한국농림기상학회지, 제23권 제4호(2021) (pISSN 1229-5671, eISSN 2288-1859)
*Korean Journal of Agricultural and Forest Meteorology*, Vol. 23, No. 4, (2021), pp. 176~177
DOI: 10.5532/KJAFM.2021.23.4.176


편집장통신

# 일본과 한국의 농림기상학의 재고

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# Rethinking Agricultural and Forest Meteorology in Japan and Korea

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We thank the editors who have invited us to make this contribution to the special issue: “Rethinking Agricultural and Forest Meteorology: The Great Transition.” The theme of this special issue really challenges us to ponder the identity and the purpose of our discipline and societies. We are to ask ourselves the following questions: What do we mean by ‘rethinking’? After all these years, why would we again think about agricultural and forest meteorology which seems to have been well established and doing seemingly okay? Humanity is again at the crossroads with the COVID-19 pandemic which we were unprepared to defend against. And now is the time to ‘rethink’ not about the pandemic, but about the world that is coming into being as a result of the pandemic and our responses to it. We believe that rethinking is an essential process of looking back, looking around, and looking into the future to get hindsight, insight and foresight for the transformation that best serves the purpose - reflecting the context we face, the values we hold, and the aims we have.

Agricultural and forest meteorology is an academic discipline traditionally based on meteorological methodologies to study interactions between organisms and their environment. The discipline is embodied in meteorological/climatological research and research on environmental control. The former includes scientific topics of weather disasters, local climate, micrometeorology, climate change, plant phenology, plant response to environmental change, and crop growth and yield prediction, whereas the latter is typified by greenhouse cultivation. Through research, education and service, both the Society of Agricultural Meteorology of Japan (SAMJ) and the Korean Society of Agricultural and Forest Meteorology (KSAFM) have been acting as academic societies to contribute to ensuring agricultural food production, improving food quality, and conserving meteorological conditions on farmlands to forests from local to global perspectives. Both societies are inclusive for inter- and trans-boundary areas, thereby serving as a bridge in interdisciplinary and transdisciplinary researches.

In the last decades, we have taken the lead of interdisciplinary research on ecosystem carbon balance via eddy flux monitoring platforms and networks (e.g., JapanFlux, KoFlux, AsiaFlux), free-air $CO_2$ enrichment (FACE) experiment in

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various settings, plant factories, and future projection of crop yield, for example. Now is the time to focus more on the United Nations sustainable development goals (SDGs), especially climate crisis issues. We can further contribute to the capacity building of research and education in vulnerable countries, where our knowledge of agricultural and forest meteorology can be of appropriate help to build sustainable ecological-societal systems. Furthermore, we should provide scientific contribution and commitment toward Climate-Smart Agriculture (CSA) and Natural Climate Solutions (NSC). These are in line with the Commission for Agricultural Meteorology (CAgM) of World Meteorological Organization (WMO), which provides scientific and technological guidance in the sectors of agriculture, forestry, livestock and fisheries, not only for food production but also for agricultural meteorological risk governance in terms of agroecosystem resilience and sustainability, especially with higher priorities on climate services and capacity development.

Pandemic, climate collapse, and other numerous imminent crises have brought us to a crossroad but we believe that this is an unexpected opportunity for our societies to think about building 'Rethinking Agricultural and Forest Meteorology Network' of students, academics, practitioners, and all the associated stakeholders. Such network will connect people locally, regionally, and globally to enact the change and transformation needed to fulfill the communal mission and vision. Webinars, joint special issues in our journals, and regular joint sessions on 'Rethinking Agricultural and Forest Meteorology Network' in annual society meetings between SAMJ and KSAFM on a biennial or quadrennial basis would be a great starting point for brainstorming and visioneering toward healthy and sustainable agricultural and forest ecosystems. We eagerly hope and expect that this special issue will serve as a trigger and enlightenment for such movement and cooperation.