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Title: *Resilience of the Longyearbyen community to climate change and implications for other Arctic societies*

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As part of the ArcAlpNet project we assess resilience of the Arctic community of Longyearbyen on Svalbard to climate change and further environmental changes by quantitative and qualitative social network analysis. We present the network graphs of this Arctic community and reflect the network metrics to resilience and the impacts environmental change may have on the community.

We find lower resilience due to lack of ties and lack of collaboration that may relate to the higher fluctuation rate of people on Svalbard, correlating with the isolation and the climate of the place. We find evidence for higher resilience due to a higher tendency to form subgroups supporting innovative capacity which may relate to the much higher international population on Svalbard. In addition to the quantity of ties, we assess the quality of ties, and come to a different perspective on resilience assessment and the potential coping with impacts from environmental change. The results in resilience assessment may relate to geographic, demographic and cultural aspects, partly specific to Longyearbyen, partly generalizable to other Arctic communities, opening up insights into potential future development mechanisms in Arctic societies.

Other implications regarding the contexts of the place, such as social capital and ownership feeling for the place, and isolation, are discussed in their general correlation with socio-economic development in Arctic societies.

The applied methodology is discussed in its general applicability for assessing impacts of environmental change on other Arctic societies.