



Fighting Wildfires in Russia: Climate Risks and Recommendations for their Prevention and Reduction

Policy Paper
Climate Justice Project

Prepared by
Maksim Rebechenko
And Crude Accountability

2023

About the Author

Maksim Rebechenko is an environmental activist with a focus on wildfires and climate change. Rebechenko was actively involved in the development of fire volunteering in Russia, creating mechanisms to respond to and prevent forest fires. Additionally, he collaborated with several international environmental funds and organizations, which are currently prohibited in Russia. Unfortunately, due to these circumstances, Rebechenko had to leave the country. However, he is now continuing his impactful work in Kazakhstan, engaging in similar efforts to protect the environment.



Contact: rebechenkom@gmail.com

About the Project

Addressing Climate Change and Human Rights in the OSCE Region is a project by Crude Accountability in partnership with the Climate Justice Working Group of the Civic Solidarity Platform. The project aims to explore the impact of climate change and environmental degradation on communities within the OSCE region and strengthen civil society's role in addressing climate change issues and ensuring the protection of human rights in the OSCE region.

For more information on the project, please visit Crude Accountability's website at <https://crudeaccountability.org/what-we-do/climate-justice/expert-recommendations-for-the-osce-on-climate/>.

About Crude Accountability

Crude Accountability is a non-profit organization committed to defending the human rights and environment of communities affected by oil and gas development in the Caspian and the Black Sea regions. Crude Accountability works to hold governments and corporations accountable for their actions and advocate for sustainable and just energy practices.

About Civic Solidarity Platform

About Civic Solidarity Platform is a network of human rights NGOs, activists, and experts from across Europe, the Caucasus, and Central Asia. The platform collaborates to promote and protect human rights, democratic principles, and civil society participation within the OSCE region.

Summary

Wildfires are among the gravest environmental issues facing not only Russia but also the entire world. Wildfires pose a significant hazard to the ecological balance, human life and property, and regional economic development. In addition to the direct effects on nature, human life, and health, forest fires have a significant negative climate impact.

This paper provides an analysis of the wildfire problem in Russia. Two important aspects of the briefing are the history and challenges of official and volunteer activities that have become a critical component of fire suppression and prevention in modern Russia. We review the climate impacts of wildfires and offer policy advice to prevent and reduce their risks.

What is Happening with Wildfires in Russia?

In Russia, over the past two decades, the average annual area of wildfires has covered 8.9 million hectares, according to ISDM-Rosleskhoz (Russian State System for Monitoring, Registration and Analysis of Wildland Fires). This is an area roughly the size of Portugal. It is noted that only fires occurring on forest fund land, i.e. on the lands determined by the Russian Federation's laws to be used for growing forests, have been factored into the equation. Fires in other wildland areas are not fully included.

Area Affected by Wildfires, RSFSR/RF, thsnd ha

Forest fire burned area, in thsnd ha

Non-Forest fire burned area, in thsnd ha



This graphic of wildfire areas from 1985 to 2018 shows a general upward trend. The number of years with climatic anomalies, such as droughts and temperature extremes, is also increasing, which is a main driving factor for growth in wildfire areas. As seen in the graphic, between 1985 and 2000 (15 years), there were only four years in which fire burned areas exceeded 1 million hectares. Between 2000 and 2018, there were 15 such years. Two reasons can be identified here: climate and organizational issues.

Key Issues

1. Climate Issues

Changes in climate create conditions for wildfire (but do not cause them). Over the years, they occur with increasing frequency, immensity, and devastation. Rising temperatures, heat waves, and dry weather encourage combustion of vegetation, and this leads to even larger and more uncontrollable fires. However, the influence of natural factors on wildfire occurrence is minimal; in 90% of cases, fires are of human origin. The active use of burning in agriculture and forestry, exacerbated by rapidly changing climatic norms (drought, abnormal heat in northern regions), results in an increase in the occurrence and destruction of wildfires.



Wildfire in Karelia, Russia. Image courtesy of Adobe Stock

Factors that affect climate change due to wildfires:

- Carbon Dioxide: During wildfires, vast amounts of carbon dioxide (CO₂) are emitted into the atmosphere. Enormous amounts of CO₂ emissions occur when forests and peatlands burn. Peatlands are significant sources of carbon, and when they burn, all the carbon is released into the atmosphere. Carbon is also generated after fires: partially burned trees rot, decompose, and release CO₂. Depending on the region, CO₂ emissions after fires can be greater than during the combustion itself. CO₂ is one of the major greenhouse gasses, and its increased presence in the atmosphere contributes to accelerating the greenhouse effect and global warming. Total annual carbon emissions from wildfires account for about a quarter of those caused by burning oil, coal, and gas.
- Black carbon: Black carbon, or soot, from wildfires is one of the largest drivers of global warming. Soot is fanned by wind over long distances, so the black carbon from a Baikal wildfire can reach the Arctic and land on its ice. The polar ice caps play an important role in cooling the planet by reflecting the sun's rays. However, when the ice is covered with soot, it begins to melt, reflecting less solar energy. This leads to the shrinking of the ice cap extent, contributes to global warming, and causes further ice melting.
- Forest destruction: Forests play a vital role in absorbing and storing carbon dioxide, which is beneficial for the climate. Boreal forests in Russia and Canada, known as the taiga, are of particular importance. In Russia, the amount of forests burned annually is three to four times greater than that of legally or illegally deforested lands. Fire-damaged forests are weaker, take longer to recover, absorb less carbon dioxide, and release less oxygen, which does not help slow climate change.
- Soil degradation: Frequent fires kill beneficial soil micro-organisms and destroy nutrients. The forest does not fully recover after a fire, and with persistent fires, it can stop growing. This causes soil erosion and desertification. Such processes threaten the planet's biodiversity and climate, as these lands cease to absorb carbon dioxide, which leads to its increase in the atmosphere and, respectively, increased warming.

According to BP's "[Statistical Review of World Energy 2021](#)," climate damage from wildfires in Russia exceeded the emissions from its entire energy industry by 31%. It is noteworthy that not all fires are included in the official statistics. However, in 2020, for the first time in the modern history of Russia, a full assessment of all wildfire areas was carried out. Greenpeace Russia staff and volunteers used satellite data and compiled a special map (*the link is no longer available* - ed.), which shows all the fires that occurred in the country during that year. The total area of wildfires in Russia in 2020 amounted to 25.84 million hectares, which is 1.5% of the total area of the Russian Federation. [Official government data](#) for 2020 indicated 16.5 million hectares.

Thus, wildfires not only accelerate climate change with their emissions into the atmosphere, but they also destroy natural areas that could help us cope with climate change.

2. Organizational Issues

One of the main problems in this area is serious underfunding. [According to experts from Greenpeace Russia](#) (the link is no longer available - ed.), 1.5 billion dollars are required annually for effective wildfire suppression and proper prevention throughout the country. The budget for 2022 was only \$200 million, more money than has ever been allocated for this sector in the history of The Russian Federation. Furthermore, this budget is expected to be further reduced as this field is not a priority for the Russian authorities.

Another problem is the lack of flexibility in the national management system of wildfire protection. The graphic above shows that climate change poses new challenges virtually every year. Between 2000 and 2022, wildfire-affected areas were less than 1 million hectares only three times. All other years set new negative records. The wildfire season runs from the first detected fire of the year to the last one. Since 2017, this season in Russia has lasted from 340 to 365 days a year. Such duration is due to Russia's vast territory: while its central part is covered with snow, its south and far east face raging wildfires.

Government agencies must be able to adapt and vary their practices to better extinguish the wildfire areas, however their response to climate change is not prompt enough.

If the budget for tackling the wildfire problem increases substantially, then there will be a problem of mismatch in competencies of managers. From 2019 to 2021, after a series of catastrophic forest fires and human losses, the government was actively allocating funds to suppress wildfires in the regions, most of which was spent on new firefighting equipment. Sometimes, such equipment was really needed, but in most cases there was a "budget absorption" practice in the public sector of Russia, i.e. funds were allocated, something had to be purchased, and it was. Then that equipment was just parked in garages and not used. This is an example of incompetent specialists.

Underfunding and key decisionmaking by people without proper competence in this area have led to another serious problem – that of "control zones." These are areas where wildfires are not suppressed if the cost of such an operation exceeds the potential damage from it. If a fire occurs in a control zone, regional authorities can decide against fire suppression for its economic inexpediency and not allocate funds for this. Obviously, such a decision is not made automatically: the regional emergency commission meets and makes a decision on a case-by-case basis. This category of fires used to be routinely omitted in the reports.

Existing Zoning Scheme

Protected area - 1 144, 8 mha



Marked in green – forests in ground protection zone – 80.4 mha

Marked in orange – forests in aviation protection zone - 1 064,4 mha

Marked in black – including forests in “control zones,” not actually extinguished – 561,2 mha

Fire suppression system: history and present

It is important to consider how the forest fire suppression system works (the term “wildfires” is used in the Russian expert community). Let us turn to history for this. Early in the 20th century, Russia was a world leader in creating special forest firefighting units, as well as in developing a system of aviation forest protection and delivery of firefighters to a fire site by air transport. The US and Canada learned from their Russian counterparts in this area.

In Soviet Russia, the forest was seen as an important resource, so no expense was spared to protect it. An extensive network of forest firefighting bases was established, and a huge fleet of aircraft was set up to suppress fires and deliver specialists to emergency sites. However, after the collapse of the Soviet Union there was a decentralization of the forest firefighting system. Bases and aviation equipment were

subordinated to regional authorities, and significant cuts in budgets and salaries led to the drain of personnel and failure of most equipment. An important factor worsening the situation was the Forest Code (2006), which resulted in a layoff of 100,000 forestry workers. Today, the Russian forest fire protection system, once a world leader and innovator, has become a severely underfunded structure that is struggling to prevent further degradation.

Additionally, there is no unified system for wildfire suppression in Russia. Each agency is responsible solely for suppressing wildfires on its territory. Overall coordination of firefighting actions can be ensured only in case of emergency declaration in a region.

There are different types of land:

- Federal forestry lands, where fire suppression is administered by the Ministry of Natural Resources and Environment of the Russian Federation; this ministry is also in charge of 'hotshot crews'. Today, their number amounts to about 5,000 persons. These are the best trained and best-paid wildland firefighting crews in the country.
- Forestry lands of regional importance, where fire suppression is administered by constituents of the Russian Federation. Each region has its own forest firefighting crews with lower salaries and, accordingly, less training.
- Lands of Specially Protected Natural Areas (SPNA), including nature reserves, national parks, and wildlife sanctuaries. Fires on these lands are put out by SPNA staff.
- Military forestry lands, where fires are put out by firefighters of the Ministry of Defense.
- Agricultural land and land for settlements not included in the above categories. Fire suppression in such areas is the responsibility of the Emergency Ministry of the Russian Federation (EM), they are in charge of city firefighters and local volunteer firefighters (these are mostly formal register or local administration employees without experience, equipment, and competence in wildfire suppression).

No doubt there is cooperation among various agencies and they seek help from each other, but most often only when a situation has become catastrophic. The financial issue is also very important, since the requested assistance should be repaid from the budget of the ministry or region, and not everyone can afford it.

Volunteer fire movement

Large fire disasters in Russia have always caused a significant public outcry. In such situations, spontaneous groups emerged, rendered assistance to those affected, and participated in extinguishing wildfires. However, once the emergency was over, such groups mostly ceased their activities.

Until 2010, only two organizations were engaged in a systematic solution to the problem of wildfires in Russia, and then only in certain outstanding natural areas. These were "[The Nature Protection Squad of](#)

[the MSU Faculty of Biology](#),” active in the Moscow region, and “[The Society of Voluntary Forest Firefighters](#),” which operates in the Leningrad region and the Republic of Karelia in northwestern Russia.

Between 2010 and 2019, the situation changed dramatically, and the number of organizations and volunteer groups that systematically deal with this problem increased to 20. This is due both to the frequent occurrence of natural disasters caused by wildfires, and to the intensive systematic work of the [firefighting department of Greenpeace Russia](#) (*link unavailable* - ed.). Not only the term “[voluntary forest firefighters](#)” appeared, but formal signs of a social movement as well, where various groups of volunteers and environmental organizations, without a single management structure, work according to unified standards and methodologies for reducing wildfires.

Greenpeace fire department experts developed special training courses for volunteers, organized training camps, and supported various initiatives with grants and equipment. All those who have gone through this experience become the best-trained and most competent volunteers in fighting wildfires. At critical moments, they come to the aid of government officials or protect valuable natural areas.

Importantly, not all groups see themselves as eco-activists and not everyone sees the connection between wildfires and climate change. Of the 20 organizations, only 8 are systematically working to reduce the number of wildfires. And since the main driver causing wildfires in Russia is human activity, the focus is put on changing public opinion. In 2018, a [sociological survey was conducted](#) (*link unavailable* - ed.) among people over the age of 18, in which 51% of respondents stated that wildfires were caused by the sun. That is, despite the fact that 9 out of 10 fires in Russia result from human causes, citizens do not attribute their actions in nature to the occurrence of fires.

Parallel to this movement, there are so-called “official volunteers” operating within the framework of the Law on Volunteer Fire Service. In addition to suppressing wildfires, these volunteers are also required to take part in extinguishing fires in buildings. Russia’s authorities claim that volunteers number one million, but in fact this figure remains only on paper. When this law came into force, all regions had to create a volunteer fire brigade in each locality and include all employees of administrations and their relatives in it. It should be noted that there are regions with real groups of volunteers under this law, and they are actively involved in extinguishing wildfires. However, such cases are rare and are due to the lack of professional firefighters in these places.

Overall, the emergence of civic activism in the field of wildfire prevention has had a positive impact on improving the situation. [Helpful laws](#) were passed [to forbid burnings in most lands](#). Using the example of some regions, it became possible to substantially reduce the number of wildfires and change public opinion in favor of non-utilization of fire in agriculture and forestry. A federal information campaign was launched, which involved government information resources, as well as the [creativity and innovation of NGOs](#). It all goes to prove that with the willingness of Russia’s authorities, the problem of wildfires could be solved or significantly minimized.

Challenges activists face

Volunteering will be much more effective and successful if it becomes essential for the firefighting system, as it is in Germany, the United States, and other countries. Effective firefighting activities require the mandatory involvement of civil society in this battle. It is impossible to achieve safer behavior of people without involving people themselves.

At present, however, volunteer firefighting in Russia, despite its declared importance in the firefighting system, is not properly developed. The reason for this is that Russian authorities are aimed at suppressing any independent and developing structures of civil society, as well as at gradually destroying even local governance, which could become the basis for local volunteering. Under these circumstances, it is impossible to set up a large-scale and effectively operating volunteer structure. So we get its imitation, in which people who are recognized and accounted for in various registers as fire volunteers are actually used as low-paid labor, but they do not organize themselves in the event of wildfires occurring in their areas with increasing frequency. Thus, they do not perform the functions that make volunteers valuable and eliminate the need for keeping a large staff solely for emergencies.

The movement of volunteer forest firefighters is currently more of an exception. This movement emerges at the grassroots level and is based on the desire of ordinary civilians to unite and solve a common problem. Today, it is not a mass phenomenon (a few dozen groups of a few hundred or perhaps a few thousand people). And yet, it provides good ground for growth in case of a change in political regime and a demand for self-organization and citizen involvement.

Remaining obstacles, such as liaison difficulties with authorities, challenges in seeking funding and others, are more likely a consequence of the main problem - the lack of demand for this type of civic activity in the modern Russian state.

Nevertheless, it is important that this movement is sustained and gradually increases naturally, as it brings more interested people with experience and knowledge in the field of firefighting activities in general, and especially those related to landscape fire suppression. This will create favorable conditions for the formation of a new fire safety system in natural areas with widespread citizen participation, if there is an opportunity for this in the future.

Recommendations:

To tackle the issues described above, the following actions could form the basis of a future comprehensive action plan to combat wildfires:

- Reduce the area of unprotected forests, and pay more attention to conservation areas.
- Eliminate burning practices from agriculture and forestry.
- Ensure full funding of forest responsibilities and powers assigned on the regional level.
- Reduce paperwork and simplify administrative procedures in forestry so that specialists have more time to protect forests.
- Change legislation that leads to burning of forests by landowners.
- Strengthen protection of federal special areas of conservation (SAC).
- Run an information campaign on fire prevention measures for the population.
- Develop volunteer firefighting activities in natural areas.
- Set up a reliable system to keep track of all types of landscape fires.

Some of the proposed steps are obvious, like securing sufficient financing for forest protection and attracting qualified specialists. Other measures, such as eliminating fire-hazardous practices and changing the law, may be less obvious, but are equally important. It is also essential to pay attention to public education and promoting civic engagement in firefighting in natural areas. Implementing these recommendations will require concerted efforts and cooperation among government agencies, experts, civil society and other concerned parties.

It is also necessary to eliminate or limit fire-hazardous practices in agriculture and forestry, such as grass fire, slash-and-burn during a fire season, and so-called ‘controlled burning,’ as the effects are often more detrimental than any perceived benefit.

Not only do these controlled burns often cause forest or peat fires, but they also contribute to widespread use of dangerous fires in natural environments. Without abandoning the mass use of fire, devastating fires will not be overcome, as the bitter experiences of the United States, Canada, and Australia clearly demonstrate.

Finally, it is critical to exclude from legislation provisions that force people to burn or otherwise destroy forests on their land plots. First and foremost, this applies to forests on agricultural land, where the mere existence of such a forest can lead to hefty fines for landowners and even to confiscation of their plots of land.

References

1. Statistical Review of World Energy 2021 | 70th edition
<https://www.connaissancedesenergies.org/sites/default/files/pdf-actualites/bp-stats-review-2021-full-report.pdf>
2. https://maps.greenpeace.org/maps/spring_fires_2020/
3. <https://forestcomplex.ru/rf-protection/lesnye-pozhary-2020-v-rossii-i-mire/>
4. <https://greenpeace.ru/blogs/2021/08/18/greenpeace-pravitelstvu-nuzhno-bolshe-deneg-na-tushenie-pozharov/>
5. <https://www.forestfire.ru/>
6. <https://dopmgu.ru/>
7. <https://greenpeace.ru/projects/pozhary-na-prirodnih-territorijah/>
8. <https://dlpinfo.ru/>
9. <https://greenpeace.ru/blogs/2020/04/03/o-pozharah-nashih-predstavlenijah-i-nemnogo-o-cifrah-nbsp/>
10. <http://government.ru/docs/20511/>
11. https://dlpinfo.ru/ekopros/ostanovi_ogon/