

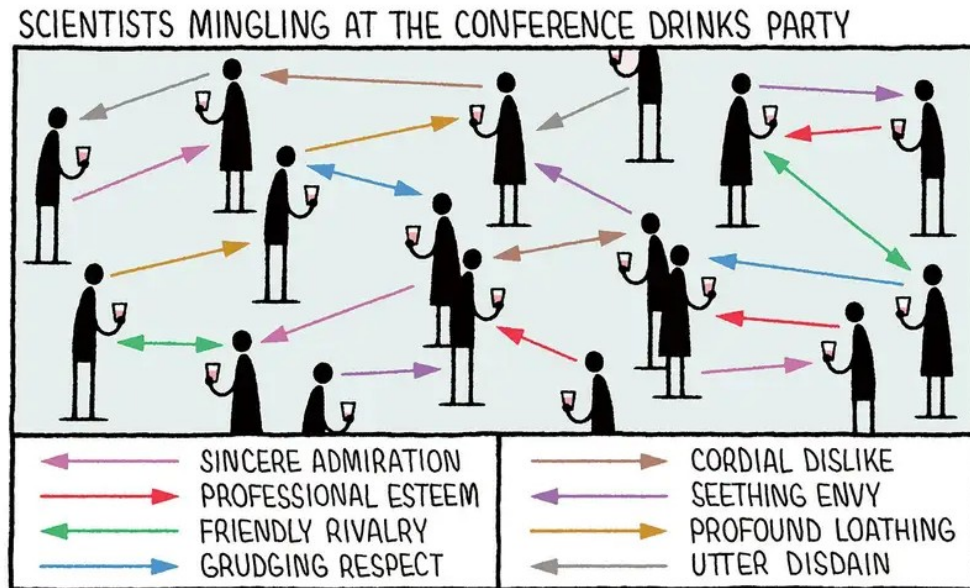
August 19, 2024

## News and notes

Before going on to discuss the geology and geopolitics of the [European Union](#), here are some news items I thought were interesting.

## Humour

Because we need a laugh!



Scientists Mingling at the Conference Drinks Party

Credit: [Tom Gauld](#) in the [New Scientist](#)

## Geopolitics

- Opinion related to today's posting: [It's time for America to rethink its relationship with NATO](#).
- Also related to today's posting [France: Political Chaos](#).
- Conspiracy theory of the day: [Britain Is Proof: Globalists Plan To Use Migrants As A Mercenary Army Against The West](#).
- [Zambia closes border with Congo, blocking key copper trade route](#); then, a few days later: [DRC-Zambia border reopens, copper exports resume](#).

## Ukraine War

- [Russia ready to execute nuclear attacks on NATO targets, according to leaked documents](#).
- Videos: [Massive Collapse At Pokrovsk & Niu-York; Kursk like water! | Ukraine War Frontline Changes Report](#); [How did Ukraine Attack Russia? Kursk](#); [12 Aug: DEEP PENETRATION: Why the Kursk Frontline COLLAPSES, War in Ukraine Explained](#).

## Research and News

- Subduction of the Arabian plate beneath the Eurasian plate: [Makran Subduction Zone: A Review and Synthesis](#).
- [Geochronology and Geochemistry of the Uhelchulu Quartz Diorite-Granodiorite in Inner Mongolia of China: Implications for Evolution of the Hegenshan Ocean in the Early-Middle Devonian](#).
- Mineralogy or rare earth elements: [Impact of aluminium and gallium substitutions on the ferrihydrite and goethite structure: Consequences for rare earth element adsorption and complexation](#).
- Geological history: [Glacially influenced provenance and Sturtian affinity revealed by detrital zircon U–Pb ages from sandstones in the Port Askaig Formation, Dalradian Supergroup](#); Live Science summary [here](#).
- [Recognition of crustal extension in the Basin and Range Province: A history](#).
- New map: [Layered geology of Australia](#).
- The [earth shattering](#) kaboom at the [end of the Cretaceous: Ruthenium isotopes show the Chicxulub impactor was a carbonaceous-type asteroid](#); Science Daily summary [here](#).
- [Mafic slab melt contributions to Proterozoic massif-type anorthosites](#); Phys.org summary [here](#).
- Planetary geology: [Copper isotope fractionation during asteroid core solidification](#).
- Fluvial geology: [Human-initiated autocyclic delta failures](#).
- [Unravelling the fragmented sediment-landform assemblage in an area of thick Quaternary sediment, western Hudson Bay Lowland, Canada](#).
- Geophysics: [Investigating Ultra-Low Velocity Zones as Sources of PKP Scattering Beneath North America and the Western Pacific Ocean: Potential Links to Subducted Oceanic Crust](#); Phys.org summary [here](#).
- [Short-term climatic oscillations versus long-term delta propagation: Controls on sand transport into the deep Levant Basin since the Pliocene](#).
- [Predicting bottom current deposition and erosion on the ocean floor](#).

## Paleontology

- Fossilization research: [Microanalytical approaches on the silicification process of wood fossil from Jasinga, West Java, Indonesia](#).
- Wales: [Girl discovers dinosaur footprints on beach walk](#).
- [The first Permian Diaphanopteroidea \(Insecta, Megasecopteromorpha\) from China](#).

- [New species of \*Ontocetus\* \(Pinnipedia: Odobenidae\) from the Lower Pleistocene of the North Atlantic shows similar feeding adaptation independent to the extant walrus \(\*Odobenus rosmarus\*\); Phys.org summary \[here\]\(#\).](#)
- Mississippi: [Ice age mammoth tusk unearthed in Madison County](#).
- Trace fossil formation: [Formation and preservation of vertebrate tracks in semi-liquid sediments: Insights from tidal flats and laboratory experiments](#).
- Canadian Fossil Discovery Centre, Morden, MB: [Fossil community abuzz after unprecedented discovery](#).
- [Cretaceous amber inclusions illuminate the evolutionary origin of tardigrades](#); Phys.org summary [here](#).
- [Convergent evolution of giant size in eurypterids](#); Phys.org summary [here](#).
- [Giant Seeds of an Extant Australasian Legume Lineage Discovered in Eocene Borneo \(South Kalimantan, Indonesia\)](#); Sci News summary [here](#).

## Mining and Energy

- [Feds announce \\$16M for Saskatchewan Research Council's critical minerals work](#).
- [BHP workers at Escondida copper mine go on strike](#).
- [Dormant For A Decade, Texas-Based Uranium Energy Corp. To Restart In Wyoming](#).
- [A \\$91 billion trade means mining in one of the world's hottest places](#).
- [Oil Gets Risky for Traders](#).
- [Canada's Top Natural Gas Producer Acquires Rival to Capitalize on Higher Prices](#).
- [New drilling technology to put billions of barrels of oil in reach, analysts say](#).
- Video: [The New Geopolitics of Oil](#).
- [Why Canada has become a critical supplier of crude oil to the U.S.](#)
- [US shale companies produce more crude using fewer rigs](#).
- [The World's 5 Largest Oilfields and Their Impact](#).

## Ore Deposit Geology

- [The gold content of mafic to felsic potassic magmas](#).
- [Mineralogy, mineral chemistry, and genesis of Cu-Ni-As-rich ores at Lisheen, Ireland](#).
- [Tracing the Origin of Metal Ions in Mississippi Valley-Type Ore Deposits: Constraints from Lead Isotope Studies of Black Shales from the Midcontinent United States](#); sorry, it's behind a paywall.

- [Geochronology of the Mines Gaspé porphyry deposit, Québec, Canada.](#)

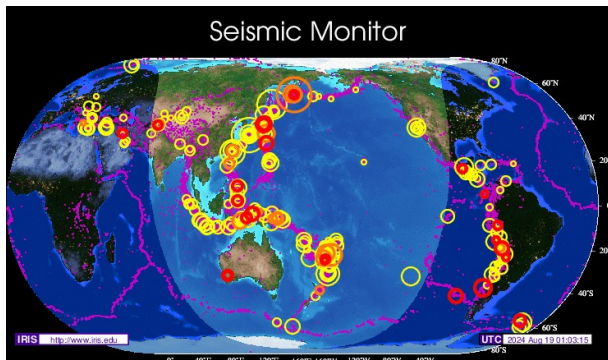
## Environmental Geology and Hydrogeology

- [From source to sink: part 1-characterization and Lagrangian tracking of riverine microplastics in the Mediterranean Basin.](#)
- [Wastewater production footprint of conventional and unconventional oil and gas wells in North America.](#)
- [WHO to scrap weak PFAS drinking water guidelines after alleged corruption.](#)
- [Australia: NSW is getting serious on contaminated soil. It only took 10 years – and the media doing lab tests.](#)
- [US air force avoids PFAS water cleanup, citing supreme court’s Chevron ruling.](#)
- [Arizona’s groundwater laws mean proposed copper mine near Mammoth could pump unlimited water.](#)
- Groundwater book, free pdf or buy a hard copy: [Groundwater Chemistry and Quality in Coastal Aquifers.](#)

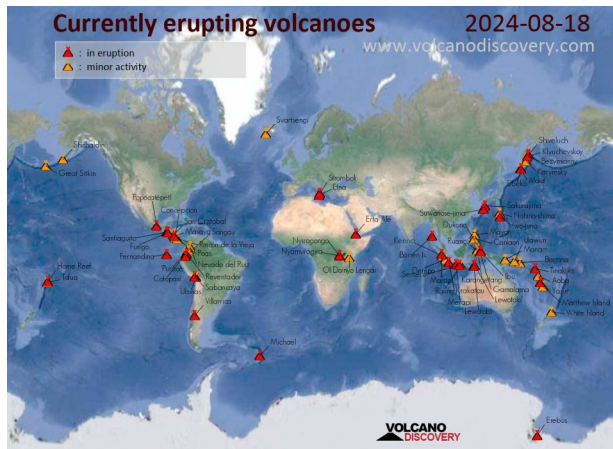
## Glaciers and Climate Change

- [Earth’s oldest, tiniest creatures are poised to be climate change winners – and the repercussions could be huge.](#)
- Video: [Landsat Captures Mexico's Trending Drought \(Image of the Week\).](#)
- Climate change concerns: [Desertification was supposed to be the ‘greatest environmental challenge of our time.’ Why are experts now worried about greening?](#)

## Volcanoes, Earthquakes and Geohazards



[Seismic Monitor](#)



[Active Volcano Map](#)

## *Volcanoes*

- United States Geological Survey (USGS) Volcano Watch: [A‘o pū mākou: We learn together with PIPES](#).
- USGS Yellowstone Volcano Observatory: [Digging into the history of hydrothermal explosions at Biscuit Basin](#).
- [Smithsonian / USGS Weekly Volcanic Activity Report](#).
- [Volcano erupts after powerful earthquake in Russia’s Far East; M7.1 strikes offshore Kamchatka – in an area that nucleated a M9 in 1952](#); USGS summary [here](#); video [here](#).
- [Sicily's Mount Etna erupts, closing Catania airport](#).

## *Earthquakes*

- [Euro-Mediterranean Seismological Centre](#)
- University of Alaska Earthquake Center: [Triggered earthquakes and \(not\) predictions](#).
- [A rapid analysis of aftershock processes after a moderate magnitude earthquake with ML methods](#).
- Earthquake research: [Small-scale segmented fault rupture along the East Anatolian fault during the 2023 Kahramanmaraş earthquake](#).
- More earthquake research: [Sedimentary signatures of large earthquakes along the submerged Enriquillo–Plantain Garden transpressional plate boundary, northern Caribbean](#).
- [6.1 magnitude earthquake shakes Taiwan](#); USGS summary [here](#).
- [M4.4 thrust earthquake rattles Los Angeles](#); USGS summary [here](#).

## **Upcoming Events**

- **On now:** [Goldschmidt 2024, August 18-24, Chicago IL](#), organized by the Geochemical Society and the European Association of Geochemistry.
- [Lloydminster Heavy Oil Show September 11-12](#); Pipeline Online summary [here](#).
- [NGWA’s Hydrogeology of States Webinar Series: Louisiana, September 18, 2024. Online 1-2 p.m. ET](#).
- [GeoFutures: Planetary Geoscience Conference](#), 14-15 November 2024, hybrid meeting.
- [Groundwater Week 2024](#), December 10-12 in Las Vegas, Nevada.
- [Copper to the World Conference, Tuesday 26 – Wednesday 27 August 2025](#), in Adelaide, Australia; report on 2024 conference [here](#).
- [List of geoscience events in 2025 from the International Union of Geological Sciences](#).

August 19, 2024

## Geology and the Fate of Societies – European Union



**Figure 1a – European Union**

**Credit:** [CIA World Factbook](#), [public domain](#)

**Figure 1b – Location Map**

**Credit:** [CIA World Factbook](#), [public domain](#)

This week we are going to take a quick look at the geology and geopolitics of the [European Union](#) (EU). A hybrid intergovernmental and supranational organization, the EU combines the features of a free trade zone, a cultural grouping, an incipient federal state, and a possible Pan-European empire. This new polity is run not by an emperor, but by a bureaucratic administration. It may be Europe’s “[universal state](#)” as envisioned by [Arnold Toynbee](#) in his book, [A Study of History](#). In Toynbee’s model, the universal state is the penultimate stage in a civilization’s development, i.e. just before its collapse. I’ll try not to get bogged down in details, but rather focus on the essential features of the geology and geopolitics of the EU.

Officially, the EU is a mixed [supranational](#) and [intergovernmental](#) directorial parliamentary [confederation](#). Among the officials responsible for the EU are the [President of the European Council](#), [Charles Michel](#); the [President of the Commission](#), [Ursula von der Leyen](#); and the [President of the European Parliament](#), [Roberta Metsola](#). The [Presidency of the Council of the European Union](#) rotates every six months and is currently held by Hungary. The EU has a Legislature consisting of Upper House, the [Council of the European Union](#), that meets in [Brussels](#); and a Lower House, the [European Parliament](#), that meets in [Strasbourg](#) and [Brussels](#). The [City of Brussels](#) is the main capital of the EU although elements of the administration also meet in [Frankfurt](#), [Luxembourg](#), and [Strasbourg](#).

The EU is made up of 27 [member states](#) as shown on Table 1.

Country	Population	Area (km <sup>2</sup> )	Largest city	GDP (US\$ M)	GDP per cap.	Currency	Official Languages
<a href="#">Austria</a>	8926000	83855	<a href="#">Vienna</a>	447718	55406	<a href="#">euro</a>	<a href="#">German</a>
<a href="#">Belgium</a>	11566041	30528	<a href="#">Brussels</a>	517609	50114	<a href="#">euro</a>	<a href="#">Dutch</a> <a href="#">French</a> <a href="#">German</a>
<a href="#">Bulgaria</a>	6916548	110994	<a href="#">Sofia</a>	66250	23741	<a href="#">lev</a>	<a href="#">Bulgarian</a>
<a href="#">Croatia</a>	4036355	56594	<a href="#">Zagreb</a>	80180	42531	<a href="#">euro</a>	<a href="#">Croatian</a>
<a href="#">Cyprus</a>	896000	9251	<a href="#">Nicosia</a>	24280	39079	<a href="#">euro</a>	<a href="#">Greek</a> <a href="#">Turkish[b]</a>
<a href="#">Czechia</a>	10574153	78866	<a href="#">Prague</a>	246953	40293	<a href="#">koruna</a>	<a href="#">Czech[c]</a>
<a href="#">Denmark</a>	5833883	43075	<a href="#">Copenhagen</a>	347176	57781	<a href="#">krone</a>	<a href="#">Danish</a>
<a href="#">Estonia</a>	1330068	45227	<a href="#">Tallinn</a>	31038	37033	<a href="#">euro</a>	<a href="#">Estonian</a>
<a href="#">Finland</a>	5527493	338424	<a href="#">Helsinki</a>	269654	49334	<a href="#">euro</a>	<a href="#">Finnish</a> <a href="#">Swedish</a>
<a href="#">France</a>	67439614	632,785[8]	<a href="#">Paris</a>	2707074	45454	<a href="#">euro</a>	<a href="#">French</a>
<a href="#">Germany</a>	83120520	357386	<a href="#">Berlin</a>	3863344	53571	<a href="#">euro</a>	<a href="#">German</a>
<a href="#">Greece</a>	10682547	131990	<a href="#">Athens</a>	214012	29045	<a href="#">euro</a>	<a href="#">Greek</a>
<a href="#">Hungary</a>	9730772	93030	<a href="#">Budapest</a>	170407	32434	<a href="#">forint</a>	<a href="#">Hungarian</a>
<a href="#">Ireland</a>	5006324	70273	<a href="#">Dublin</a>	384940	89383	<a href="#">euro</a>	<a href="#">English</a> <a href="#">Irish</a>
<a href="#">Italy</a>	58968501	301338	<a href="#">Rome</a>	1988636	40065	<a href="#">euro</a>	<a href="#">Italian</a>
<a href="#">Latvia</a>	1862700	64589	<a href="#">Riga</a>	35045	30579	<a href="#">euro</a>	<a href="#">Latvian</a>
<a href="#">Lithuania</a>	2795680	65200	<a href="#">Vilnius</a>	53641	38605	<a href="#">euro</a>	<a href="#">Lithuanian</a>
<a href="#">Luxembourg</a>	633347	2586.4	<a href="#">Luxembourg</a>	69453	112875	<a href="#">euro</a>	<a href="#">Luxembourgish[h]</a> <a href="#">French</a> <a href="#">German</a>
<a href="#">Malta</a>	516100	316	<a href="#">St. Paul's Bay</a>	14859	43086	<a href="#">euro</a>	<a href="#">Maltese</a> <a href="#">English</a>
<a href="#">Netherlands</a>	17614840	41543	<a href="#">Amsterdam</a>	902355	57101	<a href="#">euro</a>	<a href="#">Dutch</a>
<a href="#">Poland</a>	37840001	312685	<a href="#">Warsaw</a>	565854	33739	<a href="#">złoty</a>	<a href="#">Polish</a>
<a href="#">Portugal</a>	10,298,252	92,212	<a href="#">Lisbon</a>	236408	33131	<a href="#">euro</a>	<a href="#">Portuguese[k]</a>
<a href="#">Romania</a>	19186201	238391	<a href="#">Bucharest</a>	243698	30141	<a href="#">leu</a>	<a href="#">Romanian</a>
<a href="#">Slovakia</a>	5459781	49035	<a href="#">Bratislava</a>	106552	32184	<a href="#">euro</a>	<a href="#">Slovak</a>
<a href="#">Slovenia</a>	2108977	20273	<a href="#">Ljubljana</a>	54154	38506	<a href="#">euro</a>	<a href="#">Slovene</a>
<a href="#">Spain[l]</a>	48797875	504030	<a href="#">Madrid</a>	1647114	52012	<a href="#">euro</a>	<a href="#">Spanish[m]</a>
<a href="#">Sweden</a>	10370000	449964	<a href="#">Stockholm</a>	528929	52477	<a href="#">krona</a>	<a href="#">Swedish</a>

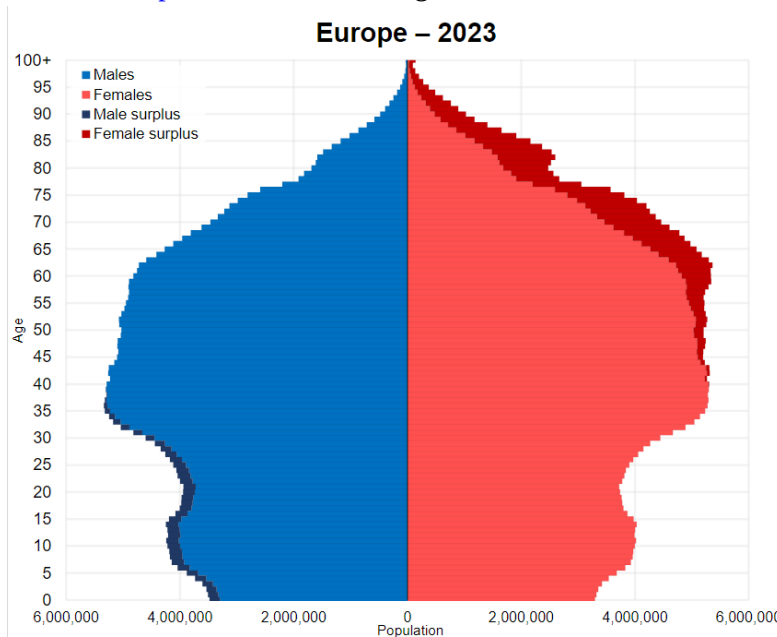
Table 1 – Member States of the European Union  
Credit: [Wikipedia](#)

Overseas territories of the EU include: [Azores](#), [Canary Islands](#), [French Guiana](#), [Guadeloupe](#), [Madeira](#), [Saint-Martin](#), [Martinique](#), [Mayotte](#), and [Réunion](#). Two Danish possessions, [Greenland](#) and the [Faeroe Islands](#) are not part of the EU.

The total area of the EU is 4,236,351 square kilometres (km<sup>2</sup>) and it has a total population of 449,206,579. among the constituent members, Germany, with 83,120,520 people and France, with 67,439,614 people, have the largest populations. The smallest states in the EU are Malta, with 516,100 people and Luxembourg, with 896,000.

In terms of religion, 71.6% of the people in the EU identify as [Christian](#): 45.3% [Catholic](#), 11.1% are [Protestant](#), 9.6% are [Eastern Orthodox](#) and 5.6% are other Christian. The next biggest religious group, at 24.0%, are those who have no religion, followed by 1.8% who follow [Islam](#), and 2.6% something other. There is a wide diversity of language and ethnicity in the EU; there are [24 official languages](#) plus many local languages. [English](#) is the most common second language in the EU, and has become the language of business.

Economically, the EU is a [developed country](#) with high standards of education and public services. Overall [GDP](#) is \$24.177 trillion and a GDP per capita of \$53,800. Luxembourg, with a per capita GDP of \$112,875 and Ireland, with a per capita GDP of \$89,383 are the richest countries in the EU; Bulgaria, per capita GDP \$23,741 and Greece, per capita GDP \$29,045, are the poorest. All EU states except Bulgaria have a very high [Human Development Index](#) according to the [United Nations Development Program](#).



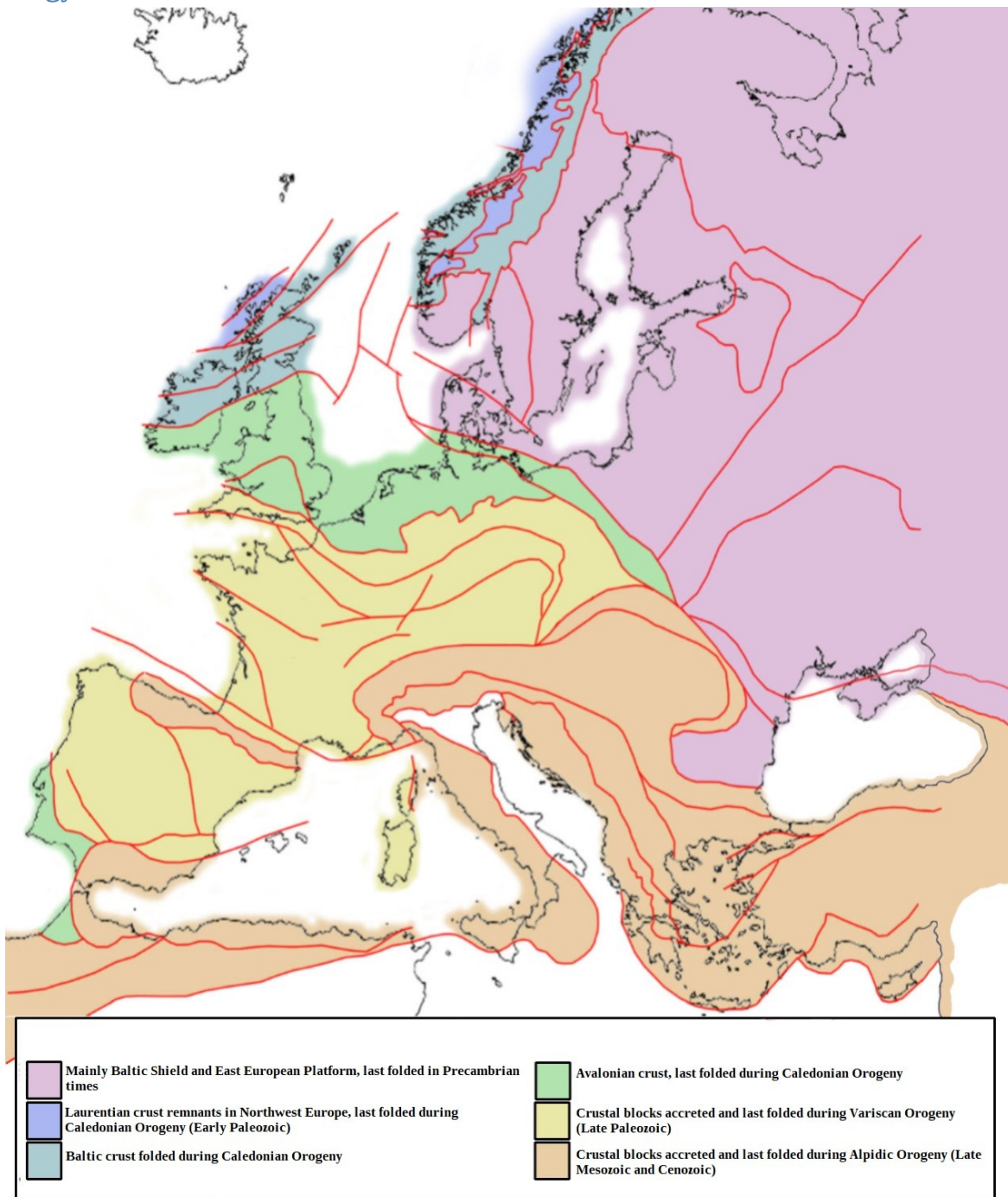
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**Figure 2 – Demographic Profile of Europe**

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

The [demographic profile of the EU](#) shows an aging population. The median age is 44 years and 63.5% of the population is between 15 and 64 years old. The fertility rate is 1.46 children per woman, below the replacement rate of 2.1. Population growth rate is 0.43%, with migration into the EU making up for the low fertility rate. Life expectancy for both sexes is 81 years.

## Geology



**Figure 3 – Tectonic Map of Europe**

**Credit: Woudloper, public domain**

The [geology of Europe](#) is complex and embodies a long geological history. As shown in Figure 3, that history starts with the [Archean](#) to [Proterozoic](#) aged [gneisses](#) and [greenstone belts](#) of the [Baltic Shield](#) and the complex rocks of the [East European Platform](#). The [Precambrian](#) rocks of the Baltic Shield and the East European Platform are sometimes grouped together in the [East European Craton](#). Important orogenies recorded in these rocks include:

- [Saamian orogeny](#) – Formation of an extensive area of [tonalitic-trondhjemitic](#) crust in Fennoscandia, (3.1–2.9 Ga);
- [Lopian orogeny](#) – Formation of two different types of terrain compatible with plate tectonic concepts. One is a belt of high-grade gneisses formed in a regime of strong mobility, while the other is a region of [granitoid](#) intrusions and greenstone belts surrounded by the remnants of a Saamian substratum, (2.9–2.6 Ga);
- [Svecofennian orogeny](#), also known as Svecokarelian orogeny – Geological process that resulted in formation of continental crust in Sweden, Finland and Russia, (2.0–1.75 Ga)
- [Gothian orogeny](#) – Formation of tonalitic-[granodioritic plutonic](#) rocks and [calc-alkaline volcanic rock](#) (like the previous Svecofennian orogeny), (1.75–1.5 Ga);
- [Sveconorwegian orogeny](#) – Orogenic belt in southwestern Sweden and southern Norway – Essentially reworking of previously formed crust, (1.25 Ga – 900 Ma);
- [Timanide orogeny](#) – Orogen that formed during the [Neoproterozoic](#) – Affecting the northern Baltic Shield during the [Neoproterozoic Era](#), (620–550 Ma); and the
- [Cadomian orogeny](#) – Tectonic event(s) in the late Neoproterozoic – On the north coast of [Armorica](#) in the [Ediacaran/Cambrian](#), (660–540 Ma)

The next oldest set of rocks are [terranes](#) originally part of the [Laurentia](#) and [Avalonia](#) cratons that were left attached to the Eurasian Plate during the [Caledonian Orogeny](#). Also, there are some parts of the Baltic Shield that were deformed during the Caledonian Orogeny.

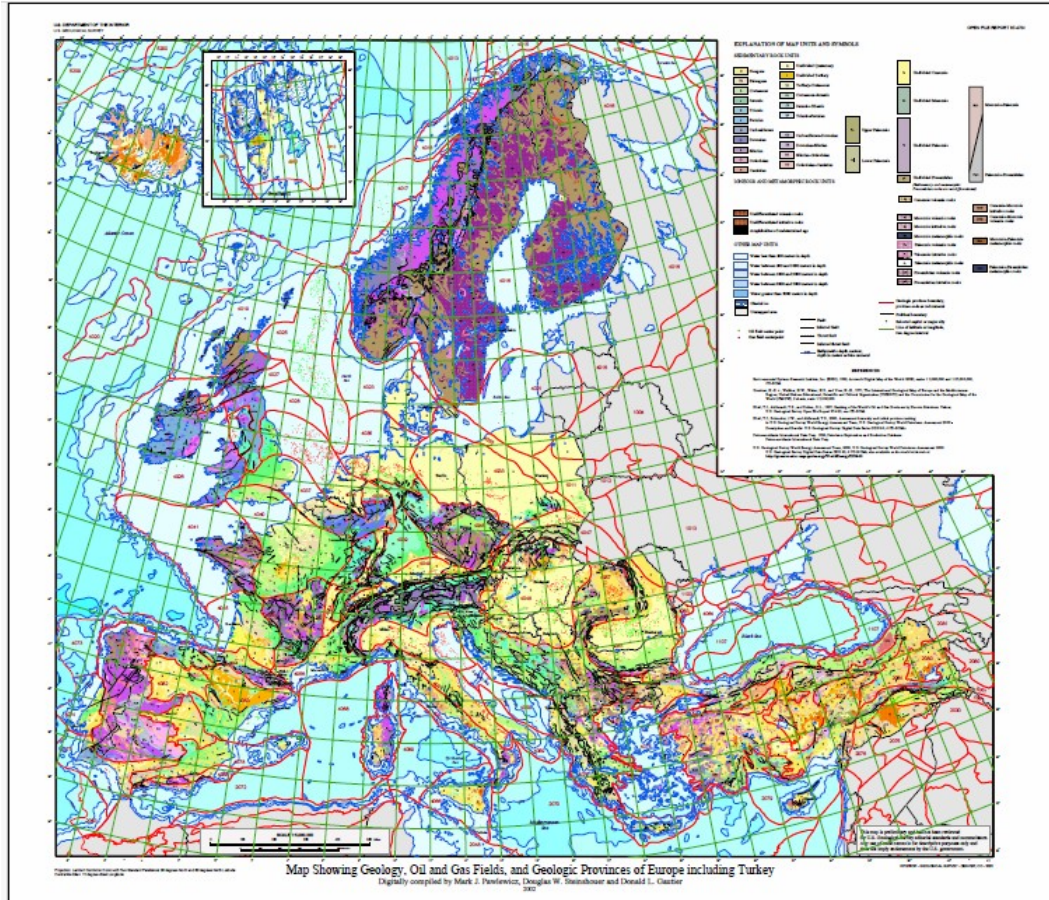
Following the Caledonian Orogeny, the next oldest rocks are those deformed during [Variscan \(Hercynian\)](#) orogeny. The Variscan Orogeny deformed rocks in western Iberia, southwest Ireland, southwest England, central and western France, southern Germany and Czechia during the [Devonian](#) and [Carboniferous](#) Periods.

The final, and current orogeny, is the [Alpine Orogeny](#) that involved the deformation of [Mesozoic](#) and [Cenozoic](#) rocks, many deposited in the ancient [Tethys Sea](#). The Alpine Orogeny created many mountain ranges including:

- The [Alps](#), formed during the [Eocene](#) Period through to the [Miocene](#) Period;
- The [Carpathian Orogeny](#) that built the [Carpathian Mountains](#) of eastern Europe during the [Jurassic-Cretaceous](#) to Miocene Periods; and the
- [Hellenic Orogeny](#) that occurred in Greece and the Aegean area, during Eocene through Miocene Periods.

A more detailed description of the geology of Europe can be found in the USGS publication:

Pawlewicz, M. J., Steinshouer, D. W., Gautier, D. L., 2002, *Map showing geology, oil and gas fields, and geologic provinces of Europe including Turkey*: U.S. Geological Survey Open-File Report 97-470-I, 14 p., <https://doi.org/10.3133/ofr97470I>. Figure 4, below, was extracted from that report.



**Figure 4 – Map Showing Geology, Oil and Gas Fields, and Geologic Provinces of Europe including Turkey**  
**Credit: Pawlewicz, Steinshouer, & Gautier, 2002, public domain**

## Resources

### *Agriculture*



**Figure 5 – Farm Road in North Rhine-Westphalia, Germany**  
**Credit: Dietmar Rabich, Creative Commons Attribution-Share Alike 4.0 International license**

The most important aspect to consider when looking at the agricultural resources of the EU is their [Common Agricultural Policy](#) (CAP). The roots of the CAP, lie in the experience that Europeans had during the wars of the 20<sup>th</sup> Century. During and in the immediate aftermath of the wars, many people starved. This collective traumatic experience lay behind the determination to never be hungry again. There were two main objectives in the formation of the CAP:

- [Agricultural production support](#) and common organization of markets; and
- [Rural development policy](#).

Essentially, the CAP encourages agricultural production even to the point of [accumulating surpluses](#) that are difficult to deal with. The subsidies themselves are [politically contentious](#) and account for a major portion of the EU budget. Politics aside, the CAP has been a successful program for the agricultural sector. If you are interested in the statistics on agricultural production in the EU, check out the United Nations Food and Agriculture Organization (FAO) site [here](#).



**Figure 6 – Fishing Trawler leaving Port-En-Bessie, France**  
**[Credit: Jebulon, Creative Commons CC0 1.0 Universal Public Domain Dedication](#)**

Like the CAP, the EU manages fisheries through a companion [Common Fisheries Policy](#) (CFP). The objectives are similar:

- Regulation of production, quality, grading, packaging and labelling
- Encouraging producer organizations intended to protect fishermen from sudden market changes
- Setting minimum fish prices and financing buying up of unsold fish
- Set rules for trade with non-EU countries

Like the CAP, the CFP can be judged a success, [with some caveats](#).

## Mineral Resources



**Figure 7 – Kiruna Iron Mine from the International Space Station**  
**Credit: NASA International Space Station Program, public domain**

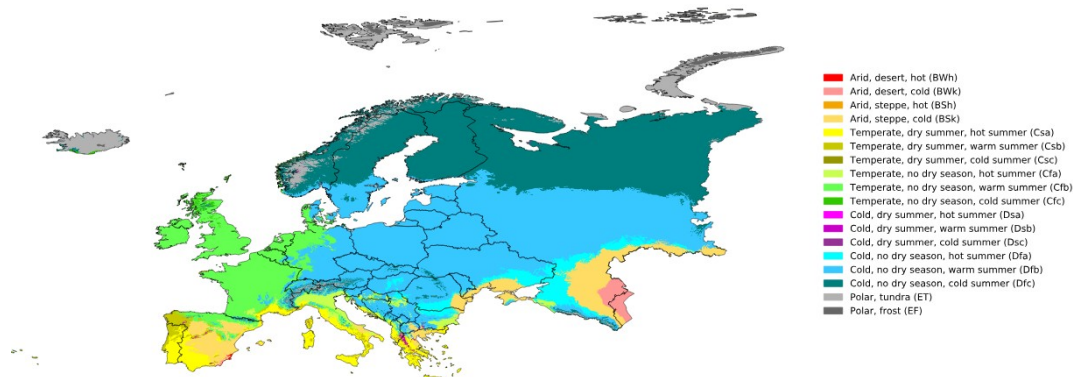
The complex geology of Europe has allowed for a wide [variety minerals to be exploited](#). [Coal](#), [iron ore](#) and [host of other minerals](#) have been exploited throughout history and especially since the beginning of the [industrial age](#).

For energy minerals, in 2007, EU countries as a whole imported 82 per cent of their oil, 57 per cent of their natural gas and 97.48 per cent of their uranium demands. For other [raw materials](#), exports (134 million tonnes) were lower than imports (224 million tonnes) in 2023. Also important are the so-called “[critical minerals](#)” deemed necessary for new technologies, upon which Europe is almost entirely dependent on imports.

The complete list of rock types and mineral occurrences in the EU can be found on the [Mindat site for Europe](#). Statistics on businesses in the mining and quarrying sector can be found [here](#). Production statistics for petroleum production in Europe can be found [here](#).

## Climate

Köppen-Geiger climate classification map for Europe (1980–2016)



**Figure 8 - Köppen-Geiger Climate Classification Map for Europe**  
**Credit: Beck et al, 2018, Creative Commons Attribution-Share Alike 4.0 International license**

The [European climate](#) and varies widely from [tundra conditions](#) in the north to [Mediterranean climates](#) in the south as well as [oceanic climates](#) in the west and [continental climates](#) in the east. Rather than list them all here, you can see the descriptions of the various climate types in Figure 8 [here](#).

At this point in my posts I often give travel advice, for this post I suggest that you research the specific countries you want to visit. I have had pleasant experiences visiting Ireland, Germany and the Netherlands and can personally recommend travel to those parts of the EU.

## History and Geopolitics

### *A Well Studied History of Violence*



**Figure 9 – Charlemagne, Father of Europe**  
**Credit: [Louis-Félix Amiel](#) (1802–1864), in the collection of the [Château de Versailles](#), public domain**

The [history of Europe](#) is well studied and there are many good summaries, including [here](#), and free courses [here](#). Rather than go into many details, you can follow up on them in the links above, I'll deal with what I think are the main details that affect the geopolitics of the EU.

While human and prehuman habitation of Europe goes back to the [Paleolithic](#), the majority of Europeans are descended from the [Neolithic farmers](#) who settled in Europe beginning around 7,000 B.C and from the [Indo-European adventurers](#) who [invaded Europe from the Pontic Steppe](#) at the beginning of the Bronze Age.

In Western Europe, [one group](#) of Indo-European tribes gave birth to a small tribe of [Latins](#) who founded the city of [Rome](#). The [Romans conquered](#) much of the Mediterranean Basin and Western Europe except for the eastern portions of modern Germany.

The Romans imposed peace on their domain at the [point of a sword](#). In Western Europe, the [Roman Empire](#) last until 476 AD, when [Romulus Augustus](#), the last Emperor of the West was overthrown by the adventurer [Odoacer](#). Odoacer invaded the empire together with many other adventurers as part of the [Völkerwanderung](#). Beginning with the fall of the Roman Empire in the west (it [continued](#) in the east for another thousand years) a period sometimes called the [Dark Ages](#) took hold in Europe.

The almost continuous warfare that began during the Dark Ages continued until modern times. Attempts to impose order on the squabbling European tribes included the Empire of [Charlemagne](#) (768 to 814 AD). [Charlemagne's empire](#) included most of modern France, the Netherlands, Italy and Western Germany. He has been called the [Father of Europe](#) since his realm covered the core of the modern EU. Given that Charlemagne had [at least twenty children](#) by numerous wives and concubines, quite a few Europeans could be in fact descended from him.

Charlemagne founded a potential universal state for [Western Civilization](#) in the subsequent the [Holy Roman Empire](#) that lasted in one form or another until 1806. The almost continuous wars of the squabbling nations of Europe prevented the formation of a polity that could rule over the whole continent. However, the list of attempts to try and impose order on the continent is quite impressive:

- [Charles V](#), [Hapsburgs](#) ruler of the [Spanish](#) and Holy Roman empires, came to grief in the wars that began with the [Protestant Reformation](#);
- All hope for a Hapsburg led universal state in Europe ended with the [30 Years War](#);
- [Napoleon Bonaparte](#), Emperor of the French, nearly succeeded but was ultimately defeated by a coalition led by the [United Kingdom](#);
- [Adolph Hitler](#), Führer of the Third Reich, also nearly succeeded but was defeated by a coalition of the [United States](#), the [Soviet Union](#), and the [British Empire](#).

The horrific loss of life during the wars of the 20<sup>th</sup> Century, especially [World War 2](#), gave impetus to attempts to find a way to prevent such horrors in the future. The [history of the EU](#) shows the adoption of a series of international agreements among the nations of Western Europe beginning in 1948 and continuing to this day. In this process, the administration of the EU grew to essentially rule over the intergovernmental affairs of the constituent states of the EU, while leaving purely local concerns in the hands of the national governments. So far, it has kept the peace.

### *Geopolitics of a Big Bureaucracy*



**Figure 10 – European Commission Building in Brussels**  
**Credit: [Jai79](#), [Creative Commons CC0 1.0 Universal Public Domain Dedication](#)**

Should he return to modern Europe, old Charlemagne would be baffled with the administration of the EU. If he asked “who is in charge here?” they might point out Charles Michel, Ursula von der Leyen, and

Roberta Metsola. Looking closer, our time travelling Frank would see that these people are merely committee chairs, the real power in in the [bureaucracy of the EU](#). This is unique in history, normally a polity's public servants take their direction from a ruler, be he(or she) a monarch, president, or premier. It is true that in almost all cases, the state administrators have considerable influence on the leaders' policies, but generally you could at least point to someone who was the titular ruler. In the case of the EU, the whole bunch, from the top to the bottom, are part of an elite [Managerial Class](#). The rise of this class was predicted by [James Burnham](#) in his 1941 book *The Managerial Revolution*. Accused of being rootless cosmopolitans loyal only to their class, [the reality](#) of this group of people is that they are highly educated administrators and survivors of intense competition to achieve their positions in the EU administration. Collectively, they are the real rulers of Europe, even if they are not entirely conscious of the fact.

Many of the internal problems of the EU comes from the conflict of the dictates of the EU Commission and local interests. For example, do you want to fertilize the land on your farm, the EU wants to [restrict the use of fertilizers](#) for environmental reasons. This has resulted in vocal [protests against the restrictions on farming](#)? I expect more of these protests as the EU bureaucracy expands its powers.

Internal problems aside, and they may simply be the friction of an organized society, the EU has issues to address with the other Great Powers of the world. With regards to the [United States](#), the EU hosts major American military bases some 79 years after the end of WW2 and 32 years after the end of the Soviet Union. People on both sides of the Atlantic ask if this is necessary? Does the presence of an American army constitute an army of occupation that makes the EU a vassal to the American Empire? [Should Americans continue to pay for the defence of the EU?](#) These questions will be resolved, possibly in the near future.

To the east is the [Russian Federation](#), currently at war with the [Ukraine](#). Europe has reason to fear the disorder of the [Ukraine War](#) overflowing onto their peaceful realm. The [destruction of the Nordstream Pipeline](#) has made industrial production in Germany terribly, almost unsustainably, expensive. Also, there are millions of [Ukrainian refugees](#) in the west, and not everyone is happy with that. The end of the Ukraine War [can't come soon enough for many in the EU](#). There are some who hope to [integrate the Ukraine into the EU](#), but I doubt that will happen any time soon and certainly not until the war is settled.

More distantly, [China and the EU](#) have been engaging on the diplomatic and trade fronts. It is hard to see where this will lead. While China can produce a lot of inexpensive goods, the EU may seek to exclude those goods from the European market to protect local producers. It will be interesting to see how the [New Silk Road](#) affects relations between the two.

As for other foreign concerns, the biggest one is that [Europe is the destination](#) for millions of desperately poor people from Africa and the Middle East who are looking for a better life. That many of them lack the skills to actually make a living in the EU [has not escaped the attention](#) of many indigenous Europeans. This lack of useful skills shows up in [soaring crime rates](#) associated with the migrants. Some jurisdictions, [like Sweden](#), have made it uncomfortable for the migrants to stay and are encouraging them to leave. The migrants are unlikely to find a warm welcome anywhere. The sad truth is that the migration crisis is not likely to go away any time soon and may get worse. If you have been following my posts you might have noticed that there are many countries that any sensible person would flee, if they can, and the

EU is a favourite destination. It is the EU's sad fate to be living in the time of a new Völkerwanderung (another symptom of the final stages of a civilization in Toynbee's model).

That kind of winds up this quick look at the EU. I am fairly optimistic for the Europeans. Their bureaucratic masters may be distant from the ordinary people, but they are far from stupid. I expect the reality of their many issues to slap them up the side of their head sometime soon. Reality may force the Europeans to harsh, but practical policies to deal with their many problems.

Alternatively, the current attempt by the EU to form a universal state for Europe might fall apart. Again, models of civilization evolution proposed by authors such as Arnold Toynbee, [Oswald Spengler](#), [Joseph Tainter](#), and [Sing Chew](#) suggest that such an outcome is likely some day. When it happens, such a collapse will result in the [usual bloodshed](#) characteristic of the squabbling tribes of Europe.

Follow up on the links if any of this interests you.

### **Standard Caveat**

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.