

[The Caspian Sea Encyclopedia](#)

Bearbeitet von
Igor S. Zonn, Aleksey N Kosarev, Michael H. Glantz, Andrey G. Kostianoy

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B

Babol – a city located 25 km from the Caspian Sea on the east–west road connecting the coastal provinces of Gilan and Mazandaran. Founded in the sixteenth century, it was once a heavy-duty river port. Since the early nineteenth century, it has been one of the major cities in the province. Ruins of some ancient buildings are found here. Food and cotton ginning factories are also located here. The population is over 283 thou as of 2006.

Babol – a river flowing into the Caspian Sea near Babolsar. It originates in the Savadhuk Mountains and is one of the major rivers in Iran. Its watershed is 1,630 km², its length is 78 km, and its width is about 50–60 m at its mouth down to 100 m upstream. Its average discharge is 16 m³/s. The river receives abundant water from snowmelt and rainfall. Particularly in winter and when a lot of precipitation has fallen in the mountains, it is a full-flowing river. In its upstream part, as far as Barfrush City, it is reminiscent of a real mountain river with cliffed banks rushing down steep slopes. More downstream, it emerges onto a plain and flows into the sea, forming a wide alluvial fan and a vast, U-shaped bar composed of its own alluvial deposits. Spring floods occur in March–April when ships run all the way to Babol City. Sturgeon and other fish run into the river for spawning.

Babolsar (formerly Mashadener, translated as “*Mashhad’s head*”) – once one of the major international trading ports in the Caspian littoral of Iran, from here the road to Mashhad starts. The city is located 23 km from the Babol River mouth on the right bank, 20 km northward of Babol City, in Mazandaran Province. Its area is approximately 40 km², and its population is estimated at 132 thou (2006). The city is located 4 km from the port. Soap factories, tobacco processors, and oil refineries are found here. Fisheries are found on the left bank of the Babol River. Nearby is an excellent resort with a beautiful hotel complex on the seaside.

Backs – back components of great sturgeon, sturgeon, and stellate sturgeon used for the preparation of hung balyks (balyk – smoked or sun–dried flesh of sturgeons or large salmons).

Baer’s Hills – a unique relief form that appeared after Caspian recess due to wind actions. These are parallel, nearly latitudinally striking ridges and hills in

the Caspian Lowland between the Kuma and Emba River mouths and also from Astrakhan southward. Their height usually varies from 3 to 20 m, their length is to 2 km, and their width is 200–300 m, with an average spacing between ridges of 1–2 km. B.H. are composed of quartz sands and small rounded chips of solid brown clays and are compacted with clay material. Quite often their tops are broken and deflated. In the Volga delta, B.H. has been used for a long time by the local population in construction of settlements. One of these, “Devil’s town”, is a natural and historical place of interest. Some parts of Astrakhan are also located on such hills. They received their name in honor of the outstanding natural scientist Academician K.M. Baer.

Bagless Beach Seine – light net for fishing in shallow channels on the Volga.

Baida – a fishing sailboat equipped with a net, drag seine, etc. Its length is 6 or 7 m, its width is 1.7–2 m, and its draft is about 0.5 m.

Bakhr – in Tajik, Uzbek, and Turkmen it means “sea, ocean”; in Persian “bakhr, bekrh”; in Arabic “bakhr,” meaning “sea, big river”; in Turkmen it is traditionally said to be “Bakhr hazar” – the Khazar Sea (Caspian Sea).

“Bakhr Al-Khazar” – meaning “Khazar Sea,” it is a historical and geographical article describing the Caspian Sea and included into the “Encyclopedia of Islam” of V.V. Bartold. It was published in the book of V.V. Bartold “Papers on Historical Geography” (2002).

Bakhrul-Khazar, Bakhru-Khazar – name of the Caspian Sea on the map of Mokhammad-ibn-Ali-ibn-Akhmed al Sharfi (1601).

Bakhsh – a type of administrative division of the Islamic Republic of Iran. In 1998 there were 498 of them. The official Governor of a bakhsh is called the bakhshadar.

Bakhtemir, Bakhtemir System – the largest (longest, meandering and deep-water) of the arms and western tributary of the Volga delta. It is navigable. The mouth of B. is connected with the Volga-Caspian canal. The B. arm originates downstream at the place where the Old Volga arm branches off from the Volga main channel. It is the main river part of this canal in a stretch from the village of Krasnye Barrikady to the mouth, a distance of 96 km. Many settlements are scattered on the banks of B., the largest of which are Olya, Fedorovka, Trudfront, Sergievskaya, Ikryanoye, Bakhtemir, and Krasnye Barrikady. The main channel is an extension of the Volga downstream to the delta apex – the B. arm – while upstream part of the Volga-Caspian canal may be considered the main arm of the Volga delta, being the continuation of the canal in the mouth seaside.

Bakhtemir Bank – located approximately 20 km eastward of the Suyutkina Kosa (Spit) Cape in the Astrakhan Region. It extends over a rather large area and has

dangerous currents for sailing along the shore between the Chechen and Tyuleny islands.

Bakinka – a transport and fishing sailboat with a schooner-type rigging. The shell of the boat is impregnated not with tar but with oil. Its length is 12–18 m, and it can take 8–10 people on board. It is named after the place of its construction, Baku.

Bakinsky Ushi – a mountain located 8.5 km to the west and northwest of the Puta Cape in the Caspian coastal section from the Baku Bay to the Amet Cape, Azerbaijan. This is the highest and most distinguished mountain among the south-eastern spurs of the Caucasus. It has two peaks: Takhtalyksky, the southern peak (al. 412 (384) m), and Kergez, the northern (al. 424 (396) m).

Baklany Kamen – a small stony island rising slightly out of the water. It lies 15 km to the north-northeast of the Shikhova Cape on the Apsheron Peninsula in Azerbaijan.

Baku (Baki) (from Persian *Baakube* (or *Baadkube*) meaning “the city where wind is blowing”; from Lak “a hill, small mountain”) – One of the etymological versions of the Baku name is connected with its placename. During the Sasanide ruling B. was called Bagavan. The Arab name “Baku” appeared in the eighth century. The Arab geographers used such names as Baka, Babika, Bakiye (Masudi), Bakuye (Istakhri), Bakuey (Kazvini), Bokuye (Bakuvi) and others. As V.V. Bartold wrote, “Interpretation of the name presently adopted in Baku and based possibly on the people’s etymology referred most likely to the much later time as well as the legends about foundation the city by Khosroy Anushirvan.”

B. has the best harbor on the Caspian coast and is the capital (from 1920) of Azerbaijan. The city is situated like an amphitheatre with terraced neighborhoods descending towards Baku Bay at the south of the Apsheron Peninsula. It was founded in the fifth century, when oil and salt were transported from the city and its desert surroundings. Arab geographers of the ninth century described two Baku oil sources, one of which produced up to 200 barrels a day. Via the Baku port they traded oil for silk and spices from the Far East. For centuries, B. belonged to the Arabian (Abbas’) caliphate, and in the second half of the twelfth century it was the political center of the Shirvan state. In the late fifteenth to early sixteenth centuries, the Baku fortress was one of the strongest in Transcaucasia, and from 1540, it was included into the Safavis state. From the 1580s, it was ruled by Turkey, until, in 1604, troops of Persian Shah Abbas I conquered it once again.

During a march to the Caspian region in 1722, Peter I wrote in his order to General Matyushkin, “Go to Baku and with God’s help do your best to conquer this city that is the key to our whole campaign . . . and defend this place with all your might.” The city was conquered by the Russian troops, but in 1735 it was returned to Persia. From 1747, it was the capital of the Baku Khanate. Then, in 1806, it was joined to Russia, where, until the 1840 s, it was the district city of the Caspian region, then the Shemakhinsky Province. From 1859, it was the capital of the Baku Province.

Rapid growth started in the 1870s with the development of the oil industry. Oil extraction increased from 588.9 thousand poods (1 pood equals 16.38 kg) in 1864 to 4 million poods in 1873 to 673 million poods in 1901, when it accounted for 95% of oil production in Russia and about 50% of world production. The Nobel Brothers Partnership, the oil production and trade partnerships of the Mirzoyev Brothers, S.M. Shabaev, A.I. Mantashev, Rothschild and others all operated in B. In 1873, B. numbered 12 oil companies, but by 1899 the number reached more than 60, including 15 large ones. In 1878–1888, an oil pipeline connecting the Balakhansky extraction area with the oil refineries in the city was constructed. In 1889, there were 26 pipelines in Baku to supply oil to refineries and warehouses, and in 1897–1907, the oil pipeline Baku-Batumi was completed. In 1899 there were 100 oil refineries in B. In 1905, the editor of the Journal “Petroleum World” (USA), James Dodds, wrote, “If oil is the queen, Baku is its throne.” Other industry in B. included metal-working, tobacco, and flour milling. In 1883, traffic was opened along the railroad Baku–Tiflis, and in 1899 the Baku–Derbent line was completed. In the period beginning in 1859, a port was constructed and a tanker fleet was built. From the Baku port, salt, rice, fruits, and other products were supplied to other ports in Russia, mostly Astrakhan. B. was also a port for trading with Persia and other countries, and from the late nineteenth century, B. was one of the centers of labor movement in Transcaucasia, and in 1913–1914, B. was engulfed by general strikes.

During World War I detachments in reserve of the Caucasian Army were dislocated here.

From 1918 to 1920, B. was the capital of Azerbaijan Republic; from 1920 to 1991, of the Azerbaijan SSR; and from 1991, of the Azerbaijan Republic. The population is 1.9 millions (2008).

B. is a railroad junction and a port on the Caspian Sea. It has ferry traffic connecting it with ports on the eastern coast of the Caspian (Turkmenbashi, Aktau). Since 1967 it has a metro. The industry: oil and gas extraction, oil refining, petrochemical, chemical, machine-building (oil equipment, electrical engineering and radioelectronic devices, ship repair and others), light, food and of construction materials. B. is a scientific and cultural center of the country: the National Academy of Sciences, 11 educational institutes (3 universities), 7 theatres, and 28 museums are located there. Among the ancient monuments worth mentioning are the fortress of Icheri-Shekher, a state historical and architectural preserve; the Palace of Shirvanshahs; the Synyk-Kala mosque (eleventh century); the Maiden Tower; and Bailov stones (thirteenth century).

B. is a green city, and it should be mentioned that nearly all parks, including the famous embankment boulevard, are artificially planted. The soils of the Apsheron Peninsula are mostly arid, thin and low-fertile, thus tons of fertile soil was needed to create these parks. In the 1880s, the chief of Baku city, supported by rich entrepreneurs, ordered all vessels coming to into Baku Bay from Persia to bring fertile soil. In fact, it was a kind of a duty or tax for utilization of the bay area. Rather quickly, the needed quantity of soil was accumulated for creation of parks and gardens of which B. now boasts.

B. is a member of the Union of World Energy Cities.



Baku city (<http://rizer001gmailcom.blogspot.com/2008/02/25-50.html>)

Baku Archipelago – a group of islands located near the Caspian coast south of the Apsheron Peninsula in Azerbaijan. It includes Bulla, Svinoy, Duvanny, Glinyanyi, Los', Oblivnoy, Kurinsky Kamen and Kamen Ignatiya islands as well as Savenko, Bezymyannaya, Persiyanin, Kumani, Pogorelaya Plita, Kornilova-Pavlova, Makarova, Kurinskaya, Golovacheva and other banks. The area of B.A. is about 10 thou km², and its length is about 200 km. Its maximum width is about 50 km. To the southwest, the depth of the Caspian Sea in the B.A. area increases, the islands turning into banks and then disappearing completely. All islands and banks of the archipelago are of volcanic origin. Some islands are affected by frequent volcanic eruptions that change their relief characteristics.

Baku Basin – a slightly saline basin from the early Pleistocene located where the modern Caspian Sea is. It was of a somewhat larger size than the modern sea.

Baku Bay – name of Baku Harbor on the first printed map prepared by F.I. Soimonov in 1719. The map heading read, “Flat picture of the Caspian Sea from the Volga River mouth, Yarkovsky channel to the Kura River mouth.” There is also a hand drawn map of Baku Harbor from 1726 named, “Picture of Baku Harbor, depths in sazhen.”

Baku Commune – the literary name of the Soviet Power in Baku and some parts of the Azerbaijan territory used from April to July, 1918. The government consisted of Bolsheviks and leftist socialist revolutionaries (Easers). The chairman of the Council of the People's Commissars was S.G. Shaumyan. B.C. was liquidated by Turkish and British troops. Twenty six leaders, the so-called “Baku Commissars,” among them S.G. Shaumyan, M.A. Azizbekov, P.A. Djaparidze, I.G. Fioletov, were arrested by the government of the “Central Caspian Dictatorship” and executed by firing squad on September 20, 1918 in Zakaspyi, Turkmenistan, where there is now a memorial.

Baku Harbor – cuts into the southern shore of the Apsheron Peninsula between Shikhov and Sultan capes in Azerbaijan. Its form is reminiscent of a sickle. By its geographical location, size, and depth, it is the major bay in the Caspian Sea. The capital of Azerbaijan, Baku, rises around it like an amphitheatre. B.H. is sheltered from all winds save southern. Its shores are steep. On the western shore, mountain offspurs descend near the sea. Here, oil industry facilities are found. In the west of the bay is the stony Karavan-Sarai Island with heights up to 2.0 m. Lying in the shallow area of the bay are Nargen, Plita, Vulf, Peschany, and Khanlar islands, which form the northern group of the Baku Archipelago.

Russian nautical surveyor F.I. Soimonov wrote in 1723: “Of the mentioned Baku Bay, 2 verst (1 verst equals to 3,500 feet) southward of Baku City at a depth of 4 sazhen (1 sazhen equals to 2.13 m) is found a stone structure – a wall with a tower. And although this structure is ruined, its remnants can be seen rising above the water. They say that in the ancient times this structure was on land and was a guest yard.” The former fortifications are assumed to have been flooded when the sea level rose.

In the early eighteenth century in B.B., the ruins of a mysterious structure were found near the Bailov Cape. I. Djafar-zade (1939–1940) determined that the ruins on the bay’s bottom belonged to an ancient temple of fire-worshippers (caravan-sarai) dated back to years 1234–1235. He concluded that the Caspian Sea level in the period of the temple construction was 2 m lower than at present. The first description of B.H. is found in a pilot chart prepared by F.I. Soimonov in 1731.

The appearance of oil refineries and oil infrastructure on the B.H. shores led to pollution of the bay with untreated wastewaters discharged from these enterprises and also sewerage from growing Baku City. As a result, B.H. turned into a “dead zone.” Purification of the bay waters is a priority project in the Republic.

Baku Horizon – the lower formation of the Pleistocene in the Caspian depression. It occurs in the Apsheron formation (layers) and is overlain by the Khazarsky layers. B.H. deposits are composed of (from bottom to top): sea sands with *Didacna Mudis Nal.*, *D. Catillus*, *Monodacna caspia*, *Dreissensia polymorpha* and others; freshwater and continental clays; and red-brown clays with soil-formation features. Clays in B.H. compose the lower part of the so-called syrt deposits. The B.H. is the same as the deposits of the Baku basin.

Baku International Merchant Seaport – one of the major ports in the former USSR on the Caspian Sea, and since 1991, the only port in the Azerbaijan Republic through which trade relations with all Caspian countries are maintained. This port also ensures exit via the Volga-Don and Volga-Baltic canals to the world markets. It is located in Baku Harbor. As late as the 1860s, Russia still used this port for active trading with the Far East. This port acquired special importance in the 1870s–1880s when, as a result of soaring oil production, Azerbaijan started transporting oil cargo over the sea. The port includes the main cargo terminal, the container terminal, the oil terminal Dyubendy, the ferry terminal, and the passenger terminal. The port is

capable of handling up to 10 million tons of liquid cargo and 9–10 million tons of general cargo annually.

The main cargo terminal is located in the center of Baku and consists of 6 piers with heavy-duty gantry cranes with a total length of 866 m. The water depth near them is 7 m. The container terminal capacity is about 15 thousand containers a year, including 40 foot containers. The ferry terminal services the routes Baku–Turkmenbashi–Baku, Baku–Aktau–Baku, and Baku–Iranian ports–Baku. The passenger terminal comprises 3 piers with a total length of 340 m and is designed for berthing passenger ships from Caspian countries. The port fleet includes 20 ships, including tug boats, towing vessels, vessels gathering bilge water, spill containment vessels, pilot and fire boats, and a crane ship.

Baku Khanate – a state located on the territory of present-day Azerbaijan. It was founded in the 1740s on the Apsheron Peninsula by Mirza Muhammad Khan, one of the confidants of Iranian Nadirshah. The capital was Baku. During the Russian-Persian War of 1804–1813, B.K. was occupied by Russian troops, and in 1813, in accordance with the Gyulistan Peace Treaty, it was incorporated into the Russian Empire as a district of the Caspian region.

Baku Marine Observatory – was established in 1922 by the Department for Shipping Security on the Caspian Sea to organize an in-depth and comprehensive study of the physiographical and hydrographic conditions of the Caspian Sea. The study included investigations in marine meteorology, aerology, sea hydrology, forecasting, and Earth's magnetism. For this purpose, a network of hydrometeorological stations and ice posts was organized, and the Weather and Time Service Bureau was created at the Observatory.

Baku Nautical College – an educational establishment for training mid-level specialists for sea vessels. Nautical education was initiated in Azerbaijan in 1881 when the first nautical classes were formed in Baku. In 1902, the Baku Nautical Classes were transformed into the Baku Long-Distance Sailing College, where students studied for 3 years. In 1920, the Water Transport College was established on its basis, and in 1924, it was renamed the Waterways College. At last, in 1930, it was reorganized as the Baku Maritime College. In March 1944, it was named Baku Nautical College.

Baku Nord – the local northern cold strong wind blowing in the Apsheron region. Its velocity is often from 20 to 40 m/s. It brings great quantities of dust to the region.

Baku – Tbilisi – Ceyhan (BTC) – a 1,730 km long oil pipeline. It was designed to transit no less than 50 million tons of oil a year over 40 years. In 1993, an agreement on construction of BTC was signed between Azerbaijan and Turkey in Ankara, Turkey. This was followed by many years of negotiations, and at last, on October 29, 1998, the Ankara Declaration on Caspian and Central Asian Oil Transit to the World Markets along the Baku-Tbilisi-Ceyhan Pipeline was signed by the Presidents of Azerbaijan, Georgia, Kazakhstan, Turkey, and Uzbekistan. This Declaration was approved by the US energy minister. On November 18, 1999 in

Istanbul (Turkey), the Presidents of Azerbaijan, Turkmenistan, Georgia and Turkey signed the Intergovernmental Declaration on the Principles of the Trans-Caspian Pipeline Construction that was approved by US President Bill Clinton. Then, on October 19, 2000 in Turkey, four agreements on BTC construction and further operation were signed. The consortium on the oil pipeline construction included British Petroleum (BP), the project operator, as well as UNOCAL (USA), Statoil (Norway), Turkish Petroleum (Turkey), ENI (Italy), TotalEIPina (France), Itochi Oil (Japan), Delta Hess (Saudi Arabia and USA), and SOCAR (Azerbaijan). The value of the project is US\$ 2.9 billion. The ceremony for startup of construction was held at the Sangachal terminal in Azerbaijan on September 18, 2002. The BTC construction was completed in 2006.



Baku-Tbilisi-Ceyhan pipeline (<http://www.runtogold.com/images/Baku-Tbilisi-ceyhan-Pipeline.png>)

Baku Oil Region – the major oil region in the Azerbaijan Republic. It is located on the Apsheron Peninsula and extends over the nearby areas. Oil deposits are confined to the Tertiary (Upper and Middle Pliocene) formations. The productive series at from 1,000 to 3,000 m thick is composed of sands, sandstones, aleurolites, and clays. In some oilfields, up to 40 oil-bearing formations are present in the productive series. Oil deposits are associated with the anticlinal folds extending mostly from the northwest to the southeast.

Oil was found on the Apsheron in the seventh to eighth centuries, when it was mostly used for heating, lighting, and medicinal purposes. The oil sources in Baku were first mentioned in Arabic treatises in the tenth century. At that time, oil was extracted from pits dug 10–12 m deep. In 1594, a pit 35 m deep was dug manually on the Apsheron. In 1798–1830, for the first time in the world, oil was extracted from the shelf through a pit dug in the Bibi-Heybat Bay near Baku. Development of

the oil industry gained momentum only at the end of the nineteenth century. In 1873, the first powerful oil flow spouted from a depth of about 35 m near the settlement of Balakhany. After this, Russian engineer Semyonov initiated intensive drilling works in Bibi-Heybat where in 1847 the world's first oil well was drilled. Dug pits were used until 1872.

In 1859, Russian businessmen V.A. Kokorev and P.I. Gubonin built the first refinery for paraffin and kerosene production near the settlement of Surakhany. Three years later this oil refinery produced 1,638 thou kg of paraffin. In 1850, the world produced 300 t of oil, but by 1881, oil production had increased to 4.4 million tons, and by in 1891 the number was 22.5 million tons of which 9.5 million tons was extracted in the USA and 11.4 million tons in Russia. Ninety five percentage of this latter amount was supplied by Azerbaijan. In the late nineteenth century, Baku becomes the “capital of black gold.” In 1900, there were already more than 3,000 oil wells in the Baku oil region of which 2,000 wells supplied oil for industrial purposes. The major contribution in the development of Baku oil was made by the Nobel Brothers, who in 1879 established the oil company, “Nobel Brother's Partnership”. Ludwig Nobel, the head of this company, was a gifted engineer and organizer who developed and introduced many innovations for improvement of the technology of oil production, transportation, and processing, including the first tanker, the first railway tank, the first oil pipelines, the first oil storage facility, etc.

From 1897 to 1906, the construction of 833 km long Baku-Batumi kerosene pipeline was completed. The diameter of the pipes was 200 mm. The pipeline was serviced by 16 pumping plants. Still earlier, in 1883, the railroad Baku–Tbilissi was constructed, making it possible to carry oil in railway tankers. In 1880, a 26 km long railroad was constructed that linked Baku with several oilfields. In the early twentieth century, Baku became the world's leader in oil refining, producing 11.5 million tons of oil a year, and in 1910, more than 60% of the local oilfields were taken under control by three main trusts: “Royal Dutch Shell,” “The Nobel Brothers Oil Production Partnership,” and the “Russian Oil Company” with headquarters in London.

During the Soviet times, the oil industry was restored, rehabilitated, and equipped anew. New oilfields were discovered, such as Karachukhursky, Zykhsy, Kalinsky, Putinsky, Lokbatansky, Buzovninsky and Mashtaginsky. The major oilfields in the Apsheron group are Balakhano-Subuchinsky-Romaninsky, Surakhansky, Karachukhursky (southward of the Surakhany station), Buzovny-Mashtaginsky, Binagadinsky, Bibi-Heybat (to the southwest of Baku), Kalinsky (in the east of the peninsula), and the oilfield on the Artyom Island. Prospected were also the oilfields in the Circum-Caspian Lowlands near Siazan and in the Circum-Kura Lowland (Kirovobad Region, Naftalan, Mir-Bashir, Alyat and others), where the largest and most anticipated was the Ali-Bairamly Region (Kyurovdag, Mishovdag oilfields and others). In 1925, development of oil deposits in the Caspian seabed was initiated on an experimental basis. On the initiative of S.M. Kirov, an oil well was drilled from the artificial island in the Ilyich Bay (oil availability in this area was proved by D.V. Golubyatnikov). The scientific hypotheses linking the mud volcanoes and oilfields discovered by Russian scientist Academician I.M. Gubkin

triggered this development of offshore oilfields. In 1935, he suggested exploring in the sea, a suggestion that later proved sagacious when major reserves were discovered.

In 1925–1926, oil production reached 6.8 million tons. Just before World War II (1941), Azerbaijan maximized oil production at 23.5 million tons, which was 70% of the oil production of the USSR. During the war, oil production dropped, and in 1945 it was only at 11.5 million tons. Immediately after the war, attention was focused on the Caspian shelf, and in 1949, sea oil was for the first time produced on commercial scales in the oilfield Neftyaneye Kamni. Among the sea oilfields the largest are Gyurgyany-more (to the southeast of the Artyom Island), Zhiloy Island, and the Baku Bay area (Zykh, Vulf, Nargen, Bailovsky Spit, Shikhova Spit, Peschany Island, Ilyich Bay and others).

In the late 1960s, the share of Azerbaijan's production in terms of national production declined due to quick growth of oil production in the Volgo-Ural oil region (the so-called "second Baku"). In the early 1970s, a second Caspian off-shore oilfield was put into operation. It extended for 40 km from Sangachaly Cape in the southwest of the Apsheron Peninsula to the Duvany and Bulla islands. By 1975, two-thirds of Azerbaijan oil was supplied by off-shore oilfields.

In spite of this off-shore oilfield development, the Baku oil region was unable to compensate for the drop of oil production at on-shore oilfields that had been depleted by this time. Until the late 1970s–early 1980s, oil prospecting and production on the Caspian were carried to depths of 30–40 m. Then, in the mid-1980s, thanks to the appearance of semi-submersible floating drilling platforms, oil extraction to a depth of 200 m began. As a result, in 1979 such oilfields as Gyuneshli, followed by Chirag (1985), Azeri (1988), and Kyapaz (1989) were discovered; however, during Soviet times, commercial oil extraction from these depths was not planned for earlier than the twenty-first century.

After Azerbaijan became an independent state, its oil industry was revived anew. Today, 51 on-shore and offshore oil deposits with more than 10,500 wells are operated in the Republic. For nearly 120 years of its history, Azerbaijan extracted 1.325 billion tons of oil, and at present, 10 million tons of oil and 7 billion cubic meter of gas are produced there annually. Oil refineries are located in Baku, the center of the Baku oil region. They have large cracking and vacuum units enabling them to increase the oil processing and produce more than 100 kinds of oil products. The oil production and refining industry is a basis for development of many other industries, the greater part of which are concentrated in Baku or nearby. Also developed are the machine-building industry (Baku) servicing mainly the oil industry of Azerbaijan; the chemical industry, including a synthetic rubber plant that uses oil gases in Sumgait; a plant manufacturing sulfuric acid used in oil product refining; a soda plant producing caustic soda and chemicals for oil refineries as well as oxygen and carbide. All of these plants are located in Baku. Plants manufacturing healing ointments, naphthalene, and other medicines have also been developed. A pipe mill is located in Sumgait, and plants producing Portland cement and oil-well cement, soot, mud weighting materials, and others is in Karadag.

All industrial centers in the Baku region (Buzovny, Mardakyan, Lokbatan, Surakhany, Sumgait, Artyom Island and others) are connected with Baku by roads, railroads, and the sea. Oil is transported via pipelines Baku–Supsa and Baku–Novorossiysk, and also by rail to the Caspian Sea. One of the largest deposits, the Karadag gas condensate field, is found in the southwestern part of the Apsheron Peninsula. Today, Azerbaijan has 350 ships servicing the oil industry as well as tankers, cranes, and vessels engaged in construction of underwater pipelines.

Baku Province – formed in 1846 as Shemakhinsky Province. In 1859, Shemakha was destroyed in an earthquake, and all provincial authorities were transferred to Baku. The province got its present name then. In 1860, the Kubinsky ouezd (district) was included into the province, and in 1868, the Nukhinsky and Shushinsky districts were affiliated to the Yelizavetpolsky Province. Thus, B.P. comprised the following districts: Bakinsky, Geokchaisky, Djevatsky, Kubinsky, Lenkoransky, and Shemakhinsky. The area of B.P. was 34.4 thou sq.verst (1879), and the population was 789.6 thou people.

Until the 1870s, B.P. was an agrarian province of the Trans-Caucasus where horticulture and viniculture were developed. From the late nineteenth century, cotton growing and cattle breeding were also pursued here.

From the 1870s, the Baku region became Russia’s major oil production region. The oilfields were owned mostly by the “Russian General Oil Corporation,” the British-Dutch Trust “Shell”, “Nobel Brothers Partnership” and the “Financial Oil Corporation”. By the end of the nineteenth century, 209 oilfields and more than 930 boreholes were found on the B.P. territory, their numbers increasing to over 1,600 by 1906–1908. At the same time, B.P. accommodated over 1,200 industrial enterprises that were mostly concentrated in the Baku industrial region, including oil refining, metalworking, dyeing, silk-reeling, winemaking, and others. The production of salt and fisheries were also developed here. The construction of the Trans-Caucasus railroad between 1883 and 1900 facilitated further economic growth in the province. After the 1880s, B.P. witnessed spontaneous worker strikes, including strikes on tobacco factories and fishworks in Baku and others between 1892 and 1896. 1905–1907 was a period of mass meetings, political strikes, and demonstrations of peasants and soldiers of the Baku garrison.

Baku Sea – one of the names of the Caspian Sea used by European authors in the thirteenth to fourteenth centuries. In particular, Ambrogio Contarini wrote the following in his work, “Travel to Persia” (1474): “The city of Derbent is located on the Baku Sea (it is also called Caspian).”

Baku Transgression (for Baku City) – early Quaternary transgression (400–500 thousand years ago) of the brackish Caspian Sea, which was larger in size than at present. The thickness of deposits was around 30–60 m. It occurred in two phases.

Balakhan Relics – (1) *freshwater* – they live not only in the Caspian Sea rivers, but in the Aral, Issyk-Kul, and Balkhash. The Volga is populated with more than 50 species of invertebrate, the Ural with about 20, the Terek with 8, the Kura and

Araks with 7, and the Sefidrud with 5 species. Among them there are several species with twin brackish species. The freshwater needlefish, aterina and bullhead spawn in the Volga and Ural. The Turkish freshwater shrimp live in the Araks and Upper Kura. Freshwater mollusks live in the Volga and Ural, Sefidrud, Kura, and Araks. In addition, in the Caspian rivers, ordinary sprat and several species of bullheads live permanently, while Volga herring, black-backed herring, and Caspian shad run here to spawn. Their intrusion into rivers may be traced to the presence of polymorphic zebra mussel shells in the Sokolsky and Chistopolsky horizons of the Kinel geological suite of the Volga and synchronous deposits in Western Kazakhstan and Turkmenia.

(2) *brackish* – live in the Caspian Sea, Aral Sea, saline lakes of Uzboy, and the Circum-Caspian Lowland. They spawn at a temperature of 10–35°C in nearly fresh waters (up to 2‰) and in waters with salinity up to 60‰. They include Caspian foraminifer ammonia, gastropods, crustaceans such as Aral freshwater shrimp and one species of ostracods Cyprideis; and fish such as Caspian aterina, Caspian needlefish, and Caspian bullhead. The difference in the structure of parasite fauna of the Caspian and Black Sea aterins and bullheads is a result of their independent development over nearly 6.5 million years. Gastropods live in brine from which gypsum is deposited (at a salinity of about 130‰). The predecessors of the Balakhan relics have been known since the Sarmatian or Pontian time, and they all they originated from tropical and subtropical organisms populating the Indian and Atlantic oceans.

Balakhany – an urban settlement in the Azerbaijan Republic located on the Apsheron Peninsula 14 km to the northeast of Baku and connected by an electric railroad. The population is 25 thou (1994). Oilfields from the nineteenth century are located here.

Balkanabat (formerly Nebit-Dag) – the administrative center of the Balkansky velajat in Turkmenistan. It was founded in 1933 as a worker's settlement (Neftedag or "oil mountain"). This name is created from the Russian *neft*, meaning oil, and Turkmen *dag*, meaning mountain. In 1946, when it was transformed into a city, its name was changed to the national Nebit-Dag, where *nebit* means oil in Turkmen. In 1991, when the Krasnovodsk Region was renamed into Balkansky velajat, Nebit-Dag was given the name B. The establishment and development of this city is connected with the oil industry. Here, a plant for repairing oil equipment, a gas-fueled power plant, an iodine-bromine plant, a carpet factory, and others are located.

Balkansky Velajat (Balkan velajat) – Until 1991, it was called the Krasnovodsk Region of Turkmenistan. The name was given for the Greater and Lesser Balkhan ridges. B.V. is composed of the western part of Turkmenistan. It borders with the Mangistau Region of the Kazakhstan Republic and the Republic of Karakalpakstan in Uzbekistan to the north; with the Tashauz and Akhalsky velajats of Turkmenistan to the northeast and east; and with Iran to the south. In the west, it borders the Caspian Sea. B.V. extends over the whole Caspian coast of Turkmenistan and its

coastal zone. Etrap and Turkmenbashi, the territories controlled by khyakimlik (administrative bodies) of the cities of Khazar (formerly Cheleken) and Balkanbat (formerly Nebit-Dag) and the Esenguly etrap, extend all the way to the Caspian Sea.

The area of B.V. is 138.5 thou km², covering 29% of the territory of Turkmenistan. The population is 412 thou, or 9% of the country's population. The center of the velajat is Balkanabat, and there are 4 more large cities in B.V.: Turkmenbashi, Khazar, Kazandjik, and Kyzyl-Arbat.

The terrain of the velajat is diverse, including the western spurs of the Kopetdag Mountains; the Greater and Lesser Balkhan ridges; the Ustyurt chinks; the valleys of the Atrek, the Sumbara and Chendira rivers; the Krasnovodsk Plateau; the piedmont plain of the Western Kopetdag; the Messeriyansky, Kyzyl-Kaya, Tuarkyra plains; the Circum-Caspian Lowland; sand deserts of Kyzylkum and Chilmamedkum; and solonchaks (the major – Balkhansky). The greater part of the territory is occupied by the West-Turkmenian Lowland, called the Circum-Caspian Lowland on the Caspian coast and characterized by a slight incline from the east to the west. Its absolute elevations vary from 100 to 200 m over ocean level in the Kopetdag piedmont areas to 28 m below ocean level on the Caspian coast. Not far from the northernmost end of the Kara-Bogaz-Gol Bay is the lowest point of the velajat, the Chagalosor hollow, the bottom of which is 45 m below ocean level. The territory of B.V. is composed of Mesozoic, Cenozoic, and Quaternary deposits containing various minerals. In the Western Kopetdag are found deposits of barite and viterite; considerable reserves of zinc, lead, copper, mercury; chemical raw materials such as phosphates (Arpaklen), iodine-bromine waters (Cheleken Peninsula, Boyadag, Mondjukly, Gograndag, Karadashly, Koturdepe and Kumdag), table salt (Baba-Khodja, Kuuli-Mayak, Karashor, Western Uzboy); brines of the Kara-Bogaz-Gol Bay – mirabilite – rich in the Glauber's salt, magnesium, bromine, iodine and potassium. B.V. possesses great deposits of building stone "gyush" (Akdash, Omar-Ata), bentonite (Oglandy), black coal (Yagman), and brown coal (Chaiyrly), curative mud (Mollakara, Akpatlavuk, Gekpatlavuk, Chekishler), mineral waters (Parkhai, Akchagyl), and others. The oil-bearing formations are confined to deposits of the red-colored series of the Akchagyl and Apsheron horizons. The principal natural wealth is oil and natural and associated gas the resources for which are concentrated in the Koturdepe, Barsagelmes, Cheleken, Vyshka, Okarem, Kumdag, and Kamyshlydja Regions and in the Caspian Sea (Lam, Livanova, Gubkin, Zhdanova banks and others). The oils here are low-sulfur (0.15–0.35%), light (specific weight 0.81–0.87), and the paraffin content is up to 10%.

The mountains (Kopetdag, Kyurendag and others) running in the south of the velajat are geologically young and seismically active (the Krasnovodsk earthquake in 1895 and the Kazandjisky earthquake in 1946 are two notable examples).

The climate here is sharply continental, arid and hot, with a long summer-autumn season, a cold winter, low precipitations, and low relative air humidity. The dry subtropical climate dominates the Atrek and Sumbar river valleys. In the areas near the Caspian Sea, the weather is less hot in summer and the frosts are less severe in winter. The average annual air temperature in Turkmenbashi is 15.8°C, in Cheleken 14.9°C, and in Kyzyl-Atrek 17.1°C. The mean monthly temperature in

July in Turkmenbashi and Esenguly is 28.7°C and in Kyzyl-Atrek is 28.9°C, while the mean monthly temperature in January is 2.4°C in Turkmenbashi and 4.8°C in Kyzyl-Atrek. The average annual quantity of precipitation in the coastal zone is 100–120 mm, and the central desert and northern regions receive less precipitation.

B.V. has scarce water resources. Apart from the Atrek River (with the tributaries Sumbar and Chendir of 635 km length, of which 135 km are in Turkmenistan), the Yaskhansky freshwater lens, and shallow mountain rivers (Gochsu, Zavsu, Purnuvarsu and others) there is no permanent surface runoff. Many regions have salt lakes. Dry channels of mudflows, the ancient channel of the Uzboy River, and others are also traceable. Fresh and slightly saline (to 3 g/l) ground waters are a very important water source for economic development here. A considerable part of the groundwater is extracted by industrial water intakes, such as Kazandjiksky, Balkanabatsky, Bala-Ishemsky, Yaskhansky, Karakidjasky, providing annually up to 30 million cubic meter of fresh water of various quality. To meet the needs of fresh water for the population and economy of B.V., seawater desalination plants operate in Esenguly, Bekdash, and Turkmenbashi.

Soils are variegated. In the mountain regions dark gray, mountain-meadow soils and sierozems are widespread. The plains, in particular near Kopetdag, Messeriansky, the piedmont plains of the Greater and Lesser Balkhans, and the southern regions of the Sarykamysh are covered with takyrs, takyr-like, gray, gray-brown, and desert soils. Solonchaks and desert soils extend over great territories (in the Atrek basin, the Circum-Caspian Lowland, Krasnovodsk Plateau, Lower Uzboy). Herbaceous ephemeral vegetation (annual grasses and ephemeroïds) and shrubs (saxaul, cherkez, candym) dominate the region. The territory of Kopetdag is covered with broad-leaved and coniferous forests and shrubs; the Greater and Lesser Balkhans with semishrubs; and the Atrek, Sumbar, and Chendir valleys with steppe vegetation. In populated areas, fruit and mulberry trees and grapes are grown, while subtropical regions see nuts, pomegranates, figs, olives, and other trees.

Many animals are found in this region, including rodents (gophers, rats), reptiles (poisonous snakes (blunt-nosed vipers, cobras), water snakes, and monitors), artiodactyls (Persian gazelles, argali, boars), carnivores (wolf, fox, corsac fox, jackal, linx), insects, and others. The Caspian Sea is populated with seals and more than 80 species of fish, 50% of which are of commercial significance, the most valuable of which are sturgeon. The region abounds in migratory and hibernating birds: gray geese, ducks, sandpipers, herons, flamingos, and others. In 1933, the Esengulyisky ornithological preserve was established for protection of migratory and nestling birds.

Before the 1917 revolution, the industry here was represented mostly by primitive extraction of oil on Cheleken, locomotive repair works in Kyzyl-Arbat, ship repair yards in Krasnovodsk, and other small enterprises. In Soviet times, heavy industry was developed here, including plants for processing chemical raw materials, oil, and gas were constructed. In the first years of Soviet power, geological prospecting of oil, gas, and other resources was carried out actively. The opening and operation of oil and gas fields in Kumdag (1948), on the Cheleken Island (1950), in Koturdepe (1956), Barsa-Gelmes (1962), Okarem (1963) provided an impetus for development of oil and gas production. The main industries here are fuel, food, power generation,

production of construction materials, machine-building, chemical and light industry. B.V. provides 100% of extraction of oil, bentonite, Glauber's and table salt as well as production of iodine, bromine, canned fish; 21.8% of the power generation; and 98.2% of the fish catch of Turkmenistan.

Oil is extracted in Cheleken, Kumdag, Vyshka, Koturdepe, Barsa-Gelmes, Okarem, and in the Caspian. Some parts of the extracted oil are supplied to the Turkmenbashi refinery for processing. The power industry is represented by two thermal power plants in Turkmenbashi and by the Balkanabatsky hydropower plant that was the first to change to gas fuel. The chemical industry has developed on the basis of the local raw materials: a plant producing technological carbon in Cheleken uses Koturdepe associated gas, and the iodine-bromine plants in Balkanabat and Khazar uses iodine-bromine waters; a plant in "Karabogazsulfat" in Bekdash manufacturing sodium sulfate, epsomite and bischofite uses the mineral raw materials of Kara-Bogaz-Gol. Machine-building and metalworking industries are represented by a railway car repair plant in Kyzyl-Arbat, a ship repair yard in Turkmenbashi, and a plant for oil equipment repair in Balkanabat. Developed is also the industry producing construction materials. The light industry is poorly developed: there are carpet factories in Kyzyl-Arbat, Kazandjik, and Balkanabat as well as in the urban settlement Esenguly; and garment factories are in Balkanabat, Turkmenbashi, and others. The food industry is represented by the fish factory in Turkmenbashi. After becoming independent, special attention was focused on the oil and extraction industry. Foreign capital and leading world companies are invited for development here.

The key agribusiness is cattle breeding: distant-grazing sheep breeding (rearing of karakul, saradjinsky sheep and goats); camel breeding and large-horned cattle breeding, including cows in farming regions mostly in the Atrek, Sumbar, and Chendir river valleys. In Kyzylabatsky and Kara-Kalinsky etraps sericulture is practiced. Farming is not widely developed: only grains, perennial forage, melon crops, and grapes are cultivated here. The greater part of agricultural lands is used for grazing; however, construction of the Karakum canal made it possible to increase irrigated areas under cotton.

Turkmenbashi is a large railroad cross-link and a sea port. In 1962, the sea ferry line Krasnovodsk (Turkmenbashi)–Baku was opened and has successfully functioned. On the Caspian Sea coast are constructed specific cargo-oriented terminals for transportation of oil (Aladja, Ufra); table salt (Kuuli-Mayak); and sodium sulfate, bischofite, epsomite, and others (Bekdash). Local cargo is transported using the port in Okarem. The pipeline transport is well developed in the velajat, with the gas pipelines Koturdepe–Khazar, Koturdepe–Turkmenbashi, Kyzylkum–Balkanabat; the oil pipelines Koturdepe–Belek, Khazar–Koturdepe–Belek, Vyshka–Belek–Turkmenbashi, Barsa-Gelmes–Okarem, Dagadjik–Azizbekovo; and the water mains Yaskhan–Balkanabat; Djebel–Khazar, Djebel–Turkmenbashi, etc.

Educational, scientific, and cultural establishments are also found in the velajat.

Balkhan Bay – a bay cutting deeply into the eastern part of the northern coast of Krasnovodsk Bay in Turkmenistan. The size of the bay depends on water level fluctuations in the Caspian Sea. The northern entrance cape of B.B. the Cape Kubasengir (Gubasengir).

Balyk – cured or smoked fillet of the back, side, and belly of large and fatty fish, such as beluga, sturgeon, and starred sturgeon. B. is not only a cured fillet. After curing, the fillet may be subject to cold smoking. The hung and cured fillet of white salmon (sheefish) is the most highly regarded.

Balykshi – a settlement to the south of Atyrau in the Republic of Kazakhstan located on the left bank of the Ural River, 30 km from the Caspian Sea. The main occupation of the local population is fishing and fish processing.

Banchin, Banchina – a riverbed depression in the Volga delta; extensions of channels having no continuous overwater banks may meander, forming narrow, elongated islands and spits over time; the initial stage of formation of a delta arm in the Volga lower reaches; a flow trough in a not well formed depression where runoff appears only after copious rainfalls.

Bandar Anzali (1919–1980 – Pahlavi) – a city and sea port as well as an Iranian naval base on the Caspian Sea in Gilan Province. It was built from 1904 to 1913 on the strait linking the Anzali Lagoon with the sea. The city is located on the western and eastern shores of the strait and also on Manpushte Island. The Caspian highway runs through B.A. and connects it with all settlements on the coast. The population is 55.4 thou. The port area is approximately 119 thou m², with docks of about 1,000 m², terminals of 35 thou m², and cargo warehouses of 22.3 thou m². B.A. is an important center of fishing and fish processing. Power plants, fishery, cotton ginning factories, tobacco factories, timber mills, food, and woodworking industries are located here. This is also the center of black caviar production. It is the port through which cargo traffic between Russia and Iran occurs, and there is the ferry line Bandar–Anzali–Olya (Astrakhan Region of Russia). A resort are on the sea is also located here.

Bandar Torkaman (formerly Bandar Shah) – a port city and terminal of the Trans-Iranian Railway in Golistan Province of the Islamic Republic of Iran. It is located in the northeastern part of Gorgan Bay on the Caspian Sea. The population is 126 thou (2006). For many years this has been the main port for trading with Russia, regardless of assaults by Torkaman pirates attacked vessels and robbed them who until the twentieth century. After construction in the 1930s of the Trans-Iranian Railway, it also becomes the only railway cross-link on the Caspian southern coast. During World War II, the port facilities were improved and its capacities were increased. The port was used to supply armaments and food to the USSR, and may be approached along a canal that is constantly filled with the sediments of the Gorgan River, thus requiring regular dredging works. It has 3 jetties and an oil terminal. All terminals are provided with access railroads. The city itself is located 2 km east of the port, and at present they have practically merged. The city is connected by highways with all major cities in Iran as well as with small towns on the coast. The city is a fishery center.

Bank – an urban settlement in the Neftechalinsky Region of Azerbaijan not far from the mouth of the Kura River, 15 km northward of the railroad station “Neftechala.”

The population is 7 thou (2007). B. has fish processing, mostly handling so-called “red fish”, which means sturgeon. It was the largest fishery enterprise in the Azerbaijan Socialist Republic.

Bank (Coast) Protection Structures, Coast Strengthening – structures designed to protect water body banks from the negative effects of waves, currents, ice loads, and other natural factors. Depending on their interactions with the water flow, *active* and *passive* structures are distinguished. The active make use of the water flow energy for aggradation and accumulation of coastal sediments (on rivers – transverse spurs, regulating dikes, training dikes; on seas and lakes – breakwater jetties, sediment-trapping dikes). Passive facilities are designed to oppose the water flow, relying upon strength and stability of their construction (on seas – break walls, riprap of large and shaped blocks; on rivers – riprap, mattresses, gabions, concrete, and reinforced concrete slabs).

Banok – a waterway, river arm, or deep natural channel along which vessels may pass from the Caspian Sea to the Volga delta and back; in the Lower Volga, deep arms along which fish run to the sea; a strait between lagoons and the sea. V.I. Dal (1912) states that in terms of the Caspian in the Volga delta, B. means a channel or channel’s line, while the shoal is midstream; however, the shoals are named as Chisty banok, Polenyi banok. B., an isolated shoal formed as a result of seabed rising to a depth of no more than 20 m, is considered dangerous for shipping. There are sandy, stony, coral, and other types of B. On the Caspian Sea, B. is an underwater mud volcano. B. is found largely within the Baku Archipelago and the Apsheron Archipelago. Sometimes B. is used for fishing. The largest delta arms of the Terek River are Glavny B., Batmaklinsky B., Kuni, Kubyakinsky, Northern, Middle, Uchinsky B.

Barge (French “barge”) – a non self-propelled cargo vessel. By region of navigation, river, lake, and sea barges are distinguishable. By type the transported cargo there are bulk-cargo, tanker, and universal B. Quite recently, B. of offshore drilling platforms have appeared. For transport, they are towed or pushed. They hull steel, reinforced concrete, and wood. The displacement of river barges does not exceed 4 thou t, while lake and marine barges have 10 thou t of displacement.

Barren Fish – fish without roe.

Barrier Beach – a narrow, sandy, water-permeable spit or natural sand levee composed of sand or pebble and separating bays, lagoons or brakish estuaries from an open sea or lake. It is formed by the combined action of sea (lake) currents and tides, aggradation processes in river mouths, and tidal activities in shallow areas. The largest B.b. on the Caspian Sea is Turalinsky in Daghestan. It separates the ancient lagoon, the Greater Turali Lake, from the sea.

Bartold Vasily Vladimirovich (1869–1930) – one of the most renowned representatives of the Saint-Petersburg period in the Russian Oriental sciences of the late

nineteenth to early twentieth centuries. He studied at the faculty of oriental languages at Petersburg University. At the age of 30, he became the Academician, Professor at Petersburg University. He was a member of nearly all European academies and scientific societies and a wide specialist in Oriental disciplines. The basic lines of his scientific activities are history of the peoples and states of Central and Middle Asia; interaction of Oriental and Western cultures; and the history of Islam. The works of B. contain enormous amounts of factual material supported by archeological and numismatic data. B. delivered lectures at various universities. He made significant contributions in the development of a network of scientific establishments, educational institutions, and libraries in Central Asia, including collections manuscripts for study in local archives. In 1924 in Baku he read a cycle of lectures, “The Role of Circum-Caspian Areas in Moslem World History” to young intellectuals.

His most important works are “Turkestan in the epoch of the Mongolian invasion” (in two volumes, 1898–1900); “Information about the Aral Sea and Amu-Darya lower reaches from the ancient times to the fifteenth century (1902); “History of Oriental studies in Europe and Russia” (1911); “Ulugbek and his time” (1918); “Islam” (1918); “Turkestan History” (1922); “Essays” vols. 1–9 (1963–1977), and others.

Bartold V.V.

(www.nlr.ru/ar/staff/bart.htm)



Basic Salting – heavily salted fish; salting fish with a large amount of salt for long storage.

Baskunchak – a saline self-deposition lake in the Astrakhan Region of Russia located to the east of the Volga, near the Bolshoye Bogdo Mountain. Its area is

115 km²; the surface elevation of the lake is 21 m below ocean level. One of the largest such lakes in the world, the lake basin appeared as a result of tectonic processes. B. is fed by numerous saline springs. Table salt is deposited in the lake basin in several layers. The top is made of the most recent deposits, brought by the waters of saline springs flowing into the lake basin. The next layer is “chugunka” and still lower layer is “granatka”, which is most valued for its purity and taste. The salt is mined, and B. is the main “saltcellar” in Russia.

Bastard Sturgeon (*Acipenser nudiiventris*) – fish of the sturgeon family. Anadromous fish. It mostly inhabits the southern part of the Caspian from where it runs to the Kura River for spawning; in the Iranian part it runs to the Safid Rud River. It lives for 30 years and more, reaching the length of 215–220 cm and a weight of 30 kg. Fertility of Caspian B.s. is 280–1,290 thou eggs making on the average 593 thou eggs. B.s. feeds largely on fish and mollusks. On the Volga, all hybrids of sturgeon fish are referred to by fishermen as “bastard sturgeon.” In nature, B.s. crossbreeds with great sturgeon, starred sturgeon, and sturgeon. In the Kura River, as a result of artificial fertilization, such hybrids as bastard sturgeon + sturgeon and bastard sturgeon + starred sturgeon are available.

“Batys” – a maritime custom’s house and quick response service on the Caspian Sea created in Kazakhstan. From January 1998, its zone of operation has been the whole sea area within the state borders. In its work the service uses high-speed boats, accessory vessels, and aviation (helicopters). Among the tasks of B. is to fight smuggling, to protect oilfields, and to control the oil supply from Tengiz to Baku.

Bautino – a settlement and port located on the eastern coast of the Caspian sea in the vicinity of Fort Shevchenko at the apex of the Tyub-Karagansky Bay cutting into the peninsula with the same name in the Mangistau Region of the Kazakh Republic. It is named in honor of A.G. Bautin, the first Chairman of the Council of Deputies of the Adaevsky ouezd (district) who was killed in 1919 by local *kulaks* (rich peasants). A convenient Bautino Bay is found here. The sea port B. (cargo port “Bautino”) does not handles large quantities of cargo (only about 150 thou t of dry cargo a year). The water area of the port does not freeze up, and storms are quite infrequent here. A fish cannery and a water desalination plant with a capacity of 500 m³/day are located here. There are plans to develop this port and make it a base for supporting offshore drilling because it is located near the Eastern and Western Kashagan fields and it could serve as a moorage for the vessels of the national company “Kazmortsneft.”

Bay – a small part of an ocean, sea, lake isolated on three sides by coast or islands; a small harbor protected from wind and opened with one side to the sea, lake, or reservoir. Local conditions create a specific hydrological regime of a bay that differs from the regime of nearby waters. B. is usually a very convenient place for ship moorage. The Caspian Sea has ten B., some of which are quite large and include the

Kara-Bogaz-Gol, the Kazakh, the Turkmen, the Agrakhan, the Kizlar, the Gorgan (Astrabad), and others.

Baer Karl Ernst, Von or Karl Maksimovich (1792–1876) – the distinguished natural scientist, founder of embryology, and one of the encyclopedic minds of the nineteenth century. He made a great contribution into development of zoology, anthropology, and geography. He was born not far from Revel (Tallinn) in the German family. In 1810, he entered the medical faculty of the Derpt (Tartu) University. At the age of 22, he was awarded the academic degree of the Doctor of Medicine, and in 1828, became Academician of the Petersburg Academy of Sciences. In 1862, he became its honorary member. In 1817, he was appointed a prorector of the Koenigsberg University. In 1834, he was invited to the Petersburg Academy of Sciences. In 1839, he studied the islands in the Gulf of Finland and later the Kola Peninsula. In 1845–1846, he went on a trip over the Mediterranean for scientific purposes. He took part in the expeditions to the Novaya Zemlya, Crimea, and Kola Peninsula (1840); Chudskoye Lake and Baltic Sea (1851–1852); moderate-climate zone of Russia; and Transcaucasus and Kalmyk Steppes.

For about 4 years (1853–1857), he headed the Fishery Expedition of the Northern Caspian that studied the fishery conditions in the Caspian Sea and in the inflowing rivers. At first, the expedition visited the Volga lower reaches near Astrakhan and then the Kura mouth, the place of the so-called “the God’s fishing.” B. wrote about this as follows: “This is, undoubtedly, the richest sturgeon fishing area not only in the Caspian area, but in the whole world.” At that time in this “the God’s fishing” from 1,000 to 1,200 great sturgeons, 20–30 thou sturgeons, 150–200 thou starred sturgeon, and 90 thou catfish were fished. B. collected very extensive materials about fishery in the Kura River. In 1856, he once more traveled over the Caspian Sea for a year. The results of these expeditions were described in volume II of the book, “Fishery Studies in Russia,” with included maps, while particular episodes of this expedition were described in “Caspian Episodes” and in separate articles in the “Proceedings of the Emperor’s Russian Geographical Society” and academic publications. Apart from the principal task of this expedition, the study of the fishery conditions, there were also studies of economics and agriculture of the Caucasian peoples, as well as their languages and the flora and fauna of this area.

B. studied the ecology of main commercial fish species, following their spawning run, spawning grounds, and hibernation. He found out the causes of fish catch drops: destruction of fries, overfishing, and closing of access for producers to spawning grounds. He also developed recommendations on the rational fishery. For the first time, attention was drawn to dependence of a fish stock on the hydrological conditions of the sea. At the same time, B. studied the Circum-Caspian steppes (shaping of sandy hills) and the Kuma-Manych Depression via which plans were made to connect the Caspian with the Azov Sea. B. expressed a new outlook on the conditions and time of the Caspian depression formation. He connected the Caspian formation and fluctuations of its water level with tectonic processes and disclaimed its gradual drying. In 1857, he spoke about regularities in caving of the right banks

of rivers in the Northern Hemisphere and left banks in the Southern Hemisphere (“general law of the riverbed form – Baer’s Law”).

B. was one of the founders of the Russian Geographical Society (1845) that in 1861 awarded him the Konstantinovskiy Medal for studies of the Caspian Sea and reports on Caspian fisheries. In commemoration of 50 years of scientific activities the Petersburg Academy of Sciences embossed a jubilee medal depicting the great natural scientist. In 1875 in Petersburg were published 5 volumes of the fundamental works of K.M. Baer and N.Ya. Danilevsky, “Study of Fisheries in Russia.” The term “Baer’s hills” in the Circum-Caspian area also came into use. A monument to B. is constructed in Tartu.

For the works of K.M. Baer expeditions see “Caspian Expeditions of K.M. Baer (1853–1857). Diaries and materials” (Nauchnoe nasledie, Leningrad, 1984). The name of B. was given to two capes on Novaya Zemlya and Franz Josef Land in the Barents Sea, the island in Taimyr Guba in the Kara Sea, mountains on the coast of the Kara Sea, and the mountain on Spitzbergen.

Beak-Shaped Delta – the simplest deltaic form. It is made up of two estuarine spits and the estuarine river segment. BSDs are the most recent deltas of the Terek and Sulak Rivers that were formed near their new man-made estuaries.

Beketov Nikita Afanasievich (1729–1794) – a writer, lieutenant-general, senator, and favorite of Empress Elizaveta Petrovna. He was a descendant of the Cherkess dukes. From 1763 to 1774, he was the Governor of Astrakhan. B. actively supported the government idea on settlement of the steppes. In 1763 near Astrakhan on the Volga banks a settlement of 65 Lutheran families was founded. It received the name, Vizental Colony. B. was the founder of some other German colonies, including the well-known Sareptsky colony. He did much for the appearance of many Cossack villages on the vast expanses from Astrakhan to Cherny Yar. Such policy caused complications in relationships with the Kalmyks and in 1711 a part of them migrated to Djungaria. B. paid much attention to the improvement of this territory, including the development of vine growing, wine-making, and sericulture. He introduced new rules for charging duties to fisheries, and as a result the revenues from fisheries started flowing into the state treasury not only from the Astrakhan Province, as it had before, but also from other provinces; thus, these duties became some of the most lucrative items for the state treasury.

Bekovich-Cherkassky, Alexander (unknown–1717) – before accepting Christianity, his name was Jansoh, Devlet Kizden-Murza, Devlet-Girey-Murza, and his birth year remains unknown. A duke from the clan of Kabardinsky rulers, he was one of the associates of Peter I. A political and military figure and hydrographer, there is no accurate data about his origin and a time of joining the service at the Russian tsar. In 1707 B.-Ch. was sent by Peter I to Holland to study the art of navigation. In 1711, he was sent with a diplomatic mission to Kabarda. On returning, he prepared a draft paper on the Caucasus joining to Russia and the development of relationships with Persia. In 1714–1716 B.-Ch. took part in investigations of the Caspian Sea, in particular, he surveyed the eastern coast with Kara-Bogaz-Gol Bay.

He made up the first cartographically sound map of the Caspian Sea (for a long time it was thought lost, but in 1952 it was found). For his activities, Peter I promoted him to the guards captain. He founded 3 fortresses. B.-Ch. was killed in 1717 during a gold prospecting expedition to Khiva. The fortresses that were built on their way were destroyed. The expedition turned fruitless. B.-Ch. is considered to be the “first hydrographer of the Caspian.” His name was given to one of the bays in the Caspian Sea, a bank and spit in the Turkmenbashi (Krasnovodsk) Bay.

Bektash (Bekdash, Karabogaz) (Turkish – “*high stone*”) – an urban settlement that appeared in 1963 after the joining of the settlements of Severnye Promysly, Bektan and Omar-Ata as a center of the salt mining industry. It received its name from a cape. B. is located to the southeast of the Bektash Cape on the Caspian coast in Turkmenistan. Its population is 10 thou (1996). Some infrastructure of the Production Association “Karabogazsulfat” is found here, including administration, port, repair-construction workshop, fuel and municipal facilities. Through the port of B., “Karabogazsulfat” exports its products. On 9 August 2002 B. got a status of a city and a new name – Karabogaz.

Bektash (Bekdash) – a bay located 60 km to the northwest of the Kara-Bogaz-Gol Strait, Turkmenistan. In the northeast it is limited by the sandy, undulating coast of the mainland between the capes of Dagdjik and Bektash, and in the south and west, by islands surrounded by overwater and underwater structures, the biggest of which is the Kara-Ada Island.

Belinsky-Caspian Waterway (BCW), Belinsky Canal, Belinsky Channel – the second largest waterway connecting the port in Astrakhan with the Caspian Sea. It makes the way from Astrakhan port to the northeastern part of the Caspian 200 km shorter compared to the way along the Volga-Caspian canal. BCW is 134.3 km long and via the Bushma arm only 127.6 km. BCW is divided into the sea and river parts. The sea part runs along the Belinsky canal and is constructed in the shallow part of the Caspian Sea. The river part has two routes. The deepest, but the longest route goes along the Volga arms: Belinsky Balk, Permyakovi, Shata-Bushma, Kashkaldak, Bystryi, Rychan, and Pryamaya Bolda or Krivaya Bolda. The other route goes along the same arms, but bypasses Kashkaldak, Bystryi, and Rychan.

Belyak – a small bream, its shoals run from the Caspian to the Volga River; in the past the spring fishing season began on March 15 and lasted until June.

Belyana – an ancient rafting vessel on the Volga. Its length was to 100 m, its width was 25 m, and its height was 5 m, with a carrying capacity of up to 5 thou t. The vessel was built from white (without bark) timber, thus, its name means “made of white wood.” The vessel was constructed only for one journey. It was made by pine logs or timber intricately piled on each other, and sometimes of unfinished houses that were not tied by anything, but were kept together only by “intricate” placement. The lower part of the huge body of such vessel had passages that were designed for air drying of raw timber and for passage of the crew from one side to the other. B.

had neither masts nor sails. Two houses of hewed logs were built on both sides for the crew and between them a small cabin with a flag that was like a captain's deck house. The steering wheel was on the bow and not on the stern. The vessel was propelled by water flow. B. was kept in the channel with the help of a "trailer," a cast iron bob weighing several dozens of poods (1 pood = 16.38 kg). It was dropped from the stern. The bob dragged over the riverbed slipping to the deepest places. B. was constructed in winter and spring floods put it afloat. Having reached Astrakhan, the cargo (timber) and the hull of the vessel were dismantled and directed to saw mills. Thanks to B., the city was built up with wooden houses. The last B. sailed along the Volga in 1934.

Benchmark (Sea-Level) Gauges – sometimes referred to as secular gauges. At the end of the twentieth century, there were four such main gauges on the Caspian Sea: Baku (continuous observations from 1837), Makhachkala (1900), Krasnovodsk (1915), and Fort Shevchenko (1921). The sea level measured by these four gauges is regarded as the mean for the sea as a whole.

Bender-Gyaz (Bandar-Gaz) – a settlement and large trade center in the Golestan Province of Iran. It is located on the southern edge of Gorgan Bay. In the past, it was a port, but after construction of Bandarshah port (at present Bandar-Torkaman) with which it was connected via a railroad, it lost its significance as a port.

Bender-Shah (Bandar-Shah) – see *Bandar-Torkaman*

Benthos – organisms that live on, in, or near the bottom of the sea and inland water bodies.

Berg Lev Semenovich (1876–1950) – well-known Russian geographer and biologist. Corresponding Member of the USSR Academy of Sciences from 1928, Academician from 1946, RSFSR Honored Worker of Science (1934), Honorary Member (from 1934) and President (1940–1950) of the USSR Geographical Society. Laureate of the USSR's State Award (1951) for the monograph "Fresh-Water Fish in the USSR and Neighboring Countries" (1946, 4th edition, Parts 1–2, 1948–1949). Professor in ichthyology and hydrology at the Moscow Agricultural Institute. From 1916, professor at the Petrograd (Leningrad) University, and from 1925, he chaired the faculty of physical geography. Berg conducted investigations in Western Siberia, Central Asia, Povolzhie, on the Caucasus, on the East-European Plain, and in other regions of the USSR. His scientific interests cover the theory of geography, landscapes and landscape zones, regional geography, history of Russian geography, ichthyology, limnology, climatology, palaeogeography, and also geomorphology, lithology, soil science, glaciology, zoogeography, and others. B. developed further V.V. Dokuchaev's theory on natural zones, developed a theory of landscapes, and proposed the soil theory of loess formation. One of the chapters in his book "Essays on the History of Russian Geographical Discoveries" (1949) was devoted to the first Russian maps of the Caspian Sea in connection with its

level fluctuations. It was written using his earlier works, such as “Caspian Sea Level Fluctuations in Retrospect” (1934), “First Russian Maps of the Caspian Sea” (1940), and “Data on the History of the Caspian Sea Level Fluctuations” (1943).

A prominent place in his scientific studies was taken by investigations of the Caspian Sea. In the 1930s, using archives beginning from the sixteenth century, B. plotted a graph of the century dynamics of the Caspian Sea level. He quite accurately noted that during warming in the Arctic the water level in the Caspian dropped and during cooling, rose. During warming in the Arctic region the Atlantic cyclones move mostly to the north. At the same time, in the cold season of a year, the anti-cyclonic weather becomes established in the Volga basin that involves reduction of winter precipitations and river runoff to the Caspian Sea. During a period of a sharp drop of the sea level, B. asserted that “we cannot speak about any continuous dropping of the Caspian level for the historical time. The low-level period . . . should be replaced with a high-level period.”

His principal works are: “Will Central Asia Dry Out?” (1905); “Aral Sea: Experience of Physiographical Monograph” (1908; for this work B. was awarded the academic doctoral degree in geography and the medal of the Russian Geographical Society named after P.P. Semenov-Tyanshansky); “Experience of Siberia and Turkestan Division into Landscape and Morphological Areas” (1913); “Subjects and Tasks of Geography” (1915); “On Loess Origin” (1916); “Geography and Its Position Among Other Sciences” (1925); “Climatology Fundamentals” (1927); “Essays on the History of Russian Geographical Science” (1929); “Relief of Siberia, Turkestan, and the Caucasus” (1936); “Physiographical (Landscape) Zones of the USSR” (1936); “Essays on the History of Russian Geographical Discoveries” (1946); “One Century of the All-Union Geographical Society. 1845–1945” (1946); “Landscape-Geographical Zones of the USSR” (Part 1, 1931, 3rd edition; Part 2, 1947); “Geographical Zones of the Soviet Union” (1952); “Climate and Life” (1922, 2nd edition, 1947); “Nature of the USSR” (1937); “Selected Works” (vols. 1–5, 1956–1962).

Besh-Barmak (Turkish: “*five fingers*”) – a mountain located 30 km to the north-west of the Kilyazinskaya Spit and 3 km from the Caspian coast in the Azerbaijan Republic. Its height is 590 m above ocean level, and it has the form of a truncated cone. Not far from the central peak are 4 more cliffs that, together, resemble 5 fingers. Thanks to such a specific shape this mountain is visible from the sea within a range of 30 km. On its western slope is found the ruins of the Khydyrzynde castle that was one of the Besh-Barmak structures that comprised, all together, a magnificent stone citadel with two clay walls that were spaced 200 m from each other and extended out in parallel for a distance of a 1.5 km from the foot of the mountain to the Caspian Sea. These fortifications were built on orders from the Sassanid Kings to protect the northern borders of the kingdom.

Bester – intentionally bred hybrid of great sturgeon and starlet. It resembles great sturgeons, but has the size of starlets.

Bezmyanny – an island located 4.5 km to the south-southeast of tip of the Southern Cheleken Spit in Turkmenistan. The island is sandy and surrounded by a shoal.

Bibi-Eybat (Bibiheybat) – formerly Ilyich Bay.

Big-Eyed Caspian Sprat (*Clupeonella grimmi*) – a species of small herring belonging to the genus of common or Caspian kilka. This is the most deepwater species, living at depths from 70 to 250 m; it has found even deeper (at 300–450 m). It lives in open sea in the Southern and Middle Caspian, making vertical migrations and avoiding surface waters over 14°C. It is the main feed for predatory fish in the Caspian.

Big-Eyed Shad (*Alosa saposhnikovii*) – an endemic fish species, its length is 35 cm at maximum, with an average of 14–28 cm. It has big eyes. It hibernates in the Southern Caspian and runs to the northern sea to spawn. While in the Southern Caspian, the shad inhabits deep tiers, much deeper than many other herring. It lays eggs in the Northern Caspian at a depth from 1 to 6 m at a water temperature of 14–16°C and salinity from 0.07 to 11‰.

Bight – a river bay with a reverse or no water flow, it is part of the river or lake near the river bank, usually behind a cape jutting out into the river, with slow or reversed flow.

Bilgyah (Bilgah) – a climatic and spa resort on the sea in the Azerbaijan Republic. This is an urban settlement 40 km north of Baku. It is one of the resorts on the Apsheron Peninsular, located on its northern coast. The climate here is dry, subtropical. The average temperature in January is about 2°C and in July is 25°C. Precipitation is about 200 mm a year. The number of sun hours is 2,800 a year. Apart from its favorable climate, warm sea, and sandy beaches, curative agents are available here, including iodide-bromine waters, the sources of which are in a park in the resort zone. This resort offers its guests climatic and thalasso therapy (the bathing season is from mid-May through mid-September) and balneotherapy (iodide-bromine and sulfide baths with mineral waters from Surakhan sources).

“BIOS” – Federal State Unitary Enterprise “Scientific-Production Center on Sturgeon Farming.” It was established in 1994 in the village of Ikryanoe of the Astrakhan Region and unites scientists from CaspNIRKh and other biological institutes of Russia and CIS countries. It has at its disposal a modern base for the Ikryansky experimental sturgeon fishery farm. Its main lines of activities are commercial sturgeon breeding; selection and formation of the brood stocks; creation and preservation of the sturgeon gene fund; cultivation of fish seeding material, including fertilized eggs, larvae of fries, and youngsters-of-the-year; testing of new fodder and feeding technique; investigation of the value and biochemical specific features of the artificially bred commodity sturgeon; and reproduction of the sturgeons for replenishment of their natural population. “BIOS” breeds the quickly growing hybrid forms of the sturgeons (bester, shister, Russian-Lena sturgeon, and

others) for ponds, basins, stocking ponds, thermal farms, closed water supply systems and farms with natural water temperature. It is Russia's major supplier of fish breeding material of sturgeons of different age categories received from its own parent stock.

Biosphere Reserve – (1) representative landscape unit, determined under the UNESCO program “Man and Biosphere” with a view to its conservation, study (and/or monitoring). May include ecosystems absolutely unaffected by economic activity or little-disturbed, more often than not surrounded by lands in productive use. BRs are set up in over 60 countries worldwide. There are two BRs in the Caspian area: Astrakhan and “Black Lands”, Russia; (2) Strictly protected natural site of significant area, virtually free of any local impacts of the surrounding landscapes transformed by man, where age-old processes have been under way; the nature of these areas makes it possible to spot spontaneous changes in the biosphere, including man-induced ones on a global scale; (3) territory on which gradual tracing (monitoring) of man-induced changes in natural environment on the basis of instrumental observations of bio-indicators is arranged.

Biryuzyak – an island in the west of the Northern Caspian in Russia. It is located 50 km from Bryansky Spit and is separated from the shore by a channel. The settlement of Biryuzyak is located on its northern tip.

Black-Backed Shad (*Alosa kessleri kessleri*) – one of the subspecies of Kessleri herrings, it is the largest at up to 52 cm in length and weighing 1.8 kg. The back is dark-violet or almost black. The teeth exhibit rather good development. B.B.S. winters in the Southern Caspian opposite the Iranian shores.

Growing rapidly, B.B.S. attains full maturity at age 4–5 years. Afterwards, the fish spawns each year. B.B.S. is a predator, feeding on small fish. Its lifetime is 6–7 years. In spring, from March to April, it moves to the north, mainly along the western shores in open parts of the sea. Mass run in the Volga delta begins in late April–early May at water temperature of around 9°C and ends at 22°C. During passage, while covering around 300 km from the wintering in the Southern Caspian to the Volga spawning grounds for 2–3 months it eats almost nothing and grows visibly lean. B.B.S. was popularly called “mad,” and people were reluctant to eat it. In the nineteenth century and until the 1930s, there used to be exceptionally large numbers of B.B.S. assembling in the middle course of the Volga River between Saratov and Kuibyshev (currently, Samara) for spawning. The spawning process was really wild: herring runs would dam the river, and fish would rush about to and fro, jumping out of the water as if they were imbecile and springing onto the spits. Biologists were forced to prove that the marvelous fish was absolutely harmless. Nowadays, B.B.S. spawns in June–July downstream of the Volga Hydropower Plant. There are no huge runs any more. Spawning takes place in June–July at water temperatures from 14 to 18–20°C, and fish eggs are laid mainly in the evenings. The growing roe and alevin are brought down the river by the flow. After spawning, many individuals die, while others run to the sea. A year later, up to 14–21% of the fish arrive for spawning the second time, but only 3% make it for the third time. Young fish spend 1.5–2 months

in the river, come in the pre-estuarine areas of the Volga in August–September and in November leave the Northern Caspian for the South.

The large and fat B.B.S. (zalom – “folded herring”) is the most valuable of the Caspian herrings in terms of nutrition.

“Black California” – the term that Russian officers in the late nineteenth century used to name the vast terrain on the eastern coast of the Caspian Sea because of its rich ozokerite deposits.

Black Cliffs – see *Neftyanye Kamni*

Black Gorge, Black Jaws – see *Kara-Bogaz-Gol Bay*

Black Lands – a part of the Near-Caspian Lowland between the Yergeni upland and the Stavropol upland on the one side and the Volga lower reaches and the north-western coast of the Caspian Sea on the other. This territory’s name is from the fact that during winter the lands are not covered with snow because of frequent thawing and strong winds blowing off the snow, thus exposing the land surface. L.N. Gumilev described B.L. as follows: “. . . because in winter a thin snow cover mixes with dust, black snowstorms are observed.” In 1910, M. Gavrilov, a water engineer working with the Kalmyk Steppe Department, wrote the following: “Black lands are no other than the old dunes and alluvial river deposits not covered with clay, but overgrown entirely with grass. They are called “black” because of their capacity (as any other sands) to be free of snow in winter, thus creating a possibility for the cattle to graze.” The vegetation here is of a semi-desert type. It is used as distant-grazing pastures in winter.

“Black Lands”, Biosphere Nature Reserve – established in 1990. It is located in the northwestern part of the Near-Caspian Lowland on the territory of two administrative districts – Yashkulsky and Chernozemelsky, Republic of Kalmykia. Its area is 94.3 thou ha with a buffer zone extending over 156 thou ha.

The nature reserve territory represents an undulating plain with the terrains of small-hummock and hummock sands deflated in some places and with weathering hollows. Widespread are desert, wormwood-soddy-cereal steppes where feather grass, black and white wormwood, leban, and chamomile grow. Communities of steppe-like meadows and solonchaks are also found. Rare species, such as Teliev blue cornflower, beautiful and Zalessky feather grass, Shrenk tulips, that were in the RSFSR Red Book grow here. The fauna consists of typical steppe and semi-desert species, such as stepperunner, randy, sand boa, glass snake, steppe viper, and Montpellier snake. Among mammals are the saiga, the brown hare, the eared hedgehog, the little gopher, the five-toed jerboa, the hairy-footed jerboa, the corsak, and others. Many birds, such as little bustard, bustard, white and Dlamatian pelicans, as well as fish such as sprat, bullhead, smelt, and others in the RSFSR Red Book were found here.

“B.L.” is Russia’s only area for study of the structure and dynamics of arid biocenoses. The main directions of researches are monitoring of the Kalmyk population of saiga, steppe eagle, demoiselle, and little bustard, the study of restoration

processes in ecosystems characterized by low biodiversity due to long-time anthropogenic impacts, and others. At the time of the nature reserve organization the saiga population was 160 thou. In 1993, the “B.L.” nature reserve was included into the world network of biosphere nature reserves and received international status. In 1996, it was allotted a part of the territory of the former federal natural preserve “Manych-Gudilo” with an area of 27.6 thou ha. A new territory of “B.L.,” which became its ornithological branch, is located 200 km from the main territory.

Black Storm – transfer of great quantities of dust from a soil surface devoid of vegetation by strong, dry winds. B.S. occurs in the Near-Caspian Lowland and in the south of the steppe zone of European Russia.

Blaramberg, Ivan Fedorovich (1800–1878) – of Dutch origin, he was born in Frankfurt-am-Main and graduated from the law department of Hessen University. In 1823, he went to Russia (Moscow) where he studied Russian and improved his knowledge of French literature, mathematics, history, and drawing. In 1824, he naturalized in Russia. He graduated from the Institute of the Railway Engineers Corps and took part in the Caucasus campaigns against highlanders as the General Staff officer. From 1832 to 1836, he completed an extensive description of the Caucasus. In 1836, he was awarded the captain’s rank. In the same year, B. took part in the expedition of G.S. Karelin to the southeastern shores of the Caspian Sea. B. was in charge of keeping records for this expedition. Together with G.S. Karelin, he prepared a detailed description of the eastern coast of the Caspian. Later, he was promoted to general. In 1850 in the Proceedings of the Emperor’s Russian Geographical Society, he published his “Topographical and Statistical Description of the Eastern Coast of the Caspian Sea from the Astrabadsky Bay to the Tyuk (Tyub) – Karagan Cape”. In 1853, he published in these Proceedings the “1836 Expedition Journal of Surveys of the Eastern Coast of the Caspian Sea” and “Statistical Review of Persia.” In his last years of life he published his “Memoirs,” which were translated from the German and published in Moscow in 1978.

Blended Crudes (Brent, Urals, Arabian, East-Texas, Nigerian) – selection of various crudes taken in a particular correlation from the fields in major oil-producing regions, on the strength of which the average price of crude recovered at these fields is determined at the international oil exchanges.

Blinov – an island in the delta front in the Obzhorovsky area of the Astrakhan nature preserve. It is overgrown with cane and cattail. These are continuous cane-cattail thickets flooded with water and extending for 10–15 km. In some places, where within the cane thickets some willow groves exist, small spots of “solid” earth can be found, but only during low-water periods.

Block Salting – chilled fish salting.

Bogaz – “neck” or “passage, strait” in Turkish; “mouth of a river, canal, gorge, narrow, narrow mountain passage” in Turkmen – from the latter is derived the Kara-Bogaz-Gol, a bay and strait of the Caspian Sea.

Bolda, Bolda System – the second largest (length of 74 km) channel in the Volga delta after the Buzan system. Though there are many channels, its hydrographic network is rather simple. It originates at the confluence of two channels on the eastern side of Astrakhan, and then it breaks into several arms, some of which reach the Caspian Sea. The main flow directions in this system are the Krivaya Bolda, Pryamaya Bolda–Bolshaya Bolda–Trekhozbenka with an outlet into the Tishkovsky canal; the Bolshaya Bolda–Bolshaya Chernaya (together with the Tabola from the Kamyzyak system)–Karalatsky bank, and the Rychan–Sukhoy Rychan with an outlet into the Tishkovsky canal.

Bolshaya Plita – an island located 5.3 km to the east of the southern tip of Artyom Island. It is a part of the Apsheron Archipelago in the Azerbaijan Republic and extends meridionally for 550 m. Its width is less than 180 m, and its elevation is not high. Its southern part is composed of sand, while the north is solid stone that gives the island its name. To the west of the island is a small bay that is well protected from all winds.

“Book for Big Drawing” – in 1552, the Tsar Ivan the Terrible ordered “the land to be measured and a drawing of the state made,” which gave rise to the mapping not only of Russia, but of contiguous territories. The “drawing” thus conceived provided a description (explanatory note) of the largest map of the Russian lands, which unfortunately has not survived to this day as well as a code of geographical and ethnographic information drawn up in 1627 at the time of Boris Godunov. Eight editions are still alive. It was published for the first time in 1773 by N.N. Novikov.

Borisova Bank – located near the western coast of the Caspian Sea, to the west of the Kurinsky Kamen Island. It is part of the Baku Archipelago, which was discovered in 1936 and was named in honor of V.V. Borisov, who in 1924–1941 carried out hydrographic investigations in the Caspian Sea and took part in academic expeditions on the study of Mertvy Kultuk Bay and Kaidak Bay. He lectured at the Caspian Higher Naval College.

Borodin Nikolai Andreevich (1861–1937) – an ichthyologist born in the city of Uralsk to the family of Sotnik (lieutenant) of the Ural Cossack troops. After finishing the Ural Military College (with a gold medal) in 1879, he entered Petersburg University (in 1879–1880 he studied in the mathematical department; from September 1880, in the natural science department). During his university years he was socially active. He joined the group “Yaik” that consisted of students who came from the Urals, the so-called “*zemlyachestvo*.” In late autumn, 1883, he joined the social-democratic group headed by D. Blagoev, the Bulgarian revolutionary. Even after Blagoev was exiled from Russia, B. did not stop his illegal activities

in this group. Having graduated from university (1885), he went to Uralsk where in May 1886 he was arrested, but was released in June.

During his university years, B. studied the problems of practical fishery. From the 1880s, he took part in the organization of ichthyologic investigations on the Ural River. In 1884, he conducted artificial fertilization of stellate sturgeon eggs. It was the first successful experiment of its kind in Russia. In 1885, he published the work, “Statistical Atlas of the Ural Cossack Troops.” At the First All-Russia Fishery Exhibition in Petersburg (1889), B. showed Emperor Alexander III the exhibits. In 1891, he published his fundamental work “Ural Cossack Troops: A Statistical Description,” which was timed for the 300th anniversary of the founding of the Ural Troops. Later on for this work the Emperor’s Geographical Society awarded B. with the gold medal in ethnography and statistics.

In 1891 B. was sent on a 2-year trip over the countries of Europe and North America to study ichthyologic stations. After 1891, he was the troop’s assistant on the Ural fishery, a position created specially for him. In 1894, B. published his booklet, “Fishing Rules for the Ural Cossack Troops.” Beginning from 1896 and every year thereafter, he conducted experiments on fertilization of sturgeons and stellate sturgeons and the growth of their fries in the Ural River. In the second half of the 1890s, following on an assignment from the Russian Fishery Society, B. initiated a wide-scale investigation of the sturgeon biology in the Ural River (he studied specific features of their propagation, provided a comparative assessment of egg hatching techniques, cross-breeding of fish). B. did much for fishery improvement in the Ural River and Caspian Sea. He may be justly called the first researcher of commercial fish in the Ural River. He was one of the first who advocated utilization of fish wastes that contained many valuable chemical substances, rational management of the sea and river wealth, and proved a possibility of artificial breeding of sturgeon (sterlet, stellate sturgeon). In his work, B. widely applied the experience of simple Cossack fishermen.

B. was engaged in study, systematization, and inventory of the ichthyofauna, fishing statistics, fishing methods and fish processing, the problems of a fish stock, biology of commercial fish, and fish farming. Although B. did not find ways of addressing many problems, his activities laid the basis for practical sturgeon culture in Russia. He developed a teaching on stage-by-stage fish evolution, which became the theoretical basis for elaboration of fry growing techniques. He was one of the first in the country to formulate the principal parameters of rational fishery. He consistently improved the biological technique of sturgeon farming in the Ural River. The results obtained by him were unique in the world biological practice of that time. They showed the possibilities of sturgeon fries growing in artificial conditions.

In 1899, B. moved to Petersburg where he took the position of the Chief Specialist in Fish Culture in the Department of Agriculture. In 1902, he was elected the Secretary General of the International Fisheries Congress held in Petersburg. From 1900 to 1904, he also studied such fishery regions as Azov-Don, Black Sea-Kuban, Amudarya, and Caspian.

In 1901, B. published his book “Ural Cossacks and Fishery”; established the newspaper “Uralets”; was the publisher and editor of the “Ural Review” and

“Cossack Troops Bulletin” (1901–1904); and worked with the “Russian Gazette” (from 1894) and “Our Life”. He was a member of the Duma, representing there the Ural Cossack troops (1906). In 1907 his monograph “Pond Fishery,” and in 1908 the book “Caspian Herring and their Fishing” were published. From 1908, B. worked with the Refrigeration Committee. He pioneered the application of artificial cold for storage and transportation of fish products. After 1910, he again returned to the Department of Agriculture and delivered lectures on fishery at the Petersburg Agricultural Courses. From 1911 to 1914, on an assignment from this department he went on several long trips abroad to study the fish industry in other countries. In 1915, he went to the USA with scientific purposes. During World War I, B. was enlisted by the government as a specialist on application of artificial cold for storage of perishable foodstuffs.

After the 1917 February Revolution, B. took part in the Cadet’s propaganda campaigns in Petrograd. In 1917, he was elected to the Constitutive Assembly from the Ural troops. After its dissolution in 1918–1919 he worked at the Ministry of Agriculture and represented the Ural troops in the Kolchak government. He also lectured at the Omsk Agricultural Institute. In April 1919, the Ministry of Agriculture delegated B. to go to the USA for procurement of agricultural machinery and equipment for agricultural educational establishments of Siberia. Having learned about the defeat of the Kolchak army, he decided to stay in America. In 1926–1927, he worked as the assistant-advisor in the Museum of Art and Science in Brooklyn. In 1927–1928, he became the assistant in the US Museum of Natural Science and then Curator of Fishes in the Museum of Comparative Zoology (Department of ichthyology). From 1928, B. worked at Harvard University where he was awarded the professorship (1931). In 1930, he published his memoirs called “Ideals and Reality,” describing the events of his life in the period from 1879 to 1919. He died in 1937 in Cambridge, Massachusetts (USA).

Borozdina – a large depression in the seabed in the Northern Caspian. For example – Ural B.

Bottomland Meadow – area between the Volga and Akhtuba rivers, dissected by a dense network of bypasses and lakes connected with them.

Bounding Embankment – the fencing of a location with local earth dams to prevent inundation with surface waters.

Brazhnikov’s Herring (*Alosa brashnikovi*) – large and medium-size fish that may be up to 50 cm long. It lives and propagates in brackish waters of the Caspian Sea, never running to rivers. This species has 8 subspecies of which two are most widespread over the whole Caspian, while six others are found only in the Southern and Middle Caspian. The most commercially significant are dolginsky, agrakhansky, and gassankulinsky herrings.

Breakwater – protection structure, both ends of which are not connected with the shore.

Breeze – the local wind caused by daily changes in heating and cooling of land and sea. It changes its direction twice a day. In the daytime it blows from the sea (sea breeze), while at night it blows from the shore (coastal breeze). On the Caspian Sea, it blows from May through September, while on the southern Iranian coast it blows throughout the year.

British Caspian Flotilla – existed in the period of the intervention against Russia in 1918–1920. The task of ensuring British domination on the Caspian was assigned to Commodore D.T. Norris, the head of the British Naval Mission. The Flotilla was created out of captured merchant ships onto which armaments were installed. The Flotilla included 9 re-equipped and armed merchant ships, 4 ships with hydroplanes onboard, and 12 high-speed torpedo boats of the Queen’s Fleet transferred to Baku from the Black Sea. The Flotilla ensured permanent links between the groups of British troops scattered in Baku, Petrovsk-Port, on Chechen Island, in Fort Aleksandrovska, and in Krasnovodsk. After withdrawal of the British troops from the Transcaucasus and Trans-Caspian, B.C.F. was passed under command of the armed forces of the south of Russia (commander – General A.I. Denikin) under the command of Rear-Admiral A.I. Sergeev. After the advance of the Red Army in April 1920 on the Caucasian and Trans-Caspian fronts and going out of the Soviet Flotilla to the Caspian Sea (from Astrakhan), Denikin’s fleet had to relocate to Anzali (Iran) where its Russian crew was interned by the British command in Northern Iran.

Broadland – long bay in a river formed by an outer spit separated from the banks (northern shore of the Caspian); river bay protected from ice drifts and winds on the Volga. A convenient site for wintering or permanent berthing of ships and the estuary of bypasses, old river channels, and other places protected from the ice drift. An artificial harbor for ship berthing and repair on the Volga.

Golden and Circum-Volga broadlands in Astrakhan, Torbeev broadland, and broadlands upstream of Akhtubinsk City.

Buddhism – one of the world’s major religions (together with Christianity, Judaism, Hinduism, and Islam). It was founded in Ancient India in the sixth to fifth centuries B.C.E. and is based on the teachings of Siddhartha Gautama who is known as the Buddha, literally the *Enlightened One* or *Awakened One*. B. spread across Southeastern and Middle Asia, partially in Central Asia and Siberia, having assimilated the elements of Brahmanism, Taoism, and others. In the center of B. is the teaching of the “4 noble truths”: suffering, the arising of suffering, the end of suffering, and the way leading to the end of suffering. In the course of B.’s development, it gradually shaped the cult of Buddha and Bodhisattvas (“enlightened”), rituals, Sangha (factions) and others. The life of Buddha became known in Ancient Russia by the text “Story about Barlaam and Josaphat”. Tsarevich Josaphat, whose prototype was Buddha, became a Christian saint, and his memory is commemorated by the Russian Orthodox Church on November 19. In the territory of the Russian Federation, B. is widespread in Buryatia, Tuva, Kalmykia (in the latter, this is the official religion).

Buinak Cape – located south of Makhachkala in the Dagestan Republic, Russia. It is a small but rather wide and uninteresting cape. The cape coast is flat and covered by scarce vegetation.

Buinaksk (formerly Temir-Khan-Shura) – a regional center in the Dagestan Republic. It is located 41 km to the southwest of Makhachkala. Its population is 61.1 (2009). It is the last railway station on the side-line of the Armavir–Baku line. There are two explanations concerning the origin of its name. In the Akushinski language, “*shuran*” means a lake. During construction of this fortified outpost, the Temir-Khan Lake was dried out (now there is a park in its place), thus, this fort (in 1866, it was granted the status of a city) got its name from this lake. At the same time, in the Dargini language “*shura*” means a cliff, Khan Timur Cliff. This dates back to the fourteenth century and is connected with the Tamerlane (he was also called Emir Timur, Timur, Timur the Lame) invasion, which made its camp in the place of present B.

In 1396, returning from his campaigns on the Golden Horde and Rus’, the Timur troops camped near a lake that was called later by local people “the Lake of Timur” – Temir-Khan-Shura. Soon after Timur with his troops went away, an *aul* (a village) appeared at this site. Later, the Avar-Kakhetin railroad connecting Dagestan with Georgia was constructed near this *aul*. In 1833, taking advantage of the beneficial geographical location near mountain passes into the internal regions of Dagestan, on the initiative of Colonel F.K. Klucki von Klugenau, it was decided to construct near a castle that should be a fortified outpost in the struggle against the highlanders here. And the Tamerlan Cliffs became the core around which the fortification was built; it was called “Kavaler-batareya.” The cannons were installed here because all surroundings were well-visible from this place. On March 30, 1834, following the highest order, the Kura chaser unit was dislocated in this castle as well as the headquarters of the Apsheron infantry regiment and military Governor. During the Caucasian War (1817–1864), the Temir-Khan-Shura castle withstood in 1843 the highlanders’ siege that lasted for nearly 2 months. In 1849 was the attack of horsemen of Hadji Murad. From 1847, Temir-Khan-Shura became the permanent residence of the civil commander in the Caspian area; in 1860, it became the center of the Dagestan Region; and in 1866, it was officially granted the status of a city. In spring 1918, Soviet rule was proclaimed in Temir-Khan-Shura, but in September 1918, it was captured by Dagestan counter-revolutionaries lead by Dagestan dictator Grand Duke Tarkovsky. On their command, in November 1918, Turkish troops went into Temir-Khan-Shura without any battle. Together with the Turks, the so-called government of the Republic of the Caucasus Mountain Peoples Union came to Temir-Khan-Shura. It declared the Turkish troops to be the troops of the Mountain Republic. The Turks were replaced with the British. For some time even the British diplomatic envoy to the Caucasus, Colonel Rowlandson, was removed from Temir-Khan-Shura. In March 1920, Soviet rule was reinstated in T.K.S., and in November 1920 at the meeting of the Dagestan people in T.K.S., the RSFSR government declared Dagestan autonomy.

In 1921, T.K.S. was renamed Buinaksk in honor of the revolutionary, Ullubiy Buinaksky (1890–1919). Until 1922, B. was the regional, then the republican center, and later on, the canton center.

After the end of the Caucasian war, the city attracted the attention of people of culture. T.K.S. was visited by many poets and novelists, such as A.I. Polezhaev, A.A. Bestuzhev-Marlinsky, artists F.T. Rubo, I.K. Aivazovsky, N.Ya. Yaroshenko, surgeon N.I. Pirogov, French novelist A. Dumas (father), Russian famous poet M.Yu. Lermontov (1840).

In the city can be found furniture, footwear, knitting, and garment factories as well as aggregate, instrument-making, tire repair, and canning plants. The Avarian dramatic theatre is here. The city was badly damaged during the disastrous earthquake of May 14, 1970. It has a functioning mosque and madrasa, both being the largest in the Northern Caucasus. B. is located in a climatic resort zone. The climate here is very warm and arid. The winter is not severe: the mean temperature in January is -2°C ; the summer is very warm and dry with a mean temperature in July of 23°C . Precipitation is 470 mm a year and falls mainly in the warm period. The climate is favorable for climatic treatment of various forms of tuberculosis.

Bukeevsy Orda (Internal Orda) – the Kazakh (Kyrghyz) khanate that existed as a vassal of Russia from 1801 to 1876. It appeared in the period of struggle for power in the *Mladshy zhuz* (old Kazakh clan). It got its name in honor of sultan (khan) Bukei Nuralimov. It was formed by the people from Mladshy zhuz (5 thou carts and about 50 thou people) that occupied the space extending between the Ural and Volga rivers in the so-called Ryn-sands and Naryn sands. They were allowed “to have camps on this side of the Ural River, between the Ural and the Volga, in order to find in the forest areas the most convenient places for camping in the wintertime.” The area of B.O. was 66 thou km^2 . In the east it bordered on the lands of the Ural Cossack Troops, in the west on the lands of state saltworks and Kundrovsky Tartars, in the north on the Saratov Province, and in the south on a band of state lands running along the Caspian coast. It was included into the Astrakhan Province.

Bulla – one of the biggest islands in the Baku Archipelago in the Azerbaijan Republic. It is located 13.3 km eastward of the Alyat Cape. It has an oval shape; its length is 2.5 km, and its width is 2.6 km. The shores of the island, except for the southwestern, are high and abrupt, surrounded by narrow sandy (in some places stony) beaches. It is covered by scanty desert vegetation. In geological terms, it is an ancient volcano with the first recorded major eruption in 1857 and the last major eruption occurred in 1940.

Bullhead-Bubyr (*Knipowitschia caucasicus*) – dwarf bullhead, up to 5.0 cm long. Occurs over the whole Caspian and in the lower reaches of all rivers. Of all bullheads it is the most euryhalinic form that is found both in fresh waters and in highly-saline sea water.

Bullhead Khvalynsky (*Neogobius caspius*) – fish species of a light-brown color. The male length is to 15.6 cm, while females are 8.5 cm; the females weigh 10.2 g, while males weigh up to 56 g. Its lifespan is 4 years. This is a marine species and it

does not go into rivers. Its habitation is mostly in the Middle and Southern Caspian. It propagates in the western part of the Middle and Southern Caspian. It feeds on fish, clam worms, mollusks, and crawfish.

Bullhead Neposledny (*Mesogobius nonultimus*) – fish species of a light-gray color. Its body length is to 15.1 cm. Its weight is 23.3 g. This is a rare species. It lives at great depths. It lays eggs in the coastal zones.

Bullhead-Tsutsik, Marble Bullhead (*Proterorhinus marmoratus*) – fish species up to 6.6 cm long and weighing 6.6 g. The lifespan is 2 years. It is found in many places in the sea, in the Volga, Kura, Ural, Kuma and Araks rivers, and also in Iranian rivers.

Bunkering – supplying vessels with fuel either in a port or when on sail. In the late nineteenth to early twentieth centuries, bunkering operations in the lower reaches of the Volga and in the Caspian Sea caused water pollution.

Buoy (Dutch “*boei*”) – a floating device that may have different forms and color for marking a maritime channel, supporting fishing nets, marking the location of underwater hazards (e.g. anchor), saving people (lifebuoy), and others. Sometimes lanterns together with internal power supply sources for additional devices for giving sound or radio signals are installed on B.

Bureau on Study of the Caspian Sea Currents – organized in 1924 within the framework of the Caspian Shipping Company in Baku. It was headed by N.N. Struisky. This Bureau has collected and processed a great number of observations over the currents using log books, “bottle mail,” instrumental measurements of currents on floating landings, and floating lighthouses. It existed until 1929.

Bus, Busa – in the fifteenth to eighteenth centuries, a vessel that sailed the Caspian Sea. It was mentioned for the first time in the Troitsky Chronicles (early fifteenth century). It has a sharp-bow, rounded-bottom, and road-board vessel with one sail. B. was equipped with spare ropes, anchors, and sails. B. was commanded by a serviceman. The crew consisted of a carpenter, two dozens shooters and gunmen, a helmsman, an ahead-looker, and a signal man. When going out into the sea, an experienced pilot was also taken on board in Astrakhan. B. had a considerable carrying capacity – more than 200 t. For defense purposes one or two cannons were installed on board. B. was constructed without iron nails; instead, pine or elm-tree spikes with rounded caps were used; instead of tar, long bast fibers were applied to bind together the deck boards. The spacing between them was stuffed with a flask tow or bast. B. was not very safe for sailing as it was not easily maneuverable. Usually B. lasted for no more than two journeys – from Astrakhan to Mangyshlak (or to Derbent and Nizabad) and back. After this, it demanded repair or a new vessel. In the seventeenth century, B. was used for merchant purposes.

Buzachi, Bozashchi – a peninsula in the northeastern part of the Caspian Sea in the Kazakhstan Republic. Its name is taken from the Kazakh “*bazashy*,” meaning

solonchaks covered by the steppe grass, suitable for cattle grazing. It is thought that “*buzachi*” was the name of some Turkmen tribes that roamed over the peninsula. G.S. Karelin noted that some time ago, B. was called Kolpin Kryazh which is connected with the Kolpins Islands that merged with B. In the south, the peninsula is traversed by hills, while in some places it is covered with ridge-honeycomb sands. The northern part is covered by extensive solonchaks. In the south, B. borders on the mountains of the Mangyshlak Peninsula. The B. area varies significantly depending on the water fluctuation in the Caspian. Many drainless sors 10–15 m deep are met. In the northwest of the peninsula, the beach ridges are 0.5–0.7 m high and beach dunes are striking.

Buzan, Buzan System – an arm separated from the Volga 46 km northward of Astrakhan; more downstream, it partially joins the Akhtuba farther on, breaking into several small channels. It flows into the Caspian Sea. Its length is 126 km. This is the largest riverbed system in the Volga delta. B.S. covers nearly half of the delta area and comprises nearly the half of all its water streams. It is fed by the Buzan arm, originating in the delta top and also by the Akhtuba and intermittent streams in the Volga-Akhtuba floodplain. Within B.S., the Volga waters run along the following main directions and waterways (from east to west): Buzan (and Akhtuba)–Kigach–Sumnitsa Shirokaya–Igolinsky bank; Buzan–Obzhorova arm; Buzan–Churka–Karaisky bank; Buzan–Sarbai–Malo-Belinsky bank; Buzan–Shmagina–Shaga–Bushma-Belinsky bank.

Buzovna – a sea climatic resort in Azerbaijan. It is part of the Apsheron resorts group. It is located on the northeastern coast of the Apsheron Peninsula, 37 km to the northeast of Baku with which it is connected by an electrified railroad. Its population is 25 thou (2008). The resort has a mild climate, warm sea, and sandy well-equipped beaches that are used for climatic-thalasso therapy. This resort offers iodide-bromine and sulfide baths with mineral waters from the Surakhan sources as well as naphthalan curative baths, etc. The resort provides treatment for people with diseases of the nervous system, locomotive system, lungs, and gynecological diseases. Sanatorium “Khazar” and a tourist area can be found here. A plant producing gas facilities and oil production are also found near B. Vegetables and melon crops grow here.

Buzun – an insoluble salt used in dishes with salty fish. For example, herring on buzun.