

Climate Justice:

Some Factors That Make Eastern Kentucky Particularly Vulnerable to Climate Change



Mary Varson Cromer, Deputy Director
Appalachian Citizens' Law Center, Inc., Whitesburg, KY
KyPolicy Conference 2023, January 27, 2023

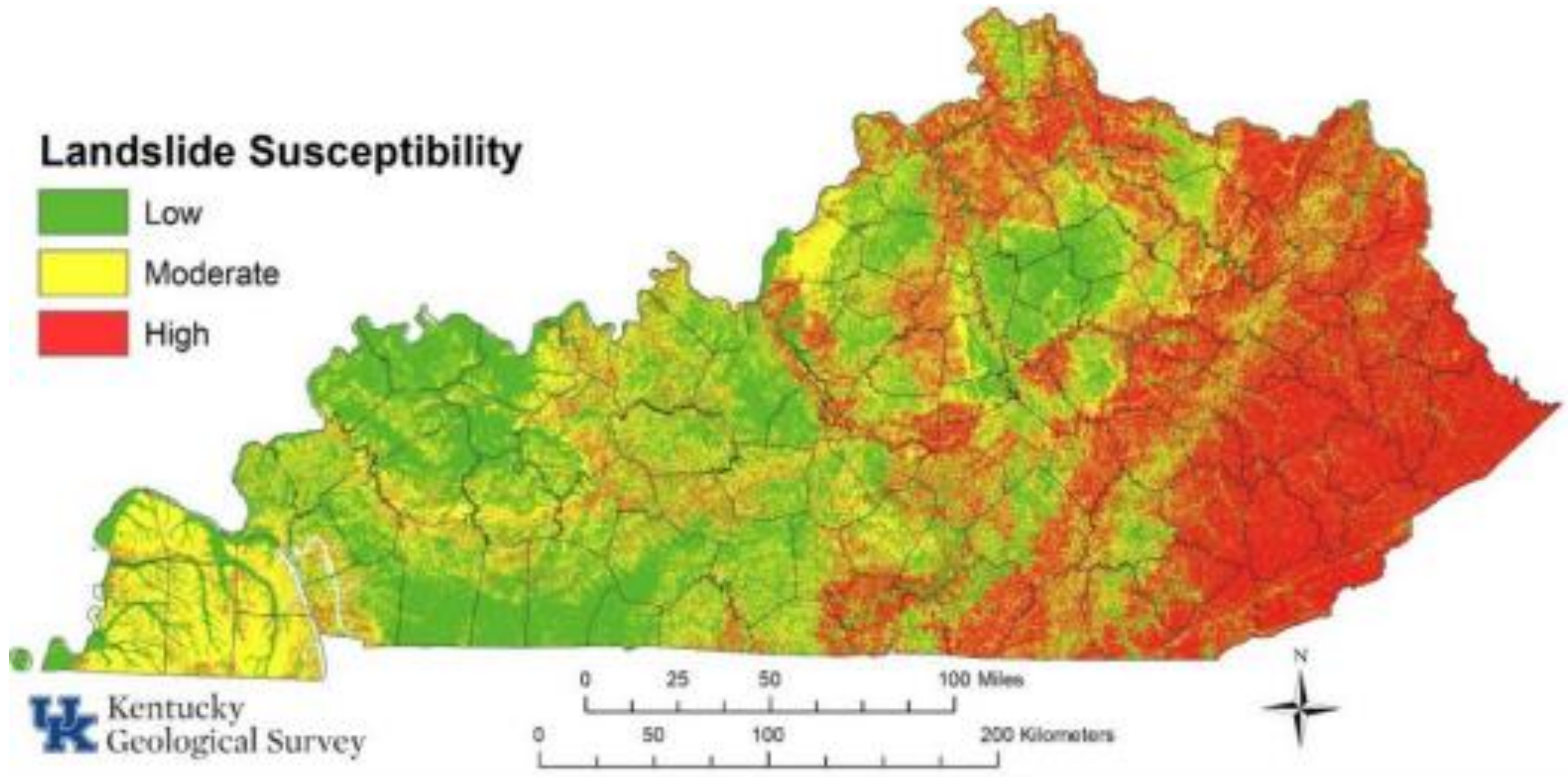
What We Know About 2022 Flood's Impacts in Letcher County

- 28% of occupied housing units in the county have applied for FEMA aid (25% renters)
- 15% of occupied housing units in the county are either destroyed or have major damage
- 46% of FEMA applicants reported <\$30,000 in annual income
- 3% had flood insurance
- 7% of applicants are renters in mobile homes
- 22% of occupants in houses applying for FEMA are over 65
- 22% are under 18

Risk Made Worse by Land Use Patterns



Region's Inherent Landslide Risk



Landslides Caused by 2022 Flood

Kentucky Geological Survey Report of
Investigations

Kentucky Geological Survey

Winter 1-20-2023

Reconnaissance of Landslides and Debris Flows Associated with the July 2022 Flooding in Eastern Kentucky

Matt M. Crawford

University of Kentucky, mcrawford@uky.edu

Zhenming Wang

University of Kentucky, zhenming.wang@uky.edu

Seth Carpenter

University of Kentucky, seth.carpenter@uky.edu

Jonathan Schmidt

University of Kentucky, jon.schmidt@uky.edu

Hudson J. Koch

University of Kentucky, hkoch@uky.edu

KGS Documented Over 1000 New Landslides Caused by July Rains

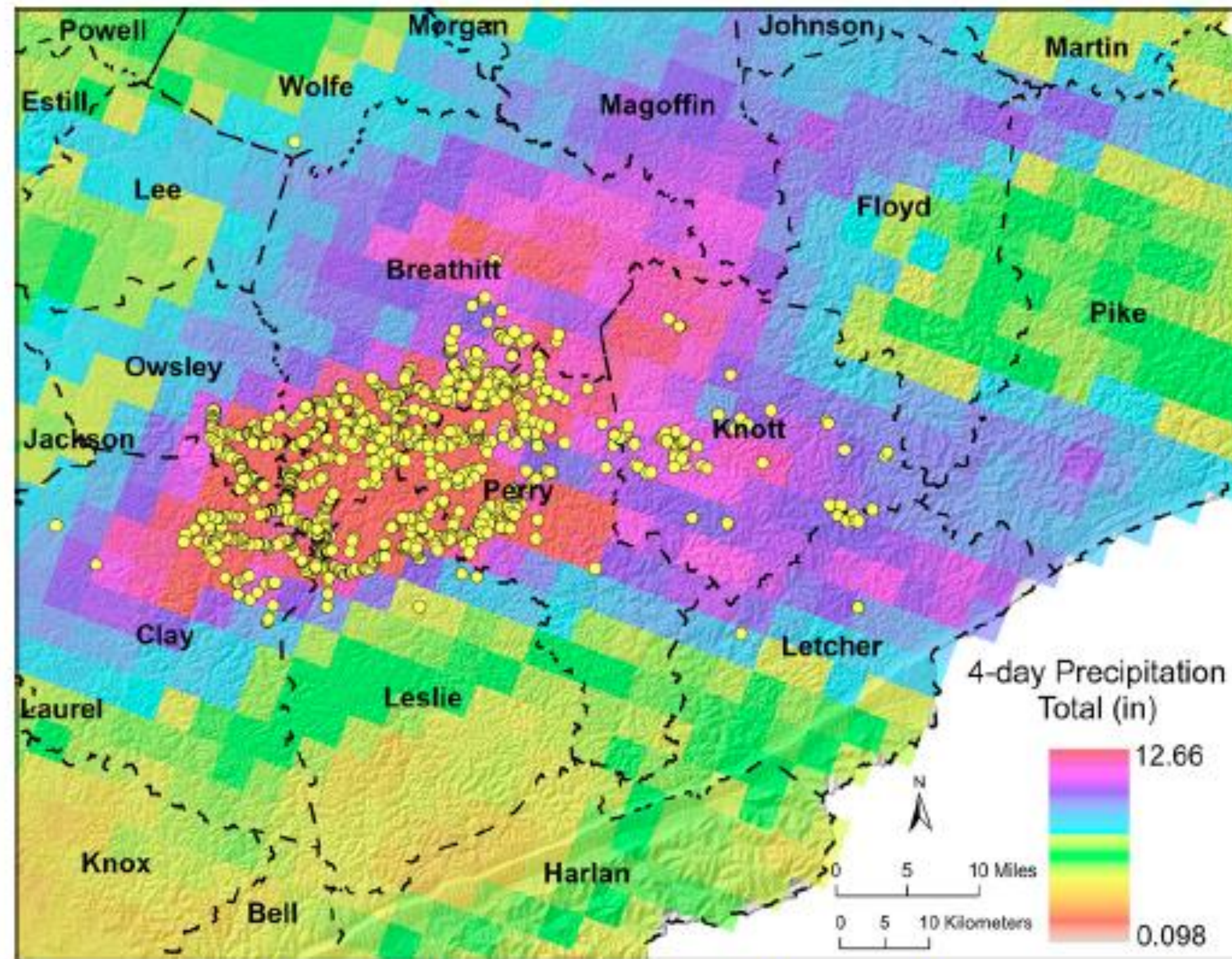


Figure 15. Newly documented landslides plotted on 4-day precipitation totals.

Mining Increases Risks from Both Flooding and Landslides

Type of Mining	Primary Way that It Increases Risk
Surface	Flooding & Landslides
Underground	Landslides

Who Is Responsible for Dealing with Hazards Caused by Mining?

When Did the Mining Occur?	What Entity Might Be Responsible?
Historic (prior to May 18, 1982)	<ul style="list-style-type: none">• Ky's Division of Abandoned Mine Land• Landowner
Post-1982 but no longer permitted	<ul style="list-style-type: none">• Landowner
Currently permitted	<ul style="list-style-type: none">• Coal company• Bonding company• Ky's Department of Natural Resources

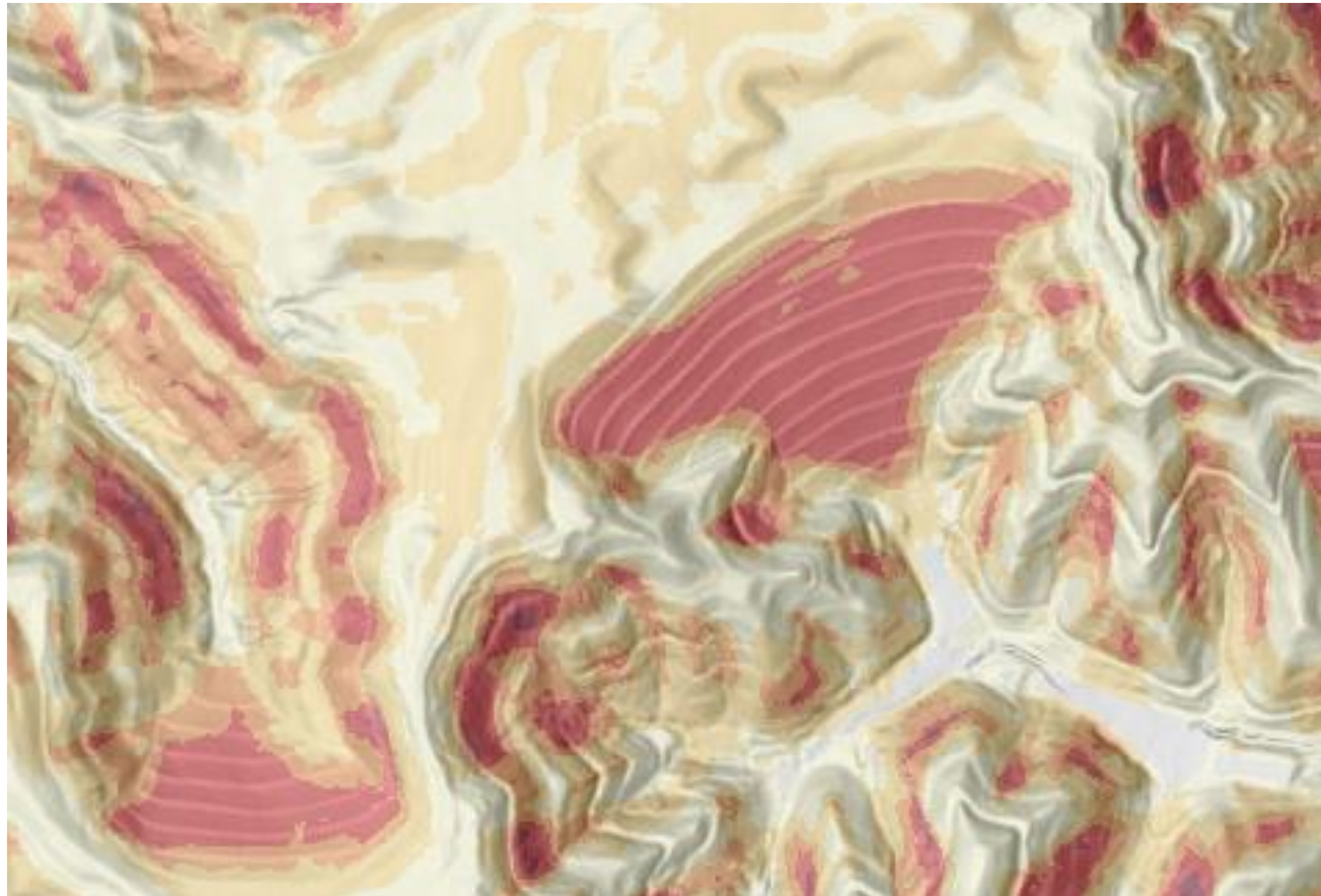
Water Coming from Underground Mining Can Cause Landslides



Old Mining Structures Can Fail



Valley Fills Associated with Mountaintop Removal Sites Are Susceptible to Landslides



**Detail of KGS Landslide Susceptibility
Map**

Mountaintop Removal Increases Peak Flow and Therefore Increases Flood Risk -- This is Why



Photo Date: 03/24/2022

File: 20220323_135331.jpg

Photo 9

This representative photo shows a portion of the permit 897-0568 which has been reclaimed and is well vegetated.

This photo was taken by Danny Wilson.



Zombie Mines Further Exacerbate Risk to Nearby Communities



Measures to Mitigate Mining Risks

- Active/Current Mining
 - Regulations on contemporaneous reclamation and stormwater controls need to be strengthened to protect against the type of rainfall events that we are now seeing.
 - Reclamation standards need to be revised to require reforestation and other measures to ensure that the post-mining land has the same water retention/discharge hydrology as the land in its natural state.
- Historic Mining
 - DAML should design its reclamation projects with climate change in mind.
- Funding is needed to deal with mining hazards that are not covered by the AML program or a coal company

Thank you!

Contact me: mary@aclc.org

Appalachian Citizens' Law Center
317 Main St. Whitesburg, KY 41858
T: (606) 633-3929 | F: (606) 633-3925

Learn more: <http://aclc.org/>

Like us on Facebook: <https://www.facebook.com/appalachianlawcenter/>

Follow us on Twitter: <https://twitter.com/AppCitizensLaw>

APPALACHIAN
CITIZENS'
Law Center

