

Brief information about the project

Name of the project	AP19579264 «Territorial analysis of the territories of the Semipalatinsk test site for the creation of an adaptive-landscape system of agriculture»
Relevance	<p>The anthropogenic load on the soil cover, agrolandscape and the biosphere, which has increased over the past century, largely undermined normal conditions for their sustainable functioning. He provoked a few regional and global nature management crises. One of the most dangerous are the regional agroecological problems of mass land degradation, the deterioration of their ecological state and functional capabilities. In some cases, they have already reached the level of anthropogenic desertification or sharp narrowing of the soil-agrolandscape base of sustainable functioning and the development of local communities and entire agricultural regions. One of these areas can be attributed to the territory of SIP. The territories where nuclear explosions were carried out will not be used at all, since their pollution level is very high. In this regard, the sections returned under the conservation program of SIP requires a detailed territorial analysis to create an adaptive-landscape farming system (ALFS) using GIS and remote sensing. Scientific results may well be used for such work in other regions of Kazakhstan as a methodological foundation.</p>
Purpose	Territorial analysis of the territory of the Semipalatinsk test site (STS) for the creation of an adaptive-landscape system of agriculture when returning the territory of the test site to economic activity under the conservation program using GIS and remote sensing.
Objectives	<p><i>The task of 2023 is:</i> the scientific basis of agriculture systems; Search and preparation and digital cartographic materials: the creation of a digital basis of the geoinformation system (GIS) of the object of research and the formation of a geodata base; analysis and selection of space shots for landscape mapping; Analysis of the landscape structure of the territory.</p> <p><i>The task of 2024 is:</i> the study of the methodology of conducting a territorial analysis of the territory for the introduction of the ALFS; Morphometric relief analysis; compilation of the soil and geomorphological map of the object of research; compilation of surface waters and irrigation systems of the object of research; Compilation of a map of the vegetation cover of territories; Drawing up a landscape map of the studied territory.</p> <p><i>The task of 2025 is</i> landscape-ecological planning of the studied territory; development of the foundations for the creation and design of the ALFS; Development of the main direction of the development of sustainable land use based on the ALFS.</p>

Expected and achieved results	<p>2023: foreign works of agricultural landscape research for the creation and design of ALFS will be studied; a geodata database of the research object will be developed based on topographic maps and satellite images; an analysis and selection of remote sensing data will be carried out; the landscape structure of the territory with a description of the NTC will be studied.</p> <p>2024: foreign methods of conducting territorial analysis for the introduction of ALFS will be studied; a geomorphological study will be conducted with the study of quantitative characteristics of landforms; several thematic maps of the object of study will be compiled: soil, geomorphological, surface waters and irrigation systems, vegetation cover based on satellite images and landscape.</p> <p>2025: in the process of implementing the task, a territorial analysis of the territory will be given for the purposes of creating the ALFS; the main directions for the development of sustainable land use based on the ALFS will be developed</p>
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List of publications with links to them	
Patents	-



