**Supplementary Figure S1.** Juvenile and mature average ring widths (ARWs) of tamarack and black spruce compared with the white spruce used in this study. Note that tamarack have significantly different ARWs between lowland and upland sites; for example, at 1210 and 1100 km on the y-axis, respectively. Both tamarack and black spruce data are available from only high latitudes, except for one tamarack site. Data used in this figure are listed in Supplementary Table S1.