

Still image captions for Thwaites Glacier Press Release – September 2020

1. 2020 flying over Thwaites glacier_credit Carl Robinson

Photograph of the view over Thwaites Glacier from the aero-geophysics survey by Tom Jordan et al

2. Icecliff_credit Rob Larter

Photograph of the high cliffs at the ice front of Thwaites Glacier

3. Ice front of Thwaites Glacier2_David Vaughan

Photograph of the high cliffs of Thwaites Glacier taken from the British Antarctic Survey Twin Otter aircraft

4. Kelly with corer_Linda Welzenbach

Photograph of Dr Kelly Hogan with a multi-corer on board the Nathaniel B Palmer 2019

5. Nathaniel B Palmer at Thwaites Glacier_Alex Mazur

Photograph of the US research ship Nathaniel B Palmer at the ice front, taken by drone

6. NBP and sea ice view_Rob Larter

View of the sea ice from the Nathaniel B Palmer on the way to Thwaites Glacier

7. Thwaites2D_channels_zoom

2D view of the seafloor and bed beneath Thwaites Glacier, West Antarctica. This image shows a close-up view of newly mapped channels that extend 30-60 km beneath the floating Thwaites ice shelf to the grounding line (where Thwaites Glacier sits on the seafloor). Seafloor areas not covered by floating ice were mapped in detail by shipboard multibeam echosounders; the bed surface under the ice shelf is based on measurements of gravity acquired by airborne surveys.

Technical notes: The floating part of Thwaites (ice shelf) is shown in the closed white polygons and where Thwaites Glacier sits on the seafloor (the grounding line) is the white line at the top of the page. North is at towards the bottom RH corner of the image. Note the change in resolution (or fuzziness of the image) from the bottom of the page to the top; this is because of the resolution of data that can be acquired by shipboard instruments (bottom of the page) versus airborne surveys through the ice (top of the page).

8. Thwaites3D_channels

3D perspective view looking along seafloor channels towards Thwaites Glacier, West Antarctica. The channels extend 30-60 km beneath the floating ice shelf to the grounding line (where Thwaites Glacier sits on the seafloor) and may act as pathways for warm ocean water to reach the glacier. The channels are 300-600 m deeper than the surrounding seafloor - that's 3-6 football pitches back to back – and several kilometres wide. Note that although the channels are 300-600 m deeper than the surrounding seafloor, the total water depth of these features (i.e. from sea level to base of the channels) is 800-1300 m.

View is approximately from the North looking southwards toward Antarctica.

9. Thwaites bathymetry_fig3_naked

Clean map of the seafloor showing the deep channels (dark blue) leading under Thwaites Glacier

10. Tom in the Twin Otter_Tom Jordan

Dr Tom Jordan works in the British Antarctic Survey aircraft as he flies over Thwaites Glacier