

Record breaking waves off Nazaré, Portugal

Sentinel-1 CSAR IW acquired on **09 November 2017** at 06:42:05 UTC

Sentinel-2 MSI acquired on **09 November 2017** at 11:33:09 UTC

Sentinel-1 CSAR IW acquired on **14 January 2018** at 18:34:34 UTC

Sentinel-2 MSI acquired on **18 January 2018** at 11:34:09 UTC

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

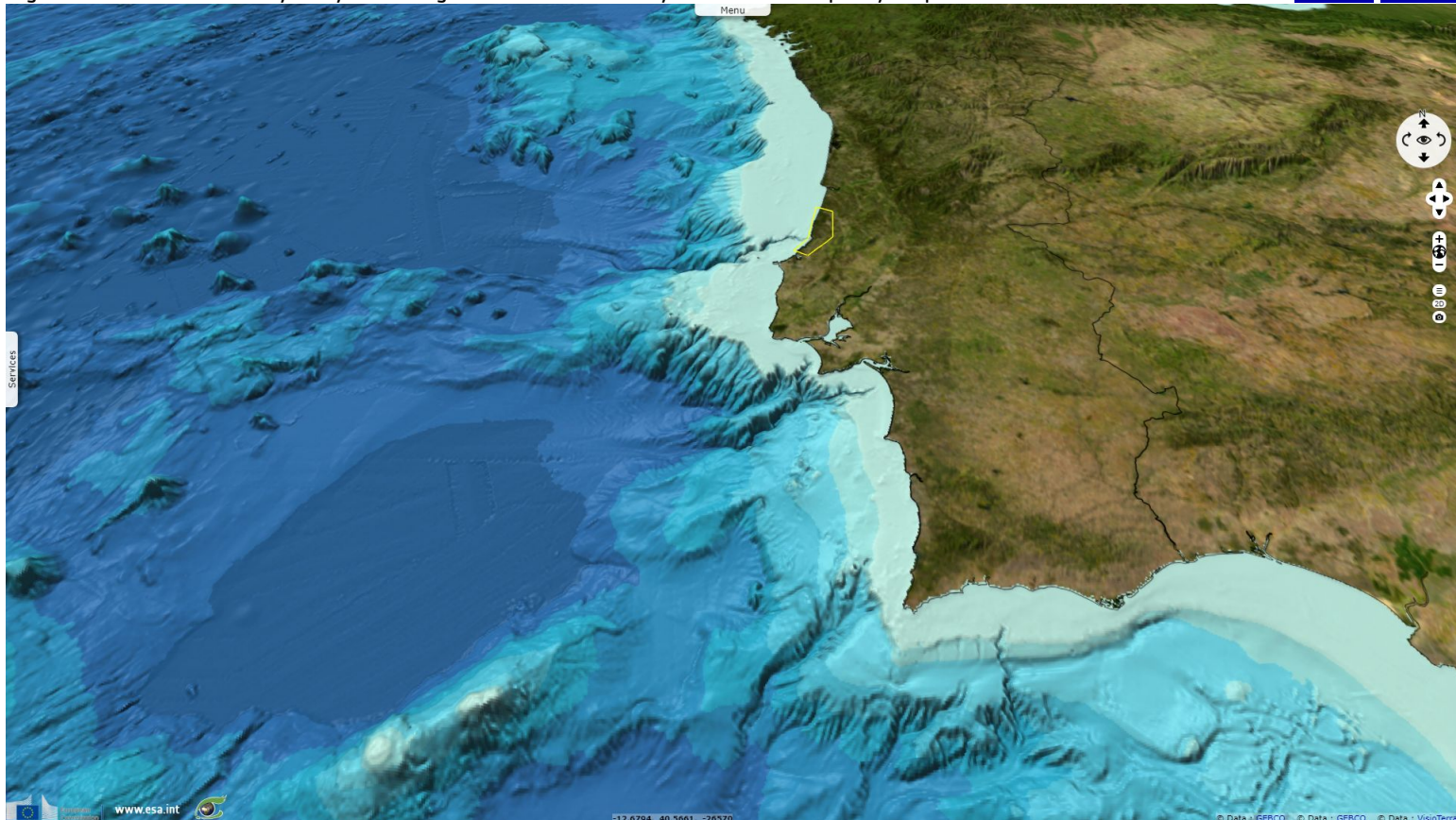
Keyword(s): Coastal, waves, interference, bathymetry, canyon, beach, sport, Portugal, North Atlantic Ocean



[2D Layerstack](#)

Fig. 1 - View of GEBCO bathymetry off Portugal - In the Nazaré canyon the seafloor quickly drops from 0 to -5000m.

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



Off Nazaré, constructive waves interference allowed a 24m wave to be surfed the 08.11.2017 & possibly a bigger 35m wave the 17.01.2018.

Fig. 2 - S1 (14.01.2018) - vv,vh,ndi(vh,vv) colour composite - This east-looking ascending view magnifies Nazaré cliffs.

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

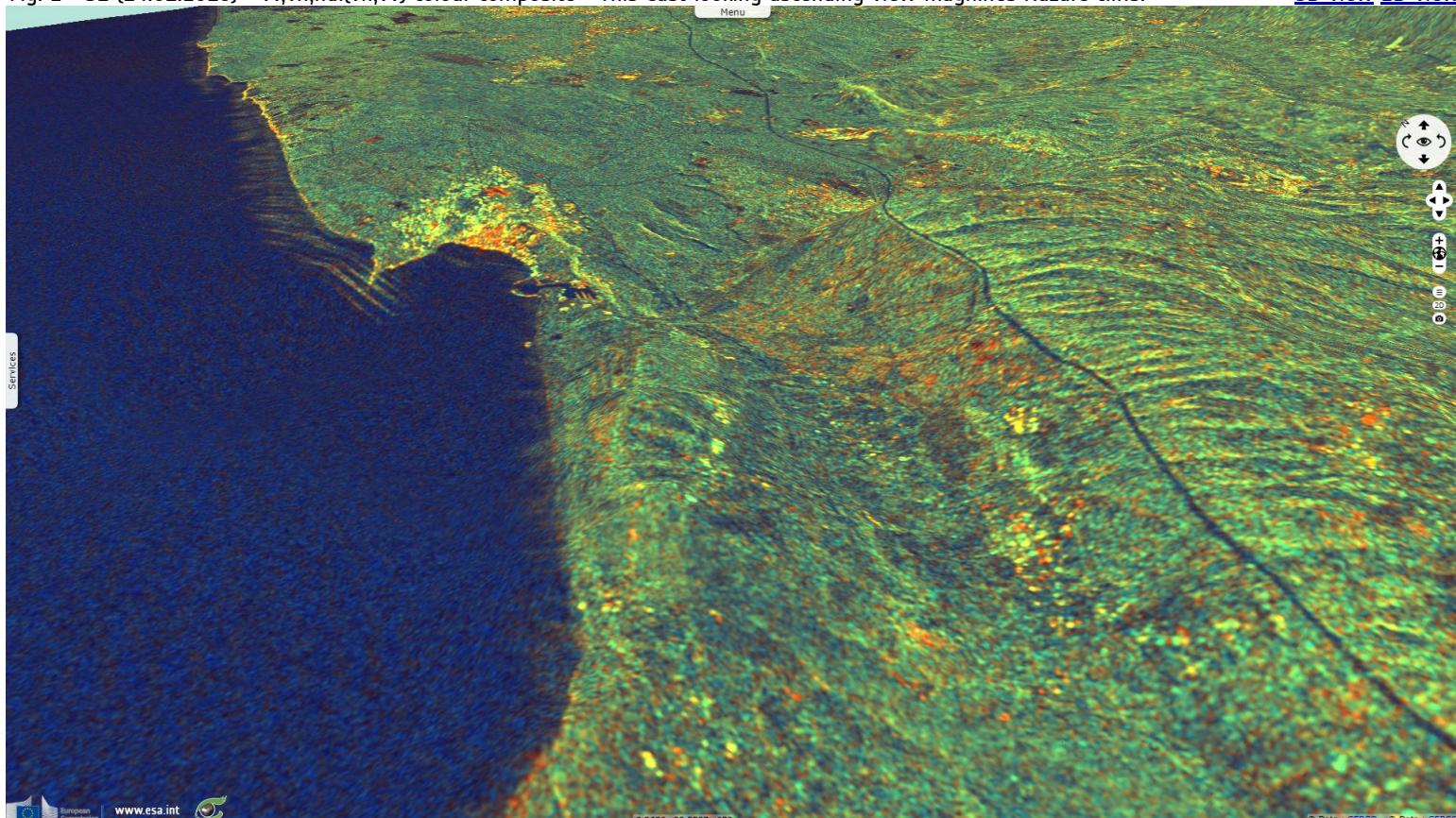


Fig. 3 - S2 (18.01.2018) - 4,3,2 natural colour - Waves height & frequency change along the steep seafloor slope.

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



Fig. 4 - S1 (09.11.2017) - VV polarisation - As with Nazaré, waves interferences also make of Peniche peninsula a renown surfing spot.

[2D view](#)



The views expressed herein can in no way be taken to reflect the official opinion of the European Space Agency or the European Union.

More on European Commission space:									
More on ESA:				S-1 website	S-2 website	S-3 website			
More on Copernicus program:				SciHub portal	Cophub portal	Inthub portal	Colhub portal		
More on VisioTerra:				Sentinel Vision Portal	Envisat+ERS portal	Swarm+GOCE portal	CryoSat portal	Proba-V portal	