HoonTaek Lee

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(Updated: January 2020)

EDUCATION

2018 M. S.	Dept. of Forest Sciences, **Seoul National University**, Seoul, Rep. of Korea
	Thesis: Impact of Leaf Area Index from Various Sources on Estimating Gross Primary Production in Temperate Forest Using JULES Land Surface Model
	Advisor: Prof. Hyun Seok Kim
2015 B. S.	Dept. of Forest Sciences, **Seoul National University**, Seoul, Rep. of Korea
	Advisor: Prof. Hyun Seok Kim

APPOINTMENTS

2018 - Present	Researcher, **National Institute of Forest Science**, Seoul, Rep. of Korea
2016 - 2018	Research Assistant, **Seoul National University**, Seoul, Rep. of Korea

RESEARCH INTERESTS

Tree physiology, Forest ecosystem modeling, Biosphere-atmosphere interactions and feedbacks

PUBLICATIONS

Published

5. Myoungsoo Won, Keunchang Jang, Sukhee Yoon, and **HoonTaek Lee**. 2019. Change Detection of Damaged Area and Burn Severity due to Heat Damage from Gangwon Large Fire Area in 2019. ***Korean Journal of Remote Sensing***, 35 (6-2), 1083-1093. https://doi.org/10.7780/kjrs.2019.35.6.2.5 (In Korean with English abstract)

4. **HoonTaek Lee**, Myoungsoo Won, Sukhee Yoon, and Keunchang Jang. 2019. Estimating fuel moisture content using equilibrium moisture content computed from weather data of the Automatic Mountain Meteorology Observation System (AMOS). ***The Korean Association of Geographic Information Studies***, 22 (3), 21-36. https://doi.org/10.11108/kagis.2019.22.3.021

3. **HoonTaek Lee**, Juhan Park, Sungsik Cho, Minsu Lee, and Hyun Seok Kim. 2019. Impact of leaf area index from various sources on estimating gross primary production in temperate forests using the JULES land surface model. ***Agricultural and Forest Meteorology***. 276-277, 107614. https://doi.org/10.1016/j.agrformet.2019.107614

2. Minjee Park, Sungsik Cho, Juhan Park, **HoonTaek Lee**, Wookyung Song, Minsu Lee, Il-Kwon Park, and Hyun Seok Kim. 2019. Size-dependent variation in leaf functional traits and nitrogen allocation trade-offs in *Robinia pseudoacacia* and *Cornus controversa*. ***Tree Physiology***, 39 (5), 755-766. https://doi.org/10.1093/treephys/tpy150

1. Hojin Lee, Seongsik Cho, Minseok Kang, Joon Kim, **Hoontaek Lee**, Minsu Lee, Jihyeon Jeon, Chaeyeon Yi, Britta Janicke, Changbeom Cho, Kyu Rang Kim, Baekjo Kim, and Hyunseok Kim. 2018. The Quantitative Analysis of Cooling Effect by Urban Forests in Summer. ***Korean Journal of Agricultural and Forest Meteorology*** 20 (1): 73-87. https://doi.org/10.5532/KJAFM.2018.20.1.73 (In Korean with English abstract)

Submitted / In revision / In preparation

Submitted (2 papers); In revision (1 paper); In preparation (2 first author papers)

RESEARCH EXPERIENCE

Aug. 2018 - Present   **Researcher, Dr. Myungsoo Won**
                                   National Institute of Forest Science, Seoul, Rep. of Korea
Development of models estimating dead fuel moisture content (DFMC) for forest fire danger rating
- Constructed DFMC models including linear regression, machine learning or process-based model
- Pre- and post-processed mountain meteorology data using R

Aug. 2014 - Aug. 2018   **Research Assistant, Prof. Hyun Seok Kim**
                                   Seoul National University, Seoul, Rep. of Korea
Development of predictive service for forest water use
- Simulated the amount of evapotranspiration over the sites using the JULES land surface model

Long-term vegetation dynamics and direction of Seoul National University Forest
- Analyzed individual tree's water-uptake soil depths and its seasonal changes of co-existing tree species to investigate water competition between them

Evaluation of climate change adaptation mechanisms of native temperate tree species and its ecological effects using open-top chambers
- Measured growth, leaf gas exchange, leaf nitrogen contents, specific leaf area, soil CO_2 efflux

TEACHING EXPERIENCE

Spring 2016,   Teaching Assistant, **Seoul National University**, Seoul, Rep. of Korea
Spring 2017   Course title: **Tree Physiology** (lab session, grading)

CONFERENCE PRESENTATIONS (SELECTED)

HoonTaek Lee, Juhan Park, Sungsik Cho, Seung-Jae Lee, Hyun Seok Kim. 2017. Development of Forest Drought Index and Forest Water Use Prediction in Gyeonggi Province, Korea Using High-Resolution Weather Research Forecast Data and Localized JULES Land Surface Model. *AGU Fall Meeting* (New Orleans, LA, USA, Dec.)

HoonTaek Lee, Wookyung Song, Minsu Lee, Boknam Lee, Sungsik Cho, Juhan Park, Lee Man Mun, Seon Hee Cho, Sung-jae Lee and Hyun Seok Kim. 2017. Does Competition on Water Affect the Decline of the Conifer in Mt. Baegun, Korea? *ESA Annual Meeting* (Portland, OR, USA, Aug.)

AWARDS & SCHOLARSHIPS (SELECTED)

2017 - 2019   Best Oral Presentation Awards (three times in total, Korean Conferences)
Jan. 2015   Education and Research Foundation, College of Agriculture and Life Sciences, Seoul National University
Jan. 2017   Lecture & Research Scholarship

SKILLS

Languages: Korean, English

Programming: R (Entry level: Python, C, Fortran)

Experimental facilities and sampling
- Plant canopy analysis (LAI-2200, Li-Cor)
- Leaf gas exchange (Li-6400, Li-Cor)
- Leaf water potential (1505D pressure chamber, PMS Instrument Company)
- Soil CO_2 efflux (EGM-4, PP-Systems)