IDAHO GEOLOGICAL SURVEY

MOSCOW OFFICE
University of Idaho
Morril Hall, Third Floor
875 Perimeter Dr. MS 3014
Moscow, ID 83844-3014

BOISE OFFICE
Idaho Water Center
Suite 201
322 E. Front Street
Boise, ID 83702

208-885-7991 • igs@uidaho.edu • www.idahogeology.org

M6.5 Stanley, ID Earthquake
Aerial Reconnaissance Report

Idaho Geological Survey

4/6/2020

At 5:52 pm local time (MDT) on March 31, 2020, a magnitude (M) 6.5 earthquake occurred approximately 19 miles northwest of Stanley, Idaho. Shaking lasted approximately 10 seconds and was felt over a very large area.

The Idaho Geological Survey (IGS) visited the epicentral site as soon as possible to document effects of the earthquake. Field observations of perishable data, such as scarps and ground fractures, helps inform emergency managers, first responders, and scientific models. Due to current COVID-related travel restrictions and deep snow cover, a ground reconnaissance of the area has not yet been possible.

On Thursday April 2, 2020, IGS Director and State Geologist Claudio Berti and IGS Hazards Geologist Zach Lifton conducted an aerial reconnaissance of the earthquake epicenter region to make observations of earthquake effects. The overflight was conducted in a Kodiak 100 aircraft provided and piloted by Idaho Transportation Department Division of Aeronautics.

We observed significant snow cover across the area. Approximately 27” of new snow fell in the two days before the earthquake. As a result, subtle deformation of the ground could not be easily seen. Besides many avalanches, the fresh snow surface did not appear to be disturbed by motion of a fault buried below. We didn't observe any obvious ground rupture of the fault.

We observed many snow avalanches on hillslopes and avalanche chutes, including some that blocked Highway 21. Fractured snow slabs were observed on many ridgetops. Minor rockfall occurred on steep slopes, but was not very extensive. One large boulder rolled down onto Highway 21 and blocked a lane.

Snow and debris avalanches were also observed extending downslope into the Middle Form Salmon River, partially obstructing streamflow. This obstruction may have caused a brief but dramatic decline in discharge measured on a nearby stream gage the day after the earthquake (4/1/2020). At the time of the aerial reconnaissance, there was snow and debris in the river, and some minor pooling of water, but the river appeared to be flowing freely.

IGS plans to conduct ground reconnaissance, detailed mapping, and paleoseismic investigations (digging trenches across fault scarps) in the area as soon as the snow melts and the ground surface is clear. New seismic monitoring data collected by Boise State University researchers will provide a better understanding of the location and geometry of the fault that cause the M6.5 earthquake.