# Development of plant phenological observation by using citizen science and historical archived data published on the web sites

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Accurate detection of plant phenology (e.g. timing of flowering, leaf-flush, and leaf-fall) is required to evaluate the spatio-temporal variability of ecosystem functions and service under rapid climate changes. Towards this aim, analysis of daily satellite-observed vegetation index with a coarse spatial resolution (e.g. 500m) and in situ-observed long-term historical biometeorological data set is useful. However, these approaches include many uncertainties and problems mainly caused by heterogeneity of plant species, spatial representativeness, and land cover changes. Here, (1) we examined the relationship between leaf-colouring information published on the meteorology service web site (http://www.tenki.jp) and the timing of end of growing season detected by daily Terra and Aqua/MODIS satellite-observed green-red vegetation index in Japan; (2) we evaluated the long-term historical flowering information published on the web sites; and (3) we examined the land cover change in the “Satoyama” landscape area by using aerial photographs published on the geographical survey web site (http://mapps.gsi.go.jp/maplibSearch.do#1). In this presentation, we will discuss the usability of citizen science and historical archived data published on the web sites for developing the detection of spatio-temporal variability of plant phenology in Japan.

Keywords: phenology, remote-sensing, citizen science, web site

 