Abstract
The circum-Arctic remains one of the last geological frontiers on Earth. Despite being characterized by abundant resources, our understanding of this region is still hampered by reconnaissance-level geological mapping, uncertainty in the kinematics for the Mesozoic opening of the Arctic Ocean, and the truncation of fundamental geological features, such as Mesoproterozoic–Cenozoic orogenic belts and sedimentary basins. Each of these tectonic features have distinct stratigraphic, structural, and magmatic signatures that not only provide constraints on paleogeographic reconstructions of Laurentia, Siberia, and Baltica, but also constrain the origins and displacement histories of terranes now dispersed throughout the North American Cordillera. Here, I will review new data from pre-Mississippian rocks exposed throughout the northeastern Brooks Range of Alaska and Yukon to elucidate the Neoproterozoic–Mesozoic evolution of northern North America.

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