

DATA MINING for Explorationists

Nevada State Resources

- ▶ **Nevada Division of Minerals (NDOM):** agency tasked to encourage responsible exploration and extraction of natural resources. Responsibilities include permitting and monitoring of fluid mineral activities, natural resource policy advisement, abandoned mine hazard awareness, education, and mining production and claims statistics; general information on mining and exploration: <http://minerals.nv.gov> and <http://data-ndom.opendata.arcgis.com/>
- ▶ **Nevada Bureau of Mines and Geology (NBMG; Nevada's geological survey):** minerals research, geologic mapping, mineral industry annual reports, exploration surveys, regional and district bulletins and reports, web-based GIS maps, mining district files, exploration sample repository; <https://nbgm.unr.edu> and <https://data-nbgm.opendata.arcgis.com/>
- ▶ **Governor's Office of Economic Development (GoED):** agency whose overarching objective is to build prosperity and enhance the quality of life in Nevada; www.diversifynevada.com

Exploration and Mining Organizations

- ▶ **Geological Society of Nevada (GSN):** publications, meetings, symposia, field trips focused on geology of Nevada, especially as it pertains to natural resources; chapters in Reno, Las Vegas, Elko, and Winnemucca: <http://gsnv.org>
- ▶ **Nevada Minerals Exploration Coalition (NMEC):** advocacy group for Nevada exploration through public discourse, education, and government interaction: <https://nvmec.org>
- ▶ **Nevada Mining Association (NMA):** helping to support and sustain the mining industry in Nevada through policy forums and education: <http://nevadamining.org/>

Academic Departments

- ▶ **Ralph J. Roberts Center for Research in Economic Geology (CREG),** University of Nevada, Reno: graduate research in economic geology with a focus on the Great Basin: <http://nbgm.unr.edu/CREG/>
- ▶ University of Nevada, Reno **W.M. Keck Earth Sciences and Mining Research:** digital library containing a wide variety of Nevada maps, aerial and satellite imagery, elevation data, and special collections: <http://keck.library.unr.edu>

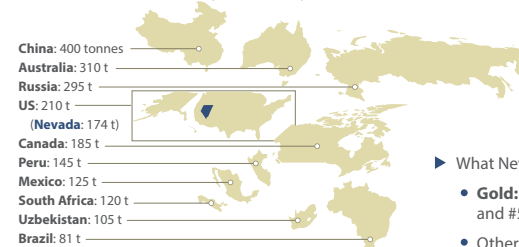
Federal Agencies

- ▶ **Bureau of Land Management:** <https://www.blm.gov/programs/energy-and-minerals/mining-and-minerals/about/Nevada>; claim staking: <https://blm.gov/programs/energy-and-minerals/mining-and-minerals/mining-claims>; BLM LR-2000 claim status online: <https://reports.blm.gov/reports.cfm?application=LR2000>



Looking south across the Pequoop Mountains, northeast Nevada. Rocks shown include Ordovician Eureka Quartzite and Pogonip Group limestone and shale. Photographer: Chris Henry

Gold production by country—2018



Not all that glitters is gold...



NEVADA Stake Your Claim

- ▶ Fraser Institute Survey 2018 ranks Nevada 1st among 83 jurisdictions globally for **Investment Attractiveness** (combines exploration potential with favorable regulations)

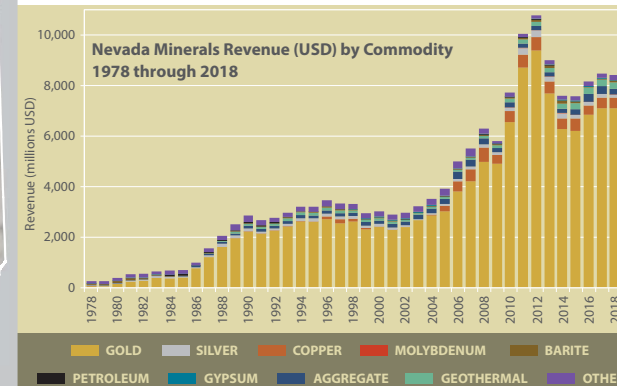
- ▶ Nevada consistently ranks in the top 5 worldwide in the Fraser Investment Attractiveness Index

2018	1st
2017	3rd
2016	4th
2015	3rd
2014	1st
2013	2nd
2012	2nd

- ▶ What Nevada produced in 2018:

- **Gold: 5.58 Moz** (\$7.08B USD) — #1 in U.S. (83% of U.S. production), and #5 in the world behind only China, Australia, Russia, and Canada
- Other commodities produced in order of value: copper, aggregates, geothermal energy, silver, diatomite, gypsum, lithium, limestone, barite, silica, specialty clays, molybdenite
- Nevada is the only US producer of Li, and is a leading producer of Ag, Cu, geothermal energy, barite, & diatomite

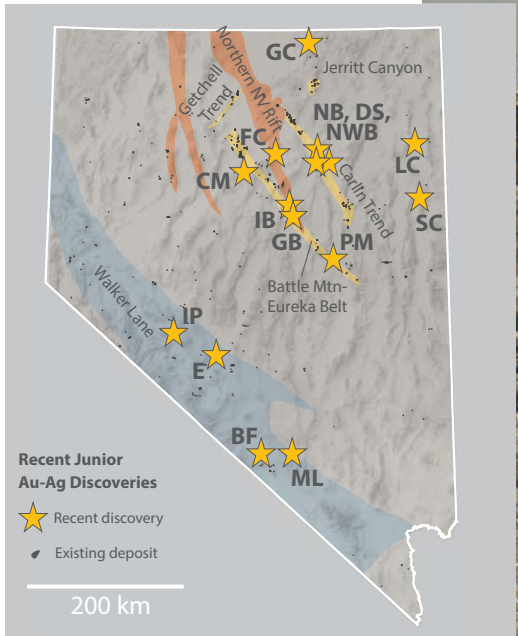
- ▶ Nevada gold production since Carlin mine start-up in 1965: **206.9 million troy ounces**; highest production of any regional jurisdiction or province during the past half century
- ▶ At least \$461 M was spent on exploration in Nevada in 2018, up from \$351 M in 2017 (Sources: NDOM/NBMG exploration surveys 2017/2018); outlook was for same or increased spending in 2018



DISCOVER NEVADA

Significant Junior Gold-Silver Discoveries and Development, 2000–2018

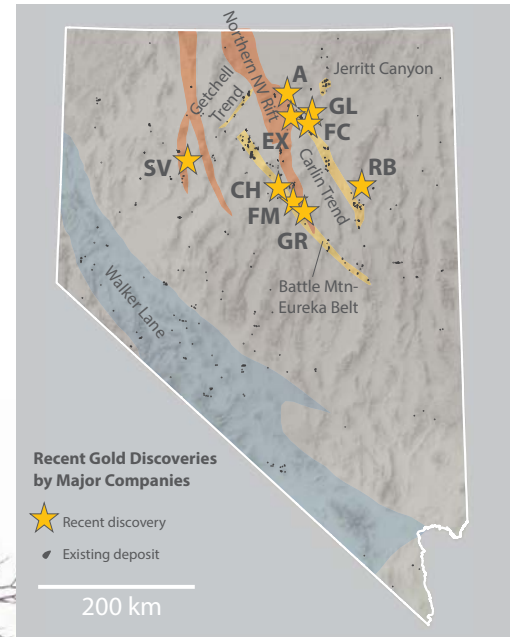
2018	Isabella Pearl (Gold Resource), active mining; Gold Bar (McEwen Mining), active mining
2017	Pan Mine (Fiore Gold), active mining
2017	Mother Lode (Corvus Gold), in development
2016	North Dark Star (Gold Standard Ventures), brownfields discovery, in advanced exploration
2015	Secret Canyon (Pilot Gold), brownfields discovery, in advanced exploration
2013	Gravel Creek (Western Exploration), grassroots discovery, in advanced exploration
2012	Iceberg (NuLegacy), grassroots discovery, in early exploration-stage
2011–2013	North Bullfrog (Corvus Gold), grassroots discovery, in advanced exploration
2011–2013	Eastside, Columbus Gold (Cordex), grassroots discovery, in advanced exploration
2010	North Bullion (Gold Standard Ventures), grassroots discovery, in advanced exploration
2006	Cove-McCoy Deep (Victoria Resources), brownfields discovery, in advanced exploration
2004	Fire Creek (Klondex), grassroots discovery, active underground mine
2000	Long Canyon (Pittston), grassroots discovery, active open pit (Newmont)



- BF North Bullfrog
- CM Cove-McCoy Deep
- DS North Dark Star
- E Eastside
- FC Fire Creek
- GB Gold Bar
- GC Gravel Creek
- IB Iceberg
- IP Isabella Pearl
- LC Long Canyon
- ML Mother Lode
- NB North Bullion
- NWB Northwest Bullion
- SC Secret Canyon
- PM Pan Mine

- Cenozoic Precious-metal Belts**
- Orange: Eocene Carlin-types
 - Blue: Miocene arc-related epithermal
 - Red: Miocene rift-related epithermal

NEVADA Golden Opportunity



- A Arturo
- CH Cortez Hills
- EX Exodus Corridor
- FC Fence Corridor
- FM Fourmile
- GR Goldrush
- GL Greater Leeville
- RB Redbird
- SV Spring Valley

- Cenozoic Precious-metal Belts**
- Orange: Eocene Carlin-type and related Au
 - Blue: Miocene arc-related epithermal
 - Red: Miocene rift-related epithermal

Brownfields Gold Discoveries by Majors, 2000–2017

2015	Fourmile (Barrick), exploration-stage; no published resource yet
2013	Fence Corridor U.G. (Newmont), u.g. development, +5 Moz production + resource
2011	Goldrush (Barrick), u.g. development, 15.9 Moz resource
2009–2011	Greater Leeville (Newmont), active u.g. mines, ~16 Moz production + resource
2007	Redbird deposit, Bald Mountain district (Kinross), active pit
2005	Arturo (Barrick), active pit, 4.5 Moz production + resource
2003	Exodus Corridor (Newmont), active u.g. mine, +3 Moz production + resource
2002–2003	Cortez Hills (Placer Dome), active pit/u.g. (Barrick, current operator), ~13 Moz production + resource
2000	Spring Valley (Echo Bay), grassroots discovery; 4.2 Moz resource, advanced exploration (Elko Mining Group, current operator)