

Trillion-ton iceberg A-68 is leaving Larsen-C shelf

Sentinel-1 CSAR EW acquired on 10 July 2017 at 00:14:58 UTC
Sentinel-3 SRAL LAND acquired on 12 July 2017 at 11:50:35 UTC

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Sentinel-1 CSAR EW acquired on 16 September 2018 at 23:58:54 UTC
Sentinel-3 SRAL LAND acquired on 25 September 2018 at 11:43:14 UTC

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Keyword(s): Climate change, coastal, polar, sea ice, glacier, iceberg, cryosphere, rift, Antarctica Peninsula, Larsen C ice shelf



[3D Layerstack](#)

Fig. 1 - S1 EW (10.07.2017, hh polarisation σ_0 processing) & S3 SRAL (12-18.07.2017, Height from ocean altimeter range 20hz Plrm Ku) [3D view](#)

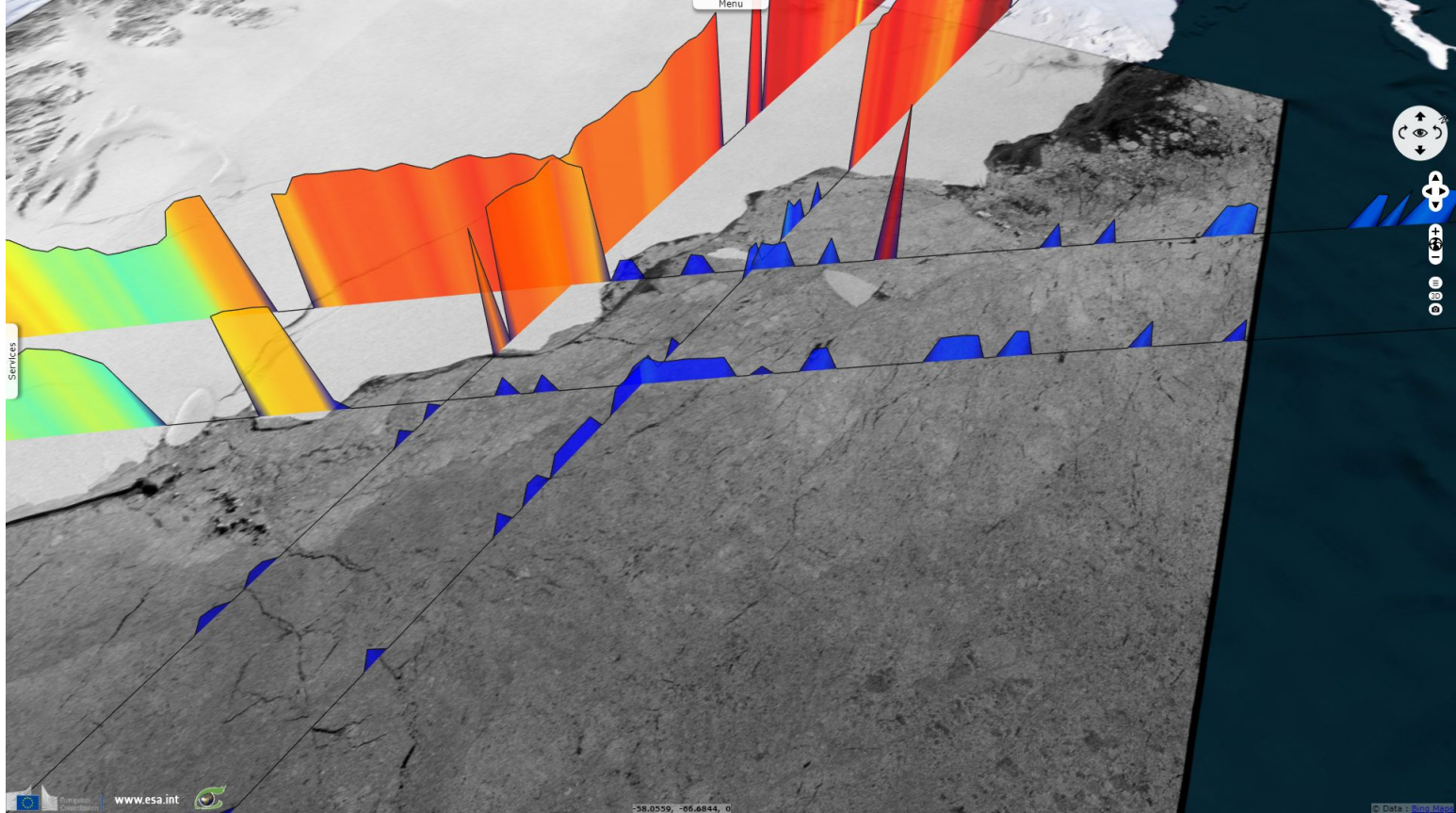
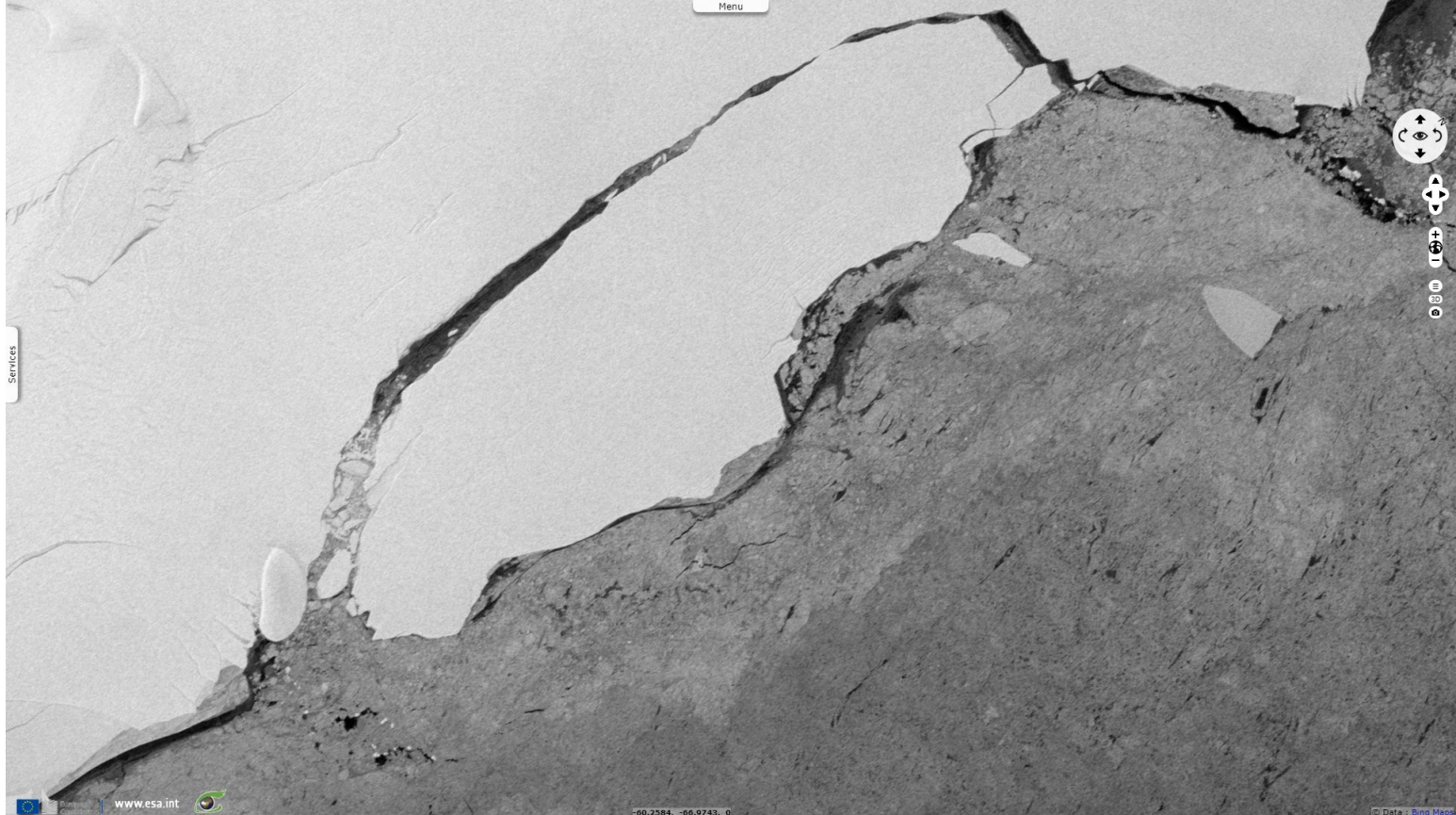


Fig. 2 - S1 EW (22.07.2017) - Calving of A-68 Iceberg during the Antarctic winter. [3D animation](#) [3D view](#)



Dr Martin O'Leary & Adrian Luckman of University Swansea [remind](#) the calving of Iceberg A-68 on the MIDAS project blog: "One year ago, Iceberg A-68 calved away from the Larsen C Ice Shelf. One quarter the size of Wales, and weighing more than a trillion tonnes, this iceberg has been classified as the sixth largest since records began." The event had been [highlighted](#) in a past story.

Fig. 3 - S1 EW (08.09.2017) & S3 SRAL (04-10.09.2017) - A-68 slowly rotates away from the ice-shelf.

[3D view](#)

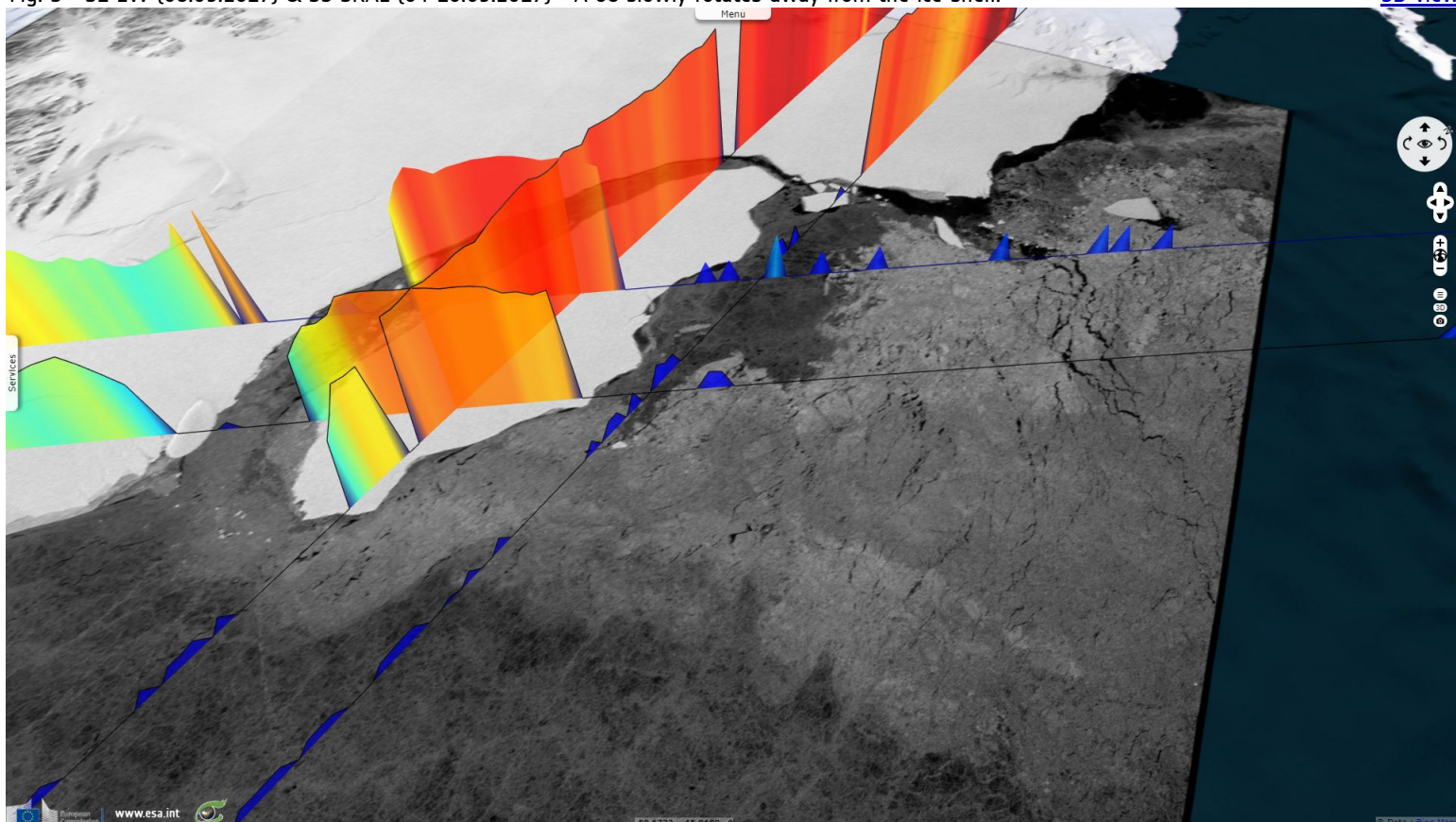


Fig. 4 - S1 EW (01.12.2017) & S3 SRAL (24-30.11.2017) - The northern tip finally separates from the ice shelf.

[3D view](#)

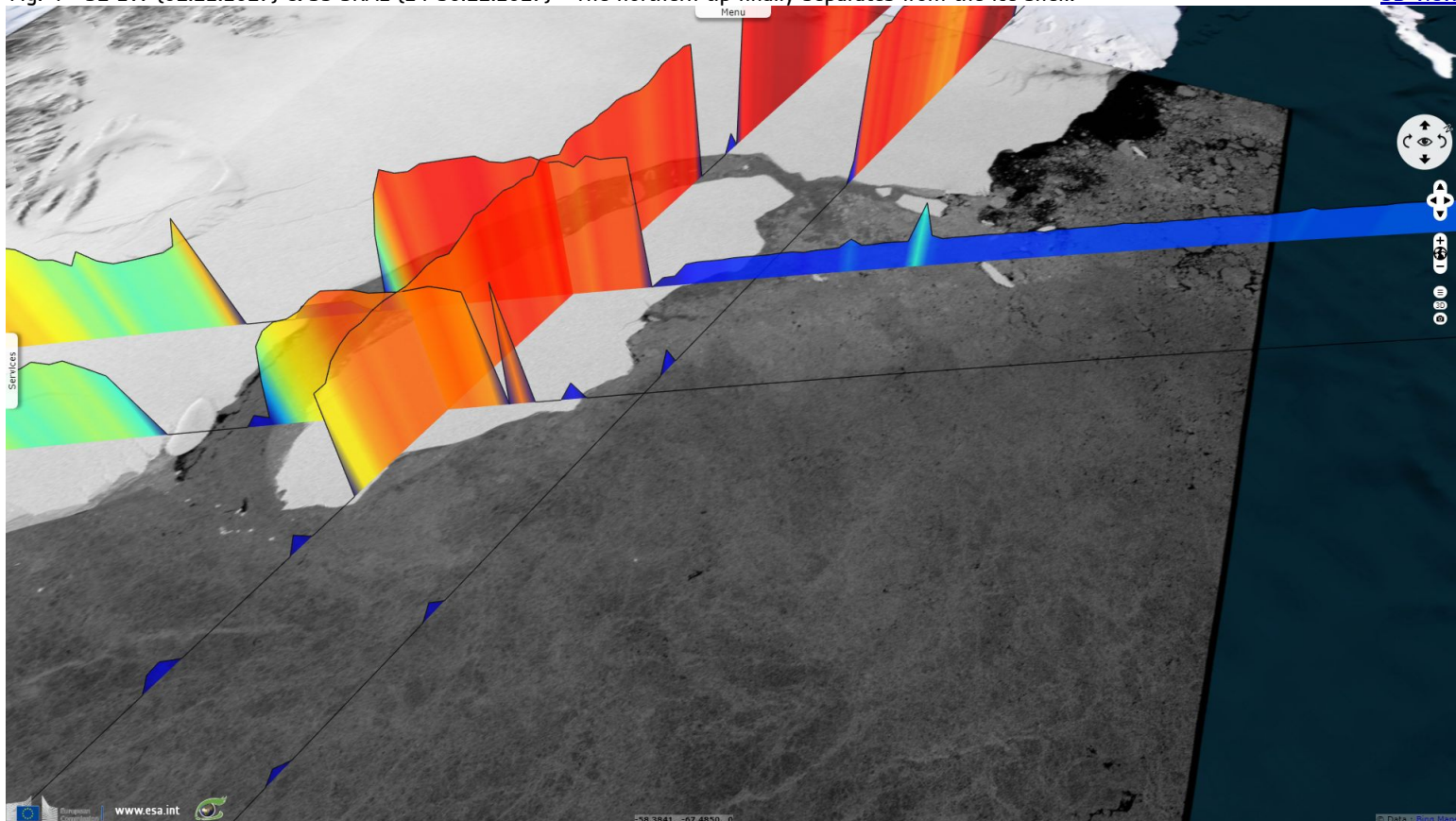


Fig. 5 - S1 EW (18.01.2017) & S3 SRAL (17-23.01.2018) - A-68 slowly drifts along the coast.

[3D view](#)

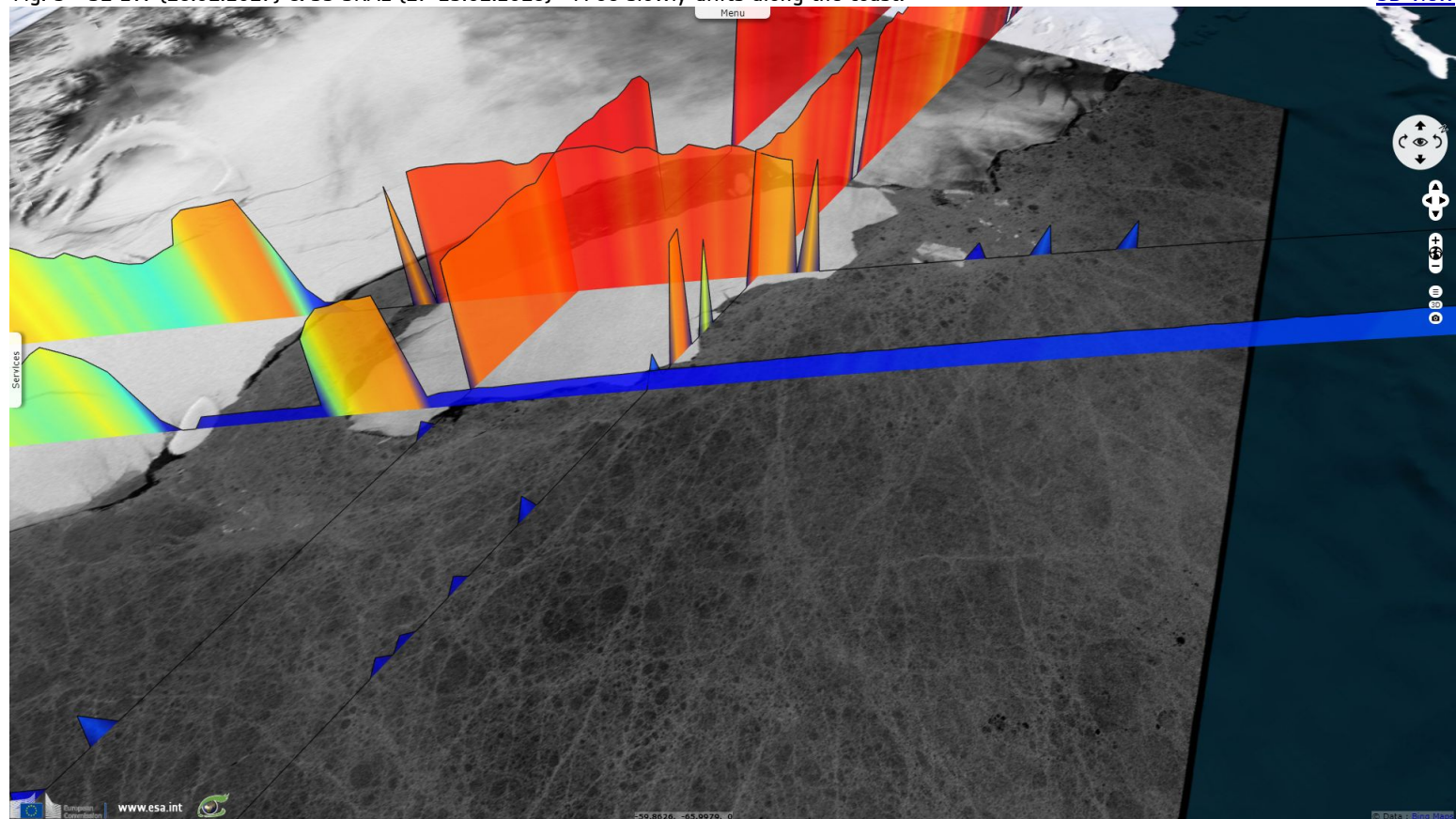
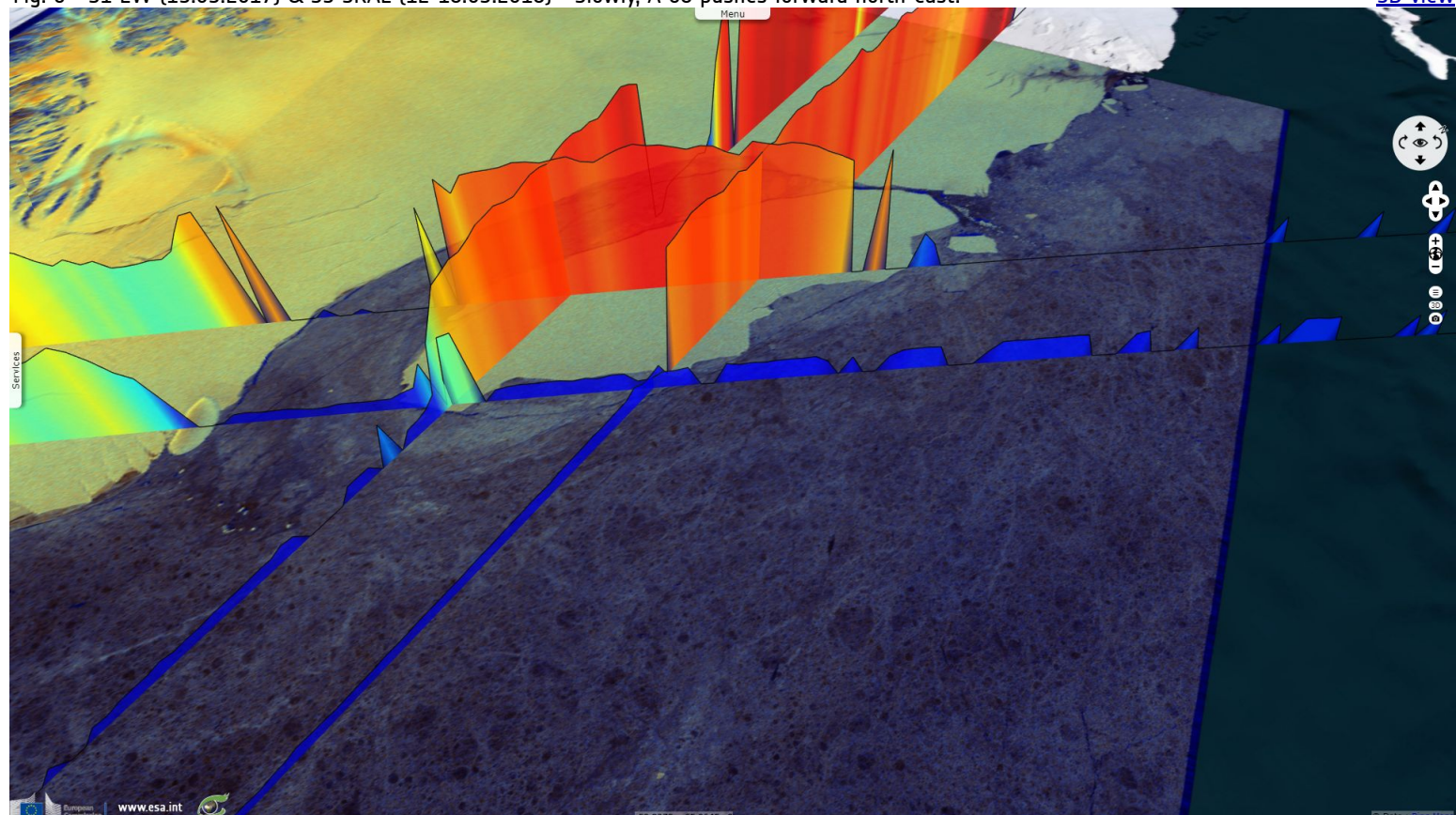


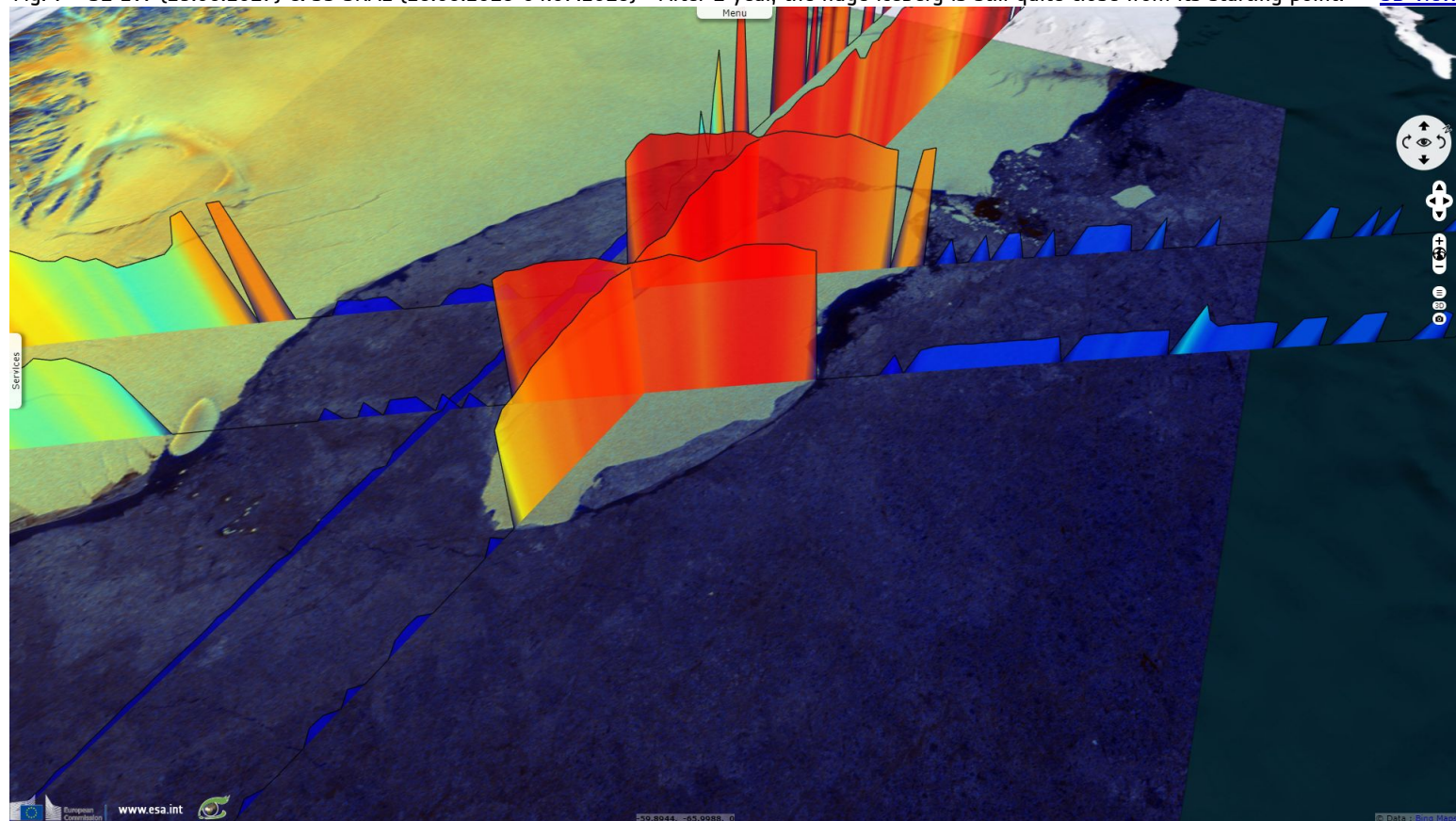
Fig. 6 - S1 EW (13.03.2017) & S3 SRAL (12-18.03.2018) - Slowly, A-68 pushes forward north-east.

[3D view](#)



The article featured on the MIDAS project blog [adds](#): "The iceberg has been pushed around by ocean currents, tides and winds, and its northern end has repeatedly been grounded in shallower water near Bawden Ice Rise. These groundings led eventually to further pieces of the iceberg being shattered off in May 2018. Whilst not quite large enough to be given labels themselves, the total area of icebergs lost from A-68 in May was the size of a small city."

Fig. 7 - S1 EW (29.06.2017) & S3 SRAL (28.06.2018-04.07.2018) - After 1 year, the huge iceberg is still quite close from its starting point. [3D view](#)



Written the 09.07.2018, the MIDAS project blog article [commented](#): "As can be seen in the satellite [images], over the last year A-68 has not drifted far because of dense sea-ice cover in the Weddell Sea."

Mark Brandon, Professor in Polar Oceanography, [agreed](#) in his own blog: "At first A68 was slow to move and as I predicted back then, it likely got stuck on the sea bed (we say "grounded"). It has stayed pretty much in the same place through to July 2018."

Fig. 8 - S1 EW (29.07.2017) & S3 SRAL (25-31.07.2018) - With the start of winter, A-68 accelerates by a faster rotation. [3D view](#)

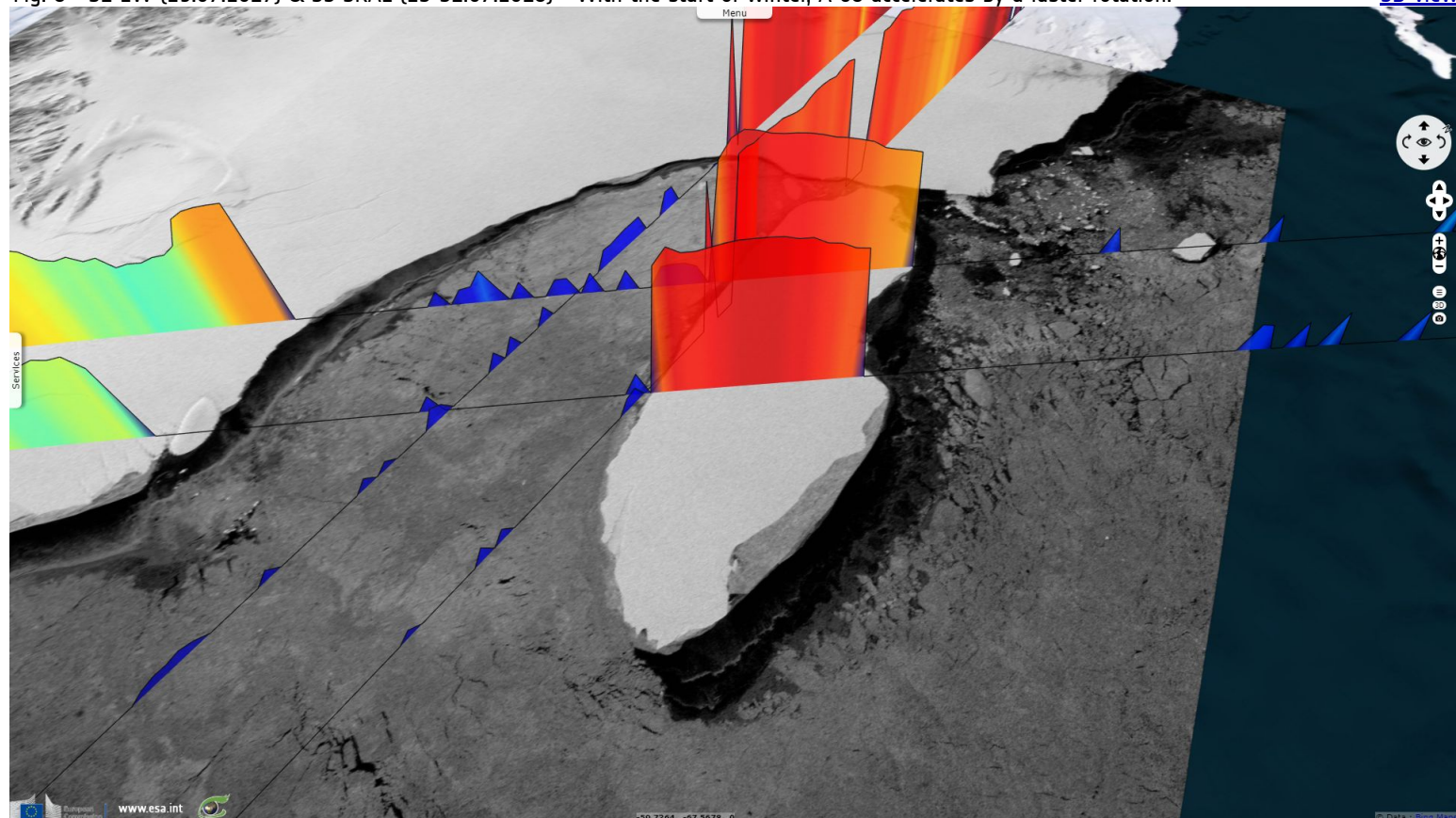
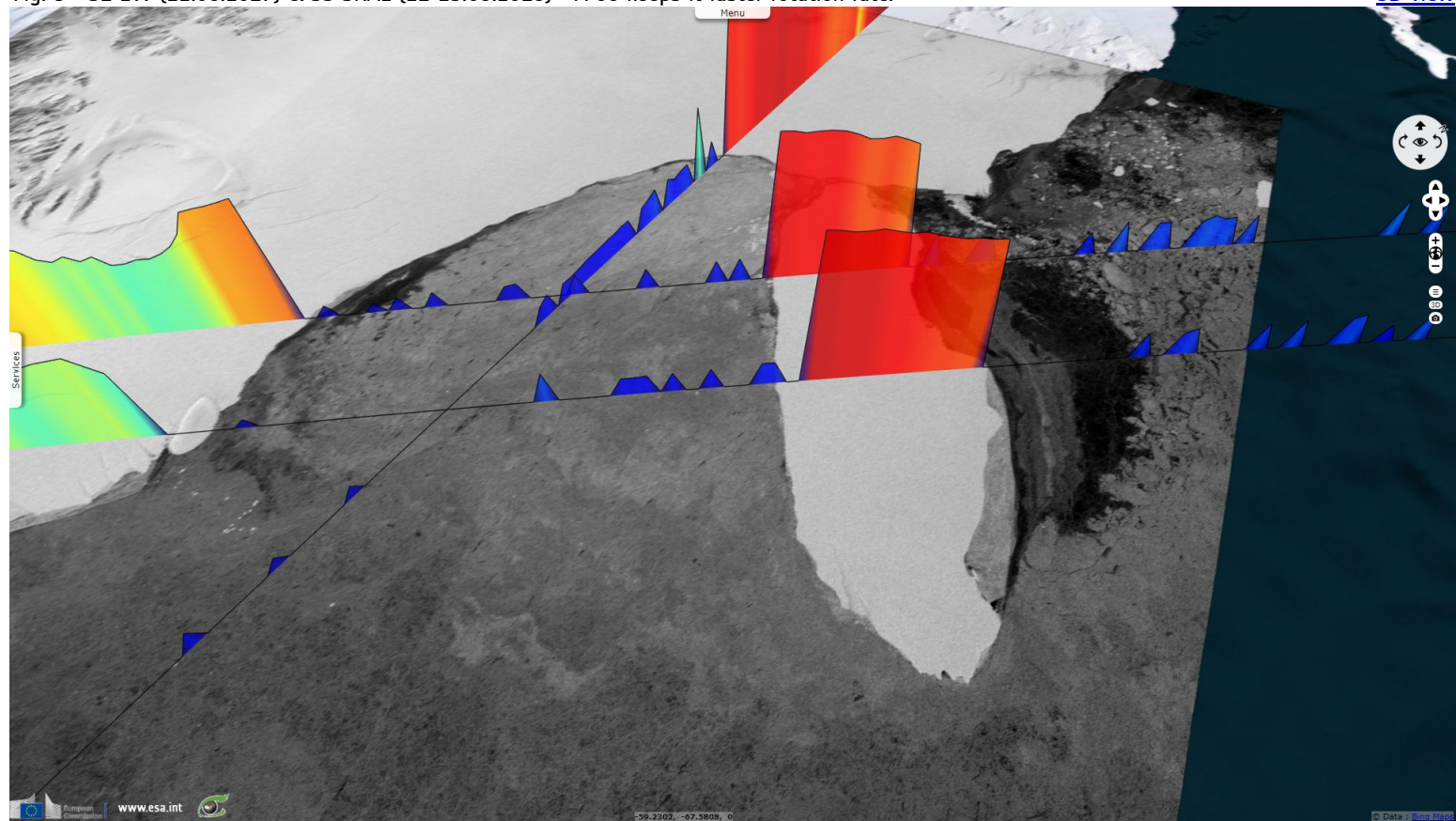


Fig. 9 - S1 EW (22.08.2017) & S3 SRAL (21-25.08.2018) - A-68 keeps it faster rotation rate.

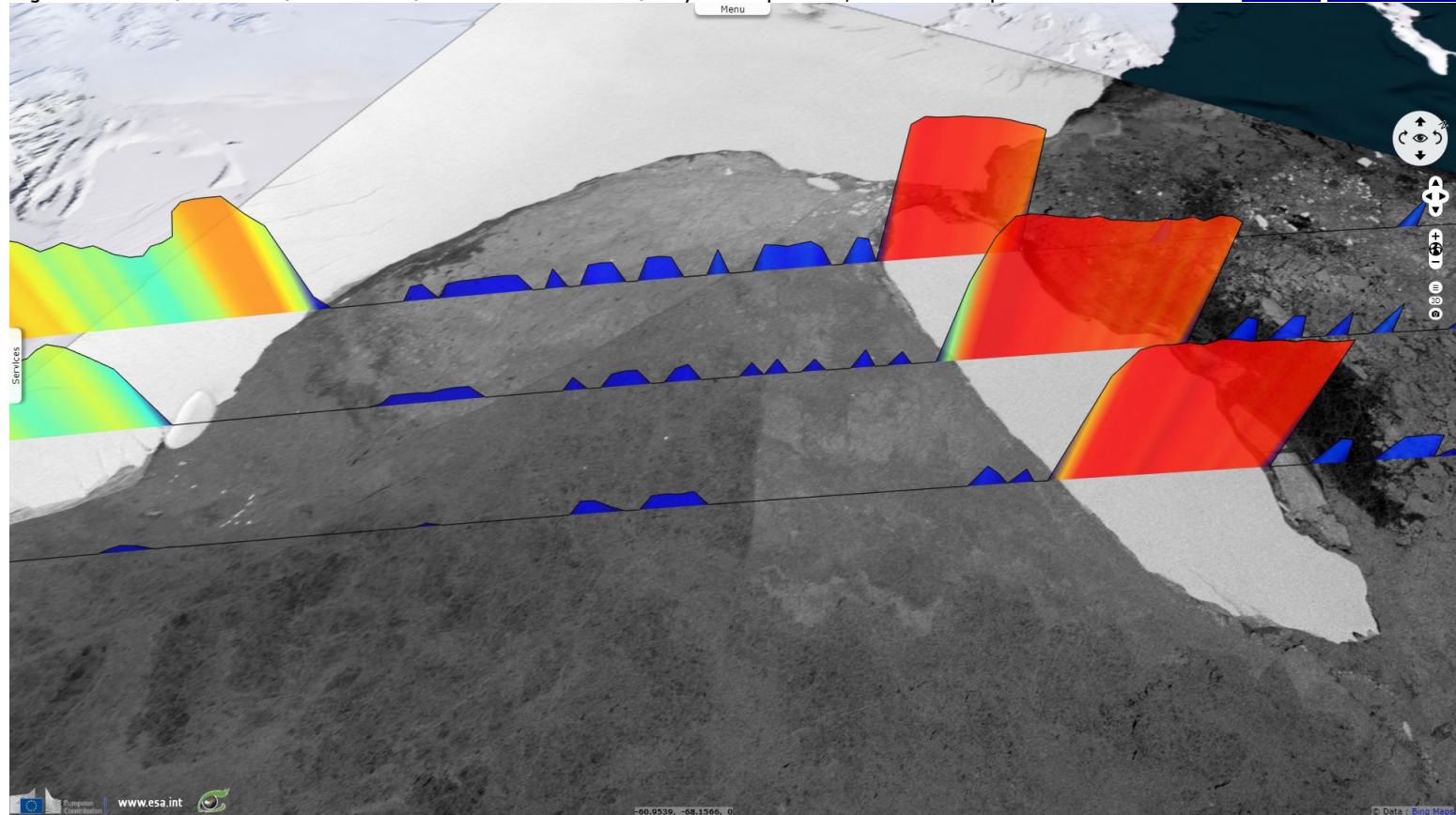
[3D view](#)



In his article written late August, he [described](#) the latest events: "You can see at between 7-12 July 2018 the weather conditions and ocean currents conspire to swing the trillion tonnes of the giant iceberg A68 in an anticlockwise direction. Sentinel-1 SAR satellite imagery from 29 August 2018 shows that to the north of the iceberg the wind is pushing the sea ice northwards faster than the iceberg is rotating. This has created an area of open water where there is intense sea ice generation happening right now. In the high resolution imagery you can clearly see large frazil ice slicks developing in this open water region."

Fig. 10 - S1 EW (16.09.2017) & S3 SRAL (17.09.2018-25.09.2018) - By late September, A-68 had completed a 90° rotation.

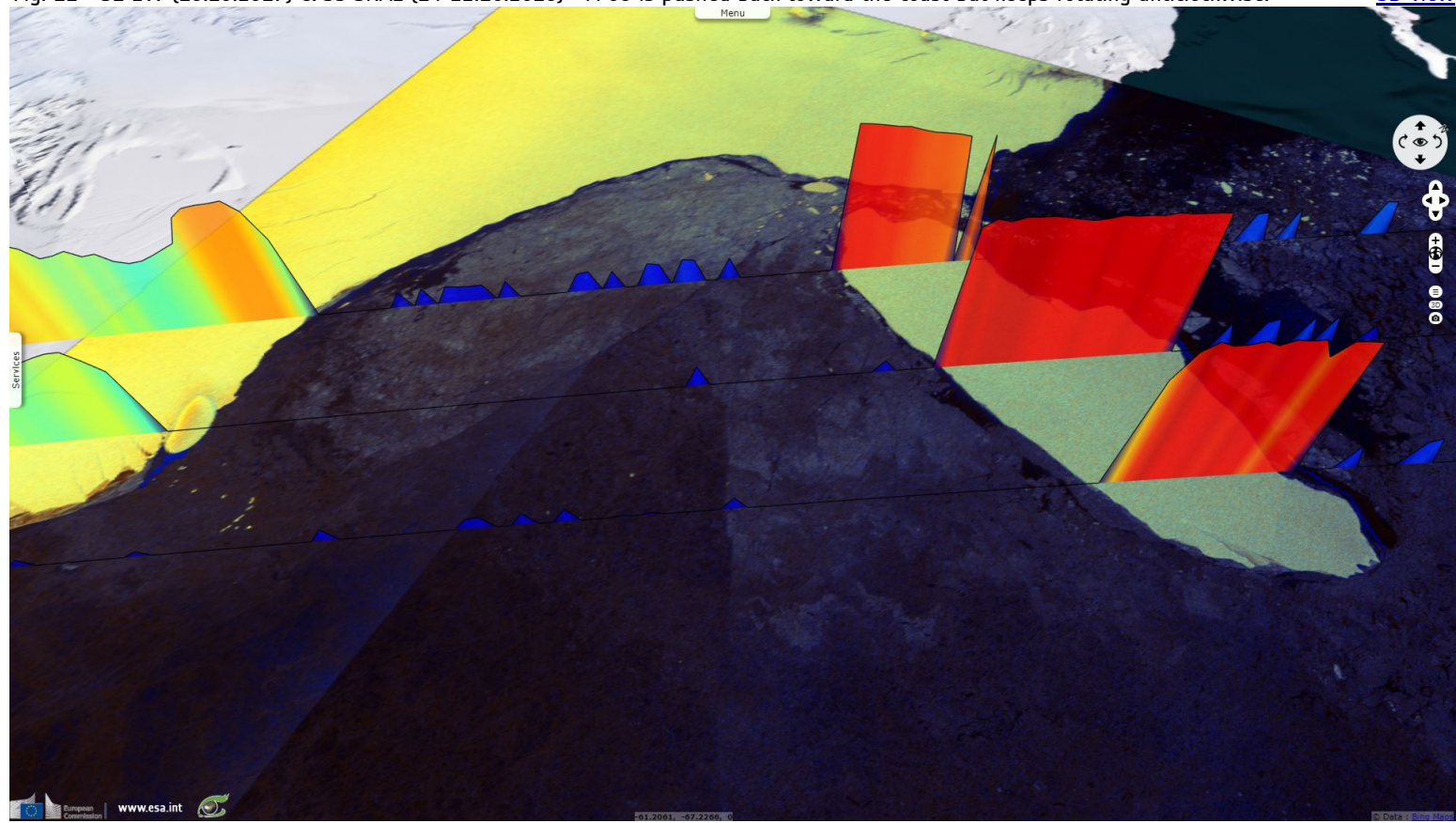
[3D view](#) [2D animation](#)



Finally he [predicted](#): "My guess is that A68a will continue rotating as it is now around that western point, until what is currently the northern edge collides with the Larsen C ice front. It has a spectacular amount of momentum and it's not going to be stopped easily. I should think we will see some interesting collisions with the ice shelf in the next few months."

Fig. 11 - S1 EW (16.10.2017) & S3 SRAL (14-22.10.2018) - A-68 is pushed back toward the coast but keeps rotating anticlockwise.

[3D view](#)



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