Tokbergenova A., Kiyassova L.,
Zulpykharov K., Kozhabekova Z.

Features of formation of landscape of the South-Kazakhstan region

The article considers the features of landscape formation of the South-Kazakhstan region. The landscape structure of the South Kazakhstan region is significantly determined by the latitudinal position of the territory, hypsometric differences and confinement to large geomorphological regions, such as the foothill plains and mountains of the Western Tien Shan, the raised denudation plain of Betpakdala, the sandy massifs of Kyzylkum and Moyynkum, the valley complexes of the Syr Darya and Shu rivers. The landscapes of the South Kazakhstan region are characterized by considerable diversity, high fragmentation and mosaic. According to bioclimatic differences in the territory of the region, a desert type of landscapes is singled out. In the article also considered climatic features of the Southern Kazakhstan area where four agroclimatic area was allocated. Distribution across the territory of the area of surface and underground waters features of soil and vegetation cover.

As a result of a research the main features of landscapes of the Southern Kazakhstan area are defined, spatial structures of landscapes are allocated.

Key words: landscape, landscape structure, territory, agroclimatic area, soil and vegetation cover, plain, plateau.

Токбергенова А., Киясова Л.,
Зулпыхаров К., Кожабекова З.

Оңтүстік Қазақстан облысы ландшафттарының қалыптасу ерекшеліктері

Бұл мақалада Оңтүстік Қазақстан облысының ландшафттарының қалыптасу ерекшеліктері қарастырылады. Оңтүстік Қазақстан облысының ландшафттық құрылымы аумақтың енділігімен, гипсометриялық түрлілігімен және тау беткей жазығы және Батыс Тянь-Шань таулары, көтерінкі денудациялық Бетпақдала жазығы, Құзылқұм және Мойынқұм құмды массиві, Сырдария және Шу өзендерінің аңғарлы жиынтығы сияқты ірі геоморфологиялық аудандарға жақындығымен анықталады. Оңтүстік Қазақстан облысының ландшафты әртүрлігімен, бөлінуінің көптілігімен және өрнектілігімен сипатталады. Облыс аумағында ландшафттардың шөл түрі биоклиматтық ерекшеліктеріне сәйкес бөлінеді. Сонымен қатар, Оңтүстік Қазақстан облысының климаттық ерекшеліктері, атап айтсақ 4 агроклиматтық ауданға бөлінуі, облыс аумағы бойынша жерасты және жерүсті суларының таралуы, топырақтық өсімдік жамылғысы ерекшеліктері қарастырылды.

Зерттеу нәтижесінде Оңтүстік Қазақстан облысы ландшафттарының негізгі ерекшеліктері анықталып, ландшафттардың кеңістіктік құрылымы көрсетілген.

Түйін сөздер: ландшафт, ландшафттық құрылым, аумақ, агроклиматтық аудан, топырақты-өсімдік жамылғысы, жазық, үстірт.

Токбергенова А., Киясова Л.,
Зулпыхаров К., Кожабекова З.

Особенности формирования ландшафтов Южно-Казахстанской области

В статье расматриваются особенности формирования ландшафтов Южно-Казахстанской области. Ландшафтная структура Южно-Казахстанской области определяется широтным положением территории, гипсометрическими различиями и приуроченностью к крупным геоморфологическим районам, таким как предгорные равнины и горы Западного Тянь-Шаня, приподнятая денудационная равнина Бетпакдала, песчаные массивы Кызылкум и Мойынкум, долинные комплексы рек Сырдарьи и Шу. Ландшафты Южно-Казахстанской области характеризуются значительным разнообразием, высокой дробностью и мозаичностью. Согласно биоклиматическим различиям на территории области выделяется пустынный тип ландшафтов. Наряду с этим были рассмотрены климатические особенности Южно-Казахстанской области, где было выделено четыре агроклиматических района, распределение по территории области поверхностных и подземных вод, особенности почвенно-растительного покрова. В результате исследования определены основные особенности ландшафтов Южно-Казахстанской области, выделены пространственные структуры ландшафтов.

Ключевые слова: ландшафт, ландшафтная структура, территория, агроклиматический район, почвенно-растительный покров, равнина, плато.

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[1*]Tokbergenova A., [1]Kiyassova L.,
[1]Zulpykharov K., [2]Kozhabekova Z.

[1]Al-Farabi Kazakh National University, Kazakhstan, Almaty
[2]South Kazakhstan State Pedagogical Institute, Kazakhstan, Almaty
[*]E-mail: aigul.tokbergenova@kaznu.kz

FEATURES OF FORMATION OF LANDSCAPE OF THE SOUTH-KAZAKHSTAN REGION

Introduction

As a natural system, each terrain has important properties: self-organization, self-regulation, and self-renewal – all of which facilitate sustainable development of an ecosystem and its ability to resist degradation and crisis processes. Sustainability of terrain is associated with the ability of its components to conserve their structure and function under external influences. (Laiskhanov S.U., et al. 2016:2469).

The territory of the South Kazakhstan region is characterized by a complex geological and geomorphological structure and is located within the eastern part of the Turan plate and the western spurs of the North Tien Shan fold system. The structural denudation plains are represented within the Betpakdal plateau.

The territory of the region underwent transformation during the entire geological period of formation of the Earth's surface. The oldest metamorphic formations of the pre-Paleozoic period are fragmentarily encountered within the axial parts of anticlinoria in the mountains of Karatau, Western Tien Shan.

On the design of the surface, most of the territory of the South Kazakhstan region belongs to the plain. In the central and south-eastern part of the region is represented by mountains. During the Mesozoic and Cenozoic, the flat part of the region underwent vertical oscillations, as a result of which the alternation of marine and continental deposits occurring on the folded Paleozoic base was observed (Kassin 194:169).

Field of study

The diversity of the physico-geographical conditions of the South Kazakhstan region (tectonic, geological-geomorphological, climatic, soil-vegetative), a considerable extent of the territory from north to south, predetermined a significant landscape diversity of the territory.

South-Kazakhstan region is completely included in the desert natural-geographical zone.

Materials and Methods of research

The study of the features of formation landscape of the South-Kazakhstan region was based on the following methods: comparative – geographical, spatial analysis method, descriptive, statistical. Information base of a research is made by references of scientific character.

Results and Discussion

The climate of the South Kazakhstan region is characterized by extreme heterogeneity, which is due to the intracontinental position of the territory, orographic conditions, significant latitudinal strike and openness of the territory from the north.

The climate of the region, especially in its plains is brightly continental, warm and dry. The average annual air temperature is positive and varies between 7.7 ° C in the north and 13.9 ° C in the south.

In winter, the territory of the South Kazakhstan region is under the influence of the powerful western spur of the Siberian anticyclone, which causes low cloudiness, a lowered temperature and elevated wind regime. Winter in the area is short, with frequent thaws, soft. The coldest month is January, the average air temperature in the north is -7.8 -10.9 ° C, reaching an absolute minimum of -38.0 ° C, and in the south it rises to -1.0 -2.2 ° C (Agroklimaticheskiy spravochnik po Yuzhno – Kazahstanskoy oblasti 1961:56) The significant temperature difference is explained by the fact that the northern part of the region is open to cold air masses, while the southern part (especially the intermountain valleys of the Western Tien Shan) is protected by mountain ranges.

The snow cover is insignificant and unstable (especially in the southern regions). In the north of the region, it lasts 2-3 months, and in the far south can be absent altogether. The average height of the snow cover in the north is 10-20 cm, in the foothills – 15-25 cm, and in the mountains 30-40 cm and more.

A warm period with an average daily air temperature above 0 ° C lasts 8 months in the northern part of the region and about 10 months in the southern part. The temperature transition through 0 ° C is observed from the end of the first decade of March in the north and the second decade of February in the south of the South Kazakhstan region. The period of active vegetation of agricultural crops occurs at an average daily air temperature above 10 ° C and is noted in the first ten days of March in the south of the region and in the second decade of April in the northern regions of the region.

The South Kazakhstan region belongs to areas of insufficient moisture, characterized by a low amount of precipitation and large amounts of evaporation. In the distribution of precipitation over the territory of the region, a large unevenness is observed, due to the complexity of the relief and a significant latitudinal strike. The general regularity is the increase in the amount of precipitation from the north-west to the southeast, which is associated with an increase in the relief in this direction.

In the territory of the South Kazakhstan region, four agro climatic regions have been identified (Agroklimaticheskie resursyi Chimkentskoy oblasti 1979:207).

1. A very dry, hot agro climatic region occupies the north of the South-Kazakhstan region and is separated from the rest of its territory by the mountains of Karatau. The area covers the Betpakdala plateau, the sands of the Moyynkum, the floodplain of the river. Shu. The sum of the temperatures above 10 ° C is 3600-3900 ° C, ATC = 0.1-0.3. Precipitation is small. So, for a period with a temperature above 10 ° C, the amount of precipitation does not exceed 45-125 mm. The area is poorly populated and little developed. Large desert territories of the region are used as spring-autumn and winter pastures.

2. Very dry and very hot agroclimatic area is confined to the valley of the river. Syr Darya, Syr-Darya plain, northern and northeastern part of the sands of Kyzylkum and the territory of the Hungry Steppe. The sum of air temperatures above 10 ° C is 4000-4600 ° C; ATC = 0.1-0.3. Precipitation during the warm period is not more than 60-150 mm. This region is characterized by the predominance of such agricultural specializations as vegetable growing and beef cattle breeding. In addition, the conditions of the southern part of the region are favorable for cotton growing.

3. Dry foothill area is confined to the ridges Karatau, Kar-Zhantau, Boraldaytau. The sum of positive temperatures above 10 ° C varies between 3300-4400 ° C; ATC = 0.3-0.5. The average annual rainfall varies between 500-600 mm and more. This area is recommended for rainfed and irrigated agriculture.

4. The mountain agroclimatic region includes the Karatau Range and the spurs of the Western Tien Shan. The sum of temperatures above 10 ° C is 3300 ° C and less, ATC > 0,5. The area is most provided with moisture. The average annual precipitation is 600-800 mm and more. The area is recommended for use as summer pastures and selective for farming.

The Early Holocene (11-7 ka) sees the establishment in south Kazakhstan of the modern desert and semi-desert zones (the last one expanded to the NE when compared to the modern one), followed on the north by open woodland; the Late Holocene sees the contraction of the semidesert and the substitution of the open woodland by the modern dry steppe and forest steppe zone.(Renato Sala, JeanMarc 2013:5).

Surface and groundwater. Geographical position, geological and geomorphological structure and peculiarities of climatic conditions in the South Kazakhstan region caused uneven distribution of surface and ground waters over the territory of the region. Nevertheless, among the regions of southern Kazakhstan, the South-Kazakhstan region is the most provided local water resources.

The surface waters of the study area are extremely unevenly distributed and belong to the Aral Sea basin. There are more than 135 rivers and temporary watercourses on the territory of the region (Water resources of Kazakhstan (reference book) 2002:305), which are confined mainly to mountainous and foothill areas. In the sands of Kyzylkum and Moyynkum, as well as within the Betpakdala plateau, there is no river system at all. The most developed hydrographic network in the central and eastern region of the region, where many small rivers flow from the Karatau ridge and the Tien Shan mountains. Opening of rivers from ice within the South Kazakhstan region is observed in the first half of February, and freezing in December.

The main waterway is the Syr Darya River, which in its middle reaches crosses the region almost in the meridional direction. Within the region the length of the river is 540 km. The Syr Darya originates in the eastern part of the Ferghana Valley on the territory of Uzbekistan and flows into the Aral Sea. The food of the river is snow, much less rain and glacial (Filonets P.P., Omarov T.R.1973:122). The area of the Syr Darya catchment area within Kazakhstan is 240 thousand square kilometers. Average long-term water discharge in the river. Syr Darya in the range at the exit from the Shardarya reservoir is 37 cubic meters. Km / year. The mineralization of water in the river varies between 0.7 and 2.5 g / l. The chemical composition of water in the river is due to increased dryness of the climate and human economic activity. Before the expansion of irrigation activity, the mineralization of water was 0.5 – 0.6 g / l and the chemical composition was bicarbonate calcium. At present, it has become sulfate with a predominance of sodium and magnesium ions.

The Arys River is the main tributary of the Syr Darya, originating within the Talas Alatau. Within the South Kazakhstan region, the river has a length of 378 km. The catchment area is 14 thousand square kilometers. The average long-term expenditure of the Arys River in the lower reaches is 36 m3 / s, the mineralization of water in the river does not exceed 1 g / l and the chemical composition is mainly calcium bicarbonate.

Most rivers (Kurkeles, Keles, Bugun) flowing from the southwestern slope of the Karatau range, have intermittent beds and, as a rule, do not reach the Syr Darya. These rivers feed mainly spring water; The mineralization does not exceed 0.3-0.5 g / l. The average long-term runoff is 0.96 cu. Km per year (Vodnyie resursyi Kazahstana (spravochnik) 2002:305).

In the north of the region the main waterway is the river. Shu. The area of the basin within Kazakhstan is 62.5 thousand square meters. Km. The length of the river is 800 km. The Shu River to the territory of the South-Kazakhstan region comes downstream, is characterized by a discontinuous channel and is lost in the sands of Moyynkum. The food of the river is snow and due to groundwater. The river runoff module on the plain does not exceed 0.5 l / s 1 sq. Km. Km. Mineralization of water in the lower reaches is 1.5-2.3 g / l, which corresponds to the brackish water category. The chemical composition is sulfate-calcium and sodium (Semenova M.I. 1959:45). In the territory of the South Kazakhstan region there are about 25 lakes of various sizes. Almost all the lakes are inactive and are characterized by a sharp fluctuation in the water level and increased mineralization. The largest lakes are Akzhar, Kyzylkol, Kaldykol, Shevykbeldy and a series of lakes near the village of Suzak (Filonets P.P., Omarov T.R.1973:122).)

Lake Kyzylkol is the deepest in the region and is located west of the village of Kumkent. The area of the lake is 16.2 square meters. Km, the maximum depth varies within 8 meters, the volume of the water mass is about 60 million cubic meters. M.

For the generation of electricity, irrigation of sown areas and water supply of industrial centers, artificial reservoirs have been built on the territory of the South Kazakhstan region. At present, there are 24 operating reservoirs on the territory of the region. The largest in the region is the Shardara reservoir, used for generating electricity and irrigation and located in the Shardara, Saryagash and Maktaaral districts in the middle reaches of the Syr Darya River.

In the South Kazakhstan region, a network of irrigation canals is widely developed to provide water to agricultural areas, the largest of which are the Arys-Turkestan Canal (200 km long and usable capacity 97.8 million cubic meters), Dostyk, Kyzylkum, Big Kele, and others. (Sostoyanie ispolzovaniya vodnyih resursov Yuzhno-Kazahstanskoy oblasti 2000:26).

Thus, at present the value of total water resources in the South Kazakhstan region in the average water year is 17.95 cubic meters. Km / year, which is only 3.34 cu. Km / year accounted for local runoff, which indicates the dependence of water availability of the South Kazakhstan region on the Republic of Uzbekistan.

Differences in the geological structure, geological and geomorphological conditions (the presence of mountain ranges, foothill plains and large intermountain depressions), the dismemberment and drainage of most of the territory of the South Kazakhstan region have caused the uneven distribution of groundwater.

According to hydro geological zoning, the western, southern and central part of the South Kazakhstan region belongs to the Syr Darya complex basin of reservoir and block-layered non-pressure and pressure waters. The main groundwater resources within the flat part of this region are concentrated in the Neogene-Quaternary and Upper Cretaceous aquifer complexes. The basins of fractured and fissured-karst groundwaters are associated with mountain systems, and the paleogene, Paleozoic and Carboniferous deposits are aquiferous complexes (Akhmedsafin U. M. 1952:89.)

In general, in the territory of the South Kazakhstan region, the territory where the main population, including rural, is concentrated, is provided with diluted groundwater resources, which are the main source of drinking water supply.

Features of soil and vegetation cover. The nature of spatial spillover processes predominantly linear and locally-areal. This zone is confined draw-polyline plains consisting of stratified loam, sandy loam, sand with oneyearthistle-agricolo-shrub, sagebrush-golfinopoulou, oneyearthistle vegetation on meadow-gray soils and saline solonetzes and solonchaks meadow, ephemeral, ephemeral-wormwood, sedge-keyreu plants on takyr soils, ephemeralmint-flavored -sedge, oneyear-ephemeral-grass vegetation on the light gray soils of thesouthern light.(Nyussupova G.N., Tokbergenova A.A., Zulpykharov K.B. 2016:130)

The soil-vegetation cover within the South Kazakhstan region is distinguished by a significant diversity due to the diversity of the relief and frequent changes in the litho logic composition of the soil-forming rocks. According to natural and climatic conditions, the territory of the South Kazakhstan region is divided into a desert plain and mountainous zone, characterized by a wide range of vertical zonality, manifested in differences in soil and vegetation cover.

For the high-altitude nival belt within the heights of more than 3800 m (within the Ugamsky and Talas ranges), the absence of soil cover is characteristic. Vegetation is represented by scale lichens and single pillow-shaped ones.

For the highland zone within the South-Kazakhstan region, the alpine and subalpine belts are distinguished. The Alpine belt extends within the limits of absolute marks of 3000-3800 m. The soil-vegetation cover has a fragmentary distribution. The soil cover is represented by mountain meadow and mountain meadow-steppe alpine primitive soils, on which sparse low-grass alpine meadows formed by various species of fescue, alpine meadow grass, Timothy alpine meadow, alpine vampire, forget-me-not, capote, primrose, rhodiola and other brightly formed Blooming species (Zhikhareva G. A., Kurmangaliyev A. B., Sokolov A. A. 1969: 411).

The high-mountain subalpine belt is located within the absolute altitudes from 2400 m to 3000 m. The soil cover is formed by mountain meadow-steppe subalpine soils with predominance of low-grass meadow subalpine vegetation with a projective covering up to 80% (Karta rastitelnosti Kazahstana i Sredney Azii M 1:2500000, 1995:165. Popov M.A. 1940:102). On the southern slopes there are areas occupied by low-grass fescue steppes with a projective coverage of up to 60% on mountain-steppe subalpine soils. Fragmentary within the zone under the curls of the archaic elfin, the mountain dark subalpine soils develop.

For the mid-mountain zone located within the absolute marks 2000-2400m (the Karzhantau ridge, the Dzhabagly ridge, the Ugam ridge, the central part of the Karatau range), the predominant soils are mountain brown and much less – mountain gray-brown soils.

To the slopes of the northern exposure to the mountain brown soils are archaeological woodlands formed by archa of the hemispherical, thalassian, Turkestan and shrubby-wood communities formed by the spiree of wild beast, various kinds of honeysuckle, cotoneaster, apple, hawthorn, almond, etc. In open areas, meadow-steppe herbage-grass communities are not very common (Steppe Timothy feather, Asian oyster, Dzhungarian foxtail, Common

acuminate, Veronica long-leaved) (Sobolev P.A. 1966:201).

On the southern slopes on mountain gray-brown soils shrubs with significant participation of grassy-coarse-grained communities formed by grasshoppe, barley are formed. In the herbage, the participation of savannoid herbage increases: species of ferula, eremurus, elecampane, St. John's wort, zizifora, etc .; From shrubs prevail spiraea, honeysuckle, rosehip (Pochvennaya karta Kazahskoy SSR, M.1:250000. 1976:132)

Within the lowlands, especially in the area of the southwestern ranges of Karatau and Aksu, landscape-forming importance belongs to mountain gray-brown soils. The vegetation cover has a more gradual character, which is manifested in the increase in the composition of the grass stand of the participation of xerophytic species.

High foothill plains within the South Kazakhstan region are confined to absolute elevations of 800 – 1200 m and border the ridges of the Western Tien Shan and Karatau. The soil cover in the upper part of the foothill plains is represented by gray-brown soils formed on loesslike loams and in some places, Paleogene-Neogene loose deposits (Semenova M. I. 1959:45.)

The natural vegetative cover in these landscape-ecological conditions is represented by so-called coarse-grained semi-savannas (Popov M.A. 1940:102), which consists of wheatgrass, ephemera and ephemeroids (bluegrass, bulbous species, euglops). As part of the grass stand, large-scale trawls (eg, elecampane, Ferula Karatava, Regel's eremurus, species of Zopnik and Astragalus) are of great interest. The herbage is characterized by a considerable height of plants, reaching more than 100 cm high and a significant projective covering (up to 90%).

In the intermountain valleys of North Karatau within this belt there is a notable significant participation in the herbage of Artemisia Karatav, which is an endemic species. On the depressions and along the watercourses the distribution of mixed-grass communities on meadow and meadow-gray-brown soils is characteristic.

The lower part of the foothill zone is characterized by a significant variety of landscape-ecological, geological and natural-climatic conditions, which causes a variety of soil-vegetation cover. The foothill plains of the Western Tien-Shan and South Karatau, located to the south-west, west and north-west of the city of Shymkent, are characterized by a hilly-ruggedly undulating terrain and absolute elevations of 300-600 m. In the soil cover, the common southern grey land predominate, which are formed on loesslike loams. The vegetation cover is represented by herbage-ephemeroid communities with insignificant participation of shrubs (dog-rose) and wormwood (Sobolev P. A. 1966:201). Spring annuals and perennials are formed by bluegrass bulbous, owl, various kinds of fire, egilops, poppies, etc. Various herbs are formed by high-grass species (psoralea, bindweed). The height of the prevailing species does not exceed 30-40 cm, nevertheless, the projective coverage is significant and amounts to 80%. On meadows and in river valleys meadow-grey land soils with grass-mixed herbs are common.

The hilly-rimmed foothill plains located to the southwest of the North Karatau Range and the lower parts of the lower reaches of the Northern Karatau Range are characterized by the prevalence in the soil cover of common northern grey lands, which are provincial analogues of common southern grey lands (Zhikhareva G.A., Kurmangaliyev A.B., Sokolov A.A. 1969:411). In the study area, the common northern normal grey lands are distinguished, eroded and underdeveloped. The wormwood-ephemeroid communities are confined to the first; the projective covering and species composition vary from the degree of erosion or full-profile.

To the south of the city of Arys and to the west, up to the Arys-Syrdarya ancient alluvial plain, there are gently sloping foothill plains formed by ephemeroid-ephemeral communities on the gray soils of the light southern regions. In the composition of vegetation, significant participation belongs to bluegrass, malcolma, velcro. Species of ferul, keireuk are rare. Projective coverage of the grass stand is insignificant and amounts to 50-60%. The height of the grass stand is on the average 20-25 cm.

To the north of the town of Arys the foothill plains are characterized by a flat relief, prevalence in the soil cover of grey land of light northern with ephemeral-wormwood communities. Of wormwood, landscape-forming are white earth, finely divided, and citrine. Large herbs, such as ferula, shaira are represented fragmentarily (Semenova M. I. 1959:45.)

In the north of the region within the Betpakdala plateau, landscape-forming importance belongs to the gray-brown soils of light mechanical composition, dominated by black-beetle, turanopolynnoye and locally Keireukovo-saxaul vegetation.

The Aeolian plains in the region are represented by the sands Moyynkum and Kyzylkum. For the sands of Moyynkum, flat and ridge-hilly sands with worm

wood-saxaul and psammophyte-nokustarnikoy vegetation are characteristic. In places of close groundwater occurrence there is a significant participation of meadow communities formed by reindeer, reed and other species (Pochvennaya karta Kazahskoy SSR, M.1:250000. 1976:132)

Within the sandy massif of Kyzylkum, hilly and ridge-hummocky sands with wormwood, psammophyte shrub, white salsaul and sedge vegetation predominate. In the depressions of the relief, patches of takyrs and solonchaks are fragmentarily distributed.

On solonetzes of desert, fragmentarily located on the territory of the South Kazakhstan region, biorgun, saltworm communities with a projective covering of no more than 35-40% and height of the grass stand no more than 15-20 cm are common.

In the valleys of the Syrdarya and Shu rivers in meadow, meadow-bog soils and meadow solonchaks, cereal, halophytic-grass, azhrek, shrub, tamarisk, halophytic-salt and other communities predominate. Biorgun, wormwood, communities on solonetzes of desert and takyr-like soils are confined to raised deserted areas (Zhikhareva G. A., Kurmangaliyev A. B., Sokolov A. A. 1969:411).

The spatial structure of zonal landscapes. The landscape structure of the South Kazakhstan region is significantly determined by the latitudinal position of the territory, hypsometric differences and confinement to large geomorphological regions, such as the foothill plains and mountains of the Western Tien Shan, the raised denudation plain of Betpakdala, the sandy massifs of Kyzylkum and Moyynkum, the valley complexes of the Syr Darya and Shu rivers. The landscapes of the South Kazakhstan region are characterized by considerable diversity, high fragmentation and mosaic. According to bioclimatic differences in the territory of the region, a desert type of landscapes is singled out (Geldyieva G.V., Veselova L.K.1992:125). On the basis of morphostructural features, in the territory of the South Kazakhstan region, the plain and mountain classes of landscapes are distinguished. Differences in the structure of the relief within the first-order morphostructures, the nature and the degree of vertical and horizontal dissection, allowed sub-classes in relatively flat, relatively elevated plains and hummocky terrains to be distinguished among the flat landscapes. For mountain landscapes, high-altitude, middle-mountain and low-mountain subclasses are distinguished. In the landscape structure of the South Kazakhstan region, about 80% of the territory belongs to the flat class, with landscapes of relatively lowered and relatively elevated plains occupying a dominant position.

Landscapes relative to the lowered plains in the territory of the South Kazakhstan region are widely distributed and are represented by accumulative landscapes of lacustrine, lacustrine-alluvial, alluvial, alluvial-proluvial, deluvial-proluvial, eolian plains.

Landscapes with respect to elevated plains in the South Kazakhstan region include denudation structural strata and socle plains and plateaus located in the north, in the central and eastern parts of the region, and in the nature of the relief they are flat, wavy, and hilly-rimmed.

Plain hummocky terrains landscapes in the South Kazakhstan region are tectonic-denudation, erosion-denudation and are insignificantly represented in the east and southeast of the region. According to the nature of the relief, the low-mountain plains are subdivided into ridge and adyrian (hilly-ridged) valleys.

Mountain landscapes in the territory of the South Kazakhstan region are low-mountainous, medium-mountainous and high-mountainous and confined to the central and south-eastern part of the region.

Conclusion

The formation of valley natural complexes of the South Kazakhstan region is caused by geological and geomorphological features of river valleys, the hydrological regime of the rivers themselves, channel processes underlying the formation of the main elements of the river system (river valleys, interflow channels, channels, meanders, and old people). On the territory of the South Kazakhstan region, the valley landscapes of the Plain part of the region are confined to the Syr Darya, Shu, Arys, Badam, and other rivers.

Valley complexes, confined to Mountain Rivers, have limited distribution in the southeast of the region. As a result of a research the main features of landscapes of the Southern Kazakhstan area are defined, spatial structures of landscapes are allocated.

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