Lassen Volcanic National Park

Geologic Resources Inventory

GIS Data Explanation, September 18, 2026

Overview

The National Park Service (NPS) Geologic Resources Inventory (GRI) provides geologic map data for Lassen Volcanic National Park. The dataset includes a park-wide geologic map covering the park and surrounding area. Data files for this park-wide geologic map are named with the four-letter park code (LAVO) as a prefix. GRI products are funded by the NPS Inventory and Monitoring Division and administered by the Geologic Resources Division.

Available Data Formats

GRI geologic data are distributed in the following formats:

Format	Purpose
Esri File Geodatabase (.gdb)	Use with ArcGIS Pro
Open Geospatial Consortium GeoPackage (.gpkg)	Use with QGIS and other OGC-compliant software
Google Earth KMZ (.kmz)	Basic visualization in Google Earth
Shapefile (.shp)	Available upon request

Data packages are distributed as ZIP archives.

ArcGIS Pro Package Contents

The ArcGIS Pro package includes:

- Esri File Geodatabase
- ArcGIS Pro map file (.mapx)
- ArcGIS Pro layer files (.lyrx)
- FGDC-compliant metadata (.txt and .xml)

The provided map and layer files preserve GRI symbology, labeling, and layer organization.

Important: Extract all files from the ZIP archive into the same folder. Map and layer files use relative paths to the geodatabase.

GeoPackage Package Contents

The GeoPackage package includes:

- GeoPackage database (.gpkg)
- QGIS project file (.qgz)
- FGDC-compliant metadata (.txt and .xml)

The GeoPackage and QGIS project file must remain in the same folder because the project uses relative paths. QGIS is available at https://www.qgis.org.

Google Earth Package

The KMZ package provides a simplified representation of the full GIS dataset for visualization purposes.

The KMZ contains links to:

- GRI program information
- FGDC-compliant FAQ metadata
- GRI map information document
- This readme document

Google Earth is available at https://earth.google.com.

Additional Documentation

Each GRI data package is accompanied on the NPS IRMA datastore by:

1. **GIS Data Readme** – this document
2. **GRI Map Information Document (PDF)** – geologic unit descriptions and supporting source-map information
3. **FAQ Metadata** – user-friendly version of the FGDC metadata

Detailed source information is documented in:

- Metadata records
- Source Map Information Table (within Geodatabase and GeoPackage datasets)
- GRI Map Information Document

Data Use Considerations

Users should review metadata before using the data for analysis or decision-making.

Key considerations include:

- Positional accuracy limitations
- Data-use constraints
- Source map scale and quality
- Appropriate applications of the dataset

Google Earth products are intended primarily for visualization and should not be used for detailed spatial analysis or site investigations.

Data Model Documentation

For information about:

- Attribute definitions
- Domain values
- Relationship classes
- Geologic GIS schema

refer to the **NPS GRI Geology-GIS Data Model**.

Obtaining GRI Data

GRI datasets are available through the NPS IRMA Data Store and GRI product webpages.
On the NPS IRMA Data Store, search for a park and use the keyword "**GRI**" to locate available products.

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