

Climate change widens the Doorway to the Underworld

Sentinel-1 CSAR IW acquired on 17 April 2015 at 21:31:38 UTC
Sentinel-2 MSI acquired on 27 May 2016 at 02:45:52 UTC
Sentinel-2 MSI acquired on 28 May 2019 at 03:05:51 UTC
Sentinel-1 CSAR IW acquired on 12 August 2019 at 21:31:30 UTC

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[2D Layerstack](#)

Fig. 1 - S2 (28.05.2019) - 4,3,2 natural colour - The Batagaika crater is a thermokarst depression in East Siberia, Sakha Republic, Russia.

[2D view](#)

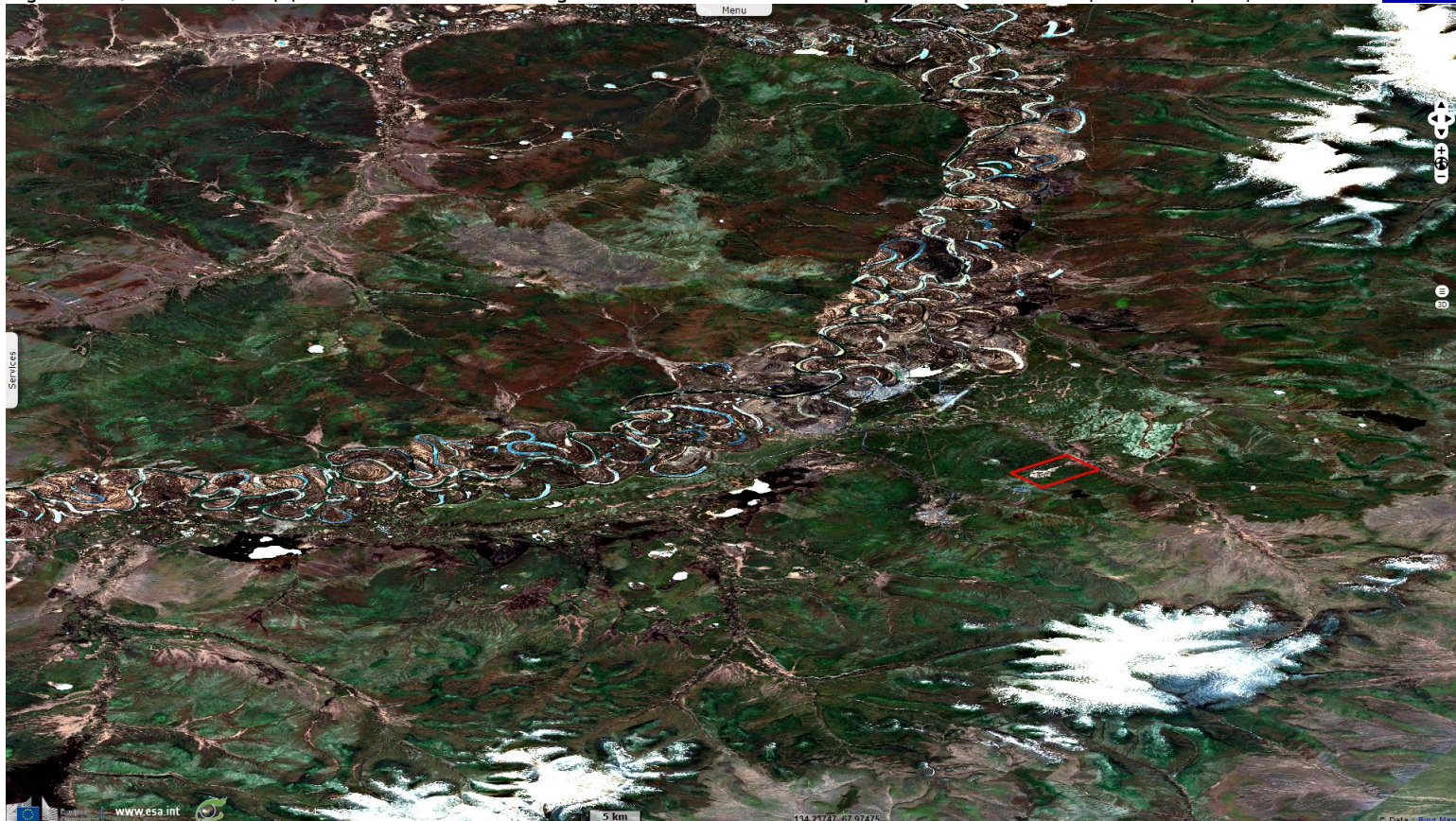


Fig. 2 - S1 (12.08.2019) - vv,vh,vv composite - The land began to sink due to the thawing permafrost after the surrounding forest was cut.

[2D view](#)



As more material at Batagaika's floor melts & comes loose, a larger cliff face is exposed, which in turn increases the speed of permafrost thawing.

Fig. 3 - "The crater will likely eat through the entire hillslope before it slows down", said Mary Edwards of Univ. Southampton. [2D animation](#) [2D view](#)

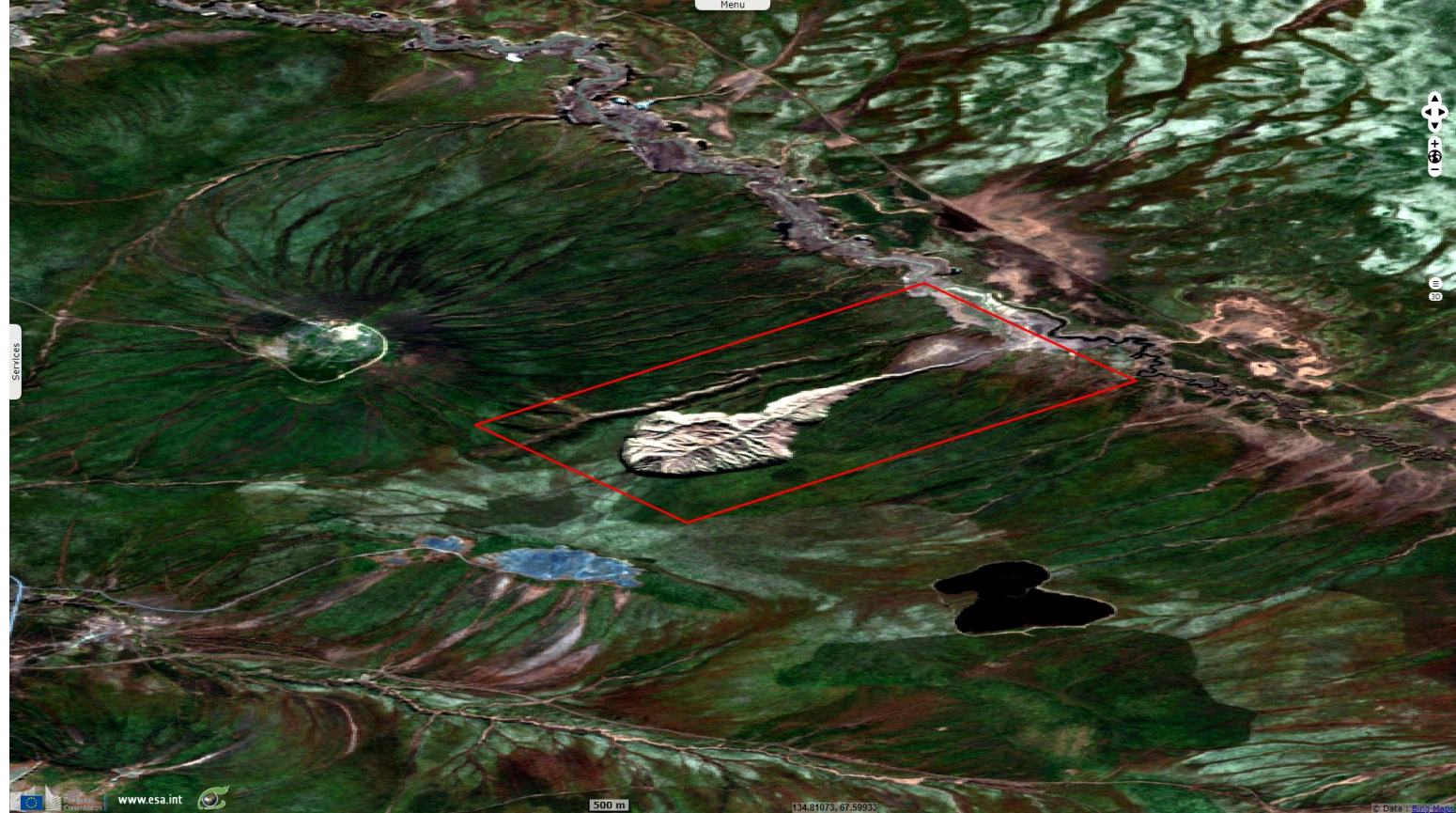
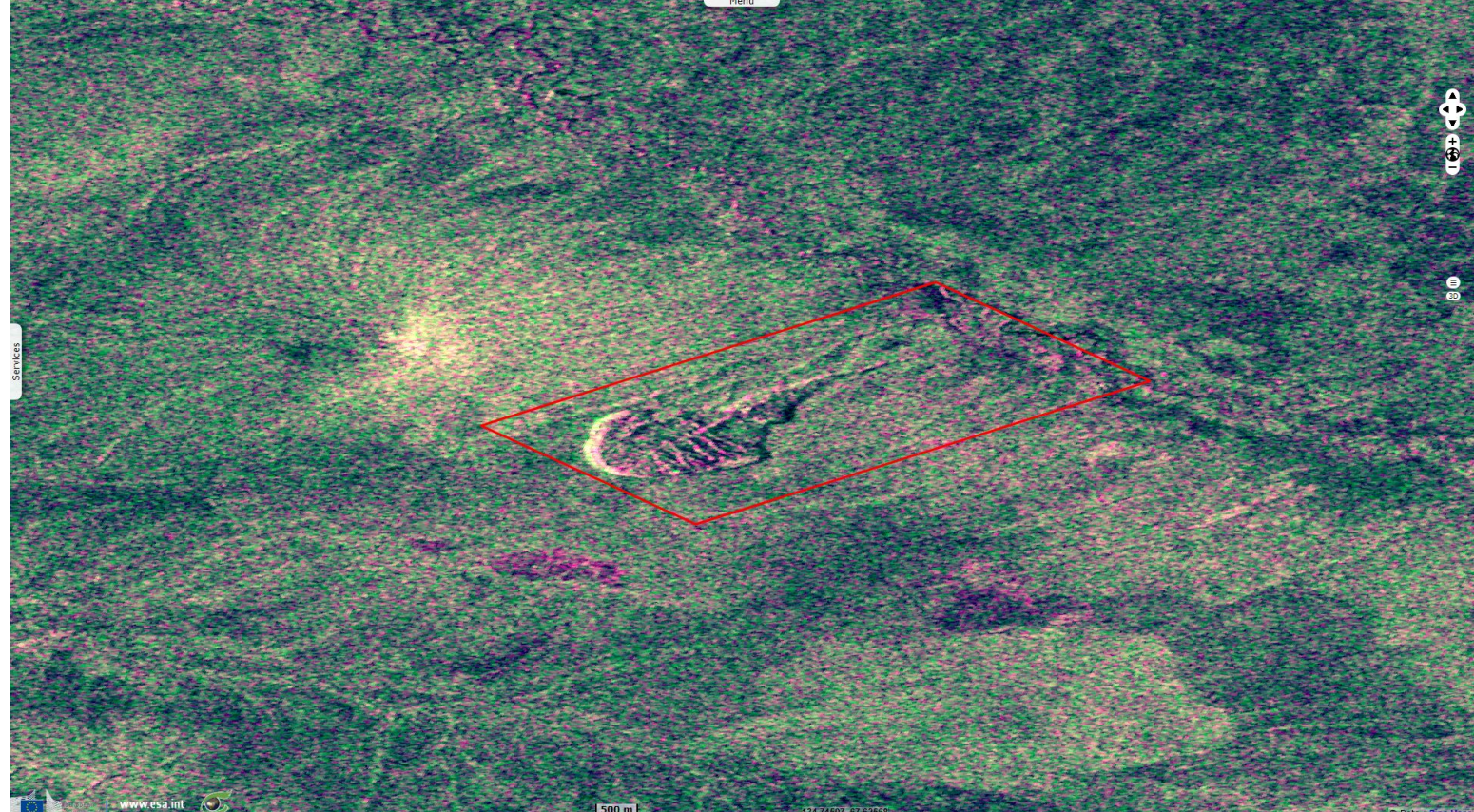














Fig. 4 - Now 1 km long & 86 m deep, it enlarges 10-30 m a year; reaching neighbouring eroding valley could accelerate that. [2D animation](#) [2D view](#)



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