

Geographic Regions

Geographical division of Slovenia:	Average annual precipitation: from less than 800 mm in the east to more than 3,000 mm in the north-west
Alps	
- 42.1% of territory	
Dinaric Alps	Highest peak:
- 28.1% of territory	Mount Triglav - 2,864 metres
Pannonian Plain	Largest protected natural area:
- 21.2% of territory	Triglav National Park, 83,807 ha
Mediterranean	Largest karst cave:
- 8.6% of territory	Postojna Cave
Climate:	19.5 km
continental in central Slovenia	Largest lake:
Alpine in the north-west	Cerknica Lake (intermittent)
sub-Mediterranean along the coast and its hinterland	26 km ²
Average temperature:	Longest river: Sava - 221 km
January: -2°C	Highest waterfall: Čedca, 130 metres
July: +21°C	

Source: Ministry of the Environment and Spatial Planning, Environmental Agency

On the sunny side of the Alps A tapestry of different landscapes and climates

Slovenia consists of a mosaic of diverse landscapes, which extend between the Adriatic, the Alps and the Pannonian Plain. The territory of Slovenia is geographically divided into four basic types of landscape - Alpine in the north, Mediterranean in the south-west, Dinaric in the south and Pannonian in the east.

But in everyday use, regional names are more common than geographical ones: Gorenjska (Upper Carniola), Štajerska (Styria),



The Postojna Cave (left) is one of the most beautiful and most visited caves in the world; Bled (right) is world famous for its glacial lake, its island and castle.

Prekmurje (the Mura river region), Koroška (Carinthia), Notranjska (Inner Carniola), Dolenjska (Lower Carniola), Bela krajina (White Carniola) and Primorska (the coast and its hinterland). However, it is very hard to define the exact borders between them. Gorenjska is mainly Alpine and Primorska Mediterranean, but Štajerska reaches into the Pannonian Plain, and Notranjska into both the Dinaric and Mediterranean types of landscape. Because of its geographical diversity, there are different types of climate in Slovenia: continental, Alpine and Mediterranean. Most of the country has a continental climate, with cold winters and warm summers. Typical of the Alpine climate in the north-west are pleasant summers with average maximum temperatures from 10°C to 20°C, cold winters with average minimum temperatures below - 3°C and high annual precipitation, which can exceed 3,500 mm. The coastal area has a Mediterranean climate with hot summers, with average July temperatures above 22°C, and mild winters, when the temperature does not fall below 0°C, although it feels colder because of the *burja* - a strong wind that sometimes reaches speeds of 45 metres per second.

Most of the country has a continental climate with cold winters and warm summers.
Photo: Kotlje in Carinthia.



Average January temperatures in central Slovenia are between -2°C and 0°C , whilst average July temperatures are between 19°C and 23°C .

On the coast, annual precipitation is on average 1,000 mm, whilst in the hinterland it is 1,700 mm. The level of precipitation diminishes going from west to north-east. The central part of Slovenia gets 1,000 to 2,000 mm of precipitation a year; the extreme north-eastern part only 800 mm.

The Alps **Three mountain ranges and the sources of rivers**

The largest part of Slovenia's territory is taken up by the Alps, where 47.3% of the population lives. This area is divided into three mountain ranges. In the north-west, there are the dolomitic limestone Julian Alps including the highest peaks in Slovenia - Triglav (2,864 m) and Škrlatica (2,740 m). Along the border with Austria lie the Karavanken Alps, built from softer material. The highest peak here is Stol (2,236 m).

Slap Savica (the Savica Fall), the source of the Sava Bohinjka, which has a 71 metre drop is the best-known and, because of the well-maintained access paths, the most visited waterfall in Slovenia.



South of the Karavanken lies a third, smaller range of mountains - the Kamnik-Savinja Alps, Grintavec (2,559 m) being the highest peak here. On the southern and eastern margins of the Alps there are high plateaux, covered mainly with forests.

The division of the Alpine topography is made even more obvious by the numerous deep glacial river valleys and the high-lying karst plateaux with their typical

surface features, as well as subterranean caves and chasms.

The pre-Alpine hills and valleys are also a part of Slovenia's Alps. The largest among the valleys are the Ljubljana and Celje basins.

The extensive Ljubljana basin, with its 930 km² and 619 people per square kilometre, is the most densely populated part of Slovenia. The second largest and most densely populated valley, the Celje basin (526



The Zois bellflower (Campanula Zoysii) is one of more than sixty endemic species found in the Julian Alps, the Karavanken and the Kamnik-Savinja Alps.

people per square kilometre), lies across the middle part of the River Savinja and extends into the sub-Pannonian landscape.

Many rivers in Slovenia have karstic sources. In many cases, they emerge as waterfalls on the lower part of slopes or in valleys. Because of its mainly mountainous territory and copious precipitation, Slovenia has more than 300 permanent waterfalls. The Sava, the longest river (221 km), which has two sources in the Alps (one of which is the most visited waterfall in Slovenia - the Savica Fall), carries the waters from more than half of Slovenia's territory into the Danube and on to the Black Sea. The Soča, the longest Slovenian river flowing into the Adriatic (96 km in Slovenia) has a karstic source in the heart of the Julian Alps and ranks among the world's cleanest rivers.

In Slovenia's Alps, there are numerous endemic species of flora, such as the Zois bellflower and the Triglav gentian. Among Alpine animals, the chamois, the mountain rabbit, the marmot and the Golden eagle are widespread.

In the damper, southern parts of the Alps beech forests grow, intermingled with hornbeam; in the central parts, spruce forests prevail; and in the higher areas, there are stands of larches. Slovenia is the 3rd most forested country in Europe, with 54% of its area covered by woods and forests.

The Mediterranean coast and hinterland

The homeland of the Karst, olive trees and vines

The Slovenian coast is the part of the Mediterranean where the Adriatic reaches deepest into Central Europe. It exerts its influence over 8.6% of Slovenia's territory - particularly on the Karst plateau between the Bay of Trieste and Vipava, into the vine-growing and fruit-cultivating Flysch regions of Brda, the Vipava Valley and the Koper coastline, into the Lower Soča Valley and the Goriška plain.

The Škocjan Caves encompass 5,800 metres of typical karst caves. Since 1986, they have been included among UNESCO's World Heritage Sites.



In the Mediterranean part of Slovenia, lower-lying limestone karstic plateaux and karst plains alternate with Flysch landscapes. The Flysch areas form approximately half of the Mediterranean part of Slovenia. In contrast with the Flysch areas, which have normal surface waters, in the karst land water dissolves the porous limestone, seeping below the ground. The surface is therefore full of karst sinkholes and swal-

low holes, whilst beneath the surface there are numerous caves and chasms. So far, more than 1,000 Dinaric karst caves have been explored (the Karst is also called the original Karst as it was here that research into karst phenomena first started, also giving the name to the branch of science studying them - karstology). The density of karst caves here is 1 to 1.5 per square kilometre. The waters from the Mediterranean part of Slovenia run into the Adriatic. The most important rivers are the Soča, the Vipava and the Reka. The latter rises in a non-karst area beneath the Snežnik mountain; for the first fifty kilometres it flows over an impermeable Flysch area and on contact with the Karst it sinks (a magnificent ponor in the Škocjan Caves). Typical of the Karst is the red soil known as *terra rossa*. Just under a third of the area is forested. With forestation, the Austrian pine has spread and enriched the karst forests, typical of which are white oak and black hornbeam. Typical cultivated plants are the grapevine and, near the coast, the olive tree. On the coast, wild Mediterranean myrtles grow, the northern-most part of the range of this species. Particular natural features of the

In the area of the Sečovlje saltpans landscape park (864 ha), 45 endangered plant species can be found. The extensive marshland is an important nesting place for more than 80 bird species.



coast are the Strunjan cliff, the highest Flysch cliff on the Adriatic, as well as the Sečovelje salt-pans, a landscape park with four important botanical reserves and bird sanctuaries.

The continuation of the Dinaric range The karst massifs and the home of the bear

The varied limestone topography of western, southern and south-

eastern Slovenia belongs to the north-eastern part of the Dinaric Alps. The tall Dinaric plateaux with their sharp karst edge (a limestone wall nearly 100 metres high) give way to a Mediterranean landscape, whilst in the east they turn into a low, karstified plateau (Suha krajina), karst plains (Bela Krajina) and hilly areas. The high karst massifs of Banjščica, Trnovski Gozd, Nanos, Hrušica, Javorniki, Snežnik, the Bloke Plateau, Mala and Velika Gora and Kočevski Rog are all more than 700 metres above sea-level. The highest of them is Visoki Snežnik (1,796 m). Among the plateaux, where there are hardly any surface waters, there is a string of karst *poljes* with disappearing rivers. A special feature of karst *poljes* are intermittent lakes. The largest among them is Lake Cerknica, which covers up to 26 square kilometres of the Cerknica Polje at times of high water. The largest rivers of the Slovenian Dinaric area are the Kolpa and the Krka. The latter has the slowest flow of all the rivers in Slovenia.

In addition to the Alpine area, the cool and damp Dinaric area, which encompasses 28.1% of the territory of Slovenia, is the most forested part of the country. In the higher areas, beech and fir trees dominate and lower down, oak, hornbeam and beech. There is also a lot of game: in the area around Kočevje, even the brown bear, the lynx and the wolf can be found. But undoubtedly one of the most famous representatives of the wild life of the Dinaric area is the amphibious inhabitant of the karst caves - the Proteus, the only exclusively cave-dwelling vertebrate in Europe and, with its 25 to 30 cm, the largest such cave animal in the world.

The Pannonian Plain bordered with hills Life in the riverbed pools of the Mura and mineral springs

The Pannonian Plain in the east and the north-east of the country is the most fertile farmland in Slovenia. The Mura, the Drava, the



Proteus anguinus (in Slovene, the human fish) - a tailed amphibian, which breathes with both lungs and gills - is an endemic species of the Dinaric karst, protected since 1922.

Logarska Dolina is one of the most beautiful mountain valleys in Slovenia.



Sava and their tributaries deposited gravel on large plains, bordered by an undulating landscape (Slovenske gorice, Haloze, Dravinjske and Posotelske gorice). In the west, the Pannonian Plain gives way to the Celje basin. The central region of the southern part of the Pannonian topography of Slovenia is the Krško basin. The climate of the Pannonian Plain is typically continental. Its forests contain mainly deciduous trees, whilst among coniferous trees, the red pine prevails. The flood-prone meadows and wetlands, particularly the stagnant pools along the Mura, provide shelter to rare plant species. In addition to other bird species, approximately 80 pairs of white storks nest in this area. A special natural treasure of this part of Slovenia are the thermal and mineral waters, which have led to the development of spa resorts. The hilly part of this farming region with vineyards and orchards is called Goričko, recently proclaimed as a landscape park.

National and landscape parks

Protected areas of natural heritage

Almost 11% of the Slovenian countryside is protected by legislation. A programme of further protection has already been approved by the National Assembly as part of the National Environment Protection Programme and gradually almost a third of the country will be covered. This is not surprising considering that Slovenia can boast of 7,000 registered karst caves, 15,000 animal species and 3,200 plant species (some of them endemic). With the accession to the EU, Slovenia was also obliged to propose the sites for conservation of species and habitats called the Natura 2000 network. Currently 27.2% of the national territory is proposed as potential Sites of Community Importance (pSCIs) and 22.8% as Special Protection Areas (SPAs).

A great deal of the planned protected areas coincides with the proposed Natura 2000 network sites, which is not surprising as these are the most valuable parts of Slovenian nature.

The largest protected area in the country is the Triglav National Park, which encompasses nearly 4% of the territory of Slovenia (83,807 ha). In addition, there are another 44 landscape parks, 3 regional parks, 623 natural heritage sites and 49 nature reserves. The youngest parks that have been established only in the last few years are Landscape Park Goričko, Landscape Park Sečovelje salt pans and the Notranjska Regional park, established by Cerknica municipality.

The Triglav National Park encompasses nearly the whole of the Julian Alps. The first initiative for its founding came in 1908, and in 1924 - when the park was established - the Slovenes became the fifth nation in Europe with their own national park. Nowadays the park, with a population of 2,072, is protected by a special law prohibiting any encroachments, which could endanger its natural and cultural features, its endemic fauna and flora, as well as the natural ecosystem and the co-habitation of man and nature.

Most of Slovenia's glacial lakes are in the Triglav National park (Lake Bohinj, Lake Krn, the Triglav Lakes). The park's diverse configuration consists of mountain ridges, post-glacial valleys, surface and subterranean karst phenomena typical of high-lying areas, the sources of the Sava and the Soča rivers with numerous waterfalls and deep, narrow river beds. The vegetation in the park is mainly Alpine with numerous endemic species, and there are even some sub-Mediterranean species. Among the characteristic animal species of the area, is the endemic Soča trout, which lives only in the River Soča and its tributaries.

The three regional parks in Slovenia, which encompass large natural homogeneous areas with both original and man-made features, are around the Škocjan Caves, Kozjansko area and the



The intermittent Lake Cerknica that can cover up to 26 km² of the Cerknica Polje at times of high water.

Lipicanci are a Slovenian species of riding horse of world-wide renown, originating in the village of Lipica. When young, these horses are either black or grey and when they grow up, most become



white.

Cerknica Lake. In addition, there are 44 landscape parks, protected because of their natural and cultural heritage as well as to encourage sustainable management of these areas. The most attractive among them are the Logarska Dolina, Rakov Škocjan, the Sečovlje salt pans with Strunjan and Škocjan Caves. The Škocjan Caves comprise the largest underground canyon and have been a UNESCO World Heritage site since 1986, and are together with Sečovlje salt pans the only two Slovenian wetlands of global importance.

The 49 protected nature reserves in Slovenia also include areas of primeval forest, mainly around Kočevlje. There are also interesting geological features in Slovenia, among them the Idrija break with a mercury mine. More than a hundred minerals can be found in Slovenia; some especially rare and interesting ones (e.g. Idrija cinnabar, dravite, zoisite and wulfenite) have found their way into the world's mineral collections.

Environmental protection

National Environment Protection Programme

In November 2005 the National Assembly of the Republic of Slovenia adopted the new National Environment Protection Programme (NEPP) for the period up to 2012, whose main objective is the general improvement of the environment and the quality of life, and the protection of natural sources. It is a starting point for the environmental dimension of Slovenia's Development Strategy, determining the vision of Slovenia's future, and giving the orientation and measures for its realisation.

The basic aim of the environmental protection policy is to ensure sustainable development. In the environmental field this means the organisation of the economy, infrastructure, settlement, and way of life in view of the carrying capacity of the environment and natural resources, and the promotion of the integration of environmental issues with other sectorial policies in line with the principle of integration.

The basic aims of the NEPP in particular fields are:

- Setting out climatic change as an important challenge in the years ahead, and reducing greenhouse gas emissions, thus contributing to the long-term stabilisation of the concentration of greenhouse gases in the atmosphere, as well as reducing the emission of substances causing ozone layer degradation.
- Protecting and preserving all natural systems, habitats, free-living animal and plant species, with the aim of preventing the loss of biotic diversity, genetic variety and further soil degradation.
- Contributing to the high quality of life and social welfare of citizens by ensuring an environment in which the level of pollution does not harmfully affect people's health and by encouraging sustainable development in cities, and above all ensuring the measures for establishing good water quality.

- Handling waste and using renewable and non-renewable natural resources that enable sustainable production and consumption, contribute to reducing environmental pollution and energy use so that the latter does not exceed the environment's carrying capacity. The NEPP also determines the principle agents in the field of environmental protection: central Government and local authorities, contractors to the Government and local environmental protection public utilities, NGOs and the business sector.

The orientation and priority tasks are also determined in the field of international activities with a view to making environmental protection demands part of foreign policy and development cooperation, effectively fulfilling and enforcing international contracts relating to the environment, and accelerating cross-border cooperation with neighbouring countries and regions. The measures in the field of public relations and environmental protection education are key support measures for a successful programme implementation that can contribute to changing social habits, values and an unsustainable life style. The main financing orientation aimed at achieving the programme objectives is the established basic environmental protection principle: "the pay for environmental burdening principle". Thus far the following environmental taxes have been introduced in the Republic of Slovenia: a water pollution tax, water reimbursement, a tax on carbon dioxide emissions, a waste disposal tax, a tax on the generation of end-of-life vehicles, and on the use of lubricating oils and fluids.

Information

www.gov.si/mop
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