

RUSSIA



Source: esri

General

Russia - officially the Russian Federation - is located in Eurasia. It is the largest country in the world by area, covering more than one-eighth of the Earth's inhabited land area. Extending across the entirety of Northern Asia and much of Eastern Europe, From Northwest to Southeast, Russia shares land borders with Norway, Finland, Estonia, Latvia, Lithuania, Poland, Belarus, Ukraine, Georgia, Azerbaijan, Kazakhstan, China, Mongolia and North Korea. It shares maritime borders with Japan by the Sea of Okhotsk and the USA State of Alaska across the Bering Strait. The country has an area of 1,710 Mha (million hectares) with, in 2022, a population of 145 million, or 0.09 persons per ha (Wikipedia and United Nations, 2022).

Climate and geography

The enormous size of Russia and the remoteness of many areas from the sea result in the dominance of the humid continental climate, which is prevalent in all parts of the country except for the tundra and the extreme Southwest. Mountains in the South obstruct the flow of warm air masses from the Indian Ocean, while the plain of the West and North makes the country open to Arctic and Atlantic influences. Most of Northern European Russia and Siberia has a subarctic climate, with extremely severe winters in the inner regions of Northeast Siberia, and more moderate winters elsewhere. Both the strip of land along the shore of the Arctic Ocean and the Russian Arctic islands have a polar climate. The coastal part of Krasnodar Krai on the Black Sea, most notably in Sochi, possesses a humid subtropical climate with mild and wet winters. In many regions of East Siberia and the Far East, winters are dry compared to summers. Other parts of the country experience more even precipitation across seasons. Winter precipitation in most parts of the country usually falls as snow. The region along the Lower Volga and Caspian Sea coast, as well as some areas of southernmost Siberia, possess a semi-arid climate. Throughout much of the country there are only two distinct seasons - winter and summer - as spring and autumn are usually brief periods of change between extremely low and extremely high temperatures. The coldest month is January (February on the coastline); the warmest is usually July. Great ranges of temperature are typical. In winter, temperatures get colder both from South to North and from West to East. Summers can be quite hot, even in Siberia. The continental interiors are the driest areas (source: Wikipedia).

Most of Russia consists of vast stretches of plains that are predominantly steppe to the South and heavily forested to the North, with tundra along the northern coast. Russia has an extensive coastline along the Arctic and Pacific Oceans, as well as along the Baltic Sea, Sea of Azov, Black Sea and Caspian Sea. The Barents Sea, White Sea, Kara Sea, Laptev Sea, East Siberian Sea, Chukchi Sea, Bering Sea, Sea of Okhotsk, and the Sea of Japan are linked to Russia via the Arctic and Pacific.

Russia has thousands of rivers and inland water bodies, providing it with one of the world's largest surface water resources. Its lakes contain approximately one-quarter of the world's fresh water. The largest and most prominent of Russia's bodies of fresh water is Lake Baikal. Other major lakes include Ladoga and Onega, two of the largest lakes in Europe. Of the country's 100,000 rivers, the Volga is the most famous. The Siberian rivers Ob, Yenisei, Lena and Amur are among the longest rivers in the world (source: Wikipedia).

Existing polders

The Group Polder Development (1982) states that most polders can be found in the north-western part of Russia with a total area of 175,100 ha. They also show a map with polders in the former Soviet Union. Based on this map Figure 1 has been made.

Lukianas *et al.* (2006) state that there are polders in the part of the Delta of the Nemunas River in the Kaliningrad Region.



Figure 1. Existing and proposed polders in Russia (after Group Polder Development, 1982)

It is also known that there are polders in the area of the Volga River and in the Neighbourhood of St. Petersburg. However, their size and location could not yet be verified.

General characteristics of the polders in Russia are shown in Table I.

Proposed polders

In Figure 1 several proposed polders are shown. However, so far it could not be verified whether they indeed have been made. Therefore, they are not included in Table I.

Location of the polders in Russia as shown on the World polder map

The location of the polders in Russia is shown in Figure 2.



Figure 2. Location of the polders in Russia (source: esri – Batavialand)

References

- Group Polder Development, Department of Civil Engineering, Delft University of Technology, 1982. *Polders of the World. Compendium of polder projects*. Delft, the Netherlands.
- Lukianas, A., Vaikasas, S., Malisauskas, A.P., 2006. Water management tasks in the summer polders of the Nemunas lowland. *Irrigation and Drainage*. 55.2. 145-156.
- United Nations, Department of Economic and Social Affairs, Population Division. 2022. *World population prospects, medium prognosis. The 2022 revision*. New York, USA.

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Table I. General characteristics of existing polders in Russia

Name	Reclamation	Area in ha	Type *)	Latitudes	Longitudes	Elevation in m+MSL	Land use
Polders along Volga River			RLL	46° 32' N	48° 16' E	-27	Agriculture
Polders in the Delta of Nemunas River			RLL	55° 14' N	21° 25' E	-1	Agriculture
Polders in the neighbourhood of Khanty-Mansiysk			RLL	60° 59' N	69° 13' E		
Polders in the neighbourhood of St. Petersburg			RLL	59° 49' N	30° 38' E	10	Agriculture
Polder northeast of Archangelsk			RLL	64° 36' N	40° 40' E		
Polder northeast of Ryazan			RLL	51° 41' N	39° 50' E		
Polder northwest of Bryansk			RLL	53° 23' N	32° 55' E		
Polder southwest of Tyumen			RLL	57° 07' N	65° 44' E		
Polder west of Kirov			RLL	58° 42' N	49° 26' E		
Polder west of Moscow			RLL	54° 18' N	35° 50' E		
Total		175,100					

*) RLL = reclaimed low-lying land; LGS = land gained on the sea; DL = drained lake