LANDSLIDE HAZARDS -
A North Carolina perspective

Jennifer B. Bauer, L.G.

Jennifer@appalachianlandslide.com
PEEKS CREEK DEBRIS FLOW
FRANKLIN, NORTH CAROLINA

SEPTEMBER 16, 2004
NCGS LANDSLIDE MAPPING

1940 aerial photo

BRP

2004 Lidar base
NORTH CAROLINA LANDSLIDE INVENTORY

- Mapped Landslides = 3,512
- Mapped Landslide Deposits = 3,311

- 48 people killed since 1916
- > 85 homes & other structures damaged or destroyed
NCGS LANDSLIDE HAZARD MAPS

Stability Index Map – where landslides might start

Potential Debris Flow Pathways Map – where landslides might go

Slope Movements - Slope Movement Deposits Map – where landslides have occurred or are occurring.
WATERSHED SCALE LANDSLIDE MAPPING
Observed Change in Very Heavy Precipitation

From 1958 to 2012

Change (%)

-12% 5% 12% 16% 37% 27% 71% 33% 0-9 10-19 20-29 30-39 40+
GOING FORWARD

• Personal connection critical
• Maps provide information needed for awareness and informed decisions – need consistency in and across states
• Engage all stakeholders early in the process
CONTINUED COLLABORATION

USGS

State Geological Surveys

Academia

Industry

Landowners

Local Governments
Thank You!

Jennifer B. Bauer, L.G.
Principal Geologist/Co-owner
jennifer@appalachianlandslide.com

Acknowledgements: Association of Environmental & Engineering Geologists
Projected Change in Heavy Precipitation Events
Change from 1981-2000 to 2081-2100

Rapid Emissions Reductions (RCP 2.6)  Continued Emissions Increases (RCP 8.5)