

Association of Environmental and Engineering Geologists – Arizona Section

**Dinner Meeting:
Wednesday, June 3, 2015**

SunUp Brewing Company in Phoenix

5:30 PM Mingling and Drinks

Sponsor: TBD

6:30 PM Dinner and Presentation

SPEAKER:

Jeffrey R. Keaton

Principal Engineering Geologist at AMEC Foster Wheeler

PRESENTATION:

**The March 22, 2014, Oso Landslide: An Overview of
the GEER Response**

**Cost: \$30 AEG Member
\$35 Non-Member
\$15 Government
\$10 Students**

**Location: SunUp Brewing Company
322 E. Camelback Rd.
Phoenix, Arizona 85012**

RSVP by Friday May 29, 2015 to Zachery Shafer at zachery.shafer@aecom.com

BIOGRAPHY

Jeffery R. Keaton

Principal Engineering Geologist at AMEC Foster Wheeler

Jeffrey R. Keaton specializes in quantifying hazardous natural processes for siting and design of all types of facilities in all geologic environments. He has degrees in Geological Engineering, Engineering (Geotechnical), and Geology. Keaton has been employed by consulting firms for over 45 years, and in Amec Foster Wheeler's Los Angeles office of since July 2005 where he is a Principal Engineering Geologist. He is registered in several states as an Engineer and as a Geologist; he hold the Envision™ Sustainability Professional (ENV SP) credential from the *Institute for Sustainable Infrastructure* and is a Diplomat in Geotechnical Engineering of the *Academy of Geo-Professionals*.

He has remained active in professional societies throughout his career. He currently serves the *International Association for Engineering Geology and the Environment* as Vice President for North America, the *American Society of Civil Engineers* as a member of the Committee on Sustainability and as the chair of its Strategic Communications Subcommittee. He also is chair of the Sustainability in Geotechnical Engineering Committee of ASCE's *Geo-Institute*, a member of the Steering Committee of the *Geotechnical Extreme Event Reconnaissance (GEER) Association*, and a member of the Executive Committee of ABET's *Engineering Accreditation Commission*. He is a past president of the *Association of Environmental & Engineering Geologists*, past chair of the *Transportation Research Board* Section on Geology and Properties of Earth Materials, the Exploration and Classification of Earth Materials Committee, and the Engineering Geology Committee, and past chair of the Environmental & Engineering Geology Division of the *Geological Society of America*.

ABSTRACT

THE MARCH 22, 2014, OSO LANDSLIDE: AN OVERVIEW OF THE GEER RESPONSE.

The Oso Landslide in Snohomish County, Washington, is among the most significant geologic disasters in recent U. S. history. The landslide occurred on a valley slope with documented history of intermittent landslide movement dating back to the 1940s; the most recent slope movement in 2006 blocked the North Fork of the Stillaguamish River and caused shallow flood damage to some of the nearby homes. The Oso Landslide is one of many landslides that have occurred on valley slopes above the North Fork of the Stillaguamish River.

The 22 March 2014 Oso Landslide generated vibrations at 10:37 A.M. local time that were recorded on nearby seismograph stations; it became a rapidly moving, unchannelized debris flow that spread out as it travelled about 1 km across the valley, damming the North Fork of the Stillaguamish River, destroying and carrying away about 50 homes, taking the lives of 43 people, and burying about 1.5 km of State Highway 530.

Developing and advancing strategies for adapting to weather-triggered earth surface processes requires an understanding of what lead to the collapse of the slope for enhanced public safety and so that communities and infrastructure systems can be designed for greater resiliency. The National Science Foundation-supported Geotechnical Extreme Events Reconnaissance (GEER) Association (www.geerassociation.org) by 31 March 2014 assembled a team of seven professionals to investigate the landslide; authorization to access the landslide area was granted to the GEER team in May 2014. The primary focus of the GEER team is to document short-lived geotechnical features and make the findings publically available through the GEER website. The team's report will describe plausible precipitation, geologic, groundwater, and geotechnical models, impacts to infrastructure, and hazard-communication aspects of the disastrous landslide event.

The GEER report in Adobe Acrobat format can be downloaded at no cost from the GEER website (www.geerassociation.org).

Jeffrey Keaton¹, Joseph Wartman², Scott Anderson³, Jean Benoit⁴, John delaChapelle⁵, Robert Gilbert⁶, and David Montgomery², Geotechnical Extreme Events Reconnaissance (GEER) Oso Landslide Investigation Team

(1) Amec Foster Wheeler, Los Angeles, CA, (2) University of Washington, Seattle, WA, (3) Federal Highway Administration, Denver, CO, (4) University of New Hampshire, Hanover, NH, (5) Golder Associates, Inc., Redmond, WA, (6) University of Texas at Austin, Austin, TX

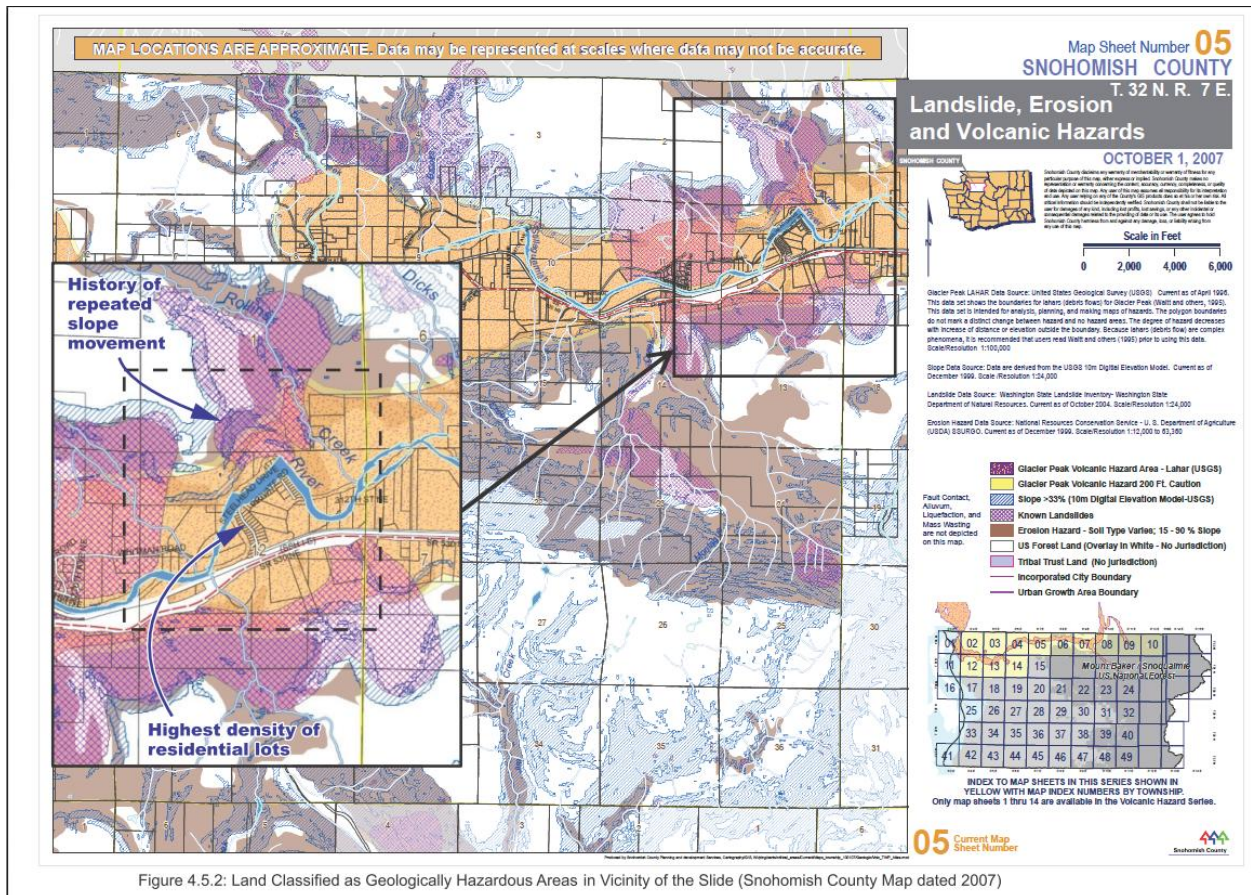


Figure 1: Landslide, Erosion and Volcanic Hazards of Snohomish County (2007).

