BOREAL FOREST CATCHMENTS: RESEARCH SITES FOR GLOBAL CHANGE AT HIGH LATITUDES

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Abstract. Circumpolar subarctic boreal forest ecosystems are subject to change from a variety of agents and processes. Climate warming predicted by many GCMs indicates that regions north of 60°N may be subjected to major warming in coming decades, producing increased permafrost thaw, altered vegetation distribution and biological productivity, and perhaps release of large quantities of stored organic carbon into the global carbon cycle. Research into change in ecosystems can entail use of ecosystem "samples," i.e., sectors of landscape such as catchments (watersheds) which are representative of the larger ecoregion and available for repeated, long-term measurement and analysis. Boreal forest research and monitoring programs have been established in hydrologically-defined catchments in discontinuous-permafrost regions at 65°N, 148°W in the Yukon-Tanana Uplands of central Alaska, and at 62°N, 158°W in the Kolyma River headwaters of Magadan Oblast, north-eastern Russia. These sites are available for sustained research into global change.

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