

Testimony on H.R. 7003, the National Landslide Preparedness Act Reauthorization Act of 2024
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Chairman Stauber and other Members of the Subcommittee, thank you for the invitation to testify on H.R 7003, the National Landslide Preparedness Act Reauthorization Act of 2024

My name is John Metesh. I am the Montana State Geologist and Director of the Montana Bureau of Mines and Geology. I am testifying today as President of the Association of American State Geologist (AASG). AASG represents the directors of the state geological surveys in all 50 states and Puerto Rico. The responsibilities of each state survey vary, depending upon legislation and traditions. But most function as an information source for government and society on geology as it relates to water, energy development, mineral development, and geologic hazards – including, of course, landslides.

The sobering fact about landslides is that the geologic conditions under which they occur have been place for millennia or eons. The geologic structure – that is, the type of rock that make up the layers and their weakness, the fractures or porosity that provide pathways for water to infiltrate and flow between weak and strong layers, the slope of the hillside, the state of erosion from stream action along the base of the hill have all been in place for centuries or millennia or eons - waiting for a triggering event.

The triggering events are familiar: rain or snowmelt in excess of normal, forest or wildland fires that strip vegetation and roots and alter the soil, an earthquake just strong enough to finally break the bond between layers of rock, or even one too many passes with a caterpillar building a road at the base of a hill.

March of 2024 will mark the 10th anniversary of the Oso landslide in northeast Washington State - the deadliest landslide in US history. Heavy rainfall in the previous months triggered a slide that moved 70 million cubic feet blocking the Stillaguamish River and destroying access roads. This slide tragically resulted in the deaths of 43 people and upended an entire community.

August of 2024 will mark the 65th anniversary of the famous Madison Slide just outside Yellowstone Park in Montana. The trigger - a larger than normal earthquake - caused nearly 1 billion cubic feet of rock to slide off the mountain, cross the Madison River, and flow hundreds of yards uphill on the opposite side of the valley. Twenty-six campers were buried in moments – 19 were never recovered. Three more people were lost in rock falls and other landslides up the valley. Another 250 people were stranded and required rescue by helicopter.

The Landslide Preparedness Act established two programs: the National Landslide Hazards Reduction Program and the 3D Elevation Program – both of which are especially important to state surveys. Both programs have many important components, but I will use my time to highlight some of those in which state surveys have participated.

In fact, the core activities of the Landslide Hazards Reduction Program which include mapping and coordinating event response has already fostered partnerships between the USGS and state surveys in AZ, CA, CO, KY, NC, OR, and WA. These partnerships are well on their way to developing strategy and risk preparedness for their respective states.

The US landslide inventory is an interactive map that provides landslide data compiled from local, state, and federal agencies with links to the original sources. The data come from maps and reports published by state geologic surveys as well as the USGS. This will be a crucial repository of new landslide data nationwide, while each survey will be able to host their data on their own websites. These are the data that will help state and local government assess risk and assist in planning for development as well as preparedness.

Of course, AASG members look forward to participating in the nascent grant program. The USGS and AASG members share many cooperative funding efforts related to geology and groundwater. A new funding opportunity for state surveys to support our efforts to map, report, and assisting in preparedness is exciting – we look forward to the pending announcement in FY24.

The second program under the National Landslide Preparedness Act is the 3D Elevation Program, often referred to as 3DEP. This program coordinates efforts of many state and Federal agencies to collect and collate digital elevation data across the country. Digital Elevation Models, or DEMs, or lately LiDAR, or Light Detection and Ranging, are used to create detailed digital images of the earth's surface with an accuracy of centimeters. Its applications are wide ranging in geologic studies, but for mapping landslides – it is a revolutionary tool. One of the best ways to assess risk of landslides is to find old landslides and LiDAR has been instrumental in finding such features – even under dense vegetation.

Chairman Stauber and other Members of the Subcommittee, for these and many other reasons, the Association of American State Geologists fully supports HR 7003. Thank you for your time.