

Norway: Geography

Norway is a long narrow country on the west side of the Scandinavian peninsula, sharing borders to the East with Sweden (1619 km), Finland (727 km) and Russia (196 km.). It has a very long rugged coastline – to the NE is the Barents Sea, to the N the Arctic Ocean, the Norwegian Sea (part of North Atlantic Ocean) lies to the W, the North Sea to the SW and the Skagerrak inlet of the Baltic Sea to the S. It is located between 57° and 71° N, 04° and 31° E (the same longitude as Cairo), 1792km from north to south (2450km by road), 1.6km from east to west at its narrowest point and 432km at its widest. The total mainland area is 323 802 km² (7th largest in Europe) including 19 522 km² of fresh water. 1:50 000 topographical maps published by Ugland (formerly *Statens Kartverk*, the Norwegian OS) are available in book and sports shops and tourist offices.

Nearly a third of the country is north of the Arctic Circle (*Polarsirkel*), the point where the sun never sets for one full day and never rises for one day. Moving further north, the Land of the Midnight Sun has increasingly longer periods of continuous daylight in summer and night in winter. At Nordkapp, promoted as continental Europe's northernmost point and nearer to the North Pole than to Oslo, the sun never sets from 11 May to 31 July; the true northernmost point is actually Knivskjellodden, 5km to the west, and a 9km rough hike from the Nordkapp road. Major island groups include the 365 islands of the Lofotens chain inside the Arctic Circle and Svalbard archipelago (area 61 020 km²) at latitude 80°N, halfway between the mainland and the North Pole, discovered in the 12th century; its population is 2165 (2008), Norwegian 55%, Russian 44%; ice covers over 60% of Svalbard, including Austfonna the largest glacier in Europe. Norway gained sovereignty of Svalbard in 1920; other countries were granted mineral rights but these are now exercised only by Russia. Jan Mayen Island (area 377 km², discovered 1614, claimed in 1929) NE of Iceland with Beerenberg, the world's most northern and Norway's only active volcano, and Bouvet Island (49 km², discovered 1739, claimed in 1928) in the South Atlantic are Norwegian territories. In Antarctica, Norway also claimed Peter I Island in 1931 and Queen Maud Land in 1938 but under the Antarctic Treaty 1959, political claims are no longer recognised.

Geology: Norway is pre-Cambrian, mostly granite and gneiss, continuous with the Appalachian Mountains in the USA and mountains of Ireland and Scotland. Almost the entire country was covered by a thick ice sheet in the ice ages and glaciers carved out deep valleys and fjords and left deep lakes. Land is still rising several mm per year after the weight of ice disappeared and coastal agricultural land was once the seabed. Svalbard has sedimentary rock layers that include fossils, coal and oil, also iron ore, copper, zinc, phosphate and gold. Two rift valleys in the North Sea contain upper Jurassic shale with oil and gas and the continental shelf has large potentially exploitable coal reserves.

Norway has breathtaking scenery with high steep rugged mountains, 291 peaks over 2 000m, and plateaux covering over half the land mass; 20% above 900m, average elevation 460m and 32% above the treeline. The Hardanger plateau is the largest in Europe. There are 11 major glacier systems (*breer*); Jostedalbreen is the largest in mainland Europe, 80km long, 487 km²; 7% of the country is glacier and fresh water with 450 000 lakes (largest Mjøsa at 362 km², Hornindalsvatnet at 514m deepest in Europe), rivers (longest Glomma, 601km) with spectacular waterfalls (*foss*) including nine of the world's 20 highest (highest Kjelfossen, 840m). Rivers are fast-flowing and dangerous in spring and early summer due to melting snow and some are always dangerous as water may be released from dams upstream. In upland areas, many feed lakes and reservoirs connected to pipes that drop to hydro-electric power stations in the valleys. Last century, mountainsides collapsing into a fjord or lakes caused three local tsunamis with the loss of about 180 lives. There are vast forests (24% of the land mass productive, 14% unproductive), treeless Arctic tundra and about 150 000 islands (2000 inhabited, largest excluding Svalbard is Hinnøya 2198 km², 200 km inside the Arctic Circle). Hundreds of deep fjords on the west coast have high cliffs and extend inland for up to 200km making the mainland coastline 25 148km long; with

islands, it's 83 281km, twice the Equator's circumference. Many are crossed by car ferries and there are cruises past waterfalls that drop 100s of metres straight into the fjord, also with spectacular views in the mountains above. Main fjords worth visiting are Geirangerfjord, Nordfjord, Sognefjord/Nærøyfjord (world's second deepest at 1308m), Hardangerfjord, Lysefjord. The world's strongest tidal current near Bodø produces the maelstrom Saltstraumen, spectacular at some high tides. Mirages are often seen in the clear Arctic air, due to water, ice and snow reflections combined with temperature inversions. The deep valleys in the West give way to wider fertile valleys and rolling hills in the East; sandy beaches in the South; 3% of land is arable, 1% buildings and roads)

Climate: There are many climate types. Interior highlands and the far North have an Arctic winter climate with strong winds but the Gulf Stream gives a mild coastal climate keeping ports ice-free in winter and may bring jellyfish to south coast beaches. In summer the south coast has long dry sunny periods (sometimes drought) and long daylight hours (4am to 11pm plus 3.5 hours of twilight) with more sunshine than the Mediterranean. The west coast has the highest rainfall in Europe (3575mm per year); Bergen has umbrella vending machines. The central eastern area has a continental climate with cold drier winters but hot wet summers. Autumn is short; vegetation colours change rapidly. Average maximum July temperature is 20°C in the south, 10°C in the north; the best times to visit are May (uncrowded, with Spring blossom) to September. Average maximum January temperature is 3°C in the south, -16°C in the north with visitors for skiing or the Aurora Borealis in the far north from November to February. Heavy snowfalls may close mountain roads all winter. Temperature extremes occur inland, reaching over 35°C in summer and -50°C in winter. A more extreme future climate is predicted with increased precipitation, especially heavy rain within a short period and possible landslides and local floods; winters may be significantly milder. For weather reports, check the Norwegian Meteorological Institute <<http://met.no/english/>> or <<http://www.worldclimate.com>> or <<http://www.yr.no/english/>> .

Aurora Borealis (Northern Lights or *Nordlys*): When charged particles ejected by solar flares reach the earth's magnetic field, they are drawn towards the poles and interact with electrons in gas molecules in the upper atmosphere to give off diffuse changing light in the form of drapes and streamers, usually yellow-green from oxygen molecules about 90km above the earth, red from oxygen up to 320 km and blue or pink from nitrogen, purple from helium and occasionally orange from neon. Book: Northern Lights: The Science Myth and Wonder of Aurora Borealis, by Calvin Hall (Sasquatch Books 2002 ISBN 978 157 061 290 9) £11.14.

Population: 4.8 million people (2009), the lowest population density in Europe after Iceland. Annual population growth was 1% in the immediate post-war years, mainly due to the high birth rate, but has now dropped to 0.34%. The birth rate has fallen to 1.1%, although still one of the highest in Europe; growth is also due to immigration and increasing longevity – 13% of the population is over 67. Only 20% live in rural areas; half the population lives in the SE, 20% in Greater Oslo. Most Norwegians are of Nordic origin with about 60 000 Sami people (the name Lapp is now considered derogatory), many living a nomadic life herding reindeer across northern Scandinavia and the Kola peninsula in Russia, a total of about 75 000 in all four countries. There are 460 000 non-nationals (9.7%), including 79 000 born in Norway to immigrant parents; about 100 000 have refugee status. Most immigrants are from Poland, Pakistan, Sweden, Iraq, Somalia, Vietnam, Denmark, Germany, the former Yugoslavia and Iran; 46% of them have Norwegian citizenship. The largest cities are Oslo (population 560 000 of whom 25% are immigrants). Bergen (248 000), Trondheim (165 000), Stavanger (119 000), Bærum (108 000) and Kristiansand (79 000). The outer parts of cities are quite rural; over half of Oslo's area is forest.

Time Zone: Central European Time, 1 hour ahead of GMT, the same as Sweden, Denmark and the western coast of Europe; daylight-saving time is observed for the same period as British Summer Time.