Hyoseob Noh

Curriculum Vitae

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Education

2019–2024 : **PhD, Civil and Environmental Engineering**, *Seoul National University*, Advisor: Prof. Park, Yong Sung.
Sediment Load Estimation Based on Optimized Parameters and Clusters with Hydro-acoustic Backscatter

2017–2019 : **Master of Engineering, Civil and Environmental Engineering**, *Seoul National University*, Advisor: Prof. Seo, Il Won.
Development of Empirical Equations and Estimation Method of Transient Storage Model Parameters for Solute Transport in Rivers

2011–2017 : **Bachelor of Engineering, Civil Engineering**, *University of Seoul*.

Publications

In Review

(under review) Byunguk Kim, Yong Sung Park, **Noh, Hyoseob**, and Minjae Lee. Determining of optimal window size and correcting for wave nonlinearity in depth inversion. ***Coastal Engineering***, (under review).

(accepted) **Noh, Hyoseob**, Siyoon Kwon, Yong Sung Park, and Seung-Buhm Woo. Application of rgb uav imagery to sea surface suspended sediment concentration monitoring in coastal construction site. ***Applied Ocean Research***, (accepted).

Journal Articles

2024 **Noh, Hyoseob**, Geunsoo Son, Dongsu Kim, and Yong Sung Park. H-adcp-based real-time sediment load monitoring system using support vector regression calibrated by global optimization technique and its applications. ***Advances in Water Resources***, volume 185, page 104636, 2024, **(Impact Factor:4.7 (2022))**, doi:https://doi.org/10.1016/j.advwatres.2024.104636.

2023 **Noh, Hyoseob**, Yong Sung Park, and Il Won Seo. A novel efficient method of estimating suspended-to-total sediment load fraction in natural rivers. ***Water Resources Research***, volume 59, page e2022WR034401, 2023, **(Impact Factor:5.4 (2022))**, doi:https://doi.org/10.1029/2022WR034401.

2023 Siyoon Kwon, **Noh, Hyoseob**, Il Won Seo, and Yong Sung Park. Effects of spectral variability due to sediment and bottom characteristics on remote sensing for suspended sediment in shallow rivers. ***Science of The Total Environment***, volume 878, page 163125. Elsevier, 2023, **(Impact Factor:10.753 (2021))**, doi:https://doi.org/10.1016/j.scitotenv.2023.163125.

2023 Byunguk Kim, **Noh, Hyoseob**, Yong Sung Park, and Minjae Lee. Non-spectral linear depth inversion using drone-acquired wave field imagery. ***Applied Ocean Research***, volume 138, page 103625, 2023, **(Impact Factor:3.761 (2022))**, doi:https://doi.org/10.1016/j.apor.2023.103625.

2022 Siyoon Kwon, Jaehyun Shin, Il Won Seo, **Noh, Hyoseob**, Sung Hyun Jung, and Hojun You. Measurement of suspended sediment concentration in open channel flows based on hyperspectral imagery from uavs. ***Advances in Water Resources***, volume 159, page 104076. Elsevier, 2022, **(Impact Factor:5.361 (2021))**, doi:10.1016/j.advwatres.2021.104076.

2022 Siyoon Kwon, Il Won Seo, **Noh, Hyoseob**, and Byunguk Kim. Hyperspectral retrievals of suspended sediment using cluster-based machine learning regression in shallow waters. ***Science of The Total Environment***, volume 833, page 155168. Elsevier, 2022, **(Impact Factor:10.753 (2021))**, doi:10.1016/j.scitotenv.2022.155168.

2022 Byunguk Kim, Siyoon Kwon, **Noh, Hyoseob**, and Il Won Seo. Surrogate prediction of the breakthrough curve of solute transport in rivers using its reach length dependence. ***Journal of Contaminant Hydrology***, page 104024. Elsevier, 2022, **(Impact Factor:4.184 (2021))**, doi:10.1016/j.jconhyd.2022.104024.

2021 **Noh, Hyoseob**, Yong Sung Park, and Minjae Lee. Regional classification of total suspended matter in coastal areas of south korea. ***Estuarine, Coastal and Shelf Science***, volume 254, page 107339. Elsevier, 2021, **(Impact Factor:3.229 (2021))**, doi:10.1016/j.ecss.2021.107339.

2021 Siyoon Kwon, **Noh, Hyoseob**, Il Won Seo, Sung Hyun Jung, and Donghae Baek. Identification framework of contaminant spill in rivers using machine learning with breakthrough curve analysis. ***International Journal of Environmental Research and Public Health***, volume 18, page 1023. MDPI, 2021, **(Impact Factor:4.614 (2021))**, doi:10.3390/ijerph18031023.

2020 **Noh, Hyoseob**, Siyoon Kwon, Il Won Seo, Donghae Baek, and Sung Hyun Jung. Multi-gene genetic programming regression model for prediction of transient storage model parameters in natural rivers. ***Water***, volume 13, page 76. MDPI, 2020, **(Impact Factor:3.530 (2021))**, doi:10.3390/w13010076.

KCI Journal Articles

2023 **Noh, Hyoseob**, GeunSoo Son, Dongsu Kim, and Yong Sung Park. A svr based-pseudo modified einstein procedure incorporating h-adcp model for real-time total sediment discharge monitoring. ***KSCE Journal of Civil and Environmental Engineering Research***, volume 43, pages 321–335. Korean Society of Civil Engineers, 2023, doi:10.12652/Ksce.2023.43.3.0321.

2023 **Noh, Hyoseob**, Byunguk Kim, Minjae Lee, Yong Sung Park, Ki Young Bang, and Hojun Yoo. Survey of coastal topography using images from a single uav. ***Journal of Korea Water Resources Association***, volume 56. Korea Water Resources Association, 2023, doi:doi:10.3741/JKWRA.2023.56.S-1.1027.

2022 **Noh, Hyoseob**, GeunSoo Son, Dongsu Kim, and Yong Sung Park. Clustering of sediment characteristics in south korean rivers and its expanded application strategy to h-adcp based suspended sediment concentration monitoring technique. ***Journal of Korea Water Resources Association***, volume 55, pages 43–57. Korea Water Resources Association, 2022, doi:10.3741/JKWRA.2022.55.1.43.

2021 **Noh, Hyoseob** and Yong Sung Park. Identification of shear layer at river confluence using (rgb) aerial imagery. ***Journal of Korea Water Resources Association***, volume 54, pages 553–566. Korea Water Resources Association, 2021, doi:10.3741/JKWRA.2021.54.8.553.

2019 **Noh, Hyoseob**, Donghae Baek, and Il Won Seo. Analysis of the applicability of parameter estimation methods for a transient storage model. ***Journal of Korea Water Resources Association***, volume 52, pages 681–695. Korea Water Resources Association, 2019, doi:10.3741/JKWRA.2019.52.10.681.

In Conference Proceedings

2023 **Noh, Hyoseob**, Gensoo Son, Dongsu Kim, and Yong Sung Park. Importance of bedload sediment supply in the riverine sediment supply revealed from a real-time total load monitoring using horizontal-adcp and the support vector regression. In *The Proceedings of the Coastal Sediments 2023 In 5 Volumes*, pages 1801–1808. World Scientific, 2023. Coastal Sediments 2023, New Orleans, LA, USA, 11 – 15 April 2023.

2021 **Noh, Hyoseob** and Yong Sung Park. Confluence shear layer feature extraction method using rgb aerial imagery. In *Proceedings of the Korea Water Resources Association Conference*, pages 277–277. Korea Water Resources Association, 2021.

2020 **Noh, Hyoseob**, Yong Sung Park, and Minjae Lee. Coastal area classification using total suspended matter concentration. In *1st IAHR Young Professionals Congress*, pages 108–109. International Association for Hydro-Environment Engineering and Research, 2020. The 1st IAHR Young Professionals Congress 17-18 November 2020.

2020 Siyoon Kwon, Il Won Seo, and **Noh, Hyoseob**. Identification of contaminant source using truncated breakthrough curves in rivers. In *1st IAHR Young Professionals Congress*, pages 40–41. International Association for Hydro-Environment Engineering and Research, 2020. The 1st IAHR Young Professionals Congress 17-18 November 2020.

2019 Siyoon Kwon, Il Won Seo, and **Noh, Hyoseob**. Characterizations of the breakthrough curve to identify pollution sources with storage zone effect in natural streams. In *E-proceedings of the 38th IAHR World Congress*, pages 161–166. International Association for Hydro-Environment Engineering and Research, 2019. The 38th IAHR World Congress September 1-6, 2019, Panama City, Panama.

2018 Jaehyun Shin, Il Won Seo, and **Noh, Hyoseob**. Two-dimensional flow analysis model incorporating secondary current effects in meandering channels. In *Proceedings of the Korea Water Resources Association Conference*, pages 140–140. Korea Water Resources Association, 2018.

Fellowships & Awards

2022 The Korean Association of Ocean Science and Technology Societies (**KAOSTS**) 2022 **Future Marine Science and Technology Award**

2022 The Korean Association of Ocean Science and Technology Societies (**KAOSTS**) 2021 **Academic Presentation Excellent Paper Award**

2020 Seoul National University Smart City Competition Encouragement Prize

Computer programming libraries

pyGOSH Python library for Global Optmization and SHallow machine learning. URL: `https://github.com/hyoddubi1/pyGOSH`; doi: `https://doi.org/10.5281/zenodo.8198535`

Fsus-models Python scripts of the derived Fsus estimation models from "A novel efficient method of estimating suspended total1 sediment load fraction in natural rivers" URL: `https://github.com/hyoddubi1/Fsus-sediment-fraction-models`; doi: `https://doi.org/10.5281/zenodo.7707130`

Skills

Programming Languages Python, PyTorch, MatLab, C++

Languages Korean, English

Instruments ADCPs and ADVs (Sontek, Nortek), RTK-GPS (Sokkia GRX2), LISST-200X, Sediment Samplers (Suspended, bedload, bed material), Drones (DJI Mavic 2 Pro, DJI Phantom 4 RTK, DJI M600), hyperspectral camera (Corning SHARK 410)