Moscow climate change

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We are facing unprecedented challenges. Russia"s Prosecutor General"s Office has designated The Moscow Times as an "undesirable" organization, criminalizing our work and putting our staff at risk of prosecution. This follows our earlier unjust labeling as a "foreign agent."

These actions are direct attempts to silence independent journalism in Russia. The authorities claim our work "discredits the decisions of the Russian leadership." We see things differently: we strive to provide accurate, unbiased reporting on Russia.

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Climate change has serious effects on Russia"s climate, including average temperatures and precipitation, as well as permafrost melting, more frequent wildfires, flooding and heatwaves. Changes may affect inland flash floods, more frequent coastal flooding and increased erosion reduced snow cover and glacier melting, and may ultimately lead to species losses and changes in ecosystem functioning.[1]

Russia is part of the Paris Agreement that the rise in global average temperature should be kept way below 2 ?C. Since Russia is the fourth-largest greenhouse gas emitter in the world,[2] action is needed to reduce the impacts of climate change on both regional and global scale.

At present, the average annual temperature in the western regions of Russia rises by 0.4 - 0.5 ?C every decade.[15] This is due to both an increase in the number of warm days, and also a decrease in the number of cold days, since the 1970s. The occurrence of extremely hot days in the summer season has increased over the past 50 years, and the number of summer seasons with extremely hot days between 1980 and 2012 has doubled compared to the preceding three decades.[16]

Patterns in precipitation changes are harder to identify, on average, increases in annual precipitation (7.2 mm/10 years) between 1976 and 2006 were observed in Russia in general. However, differing regional patterns have also been observed.[20] A clear pattern is an increase in spring precipitation of 16.8mm per decade in Siberia and western parts of Russia, and a general decrease in precipitation in eastern regions.[20]

Satellite observations of the changes in sea ice cover have shown a steady decrease in sea ice over the last 20 years, especially in the Arctic.[20] The ice cover of rivers in the Baltic Sea drainage basin of Russia has also decreased over the last 50 years. The duration of river ice cover in the area decreased by between 25 and 40 days on average. Similarly, ice cover thickness has also decreased (by 15 - 20%) over the second half of the 20th century.[16]

As a consequence of increasing temperatures and changing precipitation patterns, glaciers in Russia have been reduced by between 10 and 70% over the second part of the 20th century. The differences in rate of glacier changes depend on specific local climatic dynamics.[22]

The Arctic, which forms a large part of the territory of Russia, is particularly vulnerable to climate change and is warming much more rapidly than the global average.[16] See also: "Climate change in the Arctic".

Climate change and the associated temperature increases will also heighten the intensity of heat waves in Russia. Extreme heat waves such as the one that hit Russia and eastern Europe in 2010 (the hottest summer in the last 500 years in this region) will become more likely, leading to an increase in the associated heat-related deaths and economic losses.[25]

Overall, climate change will lead to an important reduction in snow cover in most areas of Russia.[19] The projected increase in winter precipitation in most parts of the country will be mainly due to rain, reducing the snow mass and increasing winter runoff. Meanwhile, in Siberia, the increased precipitation is expected to fall as snow, however this will lead to accumulation of snow mass in winter followed by rapid melting in the spring, increasing the risk of floods.[19]