A proposal to monitor changes in vegetation patterns in arctic tundra and alpine tundra communities

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Known as Arctic Oscillation, changes in climate in arctic regions have a great impact on climate in mid-latitude regions. To detect any vegetation changes in cold biomes under global warming, it seems to be important to monitor vegetation not only in arctic tundra but also in alpine tundra of mid-latitude mountains, where interactions among plants are more competitive. Because global warming will accelerate competition among plants, any changes in vegetation patterns may be easily detectable in alpine tundra communities rather than in arctic tundra communities. GLORIA, Global Observation Research Initiative in Alpine Environments, is a world-wide network to monitor changes in biodiversity and vegetation patterns for a long-term period. However, so far no observation site is established in northeast Asia. In this presentation, I propose to establish long-term monitoring sites in alpine tundra in Japan, coupled with monitoring in the high Arctic. A preliminary survey on vegetation structure and soil temperature on Dryas plant communities in five Japanese mountains is reported.