

May 22, 2022

News and notes



Victoria Day Fireworks in Toronto

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This weekend is [Victoria Day](#) weekend in Canada, so I will be lightly blogging today with some some news items I thought are interesting. I'll be spending much of my weekend doing things around the house and enjoying the spring weather. Next week we will continue the geopolitics series with a look at [Argentina](#).

Research

- Petrology: [K-Rich Adakite-Like Rocks in Central Tibet: Fractional Crystallization of a Hydrous, Alkaline Primitive Melt](#).
- [The Weight of New York City: Possible Contributions to Subsidence From Anthropogenic Sources](#); Phys.org summary [here](#).
- [Crustal structure of the Ethiopian Northwestern Plateau and central Afar from receiver function analysis](#).
- [Breaking plates: Creation of the East Anatolian fault, the Anatolian plate, and a tectonic escape system](#).

- From James Cook University: [JCU team finds a piece of Australia under Vanuatu](#); Geology In summary [here](#).
- Glaciomarine sedimentation of Coronation Fjord: [A 600-year marine record associated with the dynamics of the eastern Penny Ice Cap \(Baffin Island, Nunavut, Canada\)](#).

Geophysics

- [Estimation of phase velocity using array observation of microtremors with arbitrary shape](#).
- [Simultaneous inversion for source field and mantle electrical conductivity using the variable projection approach](#).

Paleontology

- [The first documentation of an Ordovician eurypterid \(Chelicerata\) from China](#); Phys.org summary [here](#).
- Evolution: [Shark mandible evolution reveals patterns of trophic and habitat-mediated diversification](#); Phys.org summary [here](#).
- Australian marsupials: [Paleobiological implications of the bone histology of the extinct Australian marsupial *Nimbadon lavarackorum*](#); Phys.org summary [here](#).
- Opinion, mass extinctions: [Continental flood basalts do not drive later Phanerozoic extinctions and \[reply\]\(#\)](#).
- [A new spinosaurid dinosaur species from the Early Cretaceous of Cincorres \(Spain\)](#); Eureka Alert summary [here](#).
- [Stelladens mysteriosus: A Strange New Mosasaurid \(Squamata\) from the Maastrichtian \(Late Cretaceous\) of Morocco](#); Eureka Alert summary [here](#).
- Fossil plants: [Early Jurassic silicified woods from Carapace Nunatak, South Victoria Land, Antarctica](#).
- [Ancient gene linkages support ctenophores as sister to other animals](#); Science Alert summary [here](#).

Glaciers and Climate Change

- [Astronomical forcing shaped the timing of early Pleistocene glacial cycles](#); summary from the Center for Computational Astrophysics [here](#).
- Ancient glaciations: [A Great late Ediacaran ice age](#).
- Continental glaciation: [Marine-Calibrated Chronology of Southern Laurentide Ice Sheet Advance and Retreat: ~2,000-Year Cycles Paced by Meltwater–Climate Feedback](#).
- [Snow and meteorological conditions at Villum Research Station, Northeast Greenland: on the adequacy of using atmospheric reanalysis for detailed snow simulations](#).

- [Did you know about Antarctic snow megadunes?](#)
- Drought modelling: [High Resolution Forecasting of Summer Drought in the Western United States](#); Phys.org summary [here](#).
- Pleistocene hydrological change: [Paleolakes and socioecological implications of last glacial “greening” of the South African interior](#).

Environmental Geology and Hydrogeology

- [First insight into microplastic groundwater pollution in Latin America: the case of a coastal aquifer in Northwest Mexico](#).
- [Two years of volatile organic compound online in situ measurements at the Site Instrumental de Recherche par Télédétection Atmosphérique \(Paris region, France\) using proton-transfer-reaction mass spectrometry](#).
- [Teck Coal named in US legal action over selenium contamination from BC mines](#).

Energy and Mining

- [US drillers cut most oil rigs in a week since Sept. 2021, Baker Hughes says](#).
- [Global Oil Demand Hit A Record High In March](#).
- [Oil Rebounds on Fading Risk of U.S. Debt Default](#).
- [Canada's Gasoline Prices Set To Rise As Driving Season Starts](#).
- Permian Basin: [Texas and New Mexico led U.S. crude oil production in 2022](#); from the United States Energy Information Administration ([USEIA](#)).
- [Algeria's LNG Exports Rise As Europe Races To Replace Russian Gas](#); I discussed the geopolitics of Algeria in a [previous post](#).
- From the United States Geological Survey: [USGS Invests Millions in Critical-Mineral Mapping in Alaska](#).
- [How solar farms took over the California desert: ‘An oasis has become a dead sea’](#).
- [Geothermal Included in Historic \\$11 Billion Investment to Advance Clean Energy Across Rural America](#).
- Critical mineral geology, sorry, the main article is behind a paywall: [Niobium, Critical Metal, and Progeny of the Mantle](#).
- Exploration techniques: [Predicting new mineral occurrences and planetary analog environments via mineral association analysis](#); Phys.org summary [here](#). Note: I've discussed this issue in a [previous post](#).
- [Nickel prices seen falling as global surplus looms](#).

- Demand exceeding supply: [Copper concentrate market to face steep deficit from 2025.](#)
- Dimension stone: [Why Indiana Limestone Is One of America's Most Prized Building Materials.](#)
- [Crooked dealings: Trafigura says accused fraudster's wife not a bystander.](#)

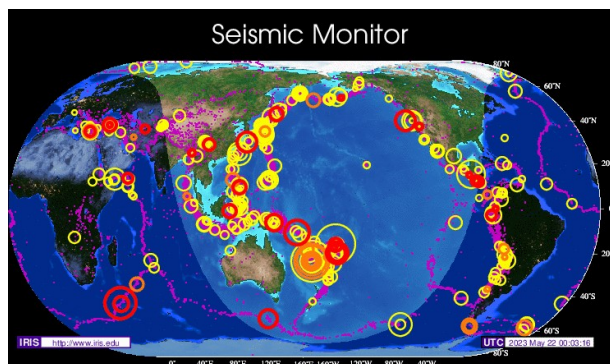
Pretty Shiny Things

- [Ultra-rare Bulgari Laguna Blu diamond sells for \\$25 million.](#)
- [G-7 to chase Russia's diamonds while stopping short of total ban.](#)
- [Christie's Selling 127 Ct. D Flawless "Light of Peace".](#)

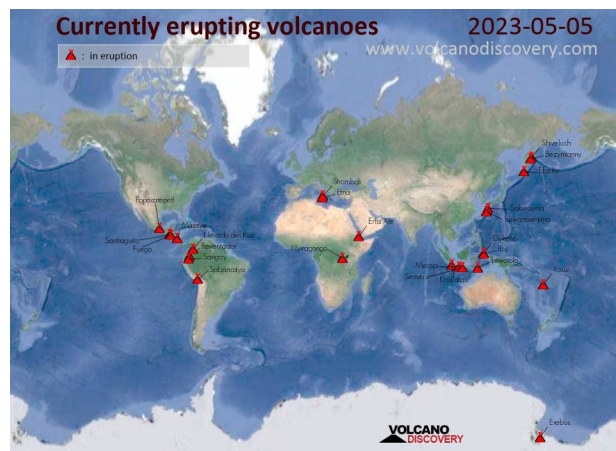
From Out of this World

- [Earth is probably safe from a killer asteroid for 1,000 years;](#) this site limits free access.
- [Evidence for marine sedimentary rocks in Utopia Planitia: zhurong rover observations.](#)

Volcanoes, Earthquakes and Geohazards



[Seismic Monitor](#)



[Active Volcano Map](#)

- [Mount Etna eruption forces grounding of flights at Sicily's Catania airport.](#)
- Magma reservoir research: [Tracking Crystal-Melt Segregation and Accumulation in the Intermediate Magma Reservoir.](#)
- Volcanoes and earthquakes: [Development of a high-performance seismic phase picker using deep learning in the Hakone volcanic area.](#)
- Mineralogy, plate tectonics and earthquakes: [Carbonates and intermediate-depth seismicity: Stable and unstable shear in altered subducting plates and overlying mantle.](#)
- [Magnitude 5.5 earthquake strikes offshore northern California region.](#)
- [M6.4 subduction earthquake below Guatemala is among deepest ever recorded there.](#)

- [M7.7 quake at the New Hebrides subduction zone highlights seismic activity in the outer rise.](#)
- Earthquake research: [Using Local Infrasond to Estimate Seismic Velocity and Earthquake Magnitudes](#); behind a paywall, Phys.org summary [here](#).
- More earthquake research: [Integrating kelp genomic analyses and geological data to reveal ancient earthquake impacts](#); Phys.org summary [here](#).
- [Quantitative strong motion simulations at three locations in downtown Mashiki during the 2016 Kumamoto Earthquake \(Mw 7.0\) based on the nonlinear ground response analyses with soil liquefaction.](#)
- [Aliens, it's aliens I tell you: Denmark's mystery tremors caused by acoustic waves from unknown source, officials say.](#)
- Volcanic mudflows: [Infrasond detection of approaching lahars](#); Phys.org summary [here](#).
- Landslides: [Climate-controlled submarine landslides on the Antarctic continental margin](#); Phys.org summary [here](#).