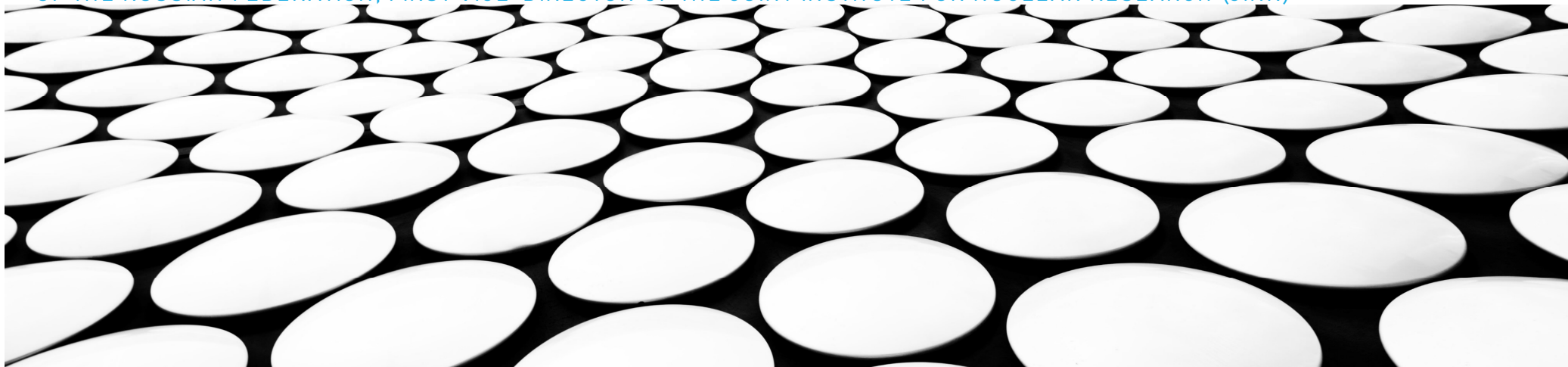

«RUSSIA **CLIMATE CHANGE RESEARCH** AND INTERNATIONAL COOPERATION PRIORITIES»

GRIGORY TRUBNIKOV

SPECIAL REPRESENTATIVE FOR INTERNATIONAL COOPERATION OF THE MINISTRY OF SCIENCE AND HIGHER EDUCATION
OF THE RUSSIAN FEDERATION, FIRST VICE-DIRECTOR OF THE JOINT INSTITUTE FOR NUCLEAR RESEARCH (JINR)



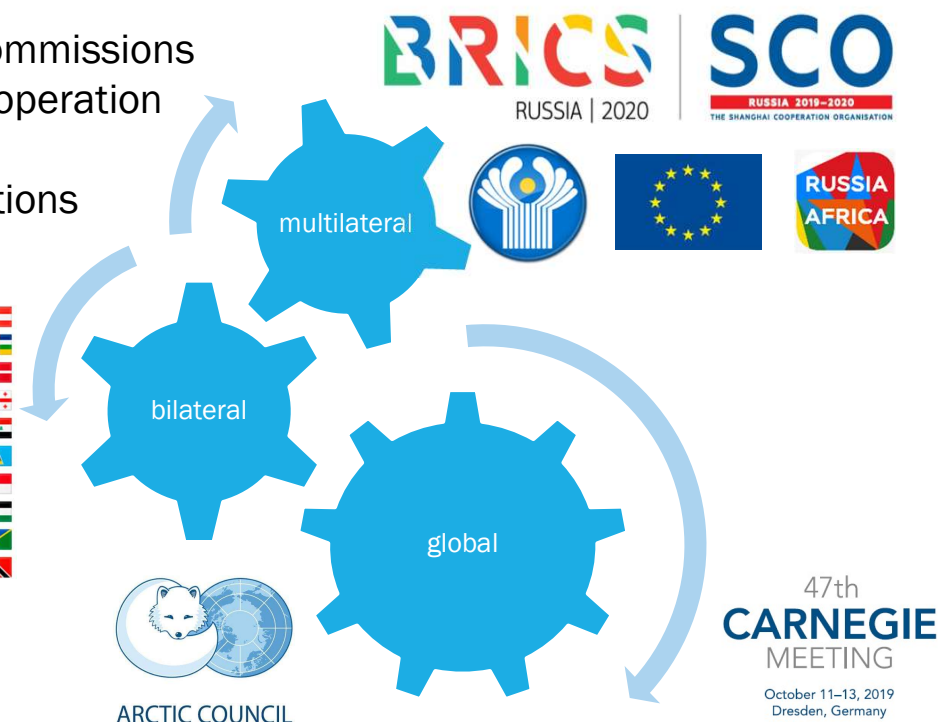
EU & Russia Climate Change Research and Innovation Priorities
Opportunities for Cooperation under the Horizon 2020 European Green Deal call
WEBINAR | Wednesday, 16 September 2020



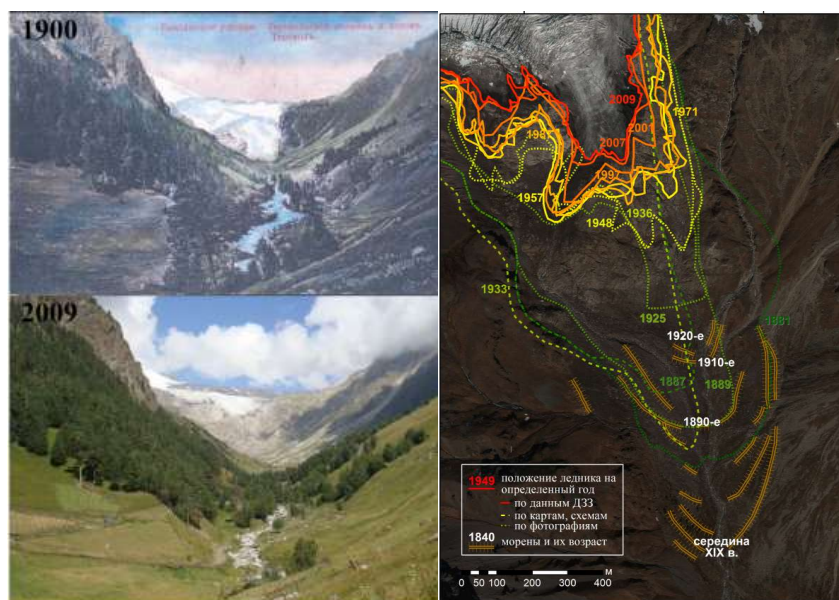


TIERS OF INTERNATIONAL COOPERATION IN THE FIELD OF CLIMATE RESEARCH

- > 20 intergovernmental commissions
- > 14 working groups on cooperation in science and education
- > 25 multilateral organizations



RUSSIAN STUDIES ON CLIMATE CHANGE MONITORING



Terskol glacier, Solomina et al., 2016

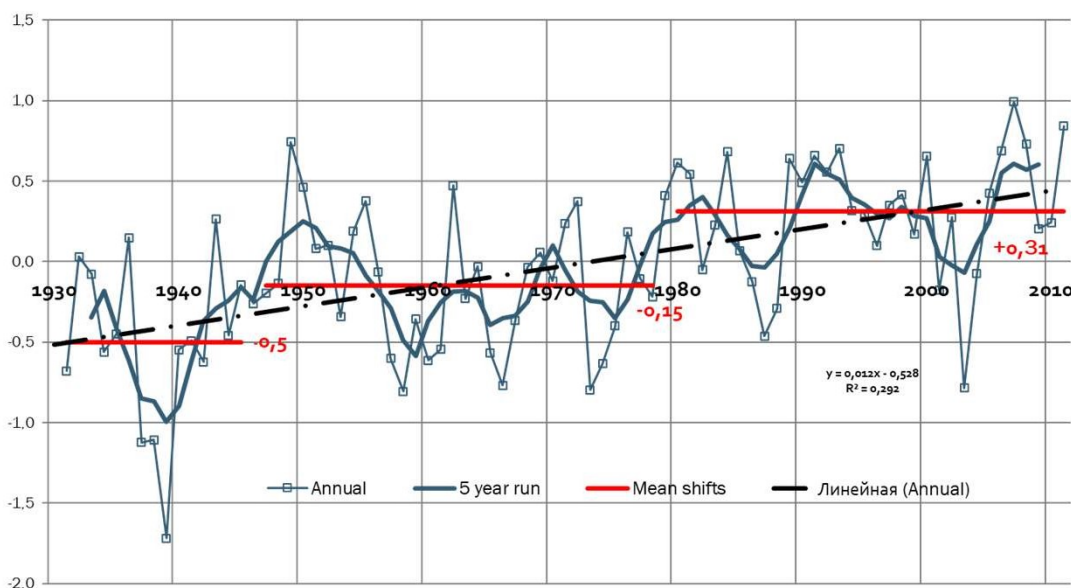
Glacier changes in the Caucasus

- The general retreat of glaciers began at the end of the Little Ice Age (from the 1840s).
- Since the maximum of the Little Ice Age, the length of the glaciers has decreased by more than 1000 m
- In the XX century the decline of glaciers was interrupted by periods of stabilization and slight increase in glacier mass in the 1910s, 1920s and 1970s-1980s.
- Over the past 500 years, the climate and glaciers in the Alps and the Caucasus have changed almost simultaneously.

RUSSIAN STUDIES ON CLIMATE CHANGE MONITORING



Soil temperature at a depth of 3.2 m in Central Yakutia



Over the past 15 years, there has been an increase in destruction of the shores of the Arctic seas

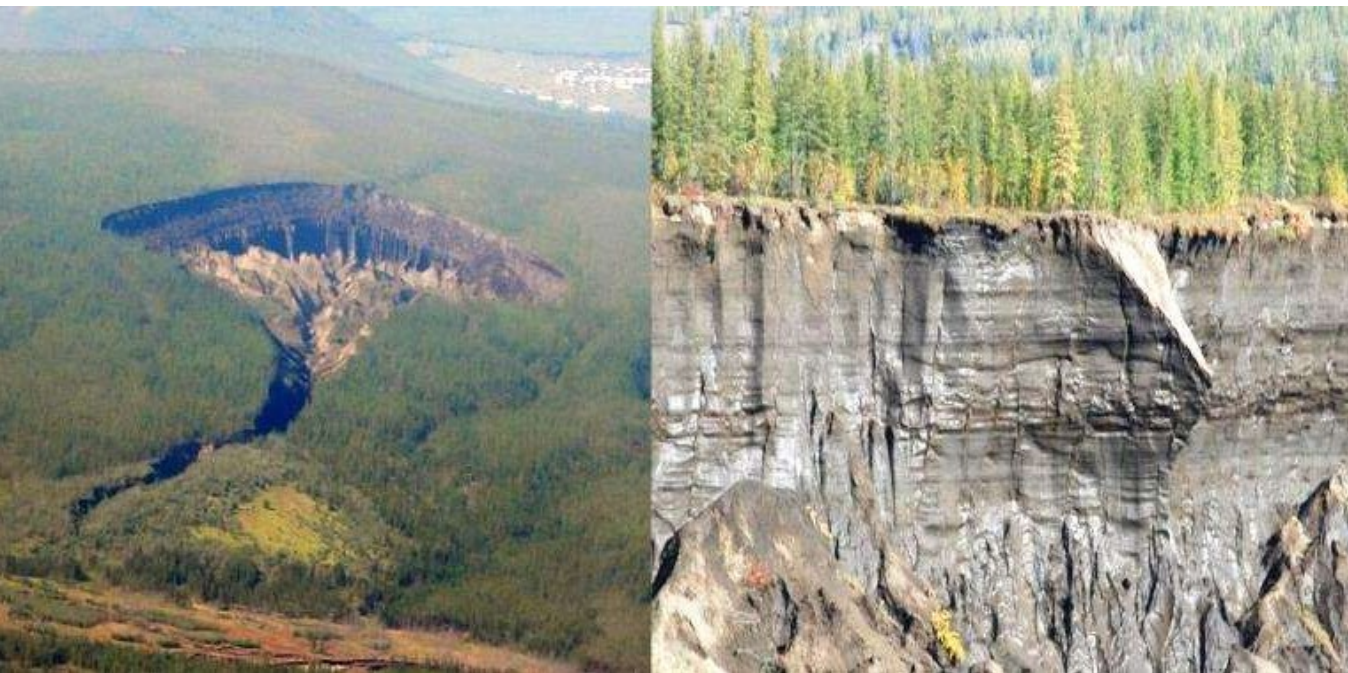


- area of lost land in the coasts of the seas of Eastern Siberia: on average 10-11 km² per year
- removal of sediments from the coast:
 - the Laptev Sea - 62 million tons (1.6 million tons organic carbon, OC),
 - East Siberian - 90 million tons (2.4 million tons of OC)

RUSSIAN STUDIES ON CLIMATE CHANGE MONITORING



Cryogenic phenomena in the ice complex
Batagay failure



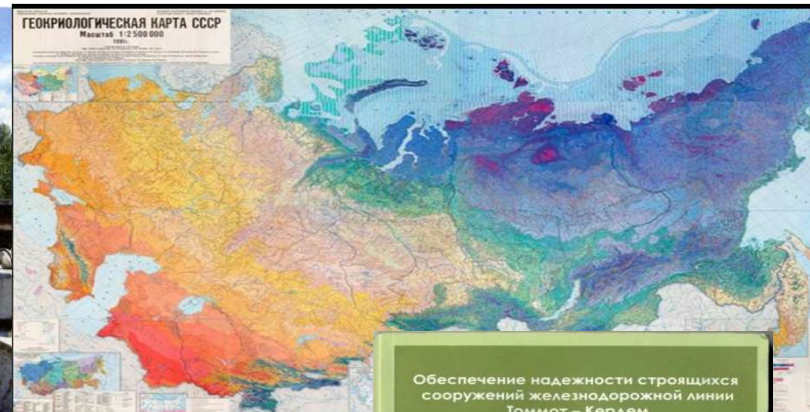
Heaving mounds



RUSSIAN STUDIES ON CLIMATE CHANGE MONITORING

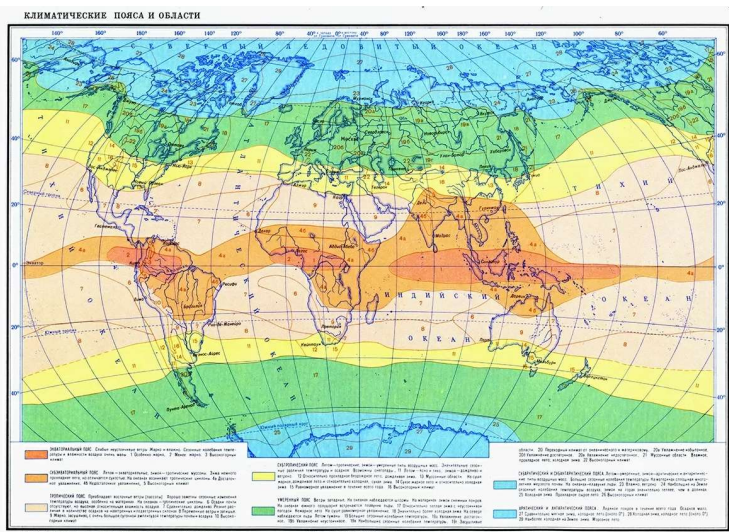


Deformations of the roads and railroads (in Russia, in Mongolia, in China)



- Stability of railroad Tommot-Kerдем in the interval of ice complex // conference September, 11- 12, 2007, Yakutsk;
- Kondratyev V.G. Cryogenic risks and resources of railways in permafrost // Tenth Int. Conf. on permafrost (TICOP). Volume3. - Tyumen, Pechatnik, 2012, p. 235-240.

PRIORITIES AND CURRENT DIRECTIONS OF CLIMATE RESEARCH OPINION OF SCIENTIFIC EXPERTS



- 1. Research on factors affecting climate change, climate monitoring.
- 2. Research and development in the field of conservation and rational use of biological resources.
- 3. Development and improvement of predictive models of climatic changes, hazardous and catastrophic natural phenomena.
- 4. Development of methods for assessing the socio-economic consequences of climate change and the development of measures to adapt society to these changes.

RUSSIA'S FUNDING INSTRUMENTS FOR INTERNATIONAL PROJECTS (IN CLIMATE RESEARCH)

Projects in climate change research supported under the Federal Target Programme and Horizon 2020

- 13 projects
(3 implemented, 10 ongoing)
- 9 Russian and more than 50 worldwide scientific institutions take part in multinational consortia
- Total funding:
more than 11 million EURO
(over 3 million EURO – RUS funding,
over 8 million EURO – EU funding)

Some of the key projects:

BLUE ACTION

iCUPE

TILDA

Sum
forest

CIRCASA

INTAROS

HotSolute

APPLICATE.eu
Advanced prediction in
polar regions and beyond

DD-MET

- State Program of the Russian Federation "Scientific and Technological Development of the Russian Federation (Ministry of Science and Higher Education of Russia)
- *from 2014 to 2020, joint calls within the framework of the Federal Target Program" Research and Development in Priority Areas of Development of the Scientific and Technological Complex of Russia"*
- Russian Foundation for Basic Research (RFBR), including ERA.Net Rus +
- Russian Science Foundation (RSF)
- Fund for Assistance to Small Innovative Enterprises in Science and Technology, including ERA.Net



We would like to learn and know details: the EU's understanding and approaches to the concept of "cross-border tax" (drafting of RUS law on monitoring and state regulation of greenhouse gases).

NEW PROJECT: A CARBON-FREE ARCTIC STATION " SNOWFLAKE" (SNEZHINKA)



- "Snezhinka" is the first of its kind in the world, a year-round and fully autonomous complex, created on the basis of hydrogen energy and renewable energy sources (wind / sun), without diesel fuel.
- Project title in the Arctic Council is "Arctic Hydrogen Energy Applications and Demonstrations" (AHEAD).
- Russia and international partners will demonstrate in practice the cleanest energy technologies in the world, which are already becoming the basis for a new technological order of the 30-40s of the 21st century.
- Total construction area is approx. 4500 square meters, which will comfortably accommodate at least 80 guests for long-term residence and work, incl. for long-term scientific Russian and international experiments



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