I’m curious what mask was used for both interior holes (nunatuks?) and the ice sheet boundary, and/or if it can be changed to address boundary issues.

Below are two images of the data product for essd 2024-311 and two images of the data product for essd 2024-348. This comment is submitted to both papers.

Interior holes can be filled (at possibly low quality) by interpolation. Missing data at the edges is harder to extrapolate.

This issue came up today after discussions with BedMachine about updates to that product. Updates need the mask and DEM to match temporally. The mask used here does not likely represent the best ‘true’ ice sheet mask – that would be its own product and needs to be evaluated separately. In fact none of the words ‘mask’, ‘outline’, and ‘boundary’ exist in 2024-348, while 2024-311 mentions using the Zwally (2012) ice sheet outline and RGI 7 for peripheral glaciers.

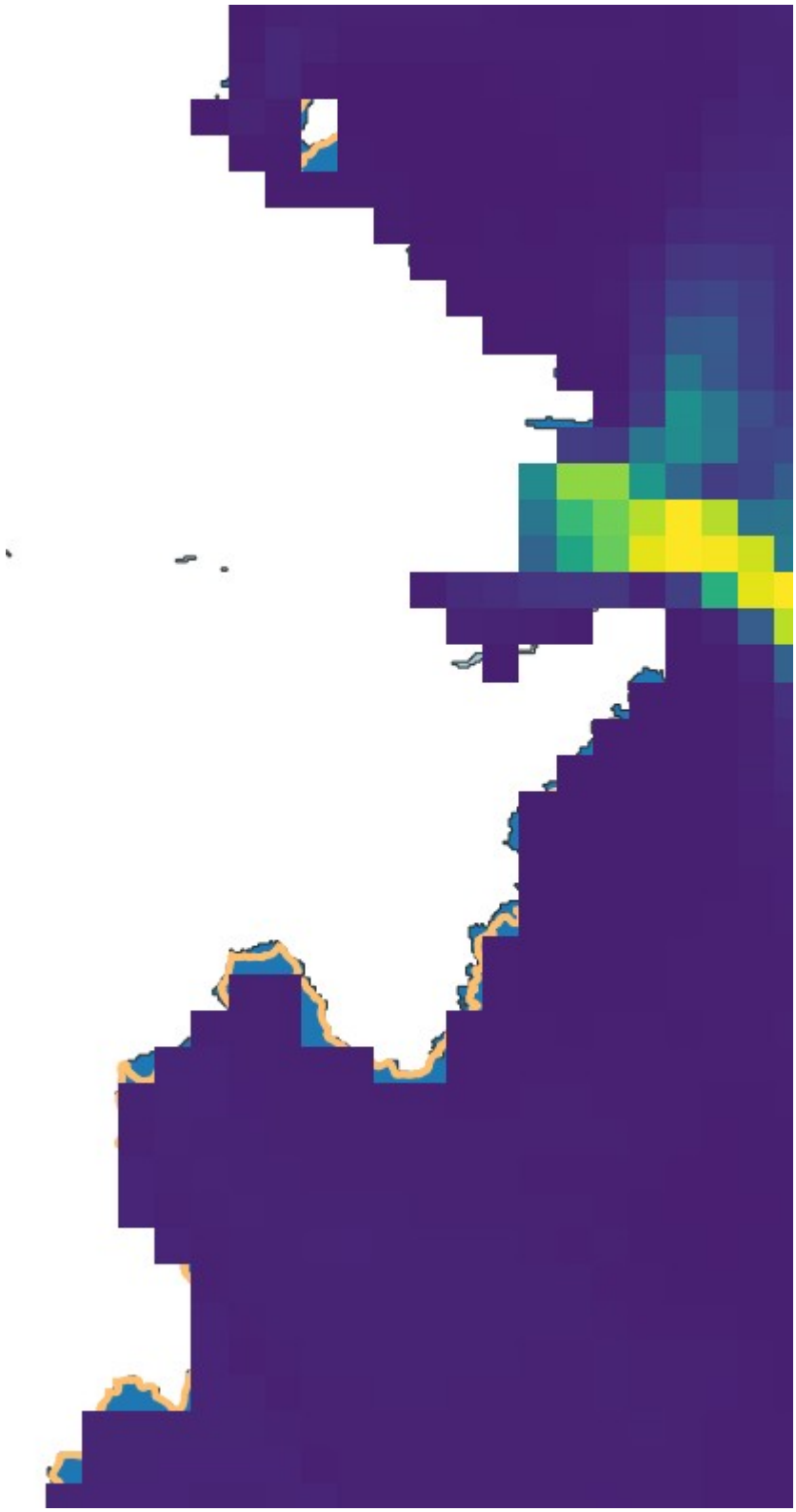
The Zwally mask does not capture the true edge in many places. Can this product be regenerated with a larger mask? Zwally but buffered by a few grid cells? The superset of Zwally, Mouginot, and BedMachine? What’s the downside of having some land cells, or partial land cells, included in this, other than some locations where there should be no change?

If key grid cells are missing and cannot be reasonably interpolated or extrapolated, then this product cannot be used as a basis for an updated BedMachine DEM, and another product that does provide full coverage would need to be found and used instead.

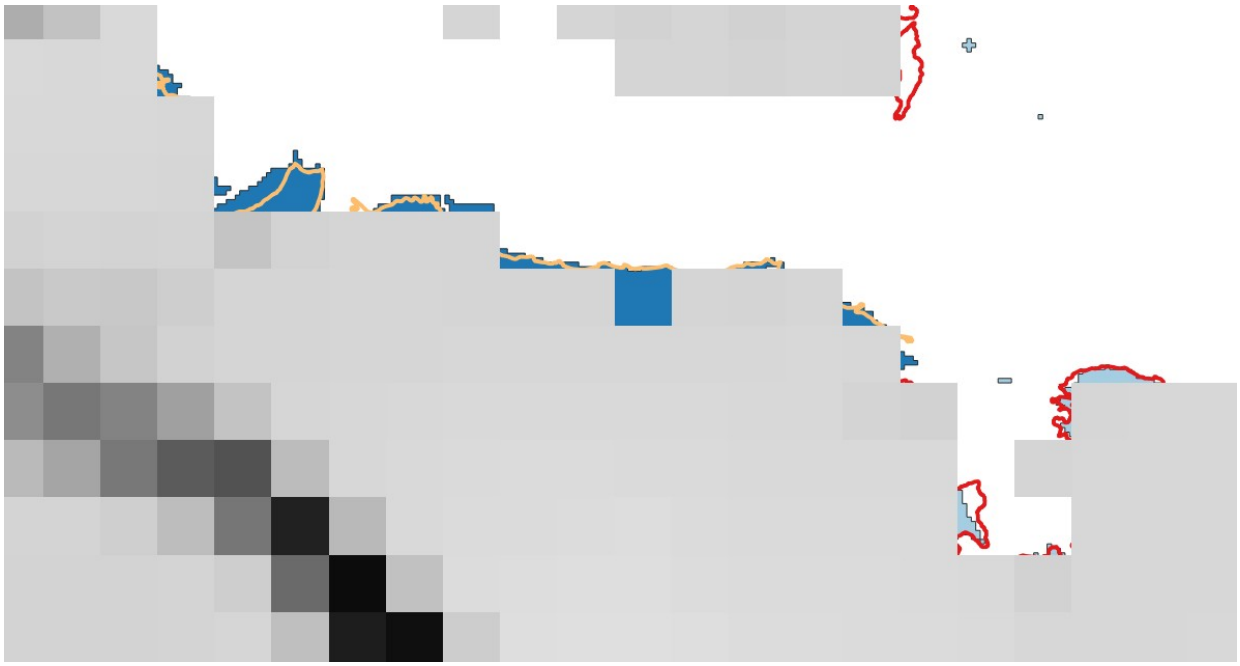
There is an ongoing community effort to avoid under- or double-counting cells where RGI and ice sheet communities may overlap. Gaps in these products are counter productive to this effort.

Figures follow. Blue is BedMachine. Red outline is RGI. Orange is a 2022 remote-sensing ‘best true’ outline.

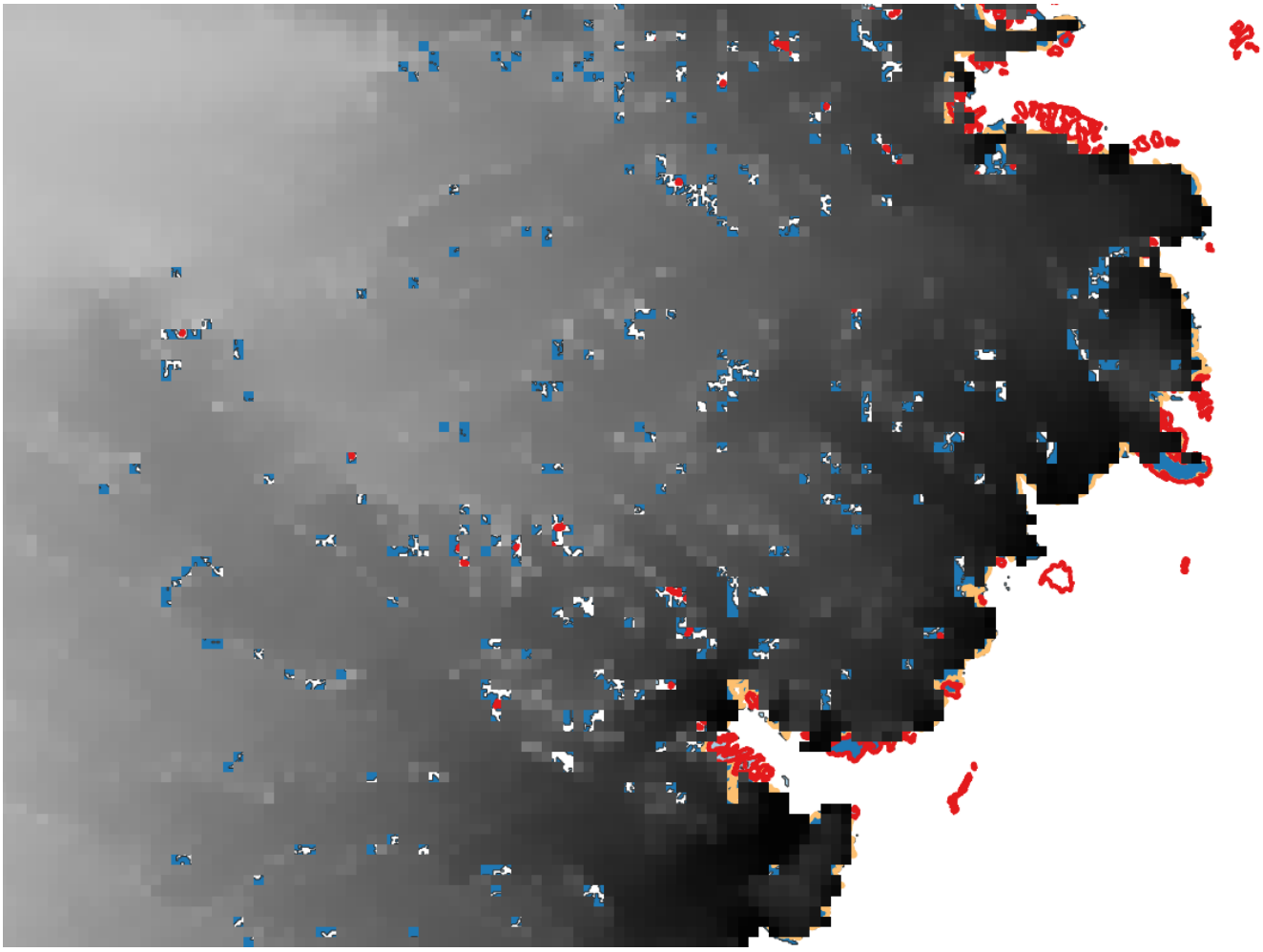
2024-311 Figure 1



2024-311 Figure 2



2024-348 Fig 1



2024-348 Fig 2