

"The first industry-based and leading in the industry — we honor tradition, form reality and are confident about the future"

The main areas of VNIGRI's researches, studies of petroleum potential and opportunities of CO₂ storage

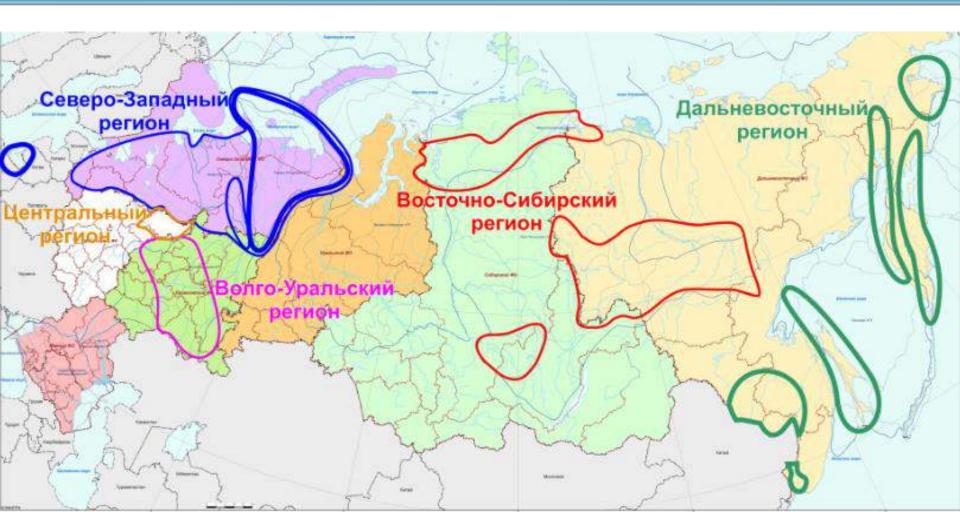
Regions of Russia, supervised by VNIGRI within ROSNEDRA



VNIGRI was founded in 1929 as the first oil geological center of Russia



VNIGRI – first Institute, began researches on CCS



The Institute conducts researches in the following areas:



Complex regional exploration work in order to create models of regional petroleum-littlestudied areas:



Development and improvement of methods to quantify the resource and geological and economic evaluation of different scales of oil and gas facilities, methods for assessing the effectiveness of geological exploration, localized resources and assess the potential zones of oil;



Unconventional sources of hydrocarbons, unclaimed as well as reserves as a reserve resource base of hydrocarbons;



Work on the modeling of oil and gas systems (including the creation of geological and geological-geophysical models) and the development of methods of geochemical forecast oil and gas potential;



Maintenance of parametric and exploration drilling (stratigraphic, lithologic, downhole geophysical, petrophysical);



Scientific support of exploration work: monitoring, analysis and generalization of the materials in order to develop recommendations for further effective implementation of exploration for oil and gas;



Innovative development of new methods and techniques of search and study of hydrocarbon accumulations, approaches to the assessment of hydrocarbon accumulations in low permeability reservoirs (shale).



Researches on CCS.

Researches of geological objects for CO₂ storage.

Strategic directions:

- ✓ Participate in the development of «The long-term program of reproduction of mineral resources base of Russia» Ministry of Russia;
- ✓ Proposals for updating the «The Energy Strategy of Russia for the period up to 2030», including section about CO₂ sequestration;
- ✓ Program «The integrated development of hydrocarbon resources of the North-West region of Russia»;
- ✓ Concept of formation of the state reserve deposits of strategic minerals.

VNIGRI's researches of CO₂ storage



1960 - geological study and evaluation of underground space in order to create storage of natural gas and industrial waste







1975 – explore the possibilities of CO₂ injection for enhanced oil recovery in oil fields



2008 - search for traps for CO₂ storage under the Kyoto Protocol

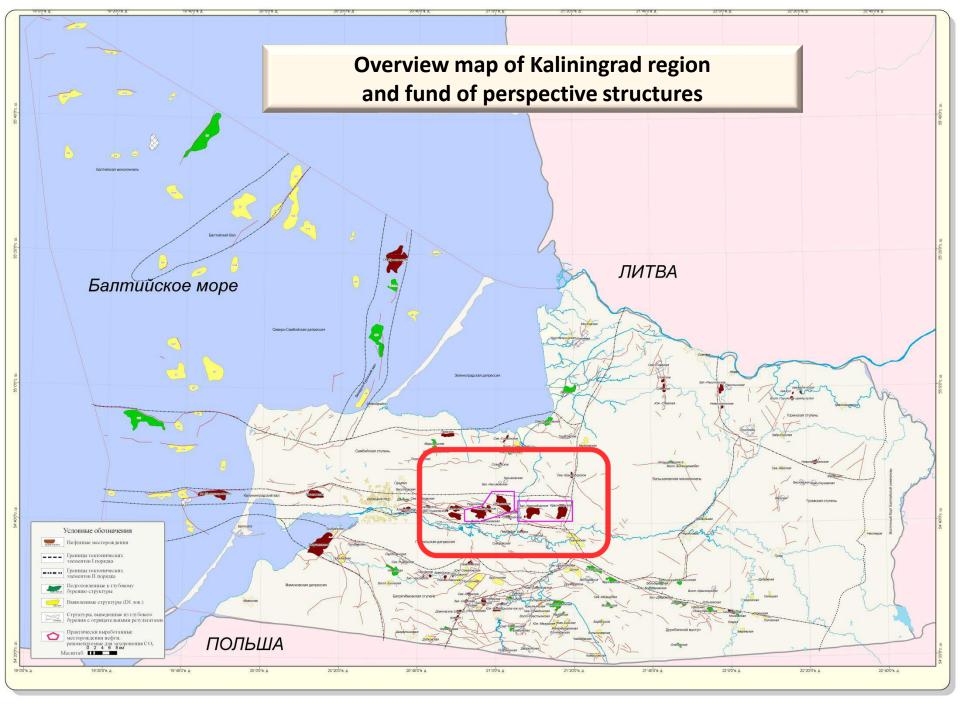


Since **2011** VNIGRI has been the main Institute on subsoil use, geological evaluation and environmental monitoring in the North-West and the Baltic Region

The results of researches on the Baltic Sea region and the Kaliningrad region

Overview map of Kaliningrad region and perspective objects for CO2 storage





Capasity of poral area in extract objects

			,		•
Deposit	Oil-bearing area th. m ²	Oil-contain depth (effective), m	Exposed porosity	Capacity of poral area, mln m ³	
Krasnoborskoe	8 887	16,4	0,14	20,4	
Zapadno-Krasnoborskoe	7 136	16,2	0,14	16,2	\(\frac{1}{2}\)
Deiminskoe	5 403	8,3	0,11	4,9	Хрустальн
Malinovskoe south part	2 182	7,2	0,13	2,0	1
Malinovskoe north part	5 640	11,6	0,13	8,5	~~
	Total:			52,1	вя депрессия
Калининградский вал	Beconoscido	Самбийская ступень		Гаевское Гальская Гаршальская	СевДарасовская СевСлавинское ВостСлавинская ЮжПолесская Славинское Нахимовская ЗапНахимовская
Балтийск		КАЛИНИНГРАД	дачная Сес. Исаковска Исаковска Алешкинское ЗапУц	кое Ушаковское Рощинс иаковское	кая Дейминское ЗапКрасноборское Красноборо Малиновское Олич-миское ЮжОлимлийское пмалиновская
Man 1	Прибрежна Мабушкинское	Голубевская	Прегольск	ая депрессия	Гваровійскі Раппное Рейная Суворовская

WEB-application of geological exploration for oil and gas producing regions



VNIGR offers:

Functions:

Modern and multifunctional information
WEB-application, which includes geological
and geophysical mapping and database for
the Timan-Pechora and the Baltic Sea region
that can be used to map the traps for the
geological storage of CO₂



Graph-mapping of data



Attributive information search



«Smart» filter of objects by geological criteria, or based on random settings and circuits;



Modern statistical module that allows to receive all necessary information on drilling and geological and geophysical knowledge of the selected area



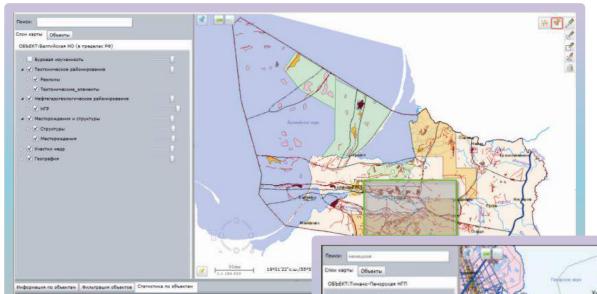
A rich «bank» of bitmaps having areal binding (structural maps on the main reflecting horizons: facies maps, maps boundaries of oil and gas complexes, etc.);



Monitoring the status of the license agreements of all subsoil users in the selected subject of the Russian Federation;



Printout generated from the given query and selected attributes map.



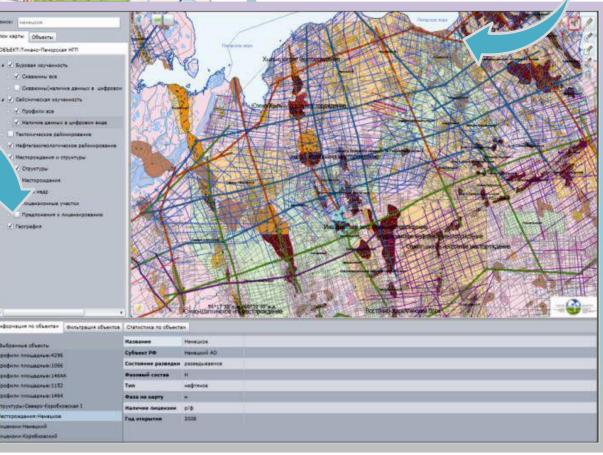
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An example of the work of the statistical module for a given territory

Example of work attributive title search field. Graphical display of geological and geophysical data

Графический фильтр=3249.22 кв.км. МЕСТОРОЖДЕНИЯ Количаство объектов і 28 (61,9 кв.кн.)

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Thank you for attention!