Sentinel Vision
EVT-311
13 September 2018

2D Layerstack

Dam breach causes flooding in Myanmar

Sentinel-1 CSAR IW acquired on **19 August 2018** from 11:46:12 to 11:46:37 UTC
Sentinel-1 CSAR IW acquired on **26 August 2018** from 11:38:00 to 11:38:25 UTC
Sentinel-1 CSAR IW acquired on **31 August 2018** at 11:46:37 UTC
Sentinel-1 CSAR IW acquired on **06 September 2018** at 11:45:28 UTC
Sentinel-1 CSAR IW acquired on **07 September 2018** from 11:38:01 to 11:38:26 UTC

Author(s): Sentinel Vision team, VisioTerra, France - svp@visioterra.fr

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Fig. 1 - S1 (19 & 26.08.2018) - vv,vh,ndi(vh,vv) colour composite, relief x5 - Global view of Myanmar (aka Burma). 2D view 3D view

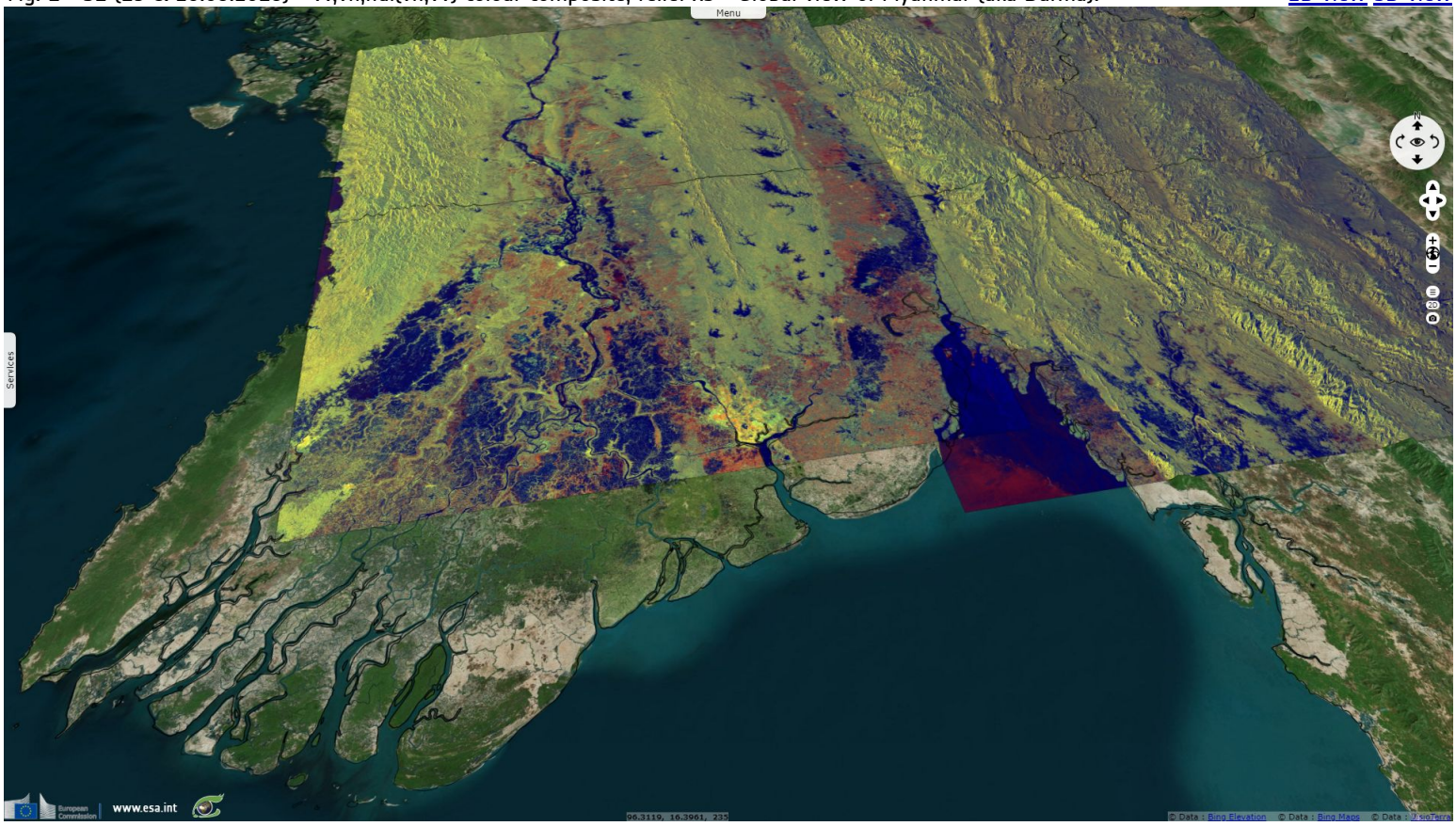
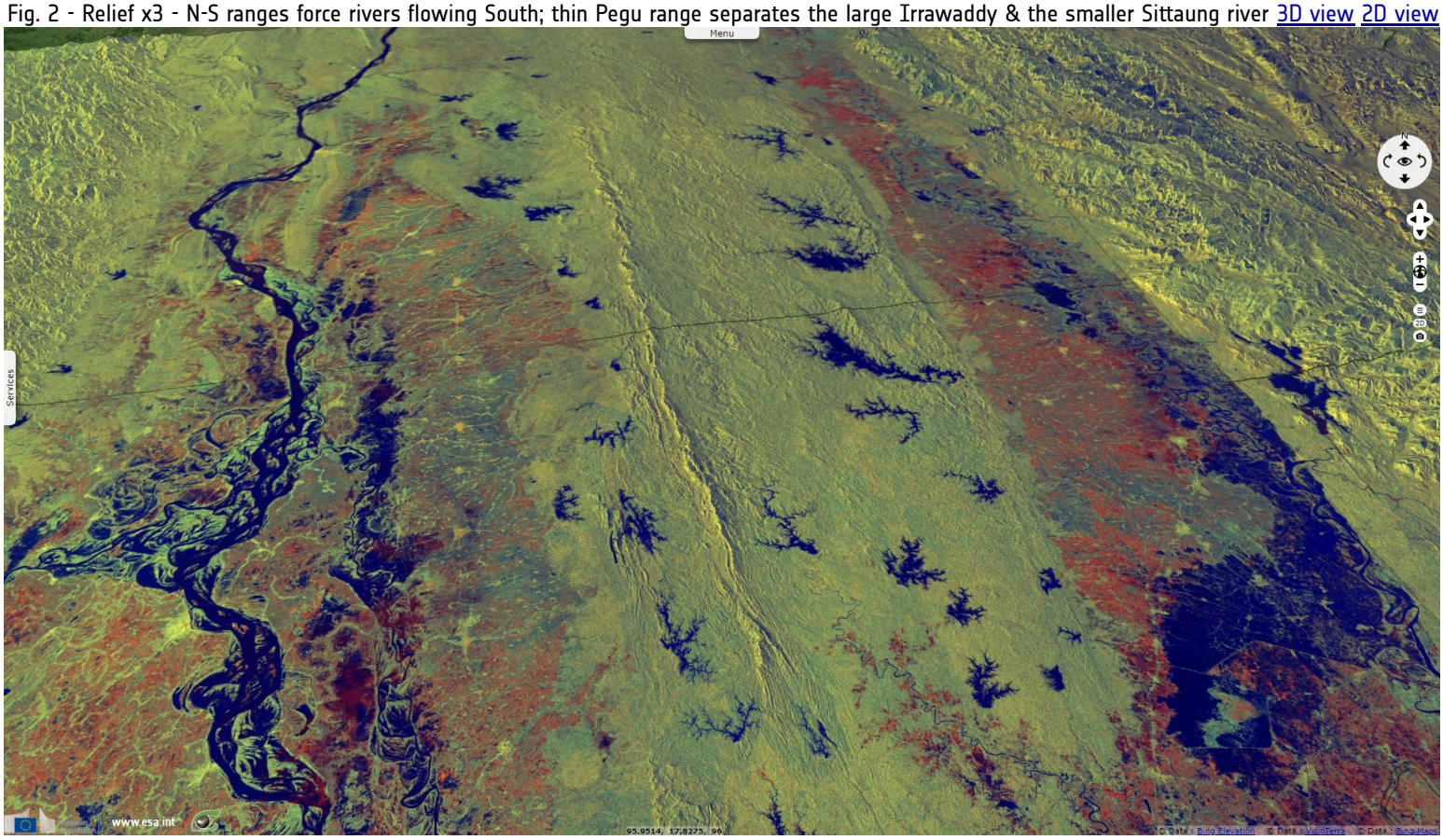


Fig. 2 - Relief x3 - N-S ranges force rivers flowing South; thin Pegu range separates the large Irrawaddy & the smaller Sittaung river 3D view 2D view



Copernicus-funded site floodlist.com reminds the context: "*The breach comes after heavy monsoon rains caused widespread flooding and landslides from mid-July, with Bago Region one of the worst affected. By late July, at least 11 people had died and 120000 people displaced. The death toll has since increased to 16. At one point the number of displaced increased to 149000. As of 02 August, 122500 people were still displaced, with 94000 of them in Bago Region.*"

Fig. 3 - 19.08.2018 - Heavy precipitations flooded part of Myanmar & filled lakes such as Swar Chaung reservoir in Bago region. 3D view 2D view

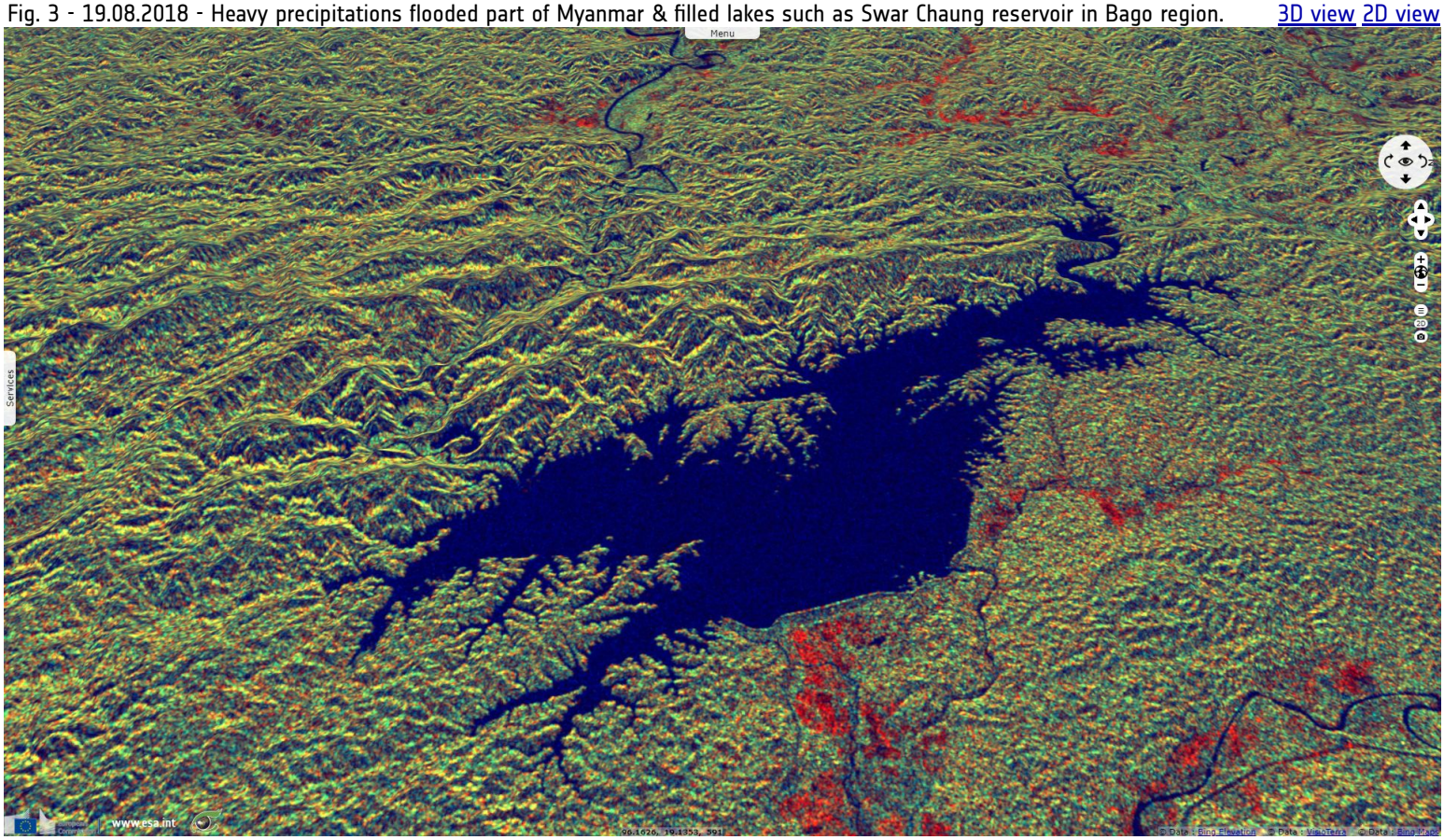
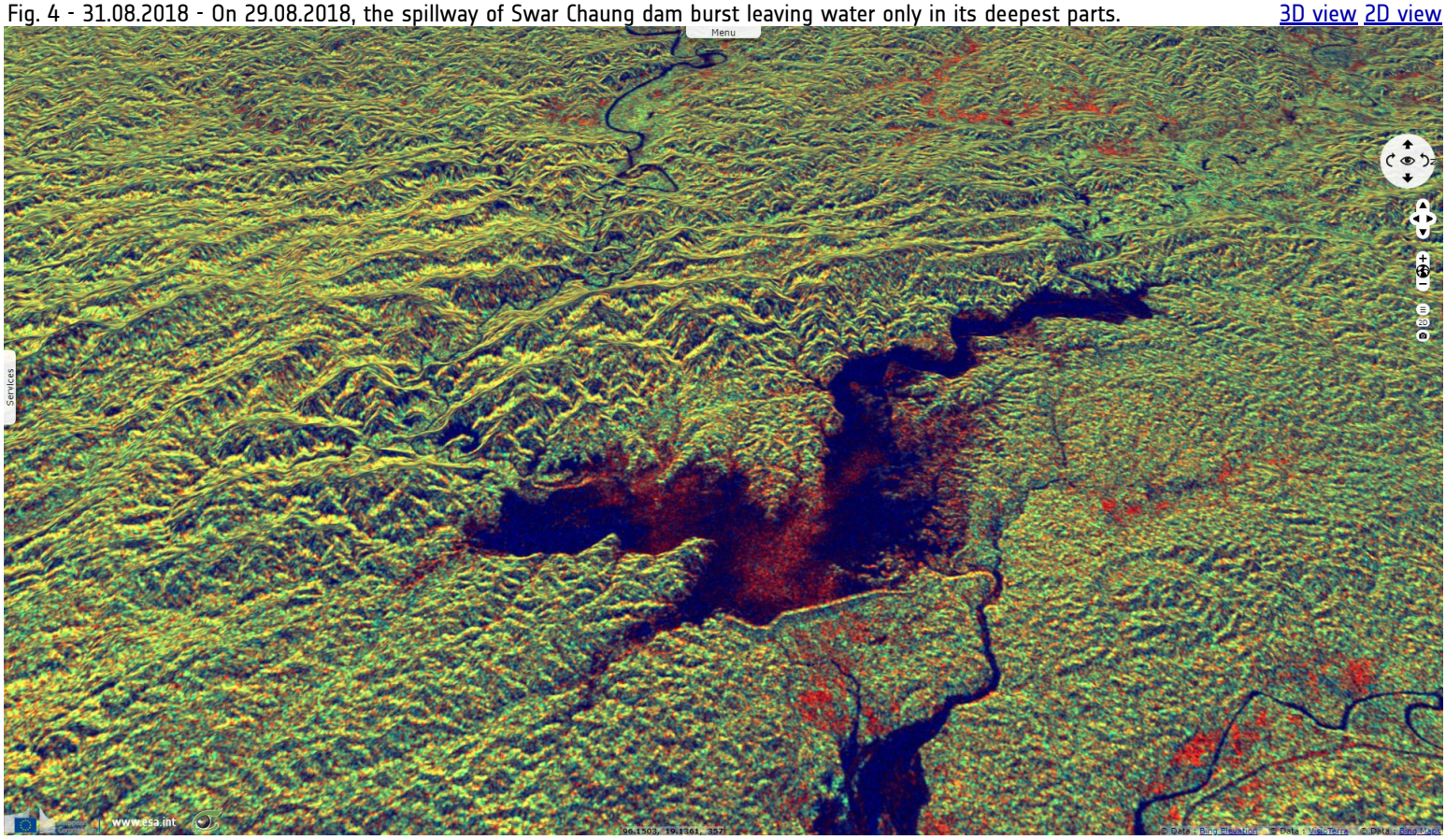


Fig. 4 - 31.08.2018 - On 29.08.2018, the spillway of Swar Chaung dam burst leaving water only in its deepest parts. 3D view 2D view



The non-profit independent service acaps.org details the human impact of this new flooding: "*On 29 August, damage to Swar Chaung dam in Myanmar's Bago Region led to flooding across four townships: Yedashe, Taungoo, Oktwin and Kyaut Gyi. Flooding affected at least 85 villages and by 7 September, some 78500 people from the four townships had to leave their homes. Hundreds of houses were damaged or destroyed, and more than [240km²] of farmland were flooded. As of 6 September, flooding had led to the closure of 325 schools, as infrastructure and materials were damaged. On 4 September, it was announced that of the 772 schools that have been closed, 447 were open again.*"

Fig. 5 - 19.08.2018 - North looking view of the confluent with Sittaung valley before the dam ruptured. 3D view 2D view

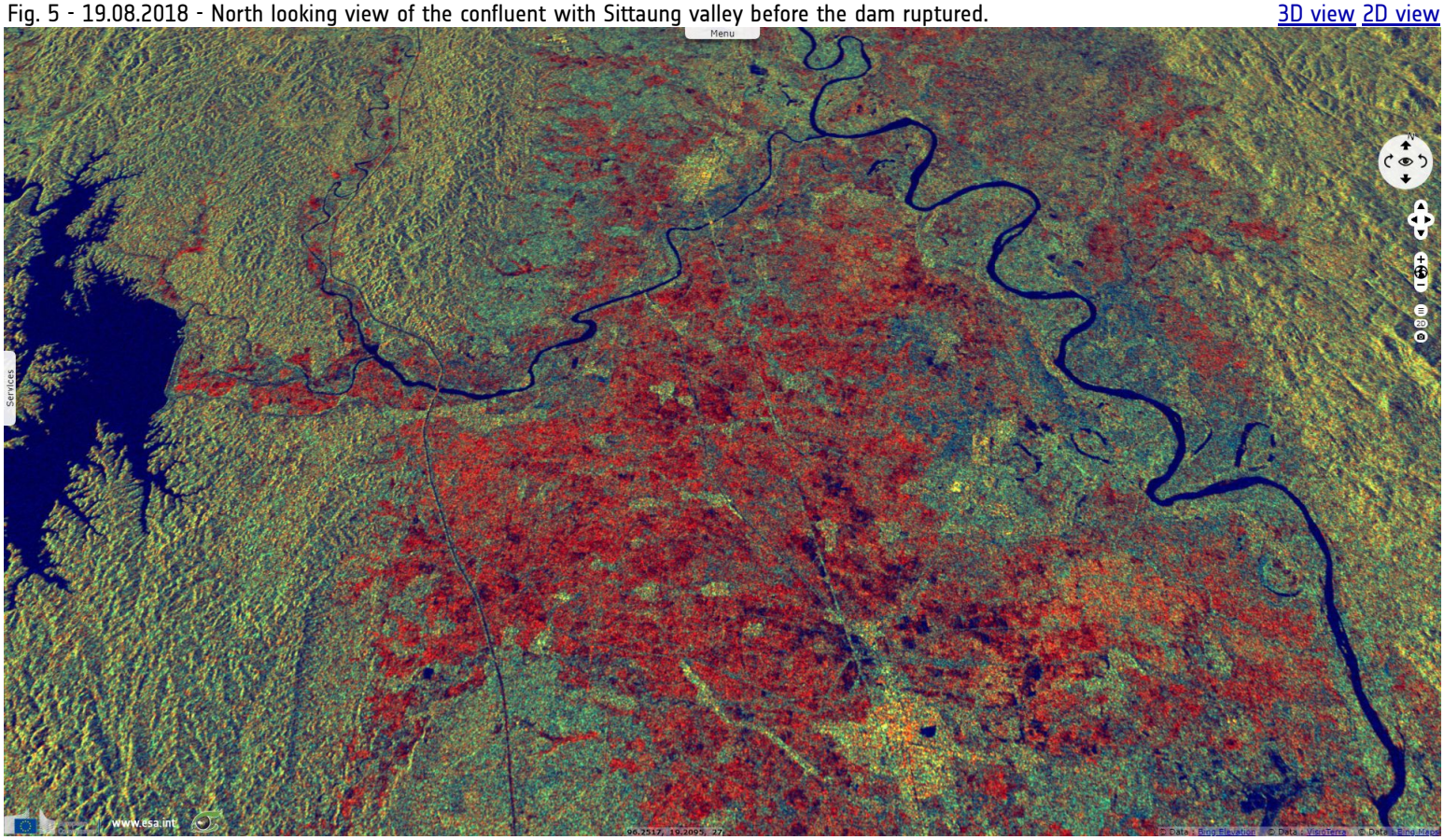
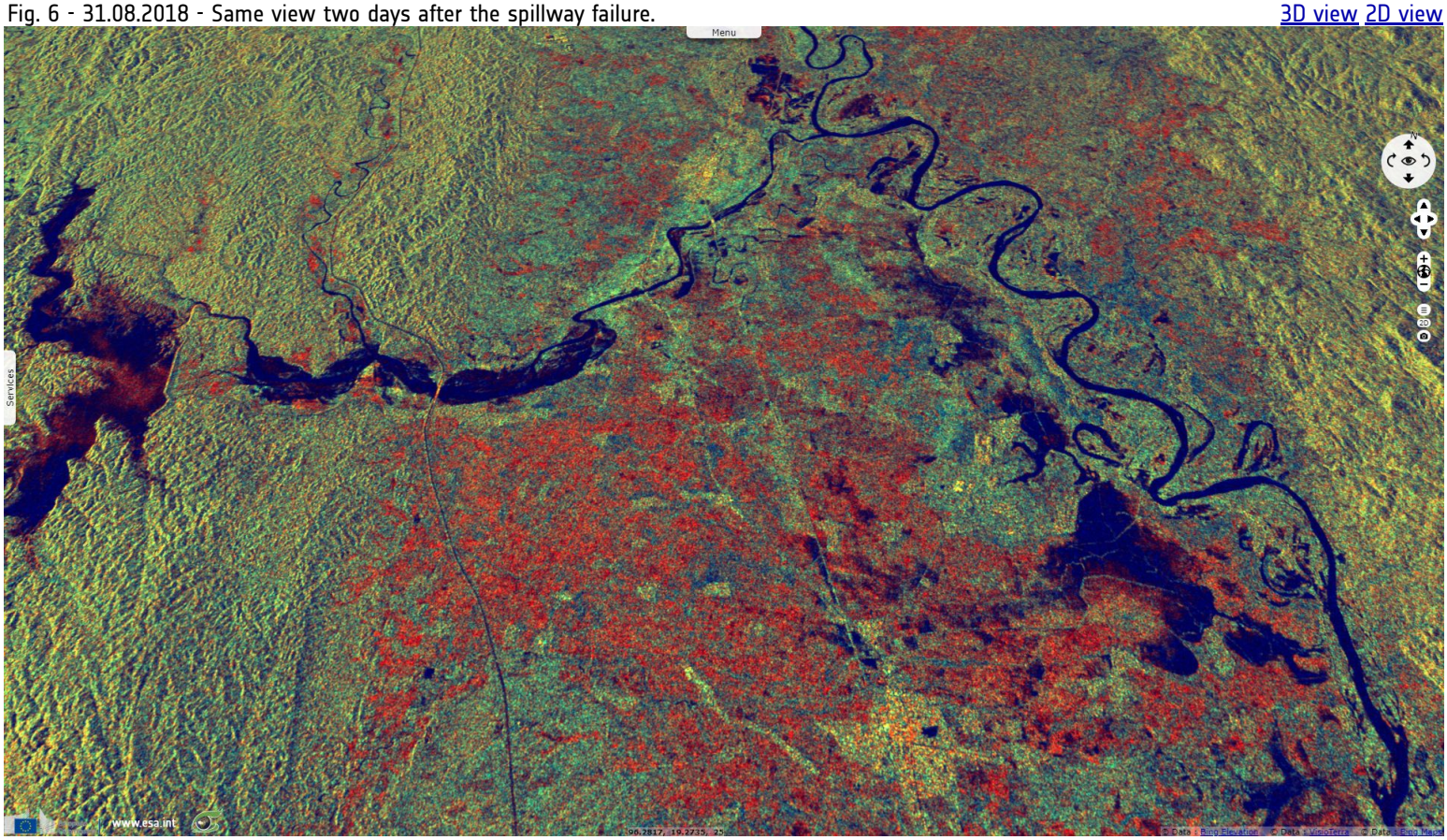


Fig. 6 - 31.08.2018 - Same view two days after the spillway failure. 3D view 2D view



Then, ACAPS estimates the economic impact of the dam breach: "*Damage to critical infrastructure On 30 August, it was reported that water released from the dam had flooded both highways of new Yangon-Mandalay and old Yangon-Mandalay. (Railway lines were inundated between Swar and Yedashe, and railway services were temporarily closed. (AHACentre 30/08/2018) Traffic on the new YangonMandalay highway was suspended, as water damaged Swar Creek Bridge. However, both lanes on the bridge were reopened for traffic after repairs at 7 pm on 31 August. The Yangon-Mandalay highway is one of the most important routes between Myanmar's two largest cities. (Ieyenews 04/09/2018, Eleven Myanmar 01/09/2018) On 6 September, the General Manager of Myanmar Railways stated that four miles worth of railway tracks had been damaged, and that repairs were expected to be completed 'within days'.*"

Fig. 7 - 19 & 26.08.2018 - South looking view of Sittaung river valley, many dams are visible (Swar Chaung dam is bottom right). 3D view 2D view

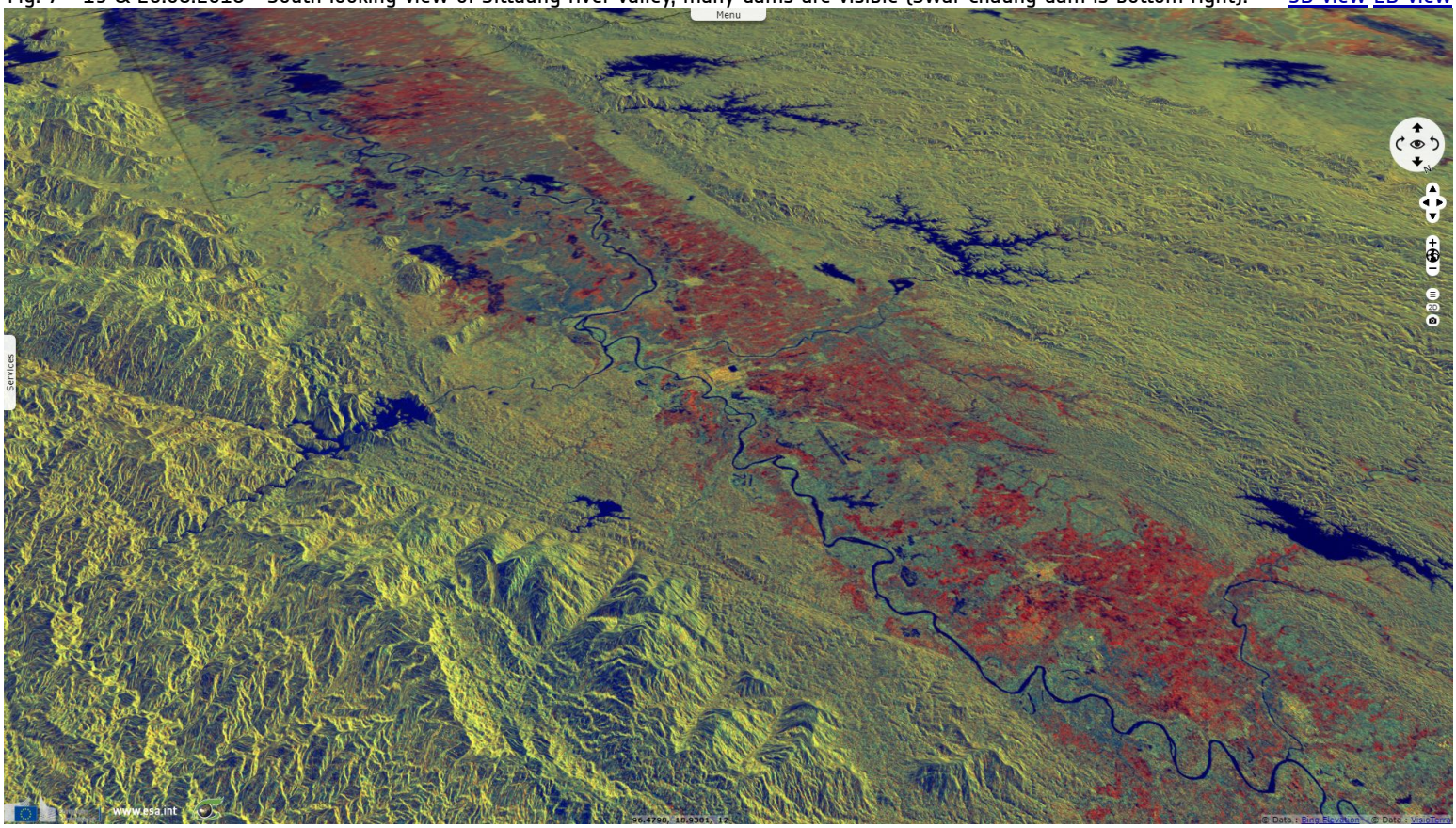
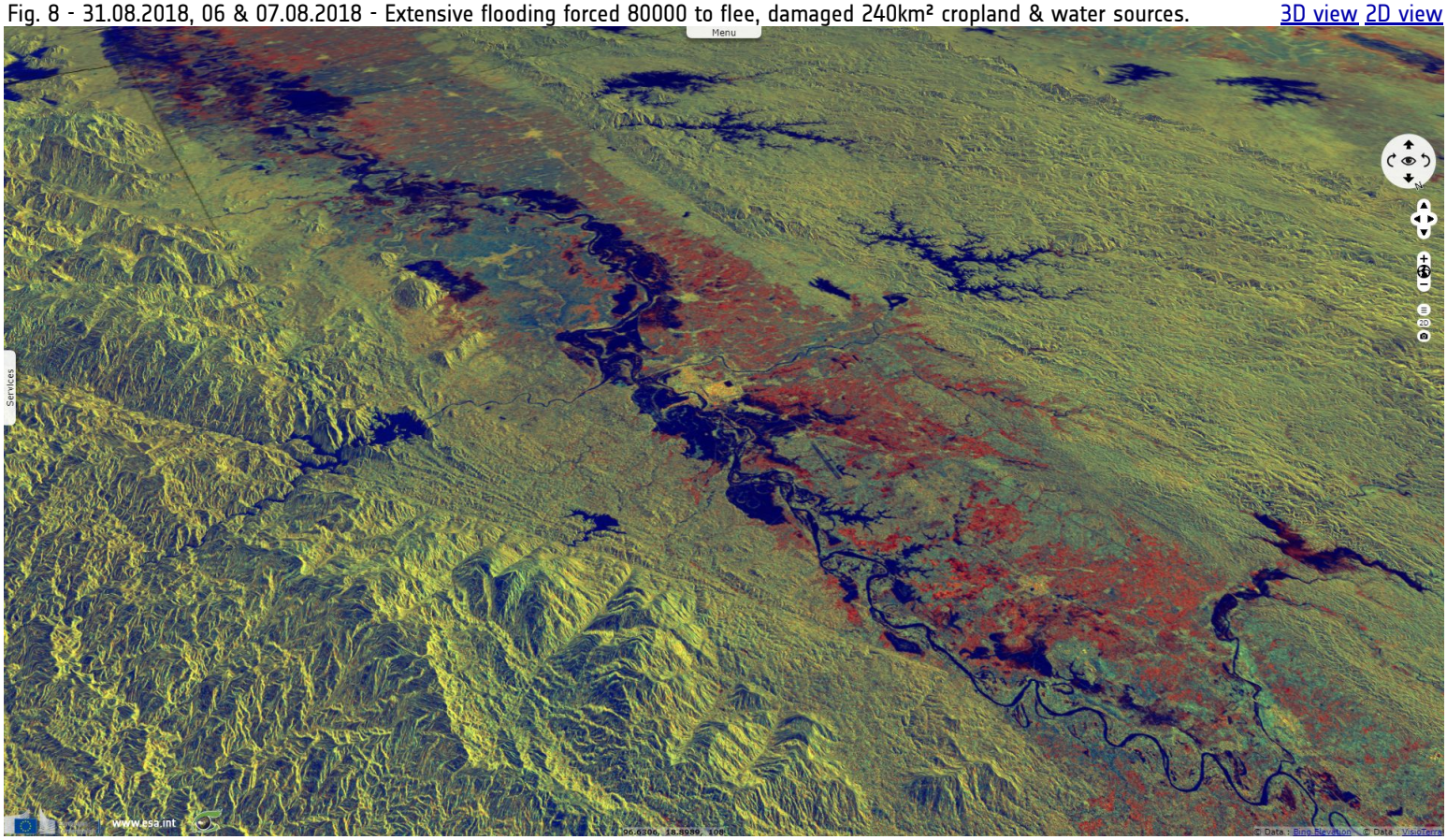


Fig. 8 - 31.08.2018, 06 & 07.08.2018 - Extensive flooding forced 80000 to flee, damaged 240km² cropland & water sources. 3D view 2D view



A man walks over the dried ground of the Swar Chaung dam after water level decreased when the spillway collapsed at Swar township, Bago region on August 30, 2018 - Source: Ye Aung Thu.

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