



Antarctic and Arctic Seabed Mapping Efforts in Spain

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*First Seabed 2030 – Arctic, Antarctic & North Pacific
Mapping Meeting - Stockholm, 8 - 10 October, 2018*

Everything started with

R/V Hespérides



In austral summer 1991-92

R/V Hespérides

- ✓ 82 x 14 m
- ✓ 55 crew members
- ✓ 37 scientists
- ✓ MBES echosounders Kongsberg EM 1002S and EM 122
- ✓ TOPAS PS18



RADIOG

Botado el 12 de diciembre de 1990.
Buque español destinado a zonas árticas y antárticas científicas y de investigación.

BASES ANTÁRTICAS



CUBIERTA DE HELICÓPTEROS

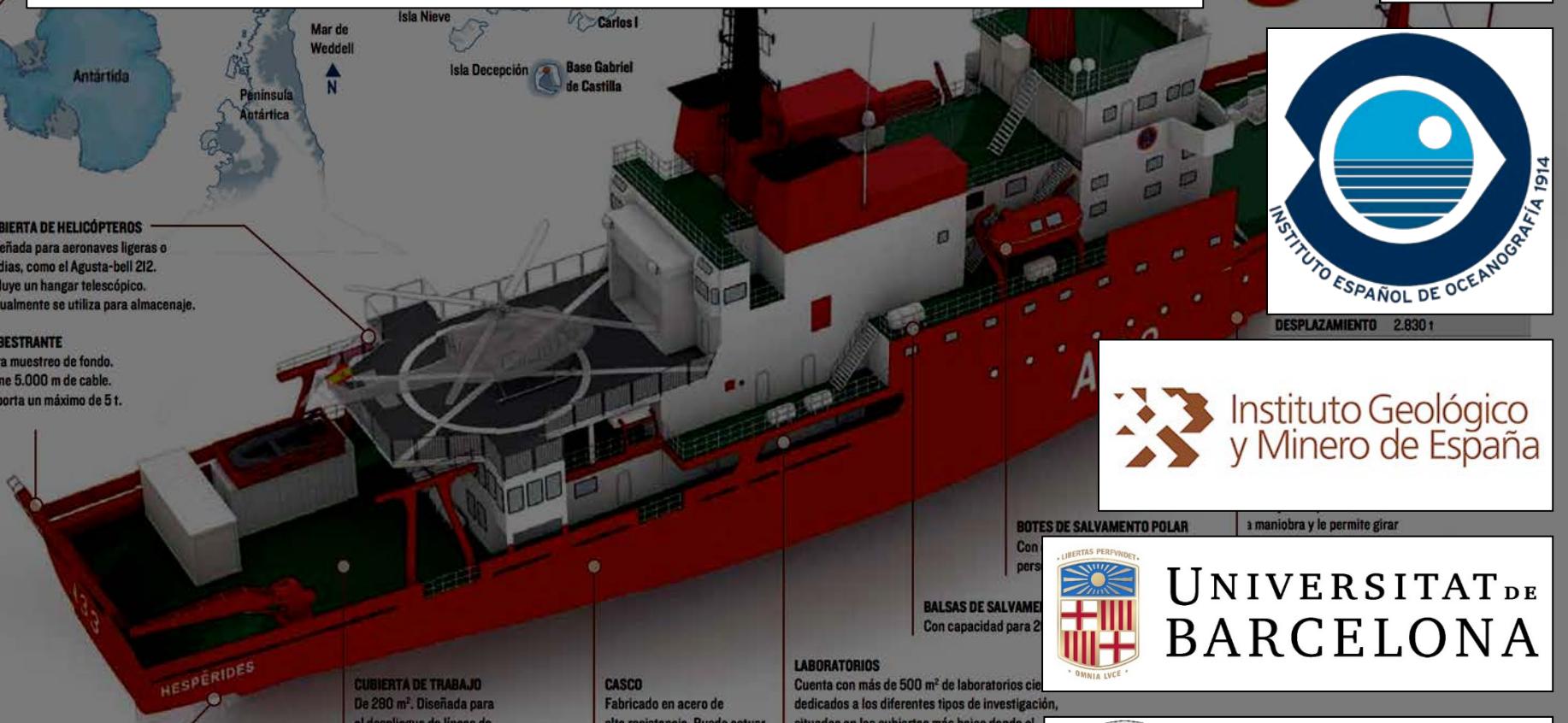
Diseñada para aeronaves ligeras o medianas, como el Agusta-Bell 212. Incluye un hangar telescopico. Actualmente se utiliza para almacenaje.

CABESTRANTE

Para muestreo de fondo. Tiene 5.000 m de cable. Soporta un máximo de 5 t.

HÉLICE

De paso fijo de 5 palas y 3 m de diámetro. Tiene un bajo perfil de ruido para no afectar la investigación acústica.



RADARÍS Y COMUNICACIONES
Cuenta con varios sistemas de comunicaciones, detección y control de última generación.



DESPALZAMIENTO 2.830 t



Instituto Geológico
y Minero de España

BOTES DE SALVAMENTO POLAR

Con capacidad para 20 personas. Amanecen y permiten girar.



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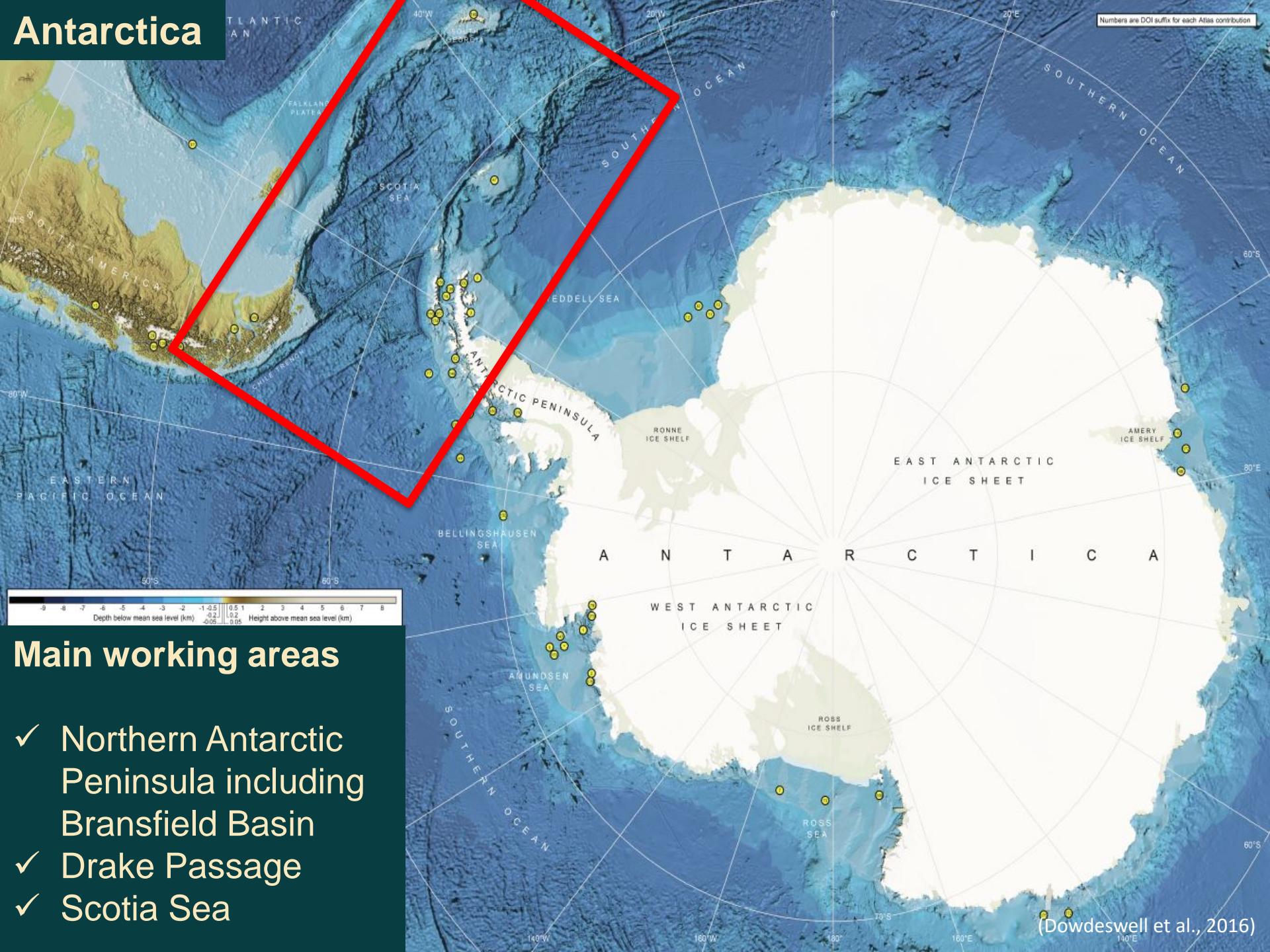
Most active groups

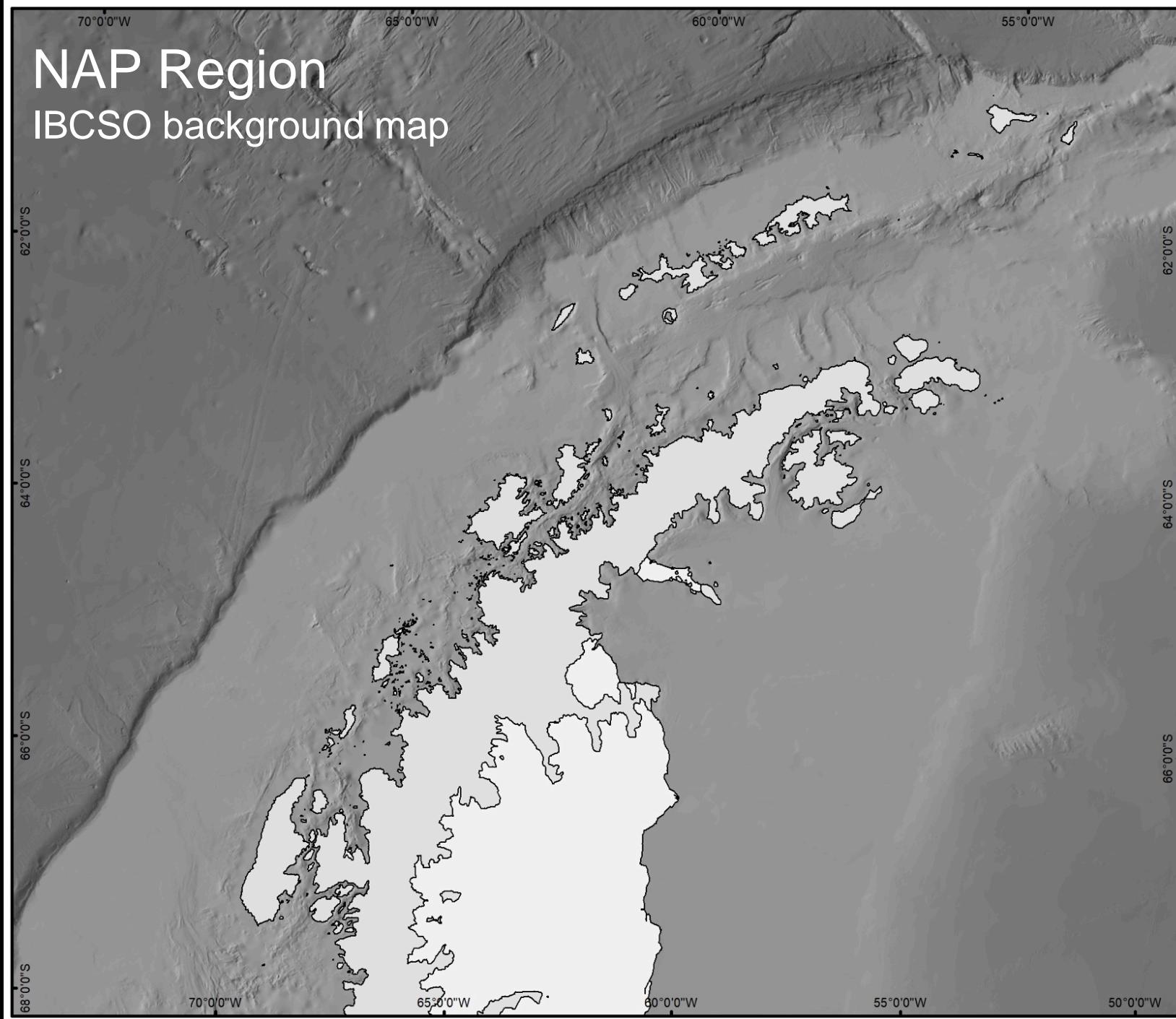
FUENTES: Ministerio de Defensa y Armada Española

Agradecimiento: Comandante Julio Albadejo y Segundo Comandante Rafael G. Bruño

(<https://vadebarcos.files.wordpress.com>)

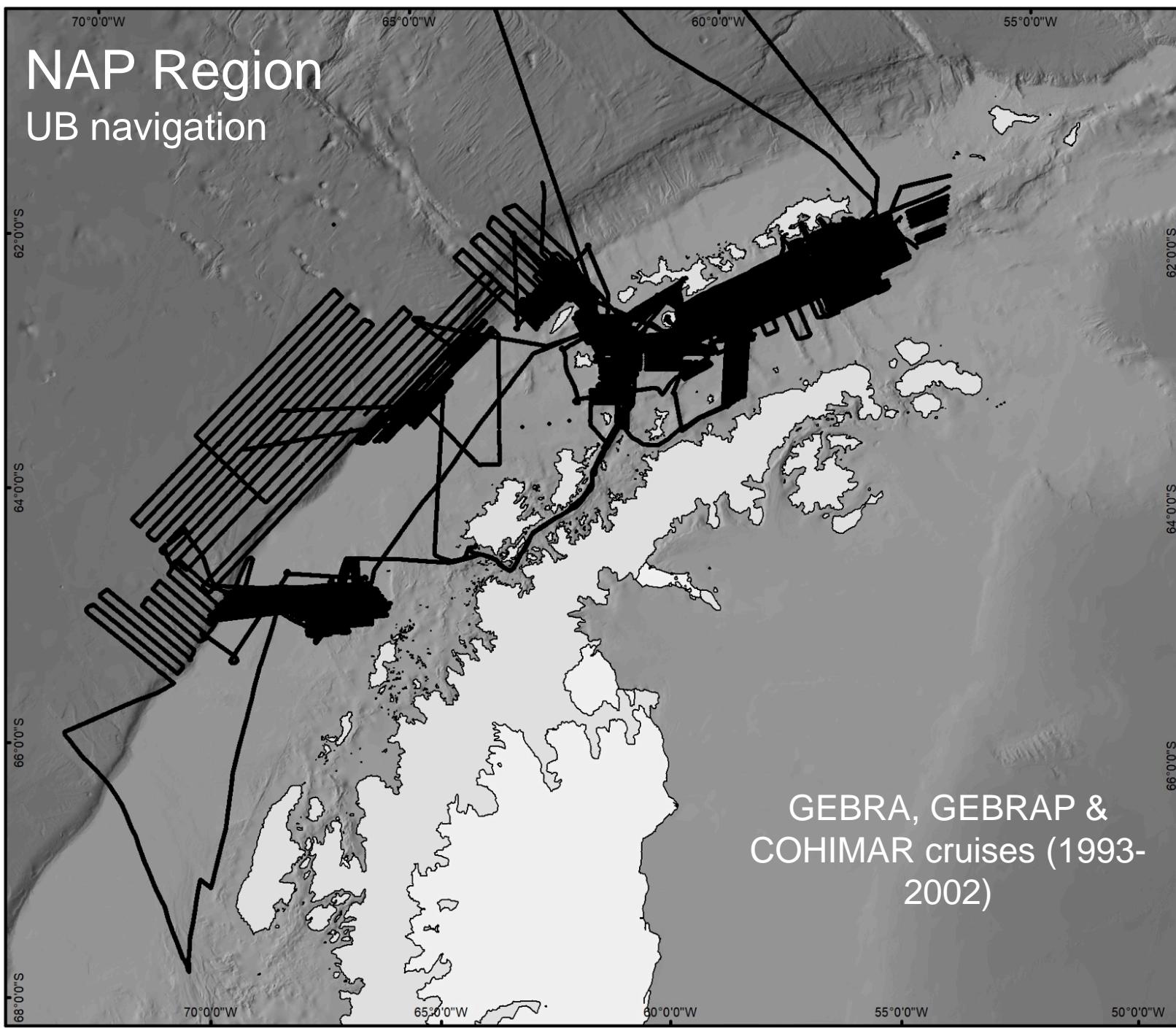
Antarctica

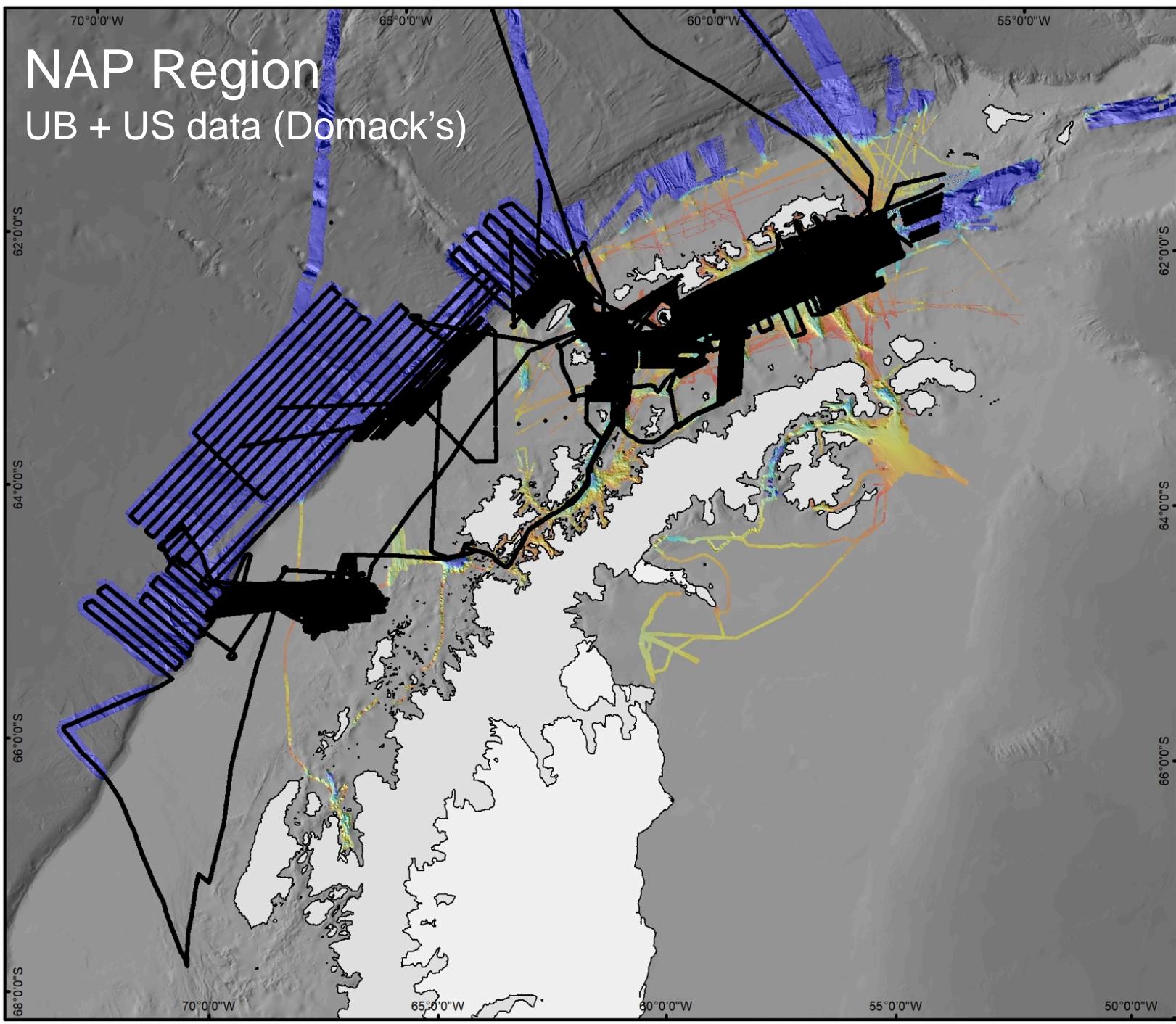




NAP Region

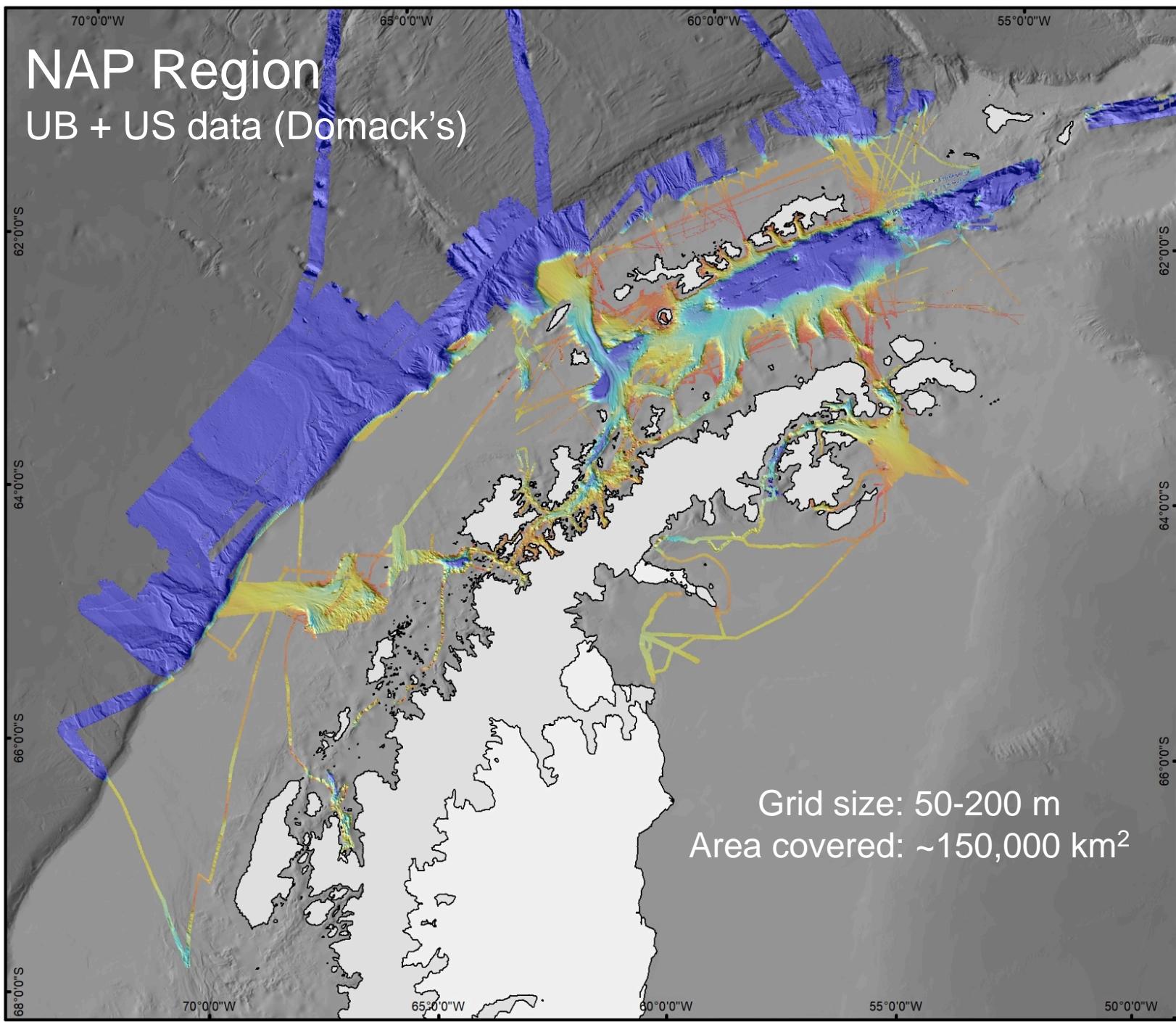
UB navigation



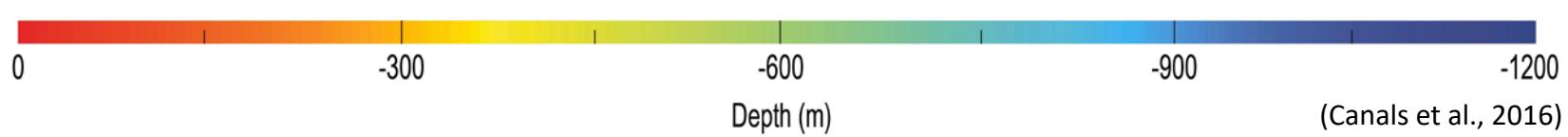
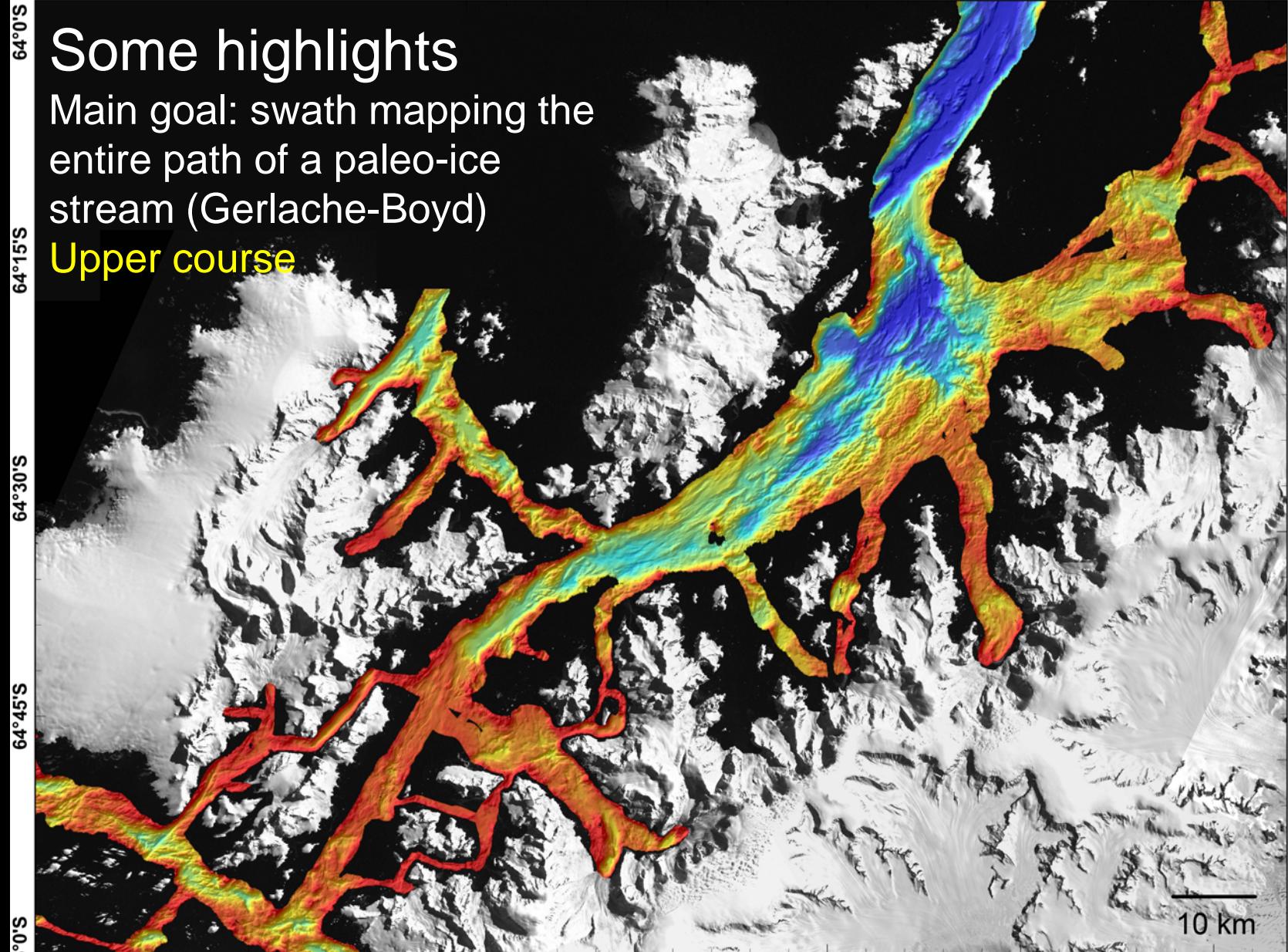


NAP Region

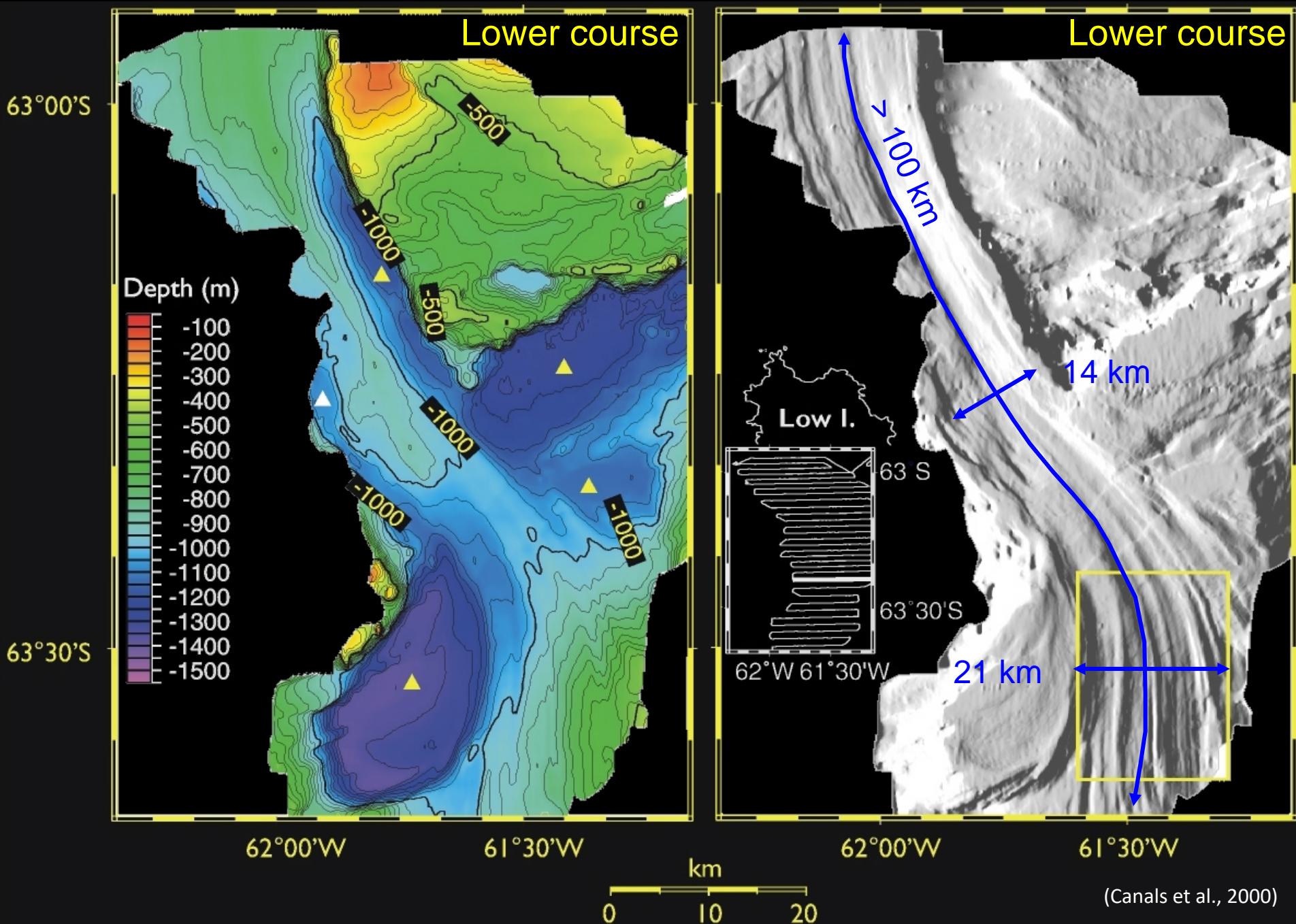
UB + US data (Domack's)

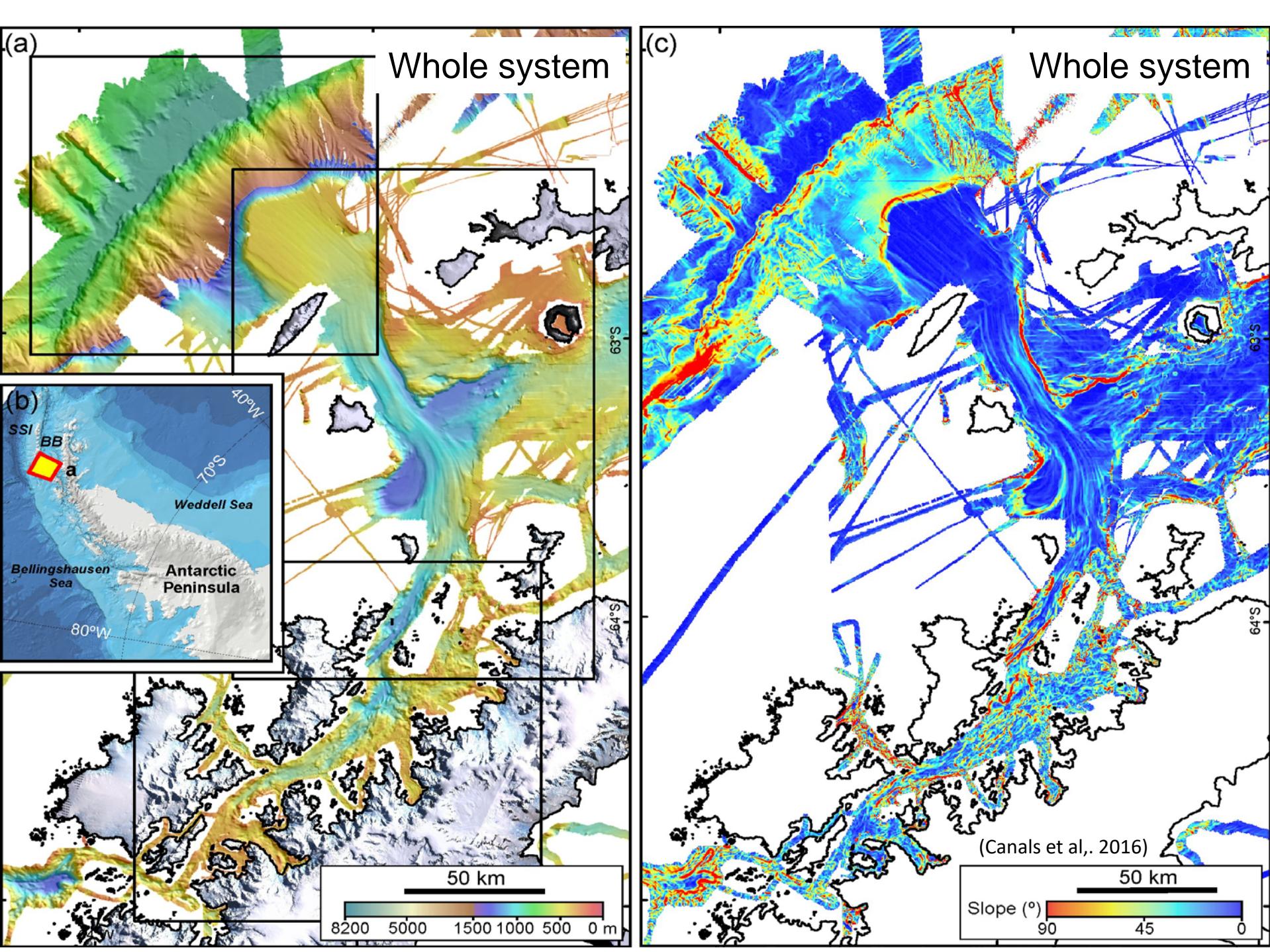


64°0'W 63°30'W 63°0'W 62°30'W 62°0'W 61°30'W 61°0'W



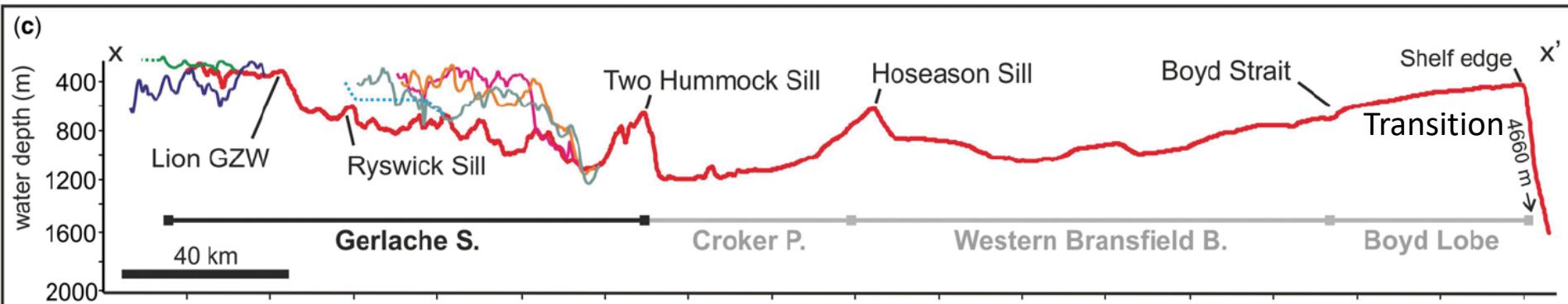
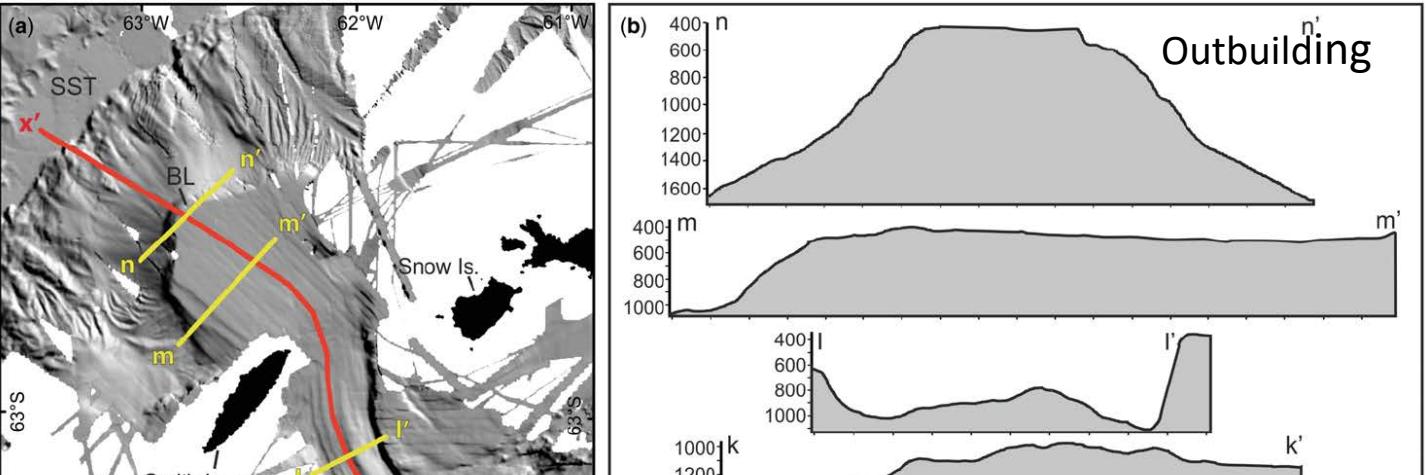
(Canals et al., 2016)





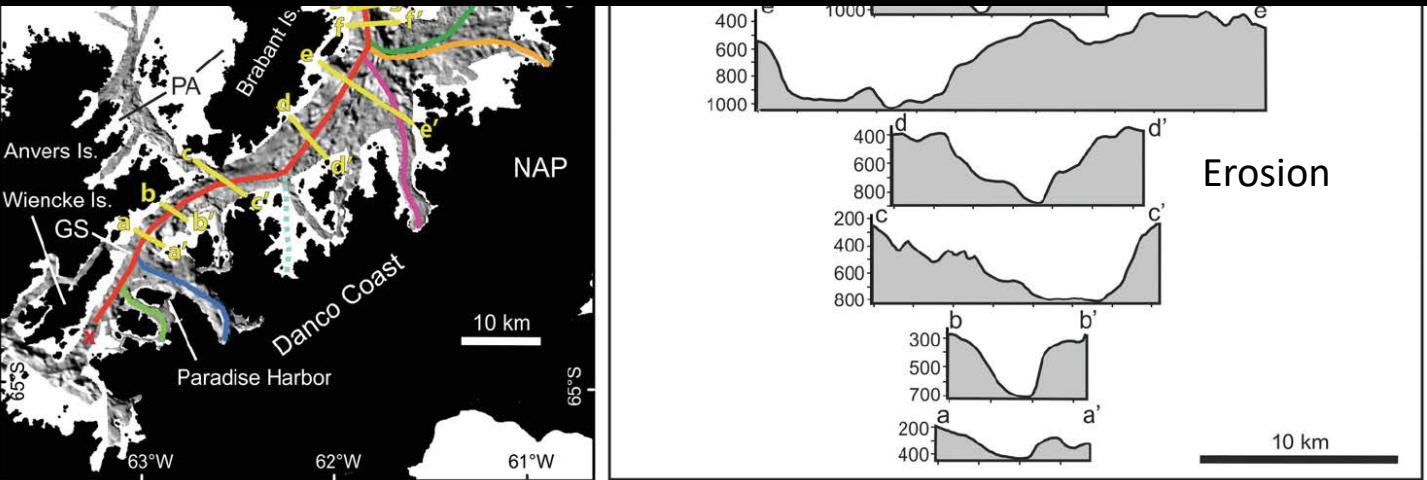
Whole system

- ✓ 365 km long
- ✓ 23,000 km²

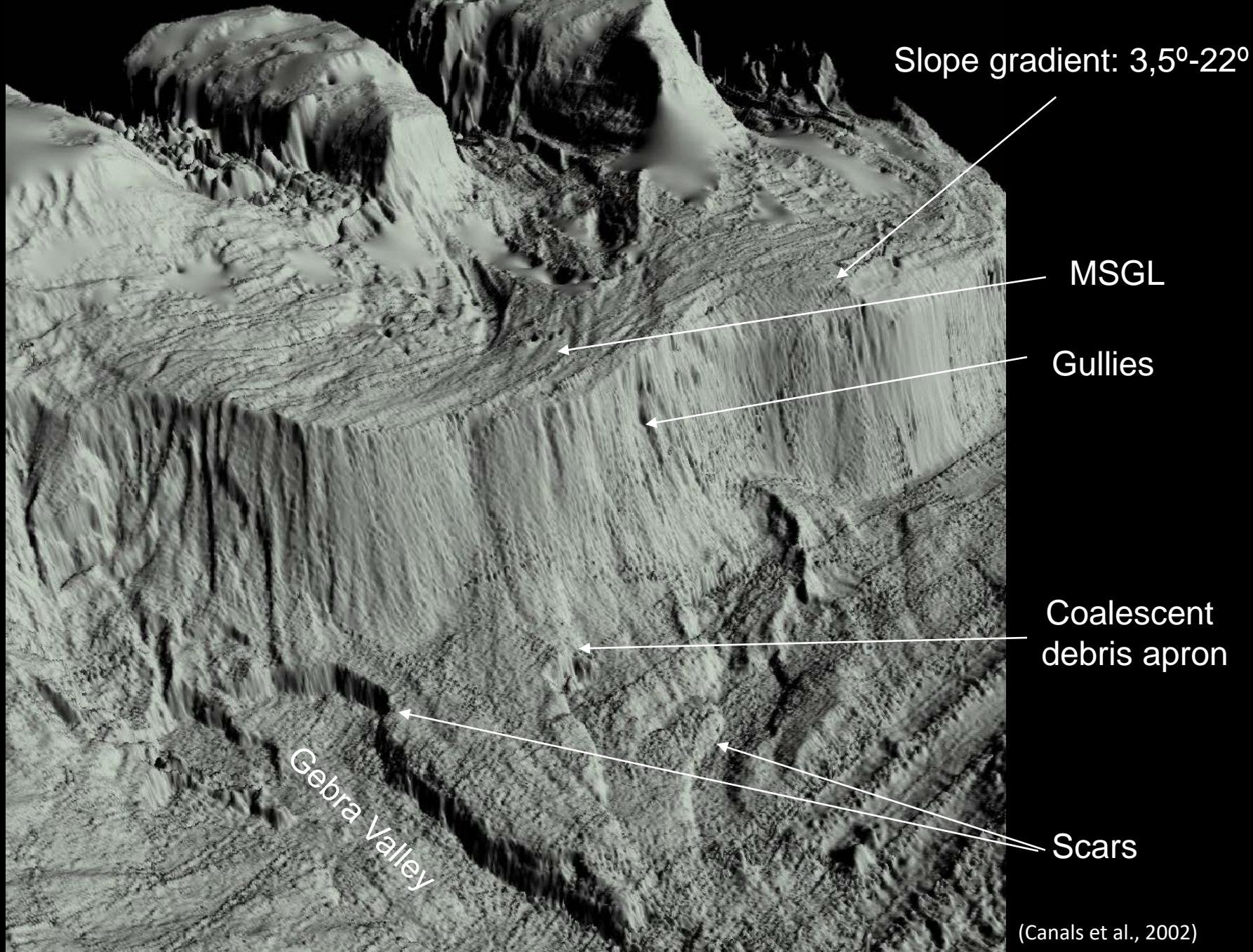


Just a rather small paleo-ice stream system!

- ✓ Height drop: 6,700 m
(from upper course ice divide to SSI deep-sea trench)

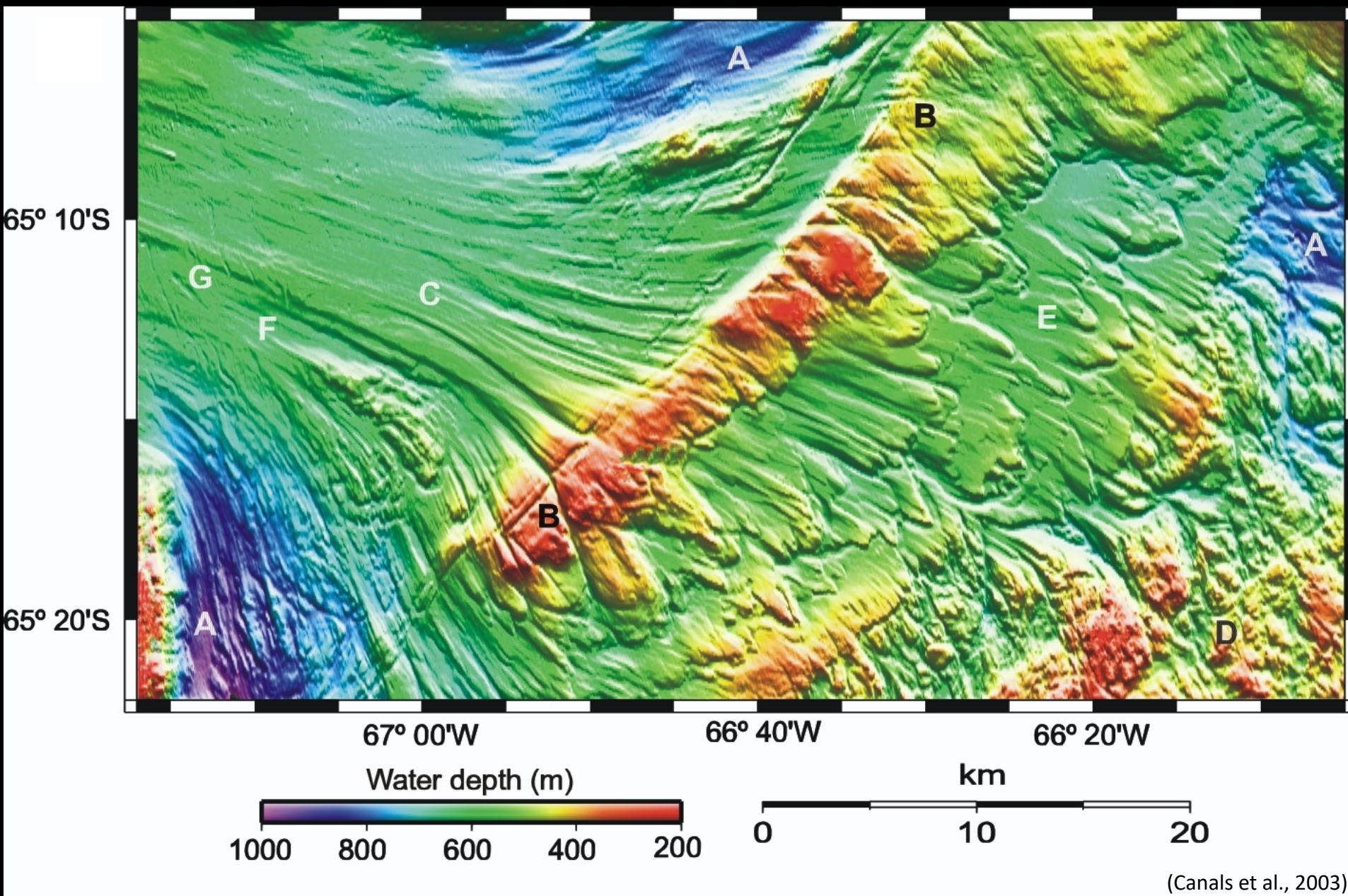


Glacial shelf troughs and shelf edge lobes, Bransfield Basin

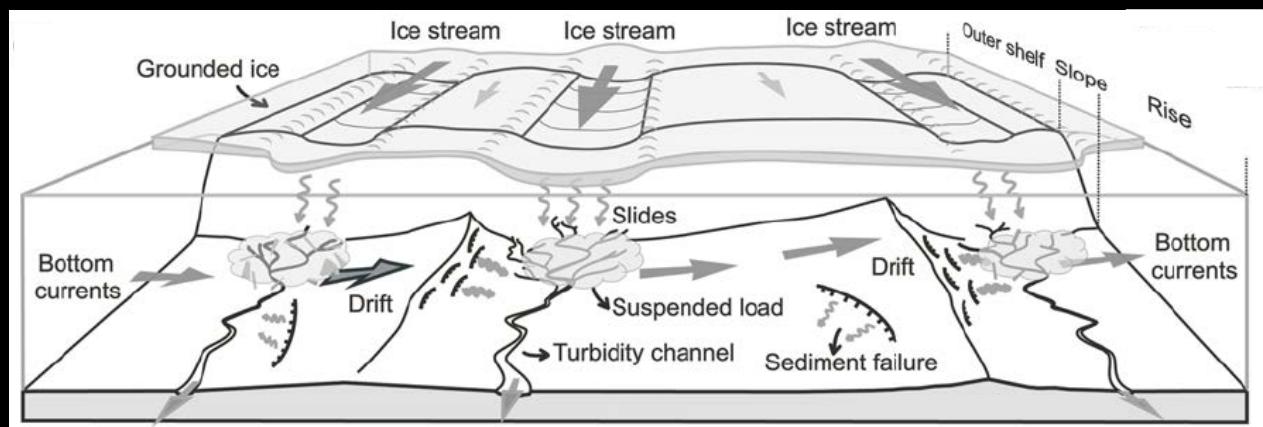


(Canals et al., 2002)

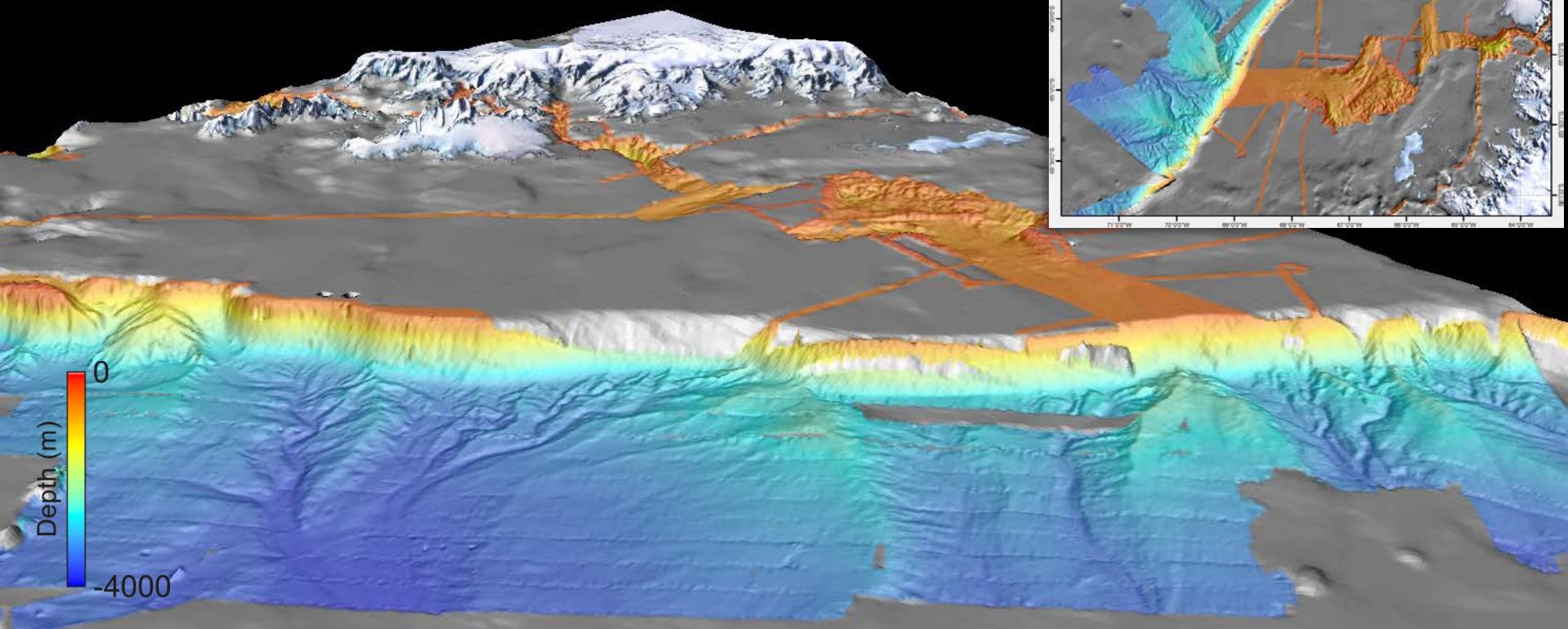
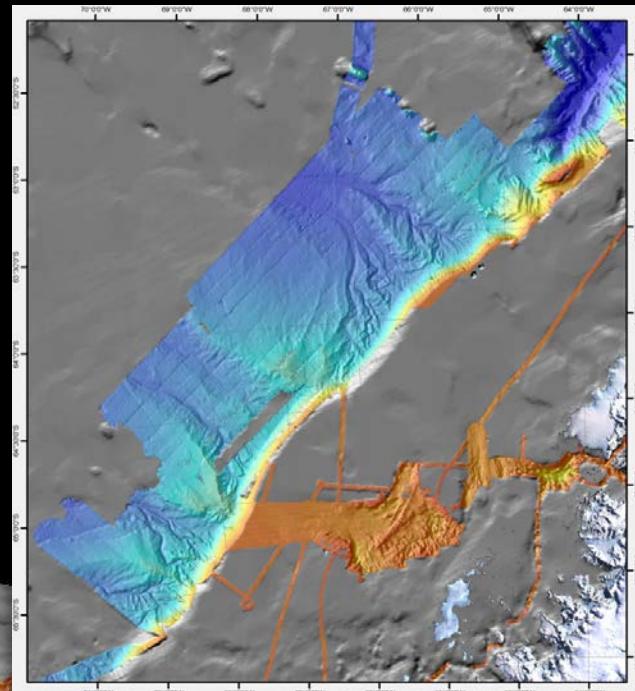
Landform assemblages, Biscoe Trough, Bellingshausen Sea



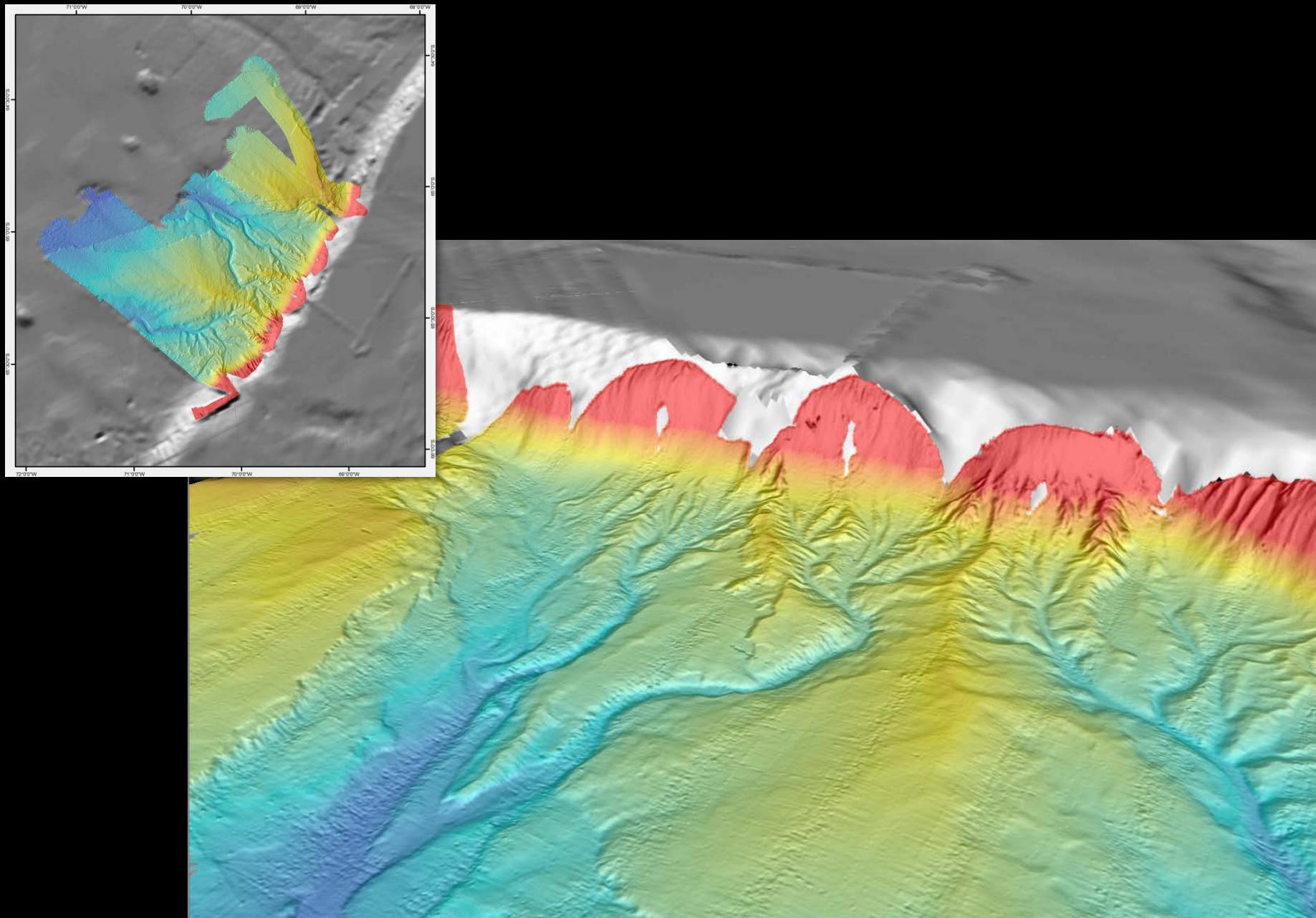
Sediment drifts and channels, Bellingshausen Sea, NAP



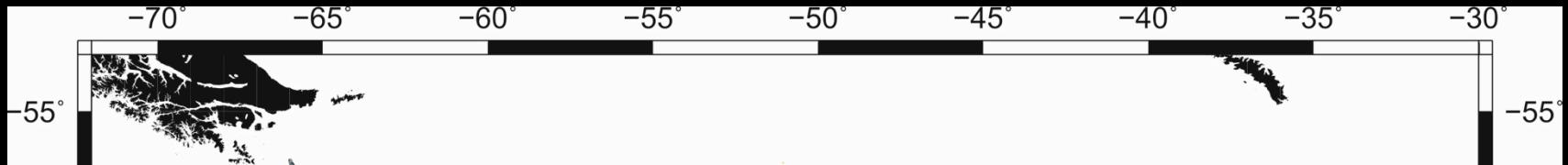
(Amblas & Canals, 2016)



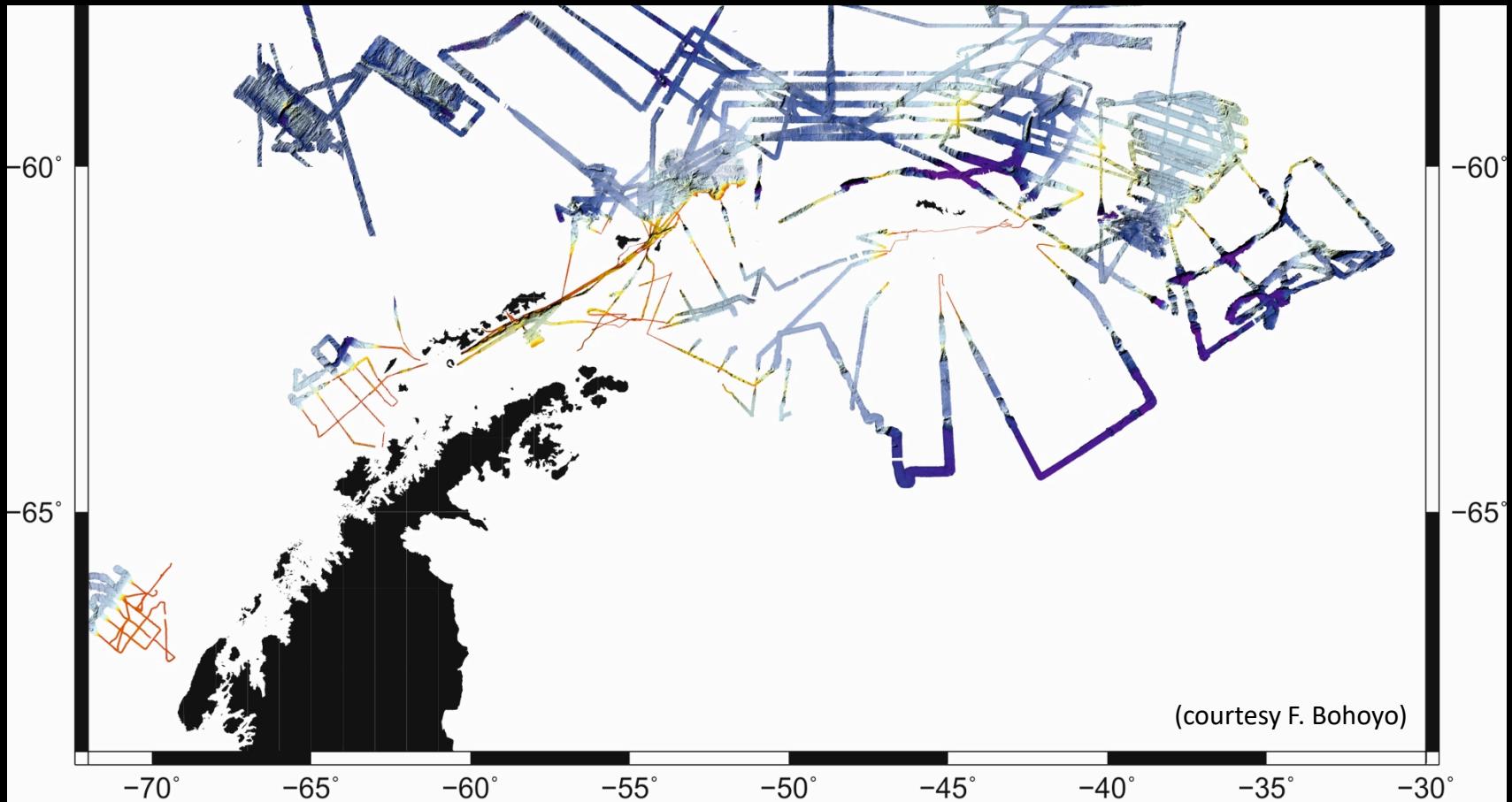
Canyon-channel systems, Bellingshausen Sea, NAP



Drake Passage and Scotia Sea



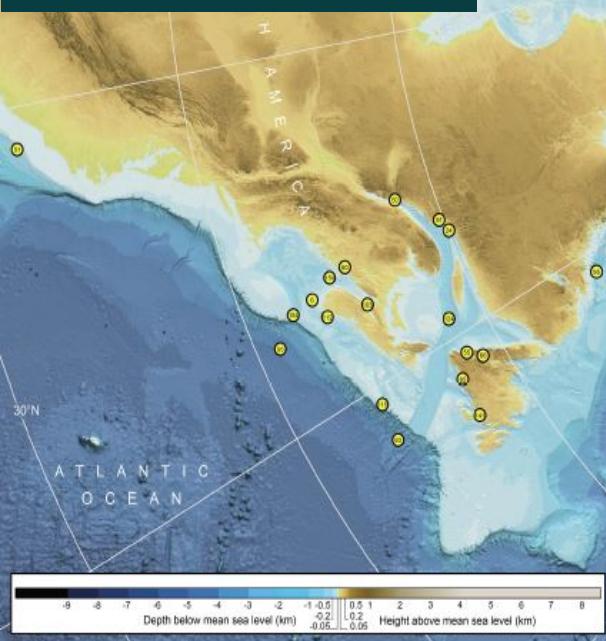
See presentation by F. Bohoyo

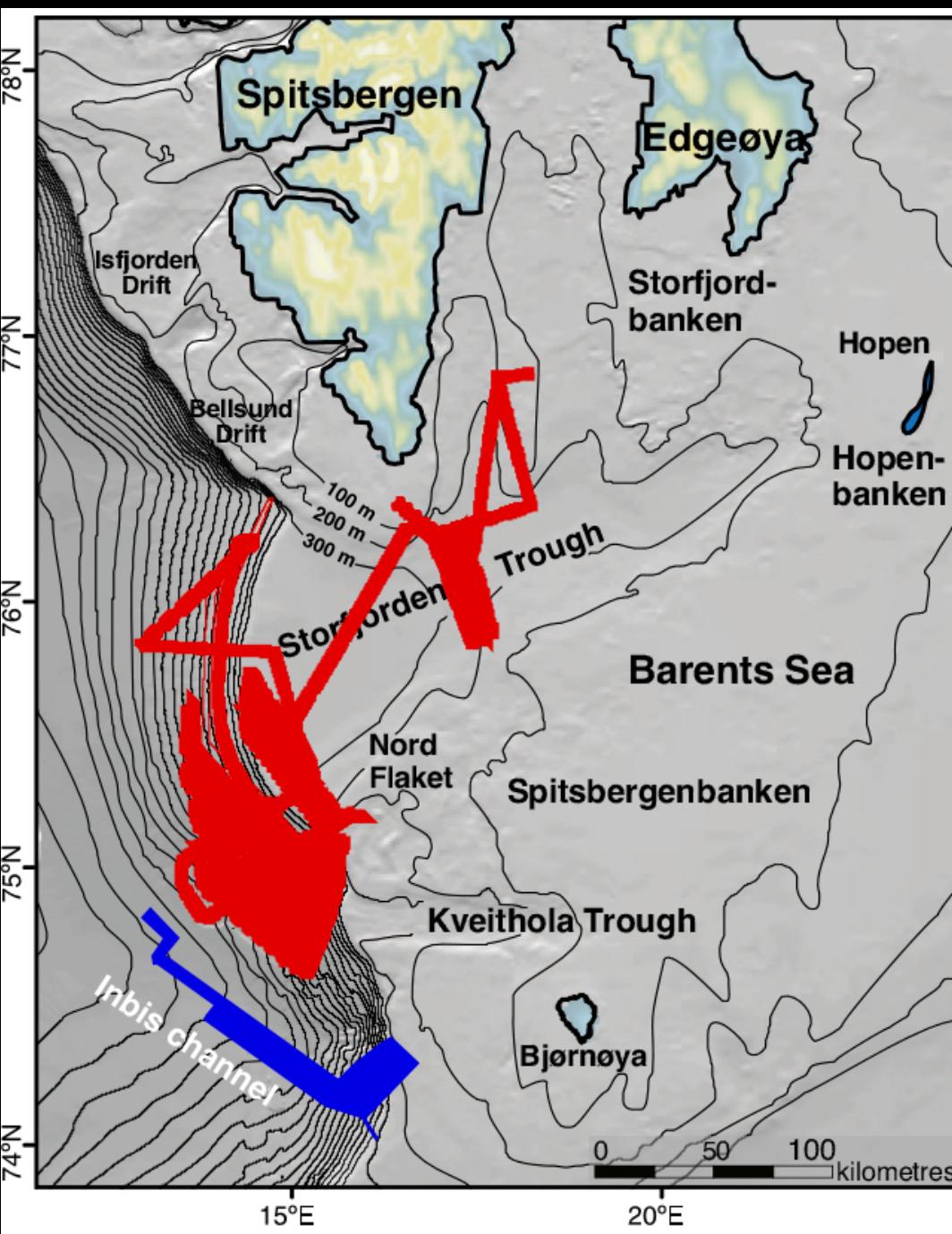


SCAN TEAM (1993-1997-1998-2001-2004-2008-2013)
FLEXAS TEAM (2012-2013)

Arctic Ocean

SVAIS cruise to the Svalbard margin, 2007, IPY / The development of an Arctic ice stream-dominated sedimentary system: The southern Svalbard continental margin





SVAIS '07

DEGLABAR '15

Many thanks for your attention!



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Drake Passage and Scotia Sea: 2018 cruise

