

October 14, 2024

## News and notes



**Wild Turkey, Not Looking Forward to [Canadian Thanksgiving](#)**  
**Credit: [The Cosmonaut](#), [Creative Commons Attribution-Share Alike 2.5 Canada](#) license**

This week I have lots of commitments, so I will only be posting news items I thought were interesting.

## Geopolitics

- [Third Trump Assassination Attempt Thwarted.](#)
- Video: [Martin Armstrong: Gold Is Pricing in a Market Shutdown & Price Controls.](#)
- Risky business: [At least 20 killed in armed attack on miners in Pakistan.](#)
- [Geopolitical Risk and Hurricane Milton Push Oil Prices Toward a Weekly Gain.](#)

## Research and News

- [Simulating Compaction and Cementation of Clay Grain Coated Sands in a Modern Marginal Marine Sedimentary System.](#)
- Dangers of geotourism: [1 person dies and 12 are rescued after elevator malfunctions at Colorado gold mine tourist site.](#)
- [Facies stacking and lateral variability of travertines from the Quaternary Vega Botijuela, Salar de Antofalla Basin, Argentina.](#)
- Geophysics: [First Late Cambrian Paleomagnetic Results From the Oulongbuluke Terrane, Northern Tibetan Plateau: Implications for the Paleogeography of the Proto-Tethys Ocean.](#)

- More geophysics: [Crustal and uppermost mantle S-velocity structure of the Seoul metropolitan area on the Korean Peninsula from Helmholtz tomography.](#)
- Plate tectonics: [Multi-mode gravity tectonics during northern North Sea rifting: the Snorre fault block case.](#)
- Geochemistry: [Core-mantle chemical interaction via convection within thermochemical piles.](#)
- More geochemistry, carbon cycle: [Unraveling abiotic organic synthesis pathways in the mafic crust of mid-ocean ridges.](#)
- [Advancing geoscience with AI.](#)
- Cryospheric science: [Subarctic permafrost formation around seafloor seeps.](#)
- [Book Review: "Prehistoric World: Over 1,200 Incredible Mammals and Discoveries from the Mesozoic and Cenozoic".](#)
- [Global Eocene-Oligocene unconformity in clastic sedimentary basins:](#) Phys.org summary [here.](#)

## Petrology

- [A Review of the Mineral Chemistry and Crystallization Conditions of Ediacaran–Cambrian A-Type Granites in the Central Subprovince of the Borborema Province, Northeastern Brazil.](#)
- [National-Scale Geospatial Modelling of Pyrrhotite in Bedrock Across Canada: A Pilot Study.](#)
- [Alkali-carbonate melts in the cratonic mantle evidenced by a wehrlite xenolith from the Majuagaa kimberlite, West Greenland.](#)

## Planetary Geology

- [Discovered a crucial cause of Mars turning into a dead desert;](#) spoiler, it wasn't [Marvin the Martian.](#)
- Origins of life: [Primitive asteroids as a major source of terrestrial volatiles;](#) Phys.org summary [here.](#)
- [Highly enriched carbon and oxygen isotopes in carbonate-derived CO<sub>2</sub> at Gale crater, Mars.](#)

## Paleontology

- [Predicting rapid adaptation in time from adaptation in space: A 30-year field experiment in marine snails;](#) Phys.org summary [here.](#)
- Estimating past biodiversity: [Standardizing fossil disparity metrics using sample coverage.](#)
- [How Rediscovering A '4-Legged Snake' Fossil From Brazil Sparked A Global Controversy;](#) stolen fossils and politically incorrect speech.
- [New enantiornithine diversity in the Hell Creek Formation and the functional morphology of the avisaurid tarsometatarsus;](#) Phys.org summary [here.](#)

- [Bring me the head of \*Arthropleura\*](#); Live Science summary [here](#); movie reference [here](#).
- [Revealing the use of dental indices to infer taxonomic variation in sauropod dinosaurs](#).
- [Alasemenia, the earliest ovule with three wings and without cupule](#); SciTechDaily summary [here](#).
- New fossils from a lagerstätte: [A plastron fragment reveals a previously unrecorded turtle species in the Eocene of Messel Pit, Germany](#).
- [Arid, mosaic environments during the Plio-Pleistocene transition and early hominin dispersals in northern Africa](#); Phys.org summary [here](#).
- [Subsurface Microbial Colonization at Mineral-Filled Veins in 2-Billion-Year-Old Mafic Rock from the Bushveld Igneous Complex, South Africa](#); Science Alert summary [here](#).
- [A new diplodocine sauropod from the Morrison Formation, Wyoming, USA](#); SciNews summary [here](#).
- [Cranio-mandibular variation in the endemic Hispaniolan primate, \*Antillothrix bernensis\*](#); SciTechDaily summary [here](#).

## Mining and Energy

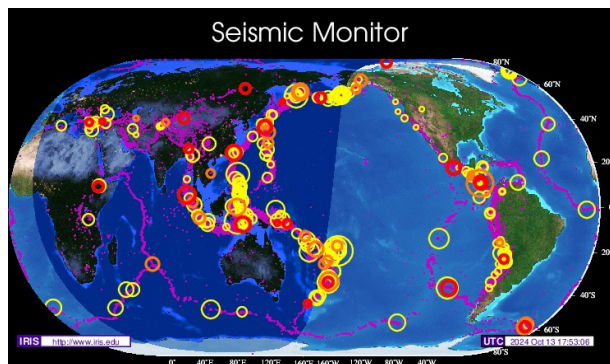
- Ore deposit geology: [Chalcopyrite, sphalerite, and pyrite chemistry in stratiform sediment-hosted Cu\(-Co\) metallogenic districts: trace element characteristics and factors controlling polymetallic mineralization](#).
- [Sam Altman-backed company announces plans for history-making nuclear microreactor – and it could transform the future of artificial intelligence](#).
- How are those sanctions working out? [Biggest Russian Refinery Raises Crude Oil Processing by 4%](#).
- Technological improvements: [New data shows electric vehicle batteries can now last more than 20 years – and they could even outlast the usable life of the car](#).
- AI and prospecting: [A Review of Mineral Prospectivity Mapping Using Deep Learning](#).
- [Lithium de France completes new geothermal survey in North Alsace, France](#).
- [America fires up largest hydrogen generator in history: 3 tons per day to blast China](#).
- Ore deposit geology: [Sulfide and Fe-Ti-P liquid immiscibility in the Ni-Cu-Co ovoid deposit of the Voisey's Bay complex, Labrador, Canada](#).
- [Declining North Sea Oil Patch Could Make Way For Geothermal Boom](#).
- [China is oversupplying lithium to eliminate rivals, US official says](#).
- [Cameco eyes expansions of uranium mines on rising nuclear demand](#)

- [Private sector advances proposal for large-scale nuclear power plant in northern Alberta.](#)
- [Costco's gold bars fly off shelves as bullion prices smash records](#); pick it up with the [groceries](#).
- [Chevron to Sell Canadian Oil Sands and Shale Assets for \\$6.5 Billion.](#)
- [Silver miners struggle to keep up with demand](#); solar panels.
- [How southern Wisconsin could become a nuclear fusion mecca.](#)

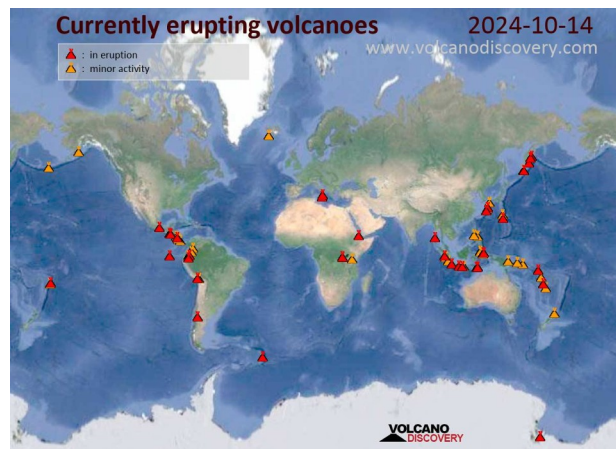
## Environmental Geology and Hydrogeology

- [Mercury, cyanide found in water near Yukon gold mine disaster: government.](#)
- Remediation: [Researcher says it might be better to leave some old N.S. mine tailings undisturbed.](#)
- [Forecasting and Hindcasting PFAS Concentrations in Groundwater Discharging to Streams near a PFAS Production Facility](#); behind a paywall, summary from NC State University [here](#).

## Volcanoes, Earthquakes and Geohazards



[Seismic Monitor](#)



[Active Volcano Map](#)

### Volcanoes

- United States Geological Survey (USGS) Volcano Watch: [The 2024 Great Hawaii ShakeOut.](#)
- USGS Yellowstone Volcano Observatory: [Forthcoming satellite data will provide a better picture of Yellowstone](#); Video: [Steamboat Geyser erupts in Yellowstone National Park.](#)
- [Smithsonian / USGS Weekly Volcanic Activity Report.](#)

### Earthquakes

- [Euro-Mediterranean Seismological Centre \(EMSC\)](#)
- [Earthquakes Monitoring Live Worldwide.](#)
- [M6.2 earthquake shakes the Nicoya Peninsula in Costa Rica](#); USGS summary [here](#).

- Earthquake research: [Off-fault deformation feedback and strain localization precursor during laboratory earthquakes.](#)
- [L.A.'s quake mystery: 2024 brings the most seismic activity in decades. Why now?](#)
- [Clues left by the Alpine Fault's last big quake reveal its direction – this will help NZ prepare for the inevitable next rupture.](#)
- [Magnitude 4.4 earthquake shakes Central Greece; EMSC summary \[here\]\(#\).](#)
- [Did Iran conduct underground nuclear test on Saturday night? 'Measured' earthquake in region suggests...; Database Earth summary \[here\]\(#\).](#)

## Upcoming Events

- [October 19, IAEG Logging Course – 2024, Lisheen, Ireland.](#)
- [Central Canada Mineral Exploration Convention \(CCMEC\), Winnipeg, November 4 & 5](#)
- [GeoFutures: Planetary Geoscience Conference](#), 14-15 November 2024, hybrid meeting.
- [The Saskatchewan Geological Open House, December 2 to 4, Delta Bessborough Hotel, Saskatoon](#); the Bessborough Hotel is the most beautiful building in Saskatoon.
- [Groundwater Week 2024](#), December 10-12 in Las Vegas, Nevada; related video [here](#).
- [Copper to the World Conference, Tuesday 26 – Wednesday 27 August 2025](#), in Adelaide, Australia; report on 2024 conference [here](#).
- 2024-2025 [Society of Petroleum Engineers Distinguished Lecturer Schedule](#).
- [List of geoscience events in 2025 from the International Union of Geological Sciences.](#)
- [American Geophysical Union List of Upcoming Meetings.](#)

## Standard Caveat

### **[J. Robert Oppenheimer on freedom and scientific inquiry](#)**

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.