Estimation of Ecological Function based on Biodiversity and Ecosystem Information

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In the Green Network of Excellence (GRENE) - environmental information project, we are working on collecting biodiversity and ecosystem information, and developing methods to use them for evaluation. In the past three years, more than 500,000 plant distribution information and information of more than 10,000 localities of vegetation had been databaed, and now they become available for users. Based on those information, together with several kinds of environmental information and land use data, it is possible to estimate distribution probability of each plant species, and to estimate some ecosystem functions of the forests with higher accuracy by considering composition of tree species. Here, I will present some examples of estimation of ecological function in Japanese forests, such as forest biomass, CO_2 FLUX, and amount of pollination services for crops by insects. I also discuss a way from those ecosystem function to estimating Ecosystem Services, which is a total benefits for us provided by biodiversity and ecosystems function.

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