Country Profile: Russia

Country Profile (PDF)

Country Resources

Topographic

Series	Publisher	Scale	Years	Sheets
Japan 1:1,000,000 Scale Topographic Maps (English)	GSI	1:1,000,000	2010	3
Japan 1:1,000,000 Scale Topographic Maps (Japanese)	GSI	1:1,000,000	2010	3
VMAP0 1:1,000,000 Scale Vector Data	NIMA	1:1,000,000	1992	4
Kazakhstan 1:500,000 Scale Topographic Maps	NKGF	1:500,000	1966 – 2003	82

Nautical

Series	Publisher	Scale	Years	Sheets
Russian Nautical Charts (All Scales in English)	GUNIO	Varies	1992 – 2020	2,288

Aeronautical

Series	Publisher	Scale	Years	Sheets
Finland 1:500,000 Scale Aeronautical Charts	FINAVIA	1:500,000	2024	8
Norway 1:500,000 Scale Aeronautical Charts	AVINOR	1:500,000	2019	3

Geoscientific

Series	Publisher	Scale	Years	Sheets
Belarus 1:200,000 Scale Radiation Maps	BELGE	1:200,000	1992	14
Japan 1:2,000,000 Scale Volcanic Geology Map	GSJ	1:2,000,000	1981	1
China 1:2,500,000 Scale Quaternary Geological Map (9 sheets)	GPH	1:2,500,000	1990	1
China 1:4,000,000 Scale Geological Map (2 sheets)	GPH	1:4,000,000	1977	1
China 1:5,000,000 Scale Metallic Resources Map	GPH	1:5,000,000	1992	1
China 1:5,000,000 Scale Mineral Resources Map	GPH	1:5,000,000	1992	1
China 1:5,000,000 Scale Nonmetallic Resources Map	GPH	1:5,000,000	1992	1
Mongolia 1:1,000,000 Scale Geological Maps	MRAM	1:1,000,000	2001 – 2002	14
Mongolia 1:1,000,000 Scale Tectonic Maps	MRAM	1:1,000,000	2002	14
Soviet 1:200,000 Scale Geological Maps (First Generation) Explanatory Notes	VSEGEI	1:200,000	1951 – 2002	1,869
Soviet 1:200,000 Scale Geological Maps (First Generation)	VSEGEI	1:200,000	1953 – 1994	6,348
Russia 1:1,000,000 Scale Geological Map (Third Generation) Explanatory Notes	VSEGEI	1:1,000,000	2005 – 2023	149
Russia 1:1,000,000 Scale Geological Maps (Third Generation)	VSEGEI	1:1,000,000	2006 – 2023	715
Soviet 1:1,000,000 Scale Geological Maps (First Generation)	VSEGEI	1:1,000,000	1948 – 1965	162
Soviet 1:1,000,000 Scale Geological Maps (Second Generation)	VSEGEI	1:1,000,000	1969 – 2005	426
Soviet 1:1,000,000 Scale Geological Map (Second Generation) Explanatory Notes	VSEGEI	1:1,000,000	1986 – 2006	47
Russia 1:2,500,000 Scale Geological Maps (16 sheets)	VSEGEI	1:2,500,000	2012	1
Belarus 1:500,000 Scale Radiation Map (4 sheets)	GUGK	1:500,000	1991	1

Thematic

Series	Publisher	Scale	Years	Sheets
The World 1:30,000,000 Scale Topographic Map Series 1145 (NGA)	DMA	1:30,000,000		2
Soviet Geological Small Scale Single Sheets	VARIES	Varies	1958 – 1968	6

Global Census Archive: GIS Census Data

Year	Questions / Answers	ADM Level	Polygons at ADM	Data Points
2010	39 / 139	3	21,659	3,010,601

Global Geography Library

Collection Name	Item Count	Published	Index Map / Title List
Russia Geological 1000K (3rd Gen)	1,342	2006-2024	

Global Resources

Topographic

Series	Publisher	Scale	Years	Sheets
Soviet Military City Plans	VTU GSh	Varies	1944 – 2003	3,020
Soviet Military 1:100,000 Scale Topographic Maps	VTU GSh	1:100,000	1947 – 1999	24,897
Soviet Military 1:200,000 Scale Topographic Maps	VTU GSh	1:200,000	1949 – 2009	17,799
Soviet Military 1:500,000 Scale Topographic Maps	VTU GSh	1:500,000	1953 – 1998	3,093

Nautical

Series	Publisher	Scale	Years	Sheets
NGA Nautical Charts POD Certified (All Scales)	NGA	Varies	1943 – 2013	4,517

Aeronautical

Series	Publisher	Scale	Years	Sheets
Joint Operations Graphic (JOG 1501A) 1:250,000 – Aeronautical	DMA	1:250,000	1958 – 2007	4,204
Tactical Pilotage Chart (TPC) 1:500,000 Scale – Aeronautical	DMA	1:500,000	1967 – 2006	598
Operational Navigation Chart (ONC) 1:1,000,000 Scale – Aeronautical	DMA	1:1,000,000	1969 – 2001	243
Jet Navigation Chart (JNC) 1:2,000,000 Scale – Aeronautical	DMA	1:2,000,000	1971 – 1999	117
Global Navigation and Planning Chart (GNC) 1:5,000,000 Scale – Aeronautical	DMA	1:5,000,000	1981 – 1999	27

Geoscientific

Series	Publisher	Scale	Years	Sheets
Soviet Military 1:1,000,000 Scale Topographic Maps	VTU GSh	1:1,000,000	1948 – 1994	1,089

Note: East View Geospatial is continuously sourcing new resources that may not yet be listed in Global Explorer. Please contact us if you have geodata needs beyond what is listed above and we will be happy to discuss available off-the-shelf and custom solutions.

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Historical Country Mapping Information

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Country Profile (PDF)

Topographic

Official mapping of the Russian Federation is the responsibility of **Federal'naya Sluzhba Geodezii i Kartografii Rossii (Roskartografija)** (the **Federal Service of Geodesy and Cartography**) which was established in 1993 after the breakup of the Soviet Union, and inherited many of the responsibilities of its predecessor **Glavnoe Upravlenie Geodezii i Kartografii (GUGK)**. Since 1996 geodetic surveying and mapping activities have been established on a single legislative basis and **Roskartografija** is vested with considerable central power to control almost all civilian aspects of Russian mapping. It carries out geodetic, photogrammetric, and cartographic surveying and compiles, produces and revises topographic and thematic maps and atlases, as well as acting as the national place name authority, and as a licensing agency regulating other Russian cartographic bodies. Military mapping of the Federation is carried out within the **Ministry of Defence** by the **Military Topographic Department**.

Modern topographic mapping of the country started after the Bolshevic revolution, with the publication from 1924 of photogrammetric series. From 1942 maps have been published using the Krassovsky ellipsoid, the Gauss conformal projection and the Kronstadt datum. Sheet lines and numbering use subdivisions of the *International map of the World* and topographic series have been compiled at 1:1,000,000, 1:200,000, 1:100,000, 1:50,000 and 1:25,000 scale for the whole country, with urban areas mapped at 1:10,000 scale. Map production in the Soviet system relied upon central regulation from military and civilian agencies in Moscow and Leningrad, but production was decentralized and carried out in many different aerogeodetic enterprises and 'cartographic factories' distributed across the former Soviet Union. A standard specification for the symbolization of topographic features was fixed in 1940 and incorporated more landscape detail than almost any other officially produced national mapping, including information about road widths and conditions, forest conditions, and the state of rivers. This has been used for 1:50,000, 1:100,000 and 1:200,000 scale series.

Prior to World War II effort was concentrated upon surveying topographic detail relating to European Russia. The first medium scale to be completed for the whole of the Soviet Union was the 1:100,000 scale map. This six-color map had 20 m contours in flatter areas or a 40 m interval in mountains, and was compiled from aerial coverage. It was used to derive 1:200,000 and 1:500,000 scale coverage.

Following completion of the 1:100,000 scale map, effort shifted to the compilation of larger scales. A 1:25,000 map was compiled and completed in 1987, requiring over 300,000 sheets to cover the Soviet Union. Relief was depicted with 5 m contours and this map was used as a base for the compilation of 1:50,000 scale topographic series with a 10 m contour interval. In the 1980s further changes were made to the specification. A 1:10,000 scale program covers about a third of Russia and all of the agricultural and industrial regions of the country. 1:500, 1:1,000, 1:2,000 and 1:5,000 scale coverage is published for towns and other population centres.

A 1:1,000,000 scale series was completed by 1947 to cover the whole of the USSR in 183 sheets, and has been on the Gauss projection since 1984. Three separate versions of this map were completed in the 1970s, a standard topographic map, an edition showing relief with hypsometric tints and an outline version. 1:2,500,000 scale mapping in 32 sheets was completed in 1947 and subsequently regularly revised. This has served as a base for many thematic series of the Soviet Union.

Revision programs for these series relied upon cyclical policies. The aim was to resurvey every five years in densely settled areas, every 10 years in wooded and forested areas and every 15 years for the remainder of the country. Satellite imagery was used wherever possible.

Following the break-up of the Soviet Union a change of emphasis has taken place within what is now **Roskartografija**. The most obvious change has been a reduction in the number of sheets which need to be maintained, for example only just over 200,000 1:25,000 scale maps cover the territory of the Russian Federation, whereas about 300,000 sheets covered the USSR. The map production system has, however, had to be radically reformed, owing to the loss of map factories now located in newly independent countries and no longer tied to Moscow. Map printing plants in Omsk, Ekaterinburg and Novosibirsk now produce most Russian official mapping, significant production in the Soviet era has been lost from plants now serving newly independent states and located in Vinnitsa (Ukraine), Riga (Latvia) and Tbilisi (Georgia).

Soviet military topographic mapping of Russia is available at the following scales: 1:1,000,000 (145 sheets, complete coverage, published 1953-1992); 1:500,000 (484 sheets, complete coverage, published 1954-1998) and 1:200,000 (3,562 sheets, complete coverage, published 1951-1994). These products are available in print, digital raster and digital vector GIS formats from **East View Geospatial**.

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Nautical

Glavnoe Upravlenie Navigatsii i Okeanografii (GUNiO) (the **Chief Administration for Navigation and Oceanography**) carries out official charting for the Russian military forces. Established in 1827 it publishes an impressive worldwide range of over 6,000 hydrographic charts, as well as issuing bathymetric and thematic oceanographic maps and atlases. **GUNiO** publications are available from **East View Geospatial**.

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Geological/Scientific

Two major and standardized federal series are maintained. 1:1,000,000 scale coverage of the Soviet Union was started in 1938 and the first series was completed in 1966. A new series of maps at this scale was started in 1963 with data derived from 1:200,000 scale mapping. Coverage of the Russian Federation will comprise 98 sheet areas, 56 areas are already published, a further 21 were under compilation in 1997 and it was planned to complete the series by 2000. A further 21 areas outside what is now the Russian Federation were compiled prior to the break up of the Soviet Union. IMW sheet lines are amalgamated at higher latitudes so that up to four times as much area appears on a sheet in comparison to topographic coverage. For each published area pre-quaternary, quaternary and mineral editions are issued, along with explanatory notes. For some areas additional sets of maps are published to show groundwater, sub-surface sections, and oil and gas potential. A third generation of this map is currently being planned, as an integrated earth science information system, with a diversity of graphic output, and an increased use of geophysical and geochemical data.

1:200,000 scale geological mapping of Russia requires about 5,000 sheets, more than 3,000 of which have already been published. The majority of these maps date from the period between 1950 and 1970. Work currently focuses upon the revision and updating of 1:200,000 scale coverage, with current specifications using a minimum of three different editions for each quadrangle. These are a geological map, a quaternary geology edition and a mineral map. Hydrogeological and ecologico-geological maps are available for some areas. Upgrading to the new specification is being carried out on the most important 600 sheets in the series and current production technologies synthesize best available data, generating graphic output as well as digital earth science data.

Larger scale coverage of geologically important areas has also been carried out, and about 25 percent of the Russian Federation is covered in 1:50,000 scale mapping. There is almost no federal input into this program at present, but new mapping is being carried out by mining companies.

There is also a very great diversity of smaller scale earth science mapping published at 1:10,000,000, 1:7,500,000, 1:5,000,000 and 1:2,50, 000 scales. Maps date in the main from the 1970s and 1980s, were sponsored by specialist research institutes of the **Academy of Sciences** and officially published by the **Ministry of Geology**. 1:2,500,000 scale mapping covered the whole of the Soviet Union in 16 sheets, with varying numbers of additional sheets issued to accommodate more complex legends or sheet explanations. 1:2,500,000 scale geological coverage of Russia west of the Urals was compiled in 1892, whilst the first edition mapping of the whole Soviet Union was not compiled until the 1940s. Sets covering the Soviet Union at this scale were compiled for many themes between the 1960s and the break-up of the USSR. The geological version of this map has been frequently revised, including shallow offshore geology for the first time in the 1983 edition. Other themes appeared later, notably Quaternary sediments, tectonics, igneous rocks, sedimentary and volcanic rocks, geodynamics, geomorphology and hydro-geology. Four-sheet 1:5,000,000 scale coverage includes geological, minerals and fuel and power editions published in the 1990s. The 10,000,000 scale *Geological atlas of Russia* comprises a set of 40 different earth science themes, organized into sections covering geological knowledge, geological structures and the earth's interior, mineral resources and the ecological state of the geological environment. Completed in 1996 about half of these flat sheets were compiled using conventional techniques, others used hybrid digital and manual cartographic production. Maps are published with parallel English language titles and accompanied by explanatory texts. A recent trend in the publication of small scale 'review character' mapping of the Russian Federation has been the compilation of electronic maps on CD-ROM. The first such product is based upon the 1:2,500,000 scale minerals map, and includes information about 6,000 objects of 124 kinds of minerals, as well as data relating to geological structure. This has been prepared by **Vniizarubezhgeologia (VZG)**, Moscow, in collaboration with **VSEGEI** and Austrian GIS house **PROGIS**. Another digital product has been compiled using ARC/INFO by the **All Russian Research Institute of Mineral Resource Economics and Natural Resource Use (VIEMS)**. This integrates environmental mapping with potential for resource exploitation in a 1:5,000,000 scale map.

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Imagery

Another important trend has been the establishment of systematic digital mapping programmes and the increased use of satellite-based technologies. 1:1,000,000 scale digital coverage was completed in 1994 and 1:200,000 scale digital data were captured by the end of 1996 for the whole of the Russian Federation. **TerraSpace** Corporation Moscow is the leading digital map producer in the country, and uses an Intergraph-based system. Larger scale digital mapping is available for some areas of the country and **Roskartografija** also participates in a number of international projects, notably in environmental GIS-based work in the Lake Baikal area and in the establishment of regional environmental databases in collaboration with neighbouring countries around the Baltic.

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Vegetation/Forestry

Ecological and environmental mapping of Russia continues to be sponsored by **Priroda** which has used Russian satellite imagery for the last 20 years for the production of a wide diversity of environmental themes. The **Russian Federal Service for Hydrometeorology and Environmental Monitoring** (**Federal'naja Sluzhba Rossii po Gidrometeorologii i Monitoringi o Kruzhanoshchei Sredy**) (**Roshydromet**) holds thematic digital data relating to ecology and radiation which were used in the compilation of two recent and significant thematic atlas projects relating to the aftermath of the Chernobyl disaster. The *Atlas of radioactive contamination of European Russia*, published with **Roskartografija**, and the *Atlas of Caesium deposition on Europe*, in conjunction with the European Commission. Forest mapping of Russia is compiled by the **Federal Forestry Service** (**Federal'naya Sluzhba Lesnogo Khozyaystva (Rosleskhoz)**), including risk mapping, economic management maps and thee basic atlas of Forests of Russia.

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Thematic

PRO Kartografija (Kartografija) was established in 1993 in Moscow as an independent official agency responsible for the printing and publication of commercial and educational mapping. It inherited **GUGK's** smaller scale and educational responsibilities and is now Russia's largest cartographic enterprise. **GUGK's** *Spravochnaja karta* series of country maps is now issued under the designation *Strany mira* and **Kartografija** uses digital cartographic production to generate a wide range of tourist mapping issued under the **AKTAR** trademark and including coverage of oblasts and town maps. An increasing range of atlases is also released, including the English language *Atlas of Russia and the post Soviet Republics*, issued in conjunction with Argumenty i Fakty, world atlases, and Russian language geographical and administrative atlases of Russia.

Other changes also reflect an increasing market emphasis. Effort has shifted away from monolithic federal programs towards a more targeted approach. For example there is a new requirement to delineate the many new international boundaries established since 1991 and to support the demands of the land reform process. Meanwhile production from aerogeodetic plants and map factories has become available on a local basis and plants have been able to alter their production in response to demand, but have also been forced to slim down significantly. Some have survived and evolved into quasi-commercial agencies, for example **Aerogeodezija**, St. Petersburg, and the geological specialist **Sankt Peterburgskaja Kartograficheskaja Fabrika VSEGEI**.

Russia is mapped in a complex variety of different earth science themes and scales. Official programs are currently the responsibility of divisions of the **Ministry of Natural Resources**, with most maps produced in the map factory of the All Union Geology Scientific Research Institute **Vserossiiskoi nauchno-issledovatel'skii geologicheskii Institut (VSEGEI)** in St. Petersburg and published by the **Ministry of Natural Resources Russian Federation Committee on Geology and Sub-Surface Use (Roskomnedra)** in Moscow. Fourteen All-Russian Research Institutes and four regional Research Institutes collaborate in the compilation of earth science mapping.

Other thematic mapping has been sponsored by component bodies of the Soviet (now Russian) **Academy of Sciences (Rossiskaja Akademija Nauk) (RAN)**. Smaller scale themes for the educational market were issued by **GUGK** in the Soviet era and many of these maps are still available. More recent themes from **Kartografija** include English and Russian versions of 1:4,000,000 scale nationalities mapping of Russia and adjacent countries.

Small scale energy mapping of Russia and the former Soviet Union is compiled by the **All Russian Institute of Complex Fuel and Energy Problems (VNIIKTEP)**, in association with **INCOTEC** Moscow. Publications include a set of regional oil, gas, electricity and coal maps of resource rich areas as well as several single-sheet themes.

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Atlas

A multi-volume national atlas of Russia is currently being planned under the aegis of the **State Scientific Research and Production Center Priroda** and with active involvement from **Roskartografija** and the **Institute of Geography of the Russian Academy of Sciences**. This involves the publication of three parallel versions, in hard copy, as a multimedia CD-ROM based product and as a fully interactive GIS package, with all-Russia mapping at 1:10,000,000 scale, as well as more detailed regional coverage. It is planned to issue the electronic version of a general atlas volume as the first outcome from this substantial 10-year long federal project. The first volume of this atlas was being printed towards the end of 1999. This and other regional Russian atlases are best acquired through major specialist western dealer **East View Geospatial**.

The **Russian Information and Business Center** Washington DC is an important publisher of printed atlases and digital electronic databases relating to Russia and other ex-Soviet republics. Political, economic, and environmental and health atlases are published, and these themes are also combined in regional and business atlases.

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Cadaster

Cadastral mapping for land inventorization is carried out by the **Gosudarstvennyi Komitet Rossiiskoi Federatsii po Zemel'noi Politike (State Committee of the Russian Federation on Land Policy) (Goscomzem)**. Agricultural lands are surveyed in the scale ranges 1:10,000 to 1:25,000, with settlements mapped at 1:2,000. The **Federal Cadastral Center** attached to this Committee has received aid from **Swedesurvey** to assist in the huge land registration exercise required after the break up of the Soviet Union.

Administrative mapping of the country has been prepared in association with the **Institute of Geography** of the **Russian Academy of Sciences**. These boundaries have been captured at 1:1,000,000 scale and fitted to coastline information derived from the *Digital chart of the World*, and are available in ARC/INFO, Genamap, MapInfo and MGE formats. Data is presented at different levels of the administrative hierarchy: oblast, krai, and okrug boundaries are in one data set, rayon and gosoviet boundaries are prepared in a second, and coverage extends to include newly independent states adjacent to Russia.

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Tourist/Reference

In the years since the break-up of the Soviet Union a commercial mapping sector has grown up, characterized by a number of small firms specializing in the publication of town and tourist maps.

Polyplan Izdatelstvo V.V.Waldina (Waldina) was established in 1989 and publishes a range of multi-lingual city maps of St. Petersburg and Moscow, as well as small scale mapping of the CIS and indexed road mapping of North Western Russia. **Karta** is a second St. Petersburg based mapping firm, also established in 1989, which caters for tourist demand and has also collaborated with commercial

agencies from Finland, Latvia and Estonia. **ArtCarta International Associated Cartographic Centre (ACC)** was founded in Moscow in 1993 and operates in association with the American **ArtCarta International**. It concentrates upon mapping for motorists and tourists, including a range of road atlases, in particular of areas around Moscow, but also publishes town maps and atlases of Moscow and St. Petersburg. **D&K** concentrates upon publication for the educational market, including atlases of republics, territories and regions in the Russian Federation.

Other map publishers include **Paims Publishing House** who issued a useful environmental and health atlas in 1995, and **Digitial Mapping Bureau (DMB)** who specialise in tourist and town guide maps, including recent mapping of Moscow. Digital mapping of the city is available from **Kiberso**.

Many foreign commercial houses publish general maps of the USSR and city maps of Moscow. These include **Freytag Berndt (FB)**, **Hallwag**, **HarperCollins**, **Institut Géographique National (IGN)**, **Karto+ Grafik (K+G)**, **Kummerly + Frey (K + F)**, **Mair** and **RY**.

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