The October 26, 2015 M 7.5 earthquake near the Hindu Kush range of Afghanistan (SR of Jams) occurred as the result of reverse faulting at intermediate depths, approximately 210 km below the Hindu Kush Range in northeastern Afghanistan. Focal mechanisms indicate rupture occurred on either a near-vertical reverse fault or a shallowly dipping thrust fault. At the fault of the earthquake, the India subcontinent moves northward and collides with Europe at a velocity of about 27 mm/yr. Active faults and their respective earthquakes in northern Pakistan and adjacent parts of India and Afghanistan are the direct result of the convergence between the India and Eurasian plates. This collision is causing uplift that produces the highest mountain peaks in the world including the Himalayas, the Karakoram, the Pamir and the Hindu Kush ranges. Earthquakes such as this event, with focal depths between 70 and 300 km, are commonly termed "intermediate-depth" earthquakes. Intermediate-depth earthquakes represent deformation within subducted lithosphere rather than at the shallow plate interfaces between subducting and overriding tectonic plates. They typically cause less damage on the ground surface above their foci than is the case with similar magnitude shallow-focus earthquakes, but large intermediate-depth earthquakes may be felt at great distances from their foci.

The rupture surface is approximately 40 km along strike and 25 km along downdip. The seismic moment release based upon teleseismic body waveforms and long period surface waves. Arrows indicate the amplitude and direction of slip (of the hanging wall with respect to the footwall; the slip vector is the reverse of that of the footwall relative to the hanging wall). The rupture direction is NE-SW with a strike-slip component. The finite fault model has a strike-slip component of 40% and a dip-slip component of 60%.

The peak ground accelerations in this region range from 0.2 to 1.6 m/sec^2. Peak ground accelerations increase with distance from the fault and also for sources with a larger magnitude. The magnitudes of the strongest earthquakes are 5.0 and 5.5, with the strongest event being M 7.5.

Aftershocks of this earthquake are expected and the U.S. Geological Survey (USGS) will continue to monitor this region for any significant activity. This earthquake sequence has the potential for further shaking and ground rupture. The aftershocks may not be felt but could cause damage to buildings and infrastructure.

The USGS recommends that you check the aftershock updates for this earthquake sequence. You can also see how this earthquake is impacting the region by checking the ShakeMap and the National Earthquake Information Center (NEIC) Realtime ShakeMap System.