Supplement of:
Sensitivity of ISMIP6 future projections for the Greenland ice sheet to the spatial grid resolution with the ice flow model AWI-ISSM

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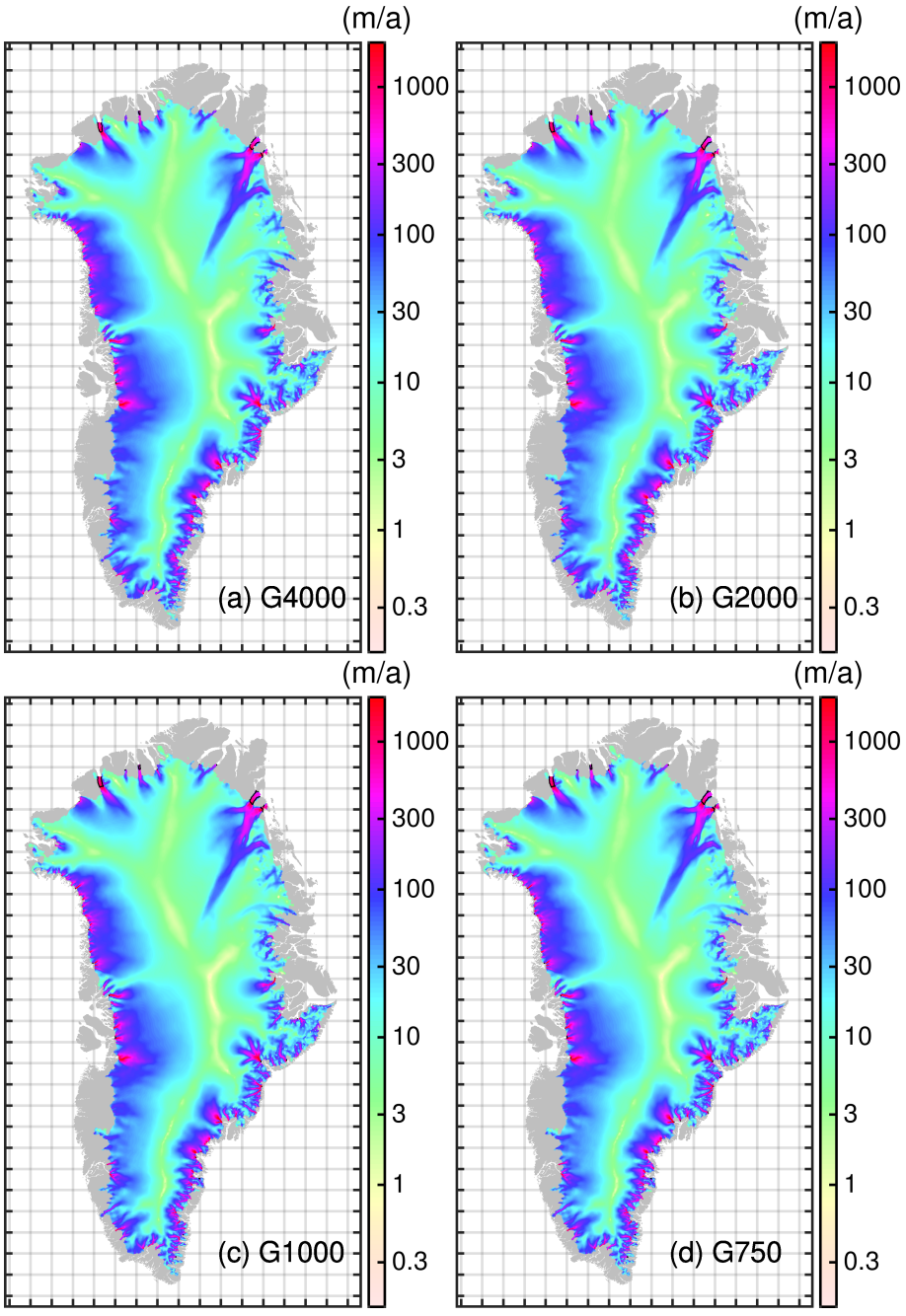

Figure S1. Simulated surface velocity, v_{sim} at the end of the initialization run of all four mesh cases.

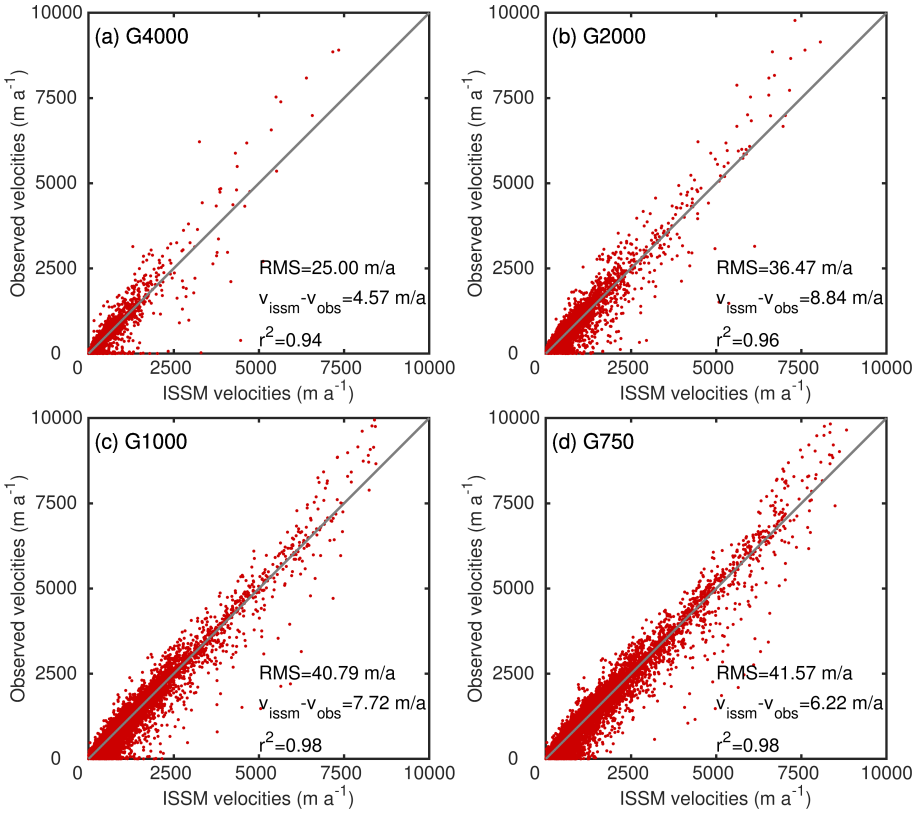

Figure S2. Scatter plots of observed surface velocity, v_{obs}, and simulated surface velocity, v_{ISSM}, at the end of the initialization run. The gray line is the identity line. The statistics are performed on the native mesh

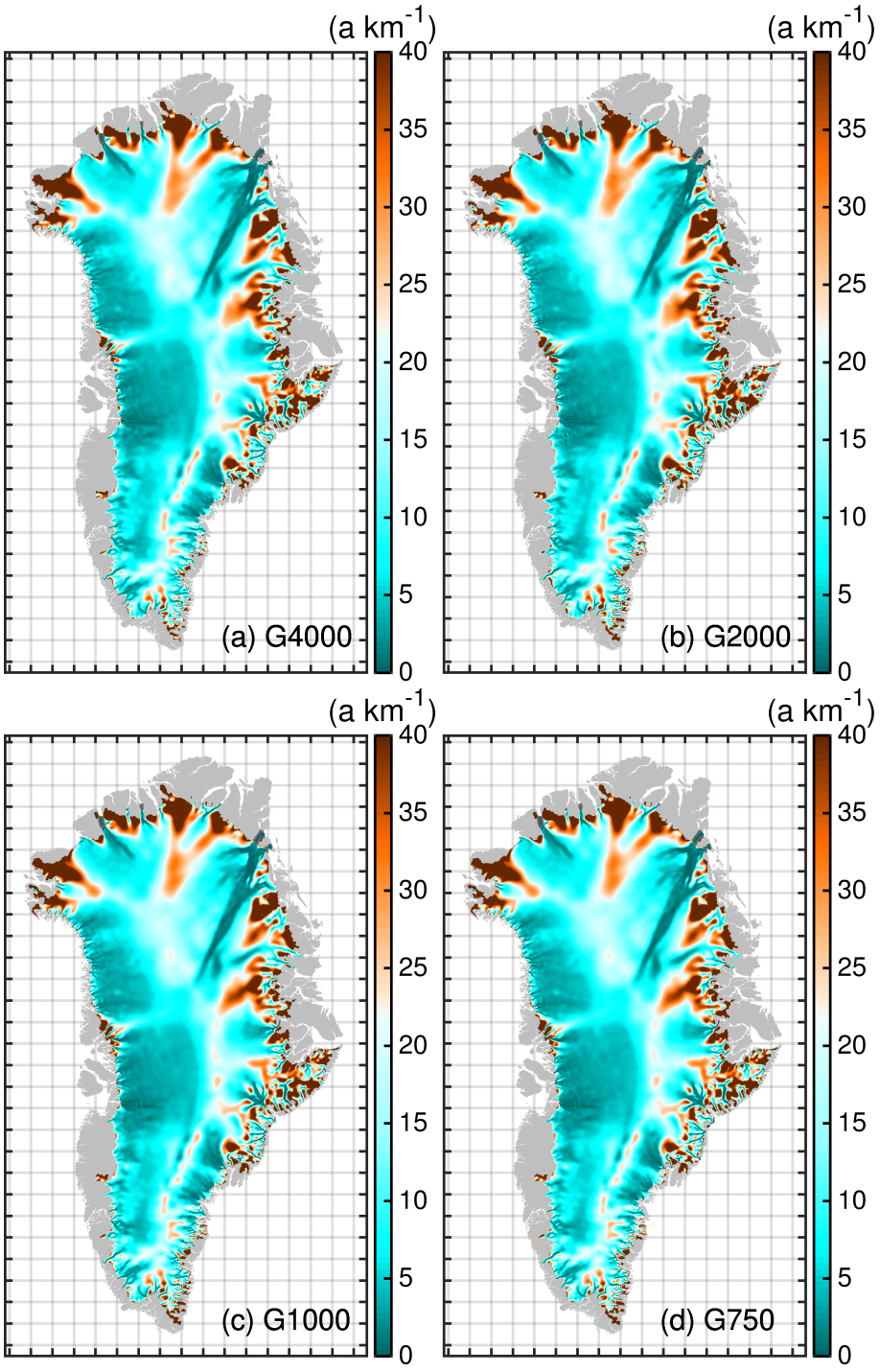

Figure S3. Obtained basal friction coefficient k^2 for all mesh cases.

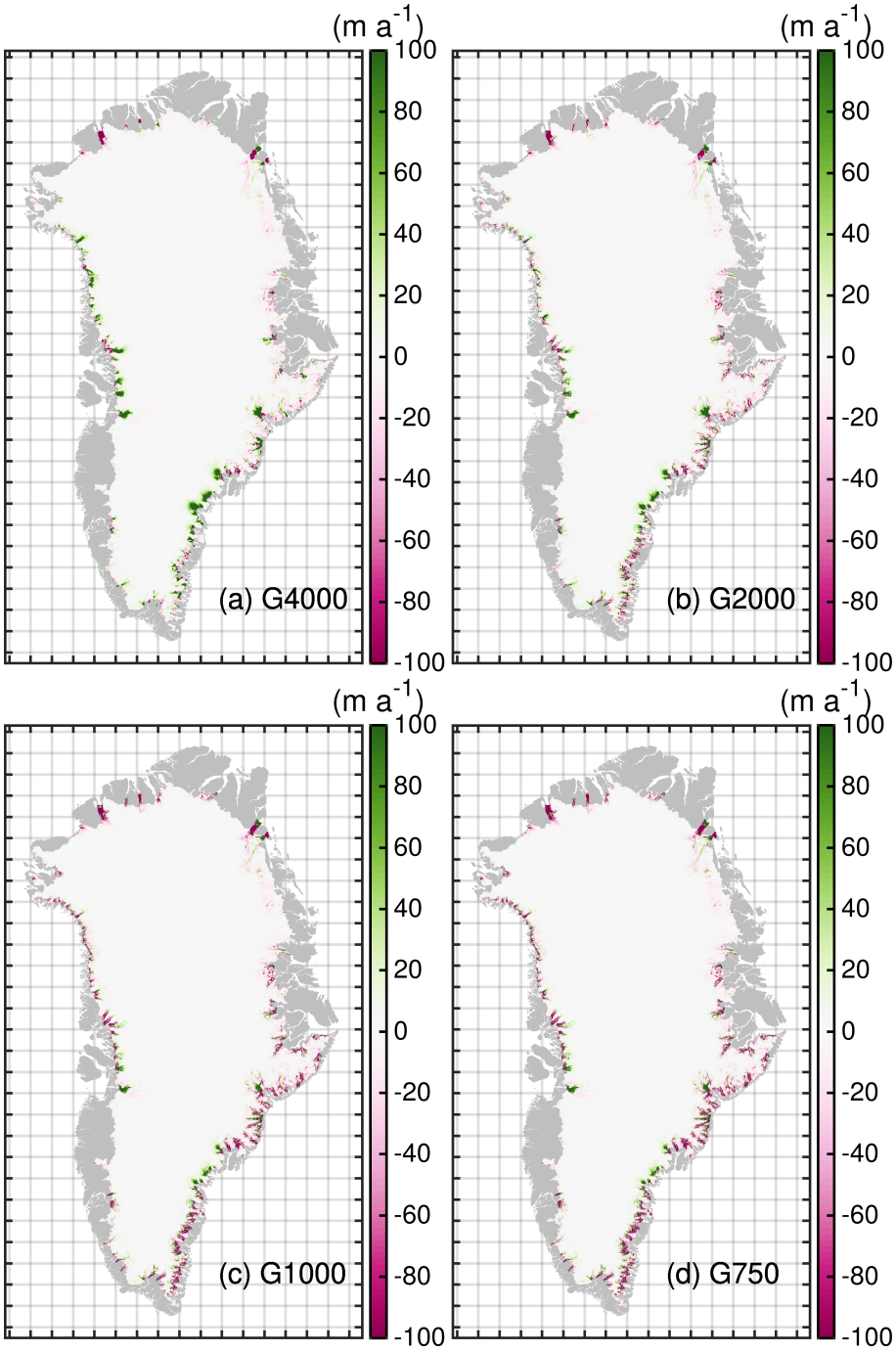

Figure S4. Difference between observed surface velocity, v_{obs}, and simulated surface velocity, v_{sim} at the end of the historical run ($v_{\mathrm{obs}} - v_{\mathrm{sim}}$). Positive values represent glacier acceleration, and negative values deceleration.

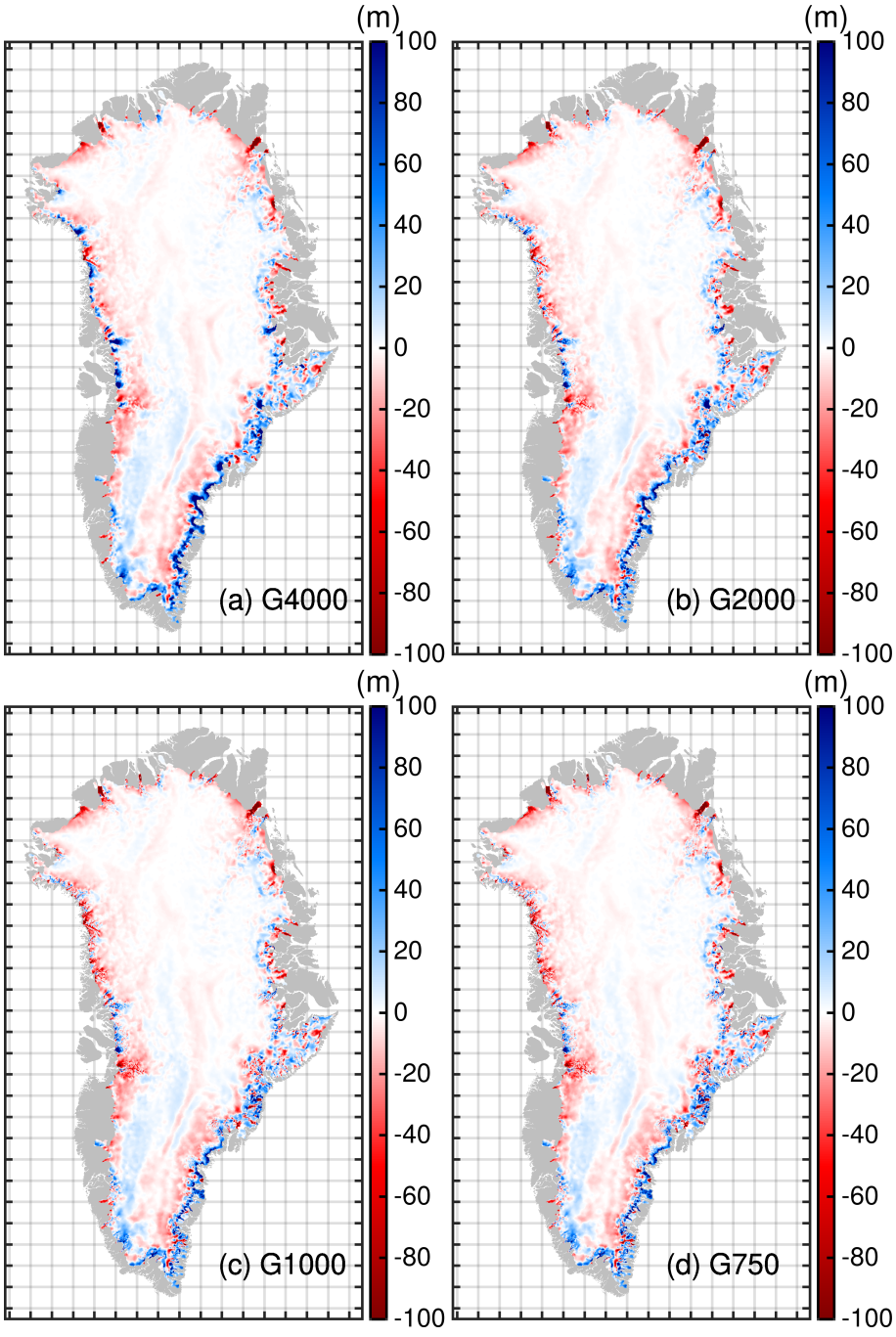

Figure S5. Difference between observed thickness, h_{obs}, and simulated ice thickness, h_{sim} at the end of the historical run ($h_{\mathrm{obs}} - h_{\mathrm{sim}}$). Positive values represents thickening, and negative shows thinning.

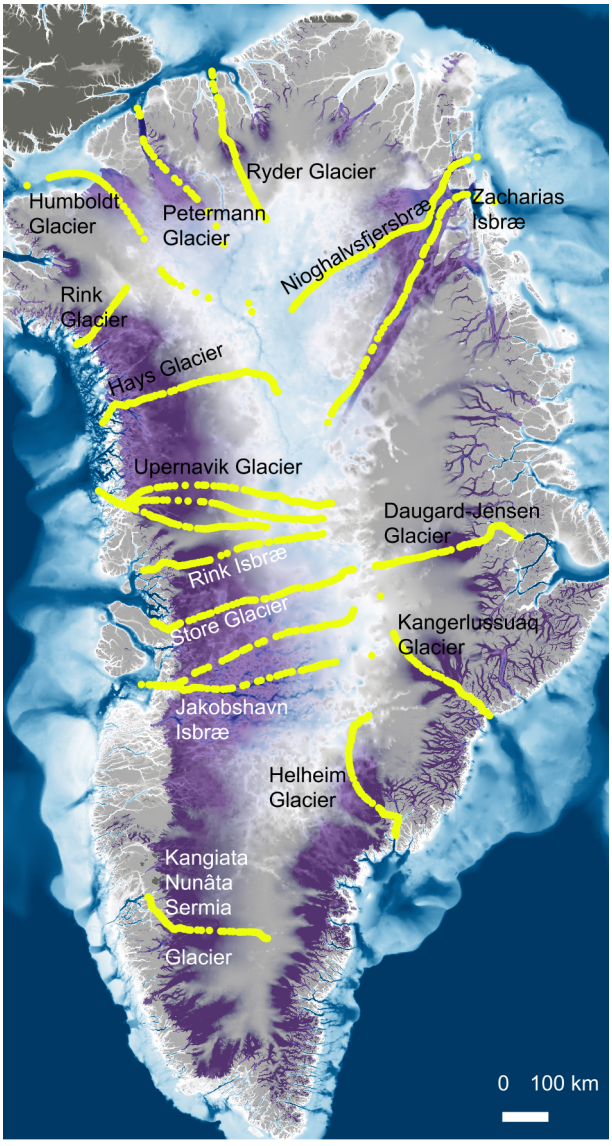

Figure S6. Map showing the locations of the glaciers for the detailed analysis. Background: BedMachine, GEBCO and Measures velocities.

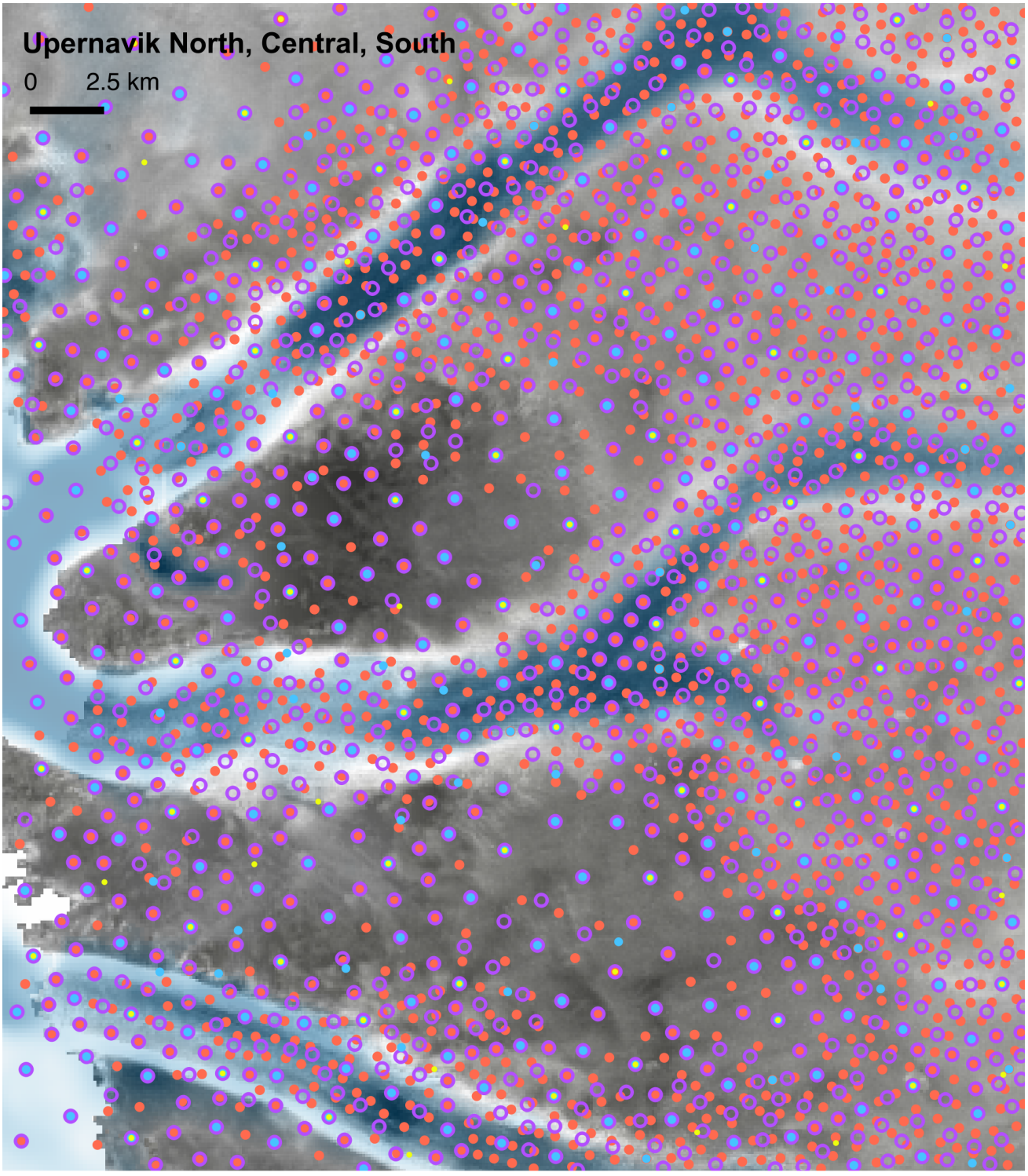

Figure S7. Mesh for the four resolutions for Upernavik Glacier superimposed on the bedrock topography and shaded with the Radarsat Mosaic. Yellow dots are the nodes of G4000, bright blue G2000, purple G1000 and orange G750.

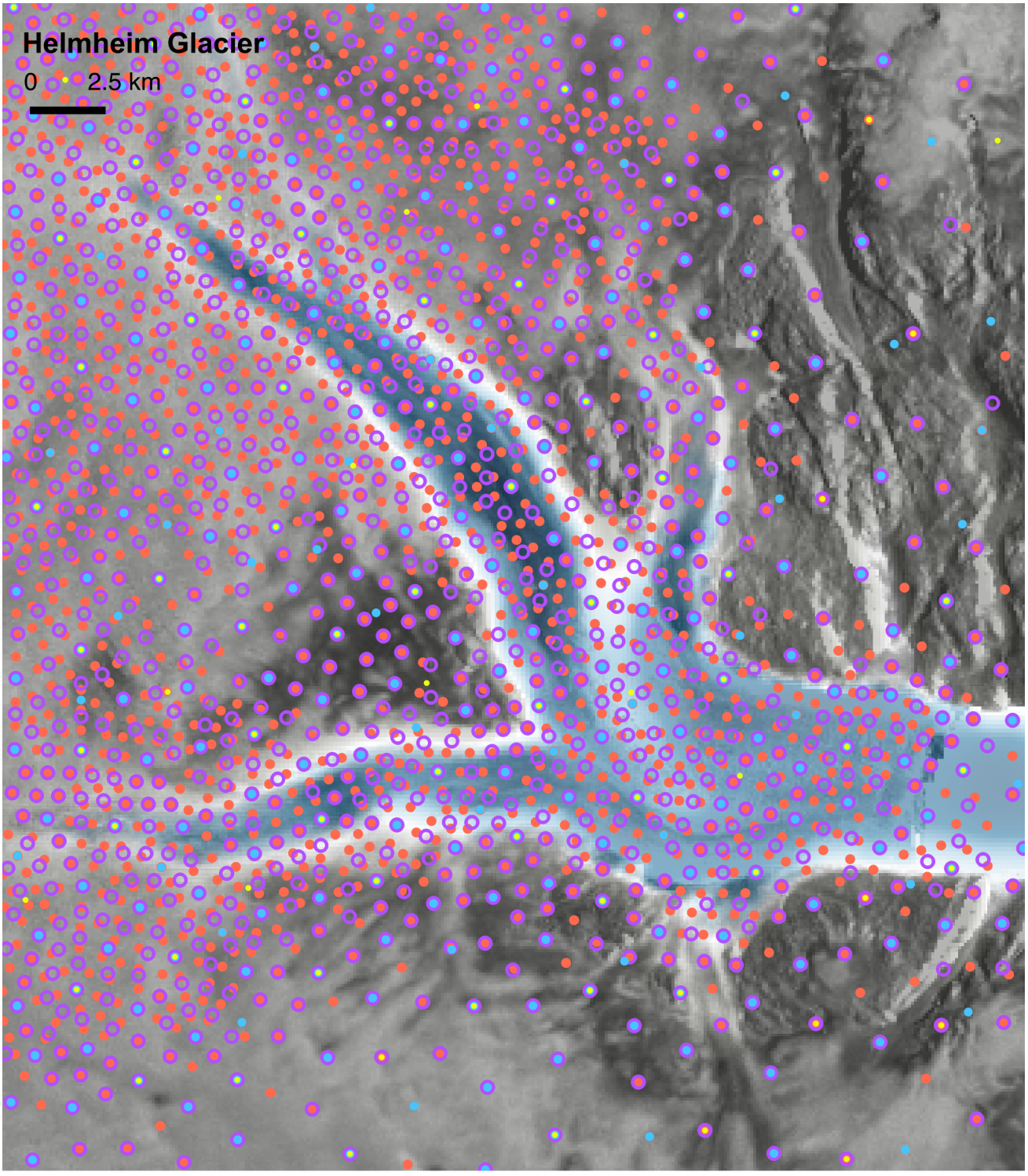

Figure S8. Mesh for the four resolutions for Helheim Glacier superimposed on the bedrock topography and shaded with the Radarsat Mosaic. Yellow dots are the nodes of G4000, bright blue G2000, purple G1000 and orange G750.

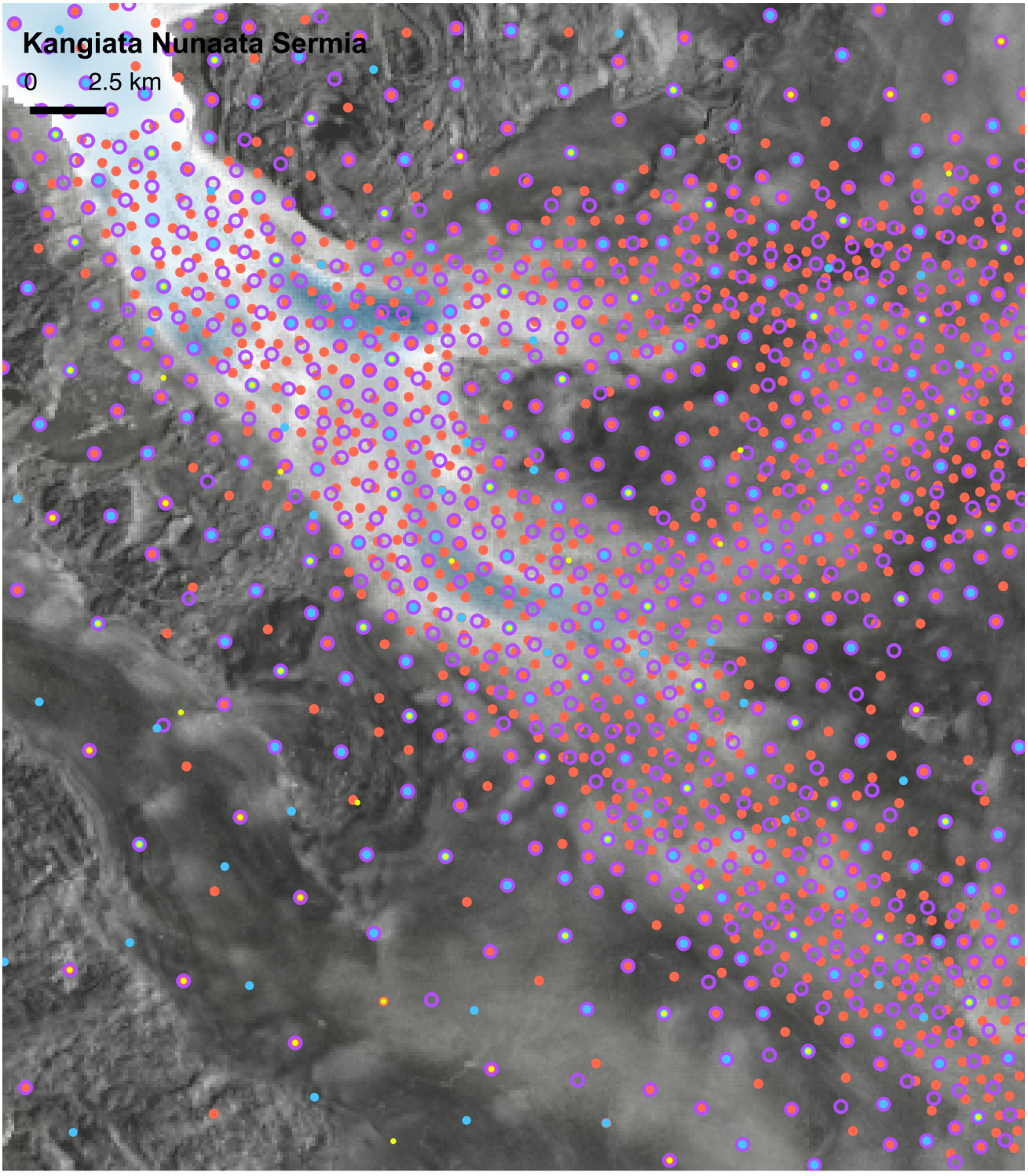

Figure S9. Mesh for the four resolutions for Kangatia Nunaata Sermia superimposed on the bedrock topography and shaded with the Radarsat Mosaic. Yellow dots are the nodes of G4000, bright blue G2000, purple G1000 and orange G750.

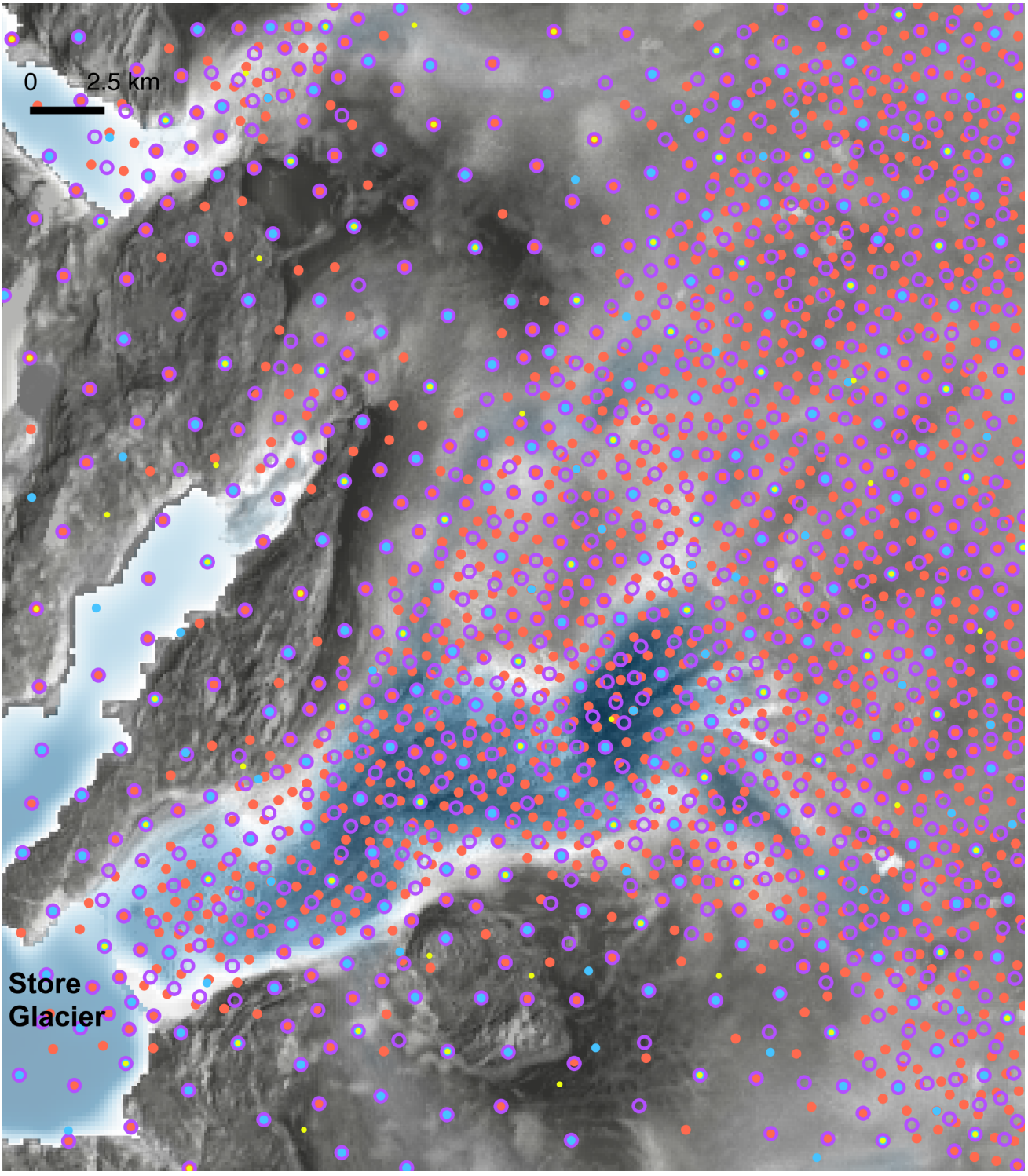

Figure S10. Mesh for the four resolutions for Store Glacier superimposed on the bedrock topography and shaded with the Radarsat Mosaic. Yellow dots are the nodes of G4000, bright blue G2000, purple G1000 and orange G750.

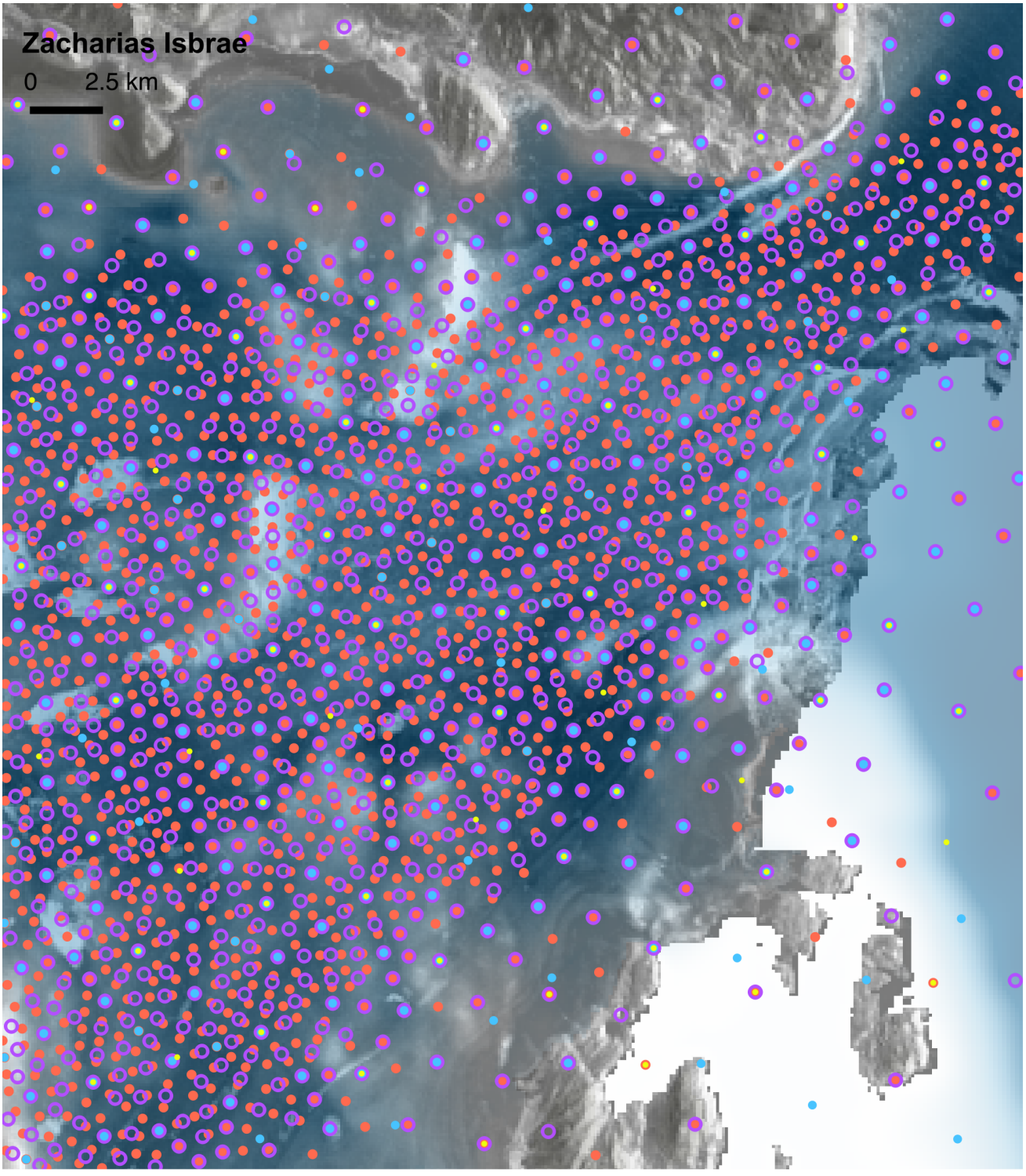

Figure S11. Mesh for the four resolutions for Zacharias Isbrae superimposed on the bedrock topography and shaded with the Radarsat Mosaic. Yellow dots are the nodes of G4000, bright blue G2000, purple G1000 and orange G750.

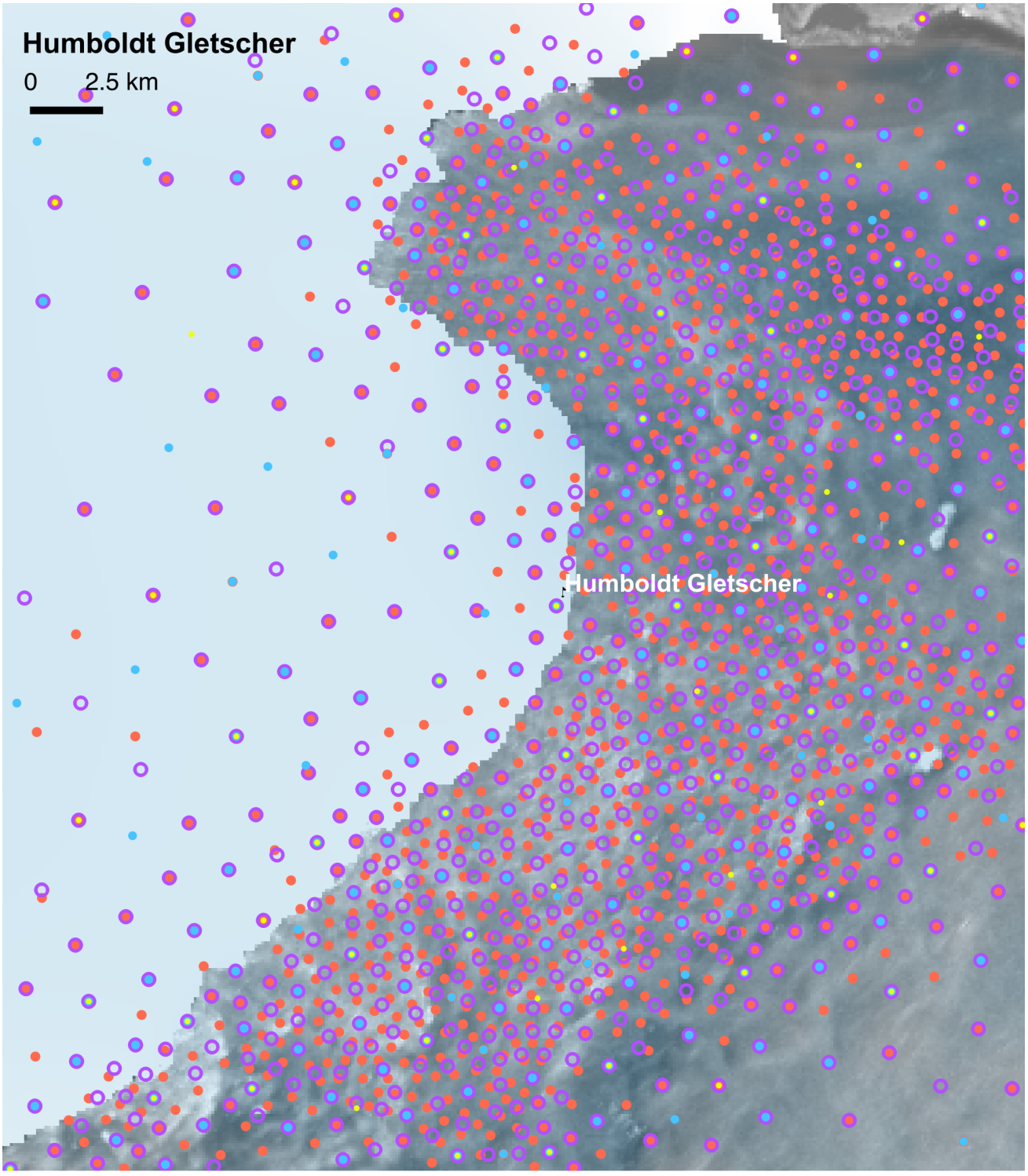

Figure S12. Mesh for the four resolutions for Humboldt Glacier superimposed on the bedrock topography and shaded with the Radarsat Mosaic. Yellow dots are the nodes of G4000, bright blue G2000, purple G1000 and orange G750.

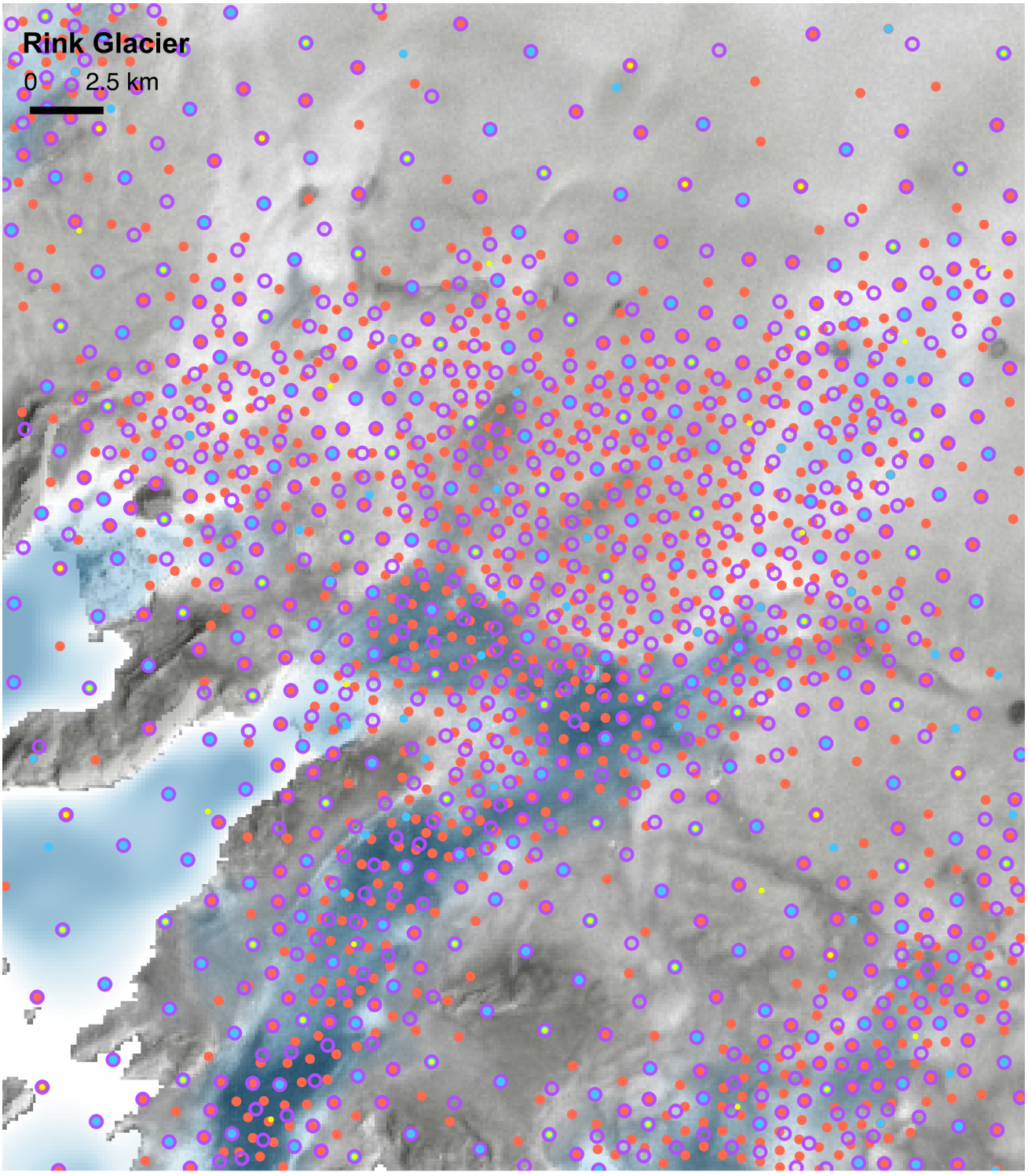

Figure S13. Mesh for the four resolutions for Rink Glacier superimposed on the bedrock topography and shaded with the Radarsat Mosaic. Yellow dots are the nodes of G4000, bright blue G2000, purple G1000 and orange G750.

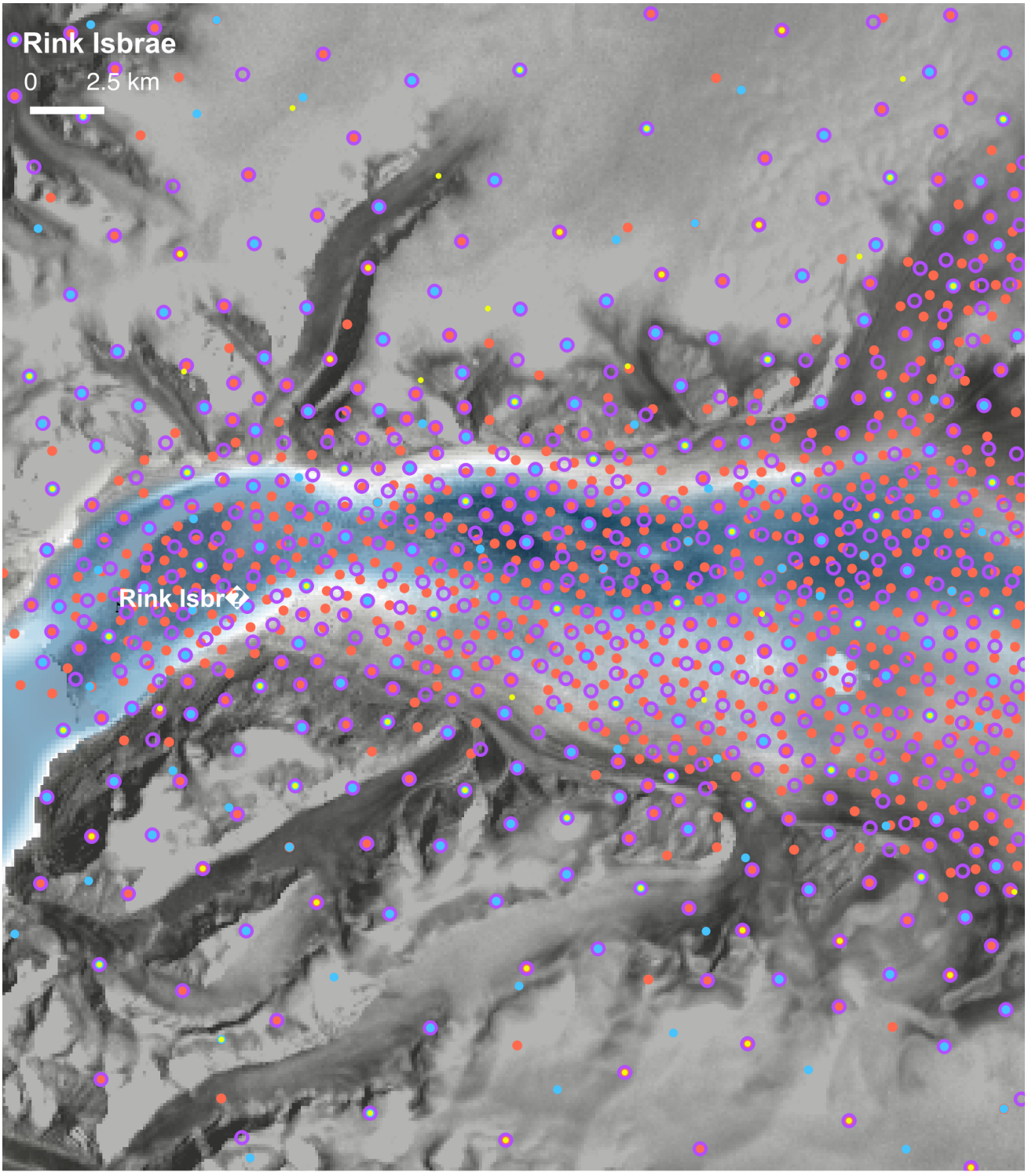

Figure S14. Mesh for the four resolutions for Rink Isbrae superimposed on the bedrock topography and shaded with the Radarsat Mosaic. Yellow dots are the nodes of G4000, bright blue G2000, purple G1000 and orange G750.

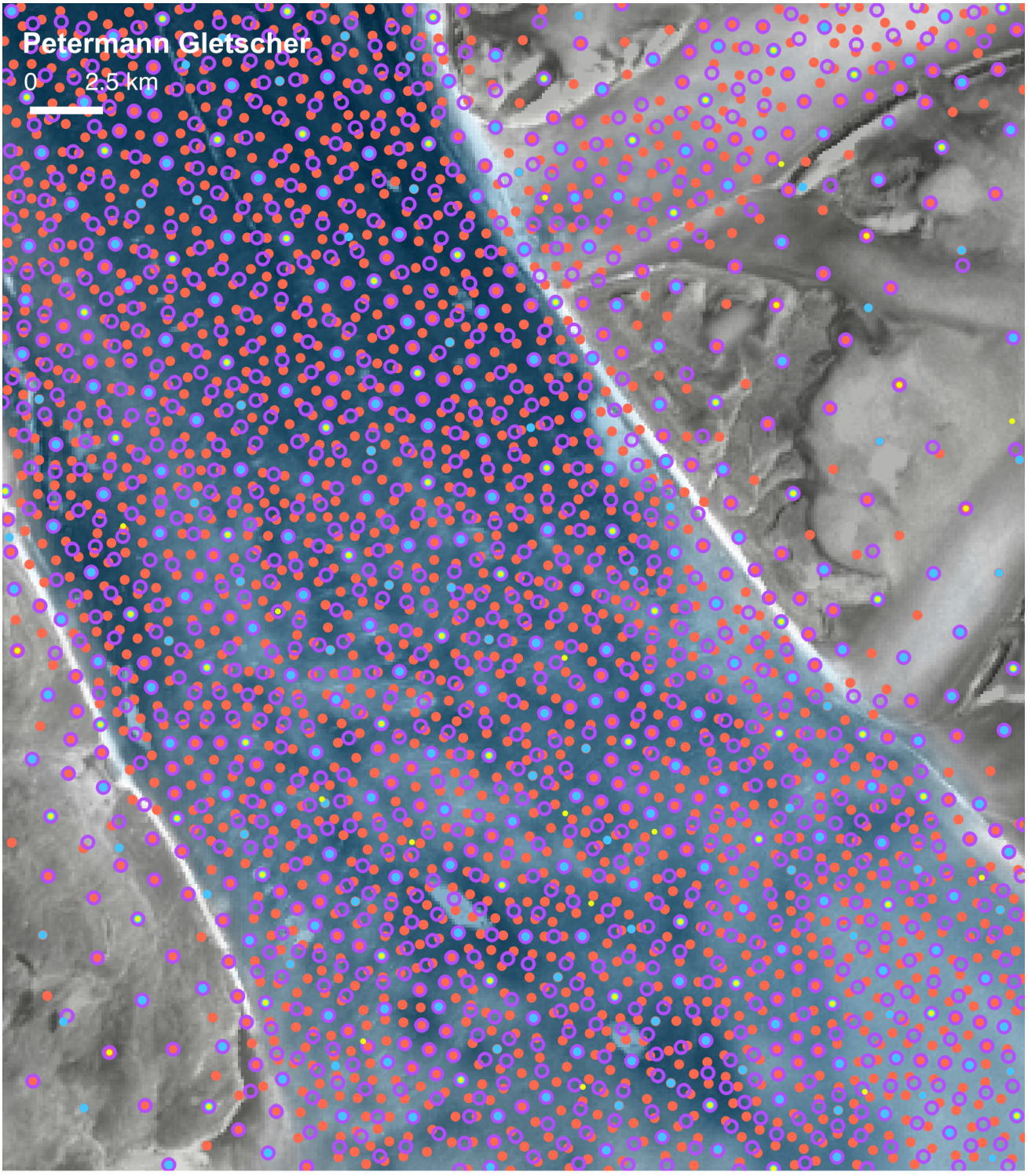

Figure S15. Mesh for the four resolutions for Petermann Glacier superimposed on the bedrock topography and shaded with the Radarsat Mosaic. Yellow dots are the nodes of G4000, bright blue G2000, purple G1000 and orange G750.

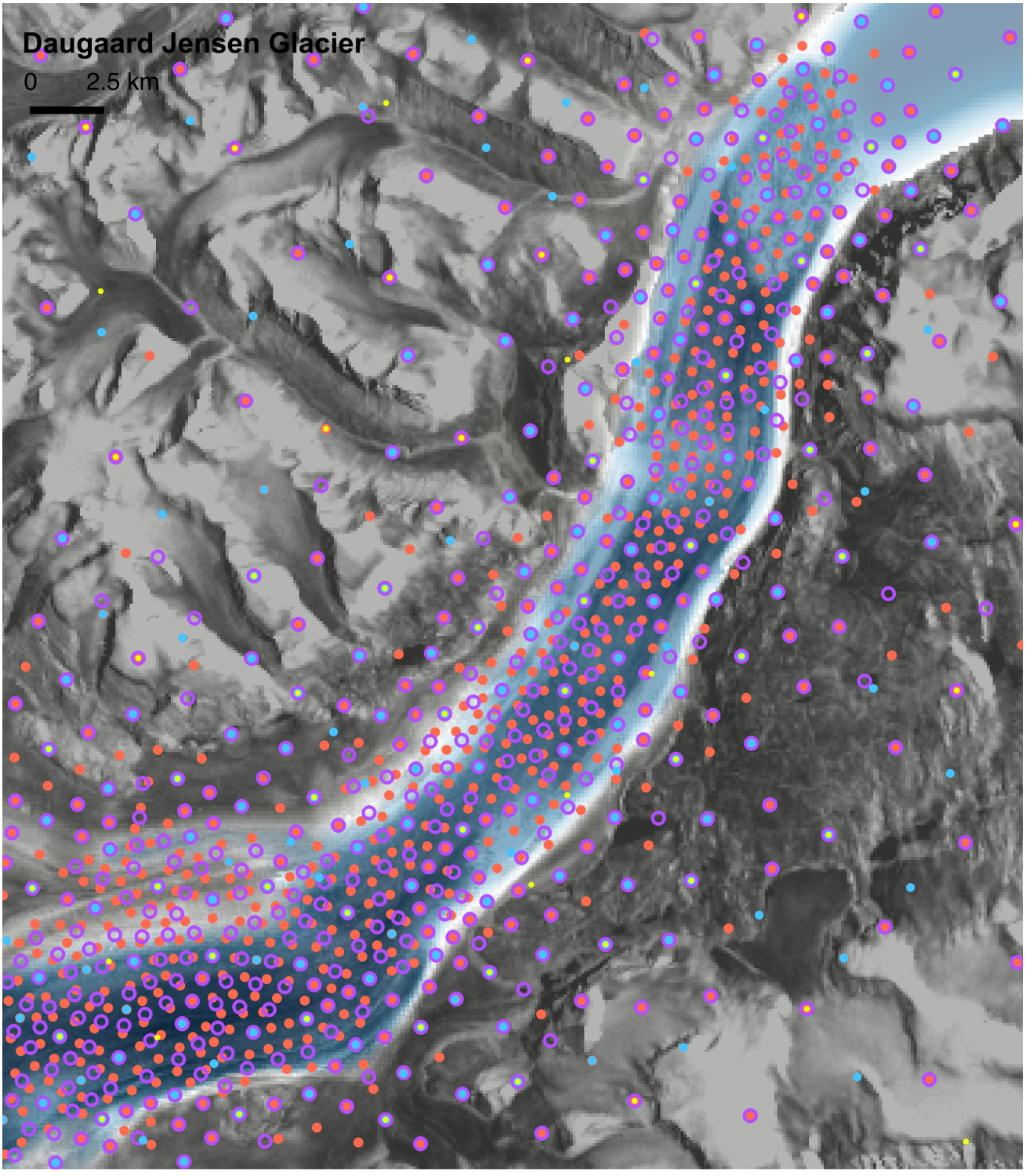

Figure S16. Mesh for the four resolutions for Daugaard Jensen Glacier superimposed on the bedrock topography and shaded with the Radarsat Mosaic. Yellow dots are the nodes of G4000, bright blue G2000, purple G1000 and orange G750.

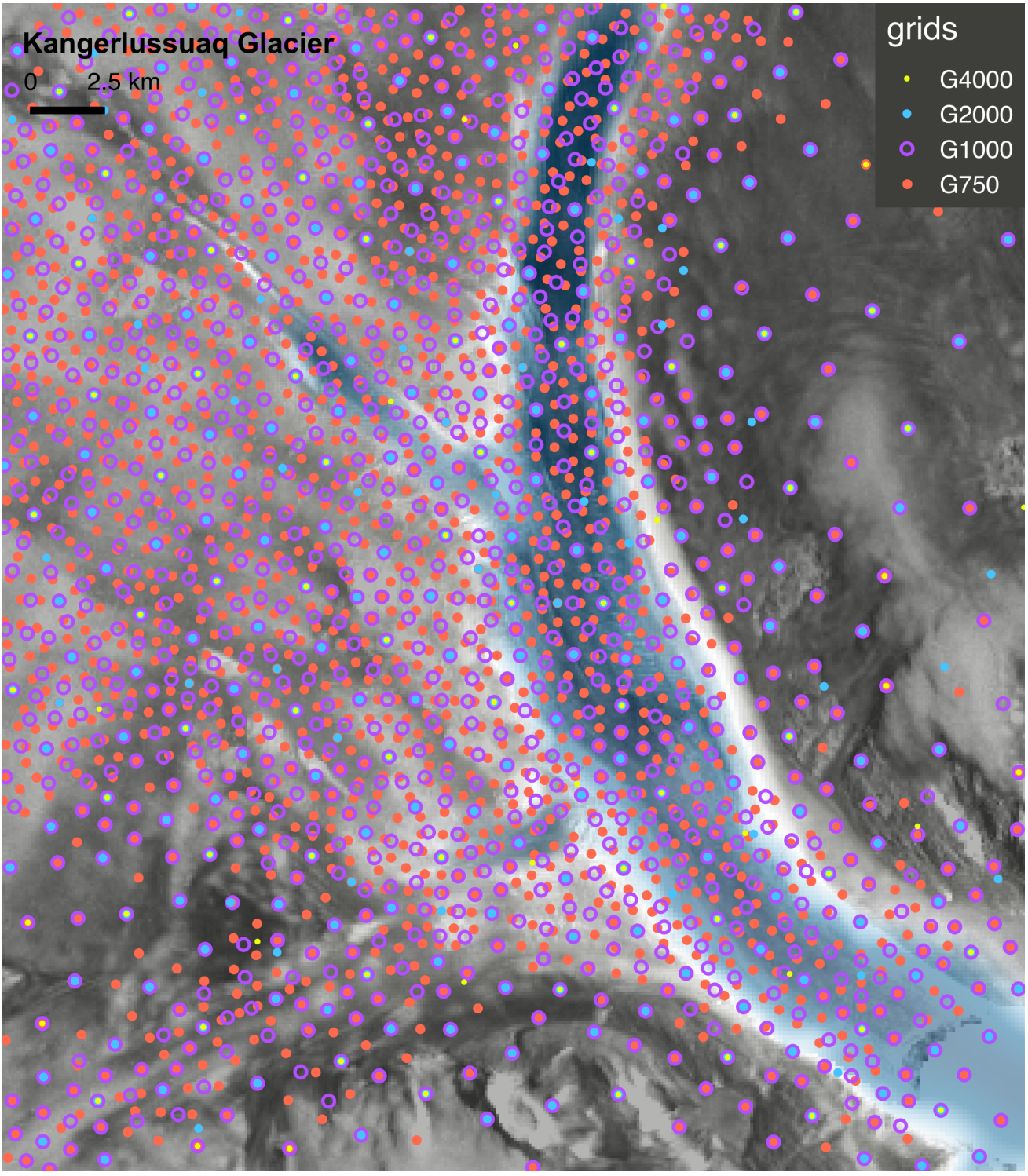

Figure S17. Mesh for the four resolutions for Kangerlussuaq Glacier superimposed on the bedrock topography and shaded with the Radarsat Mosaic. Yellow dots are the nodes of G4000, bright blue G2000, purple G1000 and orange G750.

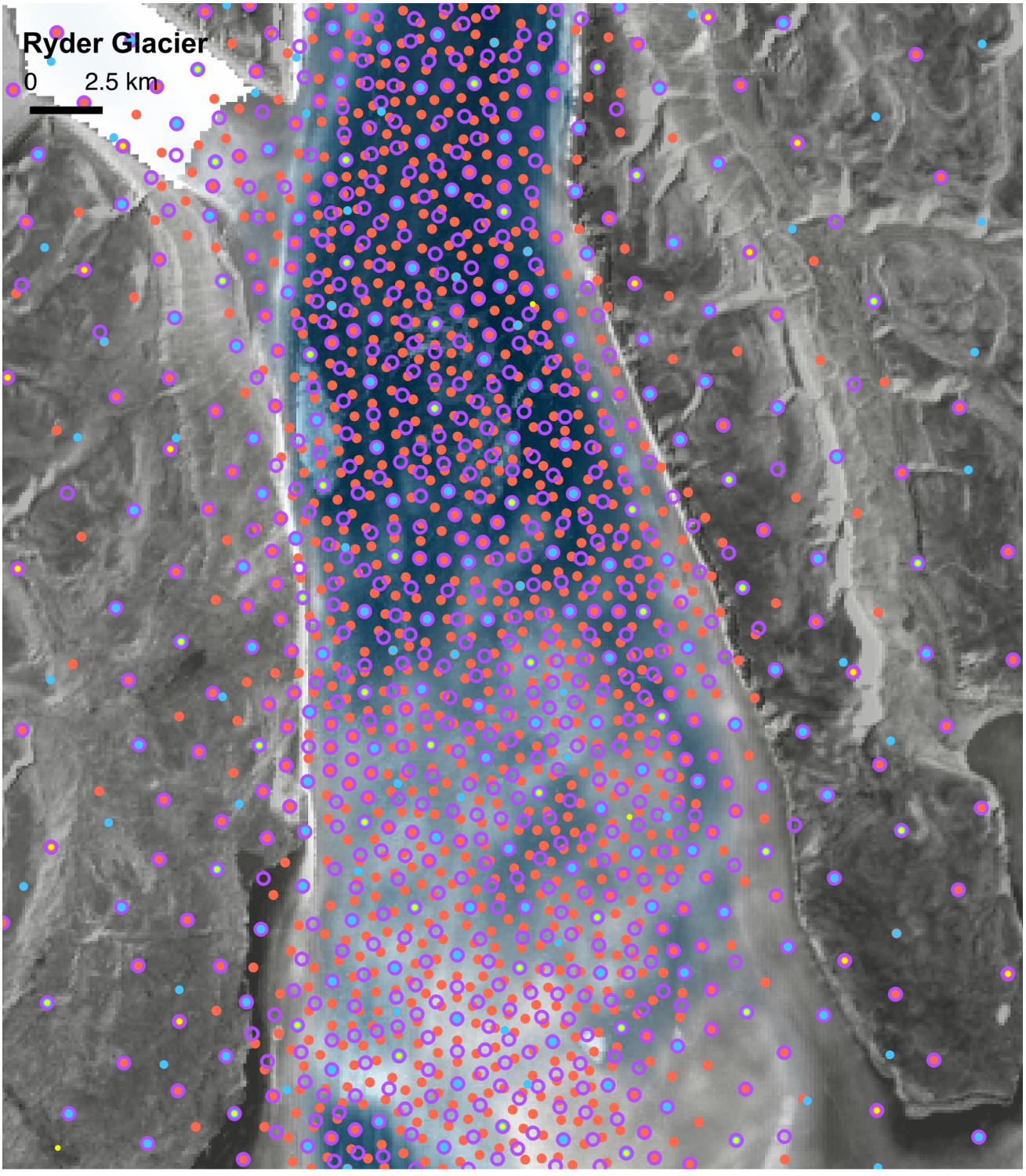

Figure S18. Mesh for the four resolutions for Ryder Glacier superimposed on the bedrock topography and shaded with the Radarsat Mosaic. Yellow dots are the nodes of G4000, bright blue G2000, purple G1000 and orange G750.

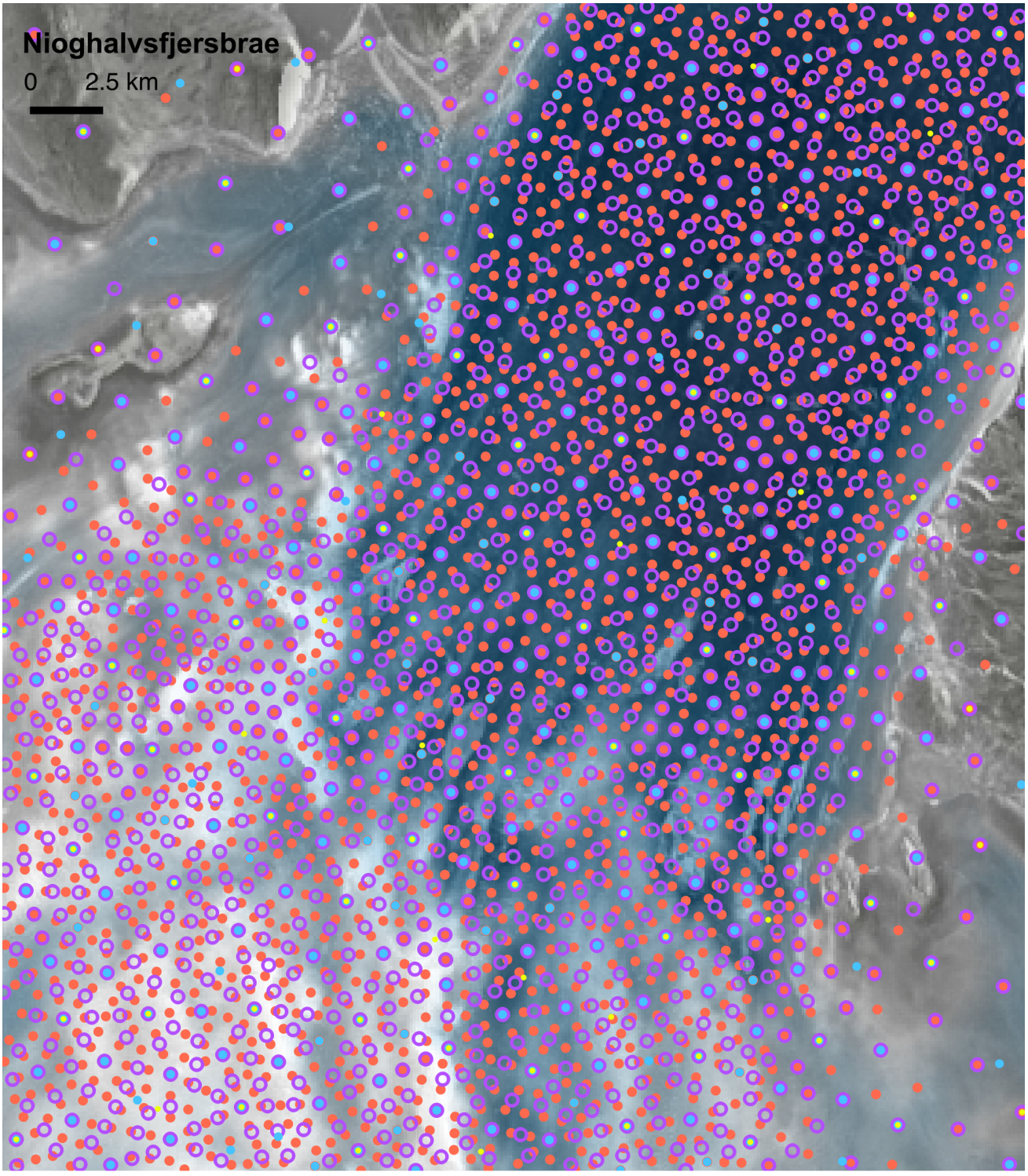

Figure S19. Mesh for the four resolutions for 79N Glacier superimposed on the bedrock topography and shaded with the Radarsat Mosaic. Yellow dots are the nodes of G4000, bright blue G2000, purple G1000 and orange G750.

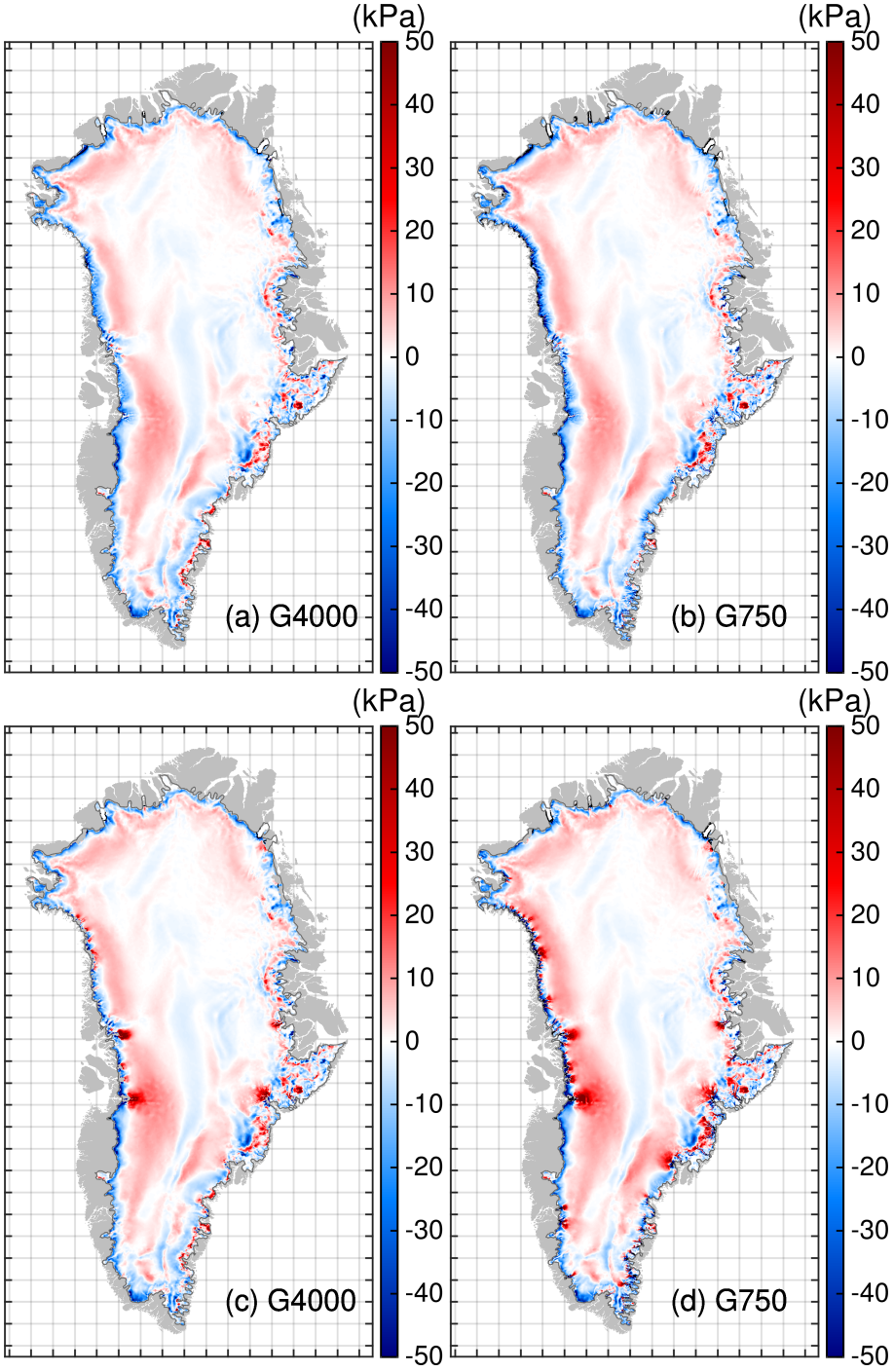

Figure S20. Comparison of the basal drag τ_b differences between 10-year mean of 2100 and 2015. (a,b) G4000 and G750 under RCP8.5-Rnone forcing. (c,d) G4000 and G750 under RCP8.5-Rhigh forcing

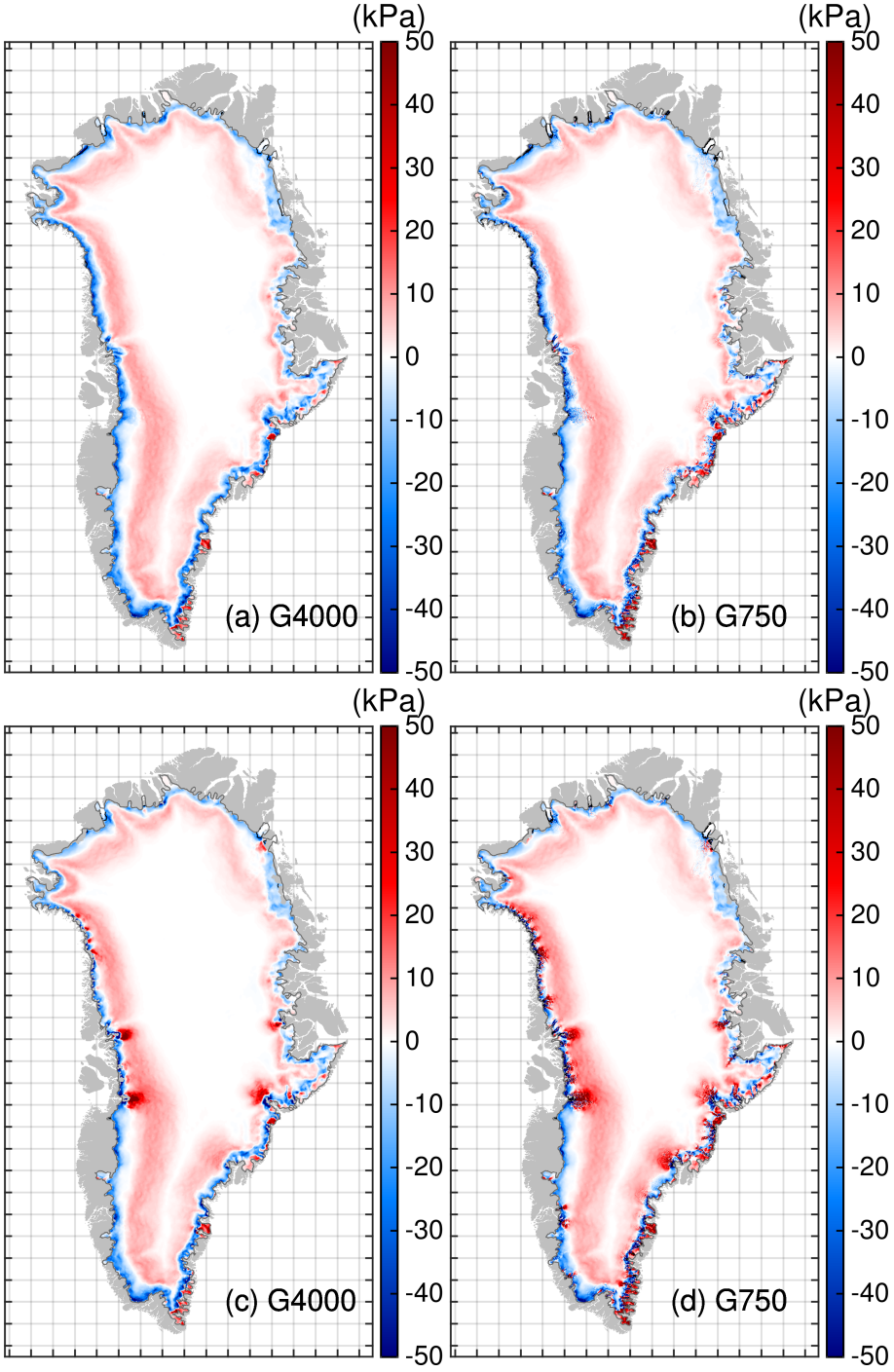

Figure S21. Comparison of shallow ice driving stress $\tau_{\mathrm{d}} = \varrho_i g h |\nabla z_s|$ differences between 10-year mean of 2100 and 2015. (a,b) G4000 and G750 under RCP8.5-Rnone forcing. (c,d) G4000 and G750 under RCP8.5-Rhigh forcing

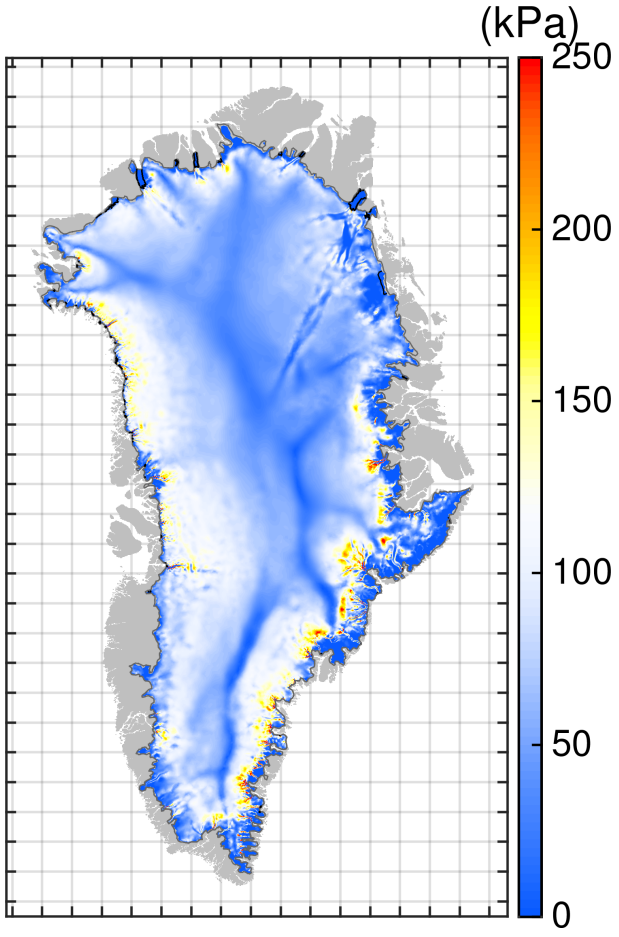

Figure S22. Magnitude of the basal drag, τ_b, in kPa, for G750 at 2100 under RCP8.5-Rnone forcing.