

## The Former Soviet Union: Physical Geography

This region contains the 15 countries that used to form the Soviet Union. In English-speaking countries, the Soviet Union was also called the USSR, which is short for the Union of Soviet Socialist Republics. The USSR was founded in 1922, but did not reach its full extent until 1940. The USSR began to *devolve* (to splinter into multiple countries) in 1991.

### Subregions of the Former USSR

There are five subregions of the former USSR: Russia itself, the Baltic States, European States, Caucasus Republics and Central Asian Republics. Outline and label each of the subregions on the map below.



**Russia** is the largest of the former republics. In addition to the main area, there is a tiny *exclave* called Kaliningrad that borders Lithuania on the southwest. An exclave is part of a country that is separated by another country. Alaska, for instance, is an exclave of the United States. Hawaii is not, because it is surrounded by water, not by another country. Russia is the largest country of the world. It is almost twice as big as Canada, the second largest country. The former Soviet Union made up almost 17% of the earth's land surface. Russia by itself makes up almost 13% of the earth's land surface. Besides having the largest area, it is the widest country. Siberia is not a separate country, but a region that occupies the eastern three-quarters of the Russian landmass. Siberia is a huge place. It is 5.2 million square miles and takes up 75% of Russia's total area.

Russia extends from 20°E in Western Kaliningrad past 170°W in far eastern Siberia for more than 170 degrees of longitude. That's almost halfway around the world!

The **Baltic States** face the Baltic Sea. They consist of Estonia, Latvia and Lithuania. (Note their alphabetic order, north to south, on the map.)

The **European Republics** – Belarus, Ukraine, and Moldova – lie between the Baltic States and the Black Sea. Two of these countries, Belarus and Moldova, are landlocked.

The **Caucasus Republics** occupy the rugged alpine region of the Caucasus Mountains that stretches between the Black and Caspian Seas. Georgia borders the Black Sea, Azerbaijan borders the Caspian. Armenia is landlocked. Armenia has one exclave completely inside northwest Azerbaijan. Azerbaijan, on the other hand, has three exclaves – two completely inside northeast Armenia, and one on the border between Armenia, Iran and Turkey. These

exclaves are an official indication of the complexity of the ethnic geography of the region. (The current political instability in Georgia is another.)

**Central Asia** is Kazakhstan, Uzbekistan, Turkmenistan, Kyrgyzstan and Tajikistan. When you see “stan”, think Islam. This region has much in common with the Middle East because of Islam and also because of the dominant desert climate.

## Waterbodies

Look at Plate 26 of *The Geography Coloring Book*. Locate each of these water bodies on the map in the study guide as you’re reading this section.

Part of the reason that the region is effectively landlocked is because the **Arctic Ocean**, which lies north of Russia, is frozen over much of the year, which limits its usefulness for trade. Of course, global warming is beginning to change this.

The **Baltic Sea** lies to the northwest. It freezes a shorter time (than the Arctic Ocean) during the winter and provides important, but not perfect, access.

The **Black Sea** lies to the southwest. It provides an economically critical warm-water port.

The **Caspian Sea** lies to the southwest. This is a salt water lake with no natural access to the world’s oceans. The Caspian Sea does have important oil deposits. The Soviets built a canal between the Black and Caspian Sea, greatly improving trade.

The Aral Sea lies between Kazakhstan and Uzbekistan. Like the Caspian, it is a salt water lake. The Aral Sea lies in the deserts of Central Asia, it is replenished by two rivers flowing from the mountains in the southeast. Rivers that run through arid regions are called exotic streams. Throughout the desert regions of the world, it is common to find cotton farming along exotic streams, which allow for irrigation. This is because the deserts protect cotton from the boll weevil, an insect that attacks cotton in more humid areas. Between 1960 and 2000, the Aral Sea lost 75% of its volume and 50% of its surface area. This was because the rivers that formerly fed it were diverted to irrigate cotton fields. This shrinkage is one of the greatest human-caused ecological disasters in history. As the sea shrank, it became saltier. None of the 20 species of fish that once lived in the Aral Sea has survived. The fishing industry has, of course, vanished. The shrinkage of the Aral Sea is indicative of water shortages throughout Central Asia, which have already led to political struggles over a diminishing but vital resource.

**Lake Baikal** lies in the east north of China and Mongolia. It is the world’s oldest lake and has been designated by the United Nations as a world heritage site. Baikal contains more water than ALL of the Great Lakes combined – almost 20% of the Earth’s fresh water. The lake bottom is over 4000 feet below sea level, making it the deepest continental rift on the earth. Baikal is home to over 1500 species of animals and 1000 species of plants. Three quarters of Baikal’s animal and plant species are found nowhere else.

The **Pacific Ocean** lies far from most of Russia’s population. It is of limited usefulness because of both the ruggedness of the topography and the harshness of the climate in Eastern Siberia.

The **Volga River** is Russia’s most important commercial waterway. The Volga is the longest river west of the Ural Mountains. Although it empties into the Caspian Sea, it is connected by canals to both the Black and the Baltic Seas. The Volga tied the Russian peoples together and is extremely important to both Russian history and to the present-day economy. Draw in and label the Volga River on the map in the study guide.

## Physical Features

Use Plate 26 in *The Geography Coloring Book* for reference.

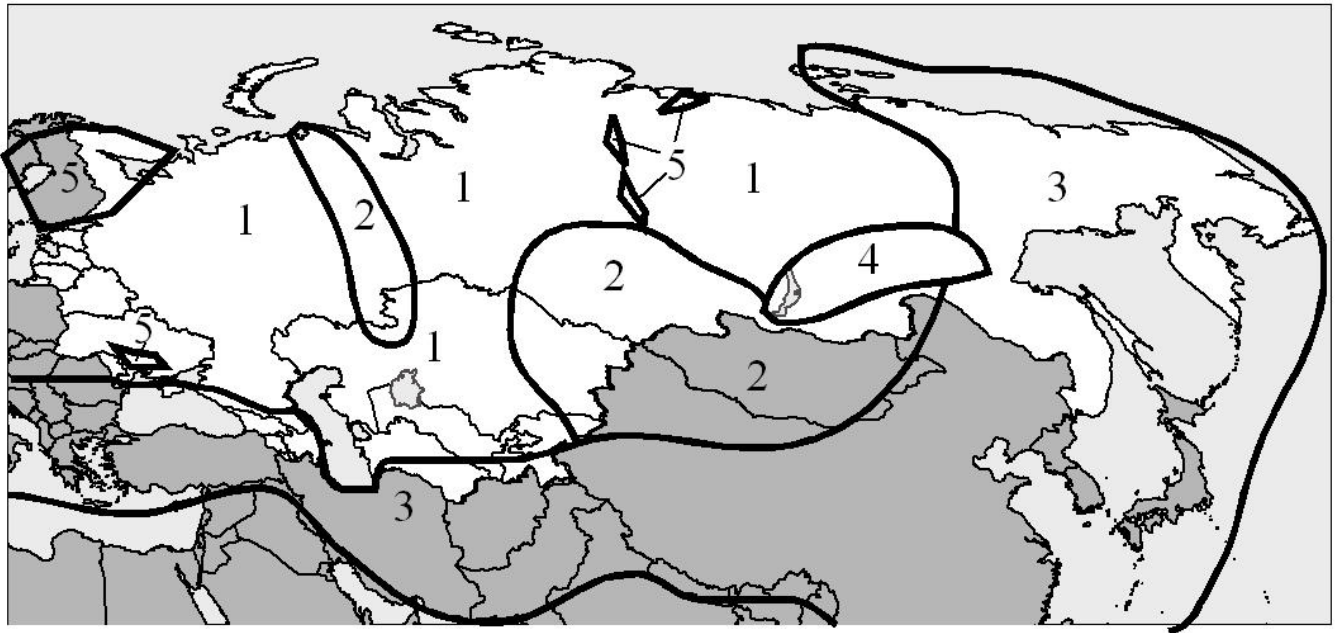
The two most famous mountain ranges in this region are the Ural and Caucasus Mountains, both of which form part of the traditional boundary between Europe and Asia. The Urals are low remnant mountain landforms that lie at the east end of the North European Plain. The Caucasus Mountains are high, rugged alpine landforms. This geologically unstable region is also the home to great social instability.

Much of the former Soviet Union is effectively landlocked, so there is only one major peninsula to learn: the Kamchatka Peninsula, which lies far to the east on the Pacific Ocean. This is an almost pristine wilderness area blessed in natural resources.

Siberia lies east of the Ural Mountains. Notice that it has three separate sections: the low-lying West Siberian Plain, the higher Central Siberian Plateau, and the high Eastern Siberian Mountains.

## Landforms

Remember: Sedimentary rocks are often associated with fertile soils and fuel minerals. Metamorphic rocks are associated with infertile soils and non-fuel minerals. Sedimentary rocks are typically found in sedimentary cover. Metamorphic rocks are typically found in shield landforms. Alpine and remnant mountains have a mix of rocks so it is harder to predict either soil fertility or minerals.



Most of the plate boundaries that affect the region lie outside of the region itself. The convergent boundary that begins in the middle of the Mediterranean Sea lies to the south. A transform boundary stretches across eastern Siberia. Eastern Siberia and the Kamchatka Peninsula are geologically active, with active volcanoes, geysers, and frequent earthquakes

The former Soviet Union is dominated by sedimentary landforms. The region has lots of oil and natural gas. These are concentrated around the Caspian Sea, in southern Central Asia, and on both sides of the Urals.

Alpine Landforms dominate the southern rim from the Caucasus Republics to southern Central Asia. Eastern Siberia is also an alpine area. The Caucasus Mountains are high and rugged. Here tiny villages are tucked into steep slopes. Over 30 languages are spoken in this linguistic patchwork. On the map above, label the alpine landforms.

The Urals and the ancient mountains of eastern Central Asia are remnant landforms. There are some isolated outcroppings elsewhere.

Outcroppings of shield are found in Ukraine, on borderlands with Finland, and around the Central Siberian Uplands. These shield areas of Siberia and the northwest are associated with gold and diamond mining. The second largest area of rifted shield in the world lies in south central Siberia. Lake Baikal, the deepest freshwater lake in the world, lies at the western end of the rift zone.

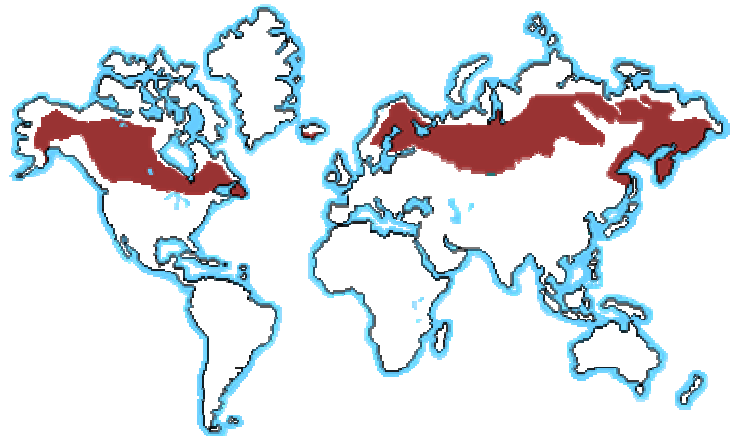
## Climates

The former Soviet Union lies mostly in the upper middle latitudes on the east side of the Eurasian landmass. The region has a very northerly orientation. Much of it lies above 50°N latitude. Without the moderating influence of water or the warming influence of the Gulf Stream, the northern parts of this region are characterized by long, frigid, dark winters. As we discuss specific climates, we will move from north to south.

The northern rim of Russia lies in the high latitude belt. Here, tundra climates dominate. Tundra climates have long frigid winters and short cool summers. The growing season is too short to support trees. Here, a major economic activity among indigenous peoples is reindeer herding.



Subarctic climate dominates much of Russia, particularly Siberia. To locate Siberia on the climate map, find the Urals. They are indicated by the “dips” in the Subarctic and continental climates along 60°E longitude. Subarctic climates have long, bitterly cold winters and short mild summers. The growing season of Subarctic Climates is long enough to grow trees. Locate and label the Subarctic climate on the map above.



Subarctic areas have *taiga*, a needleleaf forest. This is another important resource used in paper and wood products. Taiga is also found in the subarctic areas of Canada. Notice on the map at right that there is no taiga in the southern hemisphere. Why not? You can tell on the map that these needleleaf forests occupy much more territory than tropical rainforests ever could. Taiga is economically important to the countries in which they are located (primarily Canada and Russia) but they provide a more important global ecological function by absorbing large

amounts of carbon dioxide and thereby slowing global warming.

Except for Antarctica, Siberia is the coldest place on Earth. Winter temperatures range from 10 to 50 degrees below zero. Siberia's size contributes to **continentality**. Much of Siberia is far away from the moderating influence of water. Since much of the Arctic Ocean is frozen in the winter, it exercises no moderating influence during that season. Although the summers can be beautiful, they are short. Much of Siberia has **permafrost**, which prevents melt waters from draining. As a result, much of the soil in Siberia is a boggy swamp that is unsuitable for agriculture.

Three of the ten longest rivers in the world are in Siberia. They flow from the high mountains in the south north to the Arctic Ocean. These rivers are frozen much of the year. When the southern part of the rivers thaw in summer, they create vast swamps because of the permafrost. Global warming is affecting higher latitudes much more than it is affecting lower ones. The last few years, the Arctic Ocean has not completely frozen over. The permafrost in Siberia is beginning to melt.

Much of the area west of the Urals has humid continental climates. Located far in the interior of the Eurasian landmass, temperatures and precipitation are more like Minneapolis than Baltimore. Much of the land in humid continental areas is farmable – in spite of high levels of pollution generated in the Soviet era. Potatoes and dairy are a particularly important in this region.

The southern tier of the Former Soviet Region is dominated by dry climates. Remember that the two arid climates are desert and steppe. Deserts receive less than 10 inches of rainfall annually; steppes receive 10 to 20 inches of rainfall annually.

Similar to the Great Plains of the United States, the Russian steppes form a major wheat-growing region. Found here are highly fertile soils making this one of the most important agricultural areas in the world. Locate and label the steppe areas on the map on the previous page.

Central Asia is dominated by desert climates. The mountains that lie to the south block moisture, creating a huge Rainshadow. At the same time, they give rise to the exotic streams that flow across the regions. Cotton is a particularly important crops in desert areas with exotic streams.

## **Tough Real Estate**

Remember that accessibility and arability are some of the factors that predict arithmetic population density and wealth. Much of the region is landlocked both topographically and is made even more inaccessible because of the cold climates of Siberia and the desert climates of Central Asia. The cold climates in the north freeze waterbodies in the winter, make railroad construction expensive and dangerous. The deserts and steppes of Central Asian countries also pose a significant barrier to transportation.

In terms of arability, the former Soviet region has only 9% arable land, slightly less than world averages. By now, you should be able to make lots of predictions about the entire region as well as its subregions based on accessibility, arability, and insect-borne disease.