

# Satellites reveal Russian fires worst in 14 years

September 13 2010



Number of fires occurring in Moscow during August from 1996 to 2010. Although all fires are not detected due to satellite revisit times and cloud coverage, the plot is statistically representative from one month to the other and from one year to the other. These data are based on results from the Along Track Scanning Radiometer (ATSR) on ESA's ERS-2 satellite and the Advanced Along Track Scanning Radiometer on Envisat. Data from these sensors are compiled to create ESA's ATSR World Fire Atlas which is available online to users within six hours. Credits: ESA

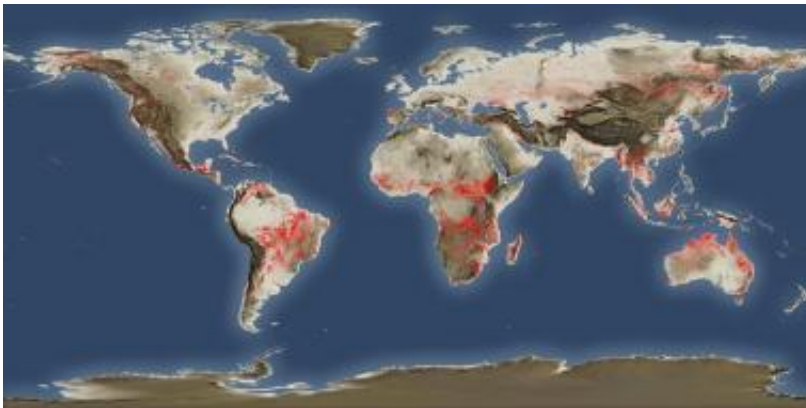
(PhysOrg.com) -- More wildfires have burned around the Russian capital this year than in the last decade and a half, according to sensors aboard ESA's observation satellites. The forest and peat bog fires ignited this summer amid an unprecedented heat wave of up to 40C.

Working like thermometers in the sky, the Along Track Scanning Radiometer and the Advanced Along Track Scanning Radiometer on ESA's ERS-2 and [Envisat](#) satellites measure thermal-infrared radiation to take the temperature of Earth's land surface.

Flames reach temperatures that are detected by these sensors and confirm the presence of fire.

Data gathered from fires across Russia from July 1996 to the present were used to plot the number of fires occurring monthly. The region near Moscow showed around six times the number of fires this August compared to previous years.

Data from these sensors are compiled to create ESA's ATSR World Fire Atlas which is available online to users within six hours. The atlas - the longest worldwide fire record available - also provides the time, date, longitude and latitude of the hot spots.



The ESA global detection of hot spots by ERS-2's Along Track Scanning Radiometer (ATSR-2) and Envisat's Advanced Along Track Scanning Radiometer (AATSR) from July 1996 to August 2010. These twin radiometer sensors work like thermometers in the sky, measuring thermal infrared radiation to take the temperature of Earth's land surfaces. Temperatures exceeding 312° K (38.85 °C) are classed as burning fires. Credits: ESA

The atlas is an important scientific resource because fires have a significant impact on global atmospheric pollution, with biomass burning

contributing to the global budgets of [greenhouse gases](#) such as like carbon dioxide.

The data are used for research in [atmospheric chemistry](#), land-use change, global change ecology, meteorology and fire prevention and management.

Provided by European Space Agency

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