

Extending data assimilation with MODIS LAI observations and the dynamic global vegetation model SEIB-DGVM to multiple locations in Siberia

*Hazuki Arakida¹, Shunji Kotsuki¹, Shigenori Otsuka¹, Yohei Sawada¹, Takemasa Miyoshi¹

1. RIKEN Advanced Institute for Computational Science

In the previous study, Arakida et al. developed a data assimilation system based on a particle filter approach with a dynamical global vegetation model known as the SEIB-DGVM (Spatially Explicit Individual-Based Dynamic Global Vegetation Model), and assimilated the satellite-based MODIS LAI (Leaf Area Index) observations successfully. In this study, we extend the previous study to different locations and estimate the state variables including carbon flux, water flux, heat flux, vegetation structure, and parameters related to the phenology of the deciduous needle leaved tree and grass. The results showed that the DA system performed well at multiple locations.

Keywords: Data Assimilation, Dynamic Global Vegetation Model, phenology