

Description of Additional Supplementary Files

File name- Supplementary Data 1

File description- All 355 officially-recognized cities and census-designated places (CDP) (sorted alphabetically in ascending order) based on 2020 U.S. Census GIS data, downloaded from the Alaska Department of Labor and Workforce Development, Research and Analysis section (<https://live.laborstats.alaska.gov/article/maps-gis-data>). The "Mapped" field is a binary variable indicating whether a community has been mapped by HABITAT (0 meaning no, 1 meaning yes). If the community has not been mapped by HABITAT, OpenStreetMap was used instead.

File name- Supplementary Data 2

File description- Projected average damage costs of buildings and roads in Alaskan communities on discontinuous and continuous permafrost at risk of bearing capacity loss and ground subsidence (sorted by total cost). Infrastructure damage costs are calculated separately based on bearing capacity loss and subsidence projected by the AWI-CM-1-1-MR, MPI-ESM1-2-HR, and NorESM2-MM GCMs analyzed under the SSP245 scenario. These three costs are then averaged for all at-risk infrastructure on discontinuous and continuous permafrost, and grouped within the boundaries of each city and census-designated place based on 2020 U.S. Census data. Per capita costs are calculated by dividing average costs by 2020 U.S. Census populations.

File name- Supplementary Data 3

File description- Projected average damage costs of buildings and roads in Alaskan boroughs and census areas on discontinuous and continuous permafrost at risk of bearing capacity loss and ground subsidence (sorted by total cost). Infrastructure damage costs are calculated separately based on bearing capacity loss and subsidence projected by the AWI-CM-1-1-MR, MPI-ESM1-2-HR, and NorESM2-MM GCMs analyzed under the SSP245 scenario. These three costs are then averaged for all at-risk infrastructure on discontinuous and continuous permafrost, and grouped within the boundaries of each borough and census area based on 2020 U.S. Census data. Per capita costs are calculated by dividing average costs by 2020 U.S. Census populations.

File name- Supplementary Data 4

File description- Projected average damage costs of buildings and roads in Alaskan communities on discontinuous and continuous permafrost at risk of bearing capacity loss and ground subsidence (sorted by total cost). Infrastructure damage costs are calculated separately based on bearing capacity loss and subsidence projected by the AWI-CM-1-1-MR, MPI-ESM1-2-HR, and NorESM2-MM GCMs analyzed under the SSP585 scenario. These three costs are then averaged for all at-risk infrastructure on discontinuous and continuous permafrost, and grouped within the boundaries of each city and census-designated

place based on 2020 U.S. Census data. Per capita costs are calculated by dividing average costs by 2020 U.S. Census populations.

File name- Supplementary Data 5

File description- Projected average damage costs of buildings and roads in Alaskan boroughs and census areas on discontinuous and continuous permafrost at risk of bearing capacity loss and ground subsidence (sorted by total cost). Infrastructure damage costs are calculated separately based on bearing capacity loss and subsidence projected by the AWI-CM-1-1-MR, MPI-ESM1-2-HR, and NorESM2-MM GCMs analyzed under the SSP585 scenario. These three costs are then averaged for all at-risk infrastructure on discontinuous and continuous permafrost, and grouped within the boundaries of each borough and census area based on 2020 U.S. Census data. Per capita costs are calculated by dividing average costs by 2020 U.S. Census populations.