Nenets

Region,

Taimy

peninsula

Automonous

Automonous

Region

Arctic heatwaves

Automonous

Region, Taimyr

peninsula

2 in every 3 years

particularly in





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Thawing permafrost and **Russian Arctic** infrastructure

Thawing of near-surface permafrost will damage infrastructure. The map below shows future geohazard potential for permafrost in the Russian Arctic. It is a visualisation of where infrastructure may be in danger of damage, from low risk (yellow) to high risk (red).

Permafrost describes water which has become trapped and frozen in soil, sediment, and rock pores for at least two consecutive years. 65% of the Russian Federation is permafrost*.

Thawing permafrost can result in significant impacts to industrial activity and settlements in the Arctic.

Nearly 50% of oil and gas fields in the Russian Arctic are located in areas where permafrost thaw could seriously damage infrastructure by 2050.

Representative Concentration Pathway (RCP) describes the concentration of greenhouse gases in our atmosphere. Our future pathway might be the RCP 4.5 projection, leading to a global temperature rise of between 2°C and 3°C by 2100. This will have a devastating impact on the landscape of the Russian Arctic. It is hoped that progress made at COP26 in Glasgow will lead to RCP 2.6, which might be achieved with enhanced ambition and

eported by Diana Magnay, Sky News Moscow correspondent, in the article The Big Thaw

As the frozen layer of permafrost thaws the ground deforms, warping critical infrastructure such as telegraph poles, internet cables, buildings, and oil pipelines.

One solution has been to insert metal pipes along the perimeter of buildings to freeze the soil in the summer and maintain stability.

Okrug An administrative district or region in the Russian Federation

political action.

The Yamalo-Nenets Autonomous Okrug (YaNAO) is the larger of the two adjacent autonomous areas and has some of the world's largest natural gas fields. In spite of the okrug's rich natural resources it remains hampered by environmental degradation from thawing permafrost, with poor transport infrastructure

and dilapidated housing.

Heatwave frequency is projected to increase dramatically. In the 2050s, it is likely that the YaNAO will experience heatwaves twice a year, in spring and summer.

LAPTEV SEA

presenting much earlier signs of global warming** than other central and eastern parts of the Russian

The Nenets Autonomous Okrug (NAO) is

MANIFOLD INCREASE particularly in Nenets and Automonous Region and

Chukotka

Arctic. The coastal region of NAO is considered high risk for infrastructural damage due to thawing permafrost.

In NAO, there has been a marked increase in the incidence of heatwaves. Many now occur much earlier in the year. In the 1990s they were recorded once every 3-5 years in the spring, however between 2006-2015 they increased in frequency to about

once every 2 years. BARENTS:SEA KARA SEA

High risk SEA OF **OKHOTSK**

Medium risk Low risk

The associated AHRC-funded research project brings together researchers from the UK (Universities of Birmingham and Manchester) and Russia (Higher School of Economics, St Petersburg) in order to explore the development of Soviet climate science post-1945, with a particular focus on the debates concerning humankind's influence on climate systems and on Soviet contributions to related international initiatives.

KAZAKHSTAN

WWF is the world's leading independent conservation organisation. Our mission is to create a world where people and wildlife can thrive together. To achieve our mission, we are finding ways to help transform the future for the world's wildlife, rivers, forests and seas. Dr Alexey Kokorin Head of the Climate and Energy Programme at WWF-Russia contributed to developing the content of the poster.

MONGOLİ*A*

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