

The Reference Elevation Model of Antarctica

Descriptions of Files in Supplementary Material

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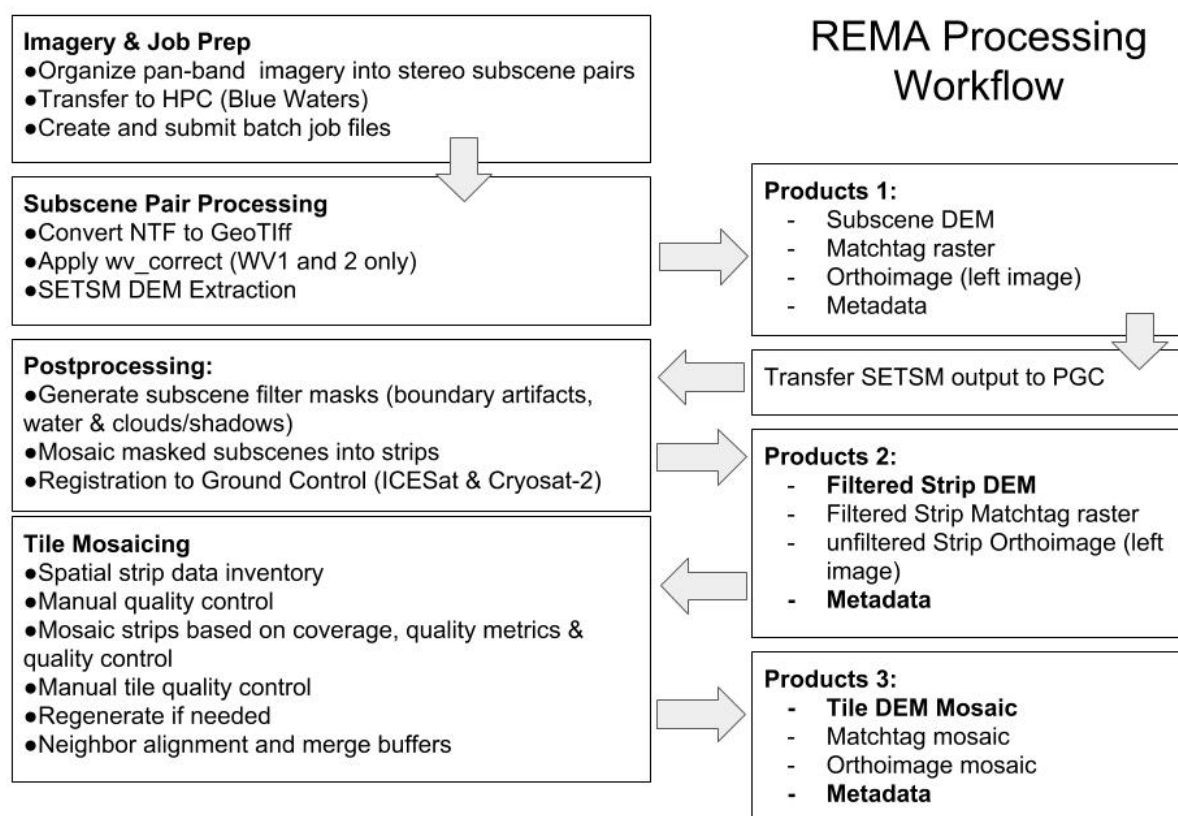


Figure S1. Schematic diagram of the REMA processing workflow. Products openly distributed through the Polar Geospatial Center are in bold font.

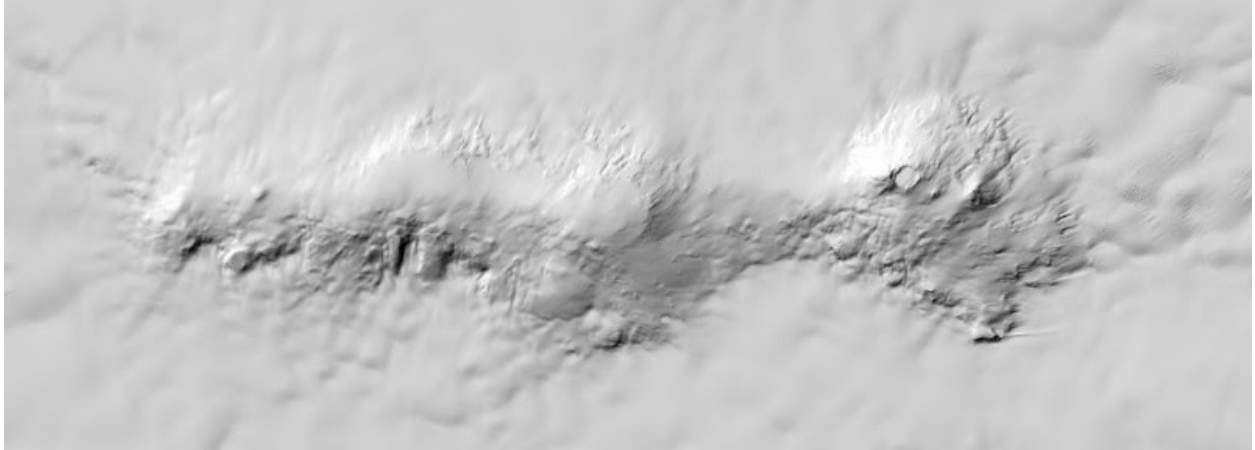


Figure S2. Hill shade representation of the REMA 8-m mosaic of the Volcanoes in the Flood Range, Marie Byrd Land, West Antarctica. The image in polar stereographic projection, so that the south is up, and has a width of approximately 85 km and a height of 30 km.

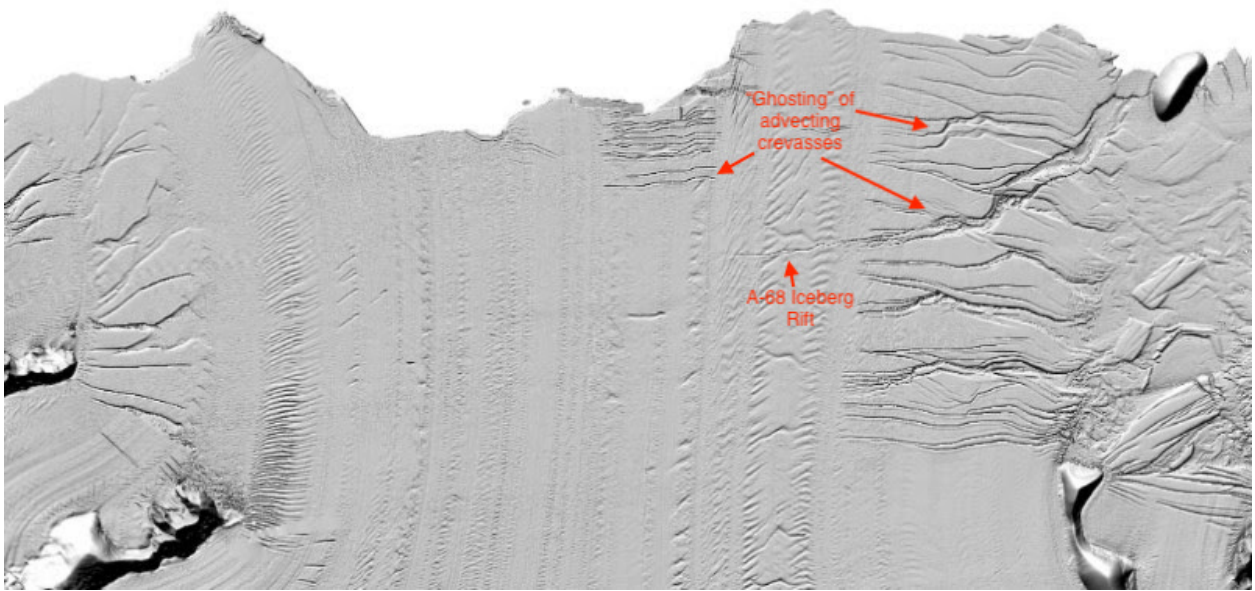


Figure S3. Hill shade representation of the REMA 8-m mosaic showing subtle detail in the Larsen C Ice Shelf. The large crack in the upper right is the beginning of the formation of Iceberg A-68. Advecting ice shelf features, including rifts, are repeated (i.e. “ghosting”) due to the overlay of DEMs from different times in the mosaicking process. The image in a 90 degree rotated polar stereographic projection, with North to left, and has a width of approximately 275 km and a height of 120 km.

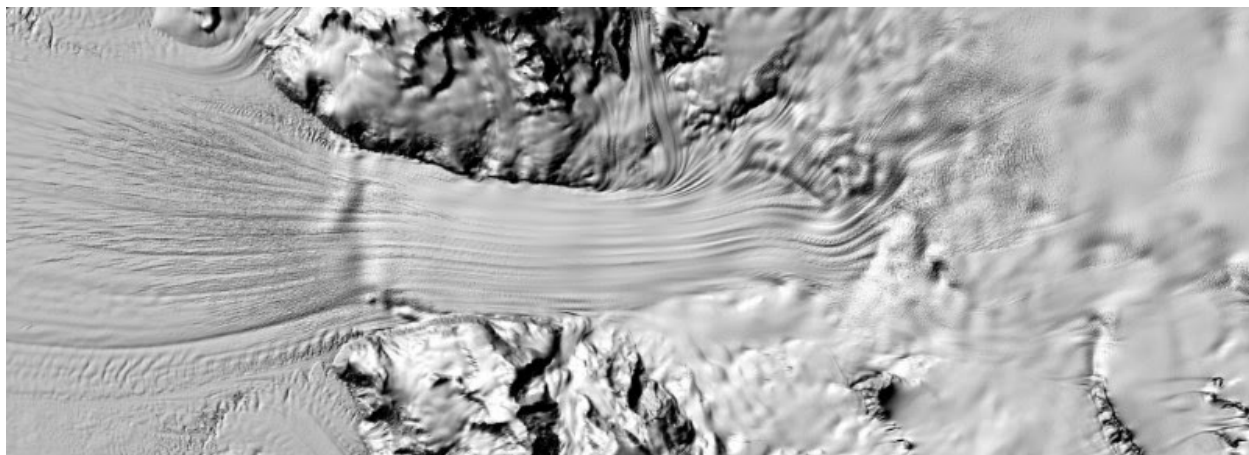


Figure S4. Hill shade representation of the REMA 8-m mosaic showing Mulock Glacier, between Byrd Glacier and the McMurdo Dry Valleys. Flow is from the polar plateau on the right to the Ross Ice Shelf on the left. The image is in a rotated polar stereographic projection, so that the south is to the upper left, and has a width of approximately 110 km and a height of 40 km.

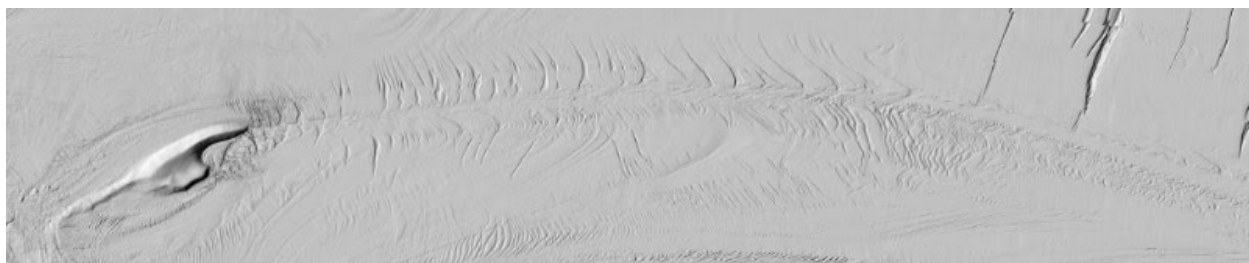


Figure S5. Hill shade representation of the REMA 8-m mosaic showing eddies formed in the Ross Ice Shelf created by ice flowing from left to right around the Crary Ice Rise. The image is in a rotated polar stereographic projection, so that the south is to the upper left, and has a width of approximately 300 km and a height of 60 km.

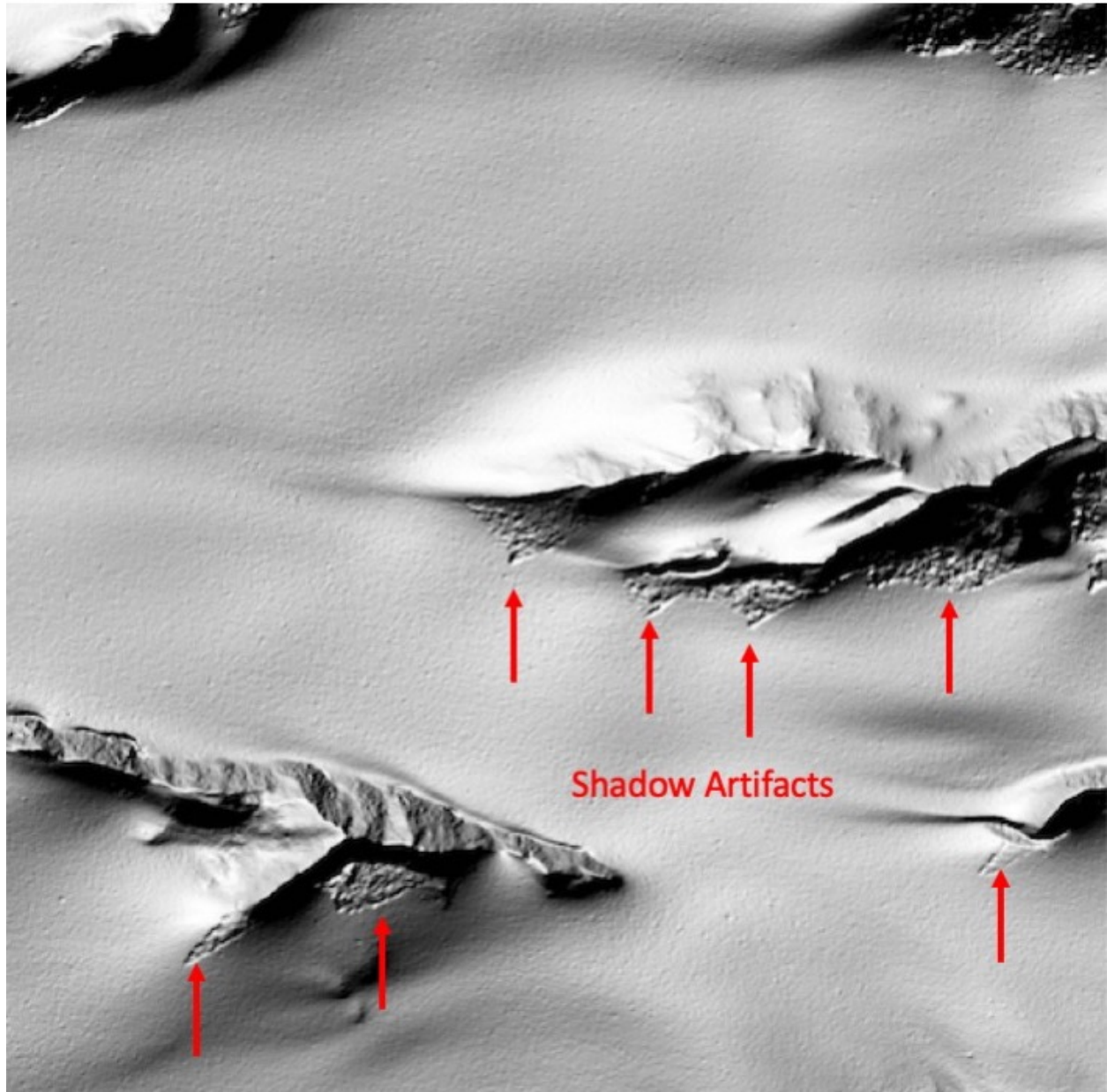


Figure S6. DEM hill shade representation image of the Ellsworth Mountains, West Antarctica (subset of REMA tile 32_19). These errors, indicated by arrows, are caused by persistent shadows are visible as rough surfaces on the south faces of mountains. Shadows reduce the confidence of the stereopair matching algorithm within the DEM generation software, resulting in noisy surfaces. The image is approximately 8 by 8 km.



Figure S7. DEM hill shade representation image of a rift, running southwest to northeast, on the Filchner Ice Shelf. The duplicated rift that fades out before the first, indicated by arrows, is an artifact resulting of the stacking and blending of strip DEMs from different time periods, over which time the rift advected downstream. Due to this effect, the individual strip DEMs should be used for precise mapping and elevation change measurements over fast flowing ice. The image is approximately 40 km wide and 34 km tall.

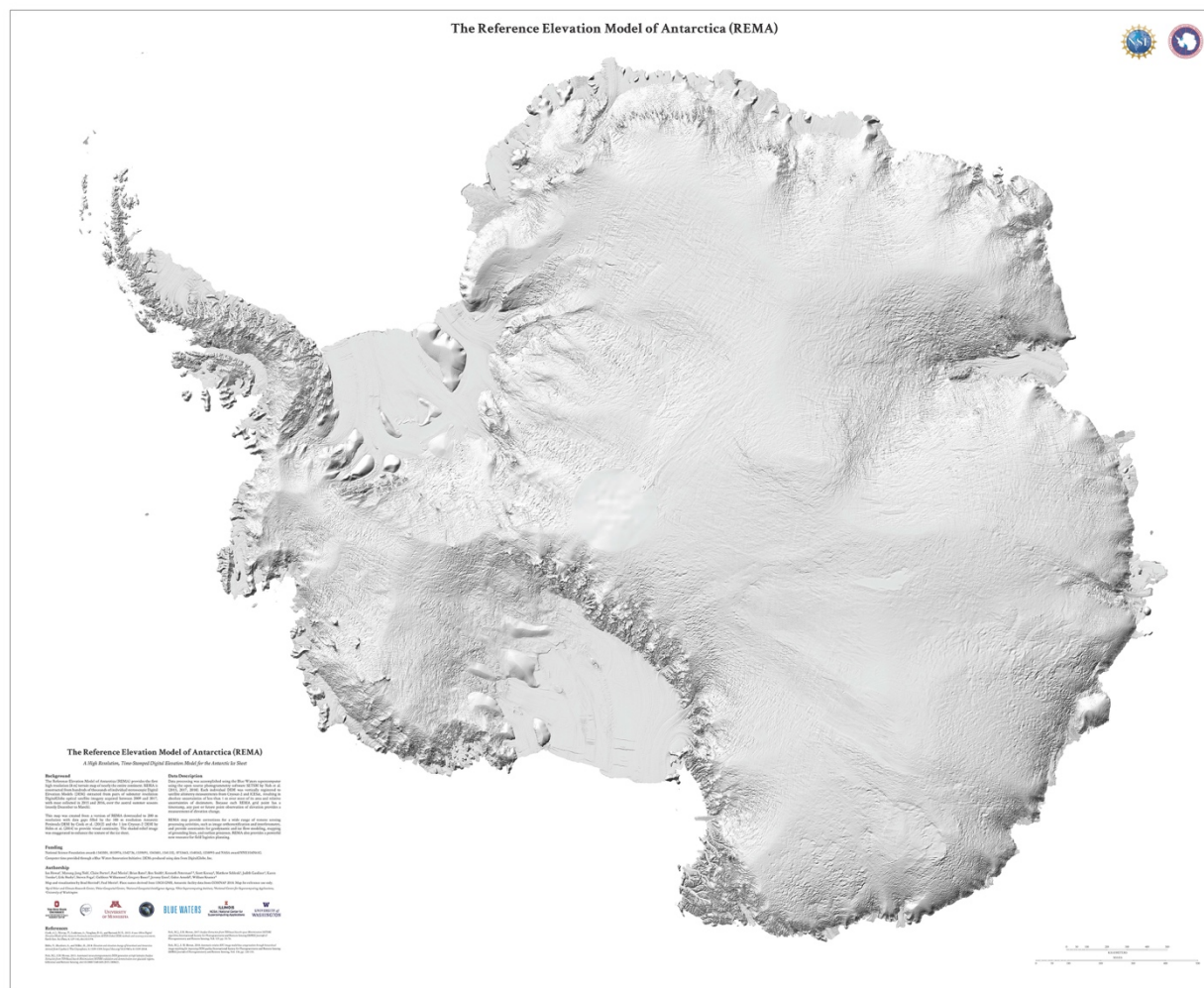


Figure S8. Preview image of large-format poster map of the Reference Elevation Model of Antarctica (REMA), rendered with a hillshade. Does not include any cartographic elements. Full resolution (50 MB) version of the map available at: <http://maps.apps.pgc.umn.edu/id/2364> (last accessed 13 Feb. 2019).

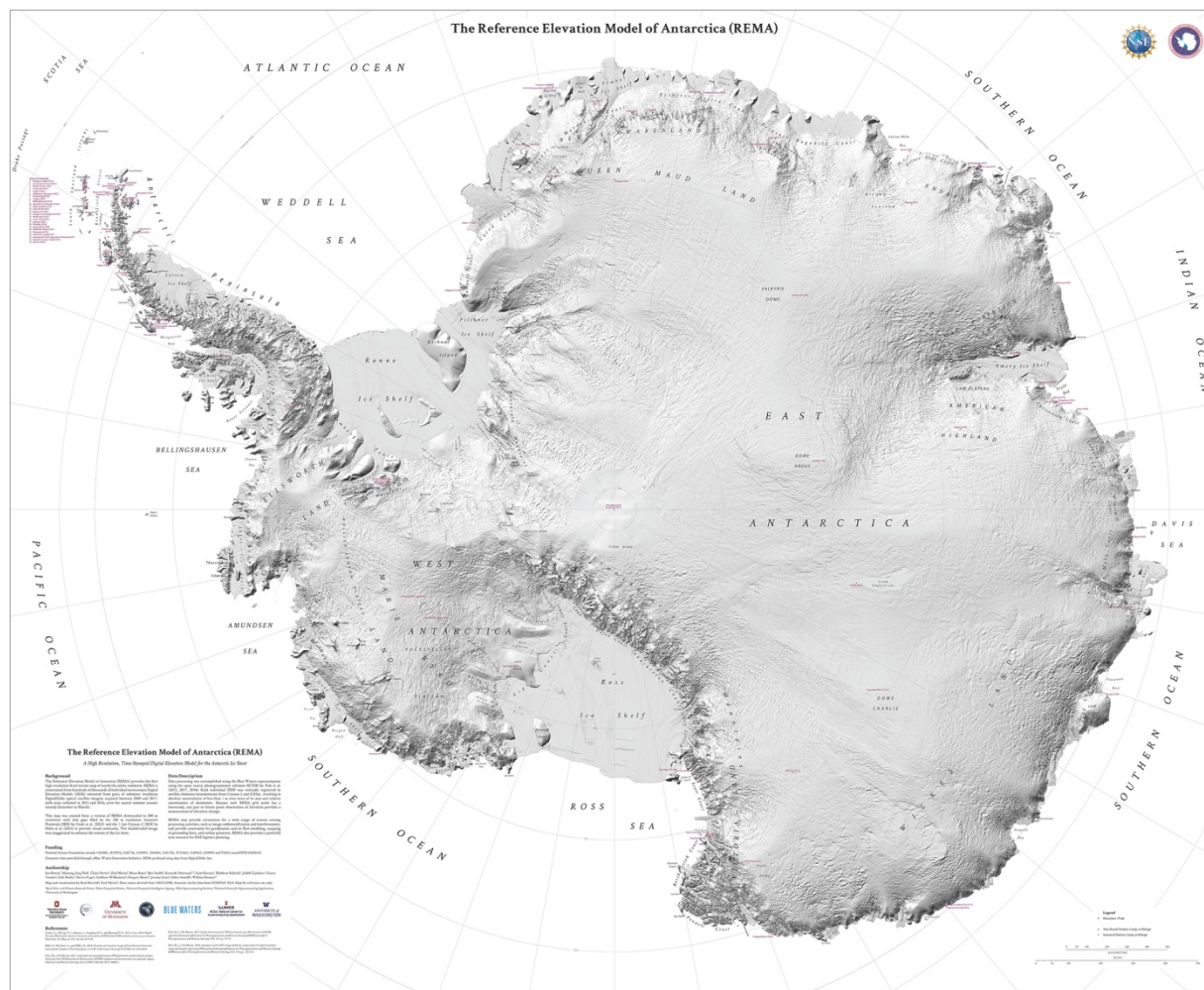


Figure S9. Preview image of large-format poster map of the Reference Elevation Model of Antarctica (REMA), rendered with a hillshade. Includes cartographic elements such as place name labels, graticules, etc. Full resolution (50 MB) version of the map available at: <http://maps.apps.pgc.umn.edu/id/2365> (last accessed 13 Feb. 2019).