

# Calving in Amery Ice Shelf

Sentinel-1 CSAR EW acquired from 20 September 2019 to 09 October 2019  
Sentinel-2 MSI acquired on 09 October 2019 at 04:17:29 UTC  
Sentinel-3 SLSTR RBT acquired from 23 September 2019 to 10 October 2019  
Sentinel-3 SRAL LAND acquired on 08 October 2019 at 18:38:05 UTC

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

Keyword(s): Iceberg, coastal, polar, sea ice, Antarctica



[2D Layerstack](#)

Fig. 1 - S1 EW (20.09.2019 - hv,hv,hh -  $\sigma_0$ ) - The D28 Iceberg before the separation from the Amery Ice Shelf.

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



Fig. 2 - S1 EW (09.10.2019 - hv,hv,hh -  $\sigma_0$ ) - The D28 Iceberg after the separation from the Amery Ice Shelf.

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

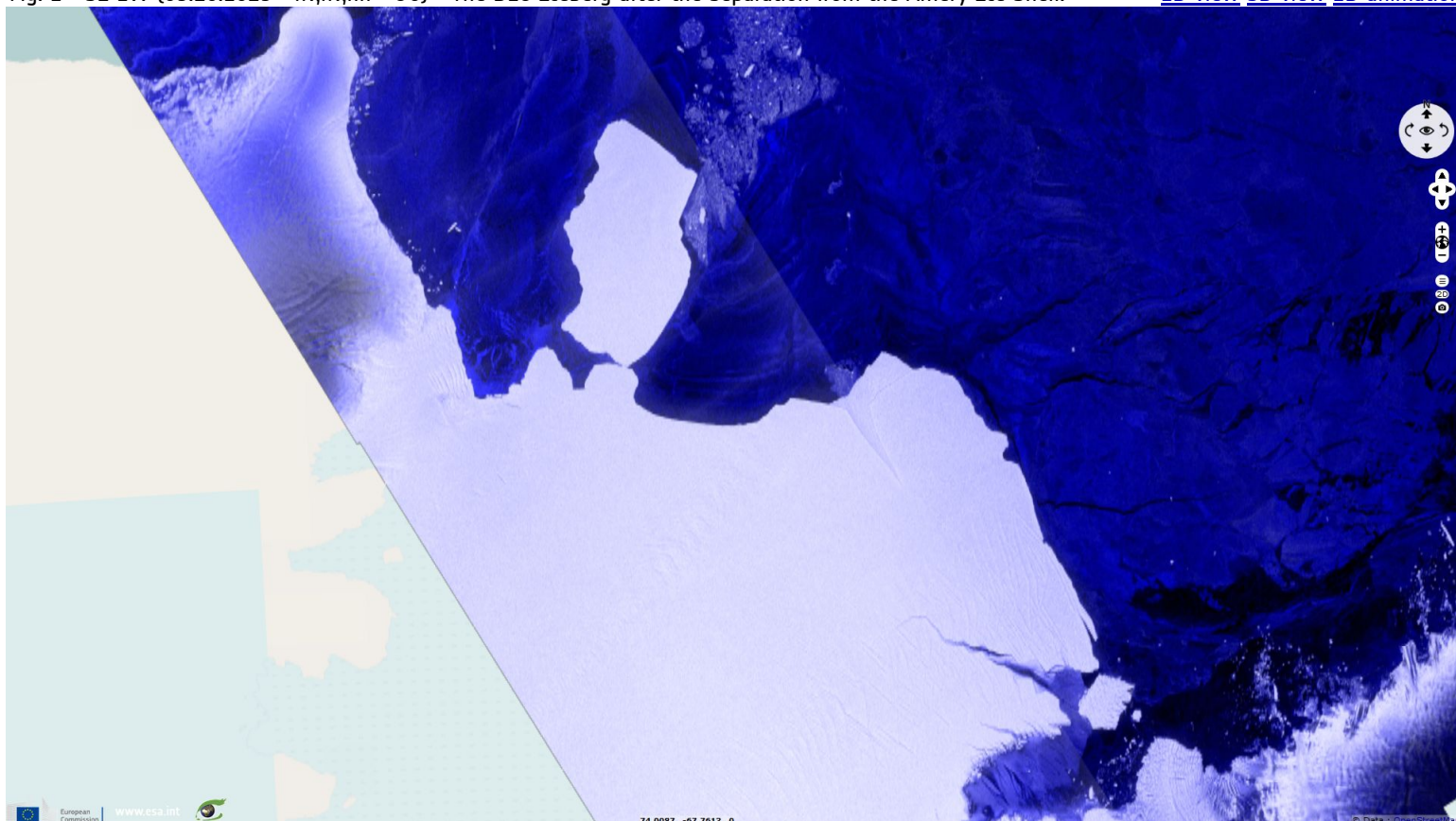
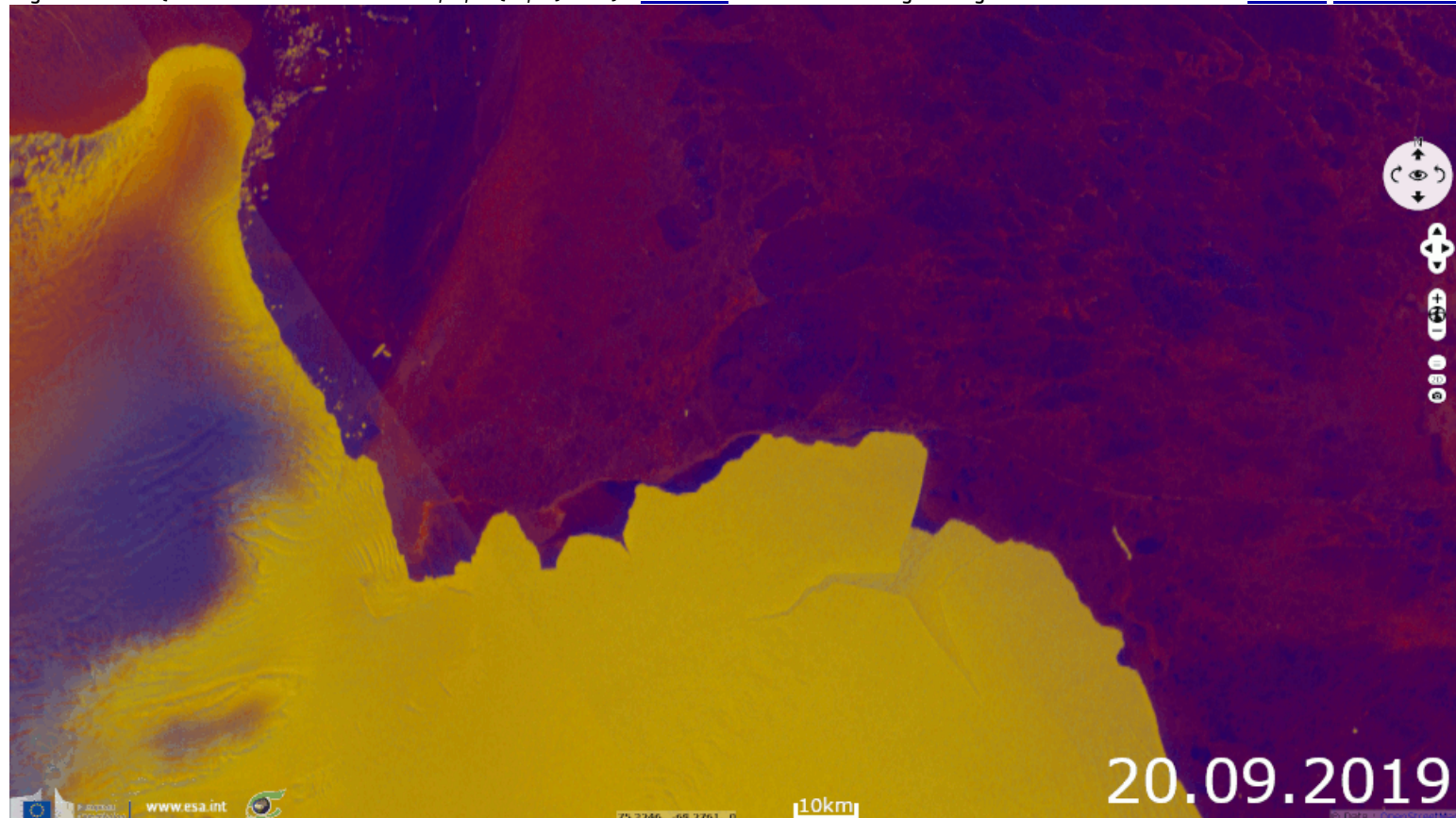




Fig. 3 - S1 EW (20.09.2019-09.10.2019 - hh,hv,ndi(hv,hh) -  $\sigma_0$ ) - [Evolution](#) of the D28 iceberg calving in October 2019.

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

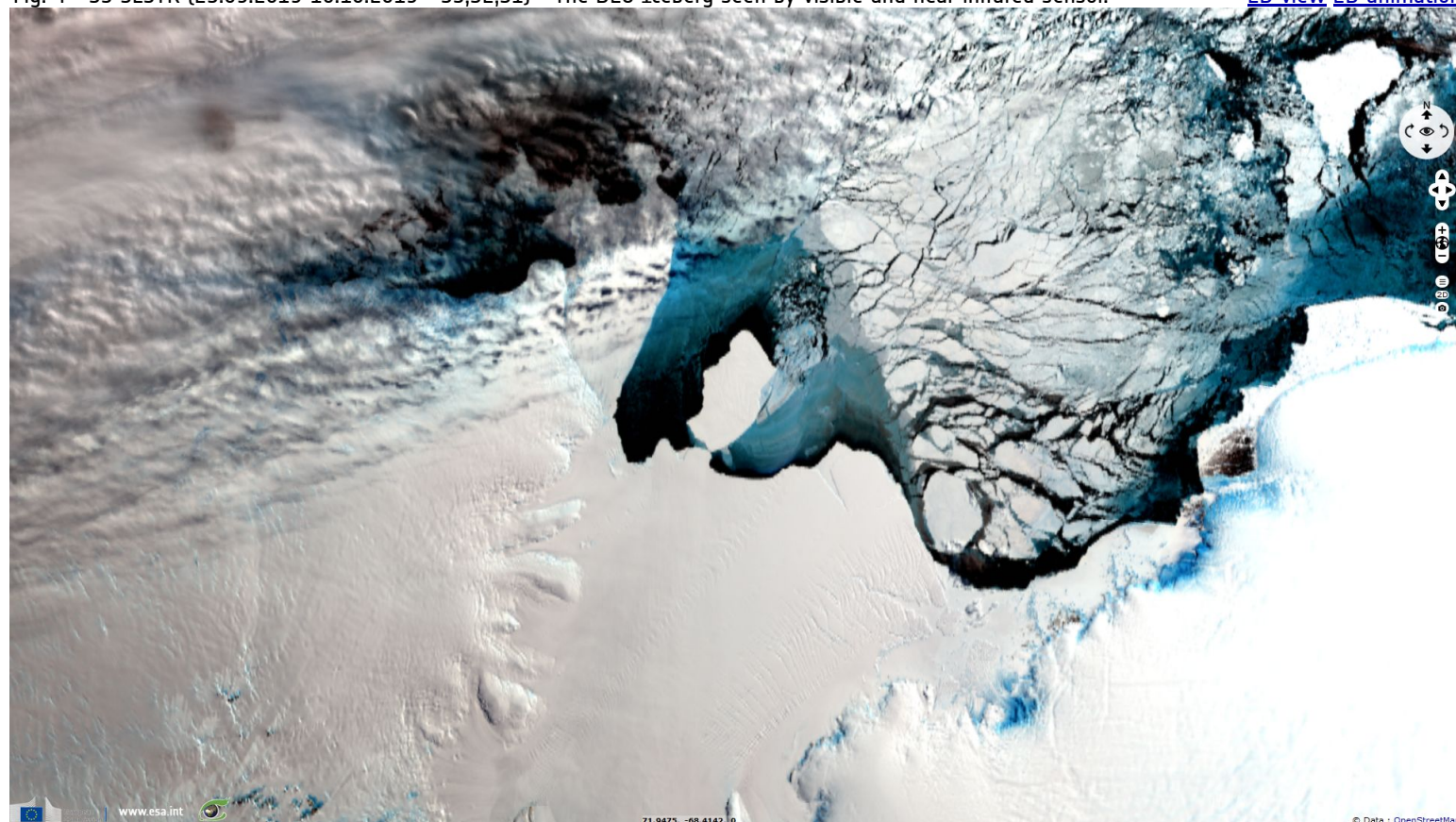


The D28 iceberg is around 1600 square km, about 30 km wide and 60 km long and weighs 315 billion tonnes.

The Scripps Institution of Oceanography wrote on [its Twitter page](#): *"Ice shelves are platforms of floating ice that form where the Antarctic ice sheet meets the ocean. They do not directly affect sea level because ice shelves are already floating, much like an ice cube in a glass of water. Grounded ice is the concern for sea level rise."*

Fig. 4 - S3 SLSTR (23.09.2019-10.10.2019 - S3,S2,S1) - The D28 Iceberg seen by visible and near infrared sensor.

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



Helen Fricker, which is a glaciologist and Professor at Scripps Institution of Oceanography, [said](#): *"This type of event is not related to climate change - it's naturally occurring and happens every 60-70 years."* [and](#): *"This event is part of the ice shelf's normal cycle though and, while there is much to be concerned about in Antarctica, there is no cause for alarm yet for this particular ice shelf."*



Fig. 5 - S3 SLSTR (07.10.2019 - S8 - lookup table) - The D28 Iceberg seen by thermal sensor (from -40°C to 0°C).

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

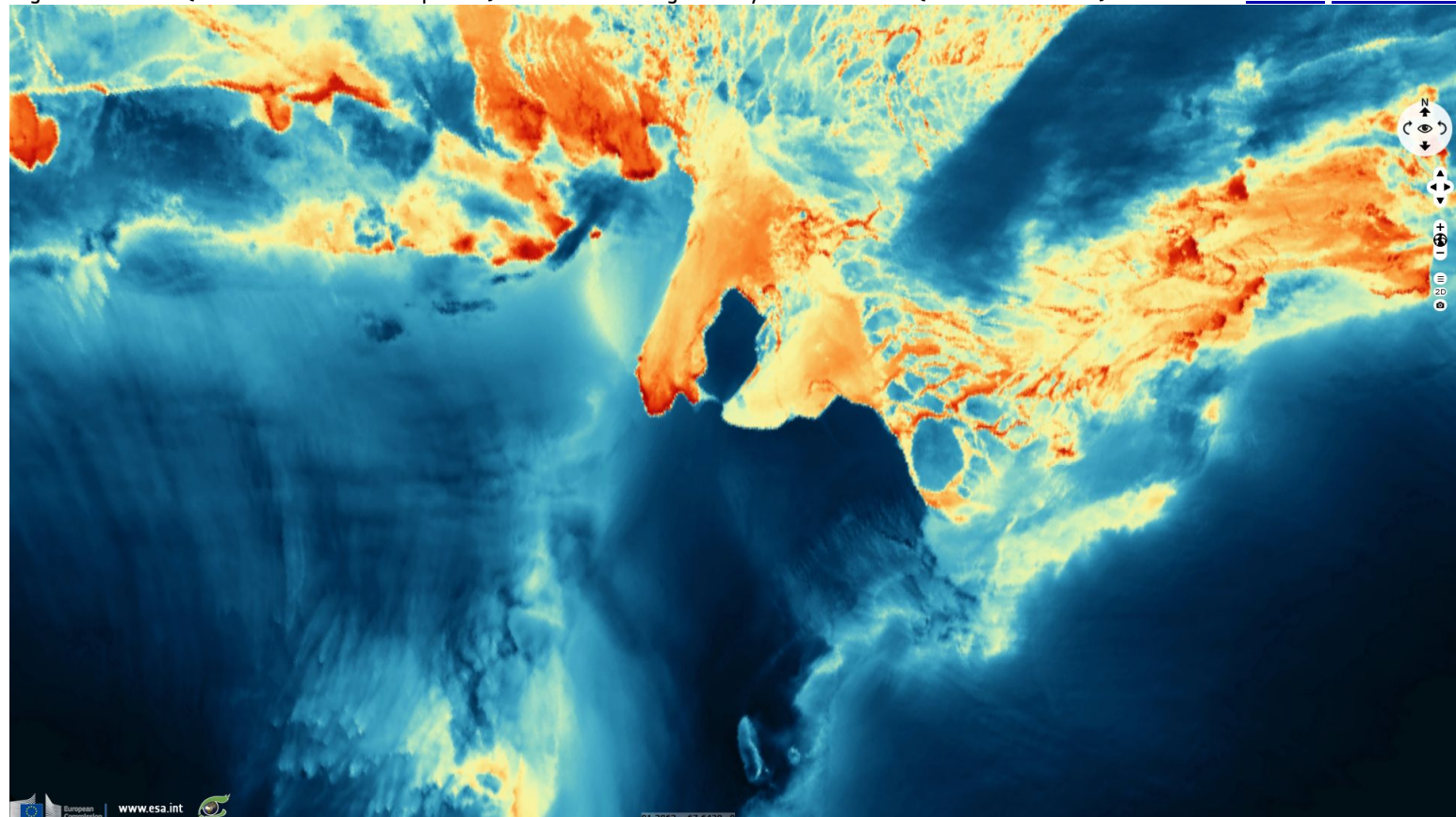


Fig. 6 - S1 (09.10.2019 - HV,HV,HH -  $\sigma_0$ ) & S3 SRAL (08.10.2019 - Height from ocean altimeter range 20hz Band C)

[3D view](#)

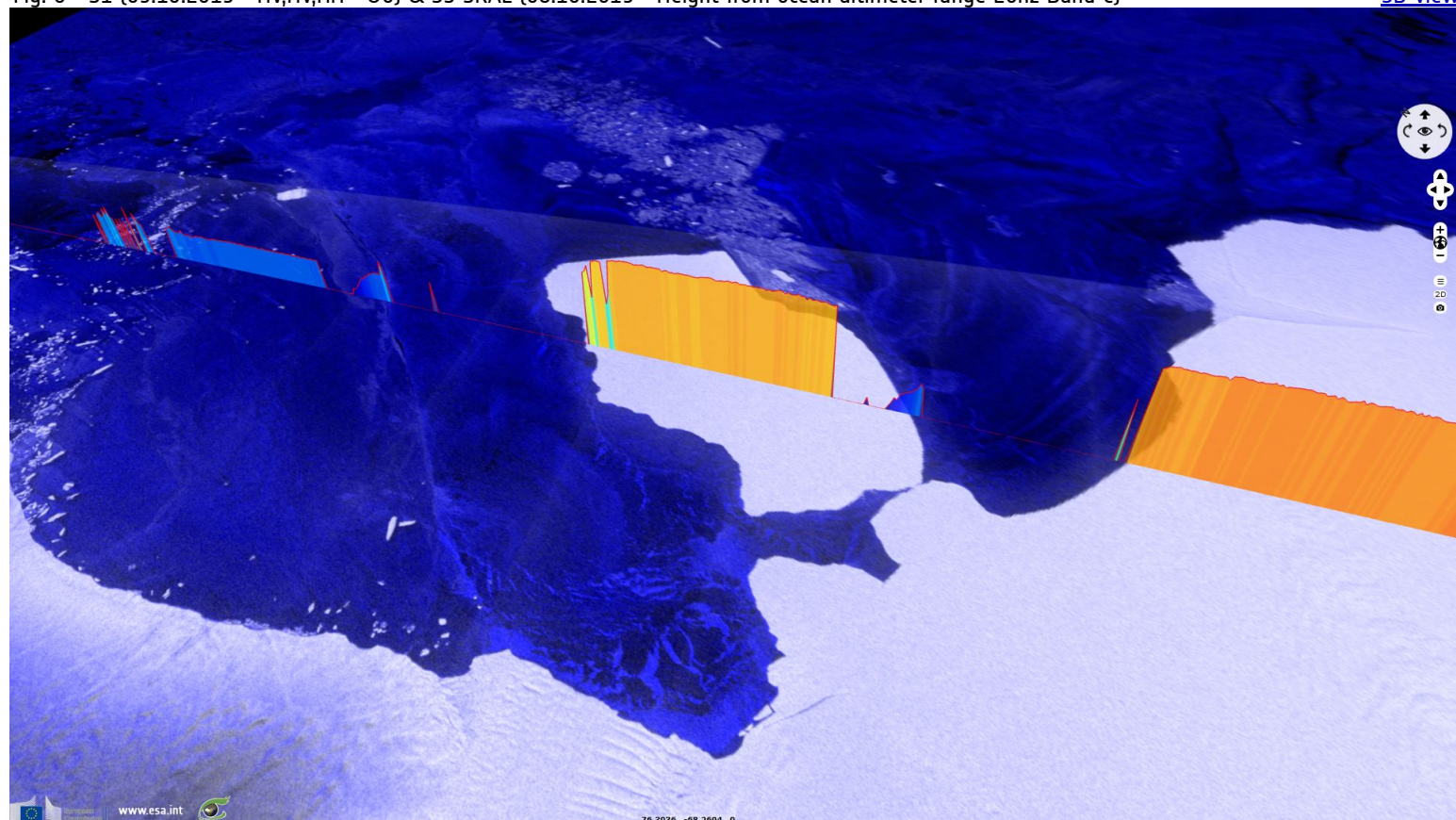
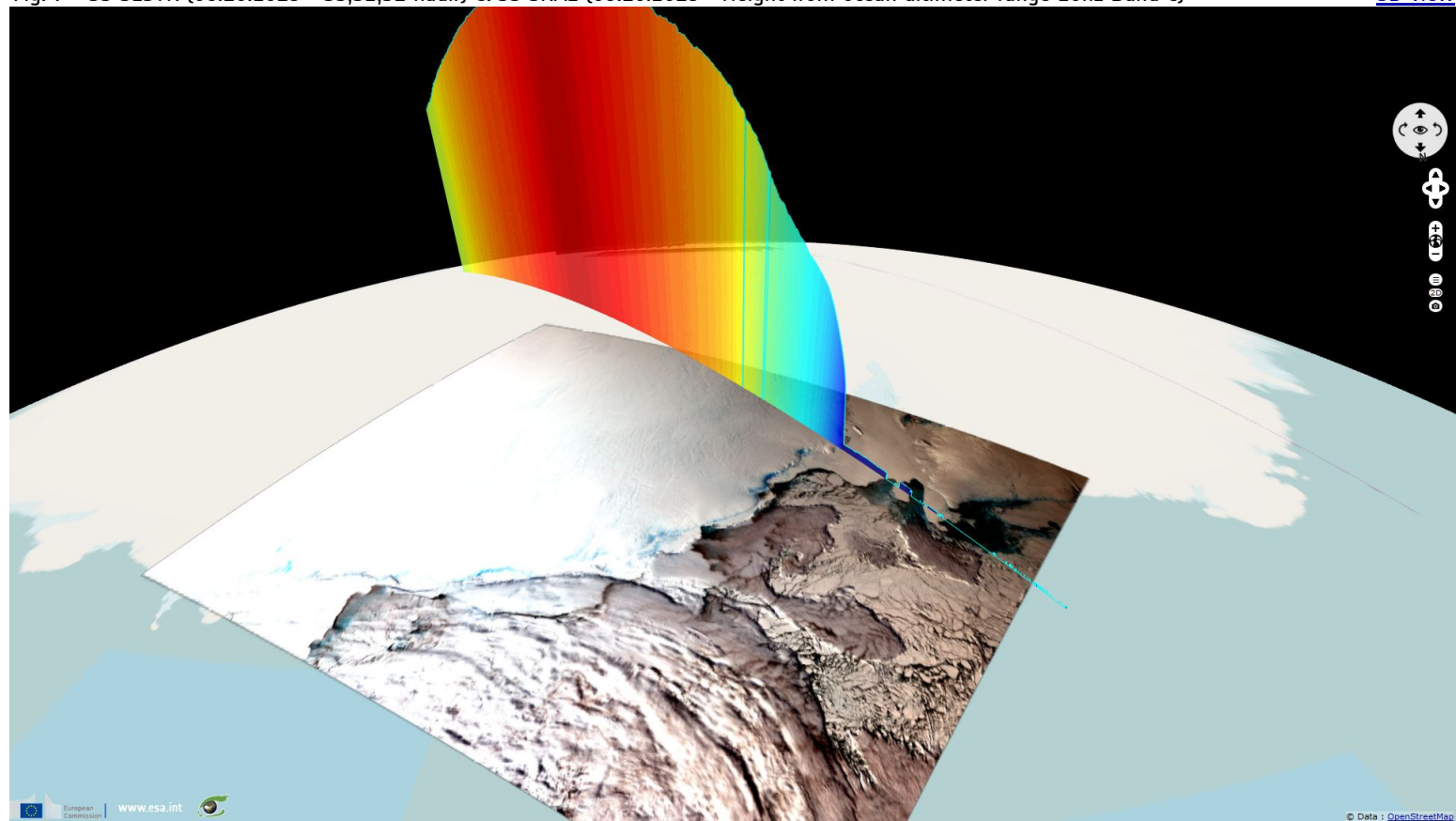




Fig. 7 - S3 SLSTR (08.10.2019 - S3,S2,S1 nadir) & S3 SRAL (08.10.2019 - Height from ocean altimeter range 20hz Band C)

[3D view](#)



The average altitude of the Antarctica is 2500m and the highest mountain, Mount Vinson, reaches the altitude of 4892m.

Fig. 8 - S2 MSI (09.10.2019 - 4,3,2 natural colour) - The D28 Iceberg seen by the Sentinel-2 visible sensor.

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

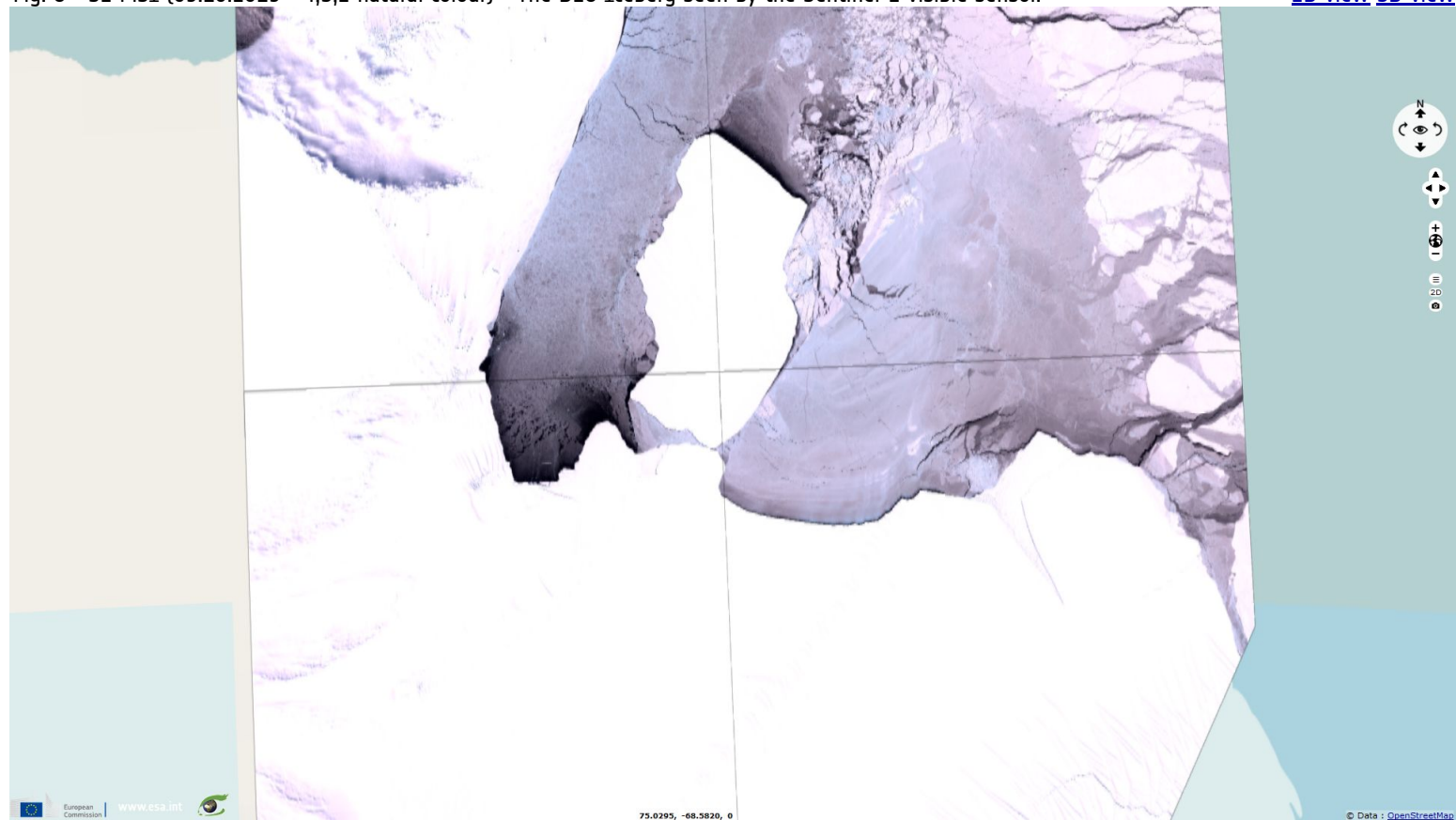
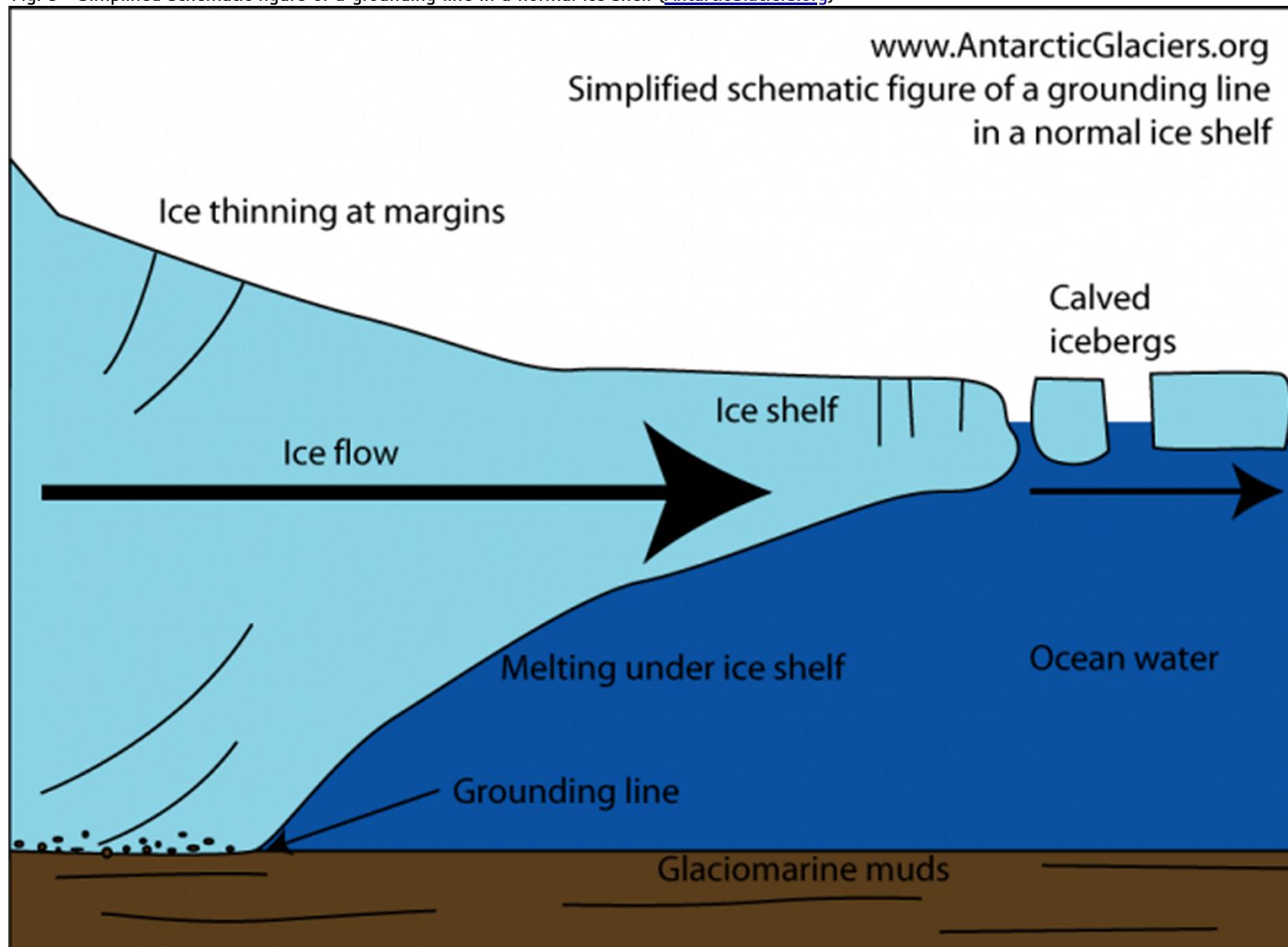














Fig. 9 - Simplified schematic figure of a grounding line in a normal ice shelf ([AntarcticGlaciers.org](http://AntarcticGlaciers.org))



*The views expressed herein can in no way be taken to reflect the official opinion of the European Space Agency or the European Union.  
Contains modified Copernicus Sentinel data 2019, processed by VisioTerra.*

More on European Commission space:							
More on ESA:				<a href="#">S-1 website</a>	<a href="#">S-2 website</a>	<a href="#">S-3 website</a>	
More on Copernicus program:				<a href="#">Scihub portal</a>	<a href="#">Cophub portal</a>	<a href="#">Inthub portal</a>	<a href="#">Colhub portal</a>
More on VisioTerra:				<a href="#">Sentinel Vision Portal</a>	<a href="#">Envisat+ERS portal</a>	<a href="#">Swarm+GOCE portal</a>	<a href="#">CryoSat portal</a>