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State, federal geologists release Barry Arm landslide radar analysis

(Anchorage, AK) – Recent satellite radar imagery of land masses near the Barry Arm Glacier in Prince William Sound show little or no movement, say state and federal geologists investigating the possible threat of landslide-caused tsunamis in the region.

In May, the Division of Geological and Geophysical Surveys (DGGS) received indications that the rapid retreat of the Barry Glacier from the Barry Arm, 28 miles northeast of Whittier, could release millions of tons of rock into the Harriman Fjord, triggering a tsunami.

DGGS and U.S. Geological Surveys obtained and analyzed satellite synthetic aperture radar data from May and June, 2020 to determine whether two identified landslides in the Barry Arm had moved between the repeat data collections.

Comparison of the satellite radar images suggest that the larger landslide (Landslide A) showed less than about an inch of movement, representing very small or no movement. A small portion of a smaller landslide (Landslide B) approximately 1 mile north of the toe of the Barry Glacier showed approximately 2-3 inches of movement during the same period.

It is not possible to predict with certainty the size or timing of a landslide or even whether one would ever occur, and the current lack of movement offers no proof one way or the other, said DGGS Director Steve Masterman. The continued collection and analysis of the satellite data will, however, provide his division and other geologists with valuable information on the characteristics, controls, and dynamics of the land mass that could inform general predictions.

The state and federal agencies will continue to monitor movement of the landslide areas by analyzing new radar images as they are generated throughout the summer months., he said. The data and analysis can be found at: https://doi.org/10.5066/P9Z04LNK

DGGS has also completed surveys of the landslide areas with pulsed laser light measurement (Light Detection and Ranging, or LIDAR), and photogrammetric surveys.
The resulting data can be used as a baseline against which any future land movement could be measured. Information on such comparisons will be released to the public as soon as they are processed.

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