

June 30, 2025



**We plant marigolds among the vegetables in our garden**

## News and notes

We on our summer road trip, so I'll be blogging lightly for the next few weeks. Here are some news items I thought were interesting.

## Comments

If anyone has comments on any of my postings, please leave a comment on the LinkedIn page for the posting or email me at [raymondreichelt@gmail.com](mailto:raymondreichelt@gmail.com).

## Geopolitics

- Israel/Iran
  - [Oil Tanker Rates Retreat as Middle East Tensions Cool](#).
  - [Ceasefire between Israel and Iran appears to hold as Trump vents frustration with both sides](#); he said that the two sides didn't know what the f#! they were doing.
  - [Iran launches attack on US base in Qatar](#).
  - [Oil Prices Crash After Iran Strikes U.S. Bases](#).
- [Russia captures key lithium deposit in Ukraine in move that could impact US mineral deal](#).
- [The Quiet Invasion: How Transnational Crime and Chinese State Actors Infiltrated Vancouver's Ports and Eroded Canada's Sovereignty](#).

- [GOP Senators Present Evidence China Bankrolls Environmentalist Lawsuits To Cripple U.S. Power.](#)
- [Germany, Italy pressured to repatriate \\$245B worth of gold from US.](#)
- [DR Congo and Rwanda to sign peace agreement on June 27.](#)

## Research and News

- Sleeping Giant: [Ontario park with ancient volcano and giant cliffs looks like 4km-long giant.](#)
- [Exploring freshwater influence in epicontinental seas through integrated sedimentology and geochemistry approaches.](#)
- [High  \$\delta^{26}\text{Mg}\$  in an early Cambrian palaeosol reveals a terrestrial clay mineral factory.](#)
- [Subsurface characterization of crystalline rocks at the Einstein Telescope candidate site \(Italy\): Insights from seismic tomography, geoelectrical and morphostructural analyses.](#)
- [Structural styles and kinematic evolution of the Front Ranges of the Southern Canadian Rockies.](#)
- Monitoring nuclear explosions: [Source Characterization at Low Yields from Physics Experiment One A.](#)
- [Evidence for Hadean mafic intrusions in the Nuvvuagittuq Greenstone Belt, Canada;](#) behind a paywall, Science Alert summary [here](#).
- [Environmental and Calcification Impacts on the  \$\delta^{18}\text{O}\$  and  \$\delta^2\text{H}\$  Values of Cold-Water Coral Skeleton Fluid Inclusions.](#)
- 06/23 [Factors controlling carbonate mud production and accumulation on Upper Jurassic western European mixed siliciclastic-carbonate ramps.](#)
- [Structurally Controlled Silica Precipitation Within Multi-Stage Fault Damage Zones During the Rifting of the Pannonian Basin.](#)
- [Tsunami deposits preserved in coastal karst pockets on Malta \(Central Mediterranean Sea\).](#)
- [Geologists discover three new minerals in the southwestern U.S.](#)
- [Ontario park has breathtaking landscapes formed by 450 million-year-old meteorite;](#) geology studies [here](#) and [here](#).
- [Djerfisherite in a Ryugu grain: A clue to localized heterogeneous conditions or material mixing in the early solar system;](#) Phys.org summary [here](#).

## Plate Tectonics

- [The Inter-Cratonic Neoproterozoic Katangan Basin of Central Africa: Rift Basin Formation, Orogenic Inversion and Potential Fluid Pathways.](#)

- [Mantle upwelling at Afar triple junction shaped by overriding plate dynamics](#); University of Southampton press release [here](#).
- [The Miocene sedimentary cover of the Mula-Gebas Basin: Internal-External Zone Boundary of the Betic Cordillera, South Spain](#).

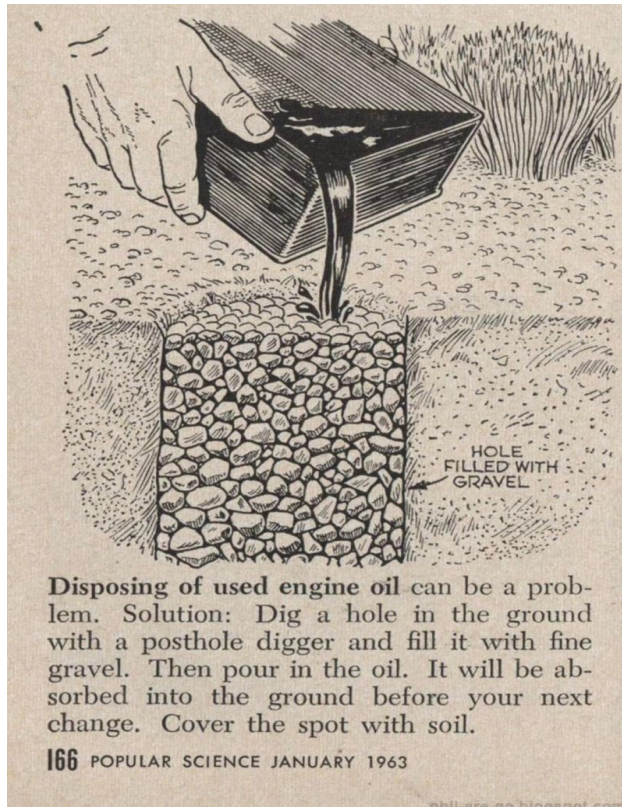
## Paleontology

- [Written in bones: palaeoclimate histotaphonomic history inferred from a complete Megatherium skeleton preserved in the Atacama Desert](#).
- Video: [When Dinosaurs Conquered the Arctic](#).
- [Enigmacursor mollyborthwickae, a neornithischian dinosaur from the Upper Jurassic Morrison Formation of the western USA](#); Phys.org summary [here](#).
- [The most complete Early Jurassic ichthyosaur from North America](#); Press release from the Canadian Museum of Nature [here](#).
- [Speed from fossil trackways: calculations not validated by extant birds on compliant substrates](#); Companion article from the Indiana Geological and Water Survey [here](#).
- [Dinosaur track assemblages from mid-Cretaceous of Fujian Province, southeastern China: ichnotaxonomic review and faunal comparison](#).
- [Phylogenomics and comparative genomic perspective on the avian radiation](#).

## Mining and Energy

- [Column: Congo's cobalt dilemma unresolved by extended export ban](#).
- ["China in Total Shock": US Unveils Nuclear Reactor Capable of Powering 400,000 Homes and Producing Green Hydrogen](#).
- [Electricity demand in the Eastern United States surged from heat wave](#).
- Petroleum geology: [3D structural modeling of lower cretaceous Alam El Bueib reservoir in Menes field, Shushan Basin, north Western Desert, Egypt](#).
- [Uranium enrichment: A chemist explains how the surprisingly common element is processed to power reactors and weapons](#).
- Ore deposit geology: [Perkins Discontinuities: structurally controlled grade patterns diagnostic of epigenetic gold mineralisation at the deposit-scale](#).
- Video: [Can Copenhagen Atomics Make Thorium Reactors Work? An Exclusive Tour to Find Out](#).
- [Western Canada holds potential to become a 'critical minerals processing behemoth,' expert says](#).

- [One Of Wyoming's Largest Oil Producers Drilling Its First 3-Mile Well](#); 3 mile = 4,828 metres, horizontally, away from the initial spud.
- [LNG Canada produces first liquefied natural gas for export.](#)
- [Receiver planning sale of Yukon gold mine involved in contaminant release disaster.](#)



## Environmental Geology and Hydrogeology

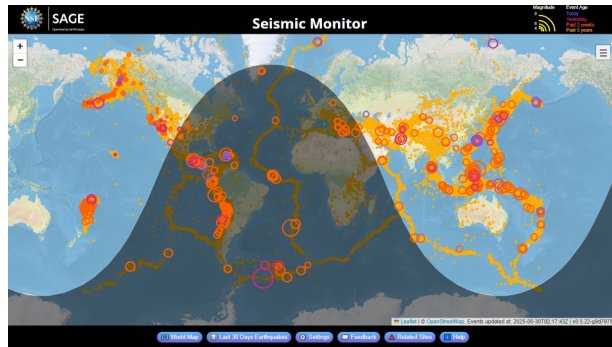
- 06/25 Desalination: [Researchers discover game-changing method to unlock clean water for billions of people: 'Can also be used to distill groundwater'](#).
- 06/24 [NIH to study the effect of chemical release from 2023 train derailment in East Palestine.](#)
- 06/15 [Isotopic Insights into Redox Processes Driving Uranium Distribution in Eastern Karnataka Groundwater](#); behind a paywall, Phys.org summary [here](#).

From Popular Science, January 1963  
 Credit: [Carl Natter](#)

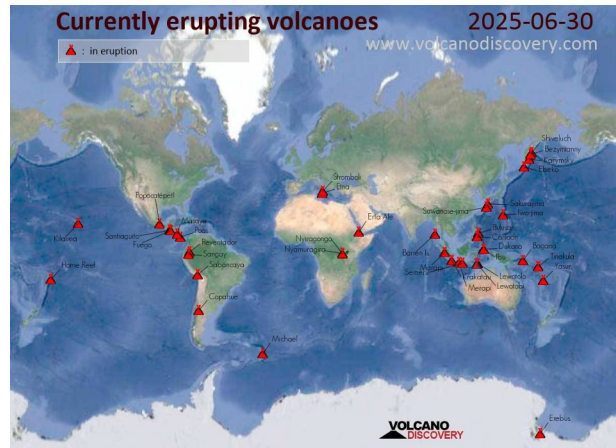
## Glaciers and Climate Change

- [1900 Scientists Say 'Climate Change Not Caused By CO<sub>2</sub>' – The Real Environment Movement Was Hijacked](#); or, as Albert Einstein said when 100 scientists publicly opposed his Theory of Relativity: [If I were wrong, one would have been enough.](#)
- [Past intrusion of Circumpolar Deep Water in the Ross Sea: Impacts on the ancient Ross Ice Shelf.](#)
- [Glaciers in Western Canada-Conterminous US and Switzerland Experience Unprecedented Mass Loss Over the Last Four Years \(2021–2024\)](#); CBC News summary [here](#).
- Late Paleozoic Ice Age: [Repeated occurrences of marine anoxia under high atmospheric O<sub>2</sub> and icehouse conditions.](#)

## Volcanoes, Earthquakes and Geohazards



[Seismic Monitor](#)



[Active Volcano Map](#)

### Volcanoes

- [Smithsonian / USGS Weekly Volcanic Activity Report.](#)
- United States Geological Survey (USGS) Volcano Observatories:
  - [Cascades Volcano Observatory Weekly Update.](#)
  - Volcano Watch – [Where does Kilauea tephra go? The answer is blowin' in the wind;](#) also [Kilauea episodic eruption in Halema'uma'u – growth of the tephra cone through 26 episodes.](#)
  - [Remembering the Gros Ventre Slide of 1925.](#)
- [Trigger mechanism and propagation dynamics of pyroclastic density currents at basaltic volcanoes.](#)
- [Close Calls at Lava Flows-How Safe is Visiting an Active Volcano?](#)

### Earthquakes

- [Euro-Mediterranean Seismological Centre \(EMSC\).](#)
- [Earthquakes Monitoring Live Worldwide.](#)
- [Scientists capture slow-motion earthquake in action;](#) article summarizes two papers [here](#) and [here](#).
- [M 5.9 – 90 km SE of Nemuro, Japan](#)

### Wildfires and Other Geohazards

- [Effect of Recent Prescribed Burning and Land Management on Wildfire Burn Severity and Smoke Emissions in the Western United States.](#)

## Free Geology Books and Other Stuff

Free geology books can be downloaded from these sites:

- [OreZone Readers and Experts Telegram Channel](#); the Ore Zone channel also shows employment opportunities for geologists.
- [The Groundwater Project](#) has many groundwater geology books for free download; also they now have a [Free Online Learning Module: Pumping Test Analysis](#).
- Free Groundwater Modeling Course – [HydroGeoCenter](#).
- From Western Australia: [Carbonatite, lamprophyre and host rocks in the northern Aileron Province](#).
- Two volumes of Geology of Indonesia now can be accessed for [FREE/GRATIS](#). The books can be accessed from: vol 1 <https://lnkd.in/eH6Gcka4>; vol 2 <https://lnkd.in/egTYmpjk>.
- Brett Davis' book on veins in a deforming rock mass: "[The Veining Bible](#)"; also at [this site](#).

## Upcoming Events

- Calgary, AB: [2025 Bootleggin' Breakfast – July 8<sup>th</sup> & 10<sup>th</sup>](#); during the Calgary Stampede.
- [August 3 – 7, Golden, Colorado, 18th Biennial meeting of the Society of Geology Applied to Mineral Deposits](#).
- [Society for Sedimentary Geology conference, Mountjoy IV – August 10-13, 2025, in Montreal, Canada](#).
- [Copper to the World Conference, Tuesday 26 – Wednesday 27 August 2025, in Adelaide, Australia; report on 2024 conference \[here\]\(#\)](#).
- [The 52nd Congress of the International Association of Hydrogeologists, 15-19 September 2025, Melbourne Australia](#).
- [GeoManitoba 2025 78th Annual Canadian Geotechnical Society Conference & 9th Canadian Permafrost Conference, RBC Convention Centre, Winnipeg, Manitoba, September 21 – 24, 2025](#).
- [29 September – 1 October 2025, Stuttgart, Germany, Nature Conference on Advancing Perovskite-Based Photovoltaics](#).
- [November 3 – 4, 2025 Central Canada Mineral Exploration Convention 2025 Victoria Inn Hotel & Convention Centre, 1808 Wellington Avenue, Winnipeg, Manitoba R3H 0G3, Canada](#).
- [5th International Professional Geology Conference \(IPGC\), November 5 to 7, 2025, Zaragoza, Spain](#).
- 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](#).

- The Geological Society: [Events & Courses](#).
- [“Geology Hour” Online](#), evenings on the 3rd Monday of the Month from the Geological Society of the Oregon Country.

## **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.