Eunsang Cho, Ph.D.
Assistant Professor of Water Resources (Hydrology & Remote Sensing)
Ingram School of Engineering, Texas State University, San Marcos, Texas, USA
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ORCID: 0000-0003-1841-6939

Education

University of New Hampshire, Durham, NH, USA — Aug 2015 – May 2020
Ph.D., Civil and Environmental Engineering
Human and Climate Impacts on Flooding via Remote Sensing, Big Data Analytics, and Modeling
(Advisor: Dr. Jennifer M. Jacobs)

Hanyang University, Seoul, South Korea — Sep 2012 – Aug 2014
M.S., Water Resources and Environmental Engineering
Evaluation of Satellite-based Soil Moisture through Active and Passive Microwave Sensors in northeast Asia (Advisors: Drs. Minha Choi and Yong-Sik Cho)

B.S., Civil and Environmental Engineering — Mar 2006 – Feb 2010

Academic Appointments

Assistant Professor (Tenure-Track) — Sep 2023 – Present
Civil Engineering, Ingram School of Engineering, Texas State University, San Marcos, Texas, USA

Assistant Research Scientist — Jul 2023 – Aug 2023
NASA Goddard Space Flight Center, Greenbelt, Maryland, USA (affiliated with Earth System Science Interdisciplinary Center, University of Maryland, College Park, Maryland, USA)

Postdoctoral Scientist — Aug 2020– Jun 2023
NASA Goddard Space Flight Center, Greenbelt, Maryland, USA (affiliated with Earth System Science Interdisciplinary Center, University of Maryland, College Park, Maryland, USA)

Adjunct Instructor — Feb 2021 – May 2021
Civil and Environmental Engineering, University of New Hampshire, USA

Postdoctoral Associate — May 2020 – Jul 2020
Institute for the Study of Earth, Oceans, and Space (EOS), University of New Hampshire, USA

Graduate Research Assistant & Lab-instructor — Aug 2015 – Apr 2020
Civil and Environmental Engineering, University of New Hampshire, USA

Research Fellow — Aug 2014 – Jul 2015
Environmental and Remote Sensing Laboratory, Sungkyunkwan University (SKKU), South Korea

Graduate Research Assistant — Sep 2012 – Aug 2014
Hanyang University, Seoul, South Korea

Research Interests

Science Areas
- Hydrology, Hazard Risk & Mechanism (e.g., Floods, Wildfire, Drought, Heatwaves)
- Climate and Human Impacts on Hydrologic Processes

- Cold-land Processes (snowpack, soil moisture, snowmelt, and freeze/thaw)

Methods/Approach

- Remote Sensing (UAV, Microwave, SAR, Gamma Radiation, LiDAR, etc.)
- Hydrological & Climate Modeling (e.g., Land Surface Models, Regional Climate Models)
- Data Assimilation, ML/Deep Learning, Cloud computing, Google Earth Engine

Publications

(**Bold**: first author; ***Bold&Italic***: co-author, *denotes corresponding author, Underlined names indicate students or postdocs I advised or co-advised)

Peer-reviewed Journal Articles

in preparation

39 Sharma, H. S., ***E. Cho****, The Role of Snow Information in Deep Learning for Sub-Seasonal Flood Streamflow Forecasting: A Case Study in the Yellowstone River Basin (in prep. *Hydrological Processes;* Jan 2026)

38 Cooverji, F., **E. Cho***, B. Li, C. Vuyovich, S.E. Tuttle, E.A. Sproles, Quantification of Snowmelt-induced Flood Risk Within the Smith River Watershed, Montana, Using a Water Balance Analysis (*in prep. Water Resources Research; Dep 2025*)

37 **Cho, E.***, J.M. Jacobs, C.M. Vuyovich, Contrasting Change in Extreme Snowmelt across the United States (*in prep. Nature Water; Dep 2025*)

36 Vuyovich, C.M., M.L. Wrzesien, Kumar, S., ***E. Cho***, A Global Snow Observing Strategy (*in prep. Nature Reviews Earth and Environment; Dep 2025*)

under review / in revision

35 Liu, J., **E. Cho***, C. Vuyovich, Evaluating Airborne LiDAR Snow Depth Measurements and Their Uncertainties in Boreal Forest Environments Using NASA SnowEx 2023 Alaska Campaign Data, *The Cryosphere (under review)*

34 Gu. X., S. Y. Han; S. W. Myint, ***E. Cho***, Y. Zhu, Y. Lee, L. Roy, J.-S. Kim, Understanding Dynamic Mobility Patterns of Diverse Social Groups under Extreme Heat Conditions, *Computational Urban Science (under review)*

33 Cho. E., **E. Cho***, B. Li, C. Vuyovich, J.M. Jacobs, Basin-scale Evaluation of the Noah-MP Land Surface Model for Runoff and Snow Generation in the Missouri River Basin: Insights and Recommendations for Parameterization Scheme Selection, *Hydrology and Earth System Sciences (under review)*

32 Basnet, H., P., Bhattarai, S.W. Myint, ***E. Cho****, Quantifying Post-Wildfire Hydrologic Responses Using SWAT+: Middle Fork Eel Watershed, California, *Hydrological Processes* (*under review)*

31 Johnston, J., J.M. Jacobs, M. Verfaillie, ***E. Cho***, The Snow Meteorology and Phenology Classification (SnowMAP): Global Snow Cover Observations Enhance Snow's Representation, *Scientific Reports* (*in revision)*

30 Han S.-Y., Y. Lee, J.Yoo, J. Park, J.-Y. Kang, S. W. Myint, ***E. Cho***, X. Gu, J.-S. Kim, Spatial Disparities in Fire Shelter Accessibility: Capacity Challenges in the Palisades and Eaton Fires, *Sustainable Cities and Society* (*under review)*

Published / Accepted

30. Momin, M.S.M.I., ***Cho, E.****, Cho, E., Das, S. (2026). Coastal Flooding on Transportation Infrastructures: A Systematic Review of Patterns, Impacts, and Methodologies, *Transportation Research Record* (*Accepted*)

29. **Cho, E.***,†, M. Verfaillie†, J.M. Jacobs, A.G. Hunsaker, F.B. Sullivan, M. Palace, C. Wagner (2025) Characterizing Spatial Structures of Field-Scale Snowpack using Unpiloted Aerial System (UAS) Lidar and Structure-from-Motion (SfM) photogrammetry, *Hydrology and Earth System Sciences,* 29, 4539–4556*, https://doi.org/10.5194/hess-29-4539-2025* *†: contributed equally*

28. Mortimer C., L. Mudryk, ***E. Cho****,* C. Derksen, M. Brady, C.M. Vuyovich (2024) Use of multiple reference data sources to cross validate gridded snow water equivalent products over North America, *The Cryosphere, 18, 5619–5639, https://doi.org/10.5194/egusphere-2023-3013*

27. Pflug, J.M., M.L. Wrzesien, Kumar, S., ***E. Cho***, K. Arsenault, P. Houser., C.M. Vuyovich (2024) Extending the utility of space-borne snow water equivalent observations over vegetated areas with data assimilation, *Hydrology and Earth System Sciences, 28, 631–648,*

https://doi.org/10.5194/hess-28-631-2024

26. Johnston, J., J.M. Jacobs, ***E. Cho*** (2024) Global Snow Seasonality Regimes from Satellite Records of Snow Cover, *Journal of Hydrometeorology*, 25 (1), 65-88, https://doi.org/10.1175/JHM-D-23-0047.1

25 **Cho, E.**, Y. Kwon*, S. Kumar, C.M. Vuyovich (2023) Assimilation of airborne gamma observations provides utility for snow estimation in forested environments*, Hydrology and Earth System Sciences*, 27, 4039–4056, https://doi.org/10.5194/hess-27-4039-2023

24 **Cho, E.***, C.M. Vuyovich, M.L. Wrzesien, R.-S. Kim, S. Kumar (2023) Evaluating the Utility of Active Microwave Observations in a Snow Mission Concept Using Observing System Simulation Experiments, *The Cryosphere, https://doi.org/10.5194/tc-2022-220*

23 Verfaillie, M., ***E. Cho***, L. Dwyre, A. Hunsaker, I. Khan, C. Wagner, and J.M. Jacobs (2023) UAS Remote Sensing Applications to Cold Region Weather Disasters, *Frontiers in Remote Sensing, https://doi.org/10.3389/frsen.2023.1095275*

22 Proulx, H., J.M. Jacobs*, E.A. Burakowski, ***E. Cho***, A.G. Hunsaker, F.B. Sullivan, M. Palace, and C. Wagner (2023) Comparison of in-situ snow depth measurements over a mixed-use temperate forest landscape, *The Cryosphere, https://doi.org/10.5194/tc-2023-36*

21 Moradi, M., ***E. Cho***, J.M. Jacobs, C.M. Vuyovich (2023) Seasonal Soil Freeze/Thaw Variability Across North America via SEUP Ensemble Land Surface Modeling, *Cold Regions Science and Technology, https://doi.org/10.1016/j.coldregions.2023.103806*

20 **Cho, E.***, C.M. Vuyovich, S. Kumar, M.L. Wrzesien, R.-S. Kim, J.M. Jacobs (2022) Precipitation Biases and Snow Physics Limitations Drive the Uncertainties in Macroscale Modeled Snow Water Equivalent Estimation, *Hydrology and Earth System Sciences,* https://doi.org/10.5194/hess-2022-136

19 **Cho, E.***, R.R. McCrary, J.M. Jacobs (2021) Future Snowpack, Snowmelt, and Runoff Potential Extremes over North America, *Geophysical Research Letters*, https://doi.org/10.1029/2021GL094985 [Featured in the science press and media including **ScienceDaily** | **Phys.org** | Mirage.News | ENN | AZO | UNH today]

18. **Cho, E.***, A.G. Hunsaker, J.M. Jacobs, M. Palace, F.B. Sullivan, E.A. Burakowski (2021) Maximum Entropy Modeling to Identify Physical Drivers of Shallow Snowpack Heterogeneity using Unpiloted Aerial System (UAS) Lidar, *Journal of Hydrology,* https://doi.org/10.1016/j.jhydrol.2021.126722

17. Jacobs, J.M., A.G. Hunsaker, F. Sullivan, M. Palace, E.A. Burakowski, C. Herrick, ***E. Cho*** (2021) Shallow snow depth mapping with unmanned aerial systems lidar observations: A case study in Durham, New Hampshire, United States, *The Cryosphere*, https://doi.org/10.5194/tc-2020-37

16. **Cho, E.***, J.M. Jacobs (2020) Extreme Value Snow Water Equivalent and Snowmelt for Infrastructure Design over the Continental United States, *Water Resources Research*, https://doi.org/10.1029/2020WR028126 *[Selected as a **journal cover image** & featured in **AGU EOS Science News,** Eos, 101, https://eos.org/articles/how-infrastructure-standards-miss-the-mark-on-snowmelt, 16 Oct 2020]*

15. Forgotson, C., P.E. O'Neill, M. Carrena, S. Bélair, N.N. Das, I.E. Mladenova, J. Bolten, J.M. Jacobs, ***E. Cho,*** V.M. Escobar (2020) How Satellite Soil Moisture Data Can Help to Monitor the Impacts of Climate Change: SMAP Case Studies. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 13(1), 1590-1596, https://doi.org/10.1109/JSTARS.2020.2982608

14. **Cho, E.***, J.M. Jacobs, R. Schroeder, S.E. Tuttle, C. Olheiser (2020) Improvement of airborne gamma radiation snow water equivalent measurements using SMAP soil moisture, *Remote Sensing of Environment*, 240, 111668. https://doi.org/10.1016/j.rse.2020.111668

13. **Cho, E.***, J.M. Jacobs, C. Vuyovich (2020) The value of long-term (40 years) airborne gamma radiation SWE record for evaluating three observation-based gridded SWE datasets by seasonal snow and land cover classifications, *Water Resources Research*, 56(1), https://doi.org/10.1029/2019WR025813 *[Featured in **AGU EOS research spotlight** "Snowpack data sets put to the test", Eos, 101, https://doi.org/10.1029/2020EO141900, 30 Mar 2020]*

12. Kraatz, S., J.M. Jacobs, R. Schroeder, ***E. Cho***, H. J. Miller, C. Vuyovich (2020) SMAP freeze-thaw retrievals for pavements using effective soil temperature from GEOS-5:

Evaluation against in situ road temperature data over the U.S., *Remote Sensing of Environment*, 237, 111545, https://doi.org/10.1016/j.rse.2019.111545

11. **Cho, E.***, J.M. Jacobs, X. Jia, S. Kraatz (2019) Identifying Subsurface Drainage using Satellite Big Data and Machine Learning via Google Earth Engine, *Water Resources Research, 55(10), 8028-8045, https://doi.org/10.1029/2019WR024892*
10. Schroeder, R., J.M. Jacobs, ***E. Cho***, C. Olheiser, M. DeWeese, B. Connelly, M. Cosh, X. Jia, C. Vuyovich, S.E. Tuttle. (2019) Assessment of satellite passive microwave and modeled snow water equivalent estimates in the Red River basin of the North. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 12(9), 3233–3246, https://doi.org/10.1109/JSTARS.2019.2926058
9. Kraatz, S., J.M. Jacobs, R. Schroeder, ***E. Cho***, M. Cosh, M. Seyfried, J. Prueger, S. Livingston (2018) Evaluation of SMAP freeze/thaw retrieval accuracy at core validation sites in the contiguous United States, *Remote Sensing*, 10(9), 1483. https://doi.org/10.3390/rs10091483
8. Tuttle, S.E., J.M. Jacobs, C. Vuyovich, C. Olheiser, ***E. Cho*** (2018) Intercomparison of Snow Water Equivalent Observations in the Northern Great Plains, *Hydrological Processes*, *32(6), 817-829.* https://doi.org/10.1002/hyp.11459
7. **Cho, E.***, Tuttle, S.E., Jacobs, J.M. (2017) Evaluating Consistency of Snow Water Equivalent Retrievals from Passive Microwave Sensors over the North Central U. S.: SSM/I vs. SSMIS and AMSR-E vs. AMSR2, *Remote Sensing*, *9*, 465. https://doi.org/10.3390/rs9050465
6. Kim, H., Z. Muhammad, ***E. Cho***, Y.H. Kerr, M. Choi (2017) Development and assessment of the sand dust prediction model by utilizing microwave-based satellite soil moisture and reanalysis datasets in east Asian desert areas, *Advances in Meteorology*, https://doi.org/10.1155/2017/1917372
5. **Cho, E**., C.-H. Su, D. Ryu, H. Kim, M. Choi (2017) Does AMSR2 produce better soil moisture retrievals than AMSR-E over Australia?, *Remote Sensing of Environment*, 188C, 95-105, https://doi.org/10.1016/j.rse.2016.10.050
4. **Cho, E.**, A. Zhang, M. Choi (2016) The seasonal difference in soil moisture patterns considering the meteorological variables throughout the Korean peninsula, *Terrestrial, Atmospheric and Oceanic Sciences,* https://doi.org/10.3319/TAO.2016.07.12.01
3. **Cho, E.**, M. Choi, W. Wagner (2015) An assessment of remotely sensed surface and root zone soil moisture through active and passive sensors in northeast Asia, *Remote Sensing of Environment,* 160, 166-179, https://doi.org/10.1016/j.rse.2015.01.013
2. **Cho, E.**, H. Moon, M. Choi (2015) First Assessment of Advanced Microwave Scanning Radiometer 2 (AMSR2) Soil Moisture Contents in Northeast Asia, *Journal of the Meteorological Society of Japan,* 93(1), 117-129, https://doi.org/10.2151/jmsj.2015-008
1. **Cho, E.**, M. Choi (2014) Regional scale spatio-temporal variability of soil moisture and its relationship with meteorological factors over the Korean peninsula, *Journal of Hydrology*, 516, 317-329, https://doi.org/10.1016/j.jhydrol.2013.12.053

Book Chapters

1. Tuttle, S.E., ***E. Cho***, P. Restrepo, X. Jia, C. Vuyovich, M. Cosh, J.M. Jacobs (2017) Remote Sensing of Drivers of Spring Snowmelt Flooding in the North Central U.S. *Remote Sensing of Hydrological Extremes*, edited by V. Lakshmi. Springer International Publishing, 21-45, https://doi.org/10.1007/978-3-319-43744-6

Research Grants

- Awarded

1. **NASA** Grant “Groundwater Impact on S2S Snowmelt Flood Predictability”, ROSES Program A.50: Subseasonal to Seasonal Hydrometeorological Prediction. (NNH21ZDA001N-S2SHYD) (Role: **PI**, Total Budget: **$648,596**, 08/2023 - 07/2026, Status: *Funded*)
2. U.S. Department of the Interior (**DOI**), Bureau of Reclamation's Snow Water Supply Forecasting Program “Emerging UAV gamma-ray and lidar snow observations for

improved water supply modeling in the Missouri headwaters" (Role: **Institutional PI**, Total Budget: **$987,895** [Cho's portion: $340,097], 01/2024 – 12/2026, Status: *Funded*)

3. U.S. Department of Energy (**DOE**) Grant "Multidisciplinary Research and Workforce Development on Fate and Transport of PFAS" (Role: **Co-PI**, Total Budget: **$3,521,137**, 04/2024 – 03/2027; Status: *Funded*)
4. **USDA** Grant "Sub-Field Crop Yield Prediction using Satellite Remote Sensing and Machine Learning" (Role: **PI**, Total Budget: **$98,352**, 10/2024 – 09/2026)
5. Texas State University Research Enhancement Program "RAPID: Roadway Assessment for Post-Inundation Durability in the 2025 Texas Hill Country Flood" (Role: **PI**, Total Budget: **$24,000**, 03/2026 – 02/2027; Status: *Funded*)
6. U.S. Department of Transportation (**DOT**) **UTC CREATE** Sub-Grant "Unprecedented Coastal Flooding Hotspots for Highway Network Durability and Community Resilience" (Role: **PI**, Total Budget: **$99,995**, 09/2024 – 12/2025; Status: *Funded*)
7. Texas State University Accelerator Grant "Performance of the Existing Best Management Practices for PFAS Control in Stormwater Runoff in San Marcos, TX" (Role: **co-PI**, Total Budget: **$80,000**, 06/2025 – 05/2025; Status: *Funded*)
8. Global Young Generation Science & Technology Leadership Research Support Grant by Korean Federation of Science & Technology Societies (KOFST) "Impact of Climate Change on Road Networks: Travel Demand, Machine Learning, and Flooding Simulation Models" (Role: **PI**, Total Budget: **$1,573**, 06/2021 – 12/2021, Status: *Funded*)

- Pending/Under Evaluation

7. **NASA** Grant "NASA-Empowered Solutions for Water Challenges in the Austin-San Antonio Metroplex (NEW-ASAP) (Role: **PI**, Total Budget: **$1,194,558**, 09/2026 – 08/2029)
8. **NSF** Grant "Fire-Safe Intelligent Guide with Hazard-Free Testbed for Enhancing Resilience" Fire Science Innovations through Research and Education (FIRE) Program (Role: **Co-PI**, Total Budget: **$1,160,000**, 09/2026 – 08/2029)
9. **USDA** Grant "DSFAS-CIN: Data Science and Integrated Land-Water Conservation" (Role: **Co-PI**, Total Budget: **$1,000,000**, 06/2026 – 05/2029)
10. **NSF** Grant "CAIG: AI-Enhanced Multimodal Geosensing for Hydroclimate Extremes and Water-Hazard Modeling" (Role: **Co-PI**, Total Budget: **$1,500,000**, 09/2026 – 07/2029)

Awards and Honors

CUAHSI (Consortium of Universities for the Advancement of Hydrologic Science, Inc.) Instrumentation Discover Travel Grant ($1,000)	2021
AGU WRR Editors' Choice Award (***top 1% of articles** published in WRR each year, highlighting research that demonstrates exceptional quality, innovation, and impact in the fields of hydrology and water resources)	2020
UNH Dissertation Year Fellowship ($22,060)	2019 – 2020
CUAHSI Pathfinder Fellowship ($4,593, NSF Award 1849458)	2020
UNH Summer Teaching Assistant Fellowship ($3,150)	2018
UNH College of Engineering and Physical Sciences (CEPS) Fellowship ($60,008)	2015 – 2016
1st Paper Presentation Award, Chuncheon Global Water Forum ($1,000)	2013
Excellent Paper Award in 2013, Korea Water Resources Association Annual Conference	2013
Brain Korea21 PLUS (BK21+) Fellowship ($15,000 tuition fees)	2012 - 2014
Brain Korea21 (BK21) Fellowship ($5,000 tuition fees)	2012

Teaching Experience

Main Instructor, Ingram School of Engineering, Texas State University, San Marcos, Texas, USA — Fall 2023 - Current
- Remote Sensing in Hydrology (Fall 2025)
- Water, Climate, & Disasters (Spring 2025)
- Hydrology (Spring 2024; Spring 2025)
- Fluid Mechanics & Labs (Fall 2023; Fall 2024)

Guest Lecturer**,** Advanced GIS, Texas State Univ., Dept. Geography and Environmental Studies, USA. (Invited by Dr. Chow) — Nov 8th, 2023

Guest Lecturer**,** Climate Change & Infrastructure, University of New Hampshire, USA. (Invited by Dr. Jacobs) — Apr 27th, 2022

Guest Lecturer**,** Sustainable Infrastructure & Climate Change, University of Virginia, USA. (Invited by Dr. V. Lakshmi & H. Kim) — Feb 17th, 2022

Main Instructor, Department of Civil and Environmental Engineering, University of New Hampshire, USA — Spring 2021
- Snow Hydrology (Spring 2021)

Lab Instructor, Department of Civil and Environmental Engineering, USA, *Lecturer: Dr. Tom Ballestero* — 2018
- Fluid Mechanics (Fall 2017, Fall 2018)

Lab Instructor, Department of Civil and Environmental Engineering, South Korea — 2013
- Geographic Information System (Spring 2013)

Graduate Teaching Assistant, Department of Civil and Environmental Engineering, South Korea — 2012
- Hydrology (Fall 2012)

Field Experiments & Training Experiences

Participant, NASA SnowEx Alaska Field Campaign, Fairbanks, AK, *Lead: Dr. Carrei Vuyovich et al.* — Mar 2023

Visiting Student Fellow, NASA GSFC, Hydrological Science Laboratory, Greenbelt, MD, USA *Supervisor: Drs. Sujay Kumar and Carrie Vuyovich* — Jan- Feb 2020

Participant, CUAHSI-iSWGR Snow Measurement Field School, Yellowstone Alliance Adventure, Bozeman, MT. *Instructors: Drs. Matthew Sturm, Kelly Elder, and Jessica Lundquist et al.* — Jan 2019

Participant, NASA Land Information System Workshop, GSFC, MD. *Instructors: Dr. Sujay Kumar et al.* — Dec 2018

Participant, The Community WRF-Hydro Modeling System CUAHSI Training Workshop, NCAR, Boulder, CO, *Instructors: Dr. D. Gochis, K. Sampson, A. Dugger* — May 2017

Volunteer Participant, Soil Moisture Active Passive Validation Experiment 2016 (SMAPVEX16) field campaign**,** Des Moines, IA, *Supervisor: Dr. Michael Cosh* — May - Jun 2016

Mentoring Experience

Texas State University

Postdoctoral Researcher, Eunsaem Cho, Supervisor — 2024 – Now
PhD student, Kathleen Shank (Civil Eng., TXST), Supervisor — 2025 – Now
PhD student, Harisankar Manoj (Civil Eng., TXST), Supervisor — 2025 – Now
MS student, Jipeng Liu (Civil Eng., TXST), Supervisor — 2024 – Now

MS student, Himmat Basnet (Civil Eng., TXST), Supervisor	2024 – Now
MS student, Md Shah Mominul Islam Momin (Civil Eng., TXST), Supervisor	2024 – Now
MS student, Farhaan Cooverji (Geography, TXST), Supervisor	2024 – Now
MS student, Annelise Holguin (Geography, TXST), Supervisor	2024 – Now
BS student, Samar Ranjit (Computer Science, TXST), Supervisor	2025 – Now
BS student, Samrakshyan Adhikari (Computer Science, TXST), Supervisor	2025 – Now
BS student, Hrishant Sharma (Computer Science, TXST), Supervisor	2025 – Now
BS student, Dipesh Pandit (Computer Science, TXST), Supervisor	Spring 2025
BS student, Benjamin Lehrer (Civil Eng., TXST), Supervisor	Summer 2024
NASA Goddard Space Flight Center (via NASA MAIANSE Program)	2022 – 2023
BS intern, Justina White Eyes (Oglala Lakota College), Mentor	
University of New Hampshire	
PhD student, Imran Khan (Civil Eng., UNH), Co-mentor	2020 – 2021
PhD student, Mahsa Moradi (Civil Eng., UNH), Co-mentor	2019 – 2021
BS student, Holly Proulx (Civil & Env Eng., UNH), Co-mentor	2019 – 2020
Served as Member of Committee	
TXST, PhD student, Portia Agyemang (MSEC), Dissertation committee	2025 – Now
TXST, PhD student, Sushmit S. Bhattarai (MSEC), Dissertation committee	2025 – Now
TXST, PhD student, Eunice Babatunde (MSEC), Dissertation committee	2025 – Now
TXST, PhD student, Jihyun Yoon (MSEC), Dissertation committee	2024 – 2025
Syracuse Univ, PhD student, Haejo Kim (Earth Sci), Dissertation committee	2024 – Now

University Service

Committee Member, Faculty Search Committee (Geotech Engineering), Ingram School of Engineering, TXST	Fall - Spring 2025
Committee Member, College-Level Faculty Search Committee (Ecohydrology), TXST	Fall - Spring 2025
CE program representative, Ingram School of Engineering IT Committee, TXST	Fall 2024 - Current
Student Scholar Committee, Ingram School of Engineering, TXST	Spring – Fall 2024

Professional Service & Memberships

American Meteorological Society (AMS) Hydrology Section Committee Member (*Elected*; since Dec 2023)
Eastern Snow Conference (ESC) Executive Committee Member (*Elected*; since 2021) Committee
Member of Young Hydrology Society (YHS) National Branch Reps (since 2021)
Convener of the 2021 - 2026 AMS Annual Meeting session "*Linking Snow Hydrology and Society through Remote Sensing, Modeling, and Data Assimilation"*
Convener of the 2022 CGU (Canadian Geophysical Union) & Eastern Snow Conference (ESC) Annual Meeting session "Novel Approach in Seasonal Snow: Field Measurements, Remote Sensing, Modeling, and Data Analytics"
Moderator of the "Prairie Snow" breakout group discussion at the 2020 NASA Terrestrial Hydrology Program (THP) Snow Virtual Meeting
Mentor in the NASA Minority University Research and Education Project (MUREP) for American Indian and Alaska Native Science, Technology, Engineering and Mathematics (STEM) Engagement (May 2022 – May 2023)
Member of Young Earth System Scientists (YESS) Community (since 2019)
Member of American Geophysical Union (since 2013)
Member of American Meteorological Society (since 2019)
Member of European Geosciences Union (since 2020)
Editorial Board Member and Reviewer Editor of Frontiers in Big Data (since 2023)

Peer Reviewer for Academic Journals (17): AGU Advances, Water Resources Research, Advances in Water Resources, Journal of Hydrometeorology, Geophysical Research Letters, Journal of Geophysical Research-Atmosphere, Journal of Hydrology, The Cryosphere, Int. J. Appl. Earth Observation & Geoinformation, IEEE Geoscience and Remote Sensing Letters, Int. J. of Climatology, Journal of Environmental Radioactivity, KSCE Journal of Civil Engineering, Remote Sensing, Remote Sensing of Environment, Scientific Data, Big Earth Data

Other Experience

Engineer officer (Rank: First lieutenant), Defense Installations Agency, Ministry of National Defense	2012
Engineer officer, Corps of Engineers, Republic of Korea	2010 - 2011
Army cadet, Reserve Officers' Training Corps (ROTC), Republic of Korea	2008 - 2010

Invited Talks & Seminars

16 Advancing Snow Hydrology with Remote Sensing, Modeling, and Data Assimilation, Sep 30, 2025, **University of Houston Geosensing Graduate Seminar Series**, Hosted by Prof. Hyungki Lee

15 Mapping Agricultural Tile Drainage Expansion from Satellite-based Vegetation and Thermal Data using Google Earth Engine Machine Learning, Nov 12, 2024, Hosted by Airborne and Satellite Remote Sensing (ASRS) Symposium Organizing Committee, **2024 ASA, CSSA, SSSA International Annual Meeting**, San Antonio, TX

14 Innovation Series: Hydrology & Water Resources via Remote Sensing, Modeling, and AI/Big Data Analytics, Oct 18, 2024, **TXST Center for Innovation and Entrepreneurship**

13 Advancing Snow Hydrology: The Role of Remote Sensing, Modeling, and Data Assimilation in a Changing Climate, Jun 14, 2024, **Yonsei University**, Hosted by Prof. Yeonjoo Kim

12 Current NASA Satellites and Earth Modeling for Water Resources and Future Infrastructure, Jan 21, 2022, **Seoul National University**, Hosted by Prof. Jin-Hwan Hwang

11 Extreme Current and Future Snowpack and Snowmelt for Infrastructure Design over North America, Dec 17, 2020, **POSTECH**, Hosted by Prof. Jonghun Kam

10 NASA Snow Remote Sensing and Land Modeling for Water Resources and Flood Prediction, **Korea Institute of Construction Technology**, Dec 16, 2020, Hosted by Dr. Sungwon Kang

9 Current and Future Extreme Snowpack and Snowmelt for Infrastructure Design over North America, **Hongik University**, Dec 15, 2020, Hosted by Prof. Dongkyun Kim

8 Design extreme snowpack and snowmelt for infrastructure design over the U.S., ***Infrastructure & Climate Network (ICNet) Global Graduate Student Webinar series***, October 2020. Hosted by Tania Lopez-Cantu (Carnegie Mellon University) on behalf of ICNet Global Graduate Student Committee.

7 The rediscovery of the value of 40-years airborne gamma radiation SWE, ***Snow International (SINTER) Meeting****, June 2020*, Hosted by Dr. Chris Derksen (ECCC) on behalf of the SINTER executive team.

6 The value of long-term (40 years) airborne gamma radiation SWE record: Evaluating CONUS SWE datasets by seasonal snow and land cover classifications, ***2019 AGU Fall Meeting****, San Francisco, December 2019.* Dr. McKenzie Skiles, Chair of Session 'Remote Sensing of the Cryosphere: Seasonal Snow'

5 The value of long-term (40 years) airborne gamma radiation SWE record: Evaluating CONUS SWE datasets by seasonal snow and land cover classifications. ***University of Virginia***, September 2019, Hosted by Prof. V. Lakshmi.

4 Identifying Agricultural Drainage System from Satellite Big data and Machine Learning via Google Earth Engine, ***Sungkunkwan University***, South Korea, September 2019, Hosted by Prof. M. Chol.

3 Human Modifications and Climate Change Impacts on Regional Water Balance Change in the Northern Great Plains, ***University of New Hampshire***, October 2018, Hosted by CEE.

2 Agricultural Tile Drainage Detection from Satellite-based Vegetation and Thermal Data Using Google Earth Engine, ***Bois de Sioux Watershed District, MN***, May 2018, Hosted by Prof. Jia.
1 Human and climate change impacts on hydrological responses in the north-central U.S., ***North Dakota State University***, May 2018, Hosted by Prof. Jia.

Interview & Media Coverage

3 [Interview & Media Article] "Drought conditions worsen in San Marcos", University Star, Feb 13, 2026 https://universitystar.com/34628/news/drought-conditions-worsen-in-san-marcos
2 [Interview & Media Article] "What causes spring floods?" Yale Climate Connections, March 15, 2022, https://yaleclimateconnections.org/2022/03/what-causes-spring-floods/
1 [Interview & Media Article] "How Infrastructure Standards Miss the Mark on Snowmelt", AGU EOS News, October 16, 2020, https://eos.org/articles/how-infrastructure-standards-miss-the-mark-on-snowmelt

Conferences Presentations (**Bold**: first/presenting author; ***Bold&Italic***: co-author; *denotes student/postdoc advised)

2026

70 Testing the Effect of GRACE Data Assimilation on the Spring Flood Simulations in the Red River of the North Basin, H. Manoj*, E. Cho*, B. Li, C. Vuyovich, J. Jacobs, ***E. Cho*** 106th American Meteorological Society (AMS) Annual Meeting, Jan 26-29, 2026, Houston, TX (Poster).
69 Identifying PFAS Hotspots Influenced by Hydrologic and Climatic Stressors Using Remote Sensing and Geospatial Analysis K.I. Shank*, ***E. Cho***, S. Hwang, 106th American Meteorological Society (AMS) Annual Meeting, Jan 26-29, 2026, Houston, TX (Poster).
68 The Role of Snow Information in Deep Learning for Sub-Seasonal Streamflow Forecasting: A Case Study in the Yellowstone River Basin, H.S. Sharma*, ***E. Cho***, H. Kim, 106th AMS Annual Meeting, Jan 26-29, 2026, Houston, TX (Poster).
67 Assessing Roadway Network Risk to Compound Flooding in Galveston County, Texas: An Integrated Hydrodynamic and Machine Learning Approach, M.S.M.I. Momin*, ***E. Cho***, E. Cho*, S. Das, Transportation Research Board (TRB) 105th Annual Meeting, Jan 11-15, Washington D.C. (Poster)
66 Hydrodynamic Simulation and Validation of Coastal Flooding in Galveston County, Texas: 2008 Hurricane Ike Case Study and 100-Year Flood Map Development, M.S.M.I. Momin*, ***E. Cho***, E. Cho*, S. Das, Transportation Research Board (TRB) 105th Annual Meeting, Jan 11-15, Washington D.C. (Poster)

2025

65 Forecasting Sea Water Level Using Deep Learning Models for Enhanced Coastal Flood Management and Mitigation, Md Shah Mominul Islam Momin*, Damian Valles, ***E. Cho***, IEEE Annual Ubiquitous Computing, Electronics & Mobile Communication Conference (UEMCON) 2025, Oct 22-24, 2025, New York City, NY (Talk)
64 Evaluating Multiple Parameterization Physics for Enhanced Large-Scale Flood Prediction in the Missouri River Basin, E. Cho*, ***E. Cho***, C. Vuyovich, B. Li, J.M. Jacobs, Advancing Land Modeling for Gulf Coast Resilience Workshop, Aug 14-15, 2025, UT Austin, TX (Virtual lightning talk).
63 Exploring Dynamic Human Mobility of Diverse Social Groups Under Heat Conditions: A Simulation-Based Approach, X. Gu, S.Y. Han, S.W. Myint, ***E. Cho***, Y. Zhu, J. Kim, I-GUIDE Forum 2025: Geospatial AI and Innovation for Sustainability Solutions, Jun 17-19, Chicago, IL (Talk)
62 Assessing the accuracy and influencing factors of airborne lidar snow depth measurements in boreal forests: insights from NASA SnowEx 2023 Alaska campaign, J. Liu*, ***E. Cho***, C. Vuyovich, The 81st Eastern Snow Conference, Jun 10-12, 2025, Syracuse, NY (Talk)
61 Evaluation of the NOAH-MP Land Surface Model for snowmelt-driven flood generation: guidelines for selecting parameterization schemes, E. Cho*, ***E. Cho***, C. Vuyovich, B. Li, J.M. Jacobs, The 81st Eastern Snow Conference, Jun 10-12, 2025, Syracuse, NY (Talk)
60 Quantification of snowmelt-induced streamflow within the Smith River watershed, Montana, using a water balance analysis, F. Cooverji*, ***E. Cho***, B. Li, C. Vuyovich, S.E. Tuttle, E.A. Sproles, The 81st Eastern Snow Conference, Jun 10-12, 2025, Syracuse, NY (Poster)

Spring Flood Mechanisms in the U.S.: Insights from Noah-MP and GRACE Data Assimilation, **E. Cho**, E. Cho*, C. Vuyovich, B. Li, J.M. Jacobs, 2025 Annual Conference of the Korea Water Resources Association, May 21-23, 2025 (*Virtual Invited Talk*)

59 Development and Application of a SWAT+ Framework to Simulate Hydrological Processes and PFAS Contaminant Transport in the San Antonio River Watershed, Texas, H. Basnet*, ***E. Cho***, S. Hwang, The 12th Texas Water Research Network Meeting, May 7-8, UT Austin, TX (Poster)

58 Hydrodynamic Simulation of Coastal Flooding and Its Impact on Road Networks in Galveston, Texas, Md S. M. I. Momin*, ***E. Cho***, E. Cho*, S. Das, The 12th Texas Water Research Network Meeting, May 7-8, UT Austin, TX (Poster)

2024

57 Assessing the Role of Antecedent Groundwater and Soil Moisture Conditions in Spring Flood Generation using Retrospective Noah-MP Model, E. Cho*, ***E. Cho***, C. Vuyovich, B. Li, J.M. Jacobs, AGU Fall Meeting 2024, Washington D.C. (Poster)

56 Regional Water Balance Analysis for Quantifying Snow Water Supply in a Snow-Dominant Watershed, Montana, USA, F. Cooverji*, ***E. Cho***, B. Li, C. Vuyovich, S.E. Tuttle, E.A. Sproles, AGU Fall Meeting 2024, Washington D.C. (Poster)

55 Mapping Agricultural Tile Drainage Expansion from Satellite-based Vegetation and Thermal Data using Google Earth Engine Machine Learning, **E. Cho**, J. M. Jacobs, X. Jia, S. Kraatz, 2024 ASA, CSSA, SSSA International Annual Meeting, Nov 12, 2024, San Antonio, TX (*Invited Talk*)

54 The Value of the Gamma-Ray Remote Sensing Technique for Measuring Snowpack and Soil Moisture, **E. Cho**, J.M. Jacobs, C. Vuyovich, 2024 GEWEX Open Science Conference, July 9th, 2024, Sapporo, Japan (Oral)

53 Contrasting Changes in Extreme Snowmelt and Spring Flood Risk Across the United States, **E. Cho**, J.M. Jacobs, C. Vuyovich, Asia Oceania Geosciences Society (AOGS) 2024 Annual Meeting, Jun 27th, 2024, PyeongChang, South Korea (Oral)

2023

52 Using Sentinel-1 Synthetic Aperture Radar Data to Map and Monitor Glacial Lakes in the Upper Indus Basin, I. Khan, J.M. Jacobs, ***E. Cho***, AGU Fall Meeting 2023, San Francisco (Oral)

51 Constellation Evaluation Tools for a New Snow Observing Strategy, Bardaji J., A. Bayazid, J.I. Tapia, ***E. Cho***, C. Vuyovich, P.T. Grogan, 2023 IEEE International Geoscience and Remote Sensing Symposium, July 16, 2023 (Oral)

50 Snow Projection Sensitivities to Model Decisions: A Comparison of Future Snowpack in Western U.S. Montane Regions, JM Pflug, SV Kumar, B. Livneh, M Wrzesien, ***E. Cho***, AMS Annual Meeting 2023 (Poster)

2022

49 Global snow water equivalent distribution analysis of observational needs, ***Cho, E.***, C Vuyovich, SV Kumar, M Wrzesien, RS Kim, JM Pflug, G Konapala, AGU Fall Meeting 2022 (Oral)

48 A New Global Climatology of Ephemeral and Seasonal Snow, JM Johnston, ***E. Cho***, JM Jacobs, AGU Fall Meeting 2022 (Oral)

47 Merging remote sensing and models to improve performance and accessibility of snow information, M Wrzesien, SV Kumar, C Vuyovich, RS Kim, ***E. Cho***, JM Pflug, G Konapala, KR Arsenault, AGU Fall Meeting 2022 (*Invited Talk*)

46 Unpiloted Aerial System Remote Sensing Applications to Cold Region Weather Disasters, M Verfaillie, *E. Cho*, L Dwyre, A Hunsaker, I Khan, C Wagner, JM Jacobs, AGU Fall Meeting 2022 (Poster)

45 Evaluating the Temporal Robustness of NISAR's Cropland Mapping over a Stable and a Planting-Prevented Agricultural Region S Kraatz, MH Cosh, ***E. Cho***, N Torbick, X Huang, PR Siqueira, AGU Fall Meeting 2022 (Oral)

44 Monitoring Temporal Variation in Glacial Lake Extents in the Upper Indus Basin using Sentinel-1 Synthetic Aperture Radar Data I Khan, JM Jacobs, ***E. Cho***, AGU Fall Meeting 2022 (Poster)

43 Characterizing Spatial Structures of Field-Scale Snowpack using Unpiloted Aerial System (UAS) Lidar and SfM Photogrammetry, **Cho. E**, M Verfaillie, JM Jacobs, A Hunsaker, F Sullivan, MW Palace, AGU Fall Meeting 2022 (Poster)

42 SnowPEx+: Global Gridded SWE Product Evaluation using Airborne Gamma Radiation and Snow Course Transect Datasets, **Cho, E.**, C. Mortimer, L. Mudryk, C. Derksen, C.M. Vuyovich, M. Brady. 2022 International Symposium on Snow, 26-30 September 2022 (Poster)

41 Evaluating Fourteen Gridded SWE products using Airborne Gamma Radiation SWE and Snow Courses

Transacts, **Cho, E.**, C. Mortimer, L. Mudryk, C. Derksen, C.M. Vuyovich, M. Brady. 2022 CMOS-CGU-ESC Joint Congress, 1-8 June 2022 (Talk)

40 Merging models with observations to support open science, NASA SnowEx, and snow satellite missions, Wrzesien, M., S. Kumar, C. Vuyovich, R.-S. Kim, ***E. Cho*** 2022 CMOS-CGU-ESC Joint Congress, 1-8 June 2022 (*Invited Talk*)

39 Fine scale characterization of snowpack evolution using unpiloted aerial system lidar and SfM photogrammetry, Verfaillie, M., ***E.***, ***Cho,*** J.M. Jacobs, A. Hunsaker, F.B. Sullivan, M. Palace, E.A. Burakowski, C. Wagner. 2022 CMOS-CGU-ESC Joint Congress, 1-8 June 2022 (Talk; *won Wiesnet Medal – Best Student Presentation Award*)

38 Analysis of snow water equivalent data needs and capabilities C Vuyovich, A Barros, D Hall, RS Kim, ***E Cho***, M Wrzesien, S Kumar, *EGU Annual Meeting. Vienna, Austria, 23-27 May 2022. (Talk*)

37 SnowPEx+: The International Snow Products Intercomparison and Evaluation Excercise 2015-2020, Nagler, T. & SnowPEx+ team, *EGU Annual Meeting. Vienna, Austria, 23-27 May 2022. (Talk*)

2021

36 Evaluating the Utility of Active and Passive Microwave Observations in a Snow Mission Concept Using Observing System Simulation Experiments, **Cho, E.**, C.M. Vuyovich, S. Kumar, M.L. Wrzesien, R.-S. Kim, *2021 AGU Fall Meeting (Talk*)

35 Assimilation of Airborne Gamma Radiation Snowpack Observations in Dense Forest Regions, **Cho, E.**, Y. Kwon, C.M. Vuyovich, S. Kumar, 2021 *Asia Oceania Geosciences Society (AOGS) Annual Meeting, Aug 1-6, 2021 (Poster)*

34 Identifying Major Sources of Uncertainty in Snow Water Equivalent Estimates from Land Surface Modeling, **Cho, E.**, C.M. Vuyovich, S. Kumar, M.L. Wrzesien, R.-S. Kim, J.M. Jacobs, *Western Snow Conference Virtual Meeting, Apr 12-15, 2021 (Talk)*

33 Comparison of in-situ snow depth measurements and impacts on validation of unpiloted aerial system lidar over a mixed-use temperate forest landscape: A case study in Durham, New Hampshire, United States, Proulx, H., E.A. Burakowski, A.G. Hunsaker, J.M. Jacobs, F.B. Sullivan, M. Palace, ***E. Cho***, *The 77th Eastern Snow Conference Virtual Meeting, 9 Jun 2021. (Poster)*

32 40-years airborne gamma SWE product, E. Cho, J. M. Jacobs, C. M. Vuyovich, C. Olheiser. *SnowPEx+ Virtual Meeting, Feb 3, 2021 (Talk)*

31 Slower or faster extreme snowmelt in a warmer world?, **E. Cho**, J. M. Jacobs, C. M. Vuyovich, *101st AMS Annual Meeting 35th Conference on Hydrology. Jan 12, 2021 (Talk)*

2020

30 Physical Drivers of Snowpack Spatial Structure from Unpiloted Aerial System (UAS) Lidar Observations, A.G. Hunsaker, ***Cho, E.***, J.M. Jacobs, M. Palace, F.B. Sullivan, E.A. Burakowski, C. Herrick, *2020 AGU Fall Meeting, Dec 7, 2020. (Poster)*

29 How different are the Sierra Nevada SWE estimates from four land surface models with three forcing datasets?, **E. Cho**, J. M. Jacobs, C. M. Vuyovich, *2020 NASA Terrestrial Hydrology Program Snow Virtual Meeting. Sep 11-14, 2020. (E-lighting)*

28 Future Snow Water Equivalent and Snowmelt Extremes from NA-CORDEX Ensembles, **E. Cho**, R. R. McCrary, J. M. Jacobs, *2020 EGU Annual Meeting. May 2020. (Poster)*

27 Historical and Projected Extreme Snow Accumulation and Melt Events for Infrastructure Design using the NA-CORDEX Ensemble of Regional Climate Models, **E. Cho**, R. R. McCrary, J. M. Jacobs, *2020 AMS Annual Meeting. Boston, Jan 2020. (Oral)*

26 Evaluation of snow water equivalent and snowmelt processes in the NA-CORDEX regional climate simulations, R. R. McCrary, ***E. Cho***, J. M. Jacobs, L. O. Mearns, *2020 AMS Annual Meeting. Boston, Jan 2020. (Poster)*

2019

25 Snow Ensemble Uncertainty Project (SEUP): Exploring variability and uncertainty in modeled SWE estimates using an ensemble-based approach, C. Vuyovich, S. Kumar, R. S. Kim, L. Mudryk, J. Lundquist, P. Houser, J. Johnston, M. Durand, N. Cristea, J. Pflug, ***E. Cho***, A. Barros, M. Wrzesien, C. Garnaud, B. Forman, M. Sandells, Y. Cao, *2019 AGU Fall Meeting. San Francisco, Dec 2019. (Invited Talk)*

24 Quantifying Impacts of Subsurface Drainage Expansion on Regional Hydrologic Response in the Red River of the North Basin, **E. Cho**, J. M. Jacobs, S. Kumar, *2019 AGU Fall Meeting. San Francisco, Dec 2019. (Poster)*

23 The value of long-term (40 years) airborne gamma radiation SWE record: Evaluating CONUS SWE

datasets by seasonal snow and land cover classifications, **E. Cho**, J. M. Jacobs, C. Vuyovich, *2019 AGU Fall Meeting. San Francisco, Dec 2019.* (*Invited Talk*)

22 New York State Mesonet Snow Network: Review of 2018-2019 data and Plan for 2019-2020, Junhong (June) Wang, Jerald Brotzge, Nathan Bain, Scott McKim, Justin Minder, Pat Naple, E. Cho, The Northeast Regional Operational Workshop (NROW), Albany, NY, November 6-7, 2019 (Talk)

21 The Value of Long-term (40 years) Airborne Gamma Radiation SWE record: Evaluating SSMI/S, Globsnow-2, and UA SWE over the CONUS, E. Cho, J. M. Jacobs, C. Vuyovich, 2019 SnowEx workshop. Baltimore, MD, Sep 17-18, 2019. (Poster)

20 Trend and Design of Annual Maximum Snowmelt Events over the Conterminous United States (CONUS), **E. Cho**, J. M. Jacobs, *The 76th Eastern Snow Conference (ESC), Fairlee, VT, 4-6 Jun 2019. (Poster)*

2018

19 Mapping Agricultural Tile Drainage Expansion from Satellite-based Vegetation and Thermal Data Using Google Earth Engine Machine Learning, **E. Cho**, J. M. Jacobs, Xinhua Jia, Simon Kraatz, *2018 AGU Fall Meeting. Washington DC, Dec 2018. (Talk)*

18 Evaluation and Application of Remotely Sensed Soil Moisture for Snowmelt Flood Predictions in the Red River of the North Basin, **E. Cho**, J.M. Jacobs, R. Schroeder, S.E. Tuttle, C. Olheiser, *The 5th Satellite Soil Moisture Val/App Workshop, George Mason University, Fairfax, VA, Oct 24-25, 2018. (Talk)*

17 Improvement of airborne gamma radiation snow water equivalent estimations with spaceborne soil moisture observations, **E. Cho**, J.M. Jacobs, S. Tuttle, R. Schroeder, C. Olheiser, *The 75th Eastern Snow Conference (ESC), College Park, MD, 6-8 Jun 2018. (Talk)*

16 2018 Hubbard Brook Field Experiment: Snow Observations in a North-Eastern U.S. Forested Region, C. Vuyovich, A. Langlois, A. Roy, T. Letcher, J. Jacobs, J. Parno, R. Schroeder, S. Kraatz, Z. Courville, ***E. Cho***. *The 75th Eastern Snow Conference (ESC), College Park, MD, 6-8 Jun 2018. (Talk)*

2017

15 Tile Drainage Expansion Detection using Satellite Soil Moisture Dynamics, Jennifer M. Jacobs, Eunsang Cho, Xinhua Jia, *AGU Fall Meeting, New Orleans, LA, Dec 2017. (Talk)*

14 Detection of the Timing of Snowmelt using In-situ Snow Temperature and Wetness Signals and Satellite Microwave Measurements, **E. Cho**, R. Schroeder, C. M. Vuyovich, J. M. Jacobs, *The 74th Eastern Snow Conference (ESC), Ottawa, Canada, 6-8 Jun 2017. (Poster)*

2016

13 Comparison between AMSR2 and AMSR-E Snow Water Equivalent using SSM/I over the North Central U.S., **E. Cho**, S. Tuttle, J. M. Jacobs, *The 73rd Eastern Snow Conference (ESC), Columbus, Ohio, 14-16 June 2016. (Poster)*

12 Comparison of Satellite Passive Microwave, Airborne Gamma Radiation Survey, & Ground Survey SWE Estimates in the Northern Great Plains, S. Tuttle, ***E. Cho***, C. Vuyovich, C. Olheiser, and J. M. Jacobs, *The 73rd Eastern Snow Conference (ESC), Columbus, Ohio, 14-16 June 2016. (Talk)*

2013 - 2015

11 Intercomparison of AMSR2 and AMSR-E Soil Moisture Retrievals with MERRA-L data set over Australia, **E. Cho**, M.Choi, C.-H. Su, D. Ryu, H. Kim, J. M. Jacobs, *2015 AGU Fall Meeting, San Francisco, USA, 2015. (Poster)*

10 Applicability of Spatio-temporal Soil Moisture Monitoring based on Satellite Microwave Sensor in the Korean peninsula, **E. Cho**, M. Choi, *Smart Water Grid International Conference 2014, Incheon, South Korea. 25-27 Nov 2014. (Talk)*

9 Links between soil moisture and meteorological variables with seasonality in the northeast Asia, A. Zhang, ***E. Cho***, M. Choi, *The 3rd Remote Sensing and Hydrology Symposium & 3rd International Conference of GIS and Remote Sensing in Hydrology, Water Resources and Environment, Guangzhou, China. 24-27 Aug 2014. (Poster)*

8 Validation Study of Active Microwave Soil Moisture Products in Korea and Brazil, **E. Cho**, G. A. Vasconcelos, M. Choi, *3rd International Conference on Civil Engineering and Architecture (ICCEA 2014), Campinas City, Brazil. 30 July–1 Aug 2014. (Poster)*

7 Evaluating harmonized multi-satellite surface soil moisture in the Korea peninsula, **E. Cho**, M. Choi, *International Symposium on Remote Sensing (ISRS) 2014, The Pukyong National University Daeyeon Campus, Busan, South Korea. 16-18 Apr 2014. (Talk)*

6 Soil moisture estimation through Active and Passive sensors: An intercomparison and validation study in Northeast Asia, **E. Cho**, M. Choi, *2013 AGU Fall Meeting, San Francisco, Dec 2013. (Poster)*

5 Comparison and Validation study of Soil Moisture using AMSR-E and ASCAT sensors in Korea peninsula, **E. Cho**, M. Choi, *Chuncheon Global Water Forum, Chuncheon, South Korea. 12-13 Sep 2013.*

(Talk, In Korean)

4 Soil moisture estimations through SMOS and ASCAT sensors: An intercomparison and validation study in Korea, M. Choi, ***E. Cho***, *2013 Satellite soil moisture validation & application workshop, Frascati, Italy. 1 – 3 Jul 2013. (Poster)*

3 ASCAT Soil moisture: Evaluation of the Meteorological Operation (Metop) Satellite for the East Asia, **E. Cho**, M. Choi, 2013, *The 6th Civil engineering conference in the Asian Region (CECAR). Jakarta, Indonesia. 20 – 22 Aug 2013. (Poster)*

2 Validation Study on Soil Moisture Using Satellite Remote Sensing Active/Passive sensors in Korea, M. Choi, ***E. Cho***, 2013, *Proceedings of Korea Water Resources Association. pp.89, (Poster, In Korean)*

1 Validation Study on Soil Moisture measured at Metop Satellite On-board ASCAT in Korea, M. Choi, ***E. Cho***, 2013, *Proceedings of Korean Society of Hazard Mitigation. pp.210. (Poster, In Korean)*

Technical Skills

Programming Language: R, MATLAB, Linux Shell script, Fortran, JavaScript, IDL, Python
Software & System: Google Earth Engine (GEE), ArcGIS, ENVI