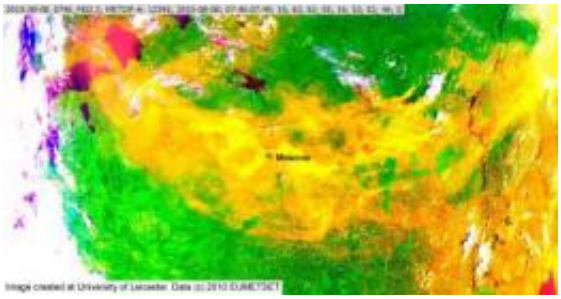
Fires around Moscow: A satellite perspective

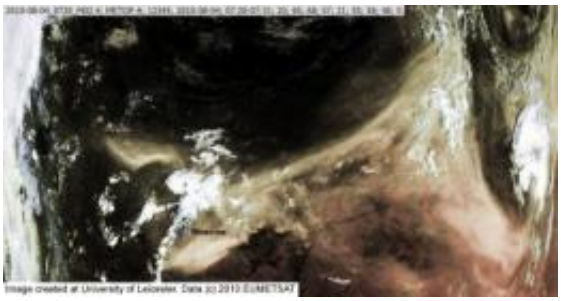
August 13 2010



This is a false color image from Aug. 8 which highlights the smoke from the wildfires as bright yellow -- these clouds are moving towards Finland in the extreme top left of the picture. Credit: Image created at University of Leicester, Credit for data: EUMETSAT

Space scientists at the University of Leicester have released satellite images of vast plumes of smoke emanating from the peat bog fires which are currently sweeping across central and western Russia.

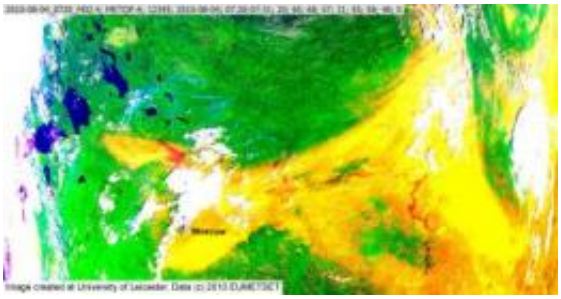
Using equipment on the European satellite MetOp-A researchers from the University's Earth Observation Science group have analysed and released still images taken on 4, 8 and 9 August.



This is an enhanced true color image for August 4. Credit: Image created at University of Leicester, Credit for data: EUMETSAT

Each satellite image is available as both a true colour image and as a false colour version in which the smoke shows up as yellow. Using this technique, the extent of the smoke plumes and their encirclement of Moscow becomes obvious.

As well as demonstrating the massive extent of the smoke clouds across Western Russia, the satellite images indicate another interesting phenomenon: pyrocumulonimbus clouds. These are water clouds, caused by hot air rising directly from a fire, which can trap airborne pollution and transport it for thousands of kilometres. The image from 8 August clearly shows these clouds moving towards Finland in the extreme top left of the picture.



This is a false color image from August 4 which highlights the smoke from the

wildfires as bright yellow. Credit: Image created at University of Leicester, Credit for data: EUMETSAT

Dr David Moore from the Earth Observation Science Group said,: "Using measurements from spaceborne instruments, we have been able to observe the vast extent of the smoke released from numerous wildfires in Western Russia. The pollutants contained within these smoke plumes can have a profound effect on both the local and regional air quality and atmospheric chemistry. A key aspect of our ongoing investigations will be to quantify the impact the fires have had on indirect greenhouse gases in the atmosphere, such as carbon monoxide."

The Earth Observation Science (EOS) group is based in the University of Leicester's Space Research Centre and includes staff from the Department of Physics and Astronomy, the Department of Chemistry and the Department of Geography. Earlier this year the EOS group released satellite images of the volcanic ice clouds which enveloped Europe after an eruption in Iceland.

Provided by University of Leicester