The BrianHead BAER Assessment Team coordinated early with US Geological Survey (USGS) staff during its evaluation of the BrianHead Fire burned area to strategically assess potential post-fire impacts to the watersheds and debris flow predicted response during damaging storm events.

From the USGS website found at https://landslides.usgs.gov/hazards/postfire_debrisflow/:

"Wildfire can significantly alter the hydrologic response of a watershed to the extent that even modest rainstorms can produce dangerous flash floods and debris flows. The USGS conducts post-fire debris-flow hazard assessments for select fires in the Western U.S. We use geospatial data related to basin morphometry, burn severity, soil properties, and rainfall characteristics to estimate the probability and volume of debris flows that may occur in response to a design storm."

USGS used the BAER team’s soil burn severity analysis of the post-fire burned area for the BrianHead Fire to produce mapped debris flow hazard assessment predictions. The USGS BrianHead Post-Fire Debris Flow Hazard Assessment Map displays estimates of post-fire debris-flow probability, volume, and combined hazard for the areas burned by the BrianHead Fire. The interactive map on the USGS website shows the potential and size of debris flows that may occur from about a 1/4 inch of rainfall over a 15-minute period. Results from more intense rain events, ranging from about 1/2 inch per hour to 2 inches per hour, are also available from the USGS website. The online interactive map is posted at: https://landslides.usgs.gov/hazards/postfire_debrisflow/detail.php?objectid=95.

A majority of the burn area is estimated to have a rather low level of debris-flow hazard. However, some of the small, steep, more severely burned watersheds in the western portion of the burn area are predicted to have moderate to high debris-flow hazard, with higher likelihood values (> 40%) in response to a relatively modest storm intensity. Fortunately, predicted magnitudes are expected to be relatively small throughout most of the burn area.

USGS Fact Sheet 176-97, entitled “Debris Flow Hazards in the United States” contains information used to interpret the debris flow map and analysis that was incorporated into the BAER assessment team’s anticipated soil erosion and hydrologic response findings. According to the USGS, “Analysis of data collected from studies of debris flows following wildfires can answer many of the questions fundamental to post-fire hazard assessments— what and why, where, when, how big, and how often?” This information is extremely important to assist the public with increasing their safety awareness of the areas where there may be a higher increase in flooding, sediment and soil erosion, and a high probability of debris flows — all of which are potential risks to human life, safety, and property.

SPECIAL NOTE: Everyone near and downstream from the BrianHead Fire burned area (burn scar) should remain alert and stay updated on weather conditions that may result in heavy rains over the burn scar. Flash flooding could occur quickly during heavy rain events. Current weather and emergency notifications can be found at the National Weather Service (NWS), Salt Lake City (SLC) (http://www.weather.gov/slc/) website, and for the BrianHead Fire burn scar at the NWS website: http://www.wrh.noaa.gov/mesowest/timeseries.php?sid=DBSU1&num=16800.

BrianHead Post-Fire BAER Assessment information is available at https://inciweb.nwcg.gov/incident/5353/.