

## ***SR530 Landslide near Oso, Washington***

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**41 confirmed dead, 2 still missing (5/9/14, Everett Herald)**

**10:37 am PDT, Saturday, March 22, 2014**

**Buried about 40 homes and 0.8 mile of SR530**

**Temporarily blocked the North Fork of the Stillaguamish River**

**Search operations involve hundreds of professionals and volunteers**

**Slide volume about 10 million cubic yards**

**Travelled more than 0.7 miles from the toe of the slope**

**Occurred on a 600 ft high glacial plateau**

**Landslide activity (Hazel slide) going back to at least the 1950s**

**Hazel slide active in 2006**

**Concern that landslide dam would fail rapidly abated quickly**

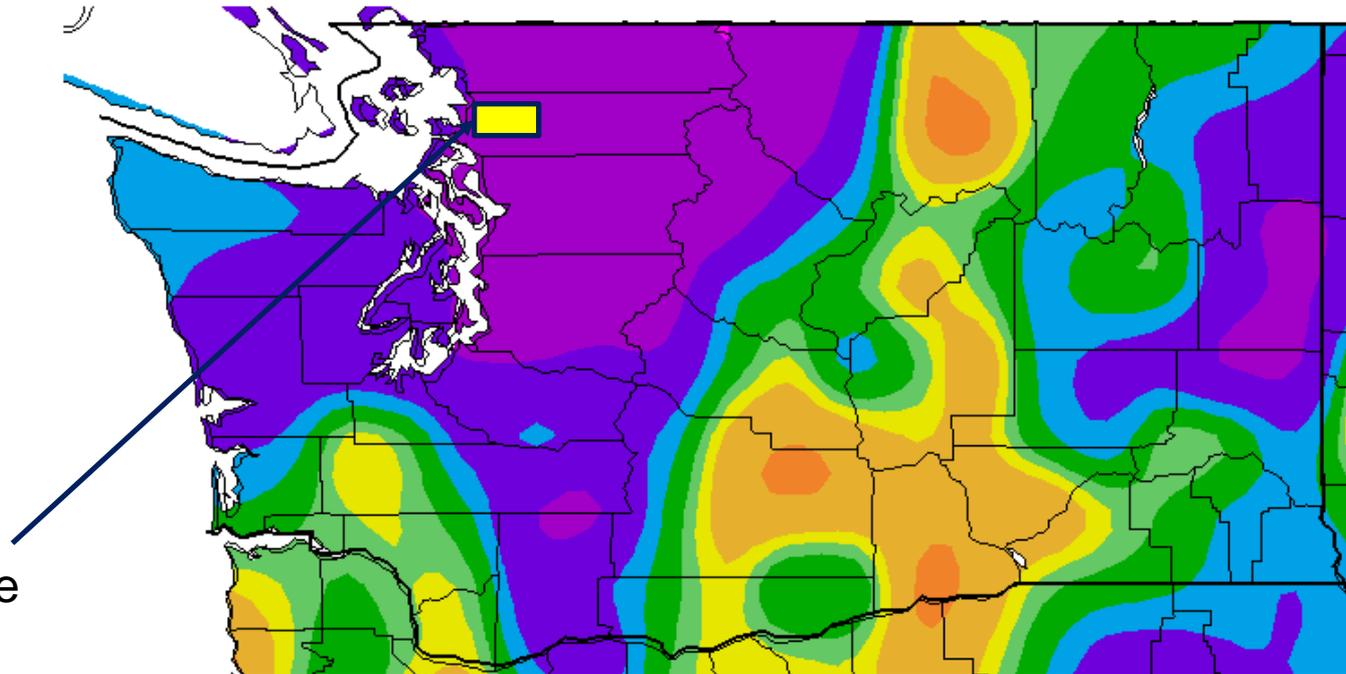
## *SR50 landslide travelled a remarkably long distance*



Image from Governor Inslee

## Following a wet period in late February and March

Percent of Average Precipitation (%)  
2/21/2014 – 3/22/2014



SR530 slide

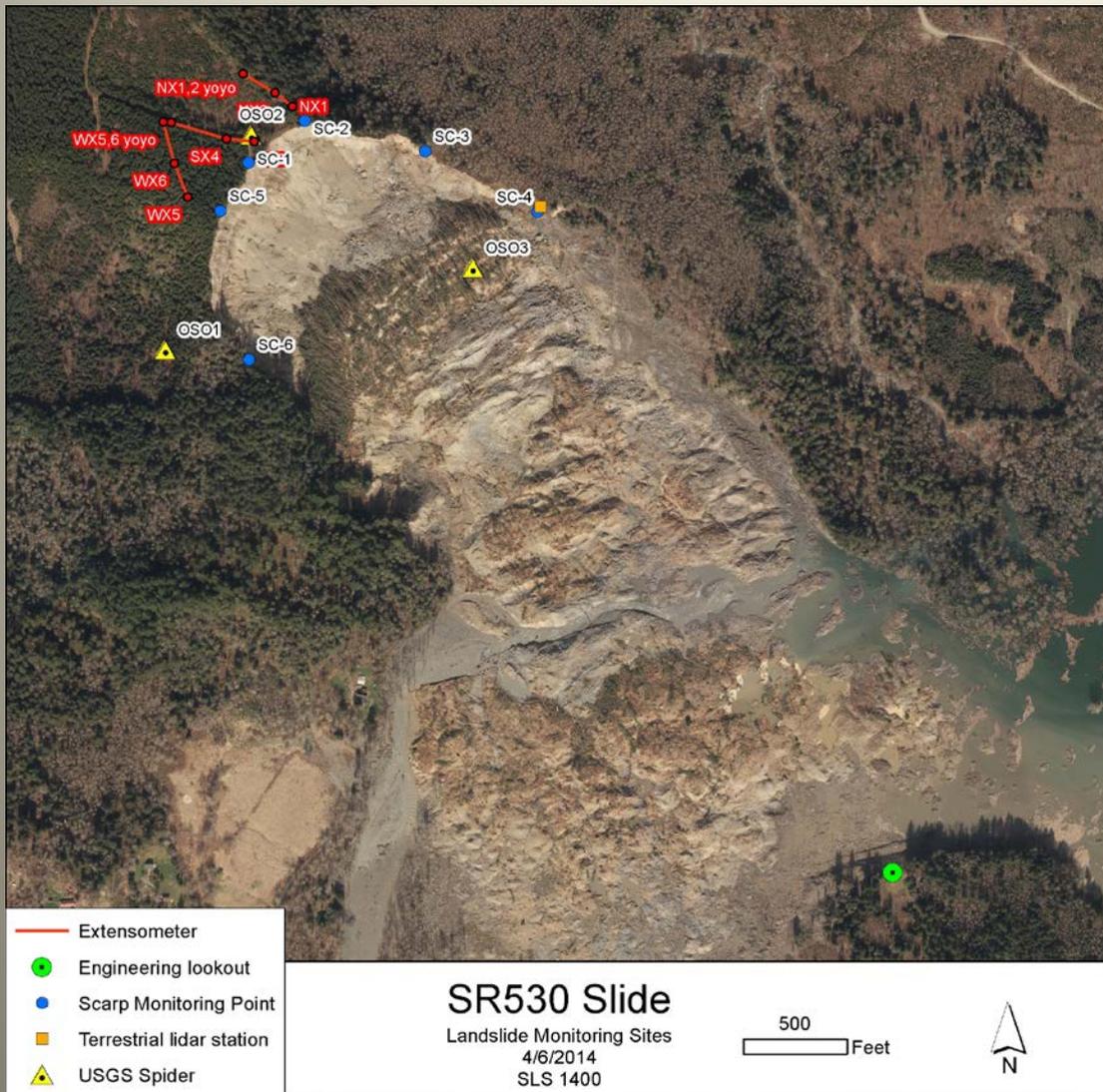


Generated 3/23/2014 at WRCC using provisional data.  
NOAA Regional Climate Centers

# ***USGS response to assess slope stability to assist search operations***



# ***Snohomish County, WA State, and USGS monitoring network***



Threat from additional movement

County survey lines and points

WashDOT extensometers

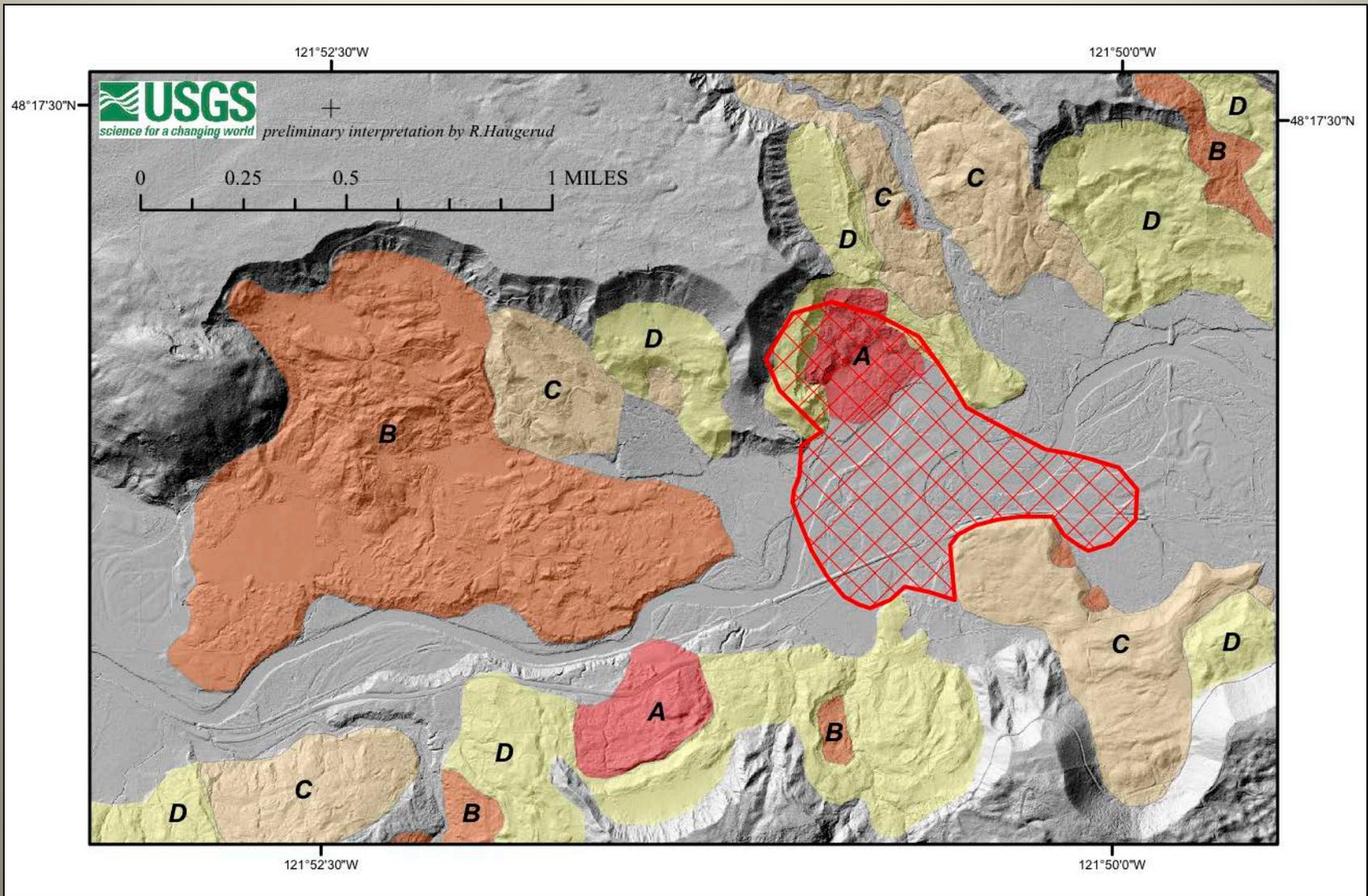
WashDOT TLS scans

USGS Spider Units

Field spotters

“Watch” and communication plan

# Slides in the area may have run out similarly in the past



Haugerud (2014)

## ***Hazard and Research Questions***

Why did the SR530 landslide travel so far?

Are the conditions at the SR530 slide unique or present elsewhere?

How old are the long-traveled landslides visible in the lidar imagery?

Where else in the area are similar landslide deposits located?

What effect will the landslide have on downstream flood hazard and ecology?