

October 28, 2024

## News and notes



**Geese on Crescent Lake, Portage la Prairie, October 27, 2024**

I am busy with a bunch of things in the next few weeks. So I will only be posting some news items that I thought were interesting.

## Free Geology Books

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](#).

I'll add more sites when I find them.

## Geopolitics

- [Oil Prices on Course for a Weekly Rise as Traders Refocus on Geopolitical Risk](#).
- [Informal gold miners block Colombian highways in three provinces](#).
- The Times of London: [Will the Russia-Ukraine war escalate into a global conflict?](#)
- [Israel's attack in Iran means full-scale war is closer than ever. Here's what Iran is thinking now](#).
- [Mali accuses Barrick Gold of breaching agreement, miner denies claims](#).
- [BRICS summit: Marching towards a new world order](#); related: [BRICS is a big deal, people, even if the west doesn't like their invite list](#).
- [Nigeria blocks Shell's asset sale in the Niger Delta](#).
- [US, Canadian navies sail through Taiwan Strait week after war games](#).
- Ukraine War: [Nearly 11,000 North Korean Troops In Russia Preparing To Enter The Fight Says Ukraine's Spy Boss](#).

## Bad Science

- [Journals with high rates of suspicious papers flagged by science-integrity start-up.](#)
- [Paper mills: the 'cartel-like' companies behind fraudulent scientific journals.](#)

## Research and News

- [Formation and Tectonic Evolution of Ophiolites in the Sabah Area \(Borneo, SE Asia\).](#)
- [Fluid inclusions in magmatic ilmenite record degassing in basic magmas.](#)
- Geochronology: [U and Th zonation in apatite observed by synchrotron X-ray fluorescence tomography and implications for the \(U–Th\)/He system.](#)
- [Geology and  \$^{40}\text{Ar}/^{39}\text{Ar}\$  age of the Khopoli olivine gabbro intrusion, Konkan Plain, western Deccan Traps.](#)
- [Detection of interstellar 1-cyanopyrene: A four-ring polycyclic aromatic hydrocarbon;](#) Science Alert summary [here](#).
- Coastal geology: [Marsh restoration in front of seawalls is an economically justified nature-based solution for coastal protection;](#) Phys.org summary [here](#).
- More about marshes: [Marsh topography reveals the signature of storm-surge-driven sedimentation.](#)
- Fluvial geology: [Architecture and geomorphology of fluvial channel systems in the Arabian Basin.](#)
- [Effect of a giant meteorite impact on Paleoproterozoic surface environments and life.](#)
- [Petrology, geochemistry, and geochronology of the leucogranites in southernmost Finland.](#)
- Petrology: [Temporal covariation of island arc Sr isotopes and seawater chemistry over the past 2 billion years;](#) Phys.org summary [here](#).
- [Crystallographic Preferred Orientation of Phase D at High Pressure and Temperature: Implications for Seismic Anisotropy in the Mid-Mantle;](#) Phys.org summary [here](#).

## Sedimentology

- [Sedimentary  \$^{17}\text{O}\$ -Nitrate Evidence for Phanerozoic Aridity and Humidity Oscillations in South China.](#)
- Silting up of a harbour: [Palaeoenvironmental evolution and decline of the harbours of the Roman and Early Byzantine city of Elaiussa Sebaste \(southeastern Turkey\): natural and anthropic causes.](#)
- [Mineralogical and Maturation Considerations of the Coqueiros Formation \(Campos Basin, Brazil\): Insights from Multi-Technique Analyses of Source Rocks.](#)

- Toarcian Oceanic Anoxic Event: [A global reference for black shale geochemistry and the T-OAE revisited: upper Pliensbachian – middle Toarcian \(Lower Jurassic\) chemostratigraphy in the Cleveland Basin, England.](#)
- [Dancing Towards the End—Ecological Oscillations in Mediterranean Coral Reefs Prior to the Messinian Salinity Crisis \(Calcare di Rosignano Formation, Acquabona, Tuscany, Italy\); more on the Messinian Salinity Crisis: The role of the Messinian evaporites in the identification of potential gas storage sites: A review of the Adriatic foreland basin system \(Italy\).](#)
- [First dating of an early Chibanian \(Middle Pleistocene\) glacial overdeepening in the Alpine Foreland using the 4He/U-Th method.](#)
- [Seafloor sediment characterization improves estimates of organic carbon standing stocks: an example from the Eastern Shore Islands, Nova Scotia, Canada.](#)
- [Geochemical characteristic of the Lutetian black shale \(Bayburt, NE-Turkey\): amount, nature, origin of organic matter and palaeo-environment conditions.](#)
- [Juvenile source nature of the North Tianshan turbidites and its tectonic implication.](#)
- More on turbidites: [New insights on gravity flow dynamics during submarine canyon flushing events.](#)

## Pretty, Shiny Rocks

- [What Is The Rarest Gemstone?](#)
- [Mineralogical Characteristics and Their Usability as Gemstones of Jaspers in Altered Metavolcanics Belonging to the Topçam Formation, Tokat, Turkiye.](#)
- [Diamonds May Be Hard, But Jade Is The World's Toughest Natural Mineral.](#)
- [Which are rarer: diamonds or emeralds?](#)

## Paleontology

- [Evaluation of the Preservation of Chitinozoans in a Case Study of the Katian?—Hirnantian Succession, Eastern Precordillera of Argentina.](#)
- [How a \*Lambeosaurus\* fossil shook North Dakota, global paleontology.](#)
- [Enhanced flight performance and adaptive evolution of Mesozoic giant cicadas; Live Science summary \[here\]\(#\).](#)
- [Researchers piece together 66-million-year-old dinosaur fossils found in South Dakota.](#)
- [We discovered a new fossil species of prehistoric fish.](#)
- [Climatic and environmental changes of ~100 thousand years: The mammals from the early Middle Pleistocene sequence of Notarchirico \(southern Italy\); Phys.org summary \[here\]\(#\).](#)

- [A new Late Cretaceous metatherian from the Williams Fork Formation, Colorado](#); Phys.org summary [here](#).
- [Hong Kong discovers dinosaur fossils for the first time](#).
- [The many ways toward punctuated evolution](#).
- [Microvertebrates from the Rhaetian bone beds at Blue Anchor Bay, Somerset](#).
- [Theropod trackways as indirect evidence of pre-avian aerial behavior](#).
- [The smallest known complete dinosaur fossil eggs from the Upper Cretaceous of South China](#).

## Mining and Energy

- [US Shale Gas Production Declines for the First Time Since 2000](#); related: [Oilfield Services Firms Sound the Alarm: Shale Spending Slows](#).
- Ore deposit geology: [U–Pb geochronology of carbonate-hosted Pb–Zn ores reveals plate-tectonic evolution of eastern Asia during the early Paleozoic](#).
- [U.S. Allies Unite for Critical Minerals Marketplace](#).
- REE: [Serra Verde makes global list of critical projects](#).
- Improved hydrogen production: [Out-of-plane coordination of iridium single atoms with organic molecules and cobalt–iron hydroxides to boost oxygen evolution reaction](#); Phys.org summary [here](#).
- [China ‘makes progress’ in mineral resources, discovers 124 new deposits in a year](#).
- [Graphene/chitosan nanoreactors for ultrafast and precise recovery and catalytic conversion of gold from electronic waste](#); Phys.org summary [here](#).
- AI and mineral resource assessment: [Evaluation of the lithium resource in the Smackover Formation brines of southern Arkansas using machine learning](#); KARK News report [here](#).

## Environmental Geology and Hydrogeology

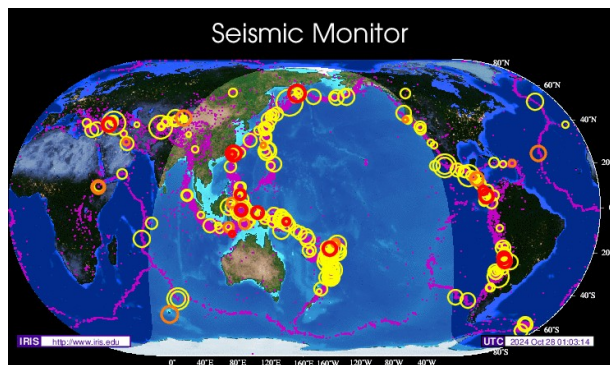
- Remediation: [Iowa reclaims abandoned coal mines that created ‘ecological disaster’](#).
- [Predictions of groundwater PFAS occurrence at drinking water supply depths in the United States](#); Phys.org summary [here](#).
- [Helicopters to fly low in northeast Missouri counties for aquifer study](#).
- Whiskey’s for drinking, water’s for fighting, Australia: [Adani launches attack on scientists who revealed new evidence of mining risks to the protected Doongmabulla Springs](#); the paper in dispute: [Multiple isotope tracers reveal the sources of water sustaining ecologically and culturally significant springs, and their vulnerability to mining development](#).

- [Combined toxicity of perfluoroalkyl substances and microplastics on the sentinel species \*Daphnia magna\*: Implications for freshwater ecosystems](#); Phys.org summary [here](#).
- [Characterizing the Areal Extent of PFAS Contamination in Fish Species Downgradient of AFFF Source Zones](#); Phys.org summary [here](#).

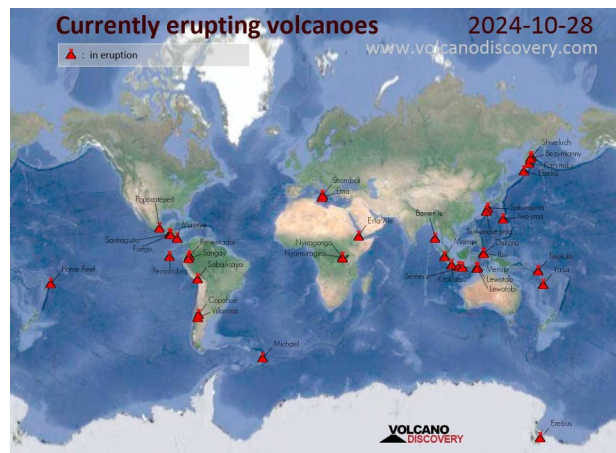
## Atmospheric Science and Climate Change

- [Persistently active El Niño–Southern Oscillation since the Mesozoic](#); SciTechDaily summary [here](#).
- Atmospheric science: [Rapid shift in methane carbon isotopes suggests microbial emissions drove record high atmospheric methane growth in 2020–2022](#); Phys.org summary [here](#).

## Volcanoes, Earthquakes and Geohazards



[Seismic Monitor](#)



[Active Volcano Map](#)

## Volcanoes

- United States Geological Survey (USGS) Volcano Watch: [The East Rift Zone of Kilauea was a busy place in the 1960s](#).
- USGS Yellowstone Volcano Observatory: [The receding waters of Nuphar Lake, near Norris Geyser Basin](#).
- [Smithsonian / USGS Weekly Volcanic Activity Report](#).
- Iceland
  - Dangers of geotourism: [‘No one will save you’: tourists warned as volcanic site reopens in Iceland after six eruptions in a year](#);
  - [Unusually High Geothermal Activity at Geysir Area](#); scientists reported puzzled, it’s the [Huldufólk](#) I tell you;

- What could go wrong? [Scientists To Drill Volcano In Search Of Unlimited Super-Hot Energy.](#)
- Volcano research: [X-Raying Neutral Density Disturbances in the Mesosphere and Lower Thermosphere Induced by the 2022 Hunga-Tonga Volcano Eruption-Explosion.](#)
- Historical volcanoes: [Geology, Archaeology, and Historical Studies of the Late 16th Century Plinian Eruption of Raung Volcano: A Potential Case for Disaster Geotourism in Ijen UNESCO Global Geopark, East Java, Indonesia.](#)
- Mt. Spurr: [One of Alaska's Most Famous Volcanoes May Be Waking Up.](#)
- Volcano Research: [A shake and a surge: Assessing the possibility of an earthquake-triggered eruption at Steamboat Geyser; NPR summary \[here\]\(#\)](#)

### *Earthquakes*

- [Euro-Mediterranean Seismological Centre \(EMSC\).](#)
- [Earthquakes Monitoring Live Worldwide.](#)
- [Mw4.7 earthquake strikes within Death Valley.](#)
- [M=4.5 – 39 km S of Grande Prairie, AB.](#)
- [Mw5.8 earthquake strikes eastern Indonesia; USGS summary \[here\]\(#\).](#)
- [Drilling into an earthquake zone: ANZIC experts on Expedition 405; Phys.org summary \[here\]\(#\).](#)

### *Earthquake and Seismic Research*

- [Active Fault Interaction in the Eastern Betic Cordillera: A Model of Coseismic and Postseismic Stress Transfer Following Historical Earthquakes in SE Spain.](#)
- [What Happens When Two Ruptures Collide?](#)
- [Interseismic Locking of the Xiaojiang Fault May Be Controlled by Pore Fluid Pressure.](#)
- [Estimation of Vs30 and site classification of Bhaktapur district, Nepal using microtremor array measurement.](#)
- [Crustal imaging and characterization of active faults with a large-N nodal deployment – Application to the Chaînons Béarnais region \(western Pyrenees foothills, France\)](#)

### **Upcoming Events**

- [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.