

July 7, 2025

News and notes



Rocky Mountains at Field B.C. and CPR Train

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.

Geopolitics

- [Russia says low global oil stockpiles prompted OPEC+ to hike output.](#)
- [Ethiopia declares completion of disputed mega-dam](#); this could cause a war.
- [Canada races to build icebreakers amid melting ice and geopolitical tensions.](#)
- How did that happen? [Mystery Surrounds Death of Russian Energy Executive Andrei Badalov.](#)
- [Russia's Discounted Oil No Longer a Bargain for India.](#)

- [Professor Warns UK Government Is Preparing For Civil War, Using Russian Invasion Threat As Cover.](#)
- [China's Expanding Strategic Footprint in Libya: Energy, Infrastructure, and a New Gateway to Europe.](#)
- [Oil tanker explodes off Libyan coast after calling at Russian ports – Bloomberg.](#)
- [Breaking News: U.S. Navy to Receive 19 New Warships in 2026 Budget Amid China and Middle East Tensions.](#)
- [The Israeli-American-Iranian War: A 4GW Perspective.](#)

Research and News

- [Eoarchean–Paleoproterozoic Tectonothermal History of the Acasta Gneiss Complex Constrained by Titanite and Apatite Petrochronology.](#)
- [Sediment distribution and facies of modern tropical reefs and carbonate platforms revisited: A global perspective.](#)
- [Cliff-Front Dune Development During the Late Pleistocene at Sa Fortalesa \(Mallorca, Western Mediterranean\).](#)
- [The impact of burial diagenesis on soil-formed minerals in paleosols using stable isotopes of phyllosilicates and carbonate clumped isotopes.](#)
- [Temperature dependence of uranium and thorium partitioning in igneous zircons.](#)
- Mineralogy: [Fe²⁺/Fe³⁺ Intervalence Charge Transfer and Enhanced d-d Absorption in Mixed Valence Iron Minerals at Elevated Temperatures.](#)
- From out of this world: [The first meteoritic ammonium mineral: discovery of boussingaultite in the Orgueil CI1 carbonaceous chondrite.](#)
- [Sedimentological and biofabric patterns for hybrid coquina deposits: Insights from wave tank experiments.](#)
- [Preservation of biosignatures in opal probed by infrared nanospectroscopy.](#)
- Astrogeology: [Curiosity Blog: Sols 4573-4574: Welcome to the Uyuni Quad.](#)
- [The sediment transport mechanics driving lateral accretion in muddy meanders.](#)
- French National Geological Survey (BRGM) [2024 Activity Report.](#)
- Fluvial geology: [Dip angle controls on plucking susceptibility and knickpoint evolution in bedrock rivers.](#)

- [The interplay of crystal fractionation, magma recharge, assimilation and mixing in Archean volcanic systems revealed in the geochemical diversity of the Deloro assemblage, Abitibi Greenstone Belt.](#)
- [Abrupt changes in continental sedimentation triggered by monsoon-type event during EECO hyperthermals, Minervois Basin, Southern France.](#)
- Open access science: [NIH-funded science must now be free to read instantly: what you should know.](#)
- [Phosphate behavior during submarine hydrothermal alteration of ca. 3.455 Ga basaltic seafloor rocks from Pilbara, Western Australia; Phys.org summary \[here\]\(#\).](#)

Serpentinization

- [In situ evidence for serpentinization within the Mááz formation, Jezero crater, Mars.](#)
- [Extreme maldistribution of high field strength elements along subduction zones revealed by baddeleyite aggregates in serpentinite.](#)
- [Oceanic serpentinisation in the Samail ophiolites: evidence from trace elements and O and B isotopes.](#)
- [Self-induced differential stress and cascading reactions, fracturing, and permeability enhancement triggered by volatile-consuming reactions.](#)

Plate Tectonics

- [An Oceanic Plateau Induced Subduction Zone Jump From Proto- to Paleo-Tethys in East Kunlun, Northern Tibetan Plateau.](#)
- [Kinematics and Age of the Orogen-Perpendicular Shkoder-Peja Normal Fault in North Albania Constrained by Fault-Slip Data, Raman Spectroscopy and K-Ar Fault-Gouge Dating.](#)
- [14 Years of Slip on the Hikurangi Subduction Zone.](#)
- [K-Metasomatic Weakening of Oceanic Crust at Shallow Subduction Depths: Evidence From the Rodeo Cove Thrust Zone, Marin Headlands, California.](#)
- [Late Cretaceous Extensional Collapse Driven by Delamination in Central Tibet Prior to India-Asia Collision.](#)
- [Metasomatism and Melting of Cordilleran Lithosphere Resulting From Sediment Relamination During Shallow Subduction.](#)
- [Effects of incoming polygonal fault systems on subduction zone and slow slip behavior.](#)
- [Depositional Ages, Sequence Stratigraphy and Transition Process of Forearc Setting From Paleogene Restricted Bay/Estuarine to Neogene Open-Marine Deltaic/Slope Systems in the Sanriku-Oki Forearc Basin, Northeast Japan.](#)

- [Provenance and tectonic settings of late Triassic–Jurassic deposits in the Southwestern Yangtze block: evidence from the geochemistry, SW China.](#)

Paleontology

- [Was Hupehsuchus a baleen whale-style filter feeder in the Early Triassic? A re-examination of the evidence.](#)
- [Redescription of a Middle Devonian placoderm from Manitoba and comments on the polyphyly of *Eastmanosteus* \(Arthrodira: Eubrachythoraci\); sorry, behind a paywall.](#)
- [Criteria for inferring seafloor arrival position in teleosauroid carcasses \(Crocodylomorpha: Thalattosuchia\) and comparison with other marine vertebrates.](#)
- [The modular organization of the trilobite head in *Ceraurus pleurexanthemus*.](#)
- [Middle Pleistocene revelations: unravelling taphonomic processes in mammals including *Mesotherium cristatum* \(Mesotheriidae, Notoungulata\), Corralito Site, Córdoba Province, Argentina.](#)
- [Mass extinction: An exceptional window into the Triassic-Jurassic boundary on the margins of the Ardenno-Rhenish Massif: stratigraphy and palaeontology of the Irrel section \(Rhineland-Palatinate, Germany\).](#)
- [Otoliths in situ in *Pinichthys shirvanensis* Bannikov, 2021 \(Stromateidae\) from the Tarkhanian \(Langhian, Middle Miocene\) of the northern Caucasus \(Russia\).](#)

Ore and Petroleum Geology

- [FMI and 2D seismic integration for fractured basement reservoir assessment, Geisum area, Gulf of Suez.](#)
- [Impact of iron biogeochemical cycling in deep-sea environments on rare earth element enrichment.](#)
- [Carbonate Seismic Facies Analysis in Reservoir Characterization: A Machine Learning Approach with Integration of Reservoir Mineralogy and Porosity.](#)
- [Investigating the formation and enrichment processes of super-large North Sanshandao gold deposit \(Jiaodong Peninsula, Eastern China\): an in-depth mineralogical perspective.](#)
- [Oxidized sediment recycling as a driver for postsubduction porphyry copper formation; Phys.org summary \[here\]\(#\).](#)
- [Microbial indicators and detection of Cu-sulfide ore mineralization.](#)

Mining and Energy

- [Column: Metals smelting is the West's next critical minerals crisis.](#)
- [Japan to test mine seabed mud for rare earths.](#)

- [How has U.S. energy use changed since 1776?](#)
- [B2Gold pours first gold at Nunavut's Goose mine.](#)

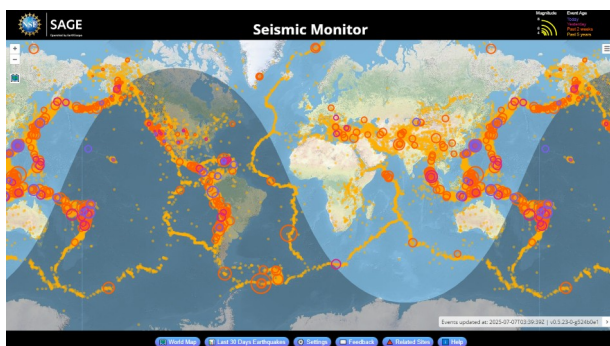
Environmental Geology and Hydrogeology

- [The Systematics of Stable Hydrogen \(\$\delta^2\text{H}\$ \) and Oxygen \(\$\delta^{18}\text{O}\$ \) Isotopes and Tritium \(\$^3\text{H}\$ \) in the Hydrothermal System of the Yellowstone Plateau Volcanic Field, USA.](#)
- [Mercury Deposition in South China Across the Ordovician-Silurian Transition: Implications for Climate Change.](#)
- [NGWA Adopts Revised Groundwater Protection Position.](#)
- [Geogenic enrichment of dissolved phosphorus in a calcareous aquifer: Surface adsorption versus organic-matter mineralization.](#)
- [Baltic Sea's WW2 chemical legacy demands Russia-NATO cooperation – expert](#)

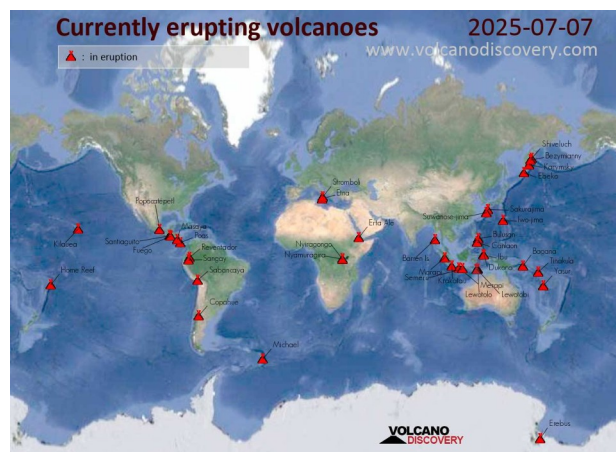
Glaciers and Climate Change

- [Seasonal sea ice characterized the glacial Arctic-Atlantic gateway over the past 750,000 years: Phys.org summary \[here\]\(#\).](#)
- [Scenario Simulation of Glacier Collapse in the Amnye Machen Mountains, Qinghai–Tibetan Plateau.](#)
- [Seawater temperature recorded in the last phase of Late Cretaceous in the Yarkand Basin.](#)
- [Early Triassic super-greenhouse climate driven by vegetation collapse; CNN summary \[here\]\(#\).](#)
- [Enhanced marine biological pump as a trigger for the onset of the late Paleozoic ice age.](#)
- [Large-scale ice-shelf calving events follow prolonged amplifications in flexure.](#)

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 – [So what on Earth \(or at least on Kīlauea\) is a “gas piston”?](#)
 - [In Yellowstone, even animals sometimes make mistakes](#).

Earthquakes

- [Euro-Mediterranean Seismological Centre \(EMSC\)](#).
- [Earthquakes Monitoring Live Worldwide](#).
- [Over 1,000 earthquakes and a viral prophecy: What’s really happening in Japan?](#)
- [Magnitude 5.5 Earthquake, Nicobar Islands, India](#).
- [Interseismic Megathrust Coupling at the Osa Peninsula, Costa Rica](#).
- [Earthquake swarm rattles the Japanese Ryukyu islands](#); earthquakes continuing [here](#), [here](#), and [here](#).
- [Examples of Rupture Patterns of the 2023, Mw 7.8 Kahramanmaraş Surface-Faulting Earthquake, Türkiye](#).
- [Challenges and Opportunities of Machine Learning Earthquake Detection for Regional Monitoring](#).

Wildfires, Floods and Other Geohazards

- [At least 82 dead in catastrophic Texas floods as governor warns of more rain to come](#).
- [Wildfires Cripple Alberta’s Oil Production](#).

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 8th & 10th](#); 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.