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In the face of climate change, degrading permafrost threaten the integrity of infrastructures, and Arctic communities become vulnerable and exposed to hazards. The implementation of adaptation strategies integrating future climate scenarios is fundamental to guide settlement expansions. In order to provide reliable decision support tools to local governments, hazard and risk assessments resulting from collaborative science and multi-disciplinary approaches have the potential to address stakeholder's needs, while taking account of societal/environmental settings, local resources and data availability. The growing settlement of Ilulissat, West-Greenland, experiencing such challenges, was chosen to develop and implement a community-scale risk assessment framework, whose steps and preliminary results are presented here. Based on the methodology deployed in the Canadian Arctic (Allard et al., 2012), the core of the approach consists in characterizing surficial geology, topography, and ground ice distribution from field measurements and remote-sensing products. In our case, a distributed permafrost model is additionally used to forecast permafrost degradation rate under conceivable climate scenarios, with a specific focus on salinity and snow accumulation effects. The suitability of the terrain for construction is expected to be assessed by combining model outputs with hazard mapping, and risk zonation products will be provided to stakeholders along with mitigation solutions.