

July 1, 2024

News and notes

I am on vacation this week, so this week's posting will just be some some news items I thought were interesting.

Happy Canada Day



Canadian Flag, Niagara Falls, Ontario

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Geopolitics

- [No Tour de France without geology.](#)
- From Charles Hugh Smith: [10 Geopolitical / Financial Risks to the Global Economy.](#)
- [Bolivia Coup Sparks CIA Conspiracy Theories](#); but I need new conspiracy theories since all my old ones [turned out to be true.](#)
- [Coup-hit Niger was betting on a China-backed oil pipeline as a lifeline. Then the troubles began.](#)

Research and News

- Geologic dating and karst topography: [Determining the age and origin of a Tertiary karstic system by in situ U-Pb geochronology on speleothems.](#)
- Erosion and sedimentation: [Boulders modulate hillslope-channel coupling in the northern Alaska Range.](#)
- Geologic history of North America: [An integrated perspective of paleoenvironmental change in the Western Interior Seaway before and during OAE-2 reveals how organic-rich mudstones form in dynamic environments.](#)
- Geochemistry and coastal geology: [Distribution of trace and rare earth elements in the estuary of Ría de Huelva \(SW Spain\): Field data and geochemical modeling.](#)
- An [earth shattering](#) kaboom: [Modeling how a Powerful Airburst destroyed Tall el-Hammam, a Middle Bronze Age city near the Dead Sea.](#)
- Geophysics: [Detectability of low-viscosity zone along lithosphere–asthenosphere boundary beneath the Nankai Trough, Japan, based on high-fidelity viscoelastic simulation.](#)
- [Carbonate uranium isotopes record global expansion of marine anoxia during the Toarcian Oceanic Anoxic Event](#); Phys.org summary [here](#).
- Geology and the use of Artificial Intelligence (AI): [Geoscience AI in crisis?](#) Summary in The Guardian [here](#).
- [Discovery of the first hydrothermal field along the 500-km-long Knipovich Ridge offshore Svalbard \(the Jøtul field\)](#); Phys.org summary [here](#).

Mineralogy and Petrology

- [The role of Fe\(II\)-silicate gel in the generation of Archean and Paleoproterozoic chert.](#)
- Limited stability of hydrous SiO₂ stishovite in the deep mantle; behind a paywall, Phys.org summary [here](#).
- [The role of fluocerite in the genesis of bastnäsite: mechanistic insights and transformation pathways](#); Phys.org summary [here](#).
- Petrology: [An integrated remote sensing, petrology, and field geology analyses for Neoproterozoic basement rocks in some parts of the southern Egyptian-Nubian Shield.](#)

Planetary Geology

- [Formation of silicic crust on early Earth and young planetary bodies in an Iceland-like setting.](#)
- [An estimate of the impact rate on Mars from statistics of very-high-frequency marsquakes](#); Science Alert summary [here](#).

Paleontology

- [Enigmatic Discoid and Elliptical Structures from Brioverian \(Eldian-Fortunian\) Deposits of Brittany \(Armorican Massif, NW of France\).](#)
- [A large brachiopod from the Middle Triassic of northern Arizona and the diversity of brachiopod temnospondyls from the Moenkopi Formation.](#)
- Gnatale: [L.A.'s newest dinosaur has its forever name.](#)
- [Deep origin of articulation strategies in panarthropods: evidence from a new luolishaniid lobopodian \(Panarthropoda\) from the Tulip Beds, Burgess Shale.](#)
- Video: [Megafauna: What Killed Australia's Giants?](#) Summary from [ABC News here.](#)

Geology of Ore Bodies

- [Genesis of the Ke'eryin Two-Mica Monzogranite in the Ke'eryin Pegmatite-Type Lithium Ore Field, Songpan-Garze Orogenic Belt: Evidence from Lithium Isotope.](#)
- [Three-Dimensional Geologic Modeling of the Kiruna Mining District, Sweden: Insights into the Crustal Architecture and Structural Controls on Iron Oxide-Apatite Mineralization.](#)

Mining and Energy

- [Southern Copper to restart development of Peru mine on Monday.](#)
- [Anglo American battles underground fire at Australian coal mine.](#)
- Pretty shiny things and artisanal mining: [The Painful Truth About 'Healing' Crystals](#), sorry behind a paywall.
- [Argentina is about to unleash a wave of lithium in a global glut.](#)
- [US to start buying up to \\$2.7 billion in domestically supplied enriched uranium.](#)
- [Oil Prices Set to Extend Gains as Geopolitical Tensions Rise.](#)
- [Mexico's new Pemex refinery still needs important work, is far from ready, sources say.](#)
- [Enbridge, First Nations and Métis partners to advance 200-megawatt wind energy project in Saskatchewan.](#)
- [Biden Administration To Hold Offshore Wind Auction in Central Atlantic.](#)

Environmental Geology and Hydrogeology

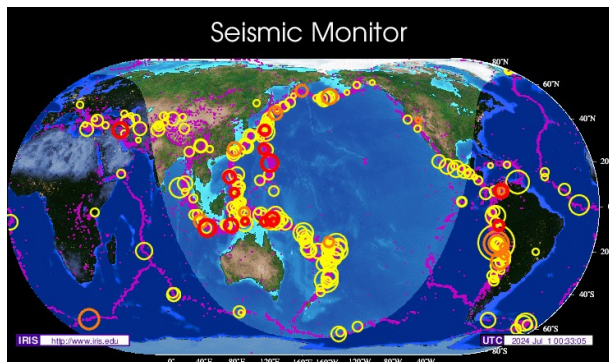
- Environmental regulation in the United States: [Supreme Court Overturns Chevron Doctrine in Landmark Decision.](#)
- [Assessment of hydrochemical characteristics, health risks and quality of groundwater for drinking and irrigation purposes in a mountainous region of Pakistan.](#)

- ['Time for a reckoning:' Kansas farmers brace for water cuts to save Ogallala Aquifer.](#)
- [How quickly does groundwater recharge? The answer is found deep underground.](#)
- [Spring newsletter](#) from the Groundwater Project; also there is another free book available from the Groundwater Project: [Karst: Environment and Management of Aquifers.](#)

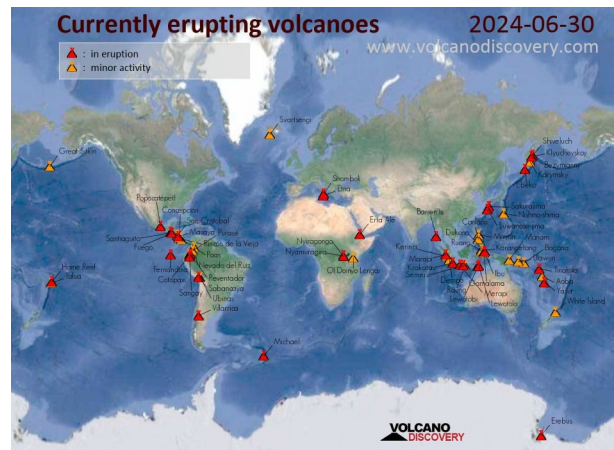
Glaciers and Climate Change

- [Substantial contribution of slush to meltwater area across Antarctic ice shelves.](#)
- [Tipping point in ice-sheet grounding-zone melting due to ocean water intrusion.](#)
- From Scientific American: [Iceland's Ice Is Melting So Fast That It's Boosting Hydropower](#) and [Ancient river system discovered beneath Antarctic ice.](#)

Volcanoes, Earthquakes and Geohazards



[Seismic Monitor](#)



[Active Volcano Map](#)

- United States Geological Survey (USGS) Volcano Watch: [In Remembrance of Ed Brown, HVO 'Ohana.](#)
- USGS Yellowstone Volcano Observatory: [Earthquake focal mechanisms – life's a beach\(ball\).](#)
- From the USGS Cascades Volcano Observatory: [Mount Rainier-Living with Perilous Beauty;](#) AccuWeather summary [here.](#)
- [Smithsonian / USGS Weekly Volcanic Activity Report.](#)
- From Cowboy State Daily: [Mount St. Helens Acting Up But Won't Trigger Yellowstone Supervolcano.](#)
- Volcano research: [Heat pulse-dominated magmatic storage: The 33 ka dacite dome eruption at Taápaca volcano \(Central Andes\).](#)

- [The Fagradalsfjall and Sundhnúkur Fires of 2021–2024: A single magma reservoir under the Reykjanes Peninsula, Iceland?](#)
- [Euro-Mediterranean Seismological Centre](#)
- [Earthquakes Monitoring Live Worldwide.](#)
- [M7.2 earthquake in southern Peru causes minor damage; USGS summary \[here\]\(#\).](#)
- [Delineation and Fine-Scale Structure of Fault Zones Activated During the 2014–2024 Unrest at the Campi Flegrei Caldera \(Southern Italy\) From High-Precision Earthquake Locations.](#)
- Landslide research: [Infrared thermography reveals weathering hotspots at the Požáry field laboratory.](#)
- Consequences: [Victoria Gold charged after second landslide at Eagle mine this year.](#)

Upcoming Events

- If you are in Calgary for the Stampede: [Bootleggin' Breakfast 2024](#), Calgary, AB, July 9 & 11, 2024, plus [Stampede After Parties Announced!](#)
- [Goldschmidt 2024, August 18-24, Chicago IL](#), organized by the Geochemical Society and the European Association of Geochemistry.
- [Groundwater Week 2024](#), December 10-12 in Las Vegas, Nevada.

Standard Caveat

The purpose of my weblog postings is to spark people's curiosity in geology. Don't entirely believe me until you've done your own research and checked the evidence. If I have sparked your curiosity in the subject of this posting, follow up with some of the links provided here. If you want to, go out into the field and examine some rocks on your own with the help of a good field guide. Follow the evidence and make up your own mind.

In science, the only authority is the evidence.