

February 24, 2025

News and notes

Before going on to discuss the geology and geopolitics of [Iceland](#), 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.

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; new book released this week: [Hydrogeochemistry – A Journey of Discovery](#), written by Warren W. Wood.
- 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>.

Geopolitics

- Donald Trump is analogous to [Issac Asimov](#)'s character [The Mule](#):
 - [Dmitry Trenin: Russia's long-term play is much bigger than Ukraine, Trump could reshape the global order, and Moscow will be hoping he succeeds.](#)
 - ["And Just Like That" - Does NATO Even Exist Any More?](#)
 - [MSM Melts Down Over 'Jaw-Dropping Pivot In US Foreign Policy' After Trump Ripped 'Dictator' Zelensky.](#)
 - [Zelensky lied to Trump about Ukraine's mineral reserves – Bloomberg expert.](#)
 - [Canadians Talking Tough About 'Not Kissing the Ring of the Gangster From 'Mar-A-Lago'.](#)
 - [Trump Is Displacing the Old Ruling Class.](#)
 - [As directed by the President, Gulf of America enters USGS official place names database.](#)
- [Zelenskiy says US minerals deal must include military guarantees.](#)

- [Macron calls for 'massive defense plan' for EU.](#)
- [Poland Is Once Again Poised To Become Washington's Top Partner In Europe.](#)
- [Australia Alarmed Over 'Unusual' Movement Of 3 Chinese Warships Off Its Coast.](#)
- Demographics is destiny: [Charted: When Every Continent's Population Will Peak This Century.](#)
- Civil War in the Democratic Republic of Congo (DRC): [70 Christians Beheaded In Congo Church](#); ask yourself: Why is this not in the main stream media news?
- [US Special Forces Soldiers Arrive in Mexico Amid Trump Border Security Push](#); the last time the USA trained [Mexican special forces](#), some of them deserted and formed the [Los Zetas drug cartel](#).

Research and News

- [Eocene Gravity Flows in the Internal Prebetic \(Betic Cordillera, SE Spain\): A Vestige of an Ilerdian Lost Carbonate Platform in the South Iberian Margin.](#)
- Making granite: [Geochemical and geochronological constraints on the petrogenesis of granitoids from the Ke'eryin area.](#)
- Magma mush: [Percolation of Dioritic Melts Through Ultramafic Cumulate Mushes Forms High-Mg Intermediate Igneous Rocks.](#)
- Geochemistry and AI: [Uncover implicit associations among geochemical elements using machine learning.](#)
- [Earth's deep magma ocean never reached sulfide saturation.](#)
- [The Chicxulub Crater Drilling Program – Borehole Core Characterization, Scanning and Logging.](#)
- Ooh, shiny: [Subducted ophiocarbonates as source for B-bearing diamond formation.](#)
- Quartz vein formation: [Oscillations in fluid pressure caused by silica precipitation in a fracture.](#)
- Melting rocks for fun and science: [A review of the differential scanning calorimetry shift-factor approach: Application to Colli Albani melt viscosity and implications for mafic Plinian eruptions.](#)
- [Tide-influenced depositional system recorded in southern Gondwana during the Early Permian: Post-glacial infill of the Capané palaeovalley.](#)
- Coal and shale deposits: [Source reservoir configuration and geological geochemical control of coal and shale.](#)
- [Using mixed siliciclastic-bioclastic sediments as a natural analogue for plastic-rich systems.](#)
- Playing in the sandbox for science: [The spatiotemporal development of downsag and trapdoor structures during caldera subsidence with 1–10 km in diameter in analogue sandbox experiments.](#)

Bad Science

- [Weekend reads: 'The Discipline of Last Resort'; universities with the most retractions; 'patent mills'](#).
- 02/19 [Wiley journal retracts 26 papers for 'compromised peer review'](#).
- From Nature: [Why retractions data could be a powerful tool for cleaning up science](#) and [Exclusive: These universities have the most retracted scientific articles](#).

Geochronology

- [Detrital zircon geochronology of the Paleoproterozoic Nonacho Basin \(Northwest Territories, Canada\): A record of post-collisional collapse amid supercontinent aggregation](#).
- [Integrated astrochronology, sequence stratigraphy, and chronostratigraphy of a shallow marine sandy mudstone \(Lower Jurassic, Redcar Mudstone Formation, Cleveland Basin, UK\)](#).
- Geochronology: [A cosmogenic \$^{10}\text{Be}\$ anomaly during the late Miocene as independent time marker for marine archives](#); Phys.org summary [here](#).

Plate Tectonics

- Evolution of the Canning and Bonaparte basins: [Assessment of uncertainty propagation within compaction-based exhumation studies using Bayesian inference](#).
- [Coupling of Tectonics, Climate, and Lithology in Orogenic Systems: Insights From Cosmogenic \$^{10}\text{Be}\$ Erosion Rates and River Profile Inversion Modeling in the Talesh Mountains, NW Iranian Plateau](#).

Paleontology

- [Extending the fossil record of late Oligocene non-biting midges \(Chironomidae, Diptera\) of New Zealand](#).
- [First record of *Selaginella* from Miocene amber](#).
- [Dinosaur teeth from the Lower Cretaceous Jiufotang Formation of western Liaoning, China](#).
- [Evolutionary and paleobiogeographic implications of new carcharodontosaurian, megaraptorid, and unenlagiine theropod remains from the upper Lower Cretaceous of Victoria, southeast Australia](#); SciTechDaily summary [here](#).
- [A small-sized dinocephalosaurid archosauromorph from the Middle Triassic of Yunnan, southwestern China](#); SciNews summary [here](#).
- [Ecosystem engineers alter the evolution of seed size by impacting fertility and the understory light environment](#); Phys.org summary [here](#).
- [Palm phytoliths in subarctic Canada imply ice-free winters 48 million years ago during the late early Eocene](#); Phys.org summary [here](#).

Mining and Energy

- Ore deposit geochemistry: [Evaluated Utilization of Middle–Heavy REE Resources in Bayan Obo Deposit: Insight from Geochemical Composition and Process Mineralogy.](#)
- Critical mineral geology: [Vacancies in sulfides facilitate fluid-induced solid-state diffusion and critical metals accumulation.](#)
- Coal mining research: [Study on failure mechanism and energy dissipation law of single fissured coal in different tectonic stress areas.](#)
- [Global exploration budgets fall as juniors tighten belts: S&P.](#)
- Ore deposit geology: [Trace element characteristics of magnetite from the Litun skarn iron deposits in eastern China and its Significance.](#)
- This is one way to drive away investment: [UK Energy Operators Face Scrutiny Over Windfall Profits.](#)
- [Rift-inversion orogens are potential hot spots for natural H₂ generation](#); Phys.org summary [here.](#)
- [France runs fusion reactor for record 22 minutes.](#)
- [Nova Scotia moves to lift decades-old uranium mining ban.](#)
- Conflict: [Ontario's aggregate rules put village between gravel pit and a hard place.](#)
- [Geology student from Sudbury to pick up award at PDAC](#) for advances in mapping and analyzing gold deposits.
- Could it be the geology? [Why is there so much gold in west Africa?](#)

Environmental Geology and Hydrogeology

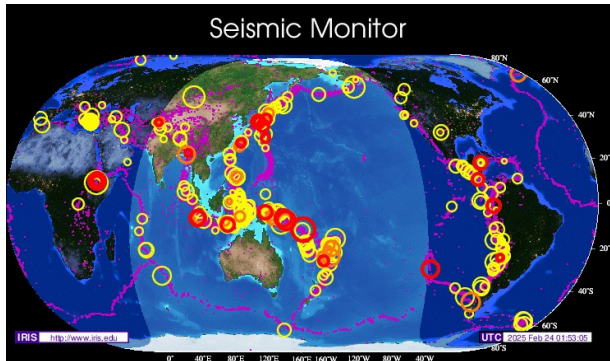
- [The ‘Horror Story’ of Hazardous Waste in a Small Pennsylvania Town.](#)
- Remediation research: [Leveraging Biomineralization in Repurposed Stirred Reactors for Mn/Zn Removal from Mine Water: Insights from a Laboratory-Scale Study.](#)
- [McEwen Mining on the hot seat with northeast First Nation over mine tailings.](#)
- [Climate and anthropic agents lead to changes in groundwater-surface water interactions in a semi-arid maar lake.](#)

Glaciers and Climate Change

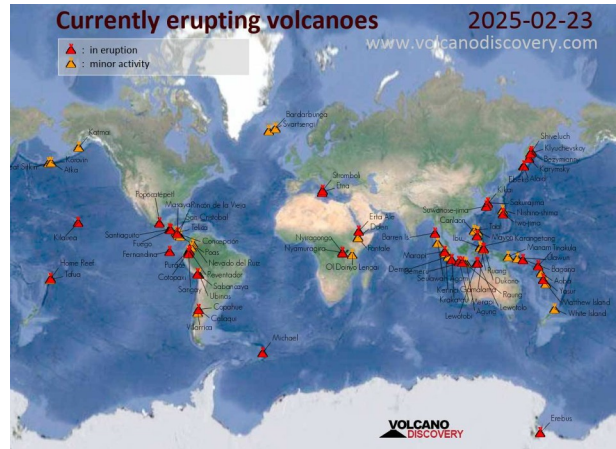
- [Record Early Sea Ice Loss in Southeastern Hudson Bay in Spring 2024.](#)
- [Extreme precipitation associated with atmospheric rivers over West Antarctic ice shelves: insights from kilometre-scale regional climate modelling](#); Phys.org summary [here.](#)

- [Ohio Department of Natural Resources' Division of Geological Survey Releases New Aquifer Maps for Groundwater Resource Development](#); links to maps [here](#).

Volcanoes, Earthquakes and Geohazards



[Seismic Monitor](#)



[Active Volcano Map](#)

Volcanoes

- United States Geological Survey (USGS) [Volcano Watch: What happens beneath the surface doesn't always stay beneath the surface](#); [Ground tilt for Kilauea summit eruption episodes December 2024-February 2025](#).
- USGS Yellowstone Volcano Observatory: [Observing non-earthquake signals on the Yellowstone Seismic Network](#).
- [Smithsonian / USGS Weekly Volcanic Activity Report](#).
- Santorini:
 - [Fossilized Olive Leaves are Reminder of Prehistoric Volcano on Santorini](#).
 - [Santorini volcano's "breathing" intensifies](#).
- [Volcanica, Volume 8, Issue 1, now online](#); six new papers including [this one](#) on Iceland's Eldgjá and Laki volcanoes.
- Video: [Lava and mudslides: Can Italy's Stromboli Island survive?](#)
- [Young zircon ages and compositions at Oregon's Mount Hood as evidence of high-silica magma storage underneath an andesitic arc volcano](#).
- [Dynamics of tephra fallout and column collapse during Plinian eruptions of Mt. Pelée volcano \(Lesser Antilles\): The 2.5 ka cal BCE P5 eruption](#).
- Video: [Lava cascades from Italy's Mount Etna](#).

- [Near-real-time design of experiments for seismic monitoring of volcanoes.](#)

Earthquakes

- [Euro-Mediterranean Seismological Centre \(EMSC\).](#)
- [Earthquakes Monitoring Live Worldwide.](#)
- [Variable fault geometry controls the cascading 2023 Herat, Afghanistan multiplet sequence.](#)
- [M4.8 rattles Vancouver](#); Earthquakes Canada summary [here](#).
- [Iceland hit by more than 130 earthquakes near a volcano.](#)
- [Remote Single-Station Seismic Monitoring of the July–October 2022 Earthquake Swarm at Ta‘ū Volcano, American Samoa.](#)
- [An unexplained tsunami: Was there megathrust slip during the 2020 Mw7.6 Sand Point, Alaska, earthquake?](#)
- [Long-Term Trends in Microseismicity During Operational Shut-Ins at the Coso Geothermal Field, California.](#)

Upcoming Events

- March 2-5, 2025 [PDAC Convention in Toronto, Canada.](#)
- [Williston Basin Petroleum Conference, April 28-30, Regina Saskatchewan](#); the last day to book rooms at the [hotel hosting the venue](#) is Wednesday, April 2, 2025
- European Geosciences Union: [EGU General Assembly 2025, Vienna, Austria & Online 27 April–2 May 2025.](#)
- [The USGS David A. Johnston Cascades Volcano Observatory will be hosting an Open House for the public on May 10, 2025!](#)
- [Geoscience Beyond Borders, GAC-MAC-IAH-CNC 2025 Ottawa, Ontario, May 11-14, 2025.](#)
- [Sedimentary Geology and the Energy Transition Conference, June 2-5, 2025 – Salt Lake City, UT USA.](#)
- [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](#).
- 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.](#)

February 24, 2025

Geology and the Fate of Societies – Iceland



Figure 1a – Iceland

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

Figure 1b – Location of Iceland

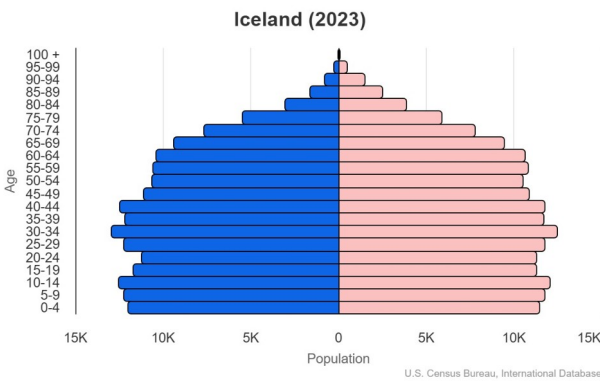
Credit: [CIA World Factbook, public domain](#)

The [Land of Fire and Ice](#), [Iceland](#) is an island in the North Atlantic Ocean. An independent nation, its government is a [unitary parliamentary republic](#). Interestingly, the most senior officials in the country are women, the President is [Halla Tómasdóttir](#); the Prime Minister is [Kristrún Frostadóttir](#), and the Speaker of the Legislature, the [Alþing](#), is [Ásthildur Lóa Þórsdóttir](#). The Capital and largest city is [Reykjavík](#) (pop. 247,590 in the metropolitan area). Note: Icelandic uses the “Þ” letter for the “th” sound.

According to the [Central Intelligence Agency](#) (CIA) [World Factbook on Iceland](#), the country has total land area of 103,000 square kilometres (km²) of which 100,250 km² is land and 2,750 km² is water. Also according to the World Factbook, 364,036 people live in Iceland, most of whom live in the metropolitan area around the Capital, Reykjavík.

Most, 78.7%, people in Iceland are [ethnic Icelanders](#). Of the remaining: 5.8% are [Polish](#); 1% are [Danish](#); 1% are [Ukrainian](#); and 13.5% are something other. [Icelandic](#) is the official language; [English](#), [Polish](#), other [Nordic languages](#), and [German](#) are also spoken by parts of the population. The [Evangelical Lutheran Church of Iceland](#) is the official religion, followed by 58.6% of the population. Other religions include [Roman Catholics](#) (3.8%), the [Independent Congregation of Reykjavik](#) (2.6%), the [Independent Congregation of Hafnarfjordur](#) (1.9%), [pagan worship](#) (1.5%), the [Icelandic Ethical Humanist Association](#) (1.4%), other or unspecified (18.7%), and no religion (7.7%). Icelanders are well educated, with near 100% literacy and have a well [organized education system](#).

Economically, the per capita [GDP](#) in Iceland is \$69,833; the [Gini](#) coefficient is 23.2, indicating low inequality; and the [Human Development Index](#) is very high at 0.959. The top [exports](#) of Iceland are raw aluminium (\$2.25b), fish fillets (\$1.05b), non-fillet frozen fish (\$444m), non-fillet fresh fish (\$359m), and orthopaedic appliances (\$358m), exporting mostly to Netherlands (\$1.97B), Germany (\$771M), United States (\$735M), United Kingdom (\$607M), and Norway (\$444M). The top [imports](#) of Iceland are refined petroleum (\$1.16b), cars (\$774m), carbon-based electronics (\$638m), aluminium oxide (\$581m), and computers (\$266m), importing mostly from Norway (\$1.11B), China (\$908M), Germany (\$903M), Netherlands (\$745M), and United States (\$694M) (2023 estimates). The main industries in Iceland are tourism, fish processing; aluminum smelting; geothermal power, hydroelectric power; and production of medical/pharmaceutical products.

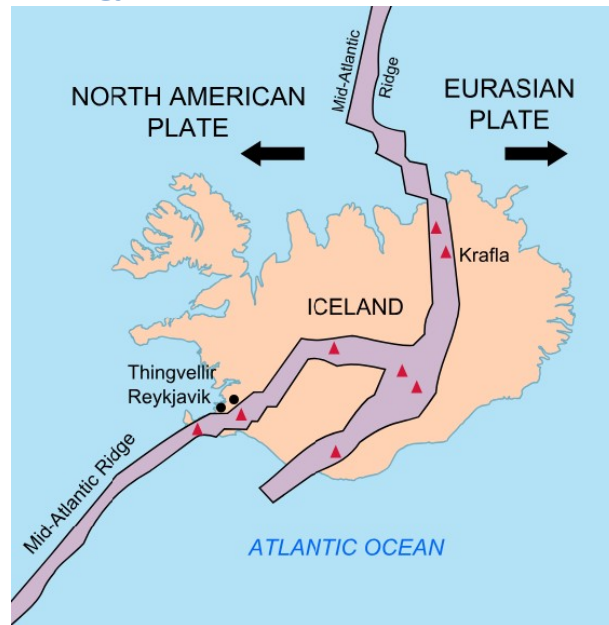


The demographic profile shows a fairly stable, but gradually shrinking population. The total fertility rate is 1.95 births per woman, below the replacement rate of 2.1 and the annual growth rate is 0.89%. Affecting the growth rate is a net inflow of 2.5/1,000 people in the population. Iceland is a middle-aged country where the median age is 38 years; 19.8% of the population is younger than 15 years; and 63.2% of the population is between 15 and 64 years of age. Life expectancy at birth for both sexes is 83.8 years.

Figure 2 – Iceland Demographics

Credit: U.S. Census Bureau, International Database; public domain

Geology



Iceland sits on the [Mid-Atlantic Ridge](#) where the [North American](#) and [Eurasian](#) Plates are moving away from each other at a [divergent plate boundary](#); also called [sea-floor spreading](#). The effect of the sea-floor spreading at Iceland is to [pull the country](#) apart at a rate of about 18 to 19 mm per year.

One effect of the tectonic activity in Iceland is [pervasive volcanism](#) and [geothermal activity](#). [Icelandic volcanoes](#) are frequently in the News and notes section of this blog and the entire country can be considered one big [shield volcano](#), with many volcanic vents.

Figure 3 – Tectonic Framework of Iceland

Credit: USGS, public domain

The [geology of Iceland](#) is almost entirely extrusive [igneous](#) rock. The most common rock type is [tholeiitic basalt](#).

Figure 4 shows the surface geology of Iceland.

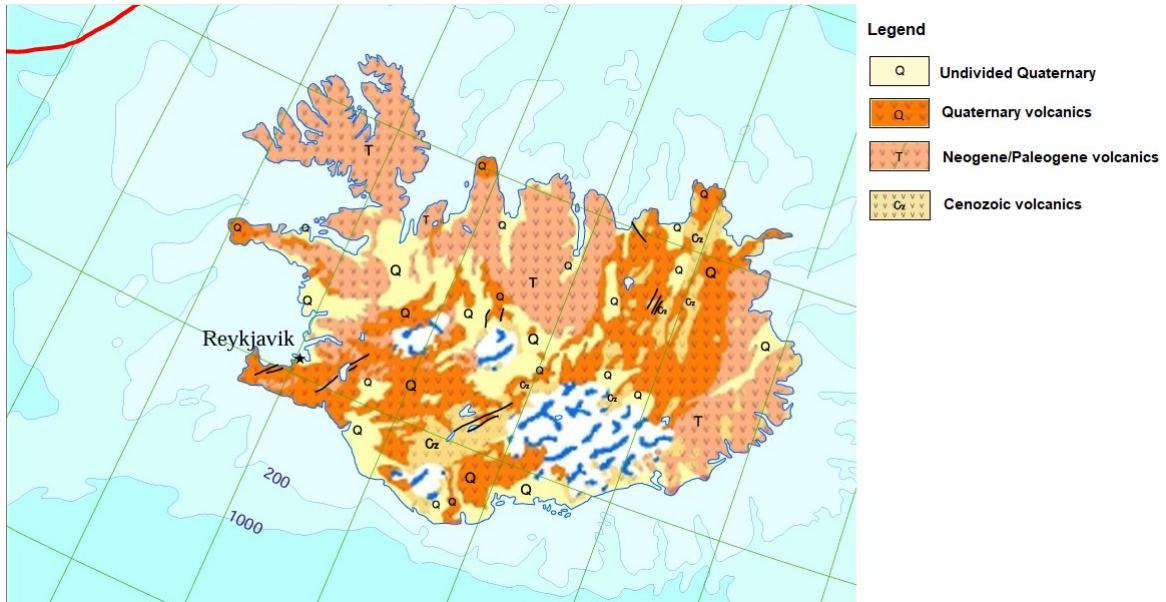


Figure 4 – Iceland Surface Geology

Credit: extracted from [Pawlewicz et al, 2002, USGS Open-File Report 97-470-I, public domain](#)

If you are interested in detailed geological maps of Iceland, check out the [Icelandic Institute of Natural History](#) where you can download GIS compatible files.



Figure 5 – Glaciers in Iceland

Credit: [Google Earth](#)

Another important aspect of Icelandic geology are its glaciers. There are [269 glaciers in Iceland](#), which together, cover 10% of the land area. In addition to the glaciers themselves, many areas of Iceland are covered with glacial deposits such as [glacial till](#) and [glaciofluvial](#) (outwash) deposits. In glacial geology, [glacial outwash plains](#) are sometimes called [sandurs](#), a word derived from the Icelandic location of [Skeiðarársandur](#).

Resources

Food Production



**Figure 6 – Sheep in [Rangárþing eystra municipality](#) near Skógar, Iceland
Credit: [Jakub Halun](#), [Creative Commons Attribution 4.0 International](#) license**

According to the World Factbook, 18.7% of the land area of Iceland is used for agricultural. Most of that is pasture (17.5%) The amount of arable land is a small portion of the whole (1.2%). 81% of the land area has no use.

The top top ten agricultural products, based on tonnage, are: milk, chicken, barley, lamb/mutton, potatoes, pork, beef, eggs, other meats, cucumbers/gherkins (2022 estimate). That any arable agriculture takes place is a tribute to the ingenuity of Icelandic farmers. One [innovation](#) is the use of geothermal heat to warm up [greenhouses to produce fresh produce](#).

Statistics on agricultural production from the [United Nations Food and Agriculture Organization](#) (FAO) can be found [here](#). The FAO indicates that [7% of the Icelandic population](#) suffers from moderate and severe food insecurity; this is an improvement over [past experiences with famine](#).



Figure 7 – Fishing Fleet at Vestmannaeyjar Harbour, Heimaey
Credit: [Diego Delso](#), [Creative Commons Attribution 4.0 International](#) license

The [fishing industry in Iceland](#) has deep roots, going back to the original settlement of the island by [Norse seafarers](#). The [industry](#) includes the wild-caught fishery, aquaculture and a sports fishery.

The wild-caught [wild-caught fishery](#) includes:

- [Demersal](#) species include: Atlantic cod, Haddock, Saithe (Pollock), Ling, Tusk cod, Whiting, Greenland halibut, Plaice, Lemon sole, Witch flounder, Atlantic halibut, Megrin, Dab and the Long rough dab, Golden redfish, the Beaked redfish, the Norway redfish, lumpfish and monkfish
- [Pelagic fishes](#) include: Herring, Capelin, Atlantic mackerel, Blue whiting, Horse mackerel, Pearlside, and Sand eel;
- [Cartilaginous fishes](#) include: Greenland shark and Spiny dogfish, Grey skate and Starry skate;
- [Diadromous fish](#) include: Atlantic salmon, Brown trout, Arctic char, European eel, and European flounder;
- [Invertebrates](#) include: Northern shrimp; Norway lobster; Iceland scallop; Blue mussel, Ocean quahog, and Common whelk;
- Marine mammals include: Fin whale and Minke whale.

[Aquaculture](#) in Iceland includes farmed salmon, Senegal sole (using geothermal heated water), and lumpfish (used to remove external parasites from salmon and trout). The total production of farmed fish in Iceland in 2017 was close to 21,000 tonnes. There is also a [lively sports fishery](#) for tourists – especially for those who love catching salmon and trout.

An important geopolitical aspect of the Icelandic fishery has been their determination to keep control of the local waters and prevent foreigners from over-fishing in their waters. One example was the [Cod Wars](#) between Iceland, on one side, and the United Kingdom and Germany on the other. Iceland won. Current [international relations](#) with regards to the Icelandic fishery involves management of the resource through organizations including the [Northwest Atlantic Fisheries Organization](#) (NAFO), the [North East Atlantic Fisheries Commission](#) (NEAFC), and the [International Convention on Conservation of Atlantic Tunas](#) (ICCAT). The marine mammal is managed in accordance with the [International Whaling Commission](#) (IWC), and the [North Atlantic Marine Mammal Commission](#) (NAMMCO).

Statistics on fish production from the FAO can be found [here](#).

Mineral Resources



**Figure 8 – The [Nesjavellir Geothermal Power Plant](#) in the Þingvellir (Thingvellir), Iceland
Credit: Gretar Ívarsson, geologist at Nesjavellir, [public domain](#)**

Siting on the Mid-Atlantic Ridge has its advantages – for Iceland this includes access to abundant [geothermal energy](#). Geothermal energy is used for [space heating and for electrical generation](#). Geothermal and hydroelectric generation provide 85% of the country's electricity needs, 66% is provided by geothermal.

Another use for the geothermal generated electrical energy is for smelting aluminium, ferrosilicon and silicon. According to the [USGS Minerals Yearbook](#):

Aluminum is produced at the:

- [Fjardaal smelter at Reydarfjordur](#) by Alcoa Fjardaal sf (Alcoa), you can take a [guided tour](#) of the facility if you want;
- [Grundartangi](#) by Nordural Grundartangi ehf (Century Aluminum); and
- [ISAL smelter in Hafnarfjordur](#) by Rio Tinto Iceland Ltd. (Rio Tinto Alcan Ltd.)

Silicon is produced at the [Bakki Smelter](#) in near Husavik (PCC BakkiSilicon). The [Reykjanes silicon plant at Helguvík](#) has been closed since 2017. Ferrosilicon is produced at the [Elkem Plant](#).

Iceland has a cold climate, moderated by the [Gulf Stream](#). The climate zones include [Tundra \(ET\)](#), [Continental \(Dsc\)](#), and [Subarctic \(Dfc\)](#). While winters are harsh, the summers are warm and enjoyable.

Iceland looks like an interesting place to visit, especially for geologists who study volcanoes and glaciers. The [official travel advisory](#) for Iceland warns of the dangers of the natural world and driving on the roads. These advisories [here](#) and [here](#) suggest normal precautions. If you plan to go, dress for the weather and check out [Climates to Travel](#) and [Lonely Planet](#).

History and Geopolitics

History, From the Viking Settlement to Modern Times



Figure 11 – Ingólfr Arnarson Lays Claim to Land near Modern Reykjavik
Credit: [Johan Peter Raadsig \(1806 – 1882\)](#), photographed by [User: Haukurth](#), [public domain](#)

Iceland was [settled by Norse adventurers](#) (and their [thralls](#)) around 870 AD. The early settlers recorded their experiences in [oral sagas](#) and established a [self-governing commonwealth](#) with regular meetings of the [World's Oldest Parliament, the Alþingi](#) (Althing) which originally met in the [Þingvellir](#) (Thingvellir). The country was divided into four administrative districts or [Farthings](#) ([J.R.R. Tolkien](#) used this word for the [divisions of his mythical Shire](#)). [Christianity](#) was introduced to Iceland around the year 1000. One effect of the introduction of Christianity was that land owners [squabbled with the Bishops over control of the parish churches](#) and the associated tithes.

Given the predilections of the Iceland's Viking inhabitants, it is not surprising that there would be political problems and that those disputes would lead to violence. The troubles culminated in the civil war of the [Sturlung era](#) (1180–1264) which only ended when Iceland was incorporated into the [Norwegian Kingdom](#) in 1262 under the [Old Covenant](#).

Norwegian rule ended in 1380 when [Denmark and Norway](#), together with their overseas colonies of Iceland, [Greenland](#) and the [Faroe Islands](#) were united under a single crown. Danish rule of Iceland continued even after Denmark split with Norway in 1814. The period of Danish rule over Iceland included the [Protestant Reformation](#), which introduced Lutheranism, and the [eruption of the Laki volcano](#), which resulted in a famine that killed about a quarter of Iceland's population.

Danish rule was not entirely popular, especially as the Danes enforced a [trade monopoly](#) from 1602 to 1874. Some Icelanders just left, [many settling down in Manitoba](#) and elsewhere in North America. Among those that remained, an [independence movement](#) grew up, resulting first in an independent [Kingdom of Iceland](#) (under the Danish crown) in 1918, and finally in the establishment of the [Icelandic Republic](#) in 1944. During [World War II](#) Iceland was [invaded](#) and occupied by [British, Canadian and American](#) troops. The occupation was not a [happy situation](#) for the Icelanders.

Following World War II, Iceland became an important [outpost during the Cold War](#); its location being vital for control/protection of the North Atlantic shipping routes. Iceland joined the [North Atlantic Treaty Organization](#), in 1949. However memories of the recent Allied occupation contributed to [riots](#) in protest of the decision to join the alliance. Also, it was after WWII that the Icelanders struggled to control the fishery in the previously mentioned [Cod Wars](#).

In more recent times, the Icelanders were notable in their reaction to the [Great Financial Crisis of 2008](#). Whereas other governments [bailed out](#) insolvent [banks](#), i.e. [rewarding financial mismanagement](#); the [Icelanders nationalized](#) the insolvent banks and [jailed the responsible bank managers](#).

Geopolitics – A Small Nation in a Big Ocean



Figure 12 – Alþingishúsið (Althing House). Reykjavík
Credit: APK, [Creative Commons Attribution 4.0 International](#) license

Iceland's internal issues are mostly political and economic. Their resolution involves the usual democratic churn. Any big trouble for Iceland is likely to come from the outside.

A small independent nation in the North Atlantic, the Icelanders have every reason to want a quiet life where they can be left alone to make a living. Unfortunately, the world won't leave them alone. Just as in WWII, when Iceland was vital in the [Battle of the Atlantic](#), in any future Great Power struggle, Iceland will be a key location to maintain freedom of the seas. This is the geopolitical reality of Iceland.

Looking forward, even if the United States [scales back](#) its commitment to NATO, and closes some overseas bases, I can't see them giving up their [base at Keflavik](#). At the very least, the Americans will want to deny its use to a hostile power. With or without NATO, the Americans will be in Keflavik for a long time, for their own security.

Iceland's [relationship with the European Union](#) (EU) is bound up with both security and trade concerns. While not a full member of the EU, Iceland is within the area of free movement and does most of its trade with the EU. A maritime nation, Iceland's trade depends on freedom of movement on the sea. If the USA scales back its role as the World's Policeman, Iceland will find itself dependent on the EU nations and the United Kingdom to maintain the sea lanes of trade.

The other Great Powers, China and Russia, also have interests in Iceland. [China](#) is mostly interested in trade, although they might want to cause mischief to American installations in Iceland in the event of a war.

Iceland and Russia also have a [complicated relationship](#). Both countries have an interest in [Arctic affairs](#). Currently, Icelanders [are none too happy](#) with the Russian invasion of Ukraine. Also, in any European conflict involving direct war between the USA and Russia, Iceland could be drawn into any troubles because of its strategic location and its [American base](#).

I am optimistic about Iceland, they have a great future with stable energy supplies and an admirable standard of living. I hope to go there someday and see the volcanoes and glaciers for myself.

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.