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Title: *Spring Temperatures and Phenological Plasticity of Butterflies in Yukon Mountains*

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Climate change has the potential to affect ecological interactions by altering distribution, abundance, phenotype and/or phenology of plants and animals. Nevertheless, many species living in cold, seasonal, northern environments already experience extremes in annual conditions. Plasticity developed under these extremes could facilitate adaptation to new climate states. Butterflies are often used as an indicator species for monitoring responses to environmental change. We recorded the seasonal distribution and activity of northern alpine butterflies along an elevational gradient in Yukon during the summers of 2007 and 2012, two years with very different summer weather. In 2012 spring snow melt occurred four weeks later and mean summer temperature was 1.2°C colder than in 2007. However, butterfly flight phenology was delayed by only two weeks in 2012 compared to 2007. There was also some variation in species abundance between years, but this was likely explained by the multi-year life cycles of these species. Overall, butterflies appear to be able to adjust their phenology to extremes of seasonal conditions. With continued monitoring, these populations should provide useful information about responses to climate- and habitat-related changes and phenotypic plasticity in these dynamic and highly variable conditions that are more likely in the future.