

Hazards Emergency Response and Recovery Situational Data Tools and a Digital Clearinghouse

Utah Geological Survey

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Geologic Hazards Program Manager**



UTAH GEOLOGICAL SURVEY

geology.utah.gov



Riverdale landslide along the north bluff of the Weber River

Utah Geological Survey (UGS)

The Utah Geological Survey, a division of the Utah Department of Natural Resources, provides timely scientific information about Utah's geologic environment, resources, and hazards. About 63 FTE staff and the State Geologist.

Geologic Hazards Program

- Respond to geologic hazard emergencies and provide unbiased, scientific advice to local governments and incident commanders.
- Investigate and map geologic hazards in urban and other areas (publish and distribute PDFs and GIS spatial data).
- Provide geologic hazard related technical/educational outreach and information to inform Utah about hazards.

Focused on reducing Utah's life safety, property, and economic risk from geologic hazards.

Geologic Hazards That May Be Found in Utah

- Earthquake Hazards
 - Ground Shaking
 - Liquefaction
 - Surface Fault Rupture
 - Tectonic Subsidence
- Landslide Hazards
 - Debris Flows
 - Landslide
 - Rockfall
- Problem Soil and Rock Hazards
 - Caliche
 - Collapsible Soil
 - Corrosive Soil and Rock
 - Expansive Soil and Rock
 - Ground Subsidence & Earth Fissures
 - Groundwater Withdrawal
 - Underground Mining
 - Radon Gas
 - Karst and Sinkholes
 - Piping and Erosion
 - Salt Tectonics Deformation
 - Shallow Bedrock
 - Soluble Soil and Rock
 - Wind Blown Sand
- Flooding Hazards
 - Alluvial Fan Flooding
 - Debris Flows
 - River, Lake, and Sheet Flooding
 - Seiche
 - Shallow Groundwater
 - Tsunami
- Volcanic Hazards
 - Airborne Volcanic Ash
 - Eruptions and Lava Flows




Geologic Emergency Response

During response and investigation, we collect vital geologic and other data on the hazard event.

We also want to collect data from the public and other scientists in our digital clearinghouse.



 University of Utah
Seismograph Stations
THE UNIVERSITY OF UTAH



Utah Geological Survey GeoData Archive System

The UGS GeoData Archive System, part of our Geologic Data Preservation Project, contains Utah geologic- and wetlands-related scanned documents, photographs (except aerial), and other digital materials (resources) from our files and those gathered from other agencies or organizations in one web-based system.

Individual data collections are accessible using the Data Collections links. Resources available to general users are all in the public domain or from the public record. Metadata describing each resource is searchable, along with map searching for resources that are local or site-specific in nature. Users are also encouraged to search the UGS Library for books and similar materials. Upon searching for specific resources, they may be viewed directly, or downloaded to your local device. Not all resources may be available to all users due to copyright and/or distribution restrictions.

Browse

Data Collections

Select...

View all

Map Search

Search for resources using an OpenStreetMap basemap and bounding box area.

Air Photo Indexes

Scanned aerial photography and imagery indexes of Utah that are part of the UGS Aerial Imagery Collection.

2019 U.S. 6 Flooding

Photos from the 2019 U.S. 6 Spanish Fork Canyon flooding.

61

2019 SR210 Flooding

Photos from the 2019 S.R. 210 Little Cottonwood Canyon flooding.

171

U.S. 89 Flooding

Photos and other information on the 2019 flooding near Birdseye.

149

Pinecrest Landslides

Photos and other information on the 2019 Pinecrest Canyon Landslides, Salt Lake County Utah.

212

Riverdale Landslide

2017 Spring Creek Road (Riverdale) Landslide Photographs and Data

623

2019 Springville Ro...

Photographs and other info from the 2019 Round Peak Fire related rockfall in Springville, Utah.

128

2019 Zion Rockfall

Photos from the 2019 Zion National Park rockfall events.

40

Search

Search and explore site content using descriptions, keywords, and metadata (includes full-text PDFs).

- Photo
- Document
- Video
- Audio
- Observation

Title

Author

County

Keywords

By Date




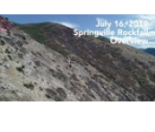

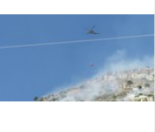










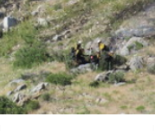
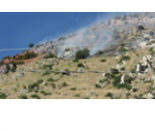
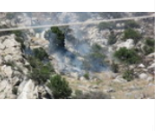
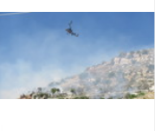








Any year Any month

Clear Search

- Map Search
- Advanced Search

128 resources Collection Order 48 per page Actions... Refine Results Page 1 of 3

Data Collections ▶ Geologic Hazards ▶ Geologic Emergency Responses ▶ 2019 Springville Rockfall Response

 Springville Rockfall... Ben Erickson	 Springville Rockfall... Ben Erickson	 Springville Rockfall... Ben Erickson	 Springville Rockfall... Ben Erickson, Paul ...	 Springville Rockfall... Don Meyers	 Springville Rockfall... Don Meyers	 Springville Rockfall... Don Meyers
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Any year Any month

- Map Search
- Advanced Search

Springville Rockfall, Digital Elevation Model of the Boulder Path

← View All Results →



Resource Downloads

File Information	File Dimensions	File Size	Options
Original TIF File	21576 × 21645 pixels (467.01 MP) 71.9 in × 72.2 in @ 300 PPI	169.9 MB	Download
Screen	1100 × 771 pixels (0.85 MP) 3.7 in × 2.6 in @ 300 PPI	94 kB	Download

Resource Download and Tools

[Download Metadata](#)

Resource Details

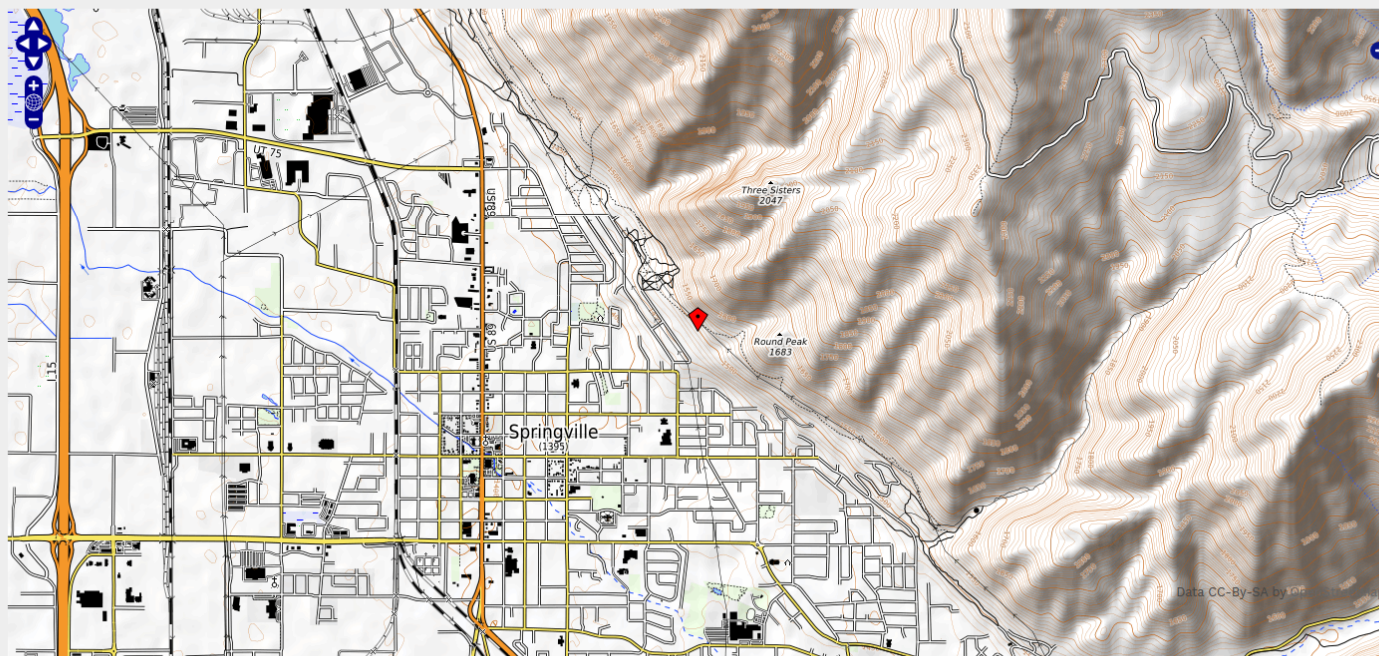
RESOURCE ID 60907	RESOURCE TYPE Document	AVAILABILITY Public	HAZARD TYPE Landslide, Rockfall	UGS PROGRAM Hazards	TITLE Springville Rockfall, Digital Elevation Model of the Boulder Path	AUTHOR Ben Erickson
DATE August 26 2019	USGS 7-1/2' QUADRANGLE Springville	COUNTY Utah	STATE Utah	KEYWORDS rockfall	ORIGINAL FILENAME SR_DEM.tif	PUBLISHER Utah Geological Survey
ABSTRACT / DESCRIPTION Springville Rockfall Boulder Path						

Resource Details

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ABSTRACT / DESCRIPTION
Springville Rockfall Boulder Path

Location Data

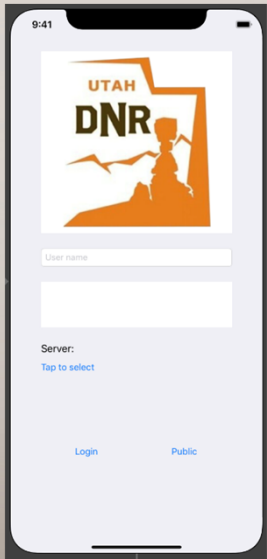


Related Collections

► [Geologic Hazards / Geologic Emergency Responses / 2019 Springville Rockfall Response](#)

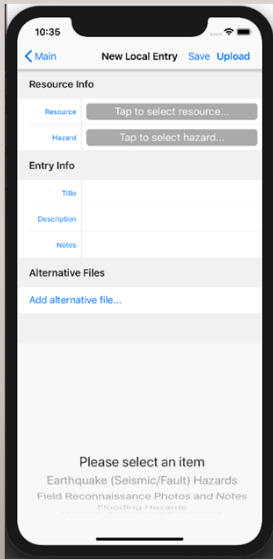
Field Data Collection (Android/iOS)

Open App

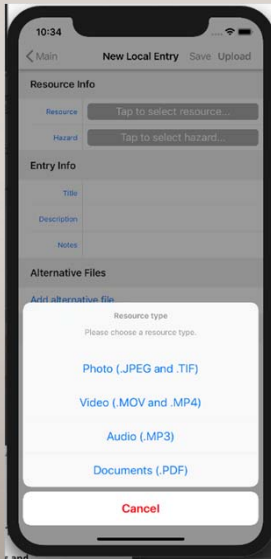


Specific account login or public access

New Observation



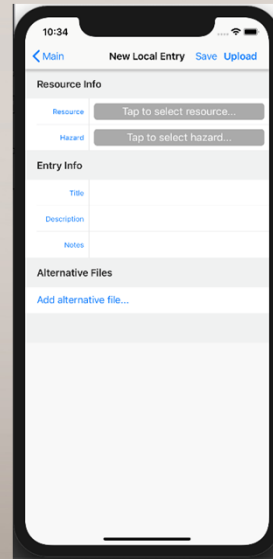
Add or Take Photo



Feature of Interest



Add Additional Info



Submit



Open-source digital asset management system (MySQL/Apache/PHP)

UGS GeoData Archive
Utah Seismic Safety Commission

via REST API using JSON, if no data service available, store on device until available



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Open-source digital asset management system (MySQL/Apache/PHP)

UGS GeoData Archive
Utah Seismic Safety Commission
other sites



New Resource added in Pending Review state



Staff review new resource submission



Reject

or

Edit

or

Approve



Delete



- Will have a version ready to test by April 16, 2020, during the 2020 Great Utah ShakeOut earthquake exercise.
 - Field data collection
 - Emergency Operations Center operations
- Successful apps will be distributed to other partners through the Western States Seismic Policy Council.
- We are open to your ideas to enhance user interaction, field data collection, and distribution of information.

Event Dashboard

- Map showing observations and field team locations*
- List of observations, most recent, first, updating as they are submitted

* - only shows if an approved account



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Backend Processing

2012 Seeley Fire Debris Flows



Questions and Discussion

Society can prepare for and deal with geologic hazards.



12-Mile Landslide, Sanpete County



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