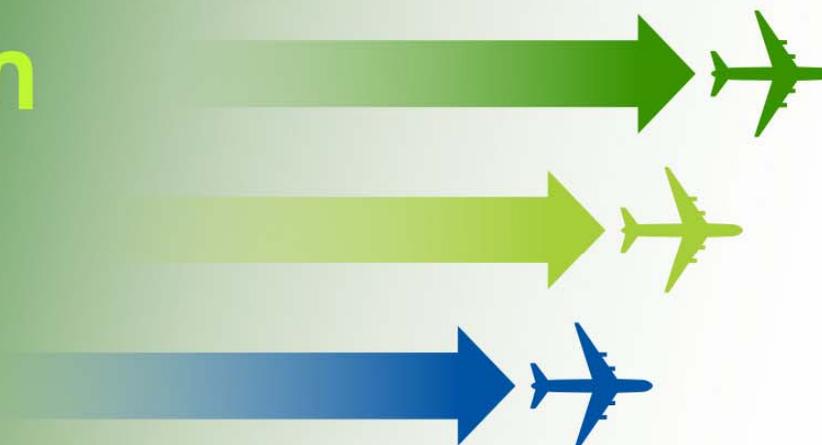


ICAO Aviation Green Recovery Seminar

TIME TO BUILD BACK BETTER

23 – 24 November 2020 (virtual)





Aviation and Forest Fire Fighting



Mikhail Gordin, Director General, Candidate of Sciences in Technology

Central Institute of Aviation Motors (CIAM)



Nikolay Kopylov, Chief scientist, Professor, Doctor of Sciences in Technology

All-Russian Research Institute for Fire Protection



Vyacheslav Rozhnov, Director, Academician of Russian Academy of Sciences (RAS)

Institute of ecology and evolution problems, RAS

Artur Mirzoyan, CAEP Member from Russian Federation

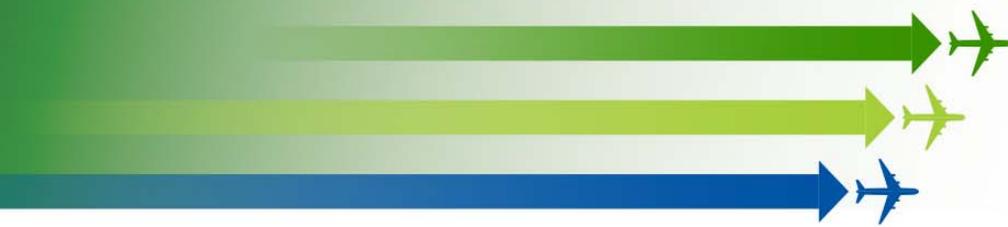
Central Institute of Aviation Motors (CIAM)



Questions

1. How is the impact of world forest fires changed recently?
2. Why the role of aviation in the management of global forest fires has become more relevant now?
3. Is the current aviation crisis the most appropriate time to discuss this role of aviation?
4. How can we significantly improve the efficiency of aviation in world forest fire management today?
5. What the message does we send at the ICAO Seminar?

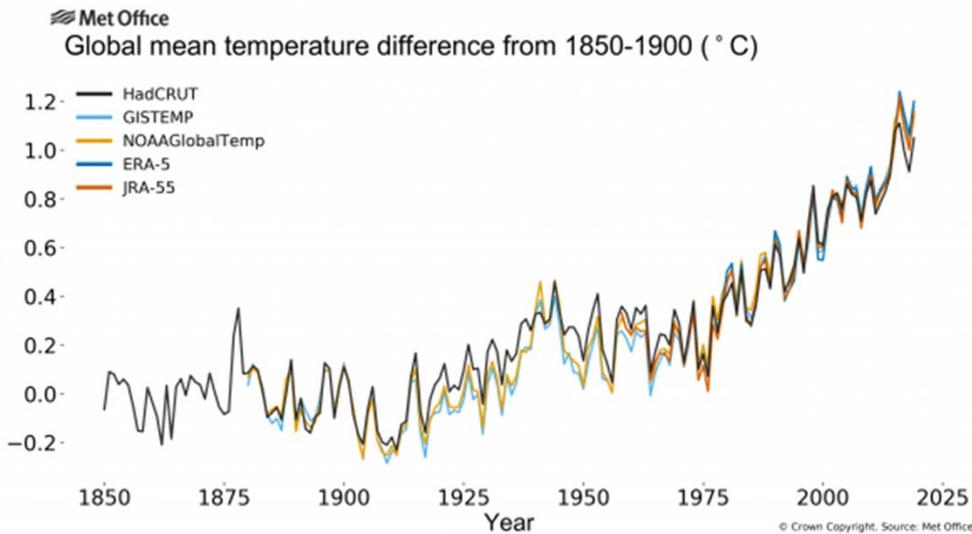




Forest Fire in the World

Globalization of the impact of world forest fires

Global temperature in 2019 – 2nd place since 1880



* according to the World Meteorological Organization

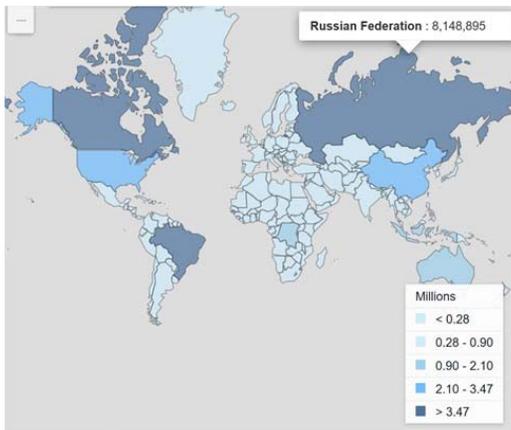
- extended size, intensity and duration
- acquiring cross-border and regional (Intercontinental) impacts
- increasing deficiency of available local resources
- extended impact on the ecosphere
- global impact on the climate
- the impact on human health and the spread of the pandemic*

*Forest fires may become a serious threat in the fight against the spread of coronavirus in Russia, according to members of the interdepartmental working group on coronavirus infection at the Siberian branch of the Russian Academy of Science

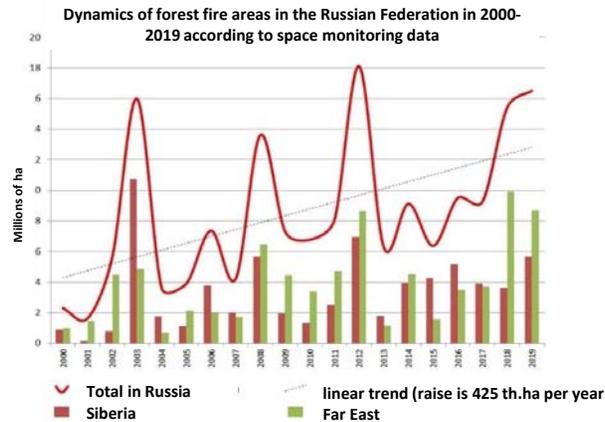


Forest fire in Russia

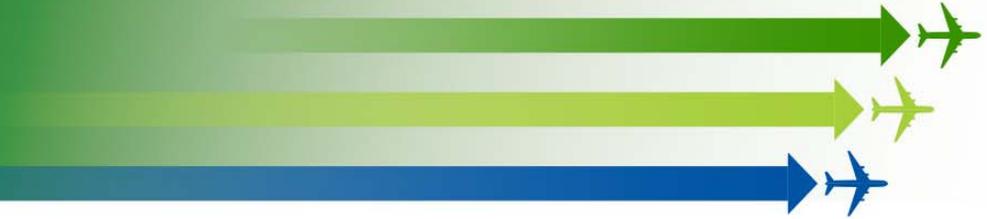
Area of forest fires in the world



Dynamics in Russia

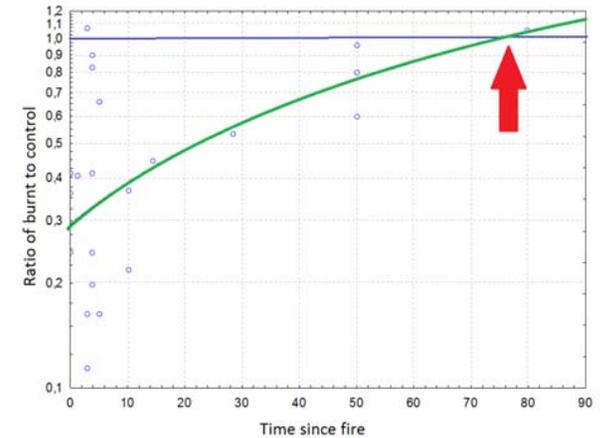
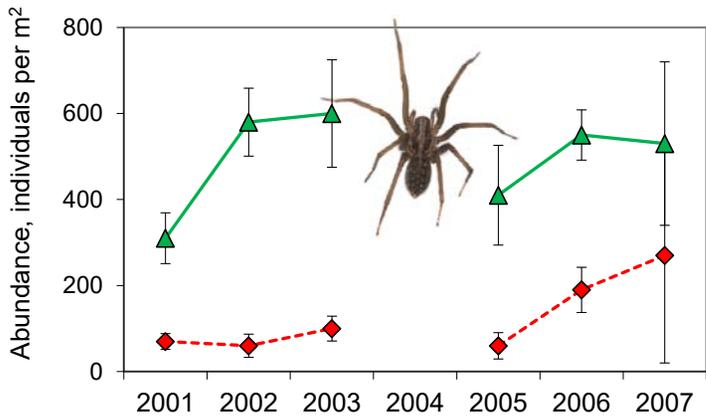


- 25% of the world's forest and 70% of boreal forests are located in Russia
- Russian forests and the Amazon jungles are the main accumulators of CO2 reserves
- 16.4 mln. ha - area for 10 months of 2020
- threat of environmental degradation of 22% of the world's forest areas
- 100 forest fires in the Arctic circle during 2019



Impact on the biodiversity

Fires cause huge damage to biodiversity, habitats of valuable and rare species of animals and plants, unbalance soil properties



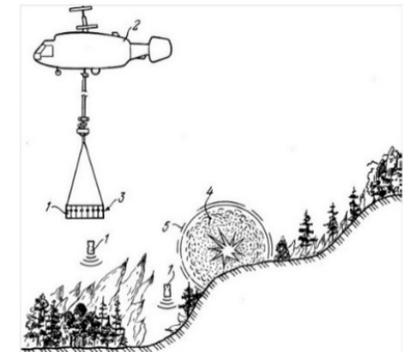
- Drop in the abundance of spiders in boreal forests in Karelia

- Recovery of abundance of soil animals after fires may take up to 80 years in boreal forests



Current role of aviation in forest fire management in Russia

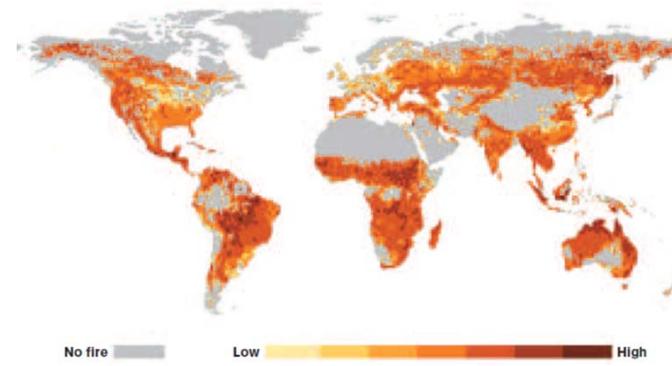
- overall leading role of ground services
- preserving the key advantages of aviation (speed, access, patrolling)
- using the best vehicles, methods and innovations in aerial firefighting
- long-term low-cost patrolling
- increased safety for firefighters
- effective participation in fire fighting abroad

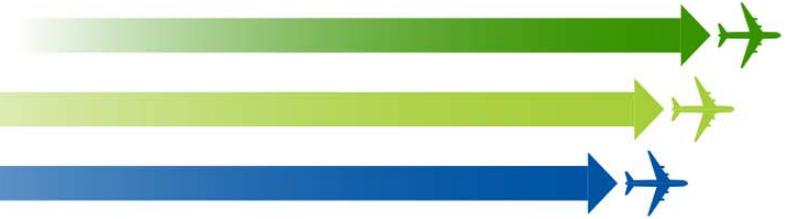




Raise of the efficiency of the Aerial Forest Fire Fighting

- improved interaction with ground services
- reduced response time to fire detection
- availability of the required number and type of aircraft
- implementation of innovative aerial firefighting vehicles and equipment
- application of best world practices
- cost reduction
- **international cooperation to global use aviation for world forest fire management**





International cooperation in aerial firefighting

- the impact of large fires on regions and even continents
- insufficient national resources
- limited experience in rational fire management
- legal problems of participation of foreign firefighting air vehicles in forest fire management
- difficulties in international certification and recognition of aviation fire equipment, advanced methods and support systems for aerial fire fighting
- constant need to improve the overall level of flight safety of fire-fighting aviation



IFAWG – International Fire Aviation Working Group



 **UNISDR IWPM**
International Wildfire Preparedness Mechanism



Advantages of international cooperation under the auspices of ICAO

- ICAO will be able to **provide the safety of the use of international aviation** in forest fire management
- ICAO will be able to properly organize the **compliance of responsibilities between UN organizations**
- ICAO will be able to **increase the general level of the international crew skills**
- ICAO will be able to **complement the existing legal framework for the international use of aviation in forest fire management** taking into account national features
- ICAO may provide ICAO's well-known **multicriterial approach** to the use of international aviation in the management of global forest fires intelligently: technically most promising, environmentally most beneficial, and economically most reasonable

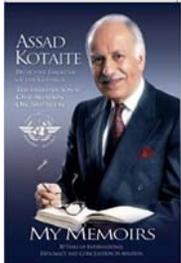


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Our message to ICAO seminar



Assad Kotaite

My Memoirs: 50 Years of International Diplomacy and Conciliation in Aviation

President Franklin Roosevelt message to Chicago Conference:

"We are beginning to write a new Chapter in fundamental air legislation. Let us remember that we are making a serious attempt to build strong institutions of peace. These foundations of peaceful life should not be compromised by minor considerations or weakened by unfounded fears

On the contrary, while fully recognizing the sovereignty and legal equality of all Nations, let us work together so that airspace can be used for the benefit of humanity."

"Recognize aviation is the driver for economic recovery (ICAO Council Aviation Recovery Task Force "Take-off" Guidance)

International aviation is facing a serious problem due to the pandemic. But with the planned green recovery, it is ICAO that may really help the forest sector, to which humanity owes a great debt, become more resistant to forest fires, and remain, as before, the main CO2 accumulator. To do this, we call on ICAO to organize a broad open discussion, focusing on the issues of joint safe use of airspace, certification and widespread implementation of advanced fire-fighting technologies, and training of international air crews.

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