

## The Earth seen from above: signs of fires

This image was taken by the ASTER sensor installed on the **NASA TERRA** satellite platform. The image was taken on 27 July 2005 and shows the north-eastern part of Sardinia. The **RGB representation** is composed of the 8-3-2 bands of the sensor corresponding to the **medium infrared, near infrared and red wavelengths**. The image's **spatial resolution** is 15 metres.

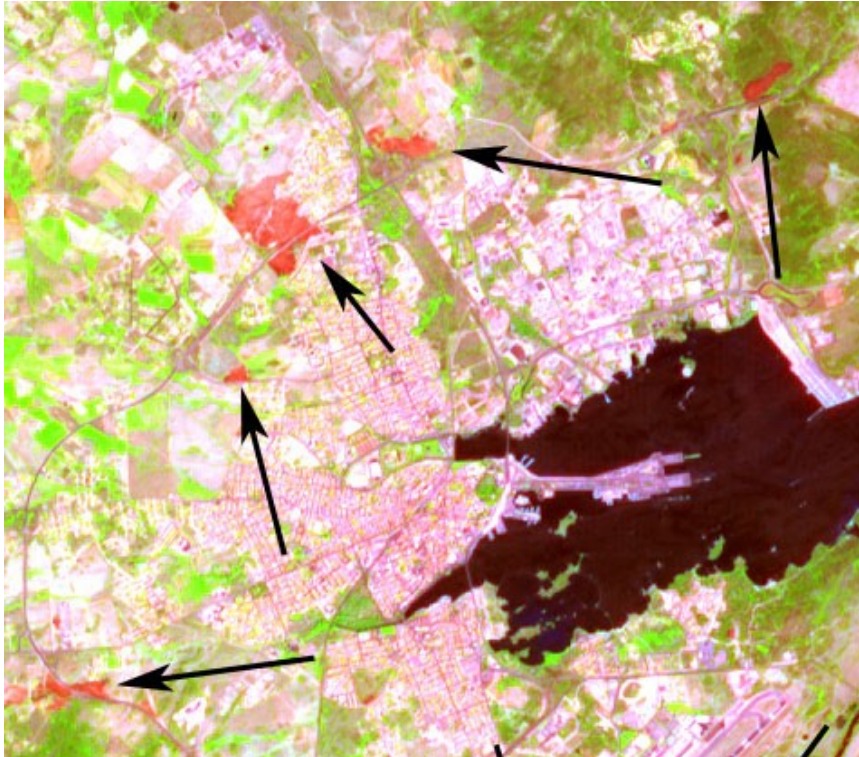


The picture shows us the beautiful rugged coast of Gallura overlooking the islands of the Maddalena archipelago (North). In the centre of the image on the coast is the urban area of the city of Olbia with the deep inlet sheltering its harbour. If you look closely, you can identify dozens of red spots of different shapes and sizes, scars in the fabric of the natural territory: these anomalous elements are signs of fires, traces of their passage and evidence of burnt areas. In the summer of 2005, there was a very high number of fires (2,092) that burned 4,500 hectares of land and 650 hectares of woodland (Source: Ministry of the Interior).

Despite the high number of fires, almost all of them due to arson, it was possible to control their extent and minimise the damage thanks to the prompt action of the fire squad of the Region of Sardinia. However, the impact on the territory and on the forestry resources was so high that at the end of the season over 10,000 hectares of land had been burnt with an increase of 275% compared to the seasonal average (Source: State Forestry Corps).

### Magnifications

To better understand the phenomenon, let's observe some magnifications of the image. The first one shows the areas close to the city of Olbia. The picture shows about fifteen burnt areas (indicated by arrows) that reached the houses and even the airport of the city.



Despite the efforts of the fire-fighting units, some fires got out of control. For example, on 23 July in the municipality of Palau, in just one day, a fire destroyed an area covered with Mediterranean scrub measuring over 240 hectares, that is an area the size of 400 football fields!



The fires also involved natural areas of great interest such as some areas of the Maddalena Archipelago Park. The image shows one of the largest fires with an extension of more than 10 hectares on July 9. In this case too, the fire destroyed the Mediterranean scrub, an ecosystem of great naturalistic value.

As we have seen, satellite images provide vital support in detecting fires in progress, monitoring their path and perimeter areas to assess damage and impacts on natural ecosystems.

Unfortunately, these instruments cannot solve the problem of fires, which very often are caused by arson. We can do a great deal by improving our conduct, avoiding risky behaviour such as lighting fires where we should not or by alerting the appropriate authorities in good time as soon as we become aware of a fire. So when you go on holiday or travel, always remember to take the numbers of the Civil Protection, Fire Brigade and the State Forestry Corps with you so that you can report potentially dangerous situations without delay!