United Nations
International Strategy for Disaster Reduction

Global Fire Monitoring
Center (GFMC)

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Forest Fires in the Russian Federation

01 August 2012

In the wake of the current debate about fires burning in Siberia the GFMC is providing a couple of images and fire-weather predictions for 1 August 2012 and beyond.

Status report by EMERCOM of Russia of 31 Juyl 2012

As a result of action of high temperatures of environment and lack of a precipitation in the territory of the Siberian federal district there was a difficult fire-dangerous situation. In this regard in SFO suppression of fires by forces of the Ministry of Emergency Situations of Russia and other departments proceeds.

In the region 123 active fires are bruning on a total area of 23,266 hectares (in comparison with the last days the number of fires decreased by 11, the fire area by 243 hectares). 28 fires on an area of 4306 hectares are localized. 28 major fires continue burning on10,846 hectares.

For last days there were 35 active wildfires, on an area of 3331 hectares. 46 fires on the area of 9063 hectares are extinguished.

There are no threats to settlements and economic objects at present.

Meteorological stations fixed a difficult ecological situation in connection with natural fires in territories of the Tomsk region and Krasnoyarsk Krai.

For suppression of wildfires in the Siberian Federal District 112,956 people and 17,115 units of equipment are involved. Directly to suppression of fires 7644 persons are involved in the centers and 1040 units of equipment. The Ministry of Emergency Situations of Russia provides 1908 persons and 322 units of equipment.

In total 37 aircraft are involved in fire management actions, from the Ministry of Emergency Situations of Russia - 13 aircraft, from the Ministry of Defence of Russia - 6 aircrafts.

Directly 17 aircraft are involved in suppression of fires. In total aircraft made 96 departures, 289 drops, 4118 tons of water were dropped. In days - 50 departures, 120 drops discharged 1580 tons of water.

Since 27 July 2012 the increase in group at 703 persons and 30 units of equipment, including from the Ministry of Emergency Situations of Russia increase at 102 persons and 12 units of equipment is carried out.

In the territory of the Tomsk region 34 centers of wildfires are burning on total area of 10,289 hectares (in comparison with the last days increases in quantity of the centers didn't occur, there was an increase in a fire area at 17 hectares). 10 fires on the area of 3017 hectares are localized. 20 centers of a major fire act on the square of 9092 hectares.

For last days there were 7 centers of wildfires, on the area of 1760 hectares. 7 fires on the area of 4033 hectares are extinguished.

There are no threats to settlements and economic objects at present.

For 30 July 2012 group building in the Tomsk region wasn't carried out.

In total for suppression of natural fires in the territory of the Tomsk region 4052 persons and 604 units of equipment, including from the Ministry of Emergency Situations of Russia – 758 people and 154 units of equipment are involved.

In total 17 aircraft are involved in fire management action including: from the Ministry of Emergency Situations of Russia of 12 aircrafts, from territorial RSChS 5 of aircrafts.

In Krasnoyarsk Krai 73 centers of natural fires act on total area of 11 870 hectares (in comparison with the last days quantities of the centers increased by 10 centers, the square at 260 hectares), from them 15 fires on the area of 1 278 hectare are localized. 8 centers of a major fire continue to act on the square of 8 473 hectares.

For last days there were 18 centers of natural fires on the area of 993 hectares. 28 centers on the area of 4661 hectares are extinguished.

Threats to settlements and objects of economy aren't present. Excess of maximum permissible concentration of air pollution it is not fixed.

Since 27 July 2012 building of group of forces and funds for 364 persons and 29 units of equipment is carried out.

14 aircrafts are involved in fire management actions including: from the Ministry of Defence of Russia - 6 aircrafts, from territorial RSChS - 8 aircrafts.

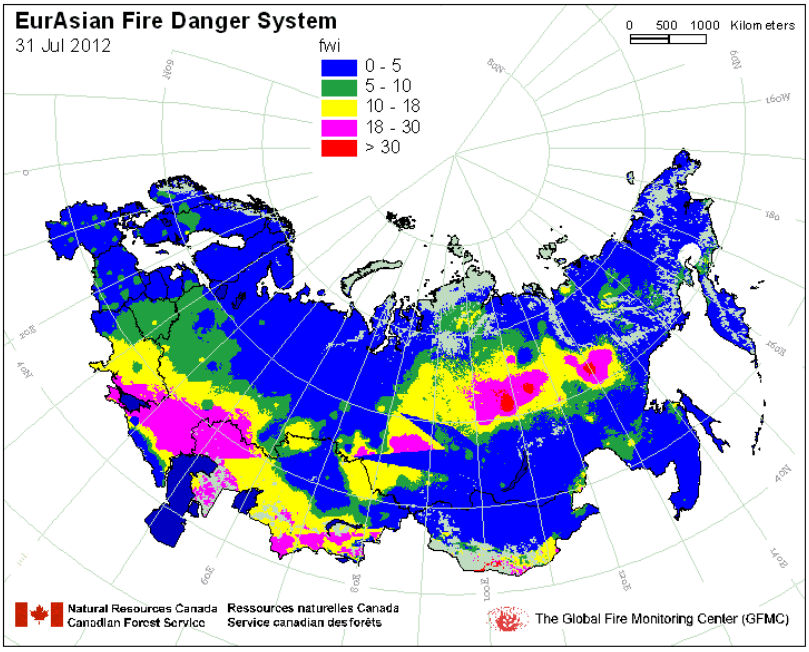
In total for suppression of wildfires in the territory of Krasnoyarsk Krai 3095 people and 305 units of equipment, including from the Ministry of Emergency Situations of Russia 1030 persons and 124 units of equipment are involved.

In total in the territory of the Republic Tyva 15 centers of natural fires act on a total area of 1059 hectares (in comparison with the last days there was one new seat of fire and increase in the area at 0.2 hectares), from them 3 fires burning on the area of 11 hectares were localized. 2 centers of a major fire continue to act on the area of 800 hectares.

In total for suppression of natural fires in the territory the Republic Tyva it is involved 171 persons and 30 units of equipment, including from the Ministry of Emergency Situations of Russia of 19 people and 5 units of equipment.

Source: EMERCOM Website http://www.fire.mchs.gov.ru/news/detail.php?ID=56502

Eurasian Experimental Fire Weather Information System
The system has been developed by forest fire researchers from Canada, Russia and Germany has been displayed on this website starting 18 July 2001. Complete information and a set of daily fire weather and fire behaviour potential maps covering Eurasia (the Baltic Region, Eastern Europe, countries of the Commonwealth of Independent States, Mongolia) can be accessed at: http://www.fire.uni-freiburg.de/fwf/eurasia.htm



Latest Experimental Fire Weather Index (FWI) map for Eurasia (31 July 2012)
Note: The components of the Fire Weather Index and the meteorological data below are updated daily at ca. 15:00 GMT/UTC by the Northern Forestry Centre, Canada. In the list below the latest maps (including the FWI) can be downloaded. These maps will provide the information at the date of clicking on the link.

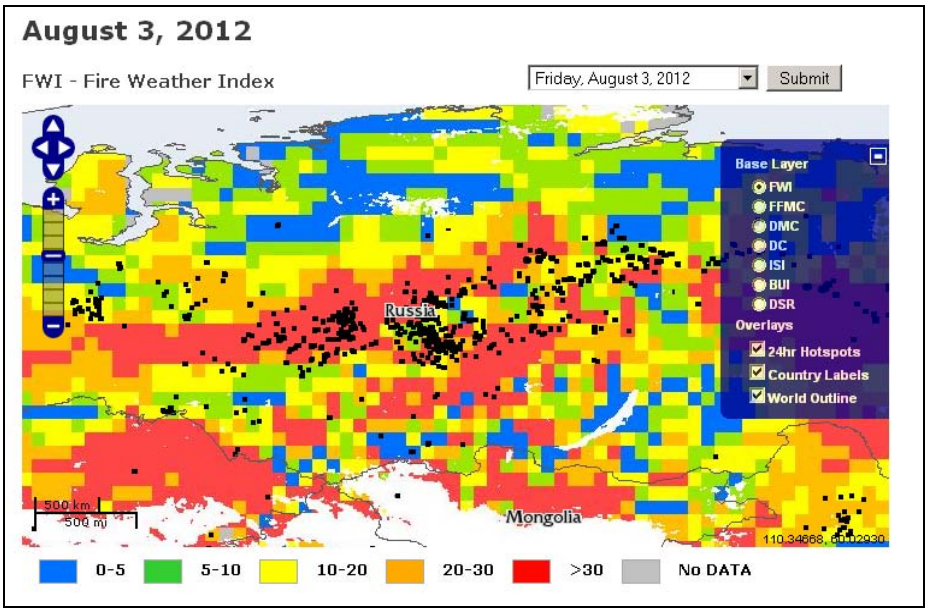
Fire Weather Index Components	Meteorological Data
Fine Fuel Moisture Code (FFMC)	Precipitation
Duff Moisture Code (DMC)	Relative humidity
Drought Code (DC)	Temperature
Initial Spread Index (ISI)	Wind direction
Buildup Index (BUI)	Wind speed

Global Wildland Fire Early Warning System

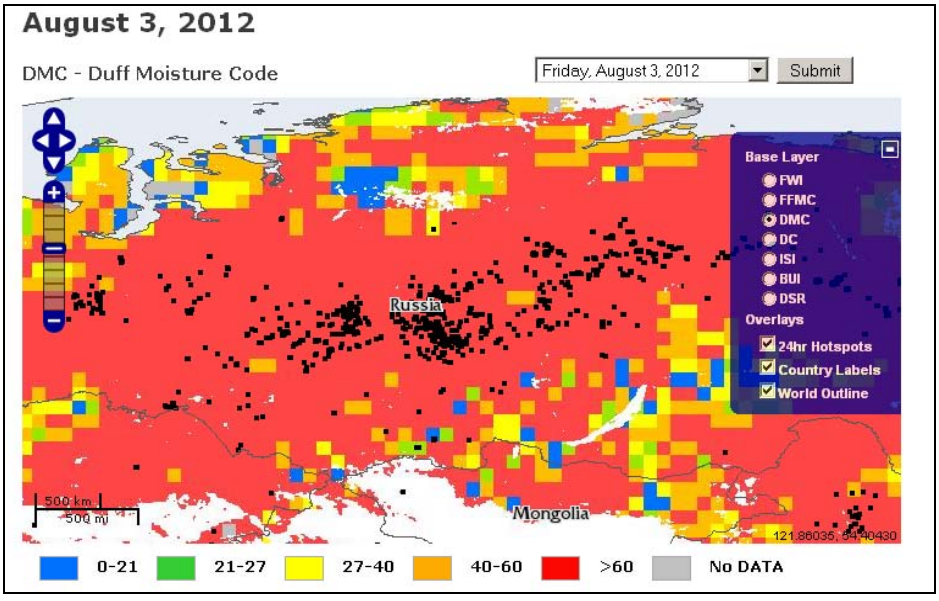
The fire-weather predictions for Central Russia for 3 August 2012 and several days beyond have been generated by the Global Wildland Fire Early Warning System, which is normally avalable at:

- http://www.fire.uni-freiburg.de/gwfews/forecast_ews.html

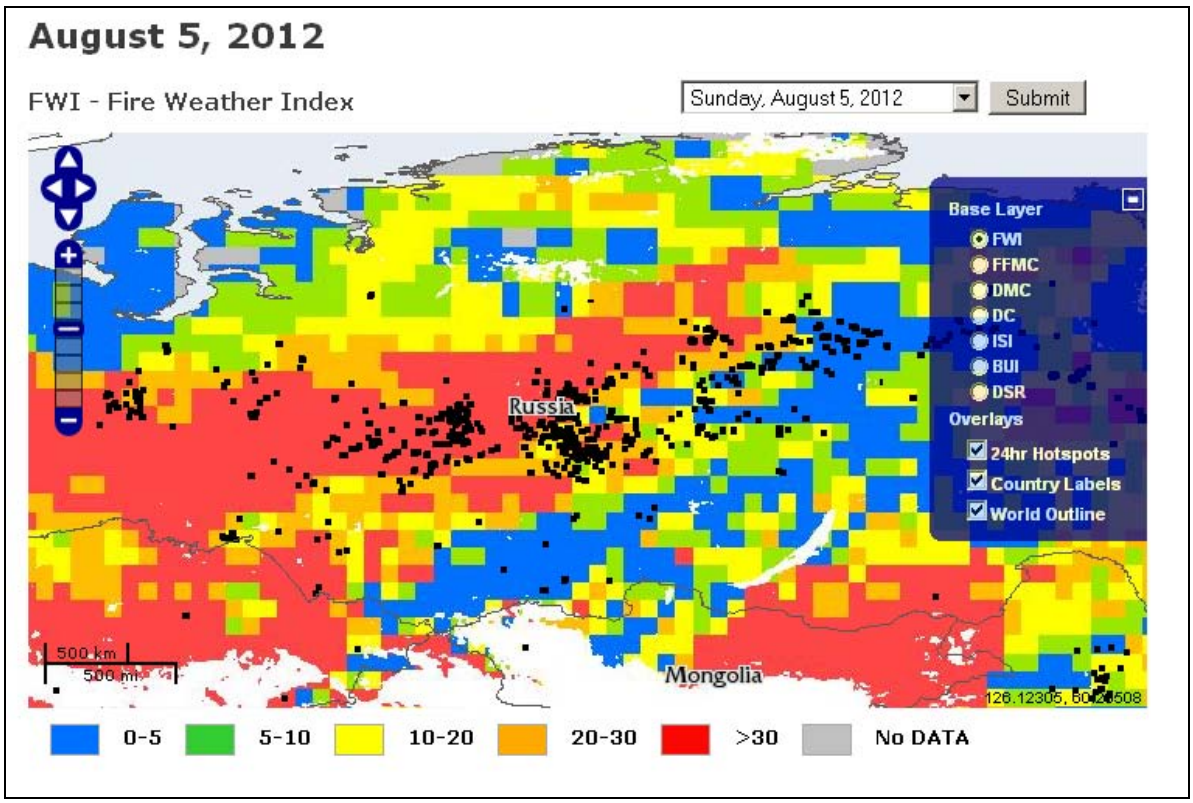
but is currently serviced and offline for a couple of days. The following graphs have been produced especially by the CFS and show the Fire Weather Index (WFI) and the Duff Moisture Code (DMC) together with the locations of active fires detected by satellite sensors on 31 July 2012. All predictions include these active fire locations of 31 July for the following purpose: If a fire will continue to burn in the following days, the forecasted FWI and DMC give an indication about the ease or difficulty of wildfire control, or the further spread and severity:



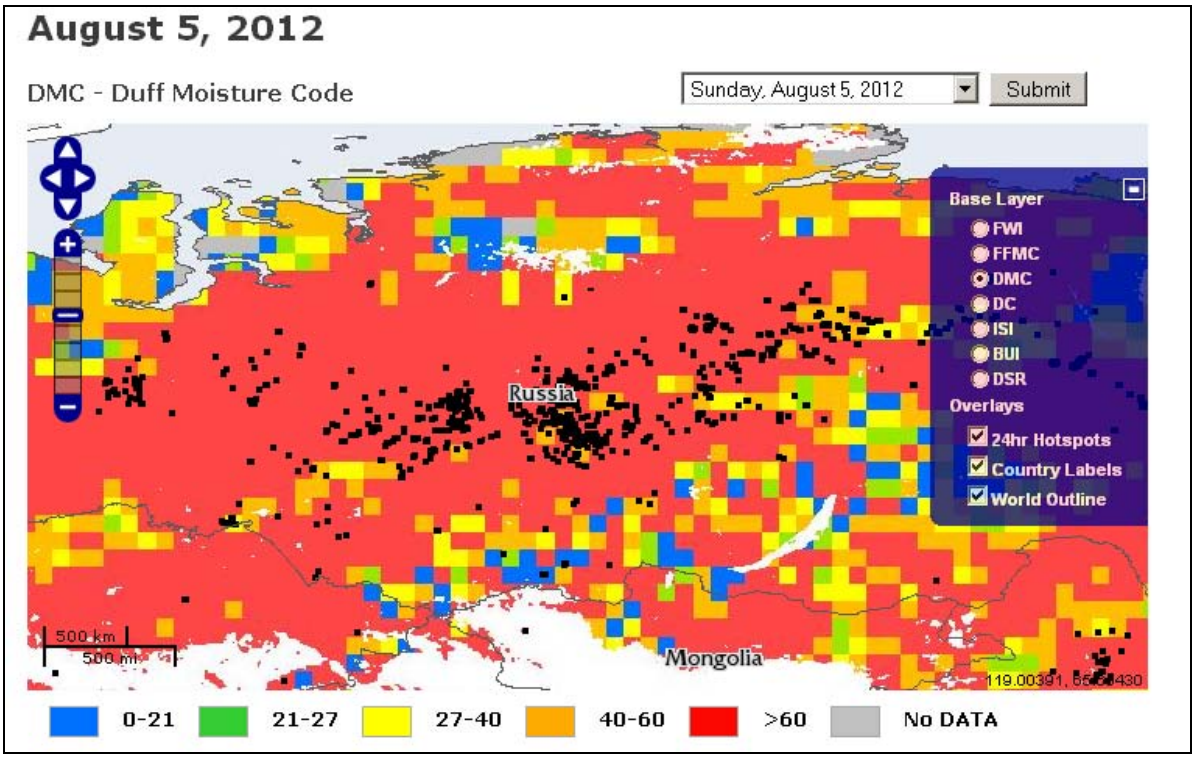
Forecasted FWI for 03 August 2012



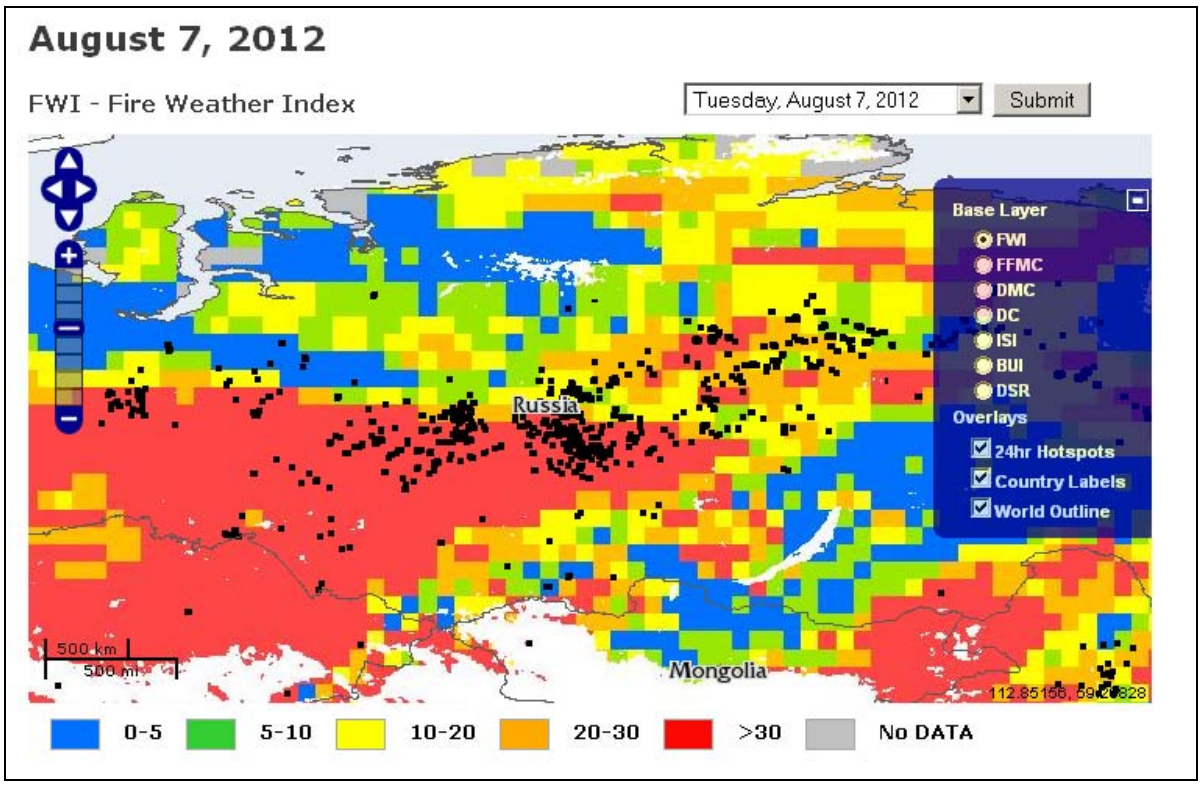
Forecasted DMC for 03 August 2012



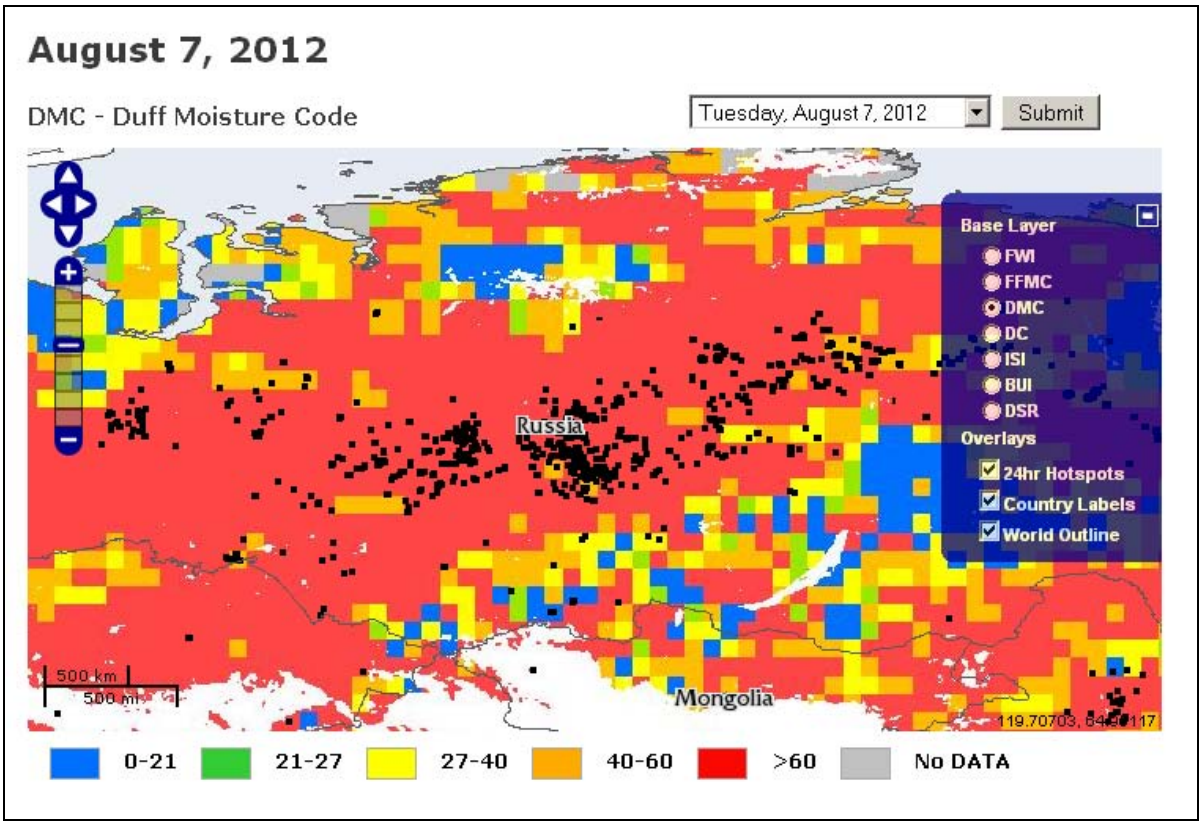
Forecasted FWI for 05 August 2012



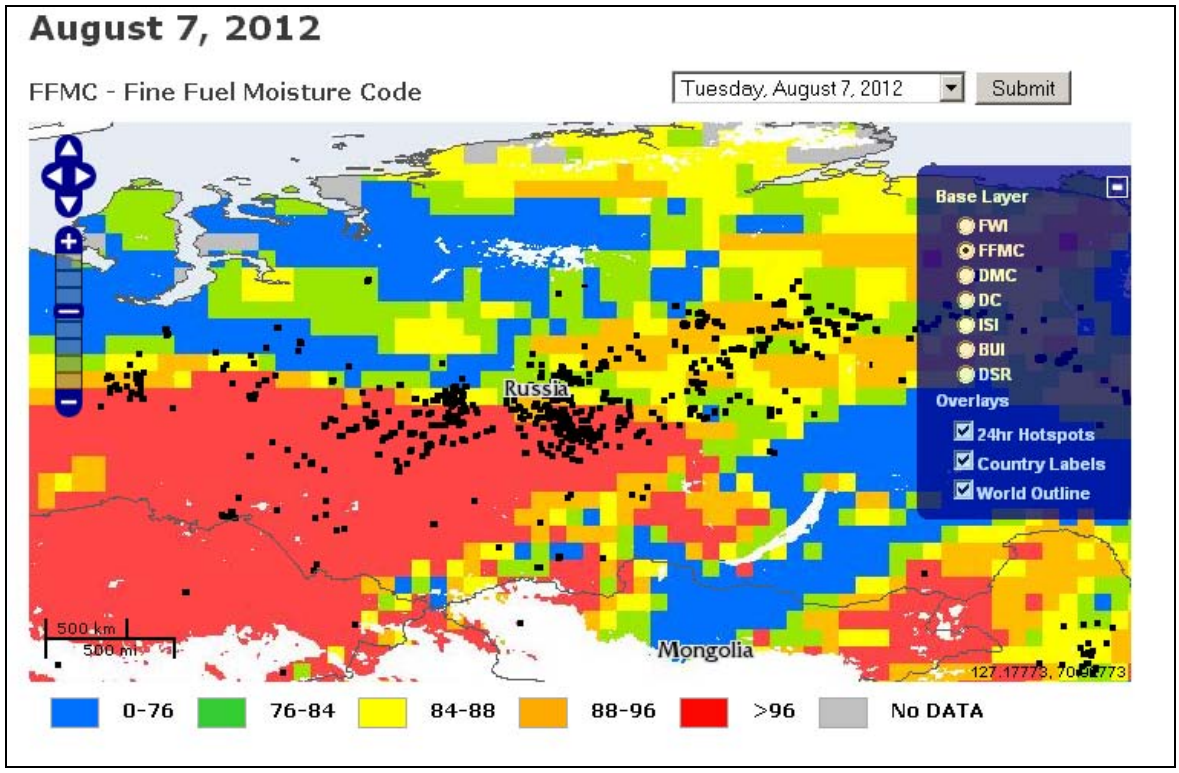
Forecasted DMC for 05 August 2012



Forecasted FWI for 07 August 2012



Forecasted DMC for 07 August 2012

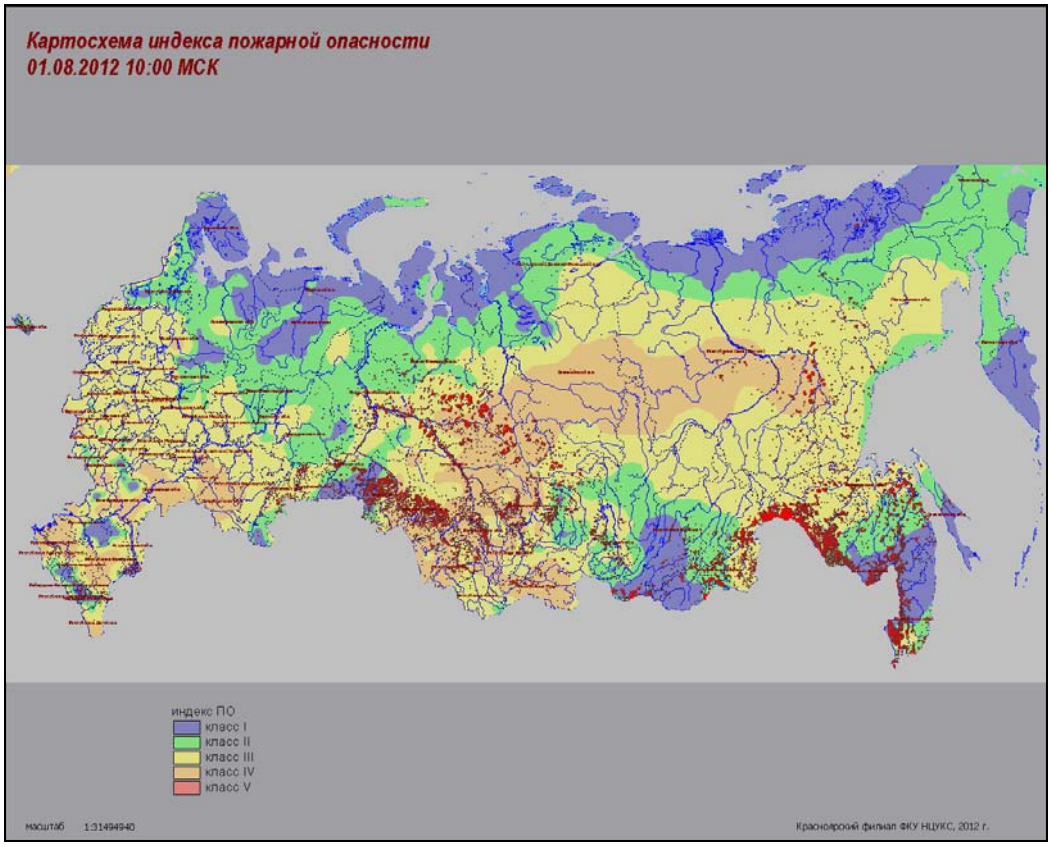


Forecasted Fine Fuel Moisture Code (FFMC) for 07 August 2012

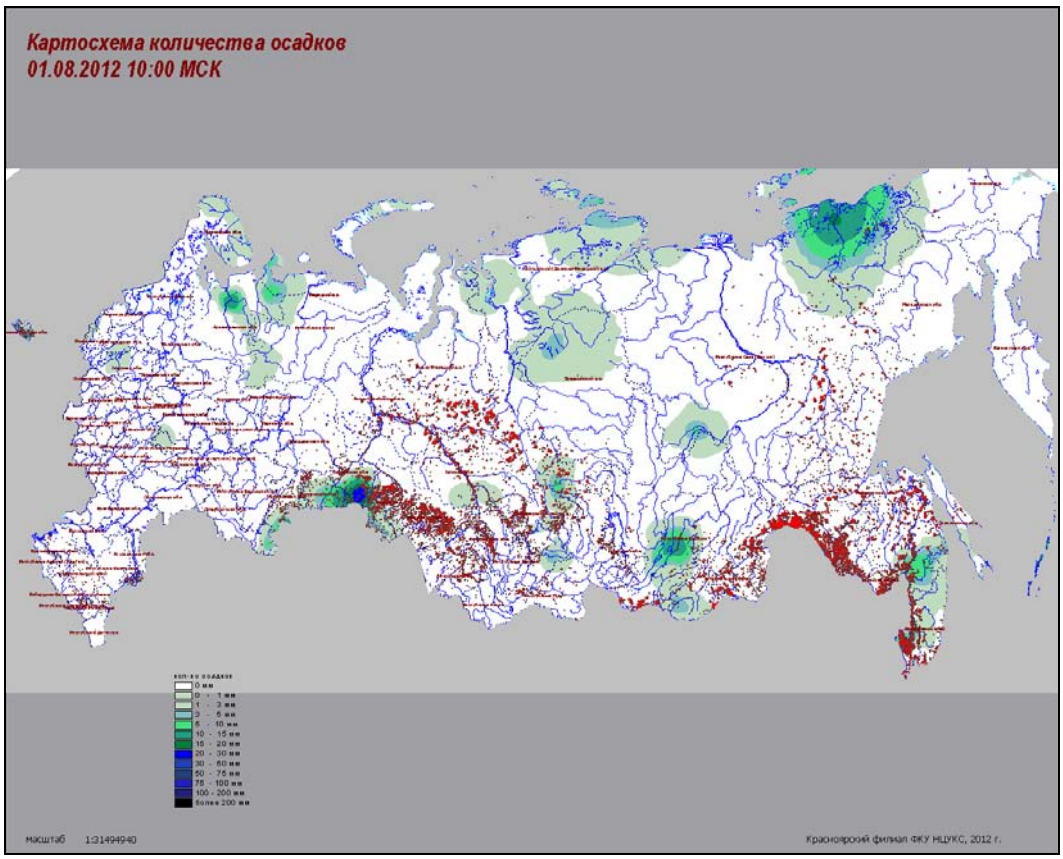
Russian Fire Danger Rating System and Daily Fire Occurrence and Fire Danger Maps of the Fire Laboratory of the Sukachev Institute of Forest, Krasnoyarsk

Selected fire occurrence maps, satellite images and a forest fire danger map are prepared daily by the Fire Laboratory of the Sukachev Institute of Forest, Krasnoyarsk, in collaboration with the Emergency Situation Monitoring and Forecasting Agency, Krasnoyarsk branch. The maps are produced on the base of satellite data. They show the fire locations (by latitude and longitude) and the area affected by fire (red signature, size in ha). The red arrow at each fire location points to the nearest populated place. The terms *Oblast* or *Kray* used in the maps are designations of administrative regions. A map showing the boundaries of administrative regions and a legend is included below.

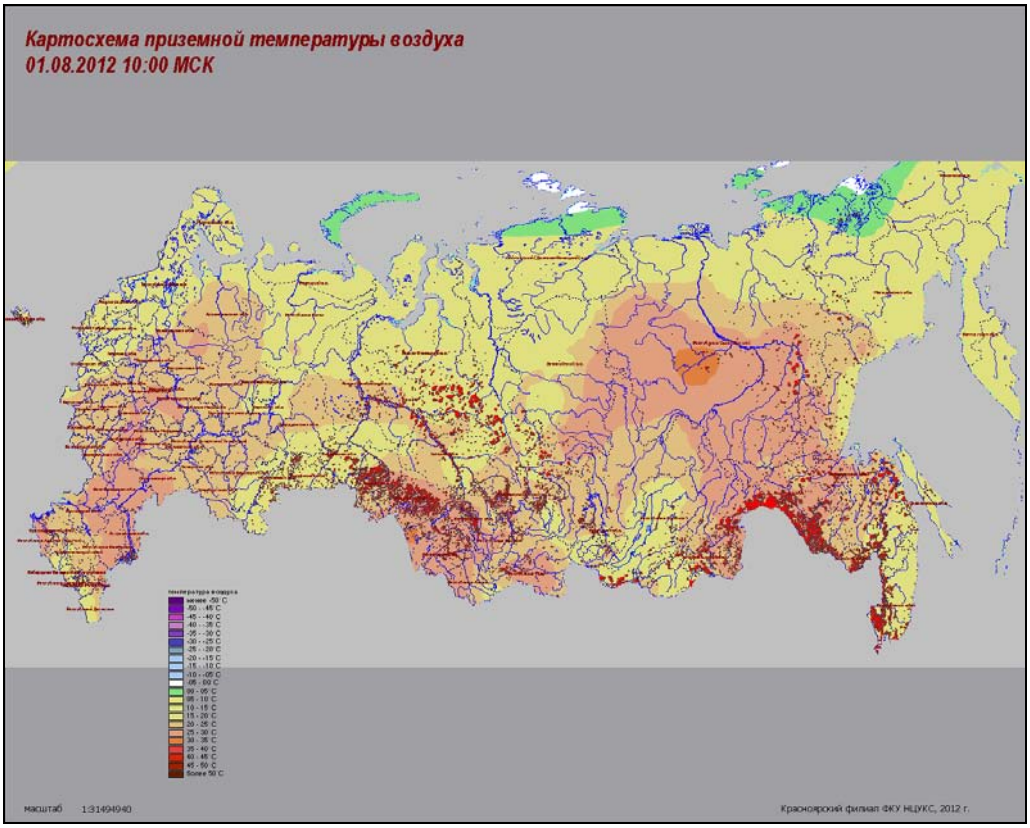
Administrative boundaries in the Russian Federation



Overview map showing large fire locations and fire danger on 01 August 2012



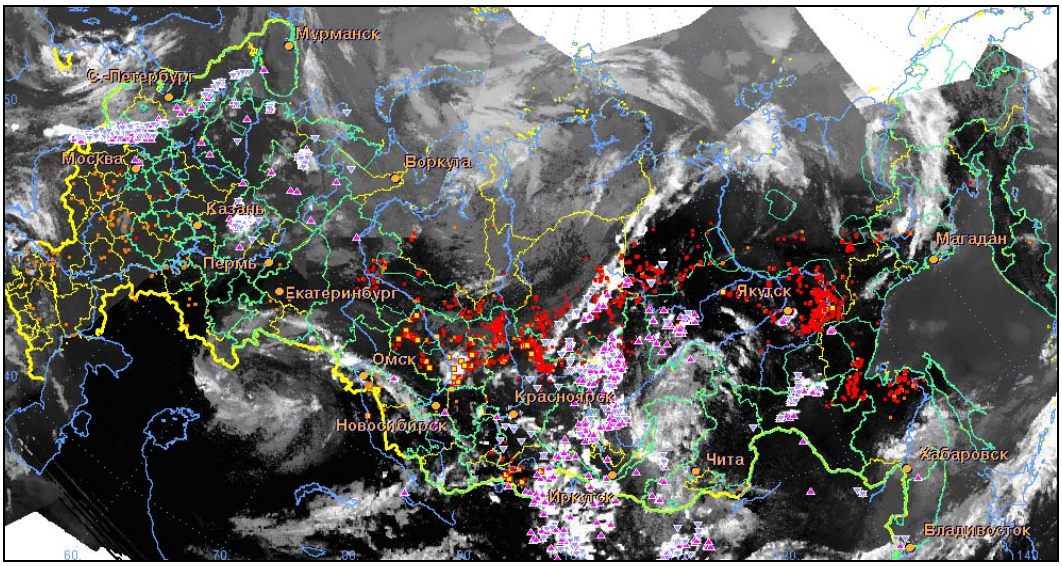
Overview map of rainfall in the Russian Federation on 01 August 2012:



Temperatures in the Russian Federation on 01 August 2012

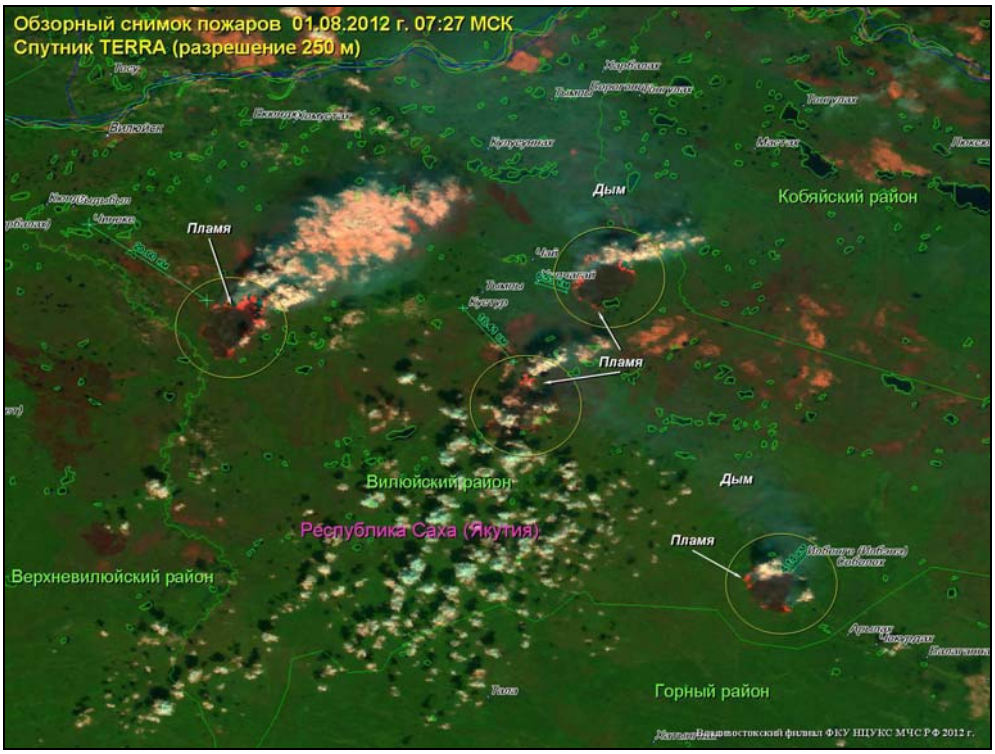
Satellite-derived information on location of fires

Avialesookhrana provides up-to-date satellite images for the Russian Federation and neighboring territories.

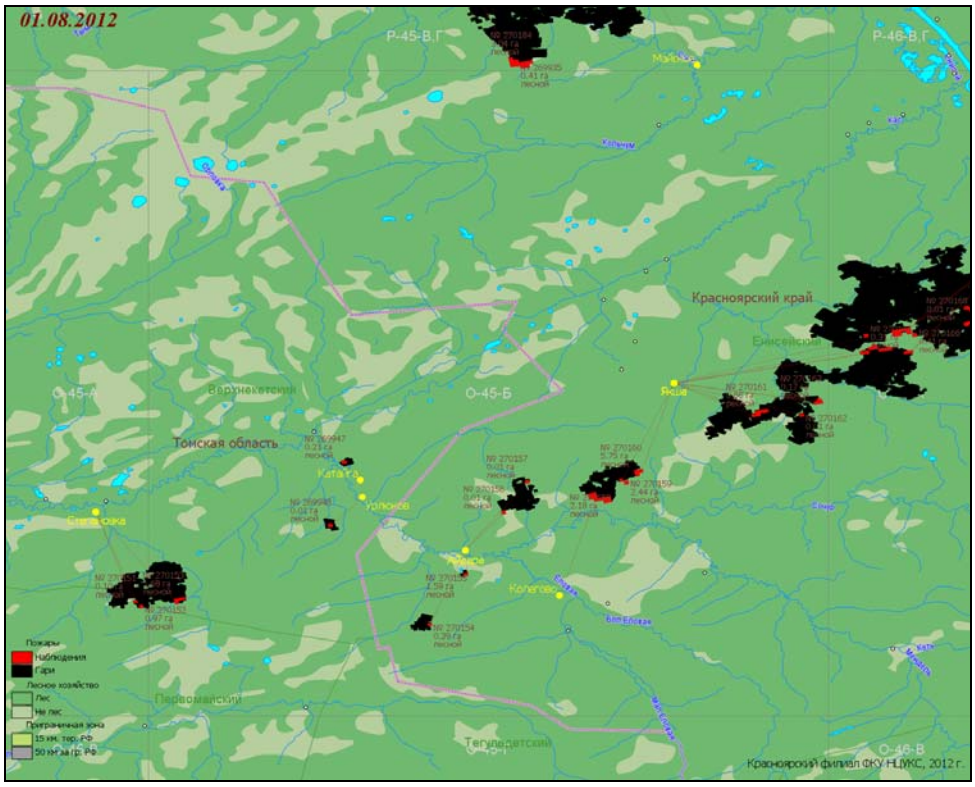


Latest (01 August 2012 15:00 GMT) NOAA 12&14 AVHRR composite.
The red squares indicate regions of active fires (MODIS Detection).
For details the GFMC readers are encouraged to use the hyperlinks provided by *Avialesookhrana.*
(Source: Avialesookhrana cloudiness maps)

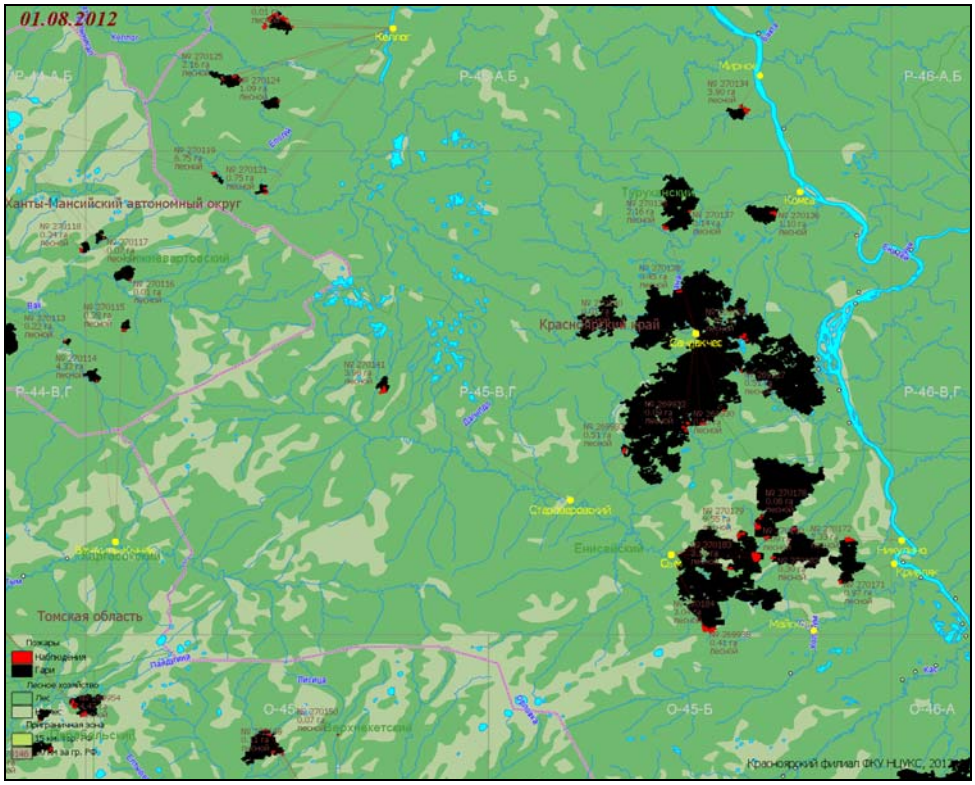
Selection of latest maps showing local fire activities on 01 August 2012



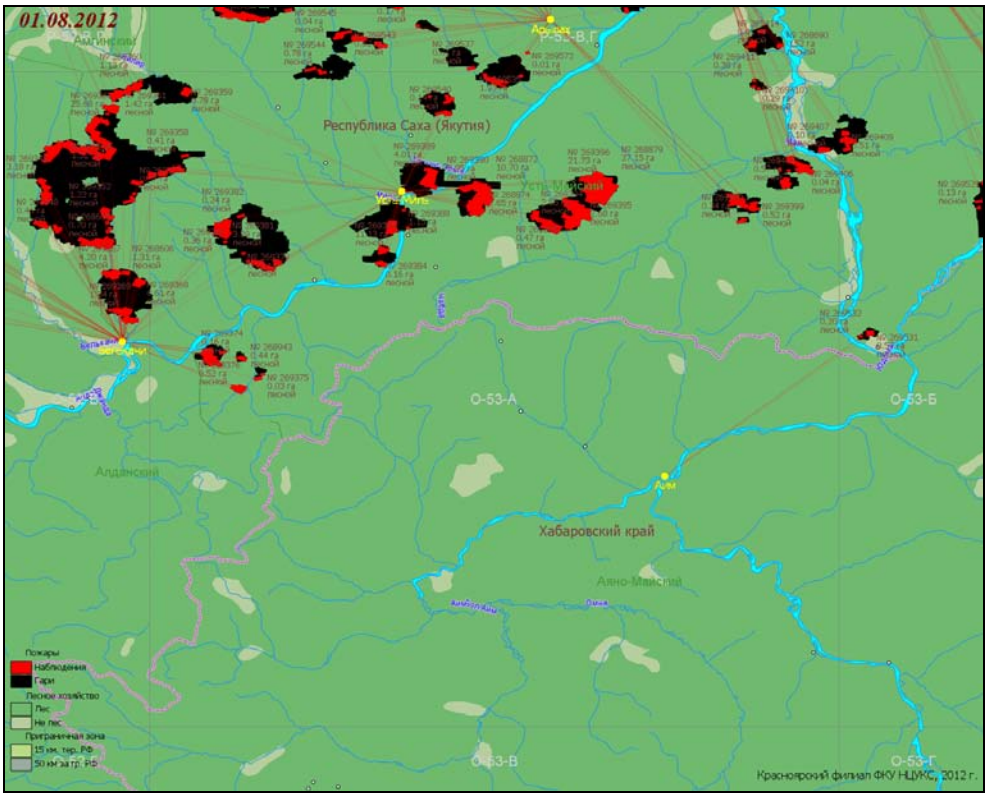
Active fires burning in Sakha Republic, afternoon of 01 August 2012.
Source: Sukachev Institute of Forest. Sensor: MODIS instrument on Terra (NASA)



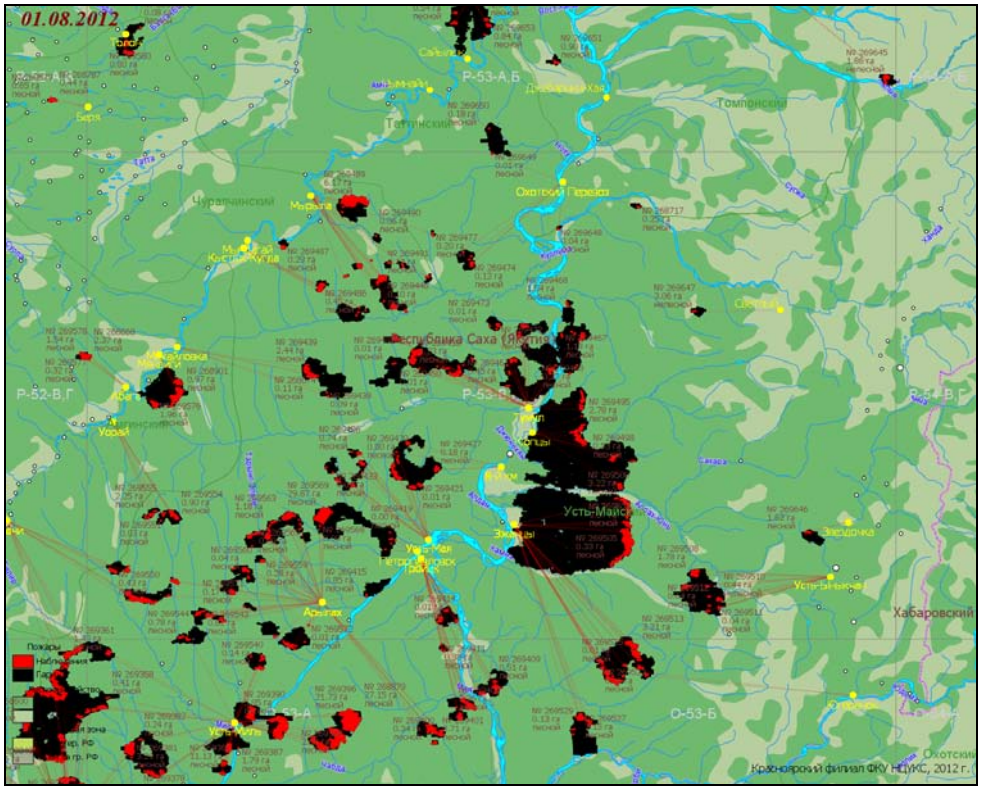
Active fires burning in the border region between Tomsk Oblast and Khabarovsk Krai, afternoon of 01 August 2012. Source: Sukachev Institute of Forest. Sensor: MODIS instrument on Terra (NASA)



Active fires burning in the border region between Khantimansisk and Krasnoyarsk Krai, afternoon of 01 August 2012. Source: Sukachev Institute of Forest. Sensor: MODIS instrument on Terra (NASA)



Active fires burning in the border region between Sakha Republic and Khabarovsk Krai, afternoon of 01 August 2012. Source: Sukachev Institute of Forest. Sensor: MODIS instrument on Terra (NASA)



Active fires burning in the border region between Sakha Republic and Khabarovsk Krai, afternoon of 01 August 2012. Source: Sukachev Institute of Forest. Sensor: MODIS instrument on Terra (NASA)

Agricultural fire burning in Rostowkaia Oblast, around noon of 01 August 2012.
Source: Sukachev Institute of Forest. Sensor: SPOT.

Links / other sources:

Aerocosmos 31 July 2012: http://www.aerocosmos.info/news/detail.php?ELEMENT_ID=1623

Wildland Fire related news from the Media (February – end of July 2012): *Note:* The hyperlinks on the left side of each news are password-protected (User ID and password to enter the GFMC database are available for partners of GFMC). The links on the right side (in brackets) are leading to the original news source; sometimes these news are expiring rather swiftly - a reason for the establishment of the internal GFMC database):

- Russia: Smoke blows into region from Russian forest fires (published by www.mailtribune.com, 27 July 2012)
- Russia: Wildfires Continue to Ravage Siberia (published by http://en.ria.ru, 27 July 2012)
- Russia: Wildfires smoke forces Siberian airport shut (published by http://in.news.yahoo.com, 14 July 2012)
- USA / Russia: From Russia with love? Siberian wildfire smoke means rosy sunsets in Seattle (published by www.usnews.msnbc.msn.com, 11 July 2012)
- Russia: 40,000 Russian firefighters to lose jobs (published by www.twocircles.net, 10 July 2012)
- Russia/GFMC: Letter of condolence concerning the loss of Russian firefighter paratroopers (published by the Russian Federal Forest Service, 8 June 2012)
- Russia/GFMC: Letter of condolence concerning the loss of Russian firefighter paratroopers (transmitted to the Russian Federal Forest Service, 7 June 2012)
- Russia: Eight parachutists firefighters were lost at forest fire suppression in Tyva (published by www.kp.ru, 07 June 2012)
- Russia: Unique Aircraft Spots Forest Fires 60km Away (published by www.en.rian.ru, 16 May 2012)
- Russia: Wildfire areas enlarge to 3,075 ha in Siberia (published by www.itar-tass.com, 24 April 2012)
- Russia: Wildfires Claim First 2 Deaths (published by www.themoscowtimes.com, 24 April 2012)
- Russia: Wildfires Ravage Far Eastern Villages (published by http://en.rian.ru, 20 April 2012)
- Russia: Zubkov Warns Governors on Fire Preparation (published by www.themoscowtimes.com, 20 April 2012)
- Wildfires Hit Zabaikalsky Town (published by www.themoscowtimes.com, 18 April 2012)
- Fierce Winds Feed Flames in Zabaikalsky Fires (published by www.themoscowtimes.com, 13 April 2012)
- At Least 13 Dead As Massive Wildfire Sweeps Through Siberia (published by www.businessinsider.com, 10 April 2012)
- $20 M Fine for Siberian Forest Fire (published by www.themoscowtimes.com, 10 April 2012)
- Wildfires threaten endangered leopards in Far East (published by www.rt.com, 21 March 2012)
- Scientists: this winter's cold not unprecedented (published by http://english.ruvr.ru, 09 February 2012)

Background on Wildland Fires in the Russian Federation

- Preliminary Assessment of the Fire Situation in Western Russia in 2010 (IFFN 40)
- Importance of Aerospace Remote Sensing Approach to the Monitoring of Nature Fire in Russia (IFFN 40)
- Forest Fire and Smoke Episode in Western Russia 2010
- IFFN Russian Federation Special Issue (IFFN 32)
- Russia 2002 fire report
- IFFN Russian Federation 2002 Fire Special (IFFN 28)
- IFFN Reports from Russia
- Fire Research Campaign Asia-North (FIRESCAN)

Bibliography on fire in ecosystems of boreal Eurasia

One of the results of the first international fire science conference in the Russian Federation (1993) was the publication of a monograph on fire in boreal Eurasia, including some selected contributions on boreal North America. The literature cited in the monograph contains numerous publications which in many cases are not easily accessible. To facilitate literature search the bibliographical sources are provided by topic (chapter).

Goldammer, J.G. and V.V. Furyaev. 1996. Fire in Ecosystems of Boreal Eurasia. Kluwer Academic Publishers, Dordrecht, 390 p.