

March 23, 2026

News and notes

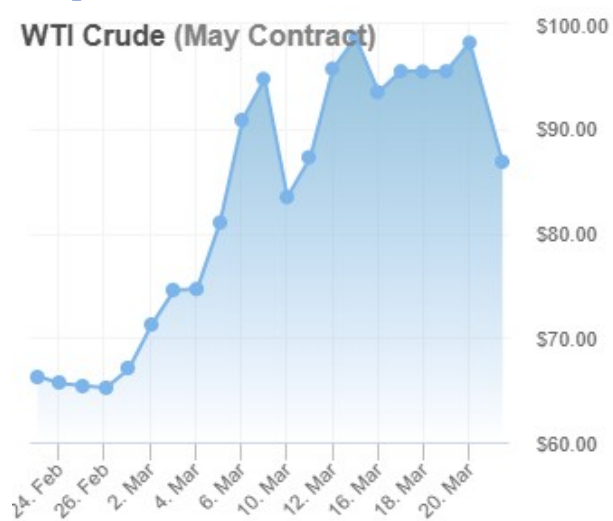
This week, before going on to discuss the geology and mineral resources of North Macedonia, we will first look at some news items I thought were interesting.

If you enjoy my blogs, bookmark the site and check on Mondays rather than relying on social media postings which can get lost in the shuffle. For my news items, I try to stick to open access papers.

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, Wars, and Resource Politics



Oil prices up to March 23, 2026
Credit: [Oilprice.com](https://oilprice.com)

Iran War

There are many news stories on the Iran War, here are only a few:

- [Regular updates on the Iran war from the BBC.](#)
- [Iran warns of 'irreversible damage' to regional infrastructure if power plants attacked, post on X.](#)
- [Canada, allies ready to help unblock Strait of Hormuz as oil prices spike.](#)
- [Saudi Aramco-Exxon refinery SAMREF in Saudi Arabia's Yanbu targeted, source says.](#)
- [Iran attacks cut 17% of Qatar's LNG capacity for up to 5 years: QatarEnergy](#)
- From Ray Dalio: [It All Comes Down to Who Controls the Strait of Hormuz: The "Final Battle".](#)

Other Geopolitical News

- [China spent \\$120B to lock down critical minerals overseas: report.](#)

- [Seabed mining talks show key issues remain unresolved.](#)
- Preparation for war? [China's robust iron ore imports are going into storage, not steel.](#)
- Pipeline politics in Canada: [The GDP Payoff of Additional Pipeline Capacity](#); Global News summary [here](#).
- Politics of lithium: [China responds to Zimbabwe lithium ban, What the Response Means?](#)
- Critical minerals: [US, Japan to focus rare earths cooperation on select group of minerals at first.](#)
- Politics of mining: [Canada, Peru sign MOU on critical minerals, sustainable mining.](#)
- Another war: [Pakistan vs Afghanistan War Live Updates: 'Blatant violation of humanitarian norms,' Mirwais Ashraf on Kabul hospital strike.](#)
- [Philippines rejects Beijing's claim to sovereignty over entire South China Sea](#); there is [probably](#) oil there.

Research and News

- [Post-glacial development of limestone scree in NW England; the example of White Scar, southern English Lake District.](#)
- France: [BRGM Newsletter, March 2026.](#)
- [MISS diversity from saline lakes of Brazilian Pantanal: Origin, potential of preservation and comparison with examples of the Ediacaran-Cambrian shallow depositional settings.](#)
- [High-pressure and \(ultra-\)high temperature granulites associated with the late stages of Rodinia amalgamation: evidence from the Zapotecan Orogeny recorded in the Oaxaquia microcontinent.](#)
- [Quantifying Multi-Source Sediment Supply in a Tropical Foreland Basin \(Oligocene-Miocene Nyalau Formation, Borneo\).](#)
- [San Francisco is sinking at a rapid pace, NASA data shows.](#)
- [Development of Holocene lacustrine microbialites on the Iberian Peninsula: Insights into environmental and depositional controls using X-ray CT and petrography.](#)
- [Characterisation of potential carbonatite occurrences and carbonatite prospectivity in South Australia.](#)
- [New Constraints on Northeast Seattle Basin Structure from Converted Seismic Waves.](#)
- [The ghost of sutures past: A para-autochthonous origin for the Mazatzal crustal province in southwestern Laurentia demonstrated by structural, geochronologic, and isotopic analysis across the Yavapai-Mazatzal province boundary, central Arizona, USA.](#)
- [Electrical conductivity of MgCO₃ under thermodynamic conditions of Earth's interior: a first-principles investigation.](#)

- [Orographic precipitation, fossil leaf wax \$\delta^2\text{H}\$, and the paleotopography of the Eocene Sierra Nevada, California, USA.](#)
- [Transformation of calcite-bearing ijolites to biotite calcite carbonatites – A case study from Dicker Willem, southern Namibia.](#)
- [Exploration of critical elements in the concealed North Estonian basement and its Eastern Fennoscandian context](#); Researchgate link [here](#).
- [Economic potential for iron ores in the Precambrian basement of Latvia.](#)

Planetary Geology

- [Suspected meteorite crashes into Houston woman's home amid citywide reports of 'boom'.](#)
- [Meteorite hunters race to Ohio after space rock crashes down to Earth.](#)
- [Feeling the pulse? Paleogene chronostratigraphy of Northern Ireland and the north of Ireland temporally coupled to the North Atlantic Igneous Province.](#)
- [Ground penetrating radar observations of ancient large-scale deltaic structures in Jezero crater, Mars](#); Science Alert summary [here](#).
- [Organic-Mediated Formation and Spectroscopic Characterization of Fe-Mg Carbonates: Laboratory Insights into Martian Carbonate Mineralogy.](#)
- [A Global Evaluation of Lithology-Dependent Marine Sediment Compaction Parameters and Their Uncertainties.](#)
- [A complete set of canonical nucleobases in the carbonaceous asteroid \(162173\) Ryugu](#); Phys.org summary [here](#).

Plate Tectonics

- [Seismic Constraints on Temperature, Partial Melt, and Lithosphere-Asthenosphere Dynamics in the Southwestern United States.](#)
- [Rapid Slab Rollback Drives Early Cretaceous Back-Arc Extension in NE China: Implication for Crustal Growth and Episodic Porphyry Mineralization.](#)
- [Nature of the Crust in the Superdeep Bengal Basin Using Teleseismic P Waves.](#)
- [Heat Advection During Exhumation Can Explain High Temperatures Along the Subduction Plate Interface.](#)
- [Contribution of the Rheologically Weak Lower Crust to Contemporary Crustal Motions in the Southeastern Tibetan Plateau, China.](#)
- [Comparing Slab Viscous Dissipation Under Slab Distributed Weakening and Slab Segmentation Scenarios.](#)

- [Slab Gap-Related Intraplate Magmatism as a Proxy of Maximum Flat Slab Extent in Patagonia.](#)

Paleontology

- [Carboniferous tetrapod fauna of the fossil lycopsid trees at Joggins and the origin of the hollow tree guild.](#)
- [Palaeoenvironmental implications of the deepwater ostracod \(Crustacea, Ostracoda\) fauna in the Norwegian Basin during the Middle Pleistocene \(MIS 10–15\).](#)
- [The oldest Jurassic anurans from continental Africa \(Tendaguru Hill, Tanzania\).](#)
- [New Miocene mystacinid bat fossils from New Zealand, including a small new species of the endemic genus *Mystacina* \(Chiroptera: Noctilionoidea: Mystacinidae\).](#)
- [A new dinosaur species from Korea and its implications for early-diverging neornithischian diversity; SciNews summary \[here\]\(#\).](#)
- [Cacti may help explain a centuries-old mystery of evolution.](#)
- [Evidence for different shark species feeding on a diminutive right whale and a relative of the beluga in the Early Pliocene of the southern North Sea; Phys.org summary \[here\]\(#\).](#)
- Dinosaur nests: [Heat transfer in a realistic clutch reveals a lower efficiency in incubation of oviraptorid dinosaurs than of modern birds](#); SciTechDaily summary [here](#).
- From Ugo Bardi: [The Library of the Phanerozoic.](#)
- [Late Pleistocene Fauna of Pikimachay Cave, Ayacucho Basin, Perú: New Insights from Fossil Remains.](#)
- [Diagenetic Effect on Planktic Foraminiferal Mg/Ca Records in the Arctic Ocean.](#)
- [The Southernmost *Zalophus* in the Western North Pacific: The First Pinniped \(Carnivora, Pinnipedia\) fossil from Taiwan.](#)

Ore Geology

- [Basement strike-slip fault controls on parallel and evenly-spaced Riedel shears and ore bodies – insights from 3D discrete element modeling.](#)
- [Redox control on Middle Permian Mn mineralization in South China.](#)
- [Gold enrichment mechanisms of the Qijiagou deposit \(Jiaodong Peninsula\): Remobilization by coupled dissolution-precipitation and scavenging by low-melting-point chalcophile element melts.](#)

Mining and Energy

- Candu reactors, Decouple Media podcast: [The Reactor Canada Forgot How to Sell.](#)
- [How fusion power works and the startups pursuing it.](#)

- [China announces a major mineral discovery at the Maoniuping mine in Sichuan.](#)
- [Wind and solar generated a record 17% of U.S. electricity in 2025.](#)
- [CHART: Billions wiped of mining stocks as gold, silver, copper prices plummet.](#)
- [Australian Mining Billionaire Sues Canada for \\$2 Billion.](#)
- Malaysia: [Lynas Rare Earths produces first-samarium.](#)
- [The Three Companies Rebuilding America's Rare-Earth Arsenal.](#)
- [Global copper demand outstrips supply, threatening electrification and industrial growth.](#)
- Utah: [Geothermal startup Fervo catapults itself over the 'valley of death'.](#)
- [Argentine province eyes copper boom with up to \\$20 billion in exports by 2035.](#)
- [The Uranium Setup That Made a Legend: A Market Built for 1,000%+ Moves.](#)
- [Rio Tinto sets end date for Diavik production. The last day of ore production will be March 24.](#)
- [Ghanaian billionaire's firm enters talks to take over Damang gold mine as South African operator exits.](#)
- [Antimony Resources hits all-time high as it prepares for initial resource.](#)
- [This 12-Year-Old Built a Nuclear Fusion Reactor at Home, A World First for His Age.](#)
- [ACG Metals hunts copper deals to build Western supply.](#)
- [Australian gold miner exits one of Africa's largest undeveloped gold projects in \\$372M deal.](#)

Environmental Geology and Hydrogeology

- [Effects of Dissolution Regimes on Flow Channelization and Solute Transport in 3D Fracture Networks: Insights From Graph-Based Reactive Transport Modeling.](#)
- [A water solution for drought-prone South Africa: we designed systems to replenish aquifers simply and cheaply in five towns.](#)
- [Agroseismology and the impact of farming practices on soil hydrodynamics; Phys.org summary \[here\]\(#\).](#)
- Whiskey's for drinking, water's for fighting: [South Africans say criminal gangs are exploiting the water crisis.](#)
- [Of aquifers and agency.](#)
- What could go wrong? [Oil Regulators Found Hundreds of Wells Violating Oklahoma Rules. Then They Ignored Their Findings.](#)

- [Vegetation groundwater use drives streamflow declines in Colorado River headwaters](#); Live Science summary [here](#).

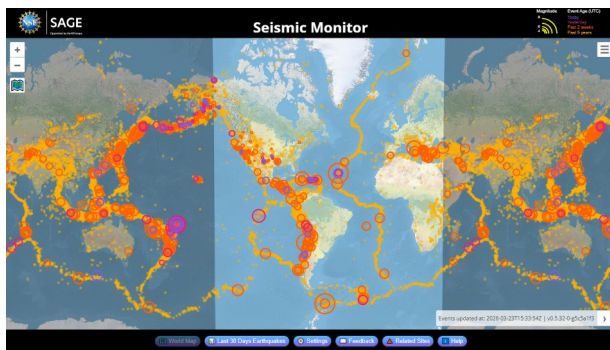
Glaciers and Climate Change

- Lots of recent papers on glaciers in [The Cryosphere](#) from the EGU.
- [Stable isotopes in cave ice reveal Holocene changes in mountain snowpack sublimation](#).
- [The Tooth of Time: Charles Darwin’s Prophecy Regarding Selective Survival on Snowball Earth](#).

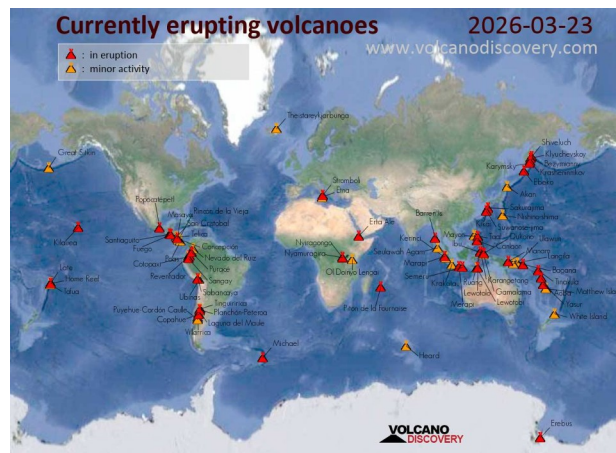
Bad Science

- [Academic integrity alert: LU flags plagiarism in 95% of PhD theses submitted this year](#).
- [Science has an Epstein problem. Women in paleontology say it's a symptom of a deeper misogyny](#).
- [Hallucinated citations produced by generative artificial intelligence may constitute research misconduct when citations function as data in scholarly papers](#).

Volcanoes, Earthquakes and Geohazards



[Seismic Monitor](#)



[Active Volcano Map](#)

Volcanoes

- [Smithsonian / USGS Weekly Volcanic Activity Report](#).
- United States Geological Survey (USGS) Volcano Observatories:
 - [Yellowstone Caldera Chronicles: Mapping snow- and ice-free zones to monitor thermal activity in Yellowstone using high-resolution commercial satellite imagery](#).
 - [Cascades Volcano Observatory Weekly Update](#).
 - [Volcano Watch – Pele, Lono, and Hi‘iaka remind us of Nature's power](#).

- [Large-Scale Submarine Sediment Waves at Macauley Caldera Volcano: In Situ Evidence of High-Flux, Syn-Eruptive Submarine Transport.](#)
- [Dynamic Models of Magma Storage Within a Damaging, Strain-Softening Crust and Their Application to Sierra-Negra's Pre-Eruptive Inflation Pattern.](#)
- [Integrating GNSS and Hydrological Data to Understand Seasonal Microseismicity at La Soufrière de Guadeloupe.](#)
- NASA Image of the Day, March 20: [Restless Kīlauea Launches Lava and Ash.](#)
- [Magma Paths of the Karthala and La Grille Volcanoes \(Grande Comore\) Revisited: New Evidence From Geomorphology and Geochemistry.](#)
- [March 17, 2026 - Axial Seamount seems to be taking a spring break! The rates of uplift & seismicity are low.](#)

Earthquakes

- [Euro-Mediterranean Seismological Centre \(EMSC\).](#)
- [Earthquakes Monitoring Live Worldwide.](#)
- [M 6.6 - northern Mid-Atlantic Ridge.](#)
- [Fault Stability Assessment in Tectonically Active Geothermal Fields Through Integrated Stress Analysis.](#)
- [Fluid migration before and after a large megathrust earthquake.](#)
- [Earthquake Rupture Arrest from Depth-Dependent Frictional Stability on the Pütürge Segment of the East Anatolian Fault Zone, Türkiye \(Turkey\).](#)
- [Dynamic Earthquake Source Inversion With Generative Adversarial Network Priors.](#)
- [Magnitude 5.8 earthquake strikes near Cuba; USGS summary \[here\]\(#\).](#)
- [Opposite Faulting in Global Seismicity](#)
- [A Mysterious Earthquake Sequence Near Buldir Island.](#)

Geohazards

- [Deep critical zone controls on shallow landslides.](#)

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 together with free online courses, listed [here](#).
- Free [Groundwater Modeling Courses](#) from the HydroGeoCenter.
- From Western Australia: [Carbonatite, lamprophyre and host rocks in the northern Aileron Province](#).
- The Geology of Indonesia: [Volume 1](#) and [Volume 2](#).
- Brett Davis' book on veins in a deforming rock mass: "[The Veining Bible](#)"; also at [this site](#).
- From the Mineralogical Society of America: [Handbook of Mineralogy](#).
- [Systematic geochemical classification of felsic igneous rocks of the Yilgarn Craton](#).
- From the Arizona Geological Survey: [Geochemistry Diagram Generator v 1.0](#).

Upcoming Events

- [ISMPP U: Restoring Trust in Science: Storytelling, AI, and Integrity in Scholarly Publishing \(Mar. 26, 2026, 10:00 am ET\)](#).
- March 26, 2026, 7:00 PM End of the Age of Dinosaurs: Field Studies and Interpretations of the Hell Creek Formation (Upper Cretaceous), Montana, [Mining and Mineral Resources Bldg, University of Kentucky Campus, 310 Columbia Ave, Lexington KY](#), Free and open to the public. All are welcome. Link for livestream: <https://youtube.com/live/HYtd5EfbFHg?feature=share>
- [2025-2026 Howard Street Robinson Lecture Tour, last lecture in Saskatoon April 8, 2026](#)
- [14-15 April 2026: 2026 IAH Ireland Conference – Groundwater 2035, Tullamore, Ireland](#)
- [GAC-MAC 2026 St. John's NL, St. John's Convention Center, May 25-28, 2026](#).
- [PEG2026: 11th International Symposium on Granitic Pegmatites; 16th–19th August 2026, in Perth, Western Australia](#).
- [14-18 September 2026 , IAH 2026, 53rd Congress of the International Association of Hydrogeologists; Budapest Congress Center](#).
- [September 30 - October 3, 2026 SEG 2026 Conference Salt Lake City, United States](#).
- [Paleoamerican Odyssey 2026, October 14-17, 2026, Santa Fe Convention Center, Santa Fe, New Mexico](#).
- [Society of Petroleum Engineers Distinguished Lecturer Schedule](#).
- [American Geophysical Union List of Upcoming Meetings](#).
- The Geological Society: [Events & Courses](#).
- [Upcoming Distinguished Geoscience Australia Lectures \(DGALs\)](#).

March 23, 2026

Geology and Mineral Resources – North Macedonia

Introduction



Figure 1 – North Macedonia

Credit: [Mapland](#), [Creative Commons Attribution-Share Alike 3.0 Licence](#)

A successor state of [Yugoslavia](#), the [Republic of North Macedonia](#) is a country of [2,133,410](#) people on the [Balkan Peninsula](#). The country has an area of 25,436 square kilometres and borders on [Greece](#) to the south, [Albania](#) to the west, [Bulgaria](#) to the east, [Kosovo](#) to the northwest and [Serbia](#) to the north. A country with [a troubled history](#), even the name of [Macedonia has been in dispute with Greece](#), hence the current name of North Macedonia.

North Macedonia is a modestly well off country with a per capita [GDP \(PPP\)](#) of \$9,882, the lowest in Europe, and a very high [Human Development Index](#) of 0.815. North Macedonia has a [diversified economy](#) including manufacturing, agriculture, and tourism. Since the dissolution of Yugoslavia, independent North Macedonia has been [evolving away](#) from a predominately command economy to one that is largely free market. In 2024, the [top exports](#) of North Macedonia were reaction and catalytic products, insulated wire, centrifuges, seats, and electrical control boards. The top destinations for exports were Germany, Serbia, Bulgaria, Czechia, and Hungary. In 2024, the [top imports](#) of North Macedonia were platinum (for those catalytic products), refined petroleum, cars, laboratory ceramic ware, and electricity. The top origins for imports were United Kingdom, Germany, China, Greece, and Serbia.

For more details on the country, check out the [Wikipedia](#) and [Grokopedia](#) articles on the country.

Geology

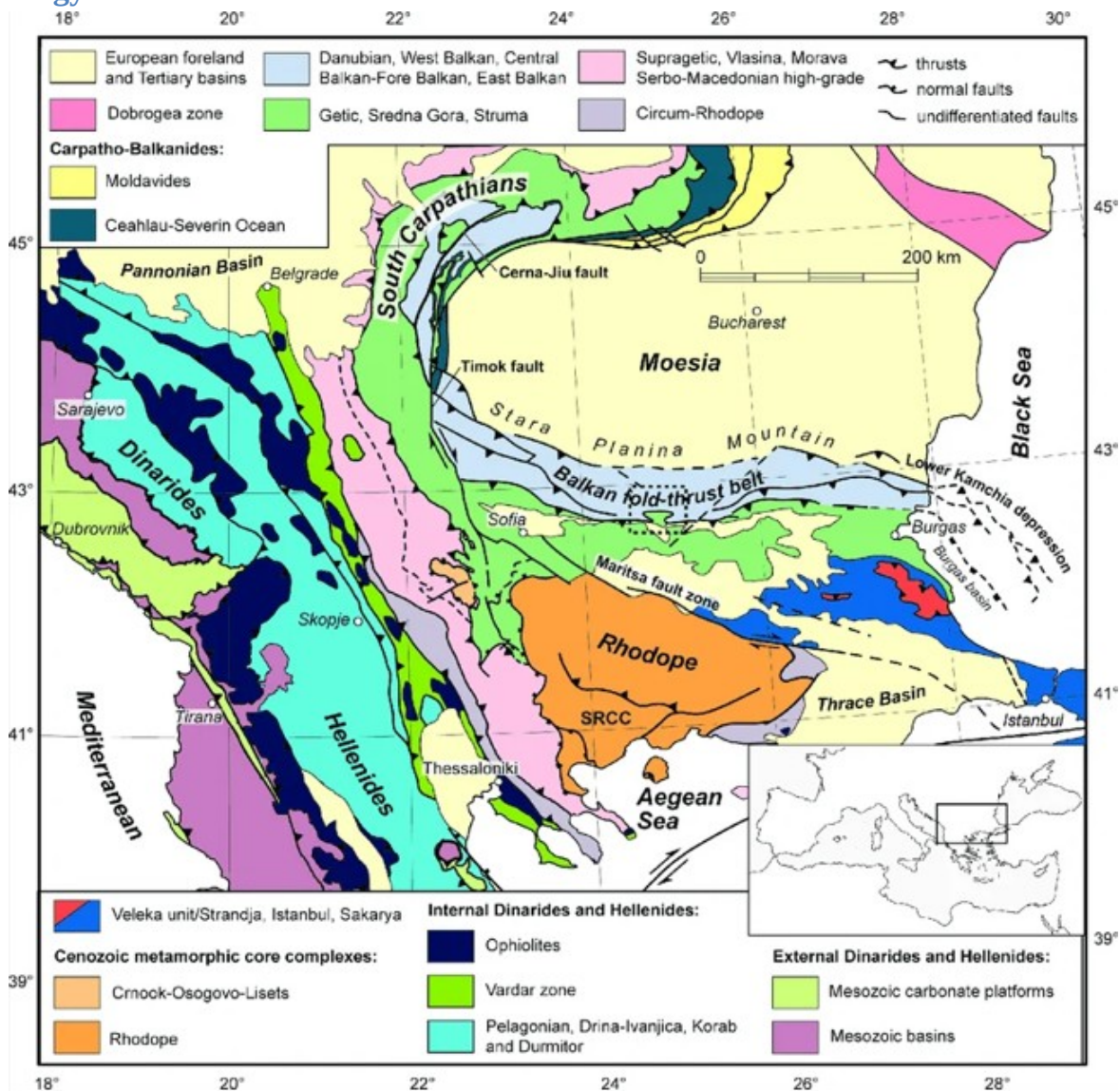


Figure 2 – Tectonic Map of the Balkan Peninsula

Credit: Figure 1 in [Balkanska et al, 2019](#)

The [geology of North Macedonia](#) is a product of the [tectonic history](#) of the Balkan Peninsula. While complex in detail, the basic story of the creation of the Balkan Peninsula lies in the [Alpine Orogeny](#). In this [orogeny](#), beginning some 65 million years ago (Mya), the [African Tectonic Plate](#) and the [Arabian Plate](#) moved towards the [Eurasian Plate](#) closing off the [Tethys Ocean](#). The [Alpine Orogeny](#) continues [to this day](#).

Focusing on the Balkan Peninsula in particular, [the geology shows](#) the result of the collision of the the [Moesian microplate](#) (part of the [Eurasian Plate](#)) and the [Adriatic microplate](#) (part of the [African Plate](#), itself part of [ancient Gondwana](#)). This collision, still ongoing, has created the [complex geology](#) of the Balkans, as shown in Figure 2, above.

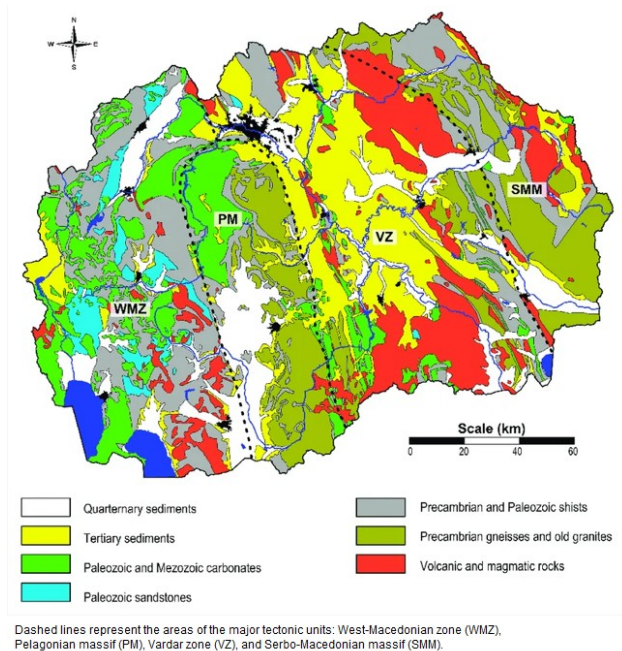


Figure 3 - Lithological Map of North Macedonia
Credit: Figure 2 in Ene, 2021

There are four main lithological zones in North Macedonia: the West Macedonian Zone; the Pelagonian Massif; the Vardar Zone; and the Serbo-Macedonian Massif.

The [West Macedonian Zone](#) (WMZ) lies within the [Dinarides](#) or the [Dinaric Alps](#). The volcanic/magmatic rocks in the WMZ are sometimes called [Cukali-Krasta zone](#) and consist of [Cretaceous](#) to [Paleogene](#) aged [pelagic](#) sediments and [flysch deposits](#). In the WMZ includes [Paleozoic](#) aged [sandstones](#), Paleozoic to [Mesozoic](#) aged [carbonate rocks](#) ([limestones](#) and [dolostones](#)), [Tertiary](#) (Paleogene and [Neogene](#)) aged sediments, and Quaternary sediments.

The [Pelagonian Massif](#) (PM) consists of highly metamorphosed crystalline rocks, including [gneiss](#), [mica schist](#), and various [granitoids](#). The oldest rocks in the PM are [Proterozoic](#) aged [granitoids](#), next in age are Proterozoic and Paleozoic aged [schists](#), and in the west of the PM are Paleozoic to Mesozoic aged carbonate rocks.

The [Vardar Zone](#) (VZ) was formed by the [closure of the Vardar Ocean](#) (a branch of the Tethys Ocean) beginning in the [Middle Jurassic](#) and continuing into the [Paleocene](#). The [Vardar ocean opened](#) during the Late Triassic and Early Jurassic. The rocks of the Vardar Zone are a mixture of former [oceanic lithosphere](#) (volcanic and magmatic rocks) and later Cretaceous to Paleocene aged carbonate rocks. The oceanic lithosphere rocks include [ophiolite](#) and [melange](#). The oldest rocks in the VZ include Proterozoic and Paleozoic aged schists along the eastern edge of the zone.

The [Serbo-Macedonian Massif](#) (SMM) is a composite crystalline belt consisting of metamorphic rocks including [metasediments](#), gneiss, mica schist, and [amphibolite](#). The oldest rocks in the SMM are mostly Proterozoic in age and includes volcanic and magmatic rocks such as those associated with the [Late Neoproterozoic Cadomian Orogeny](#). Later deposits include those associated with the [Variscan Orogeny](#) including [mafic dykes](#) from the [Ordovician](#) and [Silurian](#) periods, Silurian aged gneiss, [Carboniferous](#) aged [granitic intrusions](#), and Permian to Triassic deposits from [felsic magmatism](#) related to the opening of the [Tethys Ocean during the Mesozoic](#).

Paleontology

Most of the fossils found in North Macedonia are from the Neogene and include a [suite of mammalian fossils](#) from the [Vardar](#) and [Strumitsa](#) river basins. Let's look at a few.

Hipparion



Figure 4 – *Hipparion*

Credit: [Jonathan Chen](#), [Creative Commons Attribution-Share Alike 4.0 International](#) license

According to [Spassov et al 2020](#), fossils from several species of [Hipparion](#) were found in North Macedonia in [Turolian](#) aged deposits. [Hipparion](#) was a three-toed horse that lived throughout Eurasia, Africa, and North America from the [Miocene](#) to the [Pleistocene](#).

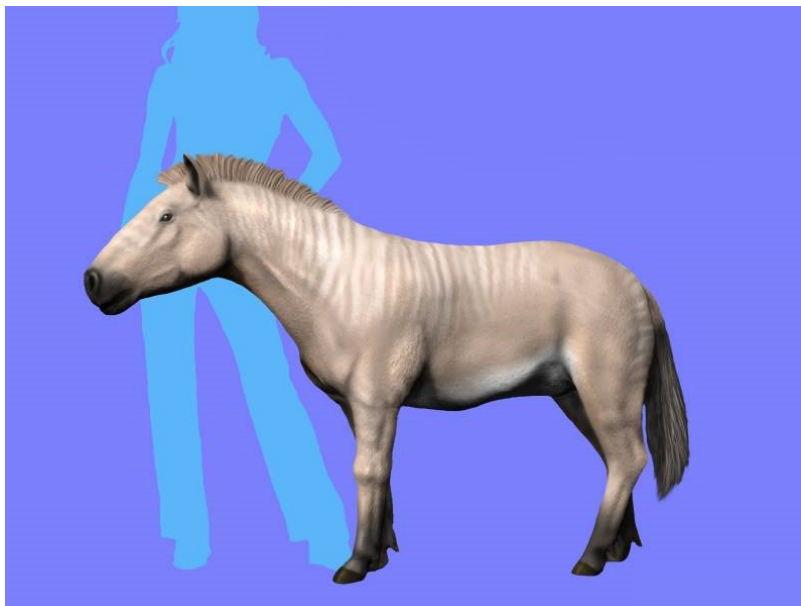


Figure 5 – *Hipparion*

Credit: [Nobu Tamura](#), [Creative Commons Attribution-Share Alike 4.0 International](#) license

Simocyon

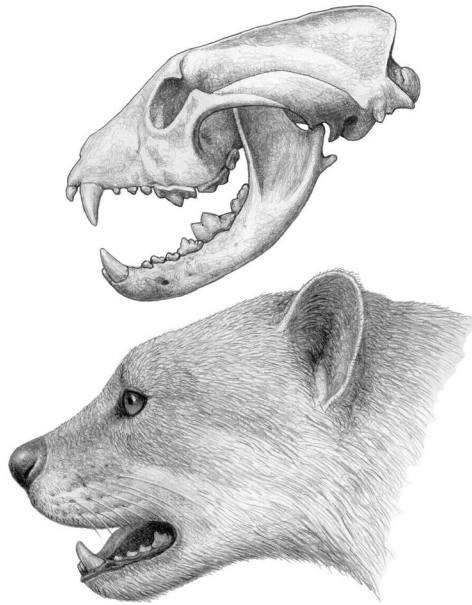


Figure 6 – *Simocyon*

Credit: [Peigné et al 2005](#), [Creative Commons Attribution-Share Alike 4.0 International](#) license

[Spassov et al 2020](#) also identifies fossils of *Simocyon* in the Miocene deposits of North Macedonia. Sometimes called the “killer panda”, *Simocyon* was a genus of [carnivore mammal](#) in the family [Ailuridae](#). It was about the size of a [cougar](#) and lived in the late Miocene and early [Pliocene](#) epochs in Eurasia, North America, and Africa. [Science fiction gamers](#) have “[brought it back to life](#)” for their games.

Mesopithecus



Figure 7 – *Mesopithecus*

Credit: [Ghedo](#), [Creative Commons Attribution-Share Alike 3.0 Unported](#) license

Another fossil species identified by [Spassov et al 2020](#) was *Mesopithecus*, an [Old World Monkey](#) that lived in Eurasia during the Late Miocene and Pliocene epochs. This extinct monkey also has its [science fiction fans](#).

Mineral Resources



Figure 8 – Galena from [Zletovo Mine](#)
**Credit: [National Macedonian Academy of Arts and Sciences](#),
[Creative Commons Attribution-Share Alike 4.0 International](#) license**

According to the [USGS Minerals Yearbook on North Macedonia](#), the country produces metallic minerals (copper, gold, lead, nickel, silver, and zinc), industrial minerals (calcite, cement, feldspar, and stone) and fuel minerals (lignite coal). The latest statistics on mineral production in North Macedonia from the USGS is [here](#).

Metallic Minerals

- Copper, gold, and silver are mined at the [Bucim Open Pit Copper Mine, Radovis](#);
- Lead and zinc are mined at: the [Sasa Mine](#), near [Makedonska Kamenica](#); the [Zletovo Mine](#) near [Probitip](#); and the [Toranica Mine](#) near [Kriva Palanka](#);
- Nickel and iron are mined at the [Rzanovo Iron Mine](#) in southeastern, Northern Macedonia.

Industrial Minerals

- [Ogražden AD](#) mines calcite at the [Memeshli mine](#) and feldspar at the [Strumica](#) mine.
- Cement is manufactured at [plant near Skopje](#);
- [Dimension stone](#) is quarried at [Prilep \(marble\)](#) and limestone at [Strumica](#).

Lignite Coal

[Lignite](#) is mined at [mines](#) at [Suvodol](#), [Oslomej](#), and near [Berovo](#). There are plans to [open a new coal mine in Zivojno](#). Coal burned for electricity generation provides about [61% of energy production in North Macedonia](#).

Figure 9 links to an interactive mineral occurrence map for North Macedonia from [Mindat.org](https://www.mindat.org).

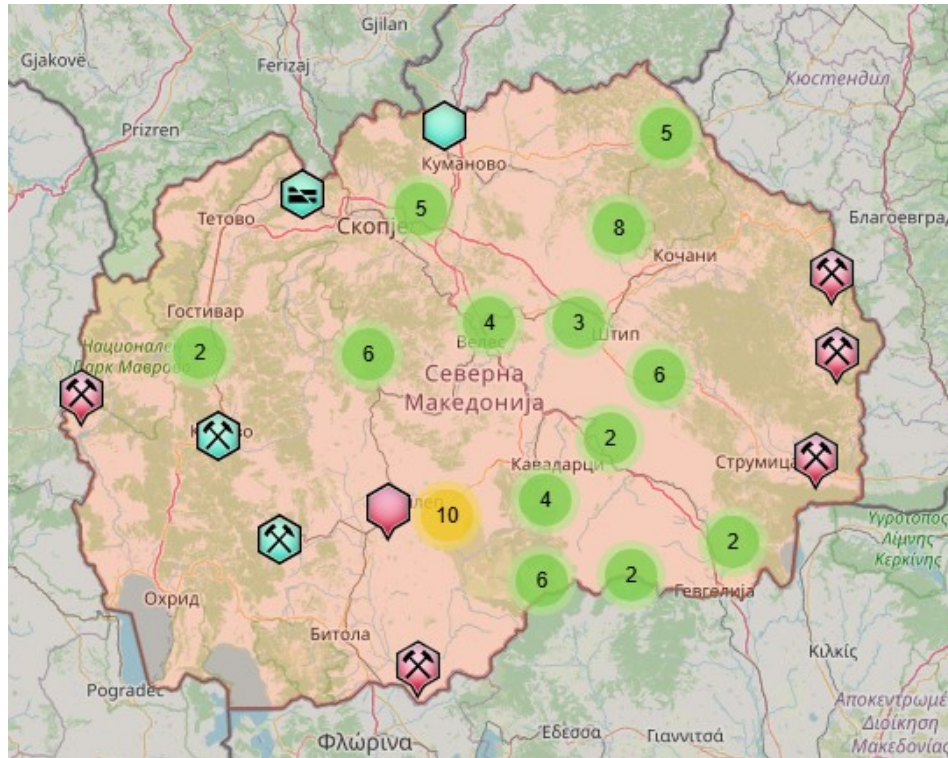


Figure 9 – Interactive Mineral Occurrence for North Macedonia
Credit: [Mindat.org](https://www.mindat.org)

Summary



Figure 10 - Mavrovo Lake, Mavrovo National Park
Credit: [Diego Delso](https://www.flickr.com/photos/dielso/), [Creative Commons Attribution-Share Alike 3.0 Unported](https://creativecommons.org/licenses/by-sa/3.0/) license

If you look into the [history of North Macedonia](#) you will see that the ground has been gone over many times for millennia. However there could still be opportunities for new development, especially using techniques that look below the surface. North Macedonia has a complex geology that is probably hiding some surprises.

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.