Sentinel Vision
EVT-047
08 June 2017

2D Layerstack

Deadly forest fire in Portugal mapped by Sentinel-3

Sentinel-3 OLCI FR acquired on **14 June 2017** at 10:49:32 UTC
Sentinel-3 SLSTR RBT acquired on **14 June 2017** at 10:49:32 UTC
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Sentinel-3 SLSTR RBT acquired on **21 June 2017** at 11:08:14 UTC

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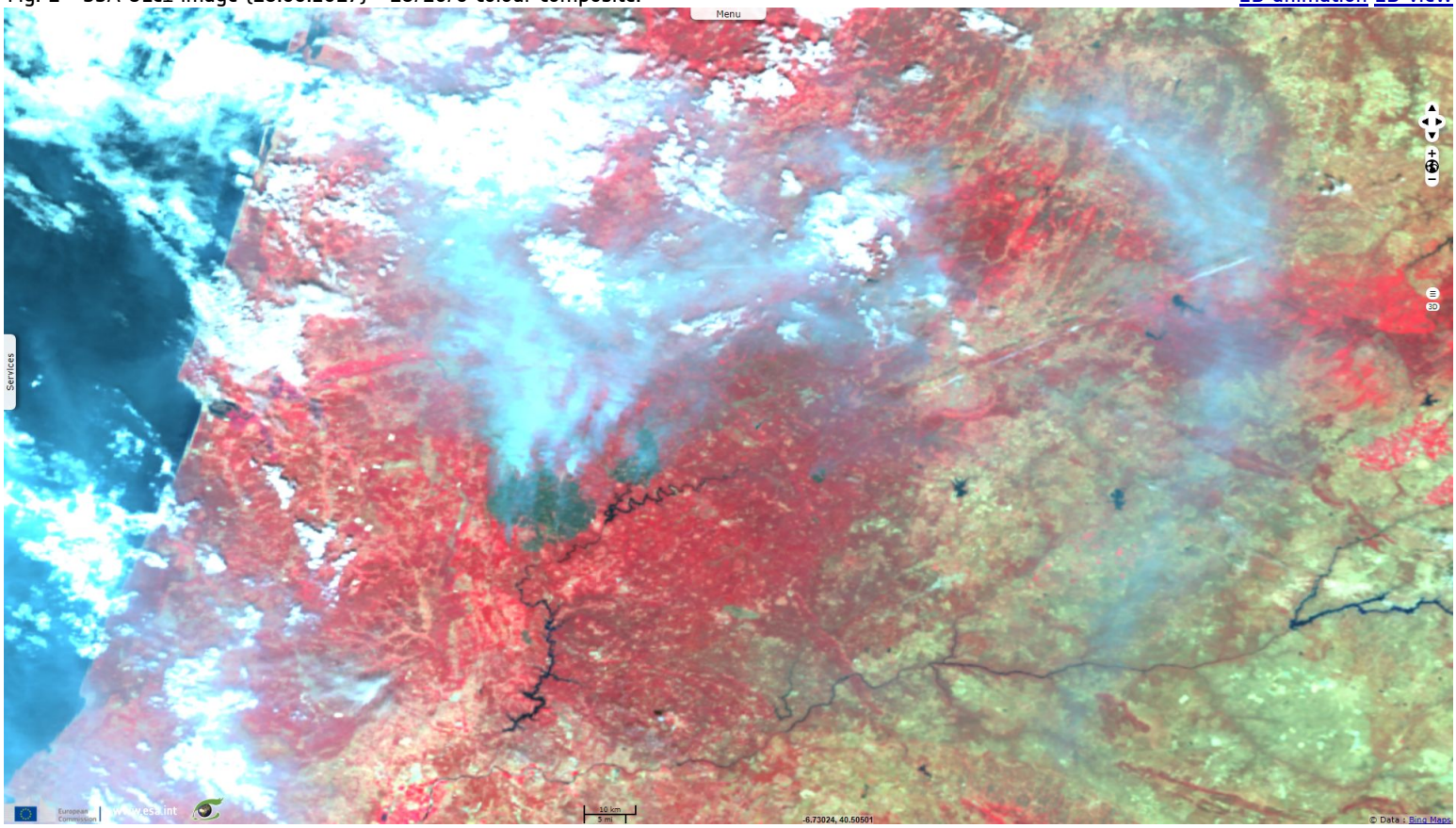
Keyword(s): disaster monitoring, emergency, forestry, forest fire, wildfire, smoke, Portugal

Fig. 1 - S3A OLCI image (18.06.2017) - 18/10/6 colour composite. 2D animation 2D view



On this OLCI colour composite, vegetation appears in red, smoke in gray and burnt areas in dark green.

Fig. 2 - S3A OLCI image (21.06.2017) - 18/10/6 colour composite. 2D view

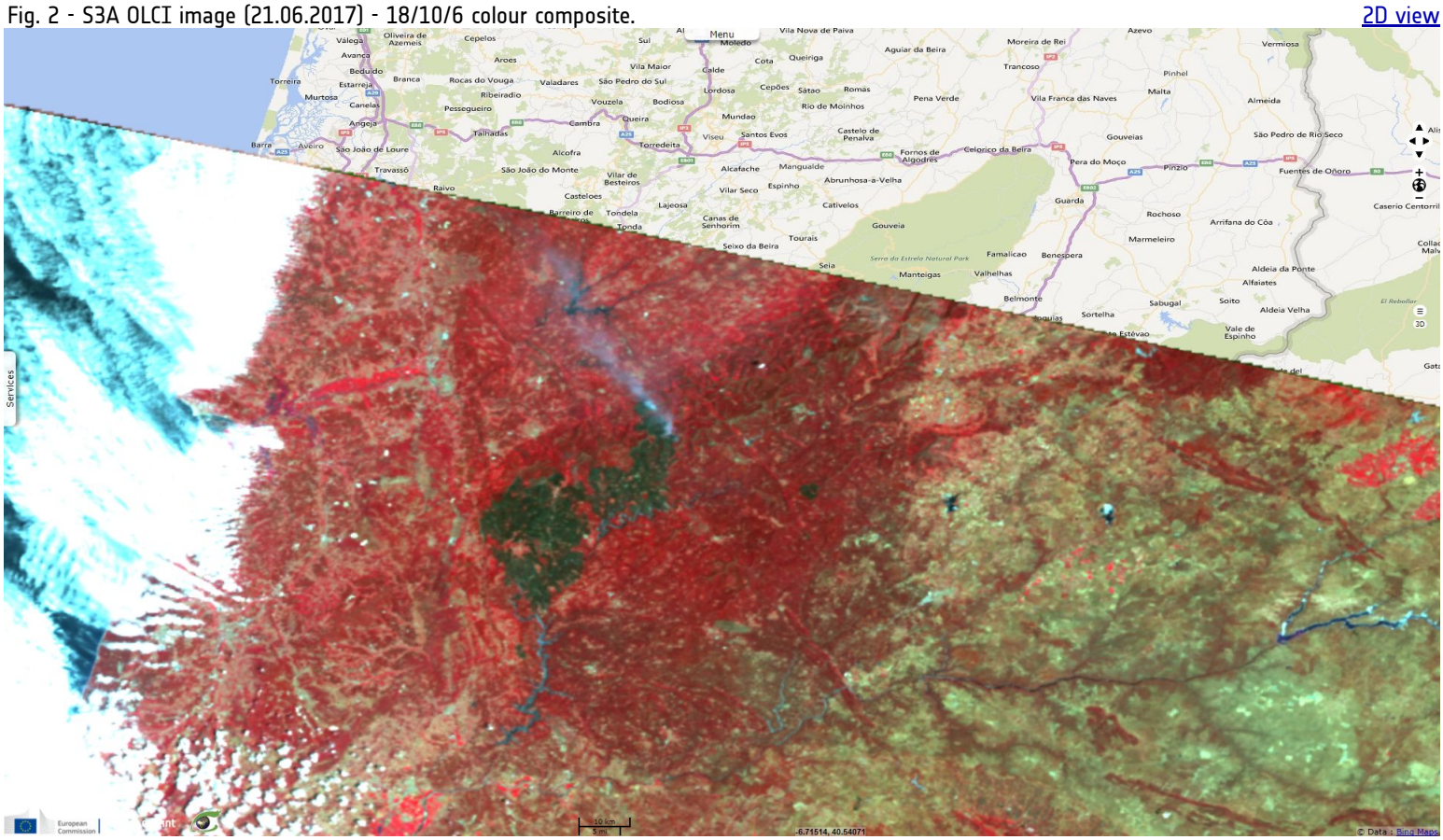
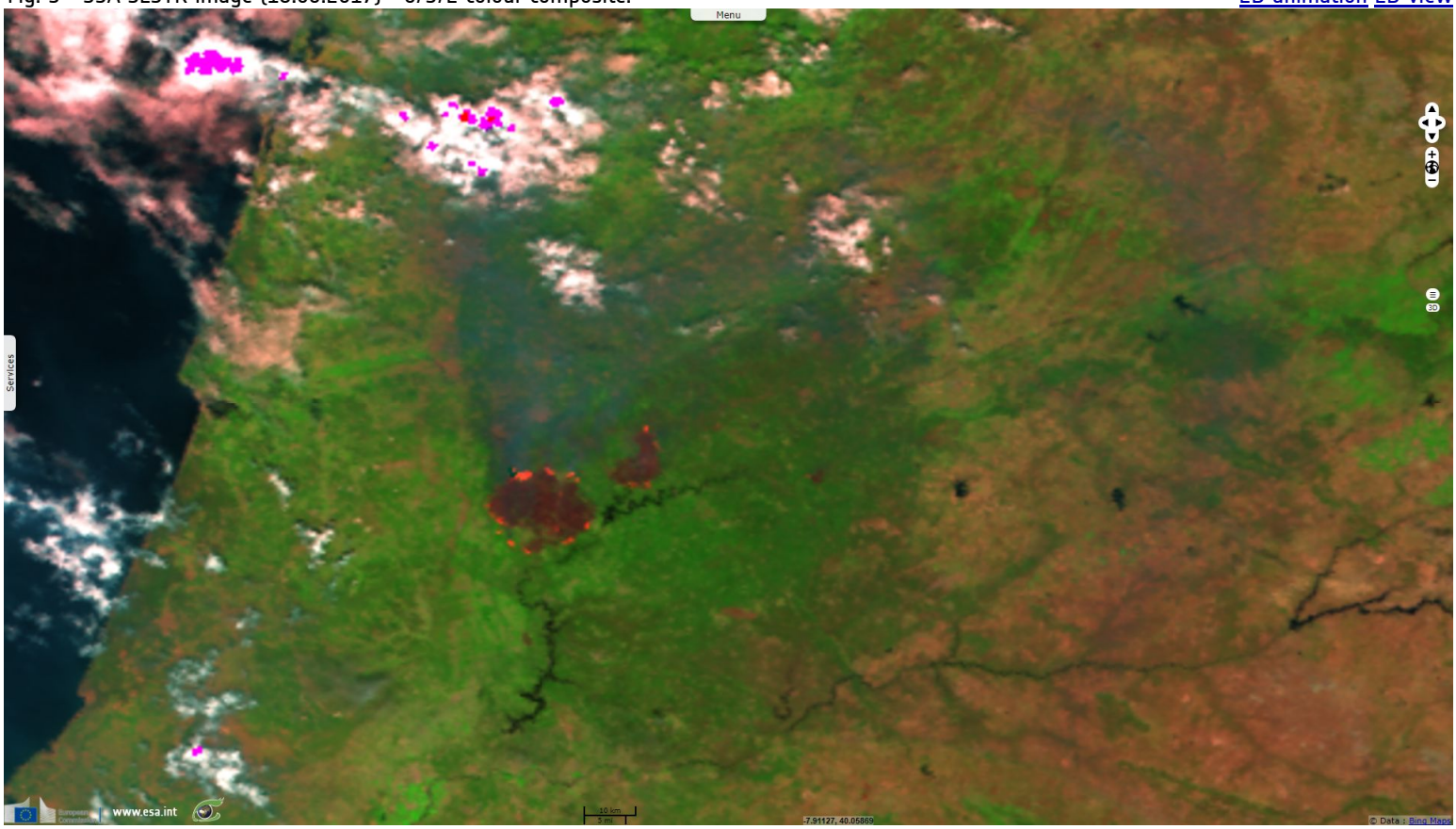


Fig. 3 - S3A SLSTR image (18.06.2017) - 6/3/2 colour composite. 2D animation 2D view



On this SLSTR colour composite, vegetation appears in green, active fire in red and burnt areas in brown.

Fig. 4 - S3A SLSTR image (21.06.2017) - 6/3/2 colour composite. 2D view

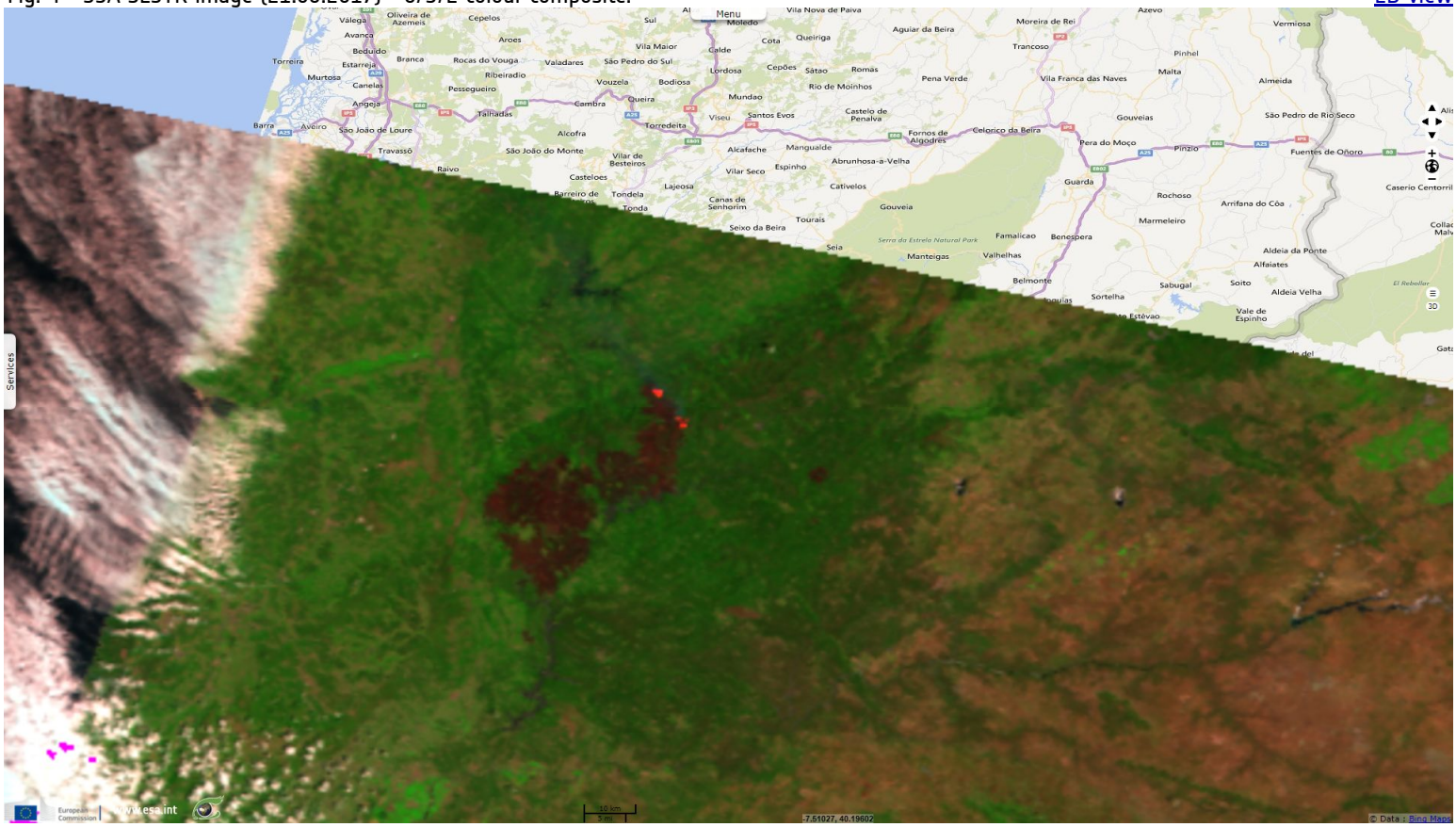
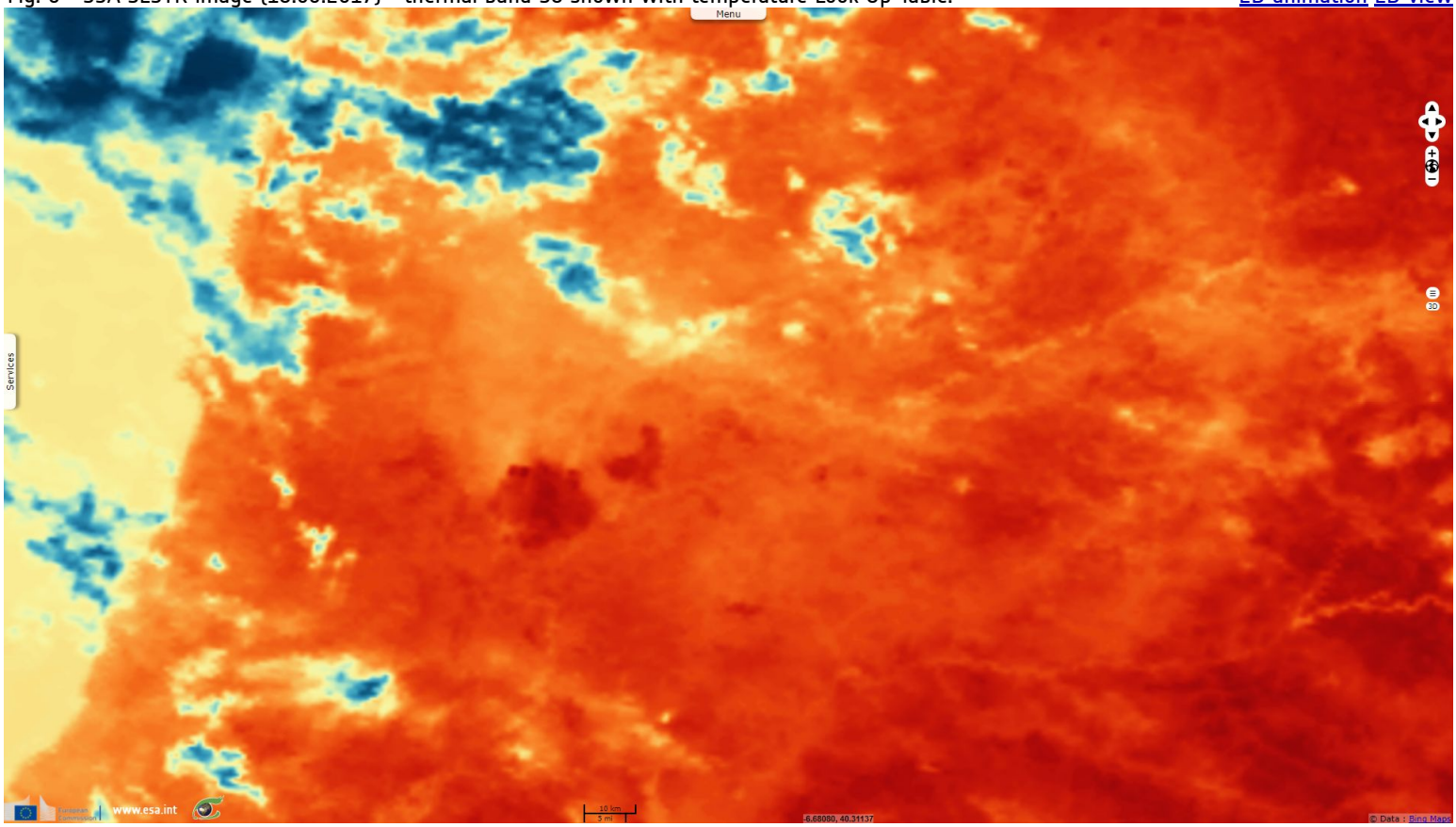


Fig. 5 - Wildfire raging through central Portugal by Patricia de Melo Moreira for Agence France Presse.

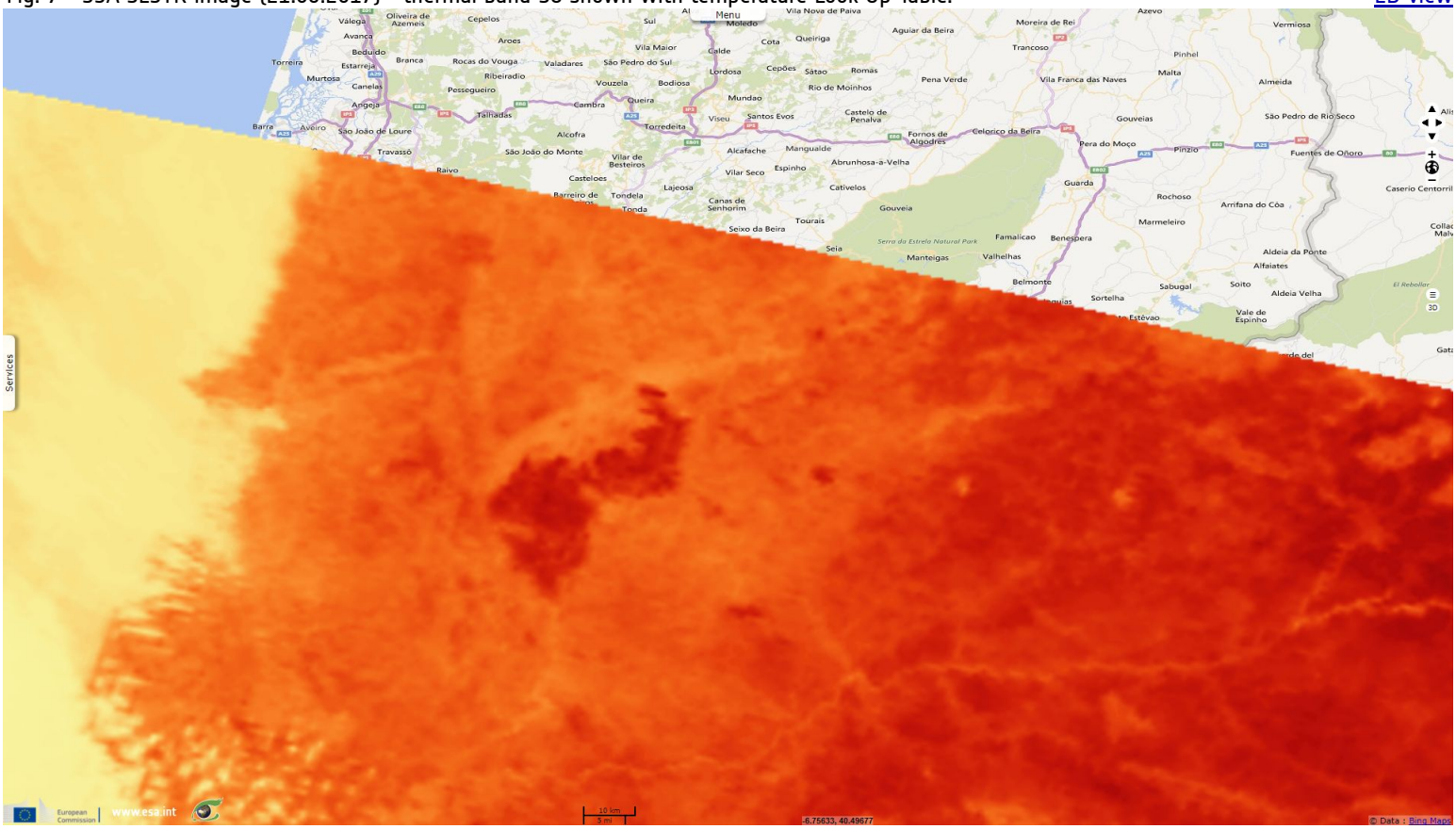
The New York Times informed that "*the initial deadly blaze started on Saturday [17.06.2017], and the flames spread along four fronts with 'great violence,' said Jorge Gomes, the secretary of state for internal administration. By Sunday afternoon [18.06.2017], five infernos were raging in central Portugal, he said.*" "*Domingos Xavier Viegas, a fire expert who is a professor at the University of Coimbra, said the speed of the fire's progression suggested that it had started simultaneously in different places and that its advance was probably aided by the gorges and ravines that cut through the area's terrain.*"

Fig. 6 - S3A SLSTR image (18.06.2017) - thermal band S8 shown with temperature Look Up Table. 2D animation 2D view



Using this look up table, burnt areas appear in a deeper red colour than the surroundings as a result of the remaining heat.

Fig. 7 - S3A SLSTR image (21.06.2017) - thermal band S8 shown with temperature Look Up Table. 2D view



According to the New York Times "*about 1,600 firefighters, assisted by airplanes and helicopters, were working to contain the damage. The police and military units were called in to help.*"
CNN added "*European countries are coming together to assist Portugal. France and Spain have sent planes to help battle the blaze, the European Commission said.*"

Fig. 8 - A scorched forest area in Vale de Cambra, by Miguel Riopa for Agence France Presse.

As of 21.07.2017, the order of magnitude of the scorched area was around 600km². BBC news announced this forest fire in Portugal "*has claimed the lives at least 64 people and injured more than 130 since Saturday.*" "*Many died inside their cars as they tried to escape or were a short distance from them when they became trapped.*"

"*Civil protection officials have said they expect the blaze to be under control soon, but warn that soaring temperatures are hampering efforts. The week's highest temperatures in the area are expected to reach around 38C (100F) and, together with windy conditions, could reignite fires already quelled. Despite 70% of the fire now under control, officials said what remained was a source 'of great concern'.*" " *The government has declared a state of emergency in the forested region around Pedrógão Grande, north-east of the capital, Lisbon.*"