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SURFACE ENERGY AND GREEN-HOUSE-GAS FLUX MEASUREMENTS AT A TUSSOCK TUNDRA SITE, COUNCIL, ALASKA

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As the Arctic warming is in progress, thawing of permafrost and following environmental changes are gathering more attention because of possible role as a source of methane gas in the future. An inter-disciplinary research team of Korea Polar Research Institute (KOPRI) has carried out field work at terrestrial Arctic regions. One of the research sites is located at Council on the Seward Peninsula, 100 km northeast of Nome, Alaska, US. The site is characterized as tussock tundra and corresponds to tree line making the site ideal to monitor long-term change of ecological regime. Since 2012, KOPRI team has visited the Council site every summer to quantify variations of radiative energy, sensible heat flux, evapotranspiration, and carbon dioxide flux during growing season. In 2014, methane flux was also measured using eddy-covariance method during whole July. In this presentation, we will analyze variations of energy, water, and green-house gas (carbon dioxide and methane) during summer from 2012 to 2014.