



Regional Wildland Fire Networks:
 North America – South America – Mesoamerica / Caribbean – Mediterranean – Southeast Europe / Caucasus – Euro-Alpine – Near East – Sub-Saharan Africa – Southeast Asia – South Asia – Australasia – Northeast Asia – Central Asia – Eurasia



Regional Eurasian Wildland Fire Network Regional Eastern Europe Fire Monitoring Center (REEFMC)



Major Landscape Fire Issues in Ukraine

1. Direct and indirect impact of full scale Russian military invasion into Ukraine on landscape fire management, fire regimes, population, rural assets and ecosystems (started on 24.02.2022).

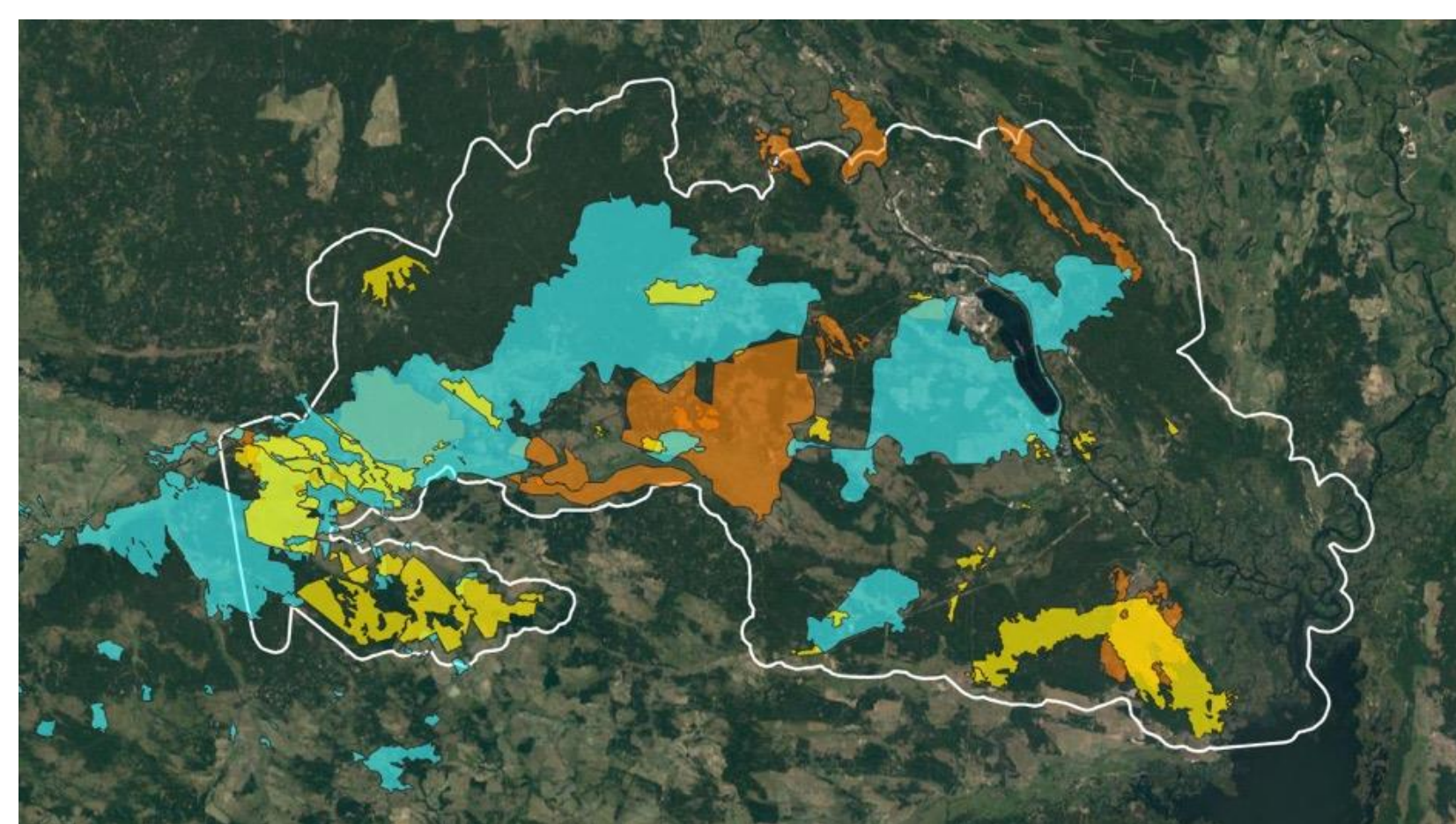


2. As a result of the war, occupation of northern, southern and eastern parts of Ukraine totally up to 1.6 million ha of forests could be potentially contaminated with unexploded ordnance (UXO) and land mines that significantly limits the capacity of fire brigades to respond to fires in those areas;

3. Impacts of climate change increased the severity and enlarged areas of landscape fires during 2000-2020. The initial Russian invasion of Ukraine during 2014-2016 had simultaneous impact in the Eastern Ukraine that essentially reduced firefighting capacity of foresters in the region. Additionally, climate change resulted in the first ever in Ukrainian history 17 fatalities among civilians and over 800 houses losses due to catastrophic fires in 2020 in Luhansk Oblast. The same year catastrophic fires in Chernobyl burned over 80 000 ha of radioactively contaminated forests. In August 2022 first ever fire burned large areas of spruce-beech forests in the Carpathian Mountains .



4. Radioactive fires in the Chernobyl Exclusion Zone (over 110 000 ha during 1992-2022);



5. Wide use of fires in cultural landscapes (croplands, pastures, vegetation gardens, lowlands, degraded lands) results in total annual area of fires from 0,7 to 5 million ha that periodically impacts Arctic Ice Sheet with long range black carbon emissions from agricultural burning.

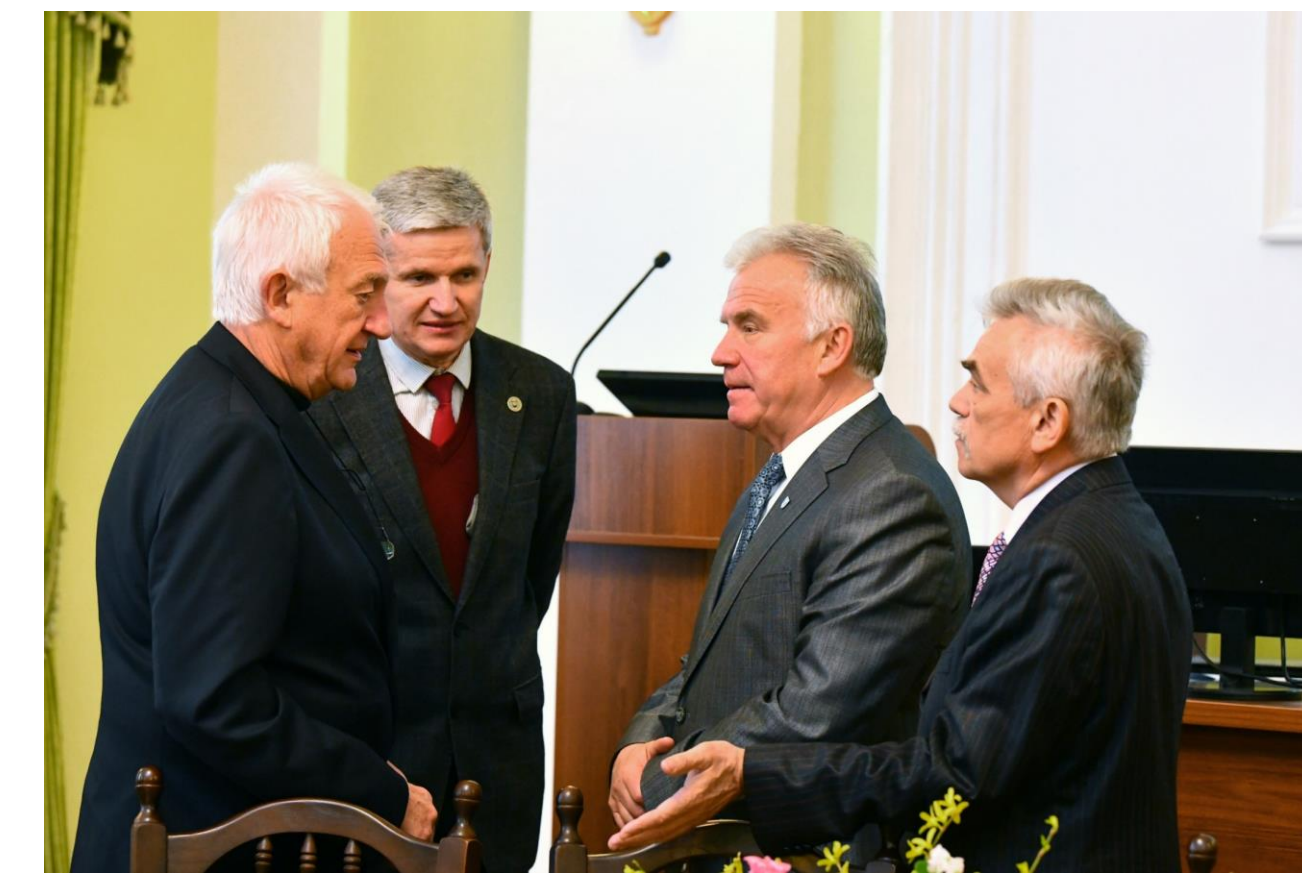


The Regional Eurasia Wildland Fire Network

- Cooperation with the Global Fire Monitoring Center (GFMC) started in 2006. In 2007 international conference on prevention of fires in the Chernobyl Exclusion Zone was organised jointly with GFMC and Yale University.
- In 2009 Advanced Seminar “Wildfires and Human Security: Fire Management on Terrain Contaminated by Radioactivity, UXO and Land Mines” was conducted by GFMC in cooperation with the CoE, ENVSEC, the UNISDR and the UNECE / FAO Team of Specialists on Forest Fires in Ukraine.
- In 2013 the Regional Eastern Europe Fire Monitoring Center (REEFMC) was inaugurated on the basis of the National University of Life and Environmental Sciences of Ukraine (NUBiP) within cooperation with GFMC and under support of CoE.
- In 2014, 2015, 2019 field prescribe burning exercises were organised in Ukraine in Boyarka Forest Experimental Station of NUBiP and Oster Military Forestry.
- In 2020 National Integrated Landscape Fire Management Strategy was developed in cooperation with the Ministry of Environmental Protection and Natural Resources of Ukraine, GFMC and REEFMC.
- In 2022-2023 Advisory Fire Bulletins were published on REEFMC website (mirrored on GFMC website) with the data on monitoring of landscape fires as a result of Russian military invasion.

Regional Network Activities

1. National Round tables in 2017-2020 aimed at development of the National Integrated Landscape Fire Management Strategy



2. Development of training programs for “Forest firefighter” and “Incident commander of forest fires”.

3. Training of firefighters in cooperation with Boyarka Forest Experimental Station, Oster Military Forestry and Ukrainian Center of Advanced Training of forestry professionals

For the first time in Ukrainian history seven 3-days trainings were conducted by REEFMC staff together with practitioners from Oster Military Forestry (Sergiy Zibtsev, Volodymyr Braiko Vasyl Gumeniuk, Olexandr Soshenskiy) during 2021-2022 on the course “Forest firefighter” with total amount of trainees more than 210 professional foresters and employees of protected areas.

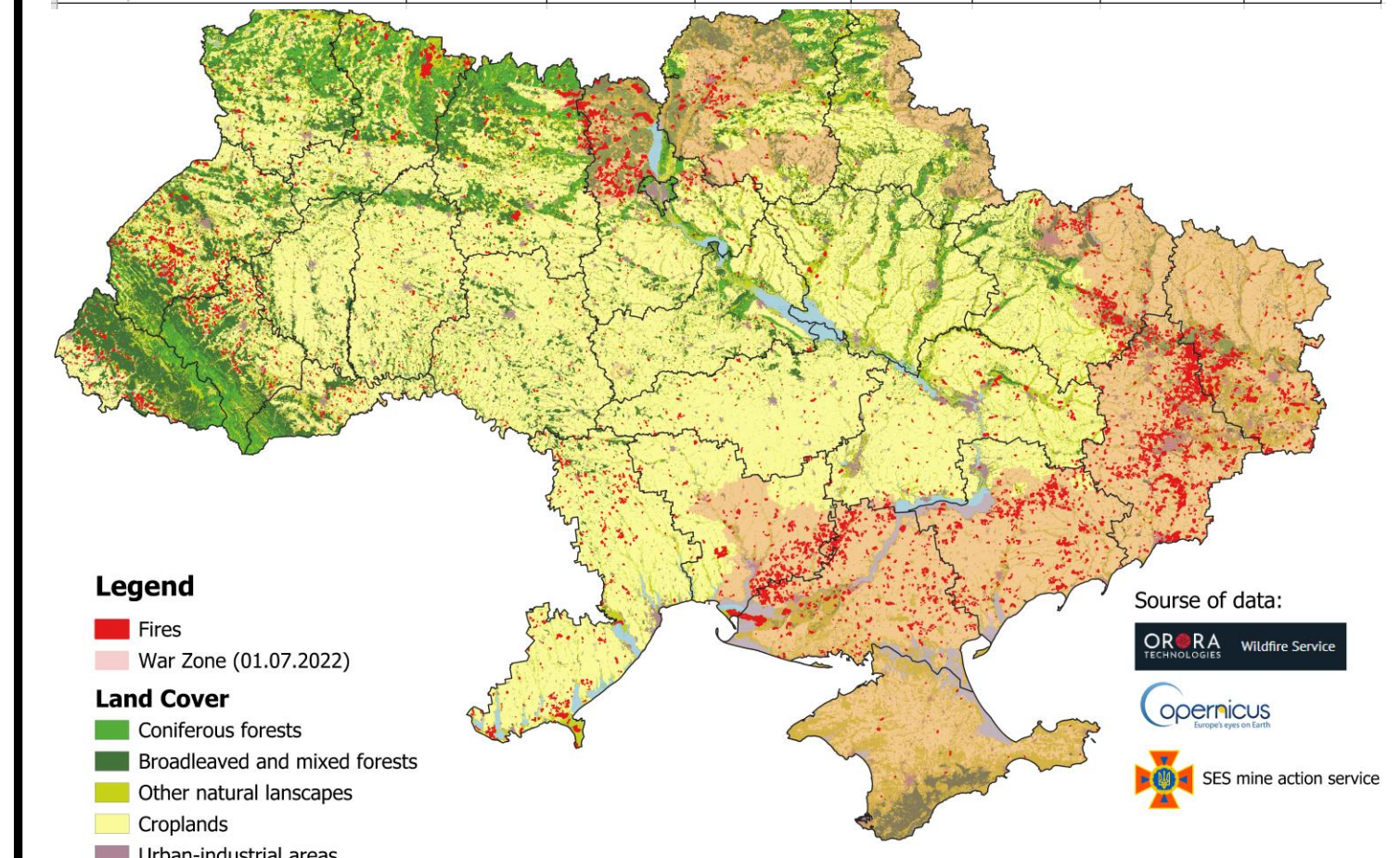


4. Joint GFMC and REEFMC “RESILPINE” project funded by the Federal Ministry of Food and Agriculture of Germany (BMEL) and aimed at development and implementation of silviculture tools toward fire resilient landscapes and communities (2021-2022).



Impact of Russian military invasion in Ukraine on fire regimes and ecosystems

Month	Numbers of fires	Area of fires, ha	Distribution of the area by types of landscapes, ha				
			forests	including croplands	agriculture lands	other natural landscapes	settlements
January	17	1883,6	0,0	0,0	207,6	1270,7	405,2
February	244	11247,4	194,1	32,4	6251,9	4623,6	217,8
March	7419	301914,4	19336,3	6307,6	148309,1	144171,1	20377,9
April	1119	26628,4	2790,7	874,9	8731,4	14827,7	2314,6
May	1854	47001,7	18197,7	14109,5	6315,6	21975,9	512,4
June	1119	20896,9	1699,5	1038,3	9910,2	9137,8	209,5
July	543	233409,9	6446,7	4098,2	163600,1	42010,5	429,6
August	2399	114405,6	4176,8	2008,2	84097,6	25522,2	609,0
September	161	10786,1	3205,5	2328,3	2917,6	4621,3	41,7
October	53	4465,1	380,0	346,6	229,9	3953,8	95,4
November	41	2361,8	303,3	234,9	419,7	1399,4	228,4
December	7	376,8	2,0	0,0	230,3	144,6	0,0
Total	19948	755638	50719	31179	419313	273987	5620
<i>In the case of direct impact of military battles (20-30 km from front line)</i>	10024	379836	32260	19917	215626	128361	3609
<i>In the occupied territories</i>	7095	319313	22791	13924	186251	109747	2301
<i>In remote occupation areas (Zaporizhka, Mykolaiv)</i>	803	88427	25188	17426	10767	52243	99



Needs for fire management of Ukraine
 Support is urgently required: (1) heavy machinery for cleaning UXO and land mines in forests (demining); (2) full size and pick-up off road modern fire engines with high pressure pumps and other needed equipment, tractors; (3) mobile fire ponds and hoses; (4) personal protective equipment for fire fighters (helmets, flame resistant jackets and pants, boots, radios, etc.), including armored life vests and military helmets to protect personnel during firefighting in UXO contaminated lands;



Ignition and suppression tanks for prescribed burning on lands contaminated by UXO. Source: GFMC.

(5) hand tools for fire prevention and suppression (tools for fire breaks establishment, backpack fire extinguishers, drip torches etc.); (6) support of National Fire Training Center with modern programs of firefighters trainings and equipment for trainings; (7) fire wise (fire smart) campaign for local population that lives in pine forests to reduce risk from large forest fires; (8) support nation wide research to map fire risks, establish fire resilient stands and landscapes via silviculture, fire ecology and other methods; support national and local fire policy dialogue on preparedness and prevention of landscape fires.