures	none	none	none	Light	Moderate	Moderate/Heavy	Heavy	V. Heavy	V. Heavy

Population Exposure

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

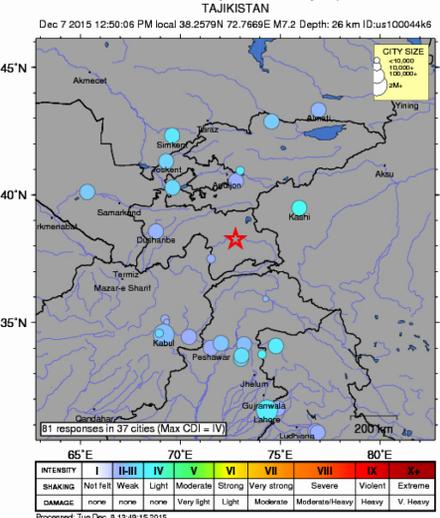
Selected City Exposure

City	Population
V. Murghob	< 1k
V. Yang	< 1k
IV. Rushon	< 1k
IV. Karakentje	3k
IV. Khorugh	30k
IV. Roshdtq'fa	< 1k
IV. Farg'ona	164k
IV. Baitken	19k
IV. G'o'mon	187k
IV. Osh	200k
IV. Fayzabad	44k

Event ID: us100044k6

DYFI?

USGS Community Internet Intensity Map



DATA SOURCES

EARTHQUAKES AND SEISMIC HAZARD
USGS, National Earthquake Information Center
NOAA, National Geophysical Data Center
IASPEI, Centennial Catalog (1900 - 1999) and extensions (Engdahl and Villaseñor, 2002)
EHB catalog (Engdahl et al., 1998)
HDF (unpublished earthquake catalog, Engdahl, 2003)
Global Seismic Hazard Assessment Program

PLATE TECTONICS AND FAULT MODEL
PB2002 (Bird, 2003)
Hayes, G. P., Wald, D. J., and Johnson R. L., 2012, A three-dimensional model of global subduction zone geometries: Journal of Geophysical Research, v. 117, B01302, doi:10.1029/2011JB008524.
DeMets, C., Gordon, R.G., Argus, D.F., 2010, Geologically current plate motions, Geophys. J. Int. 181, 1-80.

BASE MAP
NIMA and ESRI, Digital Chart of the World
USGS, EROS Data Center
NOAA GEMCO and GLOBE Elevation Models

REFERENCES

Bird, P., 2003, An updated digital model of plate boundaries: Geochim. Geophys. Geosyst., v. 4, no. 3, pp. 1027-80.
Engdahl, E.R., and Villaseñor, A., 2002, Global Seismicity: 1900-1999, chap. 41 of Lee, W.H.K., and others, eds., International Earthquake and Engineering Seismology, Part A: New York, N.Y., Elsevier Academic Press, 932 p.
Engdahl, E.R., Van der Hilst, R.D., and Buland, R.P., 1998, Global teleseismic earthquake relocation with improved travel times and procedures for depth determination, Bull. Seism. Soc. Amer., v. 88, p. 722-743.

DISCLAIMER

Base map data, such as place names and political boundaries, are the best available but may not be current or may contain inaccuracies and therefore should not be regarded as having official significance.
Map updated by U.S. Geological Survey National Earthquake Information Center
8 December 2015
http://earthquake.usgs.gov/
Map not approved for release by Director USGS