Nordic Ventures

Guide Information & Norway Facts

Information gathered 2008-2015 from various sources

Guiding for Nordic Ventures

Welcome as a guide and team member! Adapting to a new country and working environment can be a challenge even for experienced guides. In order to make your stay in Norway for the summer and work more rewarding, we have compiled some basic information about Norway and our company we would like to share with you.

Nordic Ventures was established in 1998 and has been one of the pioneering commercial Sea Kayaking companies in Norway. We are a mid sized company by international standards and our operation is limited to the season from April to October due to weather conditions and tourism traffic in general.

Right from the beginning we have had focus on careful selection of guides, chosen for their personalities and skills and we have worked with many great staff members and guides over the years, - you may know some of them, - these people are the main reason we are still in business. We have now been operating for 17 years without any injuries to clients, no major mishaps and very few trips ever cancelled. (6 trips cancelled during 17 seasons in total)

Our current slogan is simple,

" Sea Kayaking tours beyond Expectations "

– something we aim to deliver in the field on every single trip. Our current client feedback on TripAdvisor is great - we are listed as # 1 activity in Voss since 2013 – the direct result of the efforts and teamwork of previous guides and base crew.

As a Sea Kayaking & Hiking Tour Operator in the Norwegian Fjord region, we have an unique opportunity to introduce our guests to the area with a very different approach to what the majority of tourists visiting the area will experience.
There is an estimated 400-500.000 people travelling thru the region each year, - a very large part of these take the ferry from Flåm to Gudvangen or vice versa and spend merely 2 hours cruising the Nærøyfjord on the famous Norway in a Nutshell trip. Very few boats actually stop along the route, most of the travelling through the area can be categorized as sightseeing.

Our tours travel in the less congested areas, away from roads, noise, people and regular facilities. Physical exercise and nearness to the elements are some of the key elements on our trips, amongst with good food and a personalized experience, leaving long lasting impressions and memories after visiting the area. We hike up into the valleys, get on top of the mountains and enjoy Norwegian nature at it's best.

As a guide will come across many interesting people this season. Our guests are of many different nationalities and backgrounds and each trip is different in composition and numbers. Yet we always try to overcome the cultural differences and deliver a high quality product to everybody, within our possibilities and framework.
Clients have typically planned their trip here for a long time and travelled far to fulfil a dream of seeing and experiencing the Norwegian Fjords. They usually share the same passion for the outdoors as ourselves, which is why they have chosen to travel with us by kayak in the first place.

You, as a guide, have all opportunities to provide our clients a very unique experience.

At tour start you will need to introduce yourself and win the clients on your side. This is perhaps the single most important thing you can do the whole day in order to lay the foundation for good conversations and cross-communication amongst clients throughout the trip. Finding out who people are, where they are from and giving everybody a little bit of quality time will get you well on the way and most of all make our guests feel welcome.

Furthermore, you need to establish yourself as a proficient leader to the group, preferably once everybody is gathered in order to avoid repetition of information provided. Leadership is demonstrated through clear and precise group instructions, good technical knowledge and proper advice during gear hand out and briefings. Using a bit of humour to break the ice and further bond the group is best done at this point since it is harder to communicate with the whole group during the transport to the Fjord. Most of all people will remember you for your personal touch and for making them feel included in the group. Little things like eye contact, caring about proper fitting of gear and remembering somebody’s name will make a huge difference to our guests. Well tested – it works ☺

Personal appearance is a sensitive topic when addressing new guides that have just started working for us. It is however an important part of our company branding that guides are looking representable and come across to clients as well groomed, clean and with a pleasant appearance. Please refer to the information provided further on for details on our dress code policy.

Our Introductory Pre-Season Course, held right at seasons start for new guides to Nordic Ventures, cover some topics in brief and others in great detail, ensuring that minimum standards are met before work with clients commence.

By making a mutual commitment at the start of the season to go through some important points before work starts we achieve the following:

- Completing paperwork for legal work at Nordic Ventures
- Short Introduction to Voss/ Gudvangen and the region you will be guiding in so you know the basics of the area you will be guiding in.
- Trip execution - detailed
- History, Geology and other relevant topics of the Fjords
- Road safety issues, Norwegian rules, procedures, vehicles and trailers
- People, places, Do's and Dont's of our trips.
- Streamlined use of gear, standardized procedures for all guides, no need to re-invent the wheel and repeat previously made mistakes
- Emergencies, resources in the field, handling of difficult clients etc.
- Covering any question you may have about any topic related to your stay in Norway and ensuring you will quickly adapt and get the most out of the season here.
- Getting to know each other and have a good time ☺

The course is held over 3-4 days and consists of 1 day at base in Gudvangen and 3 days in the field (2 nights camping) on which we amongst others cover the above topics.
You will, as an already experienced guide, probably find that most of our tours and procedures are pretty similar to what you have worked with in the past, but there are certain things we maybe do very different and getting everybody on the same page at seasons start is very important to us.

Day to day guiding will become routine after the first few months of working here and I am sure you will find your own preferred topics you will include in the information passed onto the guests.

In order to provide you with some general information about Norway and some of the topics the guests may ask you about, we have compiled the attached information that you will need to study. Some of the information provided is interesting, some is not! It is recommended to highlight the things you find especially interesting and build up some strongholds that you know enough about and try to focus on these on trips. The fjord region is very rich in history, geology, flora and fauna, making it a very forgiving place to guide since there is so much to talk about and share with the guests.

I wish you many happy paddling days in the season to come and hope you will find some of the included information useful.

Most of all I hope that you will enjoy your work here and hope to see you back for consecutive seasons ☺

Jan Nielsen
Owner, Nordic Ventures

Nordic Ventures general information

The company was established in September 1998 and has slowly grown to become one of Norway's largest operators specializing in commercial Sea Kayaking trips. We are a medium sized company and only employ around 5-8 full time seasonal guides in addition to 3-4 freelancers. Our season is from late April to early October with July and August being the busier months.

Our Mission is to be a pioneer in the outdoor recreation field. Nordic Ventures pride ourselves on excellent customer service and professional service surpassed by very few. These key values has been recognized by many of our business partners and we operate trips in Norway and the Fjord region on behalf of some foreign operators that have picked us over others due to our commitment to provide a quality product. Amongst these are REI Adventures, Outlook Expeditions, Mambo, Do It and other as well as several Norwegian partners and long established Cruise companies.

The goal of Nordic Ventures is that each guest should return from their trip not just satisfied, but excited to do another trip or another adventure with us. We are all here to provide our guests the most enjoyable trip possible and we heavily rely on you as our guide to make that materialize in the field on all trips.

Company philosophy is that most clients (not all) can relatively easily handle a single kayak on most of our trips. We are not a double kayak company, forcing all clients into doubles and guiding from singles. As the owner of the company I believe that when personality and weather conditions allow, clients judged able to handle a single Sea Kayak for the tour, should be given that opportunity. Simply because I believe that person will have a better trip, master new skills and appreciate our effort to provide this opportunity. Having said that, you as the guide take ownership of your tour and I will fully support any decision made by you in regards to this, based on your judgement of the client's personal ability, weather and actual kayaks available to use on the tour.

It is assumed that every employee at Nordic Ventures is an experienced professional in his or her field. You are hired on the assumption that you can make professional, mature choices and decisions on the job, sometimes while under pressure and in stressful situations. Working together by communicating and cooperating with each other are the key components to making your job and ours back at base more enjoyable.

Guides must also possess a genuine interest in working with the management and guests in a team environment.

So what does that mean?

Very often a lot of preparation has gone into setting up the trip you will be guiding and many e-mails has been exchanged with clients over months in order to confirm every little detail of their stay here.

Nordic Ventures offer assistance on booking accommodation, travels and arrange shuttles for clients at cost price and we make no commission on that service. Some of our guests are more demanding than others and some bookings may have entailed 10-15 e-mails back and forth in order to finalize.

Perhaps the single most important skill you will need to master as a guide is being able to meet and greet your guests for your trip relaxed, well prepared and in the most welcoming manner.

Not being ready in time is not going to score the company many points with clients so it is vital that things run smooth during the initial greeting with clients and that arrive for their trip and that you have a good feel for how to make a group gel by including everyone in the flow of information from the very beginning of a trip. It can be very disappointing to see a less than ideal/ unsuccessful morning greeting performed by a guide not being ready, for a trip that has been in the works for sometimes several months. Some weekends during busy periods may have required up to 250 e-mails back and forth to set up and get all tours confirmed.

We work as a team in order to ensure professionalism in all stages of the experience so that our guest will walk away with a good impression at the end of their trip. Nordic Ventures see's a good amount of repeat and referral traffic and that is to a very large extent credited to you as our guide.

Hopefully the following information will be helpful in preparing you for your coming position here with our team.

Personal Appearance Policy

Employees are expected to maintain high standards of personal cleanliness and to present a neat, professional appearance at all times. Nordic Ventures is confident each employee will use his or her best judgment in following acceptable cleanliness and dress standards. Employees are requested not to use fragrances in the workplace and are highly encouraged to be aware of the sensitivities or allergies of their clients and co-workers.

- Clean Nordic Ventures T-shirt worn at all times to the extent possible during work. (3 supplied FOC at beginning of season)
- No flip-flops or worn out footwear to be worn while around guests. A) It is not safe B) It is not our profile to be that laid back. The occasional exception is OK but wearing flip flops on a daily basis is not OK.
- We don't wear sunglasses or head wear during initial guest welcome greeting. OK later on.
- Sun caps or beanies can be worn during trips
- Personal clothing to be kept clean and free of bad odors, needs to be washed frequently
- Personal clothing with tears or excessive dirt stains will not be allowed
- Please wear a belt if needed so your pants don't slide down and expose your ass. We've seen it before and did not like it.
- We expect all of our employees to show up ready to work, clean cut, drug and alcohol free, with an open mind.
- Please guide without visible body piercings to the extend possible, ear rings OK but we very seldom see them worn in the outdoors.
- We do not tolerate the use of narcotics or illegal drugs and we do not hire smokers.

Guide Qualifications and Responsibilities – Key points

- Able to work long hours during rush periods and not be subject to burnout and moodiness.
- Maintain a good sense of humour and cooperative attitude in dealing with co-workers and guests.
- A guide is expected to have all food and equipment prepared and packed up in the vans before clients arrive and to have completed necessary check lists to ensure the tour kit is complete.
- Guides will be partially financially responsible for broken and lost equipment due to negligence.
- Enjoyment of the outdoors under all conditions, including windy, wet, cold, and occasionally really poor weather conditions and be able to motivate a lead a group during such conditions
- Our staff members must possess a high degree of initiative. You must be a self-starter, prompt and responsible
- The ability to be flexible and adapt to change easily. You must be willing to help anytime, anywhere, doing anything.

- The ability to communicate honestly and openly with colleagues and superiors and be able to accept criticism and help direct other guides as well.
- Our staff must take pride in a job well done and be willing to give suggestions for improvement
- Treat customers the way you would like to be treated if you were on vacation!
- We expect our guides to show up ready to work, clean cut, drug and alcohol free.
- We expect you to treat all company gear, including vehicles, trailers, kayaks and loose gear as if it was your own. Guides being hard on gear will be expected to pay for 50% of damages or losses caused by improper handling, securing or use of equipment.
- During employment your skills will need to continue to be enhanced and fine tuned through personal interest and commitment to learn as much as possible about the region. This is especially important for foreign guides. You will need to adapt and make your guiding focus on local issues. We have a high tolerance here but will not re-hire guides for following seasons incapable of running a trip and providing clients with detailed, accurate and interesting local information.
- Money management and cash receipts reports to be handled secure at all times
- Excellent customer service skills along with organization
- Flexibility with hours.
- Familiarity with geography of the area to provide good detailed directions when asked
- Familiarity with public transport options and timetables to be able to provide guest with exact answers to the numerous questions we get related to this
- Familiarity with all our trips, their prices and what the clients are expecting to receive based on our published information about our activities.

What we provide:

- A very comprehensive Work Agreement and all Norwegian social benefits for seasonal employees as specified by contract.
- Basic Training – see specifications following section
- Basic company branding material such as T-shirts and other freebies on occasion.
- Sea Kayaks and essential gear for use on trips (not personal gear)
- A dynamic work environment in beautiful settings, enough time off to pursue personal interest during less busy periods.
- A company policy that does not over staff and therefore provide you with good opportunities for making a good salary.
- Free food and drinks on all guided trips.
- Occasional use of company vans on request for personal reasons. Diesel on your account and log need to be filled out.
- Excellent prices in from our suppliers NRS & REI for your personal gear if needed

What you will need to bring in order to work for us:

- All Personal Gear - It's still COLD here during springtime and employees are required have their own paddle and camping gear available. Dress warm - proper attire such as wet suits, warm outdoor clothing, fleece, hats, gloves, booties etc. are a must
- Personal camping gear, tent, sleeping bag and mat suitable for the conditions here. Tent to be of good quality and not looking torn apart
- P.F.D - guides are required to have their own proper life jacket. "Customer" P.F.D.'s may be used during training; however, your own will be needed for working. Guide P.F.D's must be equipped with a safe towing line system, allowing you to assist clients in need during our trips.
- Gear must be in "Like New" condition and worn out, excessively faded, smelly gear must be replaced on the account of the employee if needed.

We will be willing to do what we can to help you out with any gear you lack on a loan basis. Any gear misplaced or lost while on loan from Nordic Ventures will be replaced at your expense. Any company gear lost on trips under your responsibility will be paid for 90% by Nordic Ventures and 10% deduction from your salary if the loss could have been avoided thru basic checks.

Sea Kayak Guide Training

Our training will provide new guides the very basic skills and knowledge before beginning guiding trips for the company. We will provide information on how to perform the job and cover most topics ; however, proper attitude and attention to guest service must be a trait already possessed.

First year guides must participate in our Pre-Season introduction course held each season in late April/ early May prior to beginning work. Second year guides that already have done the course previously can start work as needed and does not need to participate in the course again.

Our initial Pre Season Introduction Course (4 days) will cover:

- Familiarization with our trips and procedures
- Overview of all equipment used on day and overnight trips. Maintenance and repair of boats, content of First Aid kits etc.
- Cleaning and storage of equipment after trips
- Kitchen procedures to be followed
- Loading of kayaks onto trailers and how to avoid transport damage to kayaks, gear and vehicles
- Filling out Taco meter Cards on minibuses and Norwegian law requirements
- Introduction to all important aspects of Sea Kayaking in our Fjord Region, put-in take-out locations, place names in Norwegian, proper set up and break down of camps, emergency access points, lunch spots, photo spots...etc. along our routes
- History and Geology of the region
- Hazards & safety risks, seasonal assesments, specific sites, history
- Previous incidents discussed in order to make you aware of local specific considerations
- Rescue procedures in case of an emergency
- Cell phone discipline – Company policy on private use of phone
- Freedom rental briefings and information we provide during the briefings.

- Keeping necessary paperwork in order, filling out time sheets, taking payments from guests
- Money management and credit card transactions
- Work on skills such as dealing with group dynamics, outdoor leadership and making Nordic Ventures an enjoyable work place for all the team
- How to work with management and co-guides the best possible way to avoid building up friction and allowing us as a small team to run the best possible operation within our limitations.

The 4 day introductory course is a requirement for all new guides to Nordic Ventures prior to guiding commercial trips. The course is free for hired guides but not paid for as regular work under our work contract. During the course we provide free room and board. All meals and transport are covered as well.

During the season we will be holding staff meetings during which relevant topics are covered. These following staff meetings are fully paid for with your hourly rate and typically takes place once monthly or when need for a staff meeting arise before busy periods etc.

We expect that you as our guide will spend some of your own valuable time educating yourself on local topics, place names, local history and all other aspects that will make you stand out as professional, knowledgeable and informative guide.

In return we offer a voluntary written test that, depending on your test score and for how long you have been working for Nordic Ventures, can reward knowledgeable guides with a 2-10% bonus pay for guided tours where this knowledge is put into context.

Guides are re-hired or not re-hired for following seasons pending client feedback and professional appearance towards clients and management in all situations.

New guides can expect to gross NOK 25-30.000,- monthly the first year plus tips. During busy summer months with good weather guides has occasionally topped NOK 45.000,- monthly. Average guide salary is probably around NOK 25.000+ monthly before tax. Your tax percentage will usually be 22-28% of gross income.

Nordic Ventures guide information

Table of contents

1. General information Norway
2. Name
3. History
4. Geography
   a) Fjords
   b) Geology of the fjords
   c) Location of the worlds fjords
   d) Sognefjord
   e) Nærøyfjord
   f) Glaciers
   g) Jostedalbreen Glacier
5. Climate
6. Foreign Relations
   a) Elements of policy
   b) Norway and the European Union
7. Norwegain Defence Force
8. Music
9. Norwegain Literature
10. Tourism
11. Language
12. Politics
13. Cities and Manicipalities
14. Health Care system
15. Economy
   a) Welfare
   b) Oil
   c) Economic structure
16. Demography
   a) Religion
17. Human Rights
18. Architectures
19. Cuisine
   a) Sea food
   b) Meat and Game
   c) Fruit and deserts

d) Dairy Products
e) Alcohol

20. Sealing
21. Whaling
22. Rights of Public Access
    a) Pressure on the rights of access
    b) Sport fishing
    c) Hunting
23. National parks

General information Norway

(Many links are clickable)

Kongeriket Norge
Kongeriket Noreg
Kingdom of Norway

Flag
Coat of arms

Motto**:**
Royal: *Alt for Norge* / *Alt for Noreg*
(Everything for Norway)

1814 Eidsvoll oath:
Enige og tro til Dovre *faller*
(United and loyal until the mountains of Dovre crumble)
Anthem**:** Ja, vi elsker dette landet
Royal anthem**:** Kongesangen

Capital (and largest city)	Oslo 59°56′N, 10°41′E
Official languages	Norwegian (Bokmål and Nynorsk) Sami[1]
Demonym	Norwegian
Government	Parliamentary democracy and Constitutional monarchy
- Monarch	Harald V
- Prime Minister	Jens Stoltenberg (Ap)
Establishment	
- Unification	872
- Constitution	17 May, 1814
- Independence from union with Sweden	declared 7 June, 1905
Area	
- Total	385,155 km² (61st2) 148,746 sq mi
- Water (%)	7.0
Population	
- 2008 estimate	4,752,735 (114th)
- Density	12/km² (202nd) 31/sq mi
GDP (PPP)	2007 estimate
- Total	$257.4 billion[1] (40th)

- Per capita	$55,600[1] (3rd)
GDP (nominal)	2006 estimate
- Total	$335.3 billion[2] (25th)
- Per capita	$95.460,8 (486.335 NOK) [3] (2nd)
Gini (2000)	25.8 (low) (6th)
HDI (2007)	▲ 0.968 (high) (2nd)
Currency	Norwegian krone (NOK)
Time zone	CET (UTC+1)
- Summer (DST)	CEST (UTC+2)
Internet TLD	.no[5] .sj and .bv
Calling code	+47

Norway (Norwegian: *Norge* (bokmål) or *Noreg* (nynorsk)), officially the **Kingdom of Norway**, is a country and constitutional monarchy in Northern Europe that occupies the western portion of the Scandinavian Peninsula. It is bordered by Sweden, Finland, and Russia, while United Kingdom lies to its west across the North Sea. The country's extensive coastline along the North Atlantic Ocean is home to its famous fjords.

The Kingdom of Norway also includes the Arctic island territories of Svalbard and Jan Mayen. Norwegian sovereignty over Svalbard is based upon the Svalbard Treaty, but that treaty does not apply to Jan Mayen. Bouvet Island in the South Atlantic Ocean and Peter I Island and Queen Maud Land in Antarctica are external dependencies, but those three entities do not form part of the kingdom.

Since World War II, Norway has experienced rapid economic growth, and is now amongst the wealthiest countries in the world, with a fully developed welfare system. This economic progress is caused in part by the development of oil and gas reserves off its coast. Norway was ranked highest of all countries in human development from 2001 to 2006, and came second in 2007 (to fellow Nordic country Iceland). It also rated the most peaceful country in the world in a 2007 survey by Global Peace Index. It is a founding member of NATO.

Name

Many etymologists believe the country's name comes from the North Germanic languages and that

it means "the northern route" (the way to the north), which in Old Norse would be *nord veg* or **norð vegri*.[citation needed] The Old Norse name for Norway was *Nóreegr*, in Anglo-Saxon *Norþ weg*, and in Medieval Latin *Nhorvegia*. The present name of Norway is *Norge* in Norwegian bokmål and *Noreg* in Norwegian nynorsk. The Old Norse and nynorsk forms are quite similar to an ancient Sami word that means "along the coast" or "along the sea" — realized as *nuorrek* in contemporary Lule Sami.

History

Archaeological finds indicate that there were people in Norway as early as the 10th millennium BC (12,000 years ago). Archaeological evidence suggests that the core of the oldest populations colonising Scandinavia 11 000 – 12 000 thousand years ago came from the present Germany. In the 9th century, it seems that Norway consisted of a number of petty kingdoms. According to tradition, Harald Fairhair gathered the small kingdoms into one in 872 AD with the Battle of Hafrsfjord. He became the first king of a united Norway.

The Viking age (8th to 11th centuries) was one of unification and expansion. Many Norwegians left the country to live in Iceland, the Faroe Islands, Greenland and parts of Britain and Ireland. People of Norwegian origin founded the modern-day Irish cities of Limerick, Dublin, and Waterford and established trading communities near the Celtic settlements of Cork and Dublin which later became Ireland's two most important cities. The spread of Christianity in Norway in this period is in large part attributed to the missionary kings Olav Tryggvasson (995–1000) and St. Olav (1015–1028), although Haakon the Good was Norway's first Christian king. Norse traditions were slowly replaced during the 9th and 10th centuries.

In 1349, the Black Death killed between 40% and 50% of the Norwegian population, causing a decline in both society and economics. Ostensibly, royal politics at the time resulted in several personal unions between the Nordic countries, eventually bringing the thrones of Norway, Denmark, and Sweden under the control of Queen Margrethe I of Denmark when the country entered into the Kalmar Union with Denmark and Sweden. Although Sweden finally broke out of the union in 1523, Norway remained in the union with Denmark for 434 years until 1814. During the national romanticism of the 19th century, this period was by some referred to as the "400-Year Night", since all of the kingdom's royal, intellectual, and administrative power was centred in Copenhagen, Denmark. Other factors also contributed to Norway's decline in this period. With the introduction of Protestantism in 1537, the archbishopric in Trondheim was dissolved, and the church's incomes were distributed to the court in Copenhagen in Denmark instead. Norway lost the steady stream of pilgrims to the relics of St. Olav at the Nidaros shrine, and with them, much of the contact with cultural and economic life in the rest of Europe. Additionally, Norway saw its land area decrease in the 17th century with the loss of the provinces Båhuslen, Jemtland, and Herjedalen to Sweden, as a result of the wars between Denmark–Norway and Sweden.

After Denmark–Norway was attacked by Great Britain, it entered into an alliance with Napoleon, and in 1814 found itself on the losing side in the Napoleonic Wars, resulting in dire conditions and mass starvation in 1812. The Dano-Norwegian Oldenburg king was forced to cede Norway to the king of Sweden, while the old Norwegian provinces of Iceland, Greenland and the Faroe Islands remained with the Danish crown. Norway took this opportunity to declare independence, adopted a constitution based on American and French models, and elected the Danish crown prince Christian Fredrik as king on May 17, 1814. This caused a war to break out between Sweden and Norway, as the Swedes had been promised the territory of Norway as a reward for aiding the victors of the Napoleonic wars. However, Sweden's military was not strong enough to defeat the Norwegian forces outright and instead of gaining Norway as a territory, Norway agreed to enter a personal

union with Sweden. Under this arrangement, Norway kept its liberal constitution and independent institutions (including its own military forces), except for the foreign service.

This period also saw the rise of the Norwegian romantic nationalism cultural movement, as Norwegians sought to define and express a distinct national character. The movement covered all branches of culture, including literature (Henrik Wergeland, Bjørnstjerne Bjørnson, Peter Christen Asbjørnsen, Jørgen Moe, Henrik Ibsen), painting (Hans Gude, Adolph Tidemand), music (Edvard Grieg), and even language policy, where attempts to define a native written language for Norway led to today's two official written forms for Norwegian: Bokmål and Nynorsk.

Christian Michelsen, a Norwegian shipping magnate and statesman, was Prime Minister of Norway from 1905 to 1907. Michelsen is most known for his central role in the peaceful separation of Norway from Sweden on June 7, 1905. Norway's growing dissatisfaction with the union with Sweden during the late 19th century ended in the dissolution of the union and after a national referendum confirmed the people's preference for a monarchy over a republic, the Norwegian government offered the throne of Norway to the Danish Prince Carl and Parliament unanimously elected him king. He took the name of Haakon VII, after the medieval kings of independent Norway. In 1898, all men were granted universal suffrage, followed by all women in 1913.

During World War I, Norway was a neutral country. Norway also claimed neutrality during World War II, but was invaded by German forces on April 9, 1940.

Norway was unprepared for the German surprise attack, but military resistance continued for two months, longer than any country invaded by the Germans, except the Soviet Union. During the Norwegian Campaign, the Kriegsmarine lost many ships including the cruiser Blücher. The battles of Vinjesvingen and Hegra eventually became the last strongholds of Norwegian resistance in southern Norway in May, while the armed forces in the north launched an offensive against the German forces in the Battles of Narvik, until they were forced to surrender on June 10 after losing allied help following the fall of France. King Haakon and the Norwegian government continued the fight from exile in Rotherhithe, London. On the day of the invasion, the collaborative leader of the small National-Socialist party Nasjonal Samling — Vidkun Quisling — tried to seize power, but was forced by the German occupiers to step aside. Real power was wielded by the leader of the German occupation authority, Reichskommissar Josef Terboven. Quisling, as *minister president*, later formed a collaborationist government under German control. Facilities in Norway to manufacture heavy water, a key requirement to produce nuclear weapons, were eventually abandoned by the Germans after multiple efforts to destroy the Vemork facility by Norwegians, British, and Americans. During the five years of Nazi occupation, Norwegians built a resistance movement which fought the German occupation forces with both armed resistance and civil disobedience. More important to the Allied war effort, however, was the role of the Norwegian merchant navy. At the time of the invasion, Norway had the fourth largest merchant marine in the world. It was led by the Norwegian shipping company Nortraship under the Allies throughout the war and took part in every war operation from the evacuation of Dunkirk to the Normandy landings.

Following the war, the Social Democrats came to power and ruled the country for much of the cold war. Norway joined NATO in 1949, and became a close ally of the United States. Two plebiscites to join the European Union (called the European Community in 1972) failed by narrow margins in 1972 and 1994. Large reserves of petroleum and natural gas were discovered in the 1960s, which led to a continuing boom in the economy.

Geography

Norway comprises the western part of Scandinavia in Northern Europe. The rugged coastline, broken by huge fjords and thousands of islands, stretches over 2,500 km as the crow flies and over 83,000 km including the fjords and islands. Norway shares a 2,542 km land border with Sweden, Finland, and Russia to the east. To the west and south, Norway is bordered by the Norwegian Sea, the North Sea, and Skagerak. The Barents Sea washes on Norway's northern coasts.

At 385,155 km² (including Jan Mayen, Svalbard), Norway is slightly larger than Germany, but much of the country is dominated by mountainous or high terrain, with a great variety of natural features caused by prehistoric glaciers and varied topography. The most noticeable of these are the fjords: deep grooves cut into the land flooded by the sea following the end of the Ice Age. The longest is Sognefjorden. Norway also contains many glaciers and waterfalls.

The land is mostly made of hard granite and gneiss rock, but slate, sandstone and limestone are also common, and the lowest elevations have marine deposits. Due to the Gulf Stream and prevailing westerlies, Norway experiences warmer temperatures and more precipitation than expected at such northern latitudes, especially along the coast. The mainland experiences four distinct seasons, with colder winters and less precipitation inland. The northernmost part has a mostly maritime Subarctic climate, while Svalbard has an Arctic tundra climate.

Due to Norway's high latitude, there are large seasonal variations in daylight. From late May to late July, the sun never completely descends beneath the horizon in areas north of the Arctic Circle (hence Norway's description as the "Land of the Midnight Sun") and the rest of the country experiences up to 20 hours of daylight per day. Conversely, from late November to late January, the sun never rises above the horizon in the north, and daylight hours are very short in the rest of the country.

Norway is part of Skandinavia, but the geologic term for this area is the **Fennoscandian Shield** (or Baltic Shield). This includes Norway, Sweden, Finland and the northwestern part of Russia. The rocks of Norway are very old, the oldest rocks are 3.5 billion years old, and they are generally very much alterated. Typical rocks are crystallines and metamorphites.

Norway has three main provinces of generally different geology. There is the south, around Oslo and down into Sweden, which is called **Southwestern Gneiss Province**. This area consits of 1,700 to 900 Ma old rocks, most of them formed in the **Gothian orogeny** (1700-1550 Ma). Later (1500-900 Ma) it was intruded by several generations of granitoids, which lead to various interesting hydrothermal mineral deposits. So this area is spotted with various interesting mining regions, for example there are numerous mines in the area southwest of Oslo. This gneiss province is cut in two parts by the **Caledonides**, and it continues along the western coast. In the south, where Norway is rather broad, the western gneiss is rather wide, but to the north only the islands are still made of gneiss. These western gneisses were again deformed during the Caledonian orogeny (~400 Ma).

Oslo itself is sitting on the **Oslo Rift** which is built of very young magmatic rocks of the **Permian** (300-250 Ma). The Oslo Graben is a failed rift system, which continues into the Skagerrak and the North Sea.

The backbone of the whole country is the belt of the **Caledonides**. The **Scandinavian Caledonides**, are made up of Neoproterozoic to Silurian metasedimentary and metavolcanic rocks (700-400 Ma). This rocks were originally deposited in the **Iapetus** Ocean, the predecessor of the present-day Atlantic Ocean.

Norway has very little limestone areas, so there are just a few caves in this country. Most of the Norwegian caves are **sea caves**. They are rather short and near sea level, but not necessarily at sea

level, as the sea level chaned more than 100 meters since the ice ages.

The limestones are mostly located in the Caledonides and about 600 Million years old. Most of these limestones have a long history of subduction, which always means high pressure and temperature. So the limestones were alterated and transformed into metamorphic limestone, called **marble**, of a grey or blueish colour. This limestones are located in the north of Norway, between Trondheim and Tromsoe.

The most famous cave area of Norway is **Mo I Rana** with 120 caves. The longest cave in Norway is 20km long **Tjoarvekrajgge**, which is located about 120 km north of Bodo. It is also the longest cave in the Nordic region [2006]. The deepest cave is **Ragge Javre Raige**.

Norway is the second least circular country in the world, having a very elongated shape, one of the longest and most rugged coastlines in the world, and some 50,000 islands off the much indented coastline. The mainland covers 13° latitude, from 58°N to more than 71°N, (Svalbard north to 81°N), and covers the longitude from 5°E to 31°E (Jan Mayen to 9°W, Kvitøya to 33°E).

The country-length chain of peaks is geologically continuous with the mountains of Scotland, Ireland and, crossing the Atlantic Ocean, the Appalachian Mountains of North America. Geologists hold that all these formed a single range prior to the breakup of the ancient supercontinent Pangaea.

Virtually the entire country was covered with a thick ice sheet during the last ice age, as well as in many earlier ice ages. The movement of the ice carved out deep valleys, and when the ice melted, the sea filled many of these valleys, creating Norway's famous fjords.

The land is still rebounding from the enormous weight of the ice (isostatic rebound), "growing out of the sea" with several mm a year, especially the eastern part of the country and the inner part of the long fjords, where the ice cover was thickest. This is a slow process, and for thousands of years following the end of the ice age, the sea covered substantial areas of what is today dry land. The sea reached what is today an elevation of 221 m in Oslo (Aker), 25 m in Stavanger, 5 m near Stad, 180 m in Trondheim, 50 m in Tromsø and 75 m in Kirkenes. This old seabed is now among the best agricultural land in the country.

The glaciers in the higher mountain areas today are not remnants of the large ice sheet of the ice age, their origins are more recent. The regional climate was up to 1-3 °C warmer in 7000 B.C. to 3000 B.C. (relative to the 1961-90 period), melting the remaining glaciers in the mountains completely during that period.

As a result of the ice carving, Sognefjorden is the world's second deepest fjord and Hornindalsvatnet is the deepest lake in Europe.

Scandinavian mountains. The Scandinavian Mountains is the most defining feature of the country. Starting with Setesdalsheiene north of the southern Skagerrak coast, the mountains goes north, comprising large parts of the country, and intersected by the many fjords of Vestlandet. This part includes Hardangervidda, Jotunheimen (with Galdhøpiggen 2469 m), Sognefjell and Trollheimen in the north, with large glaciers, such as Jostedalsbreen, Folgefonna and Hardangerjøkulen. The mountain chain swings eastwards south of Trondheim, with ranges such as Dovrefjell and Rondane, and reaches to the border with Sweden, where they are mostly gently sloping plateaus. The mountains then follows the border in a northeasterly direction (known as Kjølen). The mountains are intersected by many fjords in Nordland and Troms, where they become more alpine and creates many islands as they meet the sea. The Scandinavian mountains forms the Lyngen Alps and reaches into northwestern Finnmark, gradually becoming lower from Altafjord towards Nordkapp (North Cape), where they finally ends at the shores of the Barents sea.

The Scandinavian Mountains have naturally divided the country in physical regions; valleys radiate

from the mountains in all directions. The following physical regions will only partially correspond to traditional regions and counties in Norway.

Southern coast. The southern Skagerrak and North Sea coast is the lowland south of the mountain range, from Stavanger in the west to the western reaches of the outer part of the Oslofjord in the east. In this part of the country, valleys tend to follow a north - south direction. This area is mostly a hilly area, but with some very flat areas such as Jæren and Lista.

Southeast. The land east of the mountains (corresponding to Østlandet, most of Telemark and Røros) is dominated by valleys going in a north - south direction in the eastern part, and a more northwest - southeast direction further west, and the valleys congregate on the Oslofjord. The longest valleys in the country are Østerdal and Gudbrandsdal. This part also contains larger areas of lowland surrounding the Oslofjord, as well as the Glomma river and lake Mjøsa.

Western fjords. The land west of the mountains (corresponding to Vestlandet north of Stavanger) is more dominated by the mountain chain, as the mountains goes all the way to the coast, albeit gradually becoming lower towards the coast. This part is dominated by large fjords, the largest are Sognefjord and Hardangerfjord. Geirangerfjord is often regarded as the ultimate fjord scenery. The coast is protected by a chain of skerries (the Skjærgård) arranged to parallel the coast and provide the beginning of a protected passage almost the entire 1,600 km route from Stavanger to Nordkapp. The fjords and most valleys generally goes in a west - east direction, and further north a more northwest - southeast direction.

Trondheim region. The land north of Dovre (corresponding to Trøndelag except Røros) comprises a more gentle landscape with more rounded shapes and mountains, and with valleys congregating on the Trondheimsfjord, where they open up and forms a larger lowland area. Further north is the valley of Namdalen, opening up in the Namsos area. However, the Fosen peninsula, and the most northern coast (Leka) is more dominated by mountains and more narrow valleys.

Northern fjords. The land further north (corresponding to Nordland, Troms and northwestern Finnmark) is again more dominated by pointed mountains going all the way to the coast, and numerous fjords. The fjords and valleys generally lie in a west - east direction in the southern part of this area, and a more northwest - southeast direction further north. The Saltfjellet mountain range is an exception, as the valleys goes in a more north - south direction from these mountains. This long area comprises many large islands, including Lofoten, Vesterålen and Senja.

Far northeast. The interior and the land east of Nordkapp (corresponding to Finnmarksvidda and eastern Finnmark) is less dominated by mountains, and is mostly below 400 m. The interior is dominated by the large Finnmarksvidda plateau. There are large, wide fjords going in a north - south direction. This coast lacks the small islands forming the skerries so typical of the Norwegian coast. Furthest to the east, the Varangerfjord goes in an east - west direction, and is the only large fjord in the country opening up towards the east.

Fjords

A **fjord** or **fiord** (pronounced /fjɔːd/ or pronounced /fiːɔːd/ or 'Fee-Ord' (English)) is a long, narrow bay with steep sides, created in a valley, carved in a glacial period by a glacier moving from the top region of the mountains to the sea.

Geology of fjords

The seeds of a fjord are laid when a glacier cuts a U-shaped valley through abrasion of the surrounding bedrock by the sediment it carries. Many such valleys were formed during the recent ice age. Glacial melting is also accompanied by a rebound in the earth's crust as the ice load is removed. In some cases this rebound may be faster than the sea level rise. Most fjords are, however, deeper than the adjacent sea; Sognefjord, Norway, reaches as much as 1,300 m (4,265 ft) below sea level. Fjords generally have a sill or rise at their mouth caused by the previous glacier's terminal moraine.

Locations of fjords

The principal mountainous regions where fjords have formed are in the higher middle latitudes where, during the glacial period, many valley glaciers descended to the then-lower sea level. The fjords develop best in mountain ranges against which the prevailing westerly marine winds are orographically lifted over the mountainous regions, resulting in abundant snowfall to feed the glaciers. Hence coasts having the most pronounced fjords include the west coast of Europe, the west coast of North America from Puget Sound to Alaska, the west coast of New Zealand, and the west coast of South America. Other areas which have lower altitudes and less pronounced glaciers also have fjords or fjord-like features.

West coast of Europe

- Faroe Islands
- Norway
- Sweden, a small part of the west coast
- Iceland

West coast of New Zealand

New Zealand's Milford Sound

- Fiordland, in the southwest of the South Island

Northwest Coast of North America

- The coast of Alaska in the United States:Lynn Canal, etc.
- British Columbia Coast, Canada: from the Alaskan Border along the Portland Canal to Indian Arm; Kingcome Inlet is a typical West Coast fjord.
- Hood Canal in Washington

West coast of South America

- Zona Austral, Chile

Other glaciated regions

The coastline of eastern Greenland, with its many fjords. At the bottom is the longest fjord in the world, Scoresby Sund.

Other regions have fjords, but many of these are less pronounced due to more limited exposure to westerly winds and less pronounced relief. Areas include:

- Europe
  - Ireland (Ireland's only fjord is in Killary Harbour near Leenane, County Galway, on the west coast)
  - Scotland (where called firths, the Scots language cognate of fjord; lochs or sea lochs)
  - Sweden
  - Galicia in Spain
- North America
  - Canada:
    - Newfoundland & Labrador: Saglek Fjord, Nachvak Fjord, Hebron Fjord, and Bonne Bay in Gros Morne National Park
    - Quebec's Saguenay River valley
    - the Canadian Arctic Archipelago
  - Greenland
  - United States
    - Somes Sound, Acadia National Park, Maine
    - Hudson River
      - most clearly seen at the New Jersey Palisades
- Arctic
  - Arctic islands
- Antarctica
  - particularly the Antarctic Peninsula
- Sub-antarctic islands

Extreme fjords

The longest fjords in the world are:

1. Scoresby Sund in Greenland - 350 km (220 mi)
2. Sognefjord in Norway - 203 km (126 mi)
3. Hardangerfjord in Norway - 179 km (111 mi)

Deep fjords include:

1. Skelton Inlet in Antarctica - 1,933 m (6,342 ft)
2. Sognefjord in Norway - ~1,308 m (4,291 ft) (the mountains then rise to up to 1,000 m)
3. Messier Channel in Chile, South America - 1,288 m (4,226 ft)

Even deeper is the Vanderford Valley (2,287 m or 7,503 ft), carved by the Antarctica's Vanderford Glacier. This undersea valley lies offshore, however, and so is not a fjord.

The West Norwegian Fjords

Fjords are among the most dramatic and spectacular landscapes on the planet. The World Heritage Area, the West Norwegian Fjords, embraces some of the longest, deepest, narrowest and most beautiful fjords in the world. Their scenery and cultural heritage have spellbound visitors down the ages. Many people consider the fjords the very symbol of Norway, the foremost nation of fjords in the world. It is through no mere chance that the Norwegian word "fjord" has entered the international vocabulary. The World Heritage Area comprises two sub-areas, Geirangerfjord and Nærøyfjord. Together with their surroundings, the entire area covers 1227 km2 of which are sea.

Scientists have regarded these areas as classic examples of fjord landscape. Great differences in attitude and short distances between sea and mountaintop create a great diversity of scenery and natural history. Both sub-areas lack major, man-made infrastructures. Natural geological processes linked with the formation and evolution of the fjords are not affected by the works of man. Together, these areas have qualities that resulted in them being inscribed on the Unesco list of world's cultural and natural heritage after fulfilling two of the scientific criteria in the convention. When justifying the inscription, the committee stated that:

The West Norwegian Fjords are classic, superbly developed fjords, considered as typically for fjord landscapes in the world. They are comparable in scale and quality to other existing fjords on the World Heritage List and are distinguished by the climate and geological setting. The property displays a full range of the inner segments of two of the world's longest and deepest fjords.

The Nærøyfjord and Geirangerfjord areas are considered to be among the most scenically outstanding fjord areas on the planet. Their outstanding natural beauty is derived from their narrow and steep-sided crystalline rock walls that rise up to 1400 m direct from the Norwegian Sea and extend 500 m below sea level. Along the sheer walls of the fjords are numerous waterfalls while free-flowing rivers rise up through deciduous and coniferous forest to glacial lakes, glaciers and rugged mountains. There is a great range of supporting natural phenomena, both terrestrial and marine such as submarine moraines and marine mammals. Remnants of old and now mostly abandoned transhumant farms add a cultural aspect to the dramatic natural landscape that complements and adds human interest to the area.

Sognefjord

The **Sognefjord** (*Sognefjorden*) is the second largest fjord in the world after Scoresby Sund on Greenland, and the largest in Norway. Situated in Sogn og Fjordane in Western Norway, its mouth is about 72km (45mi) north of Bergen, and it stretches 203km (126mi) inland to the small village of Skjolden.

The fjord reaches a maximum depth of 1,308 m below sea level. The greatest depths are found some way inland. Near its mouth, the bottom rises abruptly to a sill about 100m below sea level. The average width of the main branch of the Sognefjord is about three miles. Cliffs surrounding the fjord rise almost sheer from the water to heights of 1000m and more.

The fjord reaches a maximum depth of 1,308 m below sea level. The greatest depths are found some way inland. Near its mouth, the bottom rises abruptly to a sill about 100m below sea level. The average width of the main branch of the Sognefjord is about three miles. Cliffs surrounding the fjord rise almost sheer from the water to heights of 1000m and more.

Nærøyfjord

Nærøyfjord – Geology and formation By Inge Aarseth

The 17-km-long Nærøyfjord, innermost in the 204-km-long Sognefjord, is one of the wildest and most impressive fjords in the world. The fjord is extremely narrow and steep-sided with mountains and glaciers towering 1700 metres above sea level on either side. At its narrowest point, the fjord is only 250 metres wide.The oldest rocks in the area around the Nærøyfjord were created during the Precambrian Age more than a thousand million years ago. Around 425 million years ago, the North American and European continents collided, and the Caledonian mountain range was formed. The rocks were exposed to high pressure and high temperatures and were transformed, creating different rock types. The predominant rock types in the area are mangerite, gabbro and anorthosite.

During the Tertiary period, between 66 and 2.5 million years ago, the Norwegian mountains rose and the rivers started carving out valleys. During the Quarternary period, (the last 2.5 million years) there have been 40-50 ice ages in Northern Europe. Glaciers have gouged out the valleys, making them deeper and wider, and later gouged deep troughs below sea level. When the glaciers melted the sea filled these troughs, creating fjords. During the last Ice Age, from around 115,000 to 10,000 years ago, the glacier that covered Scandinavia was up to 3,000 metres thick and the land was pressed down. When the glacier calved and receded, the edge of the glacier was for a period where Bakka is today, and a moraine ridge was formed, which is why the fjord is particularly shallow there. At the mouth of the Jordalen valley, it also deposited gravel in a delta out in the fjord, which shows that the sea level at that time (11,000 years ago) was 110 meters higher than it is today.

Geological values of the Nærøyfjord

Geologically speaking, the area can be classified as a particularly well-developed classic fjord landscape. The area is a young and still geologically active glacial landscape. The area has a unique geomorphology. Both the fjords themselves and the many side valleys are excellent examples of typical glacial-eroded U-valleys and “hanging valleys”.

Most of the bedrock in the area belongs to the so-called Jotun nappe (sheet of rock). Large sheets of Precambrian rock were folded and metamorphosed into gneiss, gabbro, mangerite and anorthosite during the Caledonian Folding. These rocks are hard and give a nutrient-poor soil when eroded and weathered. These sheets were thrust over younger, phyllitic rocks.

Anorthosite is a metamorphosed igneous rock containing the mineral feldspar. This rock has a very light colour, which can be easily seen in the terrain in the form of light greyish tones in the high mountains. A case in point is the area between the mountain of Bleia and Storebotn that is dominated by these anorthositic rocks. Another typical site is "Kvitmålane" in the mountainside of Skomakarnipa at the entrance to the Nærøyfjord and further in towards Dyrdal. There the white, steep mountainside catches the eye. Anorthosite has commercially interesting qualities. The most important deposits that are of industrial interest are found in a large area at the mountain of Jordalsnuten and particularly to the east of the valley of Nærøydalen.

The fjord landscape near the mountain of Bleia is very dramatic. The north face of the mountain has the highest total relief of the Sognefjord, from the bottom of the fjord with its depth of 1000 metres to the very top of the mountain at 1717 metres above sea level. On the north face of the mountain ravines and ridges create unusually dramatic and fantastic land forms. The Quaternary processes are highly active in this area. The high plateau of Bleia and the mountains to the south are remnants of the old peneplane. Thus they represent landforms prior to the ice ages.

The steep mountainsides make it possible for us to study the Quaternary processes and phenomena such as permanent avalanche gullies and cones as well as annual snow avalanches. The inner and outer Drøfti on the north face of Bleia are the most characteristic avalanche gullies in this area. Elsewhere good examples of these gullies are found in the Breidskreda east of Bakka in the Nærøyfjord and a sizeable gully just above Styvi in the same fjord. Above Revsnes at the foot of Bleia there is a clear indication of a major rock slide.

In the innermost parts of the valley glacial cirques can be found. They are formed by glaciers eroding downwards into the bedrock and are frequently filled with water. Good example of these processes are lakes at Huldabotnen in the inner part of the valley of Styvisdalen and Undredalsvotni to the east of Skammadalshøgdi.

Within the borders of the Nærøyfjord World Heritage Park there are a number of big and small glaciers. The biggest glacier is the Fresvikbreen (1646 metres above sea level) northwest of the Nærøyfjord. On the south-eastern side of the fjord is the smaller glacier Syrdalsbreen (with an elevation of 1761 metres). On the east side of the top of Bleia (altitude 1717 metres) there is also a small glacier. In the vicinity of Fresvikbreen and in the mountain area between the Aurlandsfjord and the Nærøyfjord there are a number of minor glaciers and more or less permanent snow fields.

The majestic waterfalls of Sivlefossen and Stalheimsfossen in the inner part of the valley of Nærøydalen are famous tourist attractions. Less known is the waterfall in Vetlahelvete (literally Little Hell) in the canyon dropping down from the valley of Jordalen. All these waterfalls are examples of rivers that used to flow in a south-westerly direction towards Voss. Along the Nærøyfjord there are a total of 25 waterfalls cascading down the mountainsides. The waterfall called Kjelfossen, with its free fall of 150 me-

tres and a total drop of 840 metres total fall, makes it the 18th highest total waterfall drop in the world. After the end of the glaciation periods, it is now free-flowing water in rivers that mostly forms the landscape. That there still are watercourses without any development, where erosion and land-forming processes take place in a natural way, is unique. The watercourses of Undredalselvi, Dyrdalselvi, Kolarselvi (in the valley of Nordheimsdalen), Nærøydalselvi (with the exception of the tributary Jordalselvi), Nisedalselvi, Vosso and Flåmselvi in the area are all protected from any hydroelectric development.

The "Sogneelva" river and the great river theft in the Nærøydalen valley

The Sognefjord is the largest fjord in Western Norway and, prior to the ice ages, the biggest river in the area flowed westwards through the "Sognedalen" valley where the fjord is now. In inner Sogn, there were many tributaries that flowed into the "Sogneelva" river. Traces of these rivers can be seen today as side valleys high up in the mountains. The sources of the tributary that flowed where the outer section of the Nærøyfjord is now were up on "Skammedalshøgdi" (1600 metres above sea level), east of Gudvangen. The watershed between Sogn and Voss was up in the mountains directly west of Bakka. When the ice ages started, the glacier in "Sognedalen" became much larger than the glacier that covered the valleys in Voss. It effectively carved out the Sognefjord to a great depth over many ice ages. The sea thus eventually came to extend all the way to Gudvangen, while the rivers that flowed towards Voss did not reach the open sea until Bolstadøyri. The Nærøyelvi river thus came to fall steeply, digging more quickly into the rock bed. As the rivers dug further and further back into the valleys, the Nærøyelvi river overtook the Vosselva rivers one after another. These tributaries therefore abruptly changed direction and flowed in the direction of Sogn.

Before the ice ages (around two million years ago) the rivers in the mountain areas around Stalheim, Gudvangen and Bakka flowed in the direction of Voss. During the ice ages, glaciers carved out the Sognefjord and the Nærøyfjord and "stole" these rivers, so that today the watershed has moved from the area north west of Gudvangen almost all the way to Oppheimsvatnet lake. We can see that both the Jordalselva and the Brekkeelva rivers turn sharply when they meet the Nærøyelvi river.

Previously (before the ice ages), the watercourses above the waterfalls flowed towards Voss. The glaciers in the Sognefjord and the Nærøyfjord dug their way back into the mountains and "stole" the rivers, which is why they now form waterfalls running down the steep mountain sides.

Commuting on the Nærøyfjord

By Åsmund Ohnstad

Long ago, there were only footpaths or bridle paths along the fjord. Boats were therefore very important when people wanted to get to other farms and hamlets.

The Viking Age

Gudvangen is one of the oldest market-places in Norway. The Nærøyfjord is named after the god of seafaring, Njord. He created the wind for the sails and made sure that it was not so strong that boats capsized. People have lived in the Nærøyfjord since time immemorial, and during the Viking Age there was a great deal of traffic both on land and by sea. The Nærøyfjord had already become important as a transport route between Western and Eastern Norway.

Rowing boats and sailing boats

Until 1859, people who lived in the Nærøydalen valley and beside the Nærøyfjord attended church in Undredal, and the only way to get there was by sea. Church services were usually held once a month. However, people also had other reasons to travel, such as attending assemblies (ting), auctions and dealings with the police or priest. Weddings, funerals and feasts were other important events and social gatherings.

Officials such as bailiffs, local judges and policemen used the fjord when travelling on official business within and between local communities. The farmers were often obliged to ferry officials, and there were rules governing the size of the boat to be used and how many rowers were required.

Trade also played an important role in former times. There was a market-place at Lærdalsøyri, and people from the different communities in Sogn went there to sell their wares and to buy goods. Many goods were transported to Bergen, and sailing boats (jekts) were often used for this purpose. They had large sails and good cargo capacity. The fjord was also the main means of getting from one farm or hamlet to another.

The fjord joined people together and was often the most important means of travel when bringing home firewood or fodder from outlying fields.

The Royal Post Road

The modern Norwegian postal service was established in 1647. The post road between Kristiania and Bergen went up through Valdres to Lærdal. The mail was taken by rowing boat from Lærdal to Gudvangen. The trip could take 10-12 hours, but this included stopping at a number of farms to deliver mail. The post road continued from Gudvangen to Voss and Bergen. The postal system was so organised that farmers along the route carried the mail from their farm to the next farm. These farmers were often called post farmers. This system was in operation up until the middle of the 19th century.

The first tourists

A new type of traffic emerged in the early 19th century. Wealthy people, both Norwegians and foreigners, travelled from village to village to see and explore the country. Many travel accounts have been written about the area between Lærdal and Gudvangen. The travellers observed the landscape, fauna, birdlife and the clothes and behaviour of the locals. The youths who were given the task of rowing from place to place earned money from this traffic.

Modern roads

In the 1840s, a good, modern bridle road was built between the Nærøydalen valley and Stalheim. Horses with carriages could now travel the whole way from Gudvangen to Voss. The road itself, known as Stalheimskleiva, was so impressive that people came just to see it. There was a great increase in traffic, both on the road and on the fjord.

Fylkesbaatane

In 1858, Fylkesbaatane i Sogn og Fjordane started a regular boat service to and from Bergen. This was an important development, since the district exported a great deal of agricultural produce. For the first few years, a steamboat sailed as far as Styvi, which meant that the farmers who lived further up the fjord and in the valley had to pick up and transport their goods there. In the 1860s, a steamboat sailed to Gudvangen during the summer months and, otherwise, out to Styvi. The boat then started calling at Gudvangen throughout the year. Potatoes, butter, cheese, meat, hides and tallow were the most important produce sold by the farmers. Salt, sugar, coffee and all manner of equipment were imported to the district. In 1875, a local service was started between Lærdal and Gudvangen. This service improved communication between the villages in the Voss district and Eastern Norway, and communication between Sogn and Hardanger also improved.

Cruise tourism

Around 1890, a new type of tourism arrived in Norway. Large English and German steam ships visited the fjords of Western Norway. The ships had pleasant cabins and offered good service, and the wealthy could enjoy life on board while admiring the Norwegian scenery. The Nærøyfjord and Sørfjord in Hardanger

were very popular tourist destinations. The amount of traffic increased as the years passed, and it was very great by the time the first world war broke out in 1914. After the war, cruise traffic declined, but it picked up again in the 1930s.

Cars and ferries

At the end of the 1930s, the Stalheimskleiva road was extended to make it passable by cars and buses. This led to a new increase in traffic, both on the road and on the fjord. Fylkesbaatane started a car ferry service between Gudvangen and Lærdal using a small ferry with space for a few cars. Car ferries were a new type of boat, designed to carry many cars and passengers. Around 1950, the war long over, Fylkesbaatane introduced a large, modern ferry called "Gudvangen".

The tourist route Gudvangen-Flåm

The new road between Gudvangen and Voss made it possible to make a round trip by travelling from Flåm to Voss by train, continuing from Voss to Gudvangen by car and from Gudvangen to Flåm by boat. The round trip immediately became very popular and around 1950, Fylkesbaatane put a new, modern boat called "Balholm" into service. This boat sailed the fjord every summer until the mid-1970s. In 1991 a new road opened between Gudvangen and Flåm, and in 2000 the tunnel between Aurland and Lærdal was opened. This meant that it was no longer necessary to transport people and cars on the fjord. Since then, tourists have constituted virtually the only traffic on the Nærøyfjord.

Mining and transport on the fjord

In the 1960s, the mining of stone, white anorthosite, started at Jordalsnuten in the Nærøydalen valley. Large quantities of stone were to be transported to buyers in Norway and abroad. The only good solution was to transport the stone by ship on the fjord and today, in 2006, large cargo boats come to Gudvangen to ship the stone to European ports. by Åsmund Ohnstad

Most farms were cleared after the birth of Christ. However, Undredal and Dyrdal may be a little older. After the Black Death in 1349/50, there were probably only people living in Undredal and Dyrdal. After 1850 some farms were abandoned when people emigrated to America. After 1900, new occupations arose, such as construction work, railway work, small industries and tourism.

Population, Settlement patterns and Occupations along the Nærøyfjord

Population development

Farms and smallholdings – changes in the population.

year	around 1350	1522	1556	1701	1845	1900	2006
farms	15-17	2	9	17	17	16	10
smallholdings	40-60	4	12	23	40	53	14
population	340-360	20-28	60-70	185-195	736	720	210

the population of around 1350 has been calculated – somewhat uncertain.

Farm = a demarcated area with buildings, infields and outfields, farmed by one or more families. Smallholding = an area with buildings and infields, farmed by one family. The family shares the outlying land (parcel of woodland, summer pastures) with others.

Undredal and Hjøllo, is a large hamlet/ small village with around 90 inhabitants. At most, it had a population of 280 (1850). Farming was the predominant occupation until around 1920, when construction work and railway work became an alternative. Today there are four farms in operation and people commute to Aurland/ neighbouring municipalities.

Bakka/Tufte is a small hamlet with two farms in operation and a population of around 15. Goats and sheep are the mainstays of the farms. Two or three people commute to work.

Gudvangen and Ramsøy comprises the old trading post and hotel and two farms. Today, it has a population of around 35. Two farms are in operation and there is a hotel, shop, petrol station and two camp-

sites. The hotel and the shop employ around 15 full-time staff and many more during the summer season. Some people commute to Aurland, Flåm and Voss.

The Nærøydalen valley has five farms, as well as a kindergarten, primary school, a furniture factory and a mine. One farmer has cows, one has cows and stables horses, two have sheep and one has goats. The school and the two businesses employ 15 to 20 people. The river that runs through the valley is a good salmon and trout river. The river owners lease fishing rights to anglers.

Livestock/ summer pasture farming

In former times people kept livestock and cultivated the fields. Cows and goats produced milk which was used in many ways. The farmers made butter and cheese, and the milk was used in many different dishes. The farmers only started delivering milk to dairies after 1900. The livestock were let out of the byre at the beginning of May. They spent the months from June to September in the summer mountain pastures, came home to graze in October and were kept in the byre from November to April. Milk production was very high at the summer pasture farms. The animals were out in the fresh air and could eat fresh and nutritious mountain grass. As summer progressed, new grass grew higher up the mountains. This grass was more nutritious than the grass that grew in the lowlands.

Cultivation

Farmers grew barley and mixed grains, from the earliest times. Barley needed a dry climate, while mixed cereals did better in damper climates. Barley was grown in the Aurland and Undredal areas, while they mostly grew mixed cereals in Nærøy. The corn had to be cut, dried, threshed and transported to the grinding mill to be ground in order to produce flour for cooking and baking. The flour was used to make porridge and flatbread. It was common to grow cereals until 1900-1920, and potatoes until 1970-1990. Potatoes were first grown in the early 1800s. Priests were the first people to start growing potatoes, and it took people a long time to understand the value of this crop.

Viking Gods along the fjord

By Johs. B. Thue

In the early Viking Age, Norse or European gods were seen to form a protective ring round the people who worshipped them, along the lines of religious traditions elsewhere in Europe. The place names of our own fjord landscape in Inner Sogn provide clear evidence of this religious heritage. Gudvangen is God's own vang (eng. meadow).

The Nærøyfjord is named after the god Njord. Just as we enter the Aurlandsfjord, we encounter the lush village of Fresvik, which simply means Frøy's bay. The Nærøyfjord is named after the god Njord, who lived at Noatun in heaven and ruled over winds and weathers. Furthermore, he governed the sea, and fire. Njord was the god to ask for help with sea journeys and fishing expeditions. Njord was incredibly rich. He was the god of trade and markets. It is easy to imagine that people from inland areas such as Voss, would approach the sea – the fjord – with fear and respect. They would clearly need to keep on good terms with this protector of the seas. Consequently, it is reasonable to assume it was the people of Voss who named the fjord. The Nærøyfjord was named in honour of Njord, in order to invoke all good forces in preparation for an encounter with the sea.

Gudvangen lies at the head of the Nærøyfjord. All place names ending in –vang suggest they were religious venues, used for performing rituals. Vossevangen must have been such a venue, as must Gudvangen and Aurlandsvangen. These –vangen names are all lining the ancient trail between the western and

eastern parts of Norway. This trail may well have provided a basis for market places to be established where the inland route reached the fjord.
Anne Stine Ingstad is a Norwegain world-famous archaeologist. She proved that Norwegians and Europeans settled in North America five hundred years before Columbus stepped ashore. Her opinion is that Gudvangen may have been a very early market place, which is a plausible idea.
The Krossneset headland sticks out into the fjord and is easy for everyone to see. The headland must have been named after a cross erected there. This leads us straight into the ongoing debate about these crosses, which tend to be found along our western coast, all the way from the county of Rogaland and northwards. The crosses carried significant symbolic power in the fight between the old mythology and the victorious Christian faith. One of these stone crosses can also be found at Voss; one of our extremely rare inland crosses.
The Voss cross was erected on the route that linked the east to the west. The Krossneset headland bears witness of religious conflict between the new and the old. These days, there is general consensus among European religious scholars that the stone crosses were erected to signal that the land beyond was ruled by Christ. This was his land, albeit Njord's name lived on till our present times.
The same is the case of Frøy at Fresvik, the gateway to the Aurlandsfjord, which branches off by skewed-looking mount Beitelen. In Old Norse, "beitel" means chisel, a tool for shaping wood and stone. According to ancient beliefs, mount Beitelen was used by supernatural spirits to carve the narrow Nærøyfjord into the landscape. The name of Trollgjelet (eng. Troll Gorge) is evidence of people's belief in these giants who put their mysterious marks on the landscape, and who shaped the headlands, fjords, mountains and ravines.
In Old Norse mythology there were close family ties between Njord and Frøy. Njord of Noatun in heaven had two children by Skade. Their son was named Frøy, their daughter Frøya. They were both handsome and strong. Frøy ruled over rain and sunshine, which gave him the power to control the growth of the soil. He needed to be invoked to secure a good harvest and a rich yield. At Fresvik, Frøy's bay, there is a farm called Hov. This must have been an important assembly place for the enactment of religious ceremonies. The lifeenhancing sun was key to their worship of natural forces. The farm of Hov at Fresvik lies at the very spot on which the sun first shines on its returns to this village after winter. At Solaløysa by Styvi however, there is no sunlight whatsoever, summer or winter. Yet Solaløysa is always green in summer.

END OF INFORMATION SPECIFIC TO THE NÆRØYFJORD

The inner end of Sognefjord is localized southeast of a mountain range rising to about 2,000 m above sea level and covered by Jostedalsbreen, continental Europe's largest Glacier. Thus the climate of the inner end of Sognefjord and its branches is not as wet as on the outer coastline. Around this inner end, three of Norway's famous stave churches have survived, Kaupanger and Urnes near its banks and Borgund stave church 30 km up Laerdal.

Boats connect settlements along the fjord and its sidearms. Towns on the fjord and its branches include Høyanger, Vik i Sogn, Sogndal, Lærdal, Årdal, Gaupne, Balestrand, Gudvangen and Flåm. Gudvangen is situated by the Nærøyfjord, a branch of the Sognefjord particularly noted for its unspoilt nature and dramatic scenery, and only 300 m across at its narrowest point. The Nærøyfjord is now on UNESCO's world heritage list. From Flåm, the famous Flåmsbana railway climbs 864m up to Myrdal in only 20km - the steepest unassisted railway climb in the world.

Over the Sognefjord a power line with a span of 4597 m is installed. This is the second largest span of power lines in the world.

The fjord's beauty and the surpassing magnitude of its landscape has made it very popular among tourists, who power much of the local economy in summer season.

Glaciers

A **glacier** is a large, slow moving river of ice, formed from compacted layers of snow, that slowly deforms and flows in response to gravity. The processes and landforms caused by glaciers and related to them are **glacial** (adjective); this term should not be confounded with *glacial* (noun), a cold period in ice ages (see glacial period). The process of glacier growth and establishment is called **glaciation**.

Glacier ice is the largest reservoir of fresh water on Earth, and second only to oceans as the largest reservoir of total water. Glaciers cover vast areas of polar regions but are restricted to the highest mountains in the tropics.

Many geologic processes are interrupted or modified significantly by glaciers. Geologic features created by glaciers include end, lateral, ground and medial moraines that form from glacially transported rocks and debris; U-shaped valleys and cirques at their heads, and the *glacier fringe*, which is the area where the glacier has recently melted into water. Much precipitation becomes trapped in the glaciers instead of flowing immediately back to the oceans, causing sea level drops and greatly modifying the hydrology of streams. The Earth's crust is pushed down by the weight of the ice, and meltwater commonly collects and forms lakes along the ice margins.

Glacial epochs have come and gone repeatedly over the last million years. Presently, Earth is in a relatively warm period, called an interglacial, exacerbated by global warming with the resulting retreat of the glaciers. The Earth has been cyclically plunged into cold episodes, however, called glacials, in which the extent of glaciers is expanded, colloquially referred to as ice ages.

The snow which forms temperate glaciers is subject to repeated freezing and thawing, which changes it into a form of granular ice called névé. Under the pressure of the layers of ice and snow above it, this granular ice fuses into denser firn. Over a period of years, layers of firn undergo further compaction and become glacial ice. In addition, a few hours after deposition, snow will begin to undergo metamorphism because of the presence of temperature gradients and/or convex and concave surfaces within individual crystals (causing differential vapour pressure). This causes the sublimation of ice from smaller crystals and the deposition of water vapour onto larger crystals, so many crystals become progressively more rounded over time. Depending on the type of metamorphism, the snowpack may become stronger or weaker as a result.

The distinctive blue tint of glacial ice is often wrongly attributed to Rayleigh scattering which is supposedly due to bubbles in the ice. The blue color is actually created for the same reason that water is blue, that is, its slight absorption of red light due to an overtone of the infrared OH stretching mode of the water molecule.

The lower layers of glacial ice flow and deform plastically under the pressure, allowing the glacier

as a whole to move slowly like a viscous fluid. Glaciers usually flow downslope, although they do not need a surface slope to flow, as they can be driven by the continuing accumulation of new snow at their source, creating thicker ice and a surface slope. The upper layers of glaciers are more brittle, and often form deep cracks known as crevasses or bergschrunds as they move.

Crevasses form due to internal differences in glacier velocity between two quasi-rigid parts above the deeper more plastic substrate far below. As the parts move at different speeds and directions, shear forces cause the two sections to break apart opening the crack of a crevasse all along the disconnecting faces. Projected in effect over three dimensions, one may settle and tip, the other upthrust or twist, or all such combinations due to the effects of each floating on the plastic layers below and any contact with rock and such. Hence the distance between the two separated parts while touching and rubbing deep down, frequently widens significantly towards the surface layers, many times creating a wide chasm.

These crevasses make travel over glaciers hazardous. Subsequent heavy snow may form a fragile snow bridge, increasing the danger by hiding their presence at the surface. Glacial meltwaters flow throughout and underneath glaciers, carving channels in the ice (called moulins) similar to cave formation through rock and also helping to lubricate the glacier's movement.

Jostedalsbreen

Jostedalsbreen or Jostedal Glacier, is the biggest glacier in continental Europe. It is situated in the county Sogn og Fjordane at the west coast of southern Norway. There are however larger glaciers on the Svalbard archipelago.

Jostedalsbreen lies in the municipalities of Luster, Balestrand, Jølster and Stryn. The highest peak in the area is Lodalskåpa at 2083 meters.

Jostedalsbreen has a total area of over 480 km². The highest point is Høgste Breakulen 1957 m above mean sea level. Branches of the glacier reach down into the valleys, for instance Bøyabreen in Fjærland and Nigardsbreen, both 300 m above sealevel. The thickest part of the glacier is 600 meter. Jostedalsbreen has a length of a little more than 60 km and covers almost half of the national park.

Jostedalsbreen National Park was established in 1991, covering 1,310 km².

In 2006 the glacier arm Briksdalsbreen lost 50 metres of ice in a few months. Below in the external links you can view this dramatic event. More recent measurements now show that Briksdalsbreen retreated 146 meters in 2006, and could be in danger of breaking away from the upper icefield. Ice climbing has now been terminated. This past winters heavy snowfalls on the icefield may save Briksdalsbreen.

Norwegian geography in fiction

- In The Hitchhikers Guide to the Galaxy, fjords were an award winning geographical feature created by Slartibartfast when he helped in the construction of Earth.
- In Star Wars Episode V: The Empire Strikes Back, scenes from the ice planet Hoth were filmed at Finse, Norway.
- Edgar Allan Poe and Jules Verne in respectively "A Descent into the Maelstrom" and Twenty Thousand Leagues Under the Sea both portray Moskstraumen a large a system of tidal eddies and whirlpools in Lofoten.
- The car chase between James Bond and the villain in the James Bond film Die Another Day was shot in Svalbard.

Norwegian Mountain Touring Association

Norwegian Mountain Touring Association (In Norwegian, *Den Norske Turistforening* – DNT) is a Norwegian association which maintains mountain trails and cabins in Norway. The association was founded on January 21, 1868 with the scope "to help and develop tourism in this country".

DNT's first hut was Krokan by the Rjukan waterfall. The waterfall was later harnessed for hydropower production and the hut was sold. Today it is re-opened, situated by the main road from Rjukan (Tinn) to Vinje. Together with local organisations all over Norway, it operates more than 400 cabins in Norwegian mountains and forest areas.

The Norwegian Tourist Association (DNT) maintains a number of mountain lodges in the area, where those who don't want to camp can spend the nights at a very reasonable price. However, the accommodation standard is below that of normal hotels, and there are few rooms with less than four beds. So if you're in a party with fewer people than that, you must be prepared to share your room with strangers. Most of the lodges also provide good quality meals. Some are on a self service basis, i.e. there are supplies for sale, but you have to cook yourself. In addition to the DNT accomodation, a few lodges run by private enterprise are available, the standard varies.

The DNT also maintains a net of marked hiking routes representing various degrees of physical challenge. The easiest ones run in the valleys at ~900 - 1500 m from one lodge to another, others lead you to the highest peaks and along the steepest ridges.

As opposed to National Parks in other countries, you are by no means obliged to stick to the marked routes. Norway has a special law granting everyone the right to unobstructed hiking anywhere in forest and mountain areas, regardless of ownership to the land, as long as you leave nature in the same condition as when you came. As far as natural areas are concerned (i.e. not fields, gardens etc.), and provided you're on foot, there is no such thing as "no trespassing" in Norway.

If you choose to leave the normal hiking paths in Jotunheimen, however, you should not be a novice to outdoor life. Even in the summer time the weather can change in only few minutes, and if you get lost in rain (or even snow!) and fog the experience can be quite unpleasant. A map of the area, a compass and knowing how to use those items is a must! But anyway, the most undisturbed nature and some of the most spectacular experiences are (of course!) found off-route....

You should not rely on cellular phones, walkie-talkies etc. for emergency communication. The mountains block the radio waves in most cases except up on the highest peaks, and for environmental reasons all link stations are located outside Jotunheimen.

Glittertind is the second highest mountain in Norway, with its 2464 m it loses only by 5 m to the highest, Galdhøpiggen. The summit of Glittertind is covered by glacier, but not a dangerous one,

and no guide or glacier equipment is required for the nice and fairly easy trip to the top. The view is very nice, but in my opinion not the most spectacular in the area. Glittertind can be reached in a few hours from one of the lodges Glitterheim or Spiterstulen. The picture is taken from the south, the Glitterheim side.

Climate

The climate of Norway is surprisingly temperate for such a northerly country; this is mainly due to the North Atlantic Current with its extension the Norwegian Current warming the air temperature, and the prevailing southwesterlies bringing the mild air on shore.

Precipitation. Some areas of Vestlandet and southern Nordland are Europe's wettest due to orographic lift, particularly where the moist westerlies first are intercepted by high mountains; this occurs slightly inland from the outer skerry guard. Brekke in Sogn og Fjordane has the highest annual precipitation with 3,575 mm; annual precipitation can exceed 5,000 mm in mountain areas near the coast. Lurøy, near the Arctic Circle, gets 2,935 mm on average, an amazing humidity for such a northerly area. Precipitation is heaviest in autumn and early winter along the coast, while April to June is the driest. The innermost parts of the long fjords are somewhat drier, annual precipitation in Lærdal is 491 mm, in Levanger 750 mm and only 300 mm in Skibotn at the head of Lyngenfjord, the latter also has the national record for clear-weather days. The regions to the east of the mountains (including Oslo) have a more continental climate with less precipitation, and enjoys more sunshine and usually warmer summers; precipitation is highest in summer and early autumn (often heavy showers not lasting long) while winter and spring tend to be driest inland. Valleys surrounded by mountains can be very dry compared to nearby areas, and a larger area in the interior of Finnmark gets less than 400 mm precipitation annually. Svalbard Airport has the lowest average annual precipitation with 190 mm, while Skjåk has the lowest average on the mainland with only 278 mm, the lowest ever recorded on the mainland is 64 mm at Hjerkinn in Dovre. Monthly averages varies from 5 mm in April in Skjåk to 454 mm in September in Brekke. Coastal areas from Lindesnes north to Vardø have more than 200 days/year with precipitation; however this is with a very low threshold value (0.1 mm precipitation). Average number of days/year with at least 3 mm precipitation is 77 in Blindern/Oslo, 96 in Kjevik/Kristiansand, 158 in Florida/Bergen, 93 in Værnes/Trondheim and 109 in Tromsø.

Temperature. The coast experiences much milder winters than other areas at the same latitudes. The temperature difference from the coldest month to the warmest is only 11 - 15 °C in coastal areas; some lighthouses has a year amplitude of just 10 °C, such as Svinøy in Herøy with a coldest month of 2,7 °C [4]. The amplitude of inland areas are larger, with a maximum of 30 °C in Karasjok. Finnmarksvidda has the coldest winters in Norway, but inland areas further south can also see severe cold; Røros has recorded -50 °C and Tynset has a January average -13°C. The islands in southern Lofoten, to the north of the Arctic Circle in North Norway, are the most northerly locations in the world where all winter months have mean temperatures above 0 °C. Spring is the season when the temperature differences between the southern and northern part of the country is largest; this is also the time of year when daytime and nighttime temperatures differs the most. Inland vallys and the innermost fjord areas have less wind and sees the warmest summer days; the Oslofjord lowland is warmest with July 24-hr average of 17 °C, but even Alta at 70°N has July

average of 13.5 °C, and commercial fruit orchards are common in the innermost areas of the western fjords. Inland areas reach their warmth peak around mid-July, and coastal areas by the first half of August. Humidity is usually low in summer.

The North Atlantic Current splits in two in the northern part of the Norwegian Sea; one branch goes east into the Barents Sea, while the other goes north along the west coast of Spitsbergen; this modifies the Arctic polar climate somewhat and results in open water throughout the year at higher latitudes than any other place in the Arctic. On the eastern coast of the Svalbard archipelago, the sea used to be frozen during most of the year, but the last years warming (graph) have seen open waters noticeably longer.

Normal monthly averages range from -17.1 °C in January in Karasjok 129 m amsl. [5] to 17.3 °C in July in Oslo - Studenterlunden 15 m amsl. The warmest year average temperature is 7.7 °C in Skudeneshavn in Karmøy, and the coldest is -3.1 °C in Sihcajarvi in Kautokeino (excluding higher mountains and Svalbard); this is a 10.8 °C difference, about the same as the temperature difference between Skudeneshavn and Athens, Greece.

The warmest temperature ever recorded in Norway is 35.6 °C in Nesbyen. The coldest temperature ever recorded is −51.4 °C in Karasjok. The warmest month on record was July 1901 in Oslo, with a mean (24hr) of 22.7 °C, and the coldest month was February 1966 in Karasjok with a mean of -27.1 °C. Southwesterly winds further warmed by foehn can give warm temperatures in narrow fjords in winter; Tafjord has recorded 17.9 °C in January and Sunndal 18.9 °C in February.

Average daily minimum temperature in January is -6.8 °C in Oslo, -4.8 °C in Kristiansand, -0.4 °C in Bergen and -6.5 °C in Trondheim and Tromsø. The average daily high in July is 21.5 °C in Oslo, 20.1 °C in Kristiansand, 17.6 °C in Bergen, 18.4 °C in Trondheim and 15.3 °C in Tromsø

Foreign relations of Norway

The **foreign relations of Norway** are based on cooperation on fronts such as its EEA deal with the European Union, involvement in the work of the United Nations and its membership in NATO. Norway's foreign ministry includes both the minister of foreign affairs and minister of international development.

Norway maintains embassies in 86 countries around the world. Norway has diplomatic relations with many countries without maintaining an embassy in the country. 60 countries maintain an embassy in Norway, all of them in the capital, Oslo.

Norway was a founding member of the United Nations, NATO, the Council of Europe, the European Free Trade Association, the OECD and the OSCE, and maintains membership in several other international organisations. Although not a member of the European Union, Norway has access to the European single market through membership in the European Economic Area.

Norway has also assisted in international negotiations, such as in facilitating the Oslo Accords.

Elements of policy

Since the end of the Cold War, Norway has developed a model to foreign policy known as the "Norwegian model," the goal of which is to contribute to peace and stability through coordinated response among governmental and non-governmental Norwegian organizations; acting as an honest broker in international conflicts; an informal network of Norwegian individuals with access and credibility among parties; and the willingness to take the long view in international issues.

The post-war foreign policy of Norway can be described along four dimensions:

Strategic alliances

Norway's strategic importance for waging war in the North Atlantic became important in the failed neutrality policy of World War II. Norway became a founding member of NATO in order to ally itself with countries that shared its democratic values. Both through diplomatic and military cooperation, Norway has played a visible role in the formation and operations of NATO. It allowed a limited number of military bases and exercises to be based in its territories, which caused some controversy when NATO decided to put forward bases in Northern Norway in preparation for a conflict with the Soviet Union.

International cooperation

Norway supports international cooperation and the peaceful settlement of disputes, recognizing the need for maintaining a strong national defence through collective security. Accordingly, the cornerstones of Norwegian policy are active membership in NATO and support for the United Nations and its specialized agencies. Norway also pursues a policy of economic, social, and cultural cooperation with other Nordic countries--Denmark, Sweden, Finland, and Iceland--through the Nordic Council. Its relations with Iceland are very close due to the cultural bond the two nations share. Norway ended a 2-year term on the UN Security Council in January 2003, and chaired the Iraq Sanctions Committee.

Norway is the only Scandinavian country that is not a member of the European Union. Membership has been proposed within Norway, and referendums over Norwegian membership were held in 1972 and 1994. Popular opinion was split between rural and urban areas.

The present government is not planning to raise the possibility for future membership.

Norway also has a history of co-operation and friendship with the United Kingdom, due to their shared cultural heritage since Viking times. Norway is particularly close to North East England, since this is the location in which many Vikings initially landed. Norway's UK Embassy is located in London, and it also maintains a Consulate General in Edinburgh. A Norway Spruce is given by the city of Oslo and presented to London as a Christmas tree for display in Trafalgar Square as a token of gratitude for the UK's support during World War II. King Haakon, his son Crown Prince Olav and the country's government, lived in exile in London throughout the war. As part of the tradition, the Lord Mayor of Westminster visits Oslo in the late autumn to take part in the felling of the tree, and the Mayor of Oslo then goes to London to light the tree at the Christmas ceremony.

Foreign aid

In addition to strengthening traditional ties with developed countries, Norway seeks to build friendly relations with developing countries and has undertaken humanitarian and development aid efforts with selected African and Asian nations. Norway also is dedicated to encouraging democracy, assisting refugees, and protecting human rights throughout the world.

Third party mediation in international conflicts

Norway has played an active role as a third party mediator in a number of international conflicts. The late foreign minister Johan Jørgen Holst was instrumental in forging the Oslo Accords between Israel and the PLO. Thorvald Stoltenberg was part of the mediation team in seeking an end to the war in Bosnia. Norway has contributed both mediation services and financial assistance in Guatemala.

As of 2005, Norwegian diplomats are acting as mediators in Sudan, Bosnia, Sri Lanka, and Colombia. Some of those countries accuse Norway of supporting and propping up separatist groups. Israel is often bitter with 'undeserved' harsh criticisms from Norwegian politicians. The spat was at its highest when finance minister Kristin Halvorsen supported boycott of Israeli goods in early 2006. Finance ministry spokesman, Runar Malkenes, told the BBC News website that "there are no moves to push for a boycott of Israeli goods" at government level. Eritrea has been actively supported by Norway during its liberation from Ethiopia. As of recent, Ethiopia expelled six Norwegian diplomats due to Norway's alleged support to 'Terrorist group and Eritrea'. Norway retaliated by cutting aid to Ethiopia.

Norway and the European Union

Norway is presently not a member of the European Union, but is required to adapt EU legislation in most policy areas because it has signed the EEA free-trade deal through EFTA. Additionally, Norway has opt-ins to many EU-initiated projects such as the Schengen Agreement, Europol, Eurojust, EU Drug Monitoring Centre, Frontex and the Union's battlegroups. Whether or not the country should apply for full membership has been one of the most dominant and divisive issues in Norwegian political and economic debate since World War II.

In 1963, Norway and the United Kingdom applied for membership in the European Economic Community (EEC). France rebuffed the UK's application, Accession negotiations with Norway, Denmark, Ireland and the UK were suspended. This happened twice.

Norway completed its negotiations for the terms to govern a Norwegian membership in the EEC on January 22 1972. Following an overwhelming majority in favour of joining the EEC in early 1972, the government decided to put the question to a popular referendum, scheduled for September 24 and 25. The result was that 53.5% voted against membership and 46.5% for it. The Norwegian Labour Party government led by Trygve Bratteli resigned over the outcome of the referendum, and a coalition government led by Lars Korvald took over.

Norway entered into a trade agreement with the community following the outcome of the referendum. That trade agreement remained in force until Norway joined the European Economic Area in 1994.

On November 28, 1994, yet another referendum was held, narrowing the margin but yielding the

same result: 52.2% opposed membership and 47.8% in favour. There are currently no plans to file another application.

Currently (2005) Norway pays an annual fee of €240 million to the EU budget but it receives no EU expenditure.

Position of political parties

Currently, parties supporting or opposing EU membership are to be found in both right-wing and left-wing coalitions: as a result, most governments contain pro- and anti-EU elements. To avoid a new debate on EU, anti-EU parties usually require "suicide paragraphs" in government-coalition agreements: if some party in the coalition officially begins a new debate on EU, the government will fall. This has been true for both the previous centre-right Bondevik government and the current centre-left Stoltenberg government.

Erna Solberg and her Conservative party is currently the most Pro-European party in the Norwegian Parliament

Because these positions to a great extent cut across ideological boundaries, various political parties have dealt with the issue in different ways. The Centre Party has maintained the most principled stand against membership, and though parties such as the Conservative party and the Labour Party support membership in their platform, they allow for a minority to oppose it. Most dramatically, the Liberal Party split over the issue in 1972 at the famed party conference in Røros and did not reunite until 1989.

The EU membership crosses the traditional left-right axis in Norwegian politics. Since the Labour Party lost its dominance in Norwegian politics, all governments have been a coalition of several political parties. Because the EU membership issue almost certainly would break up any conceivable government coalition (except maybe a rainbow coalition of Labour and the Conservatives), no government has raised the subject and no opposition party has stated any desire to do so either.

Disagreements on this issue have been known to create divisiveness within families and local communities. Although there is a general pattern that urban communities favor membership and rural communities don't, there have been vocal minorities in every area of Norway.

Norwegian barn shows its negative position

Complicating the matter has been that a great variety of political and emotional factors have been raised in the debate. Radical socialists oppose membership because of an opposition to conservative economic and political forces that concern them within Europe; opponents on the right are concerned about an infringement on Norwegian culture; and others are opposed in principle to compromising Norwegian sovereignty. Some social democrats see membership as a way to participate in the global social democratic movement, whereas libertarians favor open markets for capital, services, and goods.

Many observers felt that the Centre Party misread the situation when they interpreted the narrow majority against membership in 1994 as an endorsement of the party's general platform. Party politics continue to be confounded by this issue, and most governments tend to avoid it.

Reservations about European Union

On September 24 and 25, 1972, the Norwegian parliament put to a referendum the question whether

Norway should join the European Union. The proposal was turned down with a slim margin. The Norwegian government proceeded to negotiate a trade agreement with the EU that would give Norwegian companies access to European markets. Over time, Norway renegotiated and refined this agreement, ultimately joining the European Free Trade Association and the European Economic Area.

Although Norway's trade policies have long aimed at harmonizing its industrial and trade policy with the EU's, a new referendum in 1994 gave the same result as in 1972, and Norway remains the only Scandinavian country outside of the EU.

Although much of the highly divisive public debate about EU membership turned on political rather than economic issues, it formed economic policy in several important ways:

- Both politicians and the public came to terms with the fact that Norway's economic development was dependent on taking advantage of its comparative advantage by specializing in certain areas for export and relying on import for everything else. This has had a significant effect on Norway's agricultural policy, which has been reshaped to address population patterns rather than self-sufficiency.
- The proceeds from oil revenue could not fuel private or public consumption if Norway were to sustain its prosperity when oil reserves run out.
- In order to participate in European markets, Norway has had to open its domestic markets to European imports. Although some pricing and distribution issues (e.g., alcohol and automobiles) remain unresolved, Norway's consumer, capital, and employment markets are increasingly approaching those of Europe in general.

Most Norwegian politicians and the public agree that Norway's economic policy should be based on a de facto membership in the European Union. Norwegians have sought accommodations on a range of specific issues, such as products from fish farms, agricultural products, emission standards, etc., but these do not appear to differ substantially from those sought by bona fide EU members. It is expected that the issue of membership will be brought to a referendum again at some point.

Post-industrial economic developments

GDP growth 1865-2004

Several issues have dominated the debate on Norway's economy since the 1970s:

- **Cost of living** - Norway is among the most expensive countries in the world, as reflected in the Big Mac Index and other indexes. Historically, transportation costs and barriers to free trade had caused the disparity, but in recent years, Norwegian policy with respect to labor relations, taxation, etc., have contributed significantly.
- **Competitiveness of "mainland" industries** - the high cost of labor and other structural features of the Norwegian environment have caused concern about Norway's ability to maintain its cost of living in a post-petroleum era. There is a clear trend toward ending the practice of "protecting" certain industries (*vernede industrier*) and making more of them "exposed to competition" (*konkurranseutsatte*). In addition to interest in information technology, a number of small- to medium-sized companies have been formed to develop and market highly specialized technology solutions.
- **The role of the public sector** - the ideological divide between socialist and non-socialist views on public ownership has decreased over time. The Norwegian government has sought to reduce its ownership over companies that require access to private capital markets, and there is an increasing emphasis on government facilitating entrepreneurship rather than controlling (or restricting) capital formation. A residual distrust of the "profit motive" persists, and Norwegian companies are heavily regulated, especially with respect to labor

relations.

- **The future of the welfare state** - since World War II, successive Norwegian governments have sought to broaden and extend public benefits to its citizens, in the form of sickness and disability benefits, minimum guaranteed pensions, heavily subsidized or free universal health care, unemployment insurance, etc. Public policy still favors the provision of such benefits, but there is increasing debate on making them more equitable and needs-based.
- **Urbanization** - for several decades, agricultural policy in Norway was based on the premise of minimal self-sufficiency. In later years, this has given way to a greater emphasis on maintaining population patterns outside of major urban areas. The term "district policy" (*distriktspolitikk*) has come to mean the demand that old and largely rural population centers should be allowed to persist, ideally by providing them with a sustainable economic basis.
- **Taxation** - the primary purpose of the Norwegian tax system has been to raise revenue for public expenditures; but it is also viewed as a means to achieve social objectives, such as redistribution of income, reduction in alcohol and tobacco consumption, and as a disincentive against certain behaviors. Three elements of the tax system seem to attract the most debate:
    - Progressive taxation. At one time one of the most aggressive in the world, the top marginal tax rate on income has been decreased over time. In addition, Norwegians are taxed for their stated net worth, which some have argued discourages savings.
    - Value-added tax. The largest source of government revenue. The current standard rate is 25%, food and drink is 14%, and movie theater tickets and public transportation 7%.
    - Special surcharges and taxes. The government has established a number of taxes related to specific purchases, including cars, alcohol, tobacco, and various kinds of benefits.
- **Environmental concerns**. A number of political issues have had their origins in economic concerns, including the refineries at Mongstad and the hydroelectric power plant at Alta.

Norwegian Defence Force

The **Norwegian Defence Forces** (Norwegian: *Forsvaret*) numbers about 30,000 personnel, including civilian employees. According to current (as of 2006) mobilisation plans, the strength during full mobilisation is approximately 130,000 combatant personnel. Norway has mandatory military service for males (6-12 months of training) and voluntary service for females.

Norwegian Defence Forces are subordinate to the Norwegian Ministry of Defence (headed by the Minister of Defence). The Commander-in-Chief is H.M. King Harald V.

Under the Constitution, the Minister of Defence is accountable to Parliament for all activities carried out by the agencies under his/her responsibility. This means that the Ministry, as part of the executive branch of government, is responsible for supervising the activity of its subordinate agencies, among other things by carrying out overall supervisory functions.

The Ministry of Defence (MoD) is from 2003 an integrated structure with civilian and military personnel. Subordinate to the MoD are the "Armed Forces' Military Organisation" as well as the three civilian agencies: the Norwegian Defence Research Establishment (FFI), the National Security Agency and the Defence Estate Agency.

The main annual national exercise is Cold Response, held yearly, with all NATO member states invited.

Armed Forces' Military Organisation

Military branches (in order of seniority):

- Norwegian Army
- Royal Norwegian Navy
- Royal Norwegian Air Force
- Home Guard

The Armed Forces Military Organisation is headed by the "Chief of Defence" (a four star general or admiral). The Chief of Defence is both head of the military organisation and principal military adviser to the Minister of Defence. The Armed Forces Military Organisation consists of the following main structures:

- **Defence Staff Norway (DEFSTNOR)** in Oslo acts as the staff of the Chief of Defence. It is headed by a three star general or admiral. DEFSTNOR assigns priorities, manages resources, provides force generation and support activities. The each of the four branches of defence is headed by a two star general/admiral who are subordinate to DEFSTNOR.
    - The Norwegian Army
    - The Royal Norwegian Navy
    - The Royal Norwegian Air Force
    - The Norwegian Home Guard
- **National Joint Headquarters (NJHQ)** in Mount Jåttå close to Stavanger has operational control of Norwegian defence forces worldwide 24/7. It is headed by the Supreme Commander Norwegian Forces - a three star general or admiral. Subordinate to NJHQ is the Regional Headquarters North in Bodø. Located the same place as NJHQ is NATO's Joint Warfare Center (JWC).
- **Norwegian Defence Logistics Organisation (NDLO)** at Kolsås outside Oslo is responsible for engineering, procurement, investment, supply, information and communications technology. It also has responsibility for maintenance, repair and storage of materiel.

Music of Norway

Music based on traditional Norwegian form usually includes minor or modal scales (sometimes mixed with major scales), making a sober and haunting sound. Pure major key dance music forms also exist. Prior to the 1700s, there is scant written record of what kind of music was played in Norway, but there is a large aural tradition. In 1380, Norway had come under Danish rule, and thus had no royal house or nobility of its own; as a result, for 450 years, Norway did not participate as much in the musical development which occurred in royal (or "cultured") circles throughout the rest of Europe. Religious and traditional (folk) music were dominant throughout this era in rural areas, though again scant records exist to document their nature. In the last half of the 20th century, Norway, like many other countries in the world, underwent a roots revival that saw indigenous music being revived.

Traditional (Folk) music

Folk music in Norway falls into two main categories based in the ethnic populations from which they spring: North Germanic and Sami.

Traditional Sami music is centered around a particular vocal style called joik. Originally, joik referred to only one of several Sami singing styles, but in English the word is often used to refer to all types of traditional Sami singing. Its sound is comparable to the traditional chanting of some

American Indian cultures.

Traditional North Germanic Norwegian vocal music includes (kvad), ballads and short, often improvised songs (stev) are among the most common types of traditional music. Work songs, hymns, tralling vocals and old printed ballad stories, skillingsviser, have also been popular.

Norway shares a Nordic dance music tradition with its neighbouring countries of Sweden and Denmark, where the Hardanger fiddle (hardingfele), the most distinctive instrument in Norwegian folk music, is used along with other fiddles like the standard violin and Setesdals-fele. The hardingfele was part of kappleik musical contests from the late 19th century.

Traditional dances are normally referred to as bygdedans (village or regional dance) and include halling, pols, springleik, rull, gangar and springar. These dances, sometimes called "courting dances" were often connected to the important events of rural (farming) life: weddings, funerals and cyclical feasts like Christmas.

In the second half of the 19th century, some fiddlers, especially those from Voss and Telemark, significantly Lars Fykerud (who eventually moved to Stoughton, Wisconsin in the United States and then returned to Telemark late in life), began introducing more expressive ways of playing, turning the traditional slått music to concert music for the urban classes.

At the same time, new dances and tunes were imported from Europe, including the fandango, reinlender, waltz, polka and mazurka. Recent scholarship suggests that a number of these forms may have originally been brought to Norway by Romani (known in Norwegian by the pejorative term, "Tatters"), among them the fiddler Karl Fant. These forms are now known as runddans (round dances) or gammeldans (old dances).

Perhaps the most popular and controversial of modern Hardanger fiddle artists is Annbjørg Lien, who released her first album, Annbjørg in 1989. The album featured Helge Førde and Frode Fjellheim and was both praised for its innovative fusion work and expressive style, and criticized for its watering-down of traditional sounds and a lack of regional tradition.

Other Norwegian traditional instruments include:

- bukkehorn (goat horn)
- harpeleik (chorded zither)
- langeleik (box dulcimer)
- lur (an older, trumpet-like instrument)
- seljefløyte, a willow flute
- tungehorn and Meråker (clarinets)
- Norwegian harp

Classical music

The first classical composers from Norway are documented from the beginning of the 18th century, when they composed dance and chamber music, including cantatas. In 1814, Sweden entered into a union with Norway, and the Swedish royal family spent time in Norway's capital, Christiania, Norway (Oslo). At their royal court, music flourished.

Popular and contemporary music

As in other countries, Norway has developed its own forms of popular, contemporary music. Since 2000, Norwegian popular music has generally been appearing on the international scene, initially through breakthroughs by Norwegian jazz and black metal artists, then followed by electronica and pop artists.

Metal

Norway has long been a major player in the extreme metal scene and other heavy metal scenes, alongside Sweden and Finland. Norway is perhaps most notable for giving birth to the controversial Norwegian black metal scene, which has produced such bands as Darkthrone, Burzum, Immortal, Emperor, Enslaved, Mayhem, Gorgoroth, Ulver, Kovenant, Satyricon, Arcturus, Ancient, 1349, Carpathian Forest, Windir, Solefald and Dimmu Borgir

Rock and Pop

Modern Norwegian pop acts include a-ha, Apoptygma Berzerk, Furia Norway, M2M, Marit Larsen, Marion Raven, Kings of Convenience, Erlend Øye, Minor Majority, Ane Brun, Briskeby, D'Sound, Serena Maneesh, Jaga Jazzist, Hanne Hukkelberg, Lene Marlin, Annie, Supersilent, Sondre Lerche, Maria Mena, TNT, Flunk Venke Knutson, Thomas Dybdahl and Savoy.

de 1980s and 90s heroes Dum Dum Boys, CC Cowboys, Jokke & Valentinerne, deLillos, Raga Rockers, Seigmen and Motorpsycho.

Norwegian literature

Norwegian literature is literature composed in Norway or by Norwegian people. The history of Norwegian literature starts with the pagan Eddaic poems and skaldic verse of the 9th and 10th centuries with poets such as Bragi Boddason and Eyvindr Skáldaspillir. The arrival of Christianity around the year 1000 brought Norway into contact with European medieval learning, hagiography and history writing. Merged with native oral tradition and Icelandic influence this was to flower into an active period of literature production in the late 12th and early 13th centuries. Major works of that period include Historia Norwegie, Thidreks saga and Konungs skuggsjá.

The period from the 14th century up to the 19th is considered a dark age in the nation's literature though Norwegian-born writers such as Peder Claussøn Friis and Ludvig Holberg contributed to the common literature of Denmark-Norway. With the advent of nationalism and the struggle for independence in the early 19th century a new period of national literature emerged. The dramatist Henrik Wergeland was the most influential author of the period while the later works of Henrik Ibsen were to earn Norway a place in Western European literature. In the 20th century notable Norwegian writers include the two Nobel Prize winning authors Knut Hamsun and Sigrid Undset.

Tourism in Norway

The main tourist attractions of Norway are the fjord-indented coastline and its mountains, the unspoiled nature of the inner parts of the country, and the cities and smaller towns.

Attractions

The main attraction of Norway are the varied landscapes that extend across the Arctic Circle. It is famous for its fjord-indented coastline and its mountains, ski resorts, lakes and woods. The main tourist cities in Norway are Oslo, Bergen, Stavanger, Trondheim and Tromsø. Much of the nature of Norway remains unspoiled, and thus attract numerous hikers and skiers. The fjords, mountains and waterfalls in Western and North Norway attract several hundred thousand foreign tourists each year. In the cities, cultural idiosyncrasies such as the Holmenkollen ski jump attract many visitors, as well as historic and cultural buildings and areas such as Bryggen in Bergen and the Vigeland Sculpture Park in Oslo.

The culture of Norway evolved as a result of its sparse population, harsh climate, and relative isolation from the rest of Europe. It is therefore distinct from other countries in Europe in that it has fewer opulent palaces and castles, smaller agricultural areas, and longer travel distances. Regionally distinct architecture, crafts, and art are presented in the various folk museums, typically based on an

ethnological perspective. Norsk Folkemuseum at Bygdøy in Oslo is the largest of these.

Transport

The Geirangerfjord in Møre og Romsdal, since 2005 on UNESCO's list of World Heritage Sites.

The Norwegian highway system covers more than 90,000 kilometres, of which about 67,000 are paved. The highway system includes ferry transit across waterways, numerous bridges and tunnels, and several mountain passes. Some of these mountain passes are closed during the winter months, and some may close during winter storms. With the opening of the Oresund Bridge and the Great Belt Fixed Link, Norway is connected to the European continent by a continuous highway connection through Sweden and Denmark.

The 4,058 kilometres long rail network connects most of the major cities south of Bodø. The Norwegian rail network is also connected to the Swedish network. Oslo Airport, Gardermoen is the most important airport in Norway, with 19 million passengers in 2007. Most cities and towns have nearby airports, and some of the largest also have international flights. The cruise ferry Hurtigruten connects the cities on the coast between Bergen and Kirkenes. In the summer, the coastal cities are visited by numerous foreign cruise ships, Bergen being the main cruise port.

International rankings

As of 2008, Norway ranks 17 World Economic Forum's Travel and Tourism Competitiveness Report.

Most visited tourist attractions

Innovation Norway, a state-owned promotion company also being in charge of tourism affairs, makes annual reports of the country's most visited tourist attractions, both cultural and natural. The 2006 report lists 50 cultural and 20 natural attractions. The top ten of each category are listed below.

Rank	Cultural Attraction	Location	Visitors, 2006
1	Holmenkollen Ski Jump **and** Ski Museum	Oslo	686 857
2	**World Heritage Site** Bryggen	Bergen	583 510
3	Kristiansand Zoo and Amusement Park	Kristiansand	532 044
4	**Amusement park** TusenFryd	Ås/Oslo	501 235
5	**Railroad** Flåmsbanen	Flåm	457 545
6	Hadeland Glassverk	Jevnaker	431 400
7	**Local rail** Fløibanen	Bergen	422 297
8	Fredrikstad Fortress**, Old Town of Fredrikstad**	Fredrikstad	372 360
9	Viking Ship Museum	Oslo	314 560
10	**Amusement park** Hunderfossen Familiepark	Øyer/Lillehammer	270 500

Rank	Natural Attraction	Location	Visitors, 2006
1	Vøringsfossen **waterfall**	Eidfjord	655 000
2	**Scenic road** Trollstigen	Åndalsnes	563 331
3	Kjosfossen **waterfall**	Flåm	457 400
4	**World Heritage Site** Geirangerfjorden	Geiranger	423 643
5	Låtefossen **waterfall**	Odda/Hardanger	420 000
6	Steinsdalsfossen **waterfall**	Norheimsund/Hardanger	300 000
7	**World Heritage Site** Nærøyfjorden	Aurland	297 038

8	Briksdalsbreen **glacier**	Olden/Stryn	280 000
9	**National Tourist Road** Sognefjellsvegen	Lom-Luster	253 953
10	**Scenic road** Atlanterhavsvegen	Averøy/Kristiansund	237 316

Norwegian language

Norwegian (*Norsk*) is a North Germanic language spoken primarily in Norway, where it is an official language. Together with Swedish and Danish, Norwegian forms a continuum of more or less mutually intelligible local and regional variants *(see* Danish language#Classification*)*.

These continental Scandinavian languages together with the insular languages Faroese and Icelandic, as well as some extinct languages, constitute the North Germanic languages (also called Scandinavian languages). Faroese and Icelandic are no longer mutually intelligible with Norwegian in their spoken form, because continental Scandinavian has diverged from them.

As established by law and governmental policy, there are two official forms of *written* Norwegian — Bokmål (literally "book language") and Nynorsk (literally "new Norwegian"). The Norwegian Language Council recommends the terms "Norwegian Bokmål" and "Norwegian Nynorsk" in English.

There is no officially sanctioned standard of spoken Norwegian, but the sociolect of the urban upper and middle class in East Norway, upon which Bokmål is primarily based, is the form generally taught to foreign students. This so-called *Standard Østnorsk* (Standard East Norwegian) can be regarded as a *de facto* spoken standard for Bokmål.

From the 16th to the 19th centuries, Danish was the standard written language of Norway. As a result, the development of modern written Norwegian has been subject to strong controversy related to nationalism, rural versus urban discourse, and Norway's literary history. Historically, Bokmål is a Norwegianized variety of Danish, while Nynorsk is a language form based on Norwegian dialects

and puristic opposition to Danish. The now abandoned official policy to merge Bokmål and Nynorsk into one common language called *Samnorsk* through a series of spelling reforms has created a wide spectrum of varieties of both Bokmål and Nynorsk. The unofficial form known as Riksmål is considered more conservative than Bokmål, and the unofficial Høgnorsk more conservative than Nynorsk.

Norwegians are educated in both Bokmål and Nynorsk. A 2005 poll indicates that 86.3% use primarily Bokmål as their daily written language, 5.5% use both Bokmål and Nynorsk, and 7.5% use primarily Nynorsk. Thus only 13% are frequently writing Nynorsk, although the majority speak dialects that resemble Nynorsk more closely than Bokmål.[citation needed] Broadly speaking, Bokmål and Riksmål are more commonly seen in urban and suburban areas; Nynorsk is seen in rural areas, particularly in Western Norway. The Norwegian broadcasting corporation (NRK) broadcasts in both Bokmål and Nynorsk, and all governmental agencies are required to support both written languages. Bokmål is used in 92% of all written publications, Nynorsk in 8% (2000). In spite of concern that Norwegian dialects would eventually give way to a common, spoken, Norwegian language close to Bokmål, dialects find significant support in local environments, popular opinion, and public policy.

Norwegian is one of the working languages of the Nordic Council. Under the Nordic Language Convention, citizens of the Nordic countries speaking Norwegian have the opportunity to use their native language when interacting with official bodies in other Nordic countries without being liable to any interpretation or translation costs

Old Norse to distinct Scandinavian languages

This is the approximate extent of Old Norse and related languages in the early 10th century. The red area is the distribution of the dialect **Old West Norse**; the orange area is the spread of the dialect **Old East Norse**. The pink area is Old Gutnish and the green area is the extent of the other Germanic languages with which Old Norse still retained some mutual intelligibility

The languages now spoken in Scandinavia developed from the Old Norse language, which did not differ greatly between what are now Danish, Norwegian, and Swedish areas. In fact, Viking traders spread the language across Europe and into Russia, making Old Norse one of the most widespread languages for a time. According to tradition, King Harald Fairhair united Norway in 872. Around this time, a runic alphabet was used. According to writings found on stone tablets from this period of history, the language showed remarkably little deviation between different regions. Runes had been in limited use since at least the 3rd century. Around 1030, Christianity came to Norway, bringing with it the Latin alphabet. Norwegian manuscripts in the new alphabet began to appear about a century later. The Norwegian language began to deviate from its neighbors around this time as well.

Viking explorers had begun to settle Iceland in the 9th century, carrying with them the Old Norse language. Over time, Old Norse developed into "Western" and "Eastern" variants. Western Norse covered Norway (including its overseas settlements in Iceland, Greenland, the Faroe Islands and the Shetland Islands), while Eastern Norse developed in Denmark and south-central Sweden. The languages of Iceland and Norway remained very similar until about the year 1300, when they became what are now known as Old Icelandic and Old Norwegian.

In the period traditionally dated to 1350–1525, Norwegian went through a Middle Norwegian transition toward Modern Norwegian. The major changes were simplification of the morphology, a more fixed syntax, and a considerable adoption of Middle Low German vocabulary. Similar development happened in Swedish and Danish, keeping the dialect continuum in continental Scandinavia intact. This did not, however, happen in Faroese and Icelandic, so these languages lost

mutual intelligibility with continental Scandinavia during this period.

Danish and Swedish rule

In 1397, the Kalmar Union unified Norway, Sweden and Denmark, and from 1536 Norway was subordinated under the Kingdom of Denmark–Norway. Danish became the commonly written language among Norway's literate class. Spoken Danish was gradually adopted by the urban elite, first at formal occasions, and gradually a more relaxed variety was adopted in everyday speech. The everyday speech went through a koinéization process, involving grammatical simplification and Norwegianized pronunciation. When the union ended in 1814 the Dano-Norwegian koiné had become the mother tongue of a substantial part of the Norwegian élite, but the more Danish-sounding solemn variety was still used on formal occasions.

Norway was forced to enter a new personal union with Sweden, shortly after the end of the former one with Denmark. However, Norwegians began to push for true independence by embracing democracy and attempting to enforce the constitutional declaration of being a sovereign state. Part of this nationalist movement was directed towards the development of an independent Norwegian language. Three major paths were available: do nothing (Norwegian written language, i.e. Danish, was already different from Swedish), Norwegianize the Danish language, or build a new national language based on Modern Norwegian dialects. All three approaches were attempted.

Danish to Norwegian

From the 1840s, some writers experimented with a Norwegianized Danish by incorporating words that were descriptive of Norwegian scenery and folk life, and adopting a more Norwegian syntax. Knud Knudsen proposed to change spelling and inflection in accordance with the Dano-Norwegian koiné, known as "cultivated everyday speech." A small adjustment in this direction was implemented in the first official reform of Danish language in Norway in 1862 and more extensively after his death in two official reforms in 1907 and 1917.

Meanwhile, a nationalistic movement strove for the development of a new written Norwegian. Ivar Aasen, a self-taught linguist, began his work to create a new Norwegian language at the age of 22. He traveled around the country, comparing the dialects in different regions, and examined the development of Icelandic, which had largely escaped the influences Norwegian had come under. He called his work, which was published in several books from 1848 to 1873, Landsmål, meaning national language. The name "Landsmål" is sometimes interpreted as "rural language" or "country language," but this was clearly not Aasen's intended meaning.

The name of the Danish language in Norway was a topic of hot dispute through the 19th century. Its proponents claimed that it was a language common to Norway and Denmark, and no more Danish than Norwegian. The proponents of Landsmål thought that the Danish character of the language should not be concealed. In 1899, Bjørnstjerne Bjørnson proposed the neutral name Riksmål, meaning national language like Landsmål, and this was officially adopted along with the 1907 spelling reform. The name "Riksmål" is sometimes interpreted as "state language," but this meaning is secondary at best, compare to Danish rigsmål from where the name was borrowed.

After the personal union with Sweden was dissolved in 1905, both languages were developed further and reached what is now considered their classic forms after a reform in 1917. Riksmål was in 1929 officially renamed Bokmål (literally "Book language"), and Landsmål to Nynorsk (literally "New Norwegian"). A proposition to substitute *Dano-Norwegian* for *Bokmål* lost in parliament by a single vote. The name *Nynorsk*, the linguistic term for Modern Norwegian, was chosen for contrast to Danish and emphasis on the historical connection to Old Norwegian. Today this meaning is often lost, and it is commonly mistaken as a "new" Norwegian in contrast to the "real" Norwegian Bokmål.

Bokmål and Nynorsk were made closer by a reform in 1938. This was a result of a state policy to merge Nynorsk and Bokmål into one language, called "Samnorsk" (Common Norwegian). A 1946 poll showed that this policy was supported by 79% of Norwegians at the time. However, opponents of the official policy still managed to create a massive protest movement against Samnorsk in the 1950s, fighting in particular the use of "radical" forms in Bokmål text books in schools. In the reform in 1959, the 1938 reform was partially reversed in Bokmål, but Nynorsk was changed further towards Bokmål. Since then Bokmål has reverted even further toward traditional Riksmål, while Nynorsk still adheres to the 1959 standard. Therefore a small minority of Nynorsk enthusiasts uses a more conservative standard called Høgnorsk. The Samnorsk policy had little influence after 1960, and was officially abandoned in 2002.

Politics

Norway is a constitutional monarchy with a parliamentary system of government. The Royal House is a branch of the princely family of Glücksburg, originally from Schleswig-Holstein in Germany. As it stands, the functions of the King, Harald V, are mainly ceremonial, but he has influence as the symbol of national unity. Although the constitution of 1814 grants important executive powers to the King, these are always exercised by the Council of State in the name of the King (King's Council or cabinet). The reserve powers vested in the Monarch by the constitution have in the 20th century in reality been symbolic, but has on a few occasions been important such as in World War II, when the Monarch said he would step down if the government should accept the German demand. The Council of State consists of a Prime Minister and other ministers, formally appointed by the King. Parliamentarism has evolved since 1884 and entails that the cabinet must not have the parliament against it, and that the appointment by the King is a formality when there is a clear majority in Parliament for a party or a coalition of parties. But after elections resulting in no clear majority to any party or coalition, the leader of the party most likely to be able to form a government is appointed Prime Minister by the King. Norway has often been ruled by minority governments. The King has government meetings every Friday at the Royal Palace (Council of State), but the government decisions are decided in advance in government conferences, headed by the Prime Minister, every Tuesday and Thursday. The King opens the Parliament every September, he receives ambassadors to the Norwegian court, and he is the symbolically Supreme Commander of the Norwegian Defence Force and the Head of the Church of Norway.

The Norwegian parliament, Stortinget, currently has 169 members (increased from 165, effective from the elections of 12 September, 2005). The members are elected from the nineteen counties for

four-year terms according to a system of proportional representation. In addition, 19 seats, the socalled "levelling seats" are allocated on a nationwide basis to make the representation in parliament correspond better with the popular vote. There is a 4% election threshold to gain levelling seats. When voting on legislation, the *Storting* – until the 2009 election – divides itself into two chambers, the Odelsting and the Lagting. Laws are in most cases proposed by the government through a Member of the Council of State, or in some cases by a member of the *Odelsting* in case of repeated disagreement in the joint *Storting*. Nowadays, however, the *Lagting* rarely disagrees, effectively rubber-stamping the *Odelsting*'s decisions. A constitutional amendment of February 20, 2007 will repeal the division after the 2009 general election.

Impeachment cases are very rare (the last being in 1927, when Prime Minister Abraham Berge was acquitted) and may be brought against Members of the Council of State, of the Supreme Court (*Høyesterett*), or of the *Storting* for criminal offenses which they may have committed in their official capacity.

Prior to an amendment to the Norwegian Constitution on February 20, 2007 indictments were raised by the *Odelsting* and judged by the *Lagting* and the Supreme Court justices as part of the High Court of the Realm. In the new system impeachment cases will be heard by the five highest ranking Supreme Court justices and six lay members in one of the Supreme Court courtrooms (previously cases were heard in the Lagting chamber). Storting representatives may not perform as lay judges. Indictments will be raised by the Storting in a plenary session.

The *Storting* otherwise functions as a unicameral parliament and after the 2009 general election the division into Odelsting and Lagting for passing legislation will be abolished. Legislation will then have to go through two – three in case of dissent – readings before being passed and sent to the King for assent.

The judiciary consists of the Supreme Court (eighteen permanent judges and a chief justice), courts of appeal, city and district courts, and conciliation councils. Judges attached to regular courts are appointed by the King in council.

In order to form a government, more than half the membership of the Council of State is required to belong to the Church of Norway. Currently, this means at least ten out of nineteen members.

In December each year, Norway gives a Christmas tree to the United Kingdom, in thanks for the UK's assistance during World War II. A ceremony takes place to erect the tree in Trafalgar Square.

In its 2007 Worldwide Press Freedom Index, Reporters Without Borders ranked Norway at a shared 1st place (with Iceland) out of 169 countries.

Corporal punishment of children has been illegal in Norway since 1983.

Cities and municipalities

Norway is divided into nineteen first-level administrative regions known as *fylker* ("counties", singular *fylke*) and 430 second-level *kommuner* ("municipalities", singular *kommune*). The *fylke* is the intermediate administration between state and municipality. The King is represented in every county by a Fylkesmann.

There is ongoing debate as to whether the nineteen "fylker" should be replaced with five to nine larger regions. Some expect this to happen by 2010, whereas others expect the intermediate administration to disappear entirely. Another option would probably require consolidating the municipalities into larger entities and delegating greater responsibility to them.

The counties of Norway are:

- Akershus
- Aust-Agder
- Nordland
- Nord-Trøndelag
- Sogn og Fjordane
- Sør-Trøndelag

- Buskerud
- Finnmark
- Hedmark
- Hordaland
- Møre og Romsdal
- Oppland
- Oslo
- Østfold
- Rogaland
- Telemark
- Troms
- Vest-Agder
- Vestfold

The Norwegian Health Care System

All worker's pay a tax from monthly salary to cover not only medical care but the welfare programs as well. The Norwegian health care system is mostly publicly funded. The central government provides grants to the counties who redirects finance to the hospital sector. The municipalities also receive grants from the central authorities, and largely fund the primary health care system. The state-run National Insurance Scheme (NIS), created in 1967. It offers public insurance against individual medical expenses (fees for service) for ambulatory care provided by hospitals and private practitioners.

In addition to this hospitals have some income from patient's charges for ambulatory care and transfers from other counties to cover the cost of the treatment of non-resident “guest” patients.

In addition to the public hospital sector there is also small private hospitals consisting of five very small private hospitals with outpatient clinics in Oslo. This sector is representing less than 1 per cent of the total number of hospital beds and 5 per cent of the outpatient services provided in Norway. These private clinics have specialised in open heart surgery, hip surgery and minor surgery such as arthroscopy, inguinal hernia, cataracts, sterilisation and varicose vein operations, because of to long waiting lists for this type of health care at public hospitals. Norwegian law imposes tight restrictions for establishing private hospitals like this. Some medical laboratories and x-ray institutes are also private. Specialists can engage in private practice (with their fees partly reimbursed by the social insurance system), part-time or fulltime, although the hospitals employ the majority of specialists.

Some private commercial hospitals are financed only by patient co-payments, NIS reimbursements and contract-based grants from the counties.

Economy of Norway

Economy of Norway	
Currency	1 Norwegian krone (NOK) = 100 øre
Fiscal year	1 January - 31 December
Trade organisations	OECD, WTO, European Economic Area and others
Statistics	
GDP (PPP)	$207.3 billion (2006 est.) (44th)
GDP growth	3.0% (2006 est.)
GDP per capita	$47,800 (2006 est.) **(PPP)** (2nd)
GDP by sector	agriculture (2.3%), industry (41.4%), services (56.3%) (2006 est.)
Inflation (CPI)	2.3% (2006 est.)

Population below poverty line	NA% (2006)
Labour force	2.42 million (2006 est.)
Labour force by occupation	agriculture (4%), manufacturing (22%), services (74%)(1995)
Unemployment	3.5% (2006 est.)
Main industries	petroleum and gas, food processing, shipbuilding, pulp and paper products, metals, chemical, timber, mining, textiles, fishing
External	
Exports	$122.6 billion (2006 est.)
Export goods	petroleum and petroleum products, machinery and equipment, metals, chemicals, ships, fish
Main export partners	UK 25.5%, Germany 12.6%, Netherlands 9.9%, France 9.1%, US 6.7%, Sweden 6.5% (2005)
Imports	$59.9 billion (2006 est.)
Import goods	machinery and equipment, chemicals, metals, foodstuffs
Main import partners	Sweden 14.6%, Germany 13.6%, Denmark 7.3%, UK 6.8%, the People's Republic of China 5.5%, US 5%, France 4%(2005)
Public finances	
Public debt	44.8% of GDP
Revenues	$195.8 billion (2006 est.)
Expenses	$133.1 billion (2006 est.)
Economic aid	$2.20 billion (donor), 0.87% of GDP (2004) [1]
Main data source: CIA World Factbook	

Norwegians enjoy the second highest (after Luxembourg) and third highest GDP (PPP) per-capita in the world, and has maintained first place in the world in the UNDP Human Development Index (HDI) for six consecutive years (2001-2006). However, in 2007 Iceland very narrowly beat Norway as the #1 place according to the Human Development Index.

Cost of living is about 30% higher in Norway than in the United States and 25% higher than the United Kingdom.

The Norwegian economy is an example of mixed economy, featuring a combination of free market activity and large government ownership. The government controls key areas, such as the strategic petroleum sector (StatoilHydro), hydroelectric energy production (Statkraft), aluminium production (Norsk Hydro), the largest Norwegian bank (DnB NOR) and telecommunication provider (Telenor). The government controls 31.6% of publicly listed companies. When non-listed companies are included the state has even higher share in ownership (mainly from direct oil license ownership).

The control mechanisms over petroleum resources are a combination of state ownership in major operators in the Norwegian fields (StatoilHydro approx. 62% in 2007) and the fully state owned Petoro (market value of about twice Statoil) and SDFI. Finally the government controls licensing of exploration and production of fields.

The country is richly endowed with natural resources including petroleum, hydropower, fish, forests, and minerals. Norway has obtained one of the highest standards of living in the world in part by having a large amount of natural resources compared to the size of the population. The income from natural resources include a significant contribution from petroleum production and the substantial

and well-managed income related to this sector. Norway also has a very low unemployment rate, currently below 2% (June 2007). The hourly productivity levels, as well as average hourly wages in Norway are among the highest in the world. The egalitarian values of the Norwegian society ensure that the wage difference between the lowest paid worker and the CEO of most companies is much smaller than in comparable western economies. This is also evident in Norway's low Gini coefficient.

In 2006, oil and gas accounted for 58% of exports. Only Russia and OPEC member Saudi Arabia export more oil than Norway, which is not an OPEC member. To reduce over-heating from oil money and the uncertainty from the oil income volatility, and to save money for an aging population, the Norwegian state started in 1995 to save petroleum income (taxes, dividends, licensing, sales) in a sovereign wealth fund ("Government Pension Fund — Global"). This also reduces the boom and bust cycle associated with raw material production and the marginalization of non-oil industry.

The fund invests in developed financial markets outside Norway. The budgetary rule ("Handlingsregelen") is to spend no more than 4% of the fund each year (assumed to be the normal yield from the fund). By January 2006, the pension fund had reached a value of USD 200 billion. During the first half of 2007, the pension fund became the largest fund in Europe, with assets totalling about USD 300 billion, equivalent to over USD 62,000 per capita. As such, the Norwegian state has savings equal to 100% of the Norwegian GDP. Norway has the largest capital reserve per capita of any nation (April 2007). Projections indicate that the Norwegian pension fund may become the largest capital fund in the world. It is the second largest state-owned sovereign wealth fund in the world, second only to the sovereign wealth fund of Abu-Dhabi. Conservative estimates tell that the fund may reach USD 800-900 billion by 2017. Other natural resource-based economies in countries like Russia and Chile are trying to learn from Norway by establishing similar funds. The investment choices of the Norwegian fund are guided by ethical guidelines. For example, the fund is not allowed to invest in companies that produce parts for nuclear weapons. The openness about the investment choices is lauded by the international community.

The future size of the fund is of course closely linked to the oil price and the developments in international financial market. At an average oil price of USD 100 per barrel, the state budget surplus for 2008 is expected to reach USD 80 billion.

Referendums in 1972 and 1994 indicated that the Norwegian people wished to remain outside the European Union (EU). However, Norway, together with Iceland and Liechtenstein, participates in the European Union's single market via the European Economic Area (EEA) agreement. The EEA Treaty between the European Union countries and the EFTA countries – transposed into Norwegian law via "EØS-loven" – describes the procedures for implementing European Union rules in Norway and the other EFTA countries. This makes Norway a highly integrated member of most sectors of the EU internal market. However, some sectors, such as agriculture, oil and fish, are not wholly covered by the EEA Treaty. Norway has also acceded to the Schengen Agreement and several other intergovernmental agreements between the EU member states.

In 2000, the government sold one-third of the then 100% state-owned oil company Statoil in an IPO. The next year, the main telecom supplier, Telenor, was listed on Oslo Stock Exchange. The state also owns significant shares of Norway's largest bank, DnB NOR and the airline SAS. Since 2000, economic growth has been rapid, pushing unemployment down to levels not seen since the early 1980s. (unemployment: 1.3%)

Social democratic reforms and the welfare state

Social Welfare

Norway has an extensive social welfare system. One contributing factor to this system is the wealth that Norway has acquired from their extraction of petroleum in the North Sea. A compulsory National Pension plan provides citizens with benefits such as universal child support, one-year paid maternity leave, and pensions for old age, disability, rehabilitation, widow, and widower. Norway's extensive attention to the medical and financial needs of its people is perhaps one of the greatest contributing factors to Norway's long average lifespan.

Health insurance is mandatory for all inhabitants. The state, the employer, and the individual all contibute to the health fund. Health services are distributed based on need, not on the ability of the individual to pay. Norwegians that become ill are guaranteed to medical treatment. Medical treatments including hospitalization and medication are free of charge.

In Norway, all employed persons have the right to receive sick pay starting the first day of their absence. The employer covers the cost for the first sixteen days. After sixteen days, national insurance covers the cost of the sickness benefits.

The retirement age in Norway is 67. After the age of 67, retired Norwegians receive an old-age pension for the remainder of their lives. All Norwegian residents are guaranteed a minimum pension. The amount of one's pension is dependant on the previous income of an individual and the time duration of their work.

A pregnant woman is entitled to a one-year paid maternal leave is she has been working six out of the last ten months. Three weeks of the leave must be taken prior to the birth. Also, fathers must take four weeks leave after the birth of their children. It is not necessary for parents to take the one year leave in one consecutive period. They may use days or weeks in their leave within a two year period. Women that were not employed before pregnancy receive a grant upon giving birth. Norway was the first country in the world to appoint a special minister to attend to issues concerning children.

The health and social welfare system in Norway is mostly pubicly financed through taxation. All wage earners contribute a fixed percentage of their earnings to the national insurance tax. Employers contribute money in the form of a payroll tax.

The radical roots of the socialist movement in Norway were based on dangerous working conditions, exploitative labor relations policies, and the demand for collective bargaining. As socialism became part of the mainstream labor movement, it also became part of the mainstream political discourse.

After World War II, the Norwegian Labour Party, with Einar Gerhardsen as prime minister, embarked on a number of social democratic reforms aimed at flattening the income distribution, eliminating poverty, ensuring social services such as retirement, medical care, and disability benefits to all, and putting more of the capital into the public trust.

As a result, the public sector grew as a percentage of the overall economy. Highly progressive income taxes, the introduction of value-added tax, and a large number of special surcharges and taxes made Norway one of the most heavily taxed economies in the world. Authorities were

particularly inclined to tax discretionary spending, applying special taxes on automobiles, tobacco, alcohol, cosmetic items, etc. Since assets were also subject to taxation, there were individuals who ended up with tax liabilities well in excess of their gross income.[citation needed]

Norway's long-term social democratic policies, extensive governmental tracking of information, and the homogeneity of its population lent themselves particularly well for economic study, and academic research from Norway proved to make significant contributions to the field of macroeconomics during this era. When Norway became a petroleum-exporting country, the economic effects came under further study.

Petroleum and post-industrialism

Oil-exporting country

In May of 1963, Norway asserted sovereign rights over natural resources in its sector of the North Sea. Exploration started on July 19, 1966, when Ocean Traveler drilled its first hole. Initial exploration was fruitless, until Ocean Viking found oil on August 21, 1969. By the end of 1969, it was clear that there were large oil and gas reserves in the North Sea. The first oil field was Ekofisk, produced 427,442 barrels of crude in 1980. Since then, large natural gas reserves have also been discovered.

Against the backdrop of the Norwegian referendum to not join the European Union, the Norwegian Ministry of Industry, headed by Ola Skjåk Bræk moved quickly to establish a national energy policy. Norway decided to stay out of OPEC, keep its own energy prices in line with world markets, and spend the revenue - known as the "currency gift" - wisely. The Norwegian government established its own oil company, Statoil, and awarded drilling and production rights to Norsk Hydro and the newly formed Saga Petroleum.

The North Sea turned out to present many technological challenges for production and exploration, and Norwegian companies invested in building capabilities to meet these challenges. A number of engineering and construction companies emerged from the remnants of the largely lost shipbuilding industry, creating centers of competence in Stavanger and the western suburbs of Oslo. Stavanger also became the land-based staging area for the offshore drilling industry. Presently North Sea is past its peak oil production.

Norway, an oil nation

As a western, industrialised nation and a major oil exporter, Norway has a number of different interests. It has about 50 per cent of Western Europe’s oil and gas reserves, which means that it has many interests in common with other oil exporters, both within and outside OPEC. At the same time, and together with its most important political and economic cooperation partners – other OECD countries – Norway participates in the energy policy cooperation of the International Energy Agency (IEA).
Norwegian policy is to maintain a stable oil price at a level that:

- is conducive to Norwegian value creation and international economic growth
- makes it possible for Norway to support the energy supply security of its trading partners on a stable, long-term basis, through its exports of oil and gas
- does not trigger the political conflict that could arise between oil-exporting and oil-importing countries due to the importance of oil as a strategic raw material
- promotes sustainable economic development at global level, through effective,

environmentally-friendly use of energy.

Norway has been one of the main promoters of dialogue between oil consumers and producers, which has now been institutionalised in the International Energy Forum. A secretariat for the Forum was established in Saudi Arabia in 2003.

In 2004, Norway exported an average of 2.9 million barrels of oil a day, making it the third-largest exporter of crude oil in the world, behind Saudi Arabia and Russia. The most important individual markets (first recipient countries) for Norwegian crude oil were the UK, the Netherlands, France, Germany, and the US. Total crude oil production (including condensate and natural gas liquids (NGL)) averaged approximately 3 million barrels a day. The Norwegian Government aims to maintain oil production for at least another 50 years.

Norway was also the world's third-largest gas exporter in 2004, behind Russia and Canada, and the second-largest gas exporter to Europe behind Russia. Gas from the Norwegian continental shelf accounts for about 15 per cent of total European gas consumption, and this percentage is expected to increase. The largest recipients of Norwegian gas in 2004 were Germany (35.2 per cent), France (23 per cent), the UK (16 per cent), and the Netherlands (9.3 per cent). Given the level of proven resources, including those that are recoverable through enhanced extraction techniques, the present level of gas production can be maintained for about 100 years. In other words, gas will play an increasingly important role in Norwegian petroleum activities.

In 2005, the export value of crude oil and natural gas sales was about NOK 433 billion, approximately 52 per cent of total Norwegian exports, and the petroleum industry's share of GDP was about 25 per cent.

Economic Structure and Sustained Growth

The emergence of Norway as an oil-exporting country has raised a number of issues for Norwegian economic policy. There has been concern that much of Norway's human capital investment has been concentrated in petroleum-related industries. Critics have pointed out that Norway's economic structure is highly dependent on natural resources that do not require skilled labor, making economic growth highly vulnerable to fluctuations in the demand and pricing for these natural resources. The Government Pension Fund of Norway is part of several efforts to hedge against dependence on petroleum revenue.

Because of the oil boom since the 70's, there has been little extensive government incentive to help develop and encourage new industries in the private sector, in contrast to other Nordic countries like Sweden and particularly Finland. However the last decade have started to see some incentive on

national and local government levels to encourage formation of new "mainland" industries that are competitive internationally. In addition to aspirations for a high-tech industry, there is growing interest in encouraging small business growth as a source of employment for the future.

There is continuing debate over the role of the public sector in Norway's economic development. Although there is broad consensus that Norway should pursue a mixed economic model, there is a persistent ideological schism between those who favor free market forces vs. socialist mechanisms.

In 2007, Norway saw a massive 6% growth of its economy, outpacing any other western nation. However, the growth was mostly due to increased consumer demand, and is expected to slow down in 2008.

Demography

As of 2007, Norway's population numbered 4.7 million. Most Norwegians are ethnic Norwegians, a North Germanic people. The Sami people traditionally inhabit central and northern parts of Norway and Sweden, as well as in northern Finland and in Russia on the Kola Peninsula. Another national minority are the Kven people who are the descended of Finnish speaking people that moved to northern Norway in the 18th up to 20th century. Both the Sami and the Kven were subjected to a strong assimilation policy by the Norwegian government from the 19th century up to the 1970s. Because of this "Norwegianisation process", many families of Sami or Kven ancestry now self-identify as ethnic Norwegian . This, combined with a long history of co-habitation of the Sami and North Germanic peoples on the Scandinavian peninsula, makes claims about ethnic population statistics less straightforward than is often suggested — particularly in central and northern Norway.

Other groups recognized as national minorities of Norway are Jews, Forest Finns, Roma/Gypsies and Romani people/Travellers.

In recent years, immigration has accounted for more than half of Norway's population growth. According to Statistics Norway (SSB), record 61,200 immigrants arrived in the country in 2007 — 35% higher than 2006. At the beginning of 2008, there were 459,600 persons in Norway with an immigrant background (i.e. immigrants, or born of immigrant parents), comprising 9.7% of the total population. 350,000 of these were from a non-Western background, which includes the formerly Communist countries according to the definition used by Statistics Norway. The largest immigrant groups by country of origin, in order of size, are Poles, Pakistanis, Swedish, Iraqis, Somalis , Vietnamese, Danes, and Germans.[24]The Iraqi immigrant population has shown a large increase in recent years. After the enlargement of the EU in 2004, there has also been an influx of immigrants from Central and Eastern Europe, particularly Poland. The largest increase in 2007 was of immigrants from Poland, Germany, Sweden and Lithuania .

Religion

In common with other Scandinavian countries, the Norse followed a form of native Germanic paganism known as Norse paganism. By the end of the eleventh century, when Norway had been Christianized, the indigenous Norse religion and practices were prohibited. Anti-heathenry laws, however, were removed early in the twentieth century. Many remnants of the native religion and beliefs of Norway exist today, including names, referential names of cities and locations, the days of the week, and other parts of the everyday language.

Parts of the Sami minority retained their shamanistic religion well into the 18th century when they were converted to Christianity by Dano-Norwegian missionaries.

Nearly 83% of Norwegians are members of the state Church of Norway, to which they are registered at birth. Many remain in the state church to be able to use services such as baptism, confirmation, marriage and burial, rites which have strong cultural standing in Norway. Up to 40%

of the membership attends church or religious meetings during a year, with fewer attending regularly.

According to the most recent Eurobarometer Poll 2005, 32% of Norwegian citizens responded that "they believe there is a god," whereas 47% answered that "they believe there is some sort of spirit or life force" and 17% that "they do not believe there is any sort of spirit, god, or life force."

Other Christian denominations total about 4.5% of the population. These include the Evangelical Lutheran Free Church, the Roman Catholic Church, Pentecostal congregations, the Methodist Church, Adventists, the Church of Jesus Christ of Latter-day Saints, and Jehovah's Witnesses and others. Among non-Christian religions, Islam is the largest, representing about 1.5% of the population: It is practiced mainly by the Somalian, Arab, Albanian, Pakistani and Turkish communities. Other religions comprise less than 1% each, including Judaism (see Jews in Norway). Indian immigrants introduced Hinduism to Norway, but account for only 0.5% of the population. There are eleven Buddhist organizations, grouped under the Buddhistforbundet organisation, which make up 0.42% of the population. Around 1.5% of Norwegians adhere to the secular Norwegian Humanist Association. About 5% of the population is unaffiliated.

Individual human rights

Norway is currently the second most highly ranked nation in the UN Human Development Index, an index made up by literacy rate, education level and per capita income, though it had been the highest on the list for the six years between 2001 and 2006.

Freedom of expression is enshrined in Article 1 of the Constitution of Norway. Freedom of religion is enshrined in Article 2 of the Constitution, which also establishes the state religion as "Evangelical Lutheran". The press is not censored. Editors adhere to self-imposed commandments of caution, in order to protect people's privacy and other civic rights.

International rankings

Organization	Survey	Ranking
International Monetary Fund	GDP per capita	2nd out of 232 (2006)
United Nations Development	Human Development Index	2nd out of 177 (2007) (1st,

Programme		2001-2006)
A.T. Kearney / Foreign Policy	Globalization Index 2005	14th out of 111
Heritage Foundation / Wall Street Journal	Index of Economic Freedom 2006	30th out of 155
Reporters Without Borders	Worldwide press freedom index	1st out of 168 (1st 2002-2005)
Save the Children	State of the World's Mothers 2004 (Children)	1st out of 119
Save the Children	State of the World's Mothers 2004 (Women)	6th out of 119
Save the Children	State of the World's Mothers 2004 (Mothers)	6th out of 119
UNICEF	Child Well-being league table	7th out of 21 industrial countries
Transparency International	Corruption Perceptions Index 2004	8th out of 145
World Economic Forum	Global Competitiveness Report 2005-2006	9th out of 117
Nationmaster	Labour Strikes	5th out of 27
The Economist Intelligence Unit	Worldwide quality-of-life index, 2005	3rd out of 111
Yale University/Columbia University	Environmental Sustainability Index, 2005 (pdf)	2nd out of 146
The Fund for Peace	Failed States Index, 2007	177th out of 177
The Economist	Global Peace Index	1st out of 121
The Economist	Democracy Index	4th out of 167

Architecture of Norway

From its origins about 9,000 years ago to the present, the **architecture of Norway** has evolved in response to shifting economic conditions, technological advances, demographic fluctuations and cultural shifts. While outside architectural influences are apparent in much of Norwegian architecture, they have often been adapted to meet Norwegian climatic conditions, including: harsh winters, high winds and, in coastal areas, salt spray.

Norway's architectural trends are also seen to parallel political and societal changes in Norway over the centuries. Prior to the Viking Age, wooden structures developed into a sophisticated craft evident in the elegant and effective construction of the Viking long ships. Following that, the ascent of Christianity introduced Romanesque architecture in cathedrals and churches, with characteristically slightly pointed arches, barrel vaults, cruciform piers supporting vaults, and groin vaults; in large part as a result of religions influence from England.

During the Middle Ages, the geography dictated a dispersed economy and population. As a result, the traditional Norwegian farm culture remained strong, and Norway differed from most European countries in never adopting feudalism. This, combined with the ready availability of wood as a

building material, ensured that relatively few examples of the Baroque, Renaissance, and Rococo architecture styles so often built by the ruling classes elsewhere in Europe, were constructed in Norway.

Instead, these factors resulted in distinctive traditions in Norwegian vernacular architecture, which have been preserved in existing farms in the many Norwegian open-air museums that showcase buildings from the Middle Ages through to the 19th century; prominent examples include the Norsk Folkemuseum in Oslo and Maihaugen in Lillehammer, as well as extant buildings still in service on farms such as those in the Heidal valley.

In the 20th century, Norwegian architecture has been characterized by its connection with Norwegian social policy on the one hand, and innovation on the other. Norwegian architects have been recognized for their work, both within Norway—-where architecture has been considered an expression of social policy—-and outside Norway, in several innovative projects.

Cuisine of Norway

Norwegian cuisine is in its traditional form largely based on the raw materials readily available in a country dominated by mountains, wilderness and the sea. Hence, it differs in many respects from its continental counterparts with a stronger focus on game and fish.

Modern Norwegian cuisine, although still strongly influenced by its traditional background, now bears the marks of globalization: Pastas, pizzas and the like are as common as meatballs and cod as staple foods, and urban restaurants sport the same selection you would expect to find in any western European city.

Seafood

The one traditional Norwegian dish with a claim to international popularity is the smoked salmon. It is now a major export, and could be considered the most important Norwegian contribution to modern international cuisine. Smoked salmon exists traditionally in many varieties, and is often

served with scrambled eggs, dill, sandwiches or mustard sauce. Close to smoked salmon is gravlaks, (literally "dug salmon"), which is salt-and-sugar-cured salmon seasoned with dill and (optionally) other herbs and spices. Gravlaks is often sold under more sales-friendly names internationally. A more peculiar Norwegian fish dish is Rakfisk, which consists of fermented trout, a culinary relation of Swedish surströmming.

Meat and game

High cuisine is very reliant on game, such as moose, reindeer, duck, and fowl. These meats are often hunted and sold or passed around as gifts, but are also available at shops nationwide, and tend to be served at social occasions. Because these meats have a distinct, strong taste, they will often be served with rich sauces spiced with crushed juniper berries, and a sour-sweet jam of lingonberries on the side.

Preserved meat and sausages come in a bewildering variety of regional variations, and are usually accompanied by sour cream dishes and flat bread or wheat/potato wraps. Particularly sought after delicacies include the *fenalår*, a slow-cured lamb's leg, and *morr*, usually a smoked cured sausage, though the exact definition may vary regionally. Due to a partial survival of an early medieval taboo against touching dead horses, eating horse meat was nearly unheard of until recent decades, though it does find some use in sausages.

Lamb's meat and mutton is very popular in autumn, mainly used in fårikål (mutton stew with cabbage). Pinnekjøtt, cured and sometimes smoked mutton ribs that is steamed for several hours, is traditionally served as Christmas dinner in the western parts of Norway. Another Western specialty is smalahove, a smoked lamb's head.

Because of industrial whaling, whale was commonly used as a cheap substitute for beef early in the 20th century. More recently, a combination of rising prices stemming from a quota reduced to ca. 300 animals p.a. and the easily ruined flavour of the meat has made whale a much rarer delicacy. Eating whale meat, although not common, is not controversial in Norway.

Fruit and desserts

Fruits and berries mature slowly in the cold climate. This makes for a tendency to smaller volume with a more intense taste. Strawberries, blueberries, lingonberries, raspberries and apples are popular and are part of a variety of desserts, and cherries in the parts of the country where those are grown. The wild growing cloudberry is regarded as a delicacy. A typical Norwegian dessert on special occasions is cloudberries with whipped or plain cream. Also Norwegians eat a lot of apple deserts with busquits.

German and Nordic-style cakes and pastries, such as sponge cakes and Danish pastry (known as "wienerbrød", literal translation: "Viennese bread") share the table with sweet breads - "kaffebrød" (literally: "coffee bread", named for its accompaniment, not ingredients), waffles and biscuits. Cardamom is a common flavouring. Common cookies are krumkake, sandkaker and fattigman. Another Norwegian cake is Eplekake or apple cake.

Coffee is an extremely common part of social life, enjoyed both before and after dinner, with bread, desserts and liquor. The average Norwegian consumes 160 litres of coffee p.a, or ten kilogrammes per person. 80% of the population drinks coffee. As in the rest of the west, recent years have seen a shift from coffee made by boiling ground beans to Italian-style coffee bars, tended by professional baristas.

Dairy products

Dairy is still extremely popular in Norway, though the variety of traditional products available and commonly in use is severely reduced. Cheese is an export, in particular the plain-brand favourite Jarlsberg cheese. The sweet geitost or brown/red cheese (not a true cheese, but rather caramelized lactose from goat milk or a mix of goat and cow milk) is very popular in cooking and with bread. More sophisticated or extreme cheeses include the *gammelost* (lit. "old cheese"), an over-matured, highly pungent brown cheese.

By Johs. B. Thue

Inner Sogn has been a cheese region since ancient times, with brown and white goats cheese a particular speciality. However, the pungent “gamalost” cheese also had a devoted following. The Undredal Stølsysteri cheese-makers and the Vik Dairy are the proud bearers of a long and well-rooted culinary tradition which is based on local ingredients and the passing down of local knowledge for generations. In fact, you’ve not really visited Sogn till you’ve tasted the cheese.

Tradition is important when it comes to food. Produce tend to bear evidence of the soil, climate and environment of the area where livestock live and graze. The tasty goats cheese from the valley of Undredal most certainly owes its character to these factors. The goats of Undredal graze on fjord-green grass, juicy buds, shooting leaves and scented heathers: they soak up their energy from steep mountainsides in ecological balance. The waterfront at Undredal is a colourful carpet of flowers, as if the very rainbow had shattered, fallen to earth and settled in for the benefit of our eyes and the goats’ palates.

Yet, the art of making delicious cheese is not only down to quality grass and leaves or flowers. This is a complicated, demanding craft based on knowledge. And the people of Undredal know their craft better than most, having modernised their methods while retaining the traditional full flavour and rich aroma. Their cheese is made from goats milk with a good dollop of cows cream added. The fjord-side villages distinguish themselves in this respect as well. Our very first humanist, Absalon Pedersen Beyer, grew up at Skjerdal in Aurland. He wrote that the cows of Inner Sogn graze on mountain grass so rich they produce pats of butter. He may well have passed this comment in the 16th century, but the mountain grass growing by the edge of the everlasting snow is still as rich. This is the reason why goats cheese from Undredal has a flavour of Norwegian fjords and mountains which gives us the nourishment and nutrients we need.

Goats cheese is an indispensable part of the diet for any Norwegian male or female athlete when taking part in long-distance races. On occasion, the cheese has even been concealed and smuggled into foreign countries, so as not to let other competitors in on the reason why Norwegians can cope better with gruelling toil than anybody else. And why is it that people from Voss have been particularly successful in winning home World Championships and Olympic medals? It is of course due to the proximity of Voss to Undredal. Do you remember biathlon star Eirik Kvalfoss, Mr. Golden Foss himself? His mother came from Undredal, and he won just about everything on the biathlon scene due to his craving for goats cheese, which made him ski even faster towards the end of a gruelling race.

The white goats cheese, which Pascale Baudonnel has developed further in recent years, is one of our most scrumptious culinary delights. Have you ever tried buttered flatbread from potatoes with thick slices of white goats cheese, topped with cured fjord trout or marinated herring? Be assured, we’re not talking food here; this is sheer medicine, a true cure-all. Also, white goats cheese topped with salmon smoked in traditional Lærdal fashion brings tears to our eyes, in praise and gratitude.

When celebrating significant anniversaries, the Royal Family sometimes organise grand parties. The bountiful spread will inevitably include “gamalost” cheese from Vik, round andwell matured. The cheese is a good conversation starter; “gamalost” is a familiar talking point, a link between all Norwegians; everyone has a story about the sharp flavour, and about Sogn. “Gamalost” cheese is Norwegian, low in fat, and strong. And it forms an indispensable part of the royal table, suitable for kings and queens, and for you

and me. The craving for "gamalost" cheese is part of our identity; part of being Norwegian, free and democratic. Consistently democratic.
Sogn is the Norwegian cheese region par excellence. The partnership between Vik Dairy to the cheese-makers at Undredal Stølsysteri is unique, and no other region can compare. Brown and white goats cheese, and the pungent "gamalost" cheese, form part and parcel of our cultural baggage.

Alcohol

Both industrial and small-scale brewing have long traditions in Norway. Restrictive alcohol policies have encouraged a rich community of brewers, and a colourful variety of beverages both legal and illegal. The most popular industrial beers are usually pilsners and red beers (*bayer*), while traditional beer is much richer, with a high alcohol and malt content. The ancient practice of brewing *Juleøl* (yule beer) persists even today, and imitations of these are available before Christmas, in shops and, for the more potent versions, at state monopoly outlets. Cider brewing has faced tough barriers to commercial production due to alcohol regulations, and the famous honey wine, *mjød* (mead), is mostly a drink for connoisseurs and practitioners of the native religion. The climate has not been hospitable to grapes for millennia, and wines and more potent drinks are available only from the wine monopolies.

Distilled beverages include *akevitt*, a yellow-tinged liquor spiced with caraway seeds, also known as akvavit or other variations on the Latin *aqua vitae* - water of life. The Norwegian "linie" style is distinctive for its maturing process, crossing the equator in sherry casks stored the hull of a ship, giving it more taste and character than the rawer styles of other Scandinavian *akevitter*. Norway also produces some vodkas, bottled water and fruit juices.

Education in Norway

Education in Norway is mandatory for all children aged 6-16. The school year in Norway runs from late August to mid June the coming year. The Christmas holiday from mid December to early January divides the Norwegian school year into two terms.

Education today

The Norwegian school system can be divided into three parts: Elementary school (*Barneskole*, age 6-13), lower secondary school (*Ungdomsskole*, age 13-16), and upper secondary school (*Videregående skole*, age 16-19).

Elementary and lower secondary school are mandatory for all children aged 6-16. Before 1997, the mandatory education in Norway started at the age of 7. Students almost always have to change school when they enter lower secondary school and upper secondary school, as most schools only offer one of the levels.

Elementary school (*Barneskole*, grades 1-7, age 6-13)

In the first year of elementary school, the students are mostly playing educational games and learning social behaviour. In grades 2 through 7, they are introduced to math, English, Norwegian,

science, religion, and gymnastics, complimented by geography, history, and social studies in the fifth grade. No grades are given at this level.

Lower secondary school (*Ungdomsskole*, grades 8-10, age 13-16)

When the students enter lower secondary school, at age 12 or 13, they begin getting grades for their work. The grades they get will determine whether they get accepted at their high school of choice or not. From the eighth grade, the students can choose one elective (*valgfag*). Typical subjects the students are offered are the languages German, French and Spanish as well as additional English or Norwegian studies. Before the educational reform starting August 2006, students could choose a practical elective instead of languages.

Upper secondary school (*Videregående skole*, grades VG1-VG3, age 16-19)

Upper secondary school (akin to high school) is 3 years of optional schooling, although recent changes to society (few jobs for 16-years olds) and law (government required by law of 1994 to offer secondary schooling in one form or another to everyone between 16 and 18 who submit the application form) has made it largely unavoidable in practice.

Secondary education in Norway is primarily based on public schools, and is attended by 96% of the students. Until 2005, Norwegian law held private secondary schools to be illegal unless they offered a 'religious or pedagogic alternative', meaning that the only private schools in existence were religious (Christian), Steiner/Waldorf and Montessori schools. The first "standard" private upper secondary schools opened in the fall of 2005.

Since the high school reform of 1994 (*Reform 94*), the branches have been merged into a single system. Among the goals of the reform was that everybody should have a certain amount of 'general studies' large enough to make them eligible for higher education later, meaning more theory in vocational studies, and it should be possible to cross over from one education path to another without losing too much credit. In the old system, two years of carpentry would be wasted if you wanted to switch to general studies, in the new system you would keep credit for at least half of it.

Since the introduction of the reform *Kunnskapsløftet* fall 2006 (*the knowledge promotion*), a student will apply for a general education (*studiespesialisering*) or a vocational studies (*yrkesfag*) path. Inside these main paths there are many sub-paths to follow. The new reform makes the incorporation of IT into the schooling mandatory, many counties (responsible for the public high schools) offer laptops to general studies students for free or for a small fee. Kunnskapsløftet also makes it harder to switch betweens electives that you take in the second and third year in the general studies path.

Students graduating general studies are called Russ in Norwegian. Most of them choose to celebrate with lots of parties and festivities, which, impractically, take place a few weeks before the final examinations of the final year.

Higher education

Higher education is anything beyond upper secondary school, and normally lasts 3 years or more. To be accepted to most higher education you must have attained a general studies diploma (general *studiekompetanse*). This can be achieved by taking general studies while in upper secondary school or through the law of 23/5 where a person must be above 23 years of age, have 5 years of combined schooling and work experience and have passed exams in Norwegian, mathematics, natural sciences, English and social studies. Some degrees also require special electives in second and third grade (e.g. maths and physics for engineering studies.)

Higher education is broadly divided into:

- Universities, which concentrate on theoretical subjects (arts, humanities, natural science). Supplies bachelor (3 yrs), master (5 yrs) and PhD (8 yrs) titles. Universities also run a number of professional studies, including law, medicine, dentistry, pharmacy and psychology, but these are generally separate departments that have little to do with the rest of the university institution.
- University colleges (*høyskole*), which supply a wide range of educational choices, including university bachelor degrees, engineering degrees and professional vocations like teacher and nurse. The grade system is the same as it is for universities.
- Private schools, which tend to specialize in popular subjects with limited capacity in public schools, such as business management, marketing or fine arts. Private schools do not loom large on the horizon, although the fraction of students attending private schools is 10% in higher education, compared to 4% in secondary and 1.5% in primary education.

Timeline of Norwegian Higher Education

Before the 19th century the main source for higher education of Norwegians were the University of Copenhagen.

- 1750: The Norwegian Military Academy is established as the "Free Mathematical School" with officer training and technical disciplines such as geographic surveying, drawing, fortification and mathematics.
- 1757: The "Mining Seminar" is established at Kongsberg to train engineers for the Kongsberg Mines. This education was moved to the Royal Frederik's University in Christiania (Oslo) in 1814 (three years after the establishment of this university).
- 1811: The University of Oslo is established as Universitas Regia Fredericiana modeled on the University of Berlin (the "Humboldt Model").
- 1859: The Norwegian University of Life Sciences is established as an agricultural school at Ås, Akershus
- 1910: The Norwegian Institute of Technology is established in Trondheim.
- 1936: The Norwegian School of Economics and Business Administration is established in Bergen.
- 1943: The Norwegian School of Management (BI) is established as a merchant school.
- 1946: The University of Bergen is established.
- 1972: The University of Tromsø is established.
- 2005: Stavanger University College is given status as university, thus becoming the University of Stavanger.
- 2007: Agder University College (established 1994) is given status as university, thus becoming the University of Agder. Norwegian State Educational Loan Fund

The **Norwegian State Educational Loan Fund** (Norwegian: *Statens lånekasse for utdanning*) is a government agency that provides loans and grants to Norwegian and certain foreign students for their education. This system is aimed at making higher education available to everyone, regardless of their place of residence within Norway, their age, sex or economic and social status.

As of 2006, students receive a combined grant and loan which amounts to NOK 81,000 per year. Upon completion of the academic year, up to 40% of the loan amount may be converted to a grant provided that certain conditions are met, i.e., that the student: passes all exams on schedule; has an annual income below NOK 113,000; and has a net worth less than NOK 220,000.

- All Norwegian public universities and colleges are free, but students attending private institutions may apply for an additional loan of up to NOK 50,000 in order to finance tuition. Such loans may not be converted to grants.

Norwegian sealing

Sealing is one of the traditional means of livelihood for people in the countries around the Arctic Ocean and the North Atlantic. The Norwegian seal hunt is based mainly on harp seals and hooded seals. Stocks of both species are growing, and neither species is threatened.

Norwegian sealing takes place in the Barents Sea outside the mouth of the White Sea, in Russia's economic zone (the East Ice), and off Greenland (the West Ice). The Norwegian quotas are set on the basis of scientific recommendations from the International Council for the Exploration of the Sea (ICES), the Northwest Atlantic Fisheries Organisation (NAFO) and the Institute of Marine Research in Norway. These recommendations are used as a basis for drawing up a multi-species management regime, which takes into account, for example, how harvesting seals will affect other species. In 2007, Norway's overall quota is 46 200 adult seals, 15 000 in the East Ice and 31 200 in the West Ice. Russia is responsible for managing the harp seal stock in the East Ice, while the stocks in the West Ice come under the fisheries jurisdiction of several countries and live partly in international waters.

Norwegian sealing is sound resource management
In all, there are about eight million harp and hooded seals in the North Atlantic, and almost three million in the areas where Norwegian sealing takes place. Stocks of both species are growing.

To maintain seal stocks at a reasonable level, it is necessary to harvest them. The daily energy requirement of a harp seal is equivalent to two and a half to three kilograms of herring or capelin. The large seal stocks are making heavy inroads into stocks of various fish species, including some that are used for human consumption. In the North-east Atlantic, harp seals alone eat as much

herring as is caught by the whole Norwegian fishing fleet.

If seal populations become too large, some species may migrate over long distances to find food. This has at times resulted in massive seal invasions along the Norwegian coast. The animals eat large amounts of fish that would otherwise be used by people as food, and cause extensive damage to fishing gear and fish farms. In addition, thousands of seals have drowned after becoming entangled in fishing nets.

Different marine species influence one another both directly and indirectly. The people who are responsible for managing them must take such interactions into account. If it is decided to harvest one stock, the effects of this decision on other species must also be considered. This is a generally accepted principle that applies to the management of all wild species that are not threatened.

Subsidised for environmental reasons
For a long time, the market for sealskin was weak, reducing the profitability of the sealing industry. However, the prices of skins have risen in the past couple of years, and most of the income from sealing is still derived from the sale of skins. There is also growing interest in other products such as meat, blubber and carcasses, including seal oil for medicinal purposes.

Norwegian sealing currently receives state support. This is necessary to ensure sound regulation of seal stocks and to maintain traditional hunting skills so that seal populations can continue to be appropriately regulated. At the same time, purposeful efforts are being made to develop markets for new seal products, so that the industry can become independent of subsidies.

Legislation and control
Norway has strict, detailed legislation governing sealing, including dates for the sealing season, quotas, methods of killing, mandatory training for sealers, approval of vessels and inspection.

According to the legislation, animals must be killed as quickly, humanely and painlessly as possible. The only types of equipment Norwegian sealers are allowed to use are rifles and the hakapik (a kind of gaff). Adult seals are shot with rifles, while seal pups are killed using either a rifle or a hakapik. The hakapik may look primitive, but is in fact an efficient tool that stuns an animal immediately and kills it quickly. Norwegian legislation does not permit catches of suckling pups, in other words pups that have not been abandoned by their mothers.

Sealers are required to take a course and a shooting test every year before the sealing season. Each sealing vessel carries an inspector on board. The inspectors have veterinary qualifications or the equivalent, and report directly to the fisheries authorities.

Whaling in Norway

Whaling in Norway is a centuries long tradition in Northern Norway. Only Minke whaling is permitted, from a population of 107,000 animals in the North East Atlantic and is argued by proponents and government officials to be sustainable. Still it has been frequently criticized by foreigners and animal rights groups as Norway, among Iceland and Japan, is one of few countries that still allow whaling.

Norway registered an objection to the International Whaling Commission (IWC) commercial

whaling moratorium, and is thus not bound by it. In 1993, Norway resumed a commercial catch, following a period of five years where a small catch was made under scientific permit. Norwegian Minke whale catches have fluctuated between 218 animals in 1995 and 646 in 2003.

Prior to the moratorium, Norway caught around 2,000 Minke whales per year. The North Atlantic hunt is divided into five areas and usually lasts from early May to late August. Norway has exported a limited amount of whale meat to the Faroes and Iceland. It has been attempting to export to Japan for several years, though this has been hampered by concerns in the Japanese domestic market about the effects of pollution in the blubber of the North Atlantic Minke whale.

In May 2004, the Norwegian Parliament passed a resolution to considerably increase the number of Minkes hunted each year. The Ministry of Fisheries also initiated a satellite tracking programme of various whale species to monitor migration patterns and diving behaviour. The tagging research program has been under way since 1999.

Since 2006, when the Norwegian whaling quota was increased by 30%, Norwegian whalers have been allowed to hunt a quota of 1,052 Mink whales a year. Since the 1993 hunt resumption the Norwegian quota has rarely been fully met.

Right of public access

Everyone in Norway enjoys the right of access to and passage through uncultivated land in the countryside. This originally traditional right has been set out in legislation since 1957. It is based on respect for the countryside, and all visitors are expected to show consideration for farmers and landowners, other users and the environment.

Pressure on the right of access
Public access to the countryside is being threatened by certain types of development and privatization measures. Fences and other barriers erected to prevent public access are not permitted under the Outdoor Recreation Act. Piecemeal developments along the coast, particularly by the Oslo fjord and in popular areas of Southern Norway, have gradually reduced public access to the shoreline. As a general rule, building and partitioning of property is prohibited in the 100 m zone closest to the sea, but local authorities in many areas have made liberal use of their ability to grant exemptions from this rule.

Sports fishing
In freshwater areas such as rivers and lakes, the fishing rights belong to the landowner. Sports fishing is thus not included in the right of free access.. Norway distinguishes between government property, state common land and private property, but regardless of who owns the land, fresh-water fishing activities may only be conducted with the permission of the landowner or by those in possession of a fishing licence.

In salt-water areas there is free access to sports fishing using boats or from the shoreline. All fishing is subject to legislation to protect biological diversity, etc., and this legislation stipulates rules regarding the use of gear, seasons, bag or size limits and more. The local tourist information office in the municipalities can provide updated information about applicable rules.

Hunting
Hunting rights belong to the landowner, and thus hunting is not included in the right of free access. This means that hunting is not allowed without permission from the landowner, and a hunting licence or similar permit must be obtained before hunting activity is initiated. The only exception applies to hunting in salt-water areas, where hunting can take place using a row-boat within 2 km from any shoreline (all islands included). Motorboats may only be used for hunting at a minimum of 2 km from any shoreline.

Norway has a hunting proficiency test, but persons resident abroad need not take this test provided they satisfy the conditions for engaging in the same type of hunting in their home country. The minimum age for small-game hunting is 16 years, while the age for larger game is 18 years. All

hunting is subject to legislation to protect biological diversity, etc.

A national target
The authorities wish to ensure that everyone has an opportunity to take part in outdoor activities. One of Norway's national targets is to ensure easy accessibility to environment-friendly recreation areas in proximity to people’s homes.

SNO Aurland

Rovviltansvarlig i Sogn & Fjordane og Hordaland.
Naturoppsyn i Nærøyfjorden landskapsvernområde.

SNO Aurlands kontor ligger i Fjordsenteret i Aurland sentrum.

Ansatte

Rein-Arne Golf

Mobil: 480 94 364
Tlf: 57 63 22 11
E-post: Send e-post

Kristoffer Ullern Hansen

Mobil: 970 97 720
Tlf: 57 63 22 12
E-post: Send e-post

Naturoppsyn Rein-Arne Golf er tilknytta Rovviltseksjonen og er regionalt rovviltansvarleg i Sogn & Fjordane og Hordaland.

Naturoppsyn Kristoffer Ullern Hansen er tilknytta **Nasjonalparkseksjon sør** og har tilsyn med Nærøyfjorden landskapsvernområde og nærliggande verneområde.

Oppsynsområde

Landskapsvernområdet i Nærøyfjorden er eit av dei beste døme me har på fjord i Noreg. Ein finn her eit ubrote naturlandskap som strekker seg frå fjorden og opp til høgfjellet på over 1700 moh. Fjorden er einskilde plassar djupar enn 1000 meter, slik at her kan ein finna fjellformasjonar som er nær 3000 m med enno aktive geologiske prosessar.

Området i Indre Sogn har også gode døme på samspel mellom naturlandskap og meir eller mindre kulturpåverka landskap. I høgfjellet finn ein rester etter veidemannskultur med ulike fangsanlegg. I dei stupbratte fjellsidene er det restar etter gamle slåtteteigar med utløer, lauvingsmarker og beitemark. Flatar fjellhyllene noko ut, er det enno gardsbruk som vert drivne og halde i hevd for komande slekter.

Oppe på fjellet lever villreinen, i dalane og fjellsidene finn ein rike stammar av hjort og elg. Eit variert fugleliv finn ein både i fjorden og på fjellet. Fisk sprett både i fjord, foss og rolege fjellvatn. Vatnet ligg som bre eller snøfonner i høgfjellet, før det kastar seg ned over i fjellsidene i større eller mindre fossar. All denne storslåtte naturen vert årleg vitja av meir enn 700.000 tusen personar.

Under SNO si feltsamling i 2007 vart det utført skjøtsel med bl.a. slått på garden Stigen i Nærøyfjorden landskapsvernområde, med Nærøyfjorden som ei flott ramme i landskapet. Foto: Ola Eirik Bolme.

Arbeidsoppgåver

SNO Aurland har som oppgåve å driva naturoppsyn med heimel i lov om statleg naturoppsyn innafor sitt oppsynsområde. Føremålet er å ivareta nasjonale miljøverdiar og førebygga miljøkriminalitet. Meir konkret medfører dette kontroll med reglane gjeve i medhald av Friluftslova, Naturvernlova, Motorferdselslova, Kulturminnelova, Viltlova,

Laks og innlandsfisklova og delar av Forureiningslova. Oppsynet driv og med rettleiing og informasjon, samstundes som det kan driva med skjøtsels-, registrerings- og dokumentasjonsarbeid.

Kontoret har el særleg oppgåve med oppsyn i kystnære verneområde. Verneområda omfattar eit samla areal på 1140 kvadratkilometer fordelt på fem naturreservat, fire landskapsvernområde og to naturminne. Viktige arbeidsoppgåver ellers er lakseoppsyn og skiltig i verneområda.

International environmental cooperation

Norway's success in reaching its national environmental targets is dependent on international environmental cooperation. Norway is exposed to long-range pollution, as persistent organic pollutants (POPS), radioactivity and acid rain originating in activities elsewhere are transported here by winds and ocean currents. Moreover, Norway has a vested interest in helping to reduce the extensive environmental problems affecting the geographically adjacent area of Northwest Russia.

International environmental cooperation is also essential to the ability to devise good solutions to the global environmental challenges facing countries everywhere in the form of climate change, loss of biological diversity and dispersal of hazardous chemicals into the natural environment. Norway plays a prominent role in efforts to establish legally binding international cooperation on environmental issues.

Environmental and resource management policies comprise key components of Norwegian foreign and security policy. Satisfactory environmental conditions help to promote stability and security. A healthy, diverse environment is necessary in order to alleviate poverty and achieve sustainable development to the benefit of all the peoples of the world.

Priority areas
Norway gives priority to international cooperation in the following areas:

- climate change
- hazardous chemicals
- biological diversity

Flora and Fauna

Mountain birds

If there is one thing we have plenty of in Norway, it's mountains. Typical mountain birds can be found in two types of main habitats: above the treeline in southern Norway (8-1100 m.a.s.l. depending on where you are) and in most of the two northern counties, where the climate put some of the same pressure on plant life all the way down to sea level. The best selection of mountain birds are found in two rather different mountain areas: Hardangervidda in the southwest and Dovre further northeast.

Hardangervidda is the largest national park in Norway, and has a population of 5-10.000 wild Reindeer (Reindeer in northern Norway are domestricated). This is a real mountain area in the low- and middle alpine region. This means that the tallest plants are willows, and most of the terrain is covered with fragile heath vegetation.

Numerous lakes hold the most important breeding populations of alpine diving ducks in southern Norway, breeding species including Tufted Duck, Greater Scaup, Common Scoter, Velvet Scoter and Long-tailed Duck. Other common waterbirds here are Black-throated Diver, Common Teal, Common Goldeneye, Common Gull and Arctic Tern. Shorebirds also breed in good numbers, including Eurasian Dotterel, European Golden Plover, Common Ringed Plover, Common Snipe, Great Snipe, Common Sandpiper, Redshank, Whimbrel, Dunlin, Purple Sandpiper, Temminck's Stint and Red-necked Phalarope.

The willow shrubs hide species such as Willow Grouse, Fieldfare, Bluethroat, Willow Warbler, Mealy Redpoll, Reed Bunting and Lapland Bunting, while on drier ground there are plenty of Meadow Pipits, Northern Wheatears and Shore Larks. Snow Bunting and Rock Ptarmigan are found on the highest ridges and in more rocky terrain.

The most common raptor species are Rough-legged Buzzard, Common Kestrel and Merlin, but Gyrfalcon also breeds with several pairs. Common Crane is a scarce breeder, but seen regularly. Stragglers and occasional breeders include Hen Harrier, Snowy Owl, Short-eared Owl and Long-tailed Skua, the presence or absence of these species depend almost totally on the rodent cycles.

Another kind of mountain habitat with a different birdlife is found at Fokstumyra in the Dovre mountains. This is a nature reserve at approx. 900 m.a.s.l. consisting of numerous small lakes and mostly bogs. Birch forest surround most of these lakes, together with tall and thick willows this results in a larger diversity of passerines than at Hardangervidda. The number of ducks and shorebirds are much lower, though. This is a safer spot for Hen Harrier and waders such as Wood Sandpiper and Ruff are common. Common Crane is a breeder here, as well as large numbers of Bluethroats and Yellow Wagtails.

Woodland birding

Woodland birding, in Norway as in most other places, is all about finding the right spot. Of course you will always find birds, but when searching for the prime sites with mature natural forest for maximum diversity, you need to know where to go. Forestry and birding don't go well together, so forget about monocultures of pine and spruce when you look for some really good birds.

Visiting birders in Norway often want to see Capercaillie, Hazel Grouse, woodpeckers, owls, Siberian Jay and Siberian Tit. You will not find all of them in one area anywhere, but some places could probably turn up most of them. The diversity of owls is greater in central Norway, and the Trøndelag counties will alway be a good place to start. This area is normally good also for Capercaillie, Hazel Grouse and Siberian Jay. Siberian Tit is also a possibility here, but a safe bet only up north in Finnmark. Grey-headed and White-backed Woodpeckers are easier to find in western Norway.

It is impossible to cover all the different woodland types in this rather short text, we shall limit ourselves to a short intruduction, so that you can get the large picture. About 37% of Norway is covered by woodland, and only 3 % by agricultural land. Probably the most numerous tree-species is the Birch, which seem to tolerate colder and harsher climate and therefore occuring higher up and further north than any other tree species. Naturally, the treeline is normally made up of small-grown birch forest, except in a few areas where Pine is the dominating forest type.

The most diverse deciduous woods, both in terms of plant- and bird species, is occuring in the south-eastern coastal regions. This is also the warmest region, and woodlands dominated by oak and other broad-leaved forest, mixed with agricultural land and eutrophic lakes creates habitats that hold a number of bird species more rare in other parts of the country. A few of those species normally found in these habitats have colonized Norway during the last 60 years. These include Great Crested Grebe, Black-headed Gull, Trush Nightingale, Reed Warbler, Marsh Warbler and Common Rosefinch. The deciduous forestes grade into conifer-domiated woodlands away from the coast, and these areas offer the best chance of seeing species such as Osprey, Common Buzzard, Honey Buzzard, Hobby, Nightjar, Black Woodpecker, Woodlark, Mistle Thrush and Red-backed Shrike.

In Western Norway, the terrain is more dramatic, with fjords and mountain ridges cutting through the landscape. The woods are very diverse, depending on altitude, soil type and solar radiation. The scenery is dominated by species-rich deciduous forests, pine forest and birch forest. Often pine forest is mixed with Birch, Aspen and Oak, these woodlands hold species such as Northern Goshawk, Grey-headed Woodpecker, White-backed Woodpecker and Marsh Tit.

Central Norway (Hedmark and the Trøndelag-counties) are dominated by coniferous woodland, but there is no place where deciduos woodlands are totally absent. These forests are the soutwestern limit to the taiga zone, stretching all the way across the Eurasian continent. A nice selection of owls and woodpeckers breed in these areas together with species like Capercaillie, Hazel Grouse, Siberian Jay, Crossbills etc.

Northern Norway mainly have to types of woodland: Birch and Pine. Pine forests are mainly inland, and the best areas are in Pasvik in Eastern Finnmark. While the total number of birds in these forests is not comparable to the more diverse southern forest types, this is the easiest place to find Three-toed Woodpecker, Siberian Tit, Siberian Jay and Pine Grosbeak. The Pasvik forest also contain many small lakes and bogs, with a good selection of northern waders, and nowhere the opportunity for a chanse-meeting with a Hawk Owl or a Great Grey Owl is larger. This is also the place to find Arctic Warbler and Little Bunting, but keep in mind that the Arctic Warbler is a very late migrant and rarely present before the second half of June.

Common animals in Norway

Norway is home to many species of wild animals. Most of the animals in Norway are not dangerous to people, a
can safely use the countryside without being afraid of wild animals. Some animals live in the forests, while othe

the mountains. Let’s take a closer look at some of them:

- Bears
- Squirrels
- Elks
- Lynx
- Hares
- Deer
- Reindeer
- Roe deer
- Foxes
- Wolves
- Adders

Vegetation

Natural vegetation in Norway varies considerably, as can be expected in a country covering such a variation in latitude. There are generally fewer species of trees in Norway than in areas in western North America with a similar climate. This is because the migration routes after the ice age is more difficult in the north - south direction in Europe, with bodies of water (like the Baltic Sea and the North Sea) and mountains creating barriers, while in America there is a continuous continent and the mountains follow a north - south direction. Many imported plants have been able to ripen seeds and spread, and less than half of the 2,630 plant species in Norway today actually occur naturally in the country. About 210 species of plants growing in Norway are listed as endangered, and 13 species are endemic]. The national parks in Norway are mostly located in mountain areas, and only about 1.5% of the productive forests in the country are protected.

Some plants are classified as western due to their need for high humidity and/or low tolerance of winter frost; these will stay close to the southwestern coast, with the northern limit near Ålesund; some examples are holly and bell heather. Some western species occurs north to Helgeland (like Erica tetralix), some even to Lofoten (like Luzula Sylvatica). The mild temperatures along the coast allows for some surprises; some hardy species of Palms grow even as far north as Sunnmøre, a large Lebanon cedar grows in Stavanger and planted deciduous trees such as horse chestnut and beech thrives north of the Arctic circle (as in Steigen) if the soil and microclimate is suitable.

Plants classified as eastern need comparatively more summer sunshine, with less humidity, but can tolerate cold winters; these will often occur in the southeast and inland areas, examples are Daphne mezereum, fragaria viridis and spiked speedwell. Some eastern species common in Siberia grows in the river valleys of eastern Finnmark. There are also species which seems to be in-between these extremes, like the southern plants, where both winter and summer climate is important (such as Pedunculate oak, European ash and Dog's Mercury); other plants are dependent on the type of bedrock.

There are a considerable number of alpine species in the mountains in Norway; these will not tolerate summers that are comparatively long and warm or can not compete with plants adapted to a longer and warmer growing season; many alpine plants are common in the North Boreal zone and some in the Middle Boreal zone, but their main area of distribution is on the alpine tundra in the Scandinavian mountains and on the Arctic tundra. Many of the most hardy species have adapted by using more than one summer to ripen seeds. Examples of alpine species are glacier buttercup, draba

lactea and salix herbacea. A well-known anomaly is the 30 American alpine species, which in Europe only grow in two mountainous parts of Norway; the Dovre-Trollheimen and Jotunheim mountains in the south and the Saltdal to western Finnmark in the north (Gjærevoll, 1992, pp 146-160; Moen, 1998, p 52). Other than in Norway, these species grow only in Canada and Greenland, such as the Braya linearis (*No: Rosekarse*) and Carex scirpoidea. It is unknown whether these survived the ice age on some mountain peak penetrating the ice, or they spread from further south in Europe, or why did they not spread to other mountainous regions of Europe. Some alpine species have a wider distribution and also grow in Siberia, such as the Rhododendron lapponicum (Lapland rosebay, *No: Lapprose*, the only native Rhododendron in Norway). Other alpine species are common in the whole Arctic, some only grows in Europe, such as Globe-flower.

The following vegetation zones in Norway are all based on botanical criteria (Moen, 1998; Gjærevoll 1992), although, as mentioned, some plants will have specific demands. Forests, bogs and wetlands, as well as heaths, are all included in the different vegetation zones; a South Boreal bog will differ from a North Boreal bog, although some plant species might occur on both.

The South Boreal zone

The South Boreal zone (SB) is dominated by boreal species, especially Norway spruce, and covers a total of 12% of the land area. The SB is the only boreal zone with a few scattered - but well-developed - warmth-demanding broadleaf deciduous trees, such as European Ash and Oak. A number of species in this zone needs fairly warm summers (SB has 3-4 months with a mean 24-hr temperature of at least 10 °C), and thus are not to be found or are very rare in the middle boreal zone. Some of the species not to be found further north are black alder, hop, oregano and guelder rose. This zone is found above the hemiboreal zone, up to 450 meter amsl in Østlandet and 500 m in the most southern valleys. In the eastern valleys it reaches several hundred kilometers into Gudbrandsdal and Østerdal, and up to Lom and Skjåk in Ottadalen. Along the southwestern coast, the zone reaches an elevation of 400 at the head of the large fjords (as in Lærdal), and about 300 m nearer to the coast. Norway spruce is lacking in Vestlandet (Voss is an exception). North of Ålesund, SB vegetation dominates in the lowland down to sea level, including the islands like Hitra. Most of the lowland in Trøndelag below 180 m elevation is SB, up to 300 m above sea level in the inland vallys such as Gauldalen and Verdalen, and up to 100 m in Namdalen. The coastal areas and some fjord areas further north, such as Vikna, Brønnøy and the best locations along the Helgeland coast is SB north to the mouth of Ranfjord, while inland areas north of Grong are dominated by Middle Boreal zone in the lowland. There are small isolated areas with SB vegetation further north, as in Bodø and Fauske; the most northern location is a narrow strip along the northern shore of Ofotfjord. The endemic Nordland-Whitebeam only grows in Bindal (Reppen nature reserve). Agriculture in Norway, including grain cultivation, takes place mostly in the hemiboreal and SB zone.

Middle Boreal

The boreal plant species dominates in the Middle Boreal (MB) zone, and this is the most typical boreal zone. The MB vegetation covers a total of 20% of the land area. Norway spruce is the dominant tree in large areas in the interior of Østlandet, Sørlandet, Trøndelag and Helgeland; this MB and the SB spruce forest is the commercially most important forest in Norway. Spruce does not grow naturally north of Saltfjell in mid-Nordland (the siberian spruce variant occurs in the Pasvik valley) due to mountain ranges blocking the advance, but is often planted in MB areas further north for economic reasons, contributing to a different landscape. Birch is usually dominant in these

North Boreal

North boreal forest in Øvre Dividal National Park; the autumn-colored leaves of the mountain birch continues upslope as the pine reaches its limit

The North Boreal (NB) zone is the area closest to the tree line, bordering the alpine or polar area and dominated by a harsh subarctic climate, with at least 30 days with a mean of 10 °C or more (summer) and up to about 2 months. The trees grow very slow and generally do not get very large; the forest is not as dense as further south or at lower altitude, and is known as the mountain forest (*No:Fjellskog*). The NB zone covers a total of 28% of the land area in Norway, including almost half of Finnmark, where the mountain birch is growing down to sea level. The lower part of this zone also has conifers, but the tree line in Norway is mostly formed by mountain birch, a subspecies of downy birch (*ssp. czerepanovii*; not to be confused with dwarf birch). Spruce and pine make up the tree line in some mountain areas with a more continental climate. Alpine plants are common in this zone. Birch forest at 1,320 m above sea level at Sikilsdalshorn is the highest tree line in Norway. The tree line is lower closer to the coast and in areas with lower mountains due to cooler summers, more wind near mountain summits, and more snow in the winter (coastal mountains) leading to later snowmelt. The NB zone is located at 750 - 950 m altitude in the interior of Østlandet and covers large areas; at 800 - 1200 m in the central mountain areas; but at the western coast the tree line is down to about 500 m above sea level, increasing significantly into the long fjords (1,100 m at the head of Sognefjord). Further north, large areas in the interior highlands or uplands of Trøndelag and North Norway is dominated by the NB zone, with the tree line at about 800 m amsl in the interior of Trøndelag, 600 m in Rana, 500 m in Narvik, 400 m in Tromsø, 100 m in Hammerfest (only pockets in sheltered areas) and 200 m in Kirkenes. The large Finnmarksvidda plateau is at an altitude placing it almost exactly at the tree line. The last patch of NB zone gives way to tundra at sea level about 10 km south of the North Cape plateau (near Skarsvåg); areas south of this line is tundra-like with scattered patches of mountain birch woodland (forest tundra) and becomes alpine tundra even at minor elevations. The trees near the tree line is often bent by snow, wind and growing season frost; height is only 2 - 4 m. Outside Norway (and adjacent areas in Sweden), the only other areas in the world with the tree line mostly made up by a small-leaved deciduous tree like birch - in contrast to conifers - are Iceland and the Kamtschatka peninsula.

A conifer tree line is sometimes used (*No: Barskoggrense*) to divide this zone into two subzones, as the conifers will (usually) not grow as high up as the mountain birch. Spruce and pine grow at nearly 1,100 m above sea level in some areas of Jotunheimen, down to 400 m in Bergen (900 m at the head of Sognefjord), 900 m in Lillehammer (mountains near Oslo too low to observe a tree line), 500 m in Trondheim (750 m in Oppdal), 350 m in Narvik, 200 m in Harstad, 250 m in Alta and the most northerly pine forest in the world is in Stabbursdalen National Park in Porsanger. There are some forestry in this part of the NB zone; some conifers can grow quite large even if growth is slow.

Tundra

Alpine tundra is common in Norway, covering a total of 32% of the land area (excluding Svalbard and Jan Mayen) and belonging to the Scandinavian Montane Birch forest and grasslands PA1110 ecoregion. The area closest to the tree line (low alpine) has continuous plant cover, with willow species such as *salix glauca, -lanata and -lapponum* 0.5 meter tall; blueberry, common juniper and twinflower are common. The low alpine area was traditionally used as summer pastures, and partly still is. This zone reaches an elevation of 1,500 m in Jotunheimen and includes most of Hardangervidda, it reaches 1,300 m in eastern Trollheimen and about 800 m in Narvik and the

Lyngen Alps. Higher up (mid-alpine tundra) the plants become smaller, mosses and lichens are more predominant; plants still cover most of the ground even if snowfields last into mid-summer and permafrost are common. At the highest elevations (high-alpine tundra) the ground is dominated by bare rock, snow and glaciers, with few plants. The highest altitude weather station in Norway, Fanaråken in Luster at 2062 m, barely have three months above freezing and a July average of 2.7 °C. Still, glacier buttercup has been found only 100 m below the summit of Galdhøpiggen, and mosses and lichens have been found at the summit.

In northeastern Finnmark (northern half of the Varanger Peninsula and Nordkyn peninsula) is a small lowland tundra area which is often considered part of the Kola Peninsula tundra PA1106 ecoregion. Svalbard and Jan Mayen have tundra vegetation except for areas covered by glaciers, and some areas, like the cliffs at southern Bjørnøya, are fertilized by sea bird colonies. This tundra is often considered part of the Arctic Desert PA1101 ecoregion. The most lush areas on these Arctic islands are sheltered fjord areas at Spitsbergen; they have the highest summer temperatures and the very dry climate ensures little snow and thus comparatively early snowmelt. The short growing season and the permafrost underneath the active layer still ensures enough moisture; plants include dwarf birch, cloudberry, Svalbard poppy and harebell.

A warmer climate would push the vegetation zones significantly northwards and upwards