

## RR6. Estimation of CH<sub>4</sub> emission from an alas ecosystem- Upscaling by using the relationship between flooding period and CH<sub>4</sub> emission

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### Abstract

Alas ecosystem (a circular grassland area with a pond at the center) in Taiga forests in the eastern Siberia is a strong source of CH<sub>4</sub>, a major greenhouse gas. By the result of our previous study, a positive relationship between flooding period and total CH<sub>4</sub> emission were found in wet area (temporal or consistently flooding zone) of the alas ecosystem (Fig.1). In this year, we tried to estimate CH<sub>4</sub> emission from a whole alas ecosystem by using this relationship. Gas flux measurement was constructed on a line transect (forest-grassland-pond) in the Neleger Alas, near Yakutsk. CH<sub>4</sub> emission was measured during from the end of April to the end of September. Area of the pond was also measured by using GPS once a week. From now on, we will make a map of flooding period of the pond by using GIS and estimate CH<sub>4</sub> emission from around the pond by using the relationship. CH<sub>4</sub> emission from grassland area except for around the pond will be evaluated by the result of spatial gas flux measurement in summer. Besides, we will discuss about parameterization of seasonal change of CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O by thawing depth, soil temperature, water table depth, grass biomass, soil physics, and soil chemistry and so on.

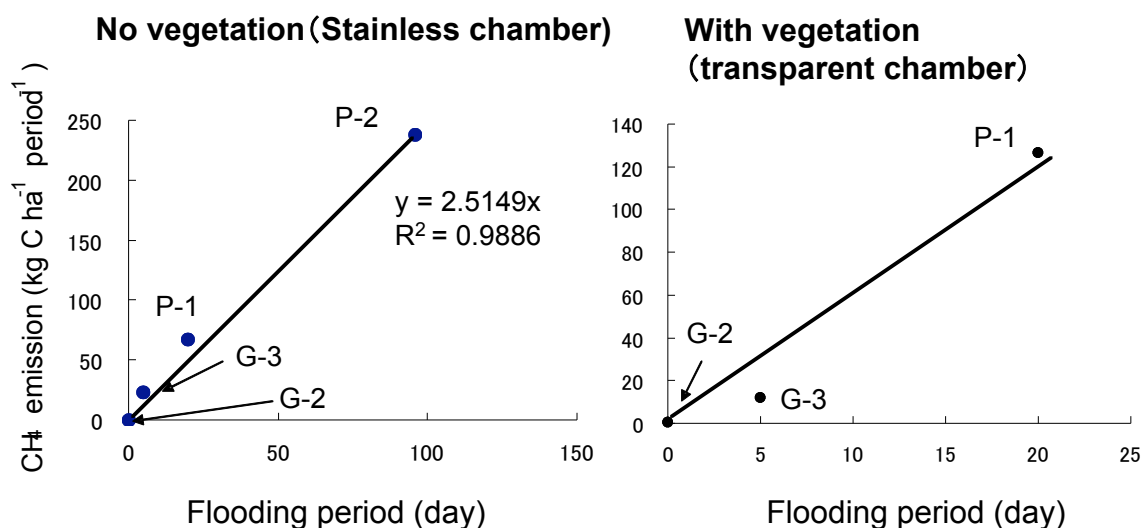


Fig.1 The Relationship between flooding period and CH<sub>4</sub> emission in wet plots (2004).