Dr. Shuang-Ye Wu

University of Dayton

Department of Geology

(937) 229-1720

Email: swu001@udayton.edu

## Education

Ph D, University of Cambridge, 2000.

Major: Geography

MS, University of Cambridge, 1996.

Major: Geography

MA, Beijing Foreign Studies University, 1994.

Major: Linguistics

BA, Nanjing University, 1991.

Major: English

# Professional Appointments

|  |  |
| --- | --- |
| 2019 – | Professor, Chair, Department of Geology, University of Dayton |
| 2013 – 2019 | Associate Professor, Department of Geology, University of Dayton |
| 2007 – 2013 | Assistant Professor, Department of Geology, University of Dayton |
| 2004 – 2007 | Visiting Assistant Professor, Department of Geology, University of Dayton |
| 2003 – 2004 | Visiting Assistant Professor, Department of Environmental Studies, Gettysburg College |
| 1999 - 2003 | Post-doctoral Research Associate, the Environmental Resource Research Institute, Pennsylvania State University |
| 1994 - 1995 | Program officer in the Department of International Cooperation of the National Environmental Protection Agency, Beijing, China |

## Professional Memberships

Geological Society of America. (July 1, 2011 - Present).

American Geophysical Union. (September 1, 2010 - Present).

American Water Resources Association. (December 15, 2009 - Present).

Association of American Geographers. (September 1, 2001 - Present).

## Awards and Honors

University of Dayton Award for Faculty Scholarship (2020)

University of Dayton College of Arts and Sciences Award for Outstanding Scholarship (2020)

Southwestern Ohio Council for Higher Education Faculty Excellence Award in Scholarship (September, 2019)

## TEACHING

**Courses taught**

* Applied Geographical Information Systems
* Advanced Geographical Information Systems
* Geographical Information Systems Capstone
* The Earth System and the Global Environmental Change
* The Dynamic Earth
* Principles of Geography
* Geology Seminar

## RESEARCH

## Published Intellectual Contributions

Journal Articles

Bedaso, Z., & Wu, S. Y. (2021). Linking precipitation and groundwater isotopes in Ethiopia-Implications from local meteoric water lines and isoscapes. Journal of Hydrology, 596, 126074.

Bedaso, Z., & Wu, S. Y. (2020). Daily precipitation isotope variation in Midwestern United States: Implication for hydroclimate and moisture source. Science of The Total Environment, 713, 136631.

Li, Y., An, W., Pang, H., Wu, S. Y., Tang, Y., Zhang, W., & Hou, S. (2020) Variations of stable isotopic composition in atmospheric water vapor and their controlling factors–a six‐year continuous sampling study in Nanjing, Eastern China. Journal of Geophysical Research: Atmospheres, e2019JD031697.

Liu, K., Hou, S., Wu, S., Zhang, W., Zou, X., Yu, J., ... & Wang, J. (2020). Assessment of heavy metal contamination in the atmospheric deposition during 1950–2016 AD from a snow pit at Dome A, East Antarctica. Environmental Pollution, 115848.

Pang, H., Hou, S., Zhang, W., Wu, S., Jenk, T. M., Schwikowski, M., & Jouzel, J. (2020). Temperature trends in the northwestern Tibetan Plateau constrained by ice core water isotopes over the past 7,000 years. Journal of Geophysical Research: Atmospheres, 125(19), e2020JD032560.

Liu, K., Hou, S., Wu, S., Pang, H., Zhang, W., Song, J., ... & Wang, J. The atmospheric iron variations during 1950–2016 recorded in snow at Dome Argus, East Antarctica. Atmospheric Research, 248, 105263.Bedaso, Z., & Wu, S.-Y. (2020). Daily precipitation isotope variation in Midwestern United States: Implication for hydroclimate and moisture source. *Science of The Total Environment*, 136631.

Zou, X., Hou, S., Wu, S-Y., Zhang, W., Liu, K., Yu, J., Liu, Y. & Pang, H. (2020). An assessment of natural and anthropogenic trace elements in the atmospheric deposition during 1776–2004 AD using the Miaoergou ice core, eastern Tien Shan, China. *Atmospheric Environment*, 221, 117112.

Bedaso, Z. K., DeLuca, N. M., Levin, N. E., Zaitchik, B. F., Waugh, D. W., Wu, S. Y., Harman, C. J. & Shanko, D. (2019). Spatial and temporal variation in the isotopic composition of Ethiopian precipitation. *Journal of Hydrology*, 124364.

Yuan, W., Wu, S. Y., Hou, S., Xu, Z., & Lu, H. (2019). Normalized Difference Vegetation Index‐based assessment of climate change impact on vegetation growth in the humid‐arid transition zone in northern China during 1982–2013. *International Journal of Climatology*, 39(15), 5583-5598.

Bedaso, Z. K., Wu, S.-Y., Johnson, A. N., & McTighe, C. (2019). Assessing groundwater sustainability under changing climate using isotopic tracers and climate modelling, southwest Ohio, USA. *Hydrological Sciences Journal*, 1-10. DOI:10.1080/02626667.2019.1606429

Pang, H., Hou, S., Landais, A., Masson‐Delmotte, V., Jouzel, J., Steen‐Larsen, H. C., Wu S.-Y. & An, C. (2019). Influence of Summer Sublimation on δD, δ18O, and δ17O in Precipitation, East Antarctica, and Implications for Climate Reconstruction From Ice Cores. *Journal of Geophysical Research: Atmospheres*, 124(13), 7339-7358.

Hou, S., Zhang, W., Pang, H., Wu, S.-Y., Jenk, T. M., Schwikowski, M., & Wang, Y. (2019). Apparent discrepancy of Tibetan ice core δ 18 O records may be attributed to misinterpretation of chronology. *The Cryosphere*, 13(6), 1743-1752.

Wu, Y., Hou, S., Wu, S.-Y., Pang, H., Liu, K., & Yu, J. (2019) Analysis of spatial-temporal variation and influencing factors of net primary productivity in the Southern Ocean. *Polar Research* 31(3):322-333.

Wu, S.-Y., Wu, Y., & Wen, J. (2019). Future changes in precipitation characteristics in China. *International Journal of Climatology*, 39(8), 3558-3573.

Wu, Y., Ji, H., Wen, J., Wu, S.-Y., Xu, M., Tagle, F., Duan, W., Li, J. (2018). The characteristics of regional persistent heavy precipitation events over eastern monsoon China during 1960-2013. *Global and Planetary Change*, 172, pp.414-427.

Liu, K., Hou, S., Zhang, W., Wu, S.-Y., Zou, X., Pang, H., Yu, J., Jiang, X., Wu, Y. (2018). Dissolved iron concentration in the recent snow of the Lambert Glacial Basin, Antarctica. *Atmospheric Environment*, 196, 44-52. doi.org/10.1016/j.atmosenv.2018.10.011

Hou, S., Jenk, T. M., Zhang, W., Wang, C., Wu, S.-Y., Wang, Y., Pang, H., Schwikowski, M. (2018). Age ranges of the Tibetan ice cores with emphasis on the Chongce ice cores, western Kunlun Mountains. *The Cryosphere, 12*(7), 2341-2348.

Xu, Z., Hu, R., Wang, K., Mason, G., Wu, S.-Y., Lu, H. (2018). Recent greening in the Mu Us dune field, north-central China, and its potential causes. *Land Degradation and Development*, 29:1509–1520, https://doi.org/10.1002/ldr.2910.

An, W., Hou, S., Zhang, Q., Zhang, W., Wu, S.-Y., Xu, H., Pang, H., Wang, Y., Liu, Y. (2017). Enhanced recent local moisture recycling on the northwestern Tibetan Plateau deduced from ice core deuterium excess records. *Journal of Geophysical Research: Atmospheres, 122*(23), 12,541–12,556.

Wang, Y., Thomas, E. R., Hou, S., Huai, B., Wu, S.-Y., Sun, W., Qi, S., Ding, M., Zhang, Y. (2017). Snow accumulation variability over the West Antarctic Ice Sheet since 1900: a comparison of ice core records with ERA-20C reanalysis. *Geophysical Research Letters, 44*(22), 11,482–11,490.

Zhang, W., Hou, S., Liu, Y., Wu, S.-Y., An, W., Pang, H., Wang, C. (2017). A high-resolution atmospheric dust record for 1810‐2004 AD derived from an ice core in eastern Tien Shan, Central Asia. *Journal of Geophysical Research: Atmospheres*.

Wu, S.-Y., Hou, S. (2017). Impact of icebergs on the net primary productivity of the Southern Ocean. *The Cryosphere, 11*, 707-722.

An, W., Hou, S., Hu, Y., Wu, S.-Y. (2017). Delayed warming hiatus over Tibetan Plateau. *Earth and Space Science, 4*(3), 128–137.

Zhang, M., Du, S., Wu, Y., Wen, J., Wang, C., Wu, M., Wu, S.-Y. (2017). Spatiotemporal changes in frequencies and intensities of high temperature events in China over 1961–2010. *Journal of Geographic Sciences, 27*(9), 1027-1043.

Boyle, J., Sheets, D., Wu, S.-Y., Goldman, D., Melchin, M., Cooper, R., Sadler, P., Mitchell, C. (2017). The impact of geographic range, sampling, ecology, and time on extinction risk in the volatile clade Graptoloidea. *Paleobiology, 43*(1), 85-113.

Jia, X., Yi, S., Sun, Y., Wu, S.-Y., Lu, H. (2017). Spatial and temporal variations in prehistoric human settlement and their influencing factors on the south bank of the Xar Maron River, Northeast China. *Frontiers of Earth Science, 11*(1), 137-147.

Wu, Y., Wu, S.-Y., Wen, J., Tagle, F., Wu, M., Tan, J. (2016). Future changes in mean and extreme monsoon precipitation in the Middle and Lower Yangtze River Basin, China in the CMIP5 Models. *Journal of Hydrometeorology, 17*(11), 2785-2797.

Jia, X., Sun, Y., Wang, L., Sun, W., Zhao, Z., Huang, W., Lu, H., Wu, S.-Y. (2016). The transition of human subsistence strategies in relation to climate change during the Bronze Age in the West Liao River Basin, Northeast China. *The Holocene, 26*(5), 781-789.

An, W., Hou, S., Zhang, W., Wang, Y., Liu, Y., Wu, S.-Y., Pang, H. (2016). Significant recent warming over the northern Tibetan Plateau from ice core δ18O records. *Climate of the Past, 12*, 201-211.

An, W., Hou, S., Zhang, W., Wu, S., Xu, H., Pang, H., Wang, Y., & Liu, Y. (2016). Possible recent warming hiatus on the northwestern Tibetan Plateau derived from ice core records. *Scientific Reports*, 6, 32813.

Zhao, L., Ma, C., Mao, L., Tang, L., Liu, K.-b., Zhang, Y., Lu, H., Wu, S.-Y. (2016). Investigation of peat sediments from the Daiyun Mountain in the southeast China: late Holocene vegetation, climate and human impacts. *Vegetation History and Archaeobotany, 25*(4), 359–373.

Wu, Y., Wu, S.-Y. (2015). Changing Characteristics of Precipitation in China during 1951-2013. *International Journal of Climatology*. 10.1002/joc.4432

Tang, Y., Pang, H., Zhang, W., Li, Y., Wu, S.-Y., Hou, S. (2015). Effects of changes in moisture source and the upstream rainout on stable isotopes in summer precipitation — a case study in Nanjing, East China. *Hydrology and Earth System Science, 19*, 4293-4306.

Wu, S.-Y. (2015). Changing characteristics of precipitation in conterminous USA. *Climatic Change*. 10.1007/s10584-015-1453-8

Shi, J., Lu, H., Shi, S., Hou, X., Wu, S.-Y., Li, L. (2015). Tree-ring based February-April precipitation reconstruction for the lower reaches of the Yangtze River, southeastern China. *Global and Planetary Change, 131*(2015), 82-88. 10.1016/j.gloplacha.2015.05.006

Sun, X., Li, Y., Feng, X., Lu, C., Yi, S., Lu, H., Wang, S., Wu, S.-Y. (2015). Pedostratigraphy of eolian deposition near Yunxian Man site on the Hanjiang River terraces at Yunxian Basin, central China. *Quaternary International*. *400*, pp.187-194. dx.doi.org/10.1016/j.quaint.2015.05.034

Davis, J., Wu, S.-Y., McEwan, R. (2015). Spatiotemporal dynamics of coarse woody debris in an old-growth temperate deciduous forest. *Forest Science, 61*(2), 680-688. dx.doi.org/10.5849/forsci.14-156

Zhang, L., Fan, J., Chen, Q., Wu, S.-Y. (2014). Reconstruction of the Hirnantian (Late Ordovician) palaeotopography in the Upper Yangtze region, South China. *Estonian Journal of Earth Sciences, 63*(4), 329-334.

Chen, Y., Lu, H., Zhang, E., Zhang, H., Xua, Z., Yi, S., Wu, S.-Y. (2014). Test stable carbon isotopic composition of soil organic matters as a proxy indicator of past precipitation: study of the sand fields in northern China. *Quaternary International*, *372*, pp.79-86.

Wu, S.-Y., Miller, A. I. (2014). The shortest distance between two points isn’t always a great circle: getting around land masses in the calibration of marine geodisparity. *Paleobiology, 40*(3), 428–439.

Boyle, J., Sheets, D., Wu, S.-Y., Goldman, D., Melchin, M., Cooper, R., Sadler, P., Mitchell, C. (2013). A Reexamination of the contributions of biofacies and geographic range to extinction risk in Ordovician graptolites. *GFF*, *136*(1), pp.38-41.

Fan, J., Chen, Q., Hou, X., Miller, A. I., Melchin, M. J., Shen, S., Wu, S.-Y., Goldman, D., Mitchell, C. E., Yang, Q., Zhang, Y., Zhan, R., Wang, J., Leng, Q., Zhang, H., Zhang, L. (2013). Geobiodiversity Database: a comprehensive section-based integration of stratigraphic and paleontological data. *Newsletters on Stratigraphy, 46*(2), 111-136.

Zhang, L., Fan, J., Melchin, M. J., Chen, Q., Wu, S.-Y., Goldman, D., Mitchell, C. M., Sheets, D. (2013). The applications of species distribution models in palaeontology. *Acta Palaeontologica Sinica, 52*(2), 146-160.

Goldman, D., Mitchell, C. E., Melchin, M. J., Wu, S.-Y., Fan, J., Sheets, H. D. (2011). Biogeography and mass extinction: Extirpation and re-invasion of *Normalograptus* species (*Graptolithina*) in the Late Ordovician palaeotropics. *Proceedings of the Yorkshire Geological Society/The Geological Society, 58*(4), 227-246. pygs.lyellcollection.org/site/subscriptions/

Fan, J., Zhang, H., Hou, X., Wu, S.-Y., Shen, S., Yang, Q., Wang, Y., Luo, H., Leng, Q., Zhang, Y., Zhan, R., Chen, Q. (2011). Quantitative Research Trends of Palaeobiology and Stratigraphy – Construction of the Geobiodiversity Database (GBDB) using EScience Technology. *Acta Palaeontologica Sinica, 50*(2), 141-153.

Wu, S-Y. (2010). Projecting Extreme Precipitation for Great Miami River Watershed, Ohio. In GIS and Water Resources: Proceedings of the American Water Resources Association 2010 Spring Specialty Conference, March 29-31, 2010, Orlando, Florida, pp. 372-384.

Wu, S.-Y. (2010). Potential impacts of climate change on flood risk of the Great Miami Watershed, Oh. *Hydrological Science Journal, 55*(8), 1251-1263.

Wu, S.-Y., Najjar, R., Siewert, J. (2009). Potential Impacts of Sea-level Rise on the Mid- and Upper-Atlantic Region of the United States. *Climatic Change*.

Wu, S.-Y., Yarnal, B., Fisher, A. (2002). Vulnerability of coastal communities to sea-level rise, a case study of Cape May County, New Jersey. *Climate Research, 22*(3), 255-270.

Book Chapters

Wu, S-Y. (2012). Projecting changes in extreme precipitation in the Midwest using North American Regional Climate Change Assessment Program (NARCCAP) regional climate models. In Liu, G. ed. *Greenhouse Gases - Emission, Measurement and Management*, INTECH.

Wu, S-Y, Najjar, R. (2011). Potential impacts of sea level rise on the Atlantic and the Gulf of Mexico Coast of the United States. In Wright, L. (ed.) *Sea-Level Rise, Coastal Engineering, Shorelines and Tides*. Nova Science Publishers Inc.

Wu, S-Y. (2010). Projecting Extreme Precipitation for Great Miami River Watershed, Ohio. In *GIS and Water Resources*: Proceedings of the American Water Resources Association 2010 Spring Specialty Conference, March 29-31, 2010, Orlando, Florida, pp. 372-384.

Goldman, D, and Wu, S-Y. (2010). Paleogeographic, Paleoceanographic, and Tectonic Controls on Early Late Ordovician Graptolite Diversity Patterns. In S.C. Finney and W.B.N. Berry eds., *The Global Ordovician Earth System*. Geological Society of America Special Paper 466: 149-161.

Lane, S.N., Richards, K.S., Sinha, S. and Wu, S-Y. (1999). Screw the lid even tighter? Water pollution and the enforcement of environmental regulation in India. Chapter 14 in Trudgill, S.T. and Webb, B.W. (eds) *Water Quality: Process and Policy*, Wiley, Chichester, 233-55.

Others

Hesham, R., Eustace, D., Wu, S.-Y. (2017). *Spatial Analysis of Alcohol-Related Traffic Crashes in Ohio*. The Hague: 6th International Conference on Road Safety and Simulation (RSS2017).

Eustace, D., Sowjanya, P., Wu, S.-Y. (2013). *Identifying Locations with High Rates of Alcohol Related Traffic Crashes in Ohio*. Rome: 4th International Conference on Road Safety and Simulation (RSS2013).

Kavanaugh, J. L., Geiger, D. R., Wu, S.-Y. (2012). *Miami Valley Hospital Wetland Mitigation Project, Monitoring Report Year Four. 2012*. Columbus, Ohio/OHEPA.

Wu, S.-Y., Asher, A., Davis, T. (2011). *Estimating the Carbon Sink of Wright Patterson Air Force Base using Remotely Sensed Data*. Dayton, Ohio.

Wu, S.-Y. (2010)., *Projecting extreme precipitation for Great Miami Watershed, Ohio*. American Water Resources Association: American Water Resources Association 2010 Spring Specialty Conference on GIS and Water Resources.

Kavanaugh, J. L., Geiger, D. R., Wu, S.-Y., Goldman, D. (2008). *Hobart Urban Nature Preserve, Wetland Monitoring Report, Year Three.*. Columbus, OH/OHEPA.

Kavanaugh, J. L., Geiger, D. R., Wu, S.-Y., Goldman, D. (2006). *Biological and Hydrological Characteristics of the Miami County Park District’s Eight-Acre Parcel Near Silver Lake, Bethel Township, Miami County, Ohio.* (pp. 48). Columbus, OH/OHEPA.

Kavanaugh, J. L., Geiger, D. R., Wu, S.-Y., Goldman, D. (2006)., *2006. Hobart Urban Nature Preserve, Wetland Monitoring Report, Year One.* (pp. 37). Columbus, OH/OHEPA.

## Grants and Sponsored Research (Total $1,837,337)

Hou, S. (Principal), Wu, S.-Y. (Co-Principal), Wang, Y. (Co-Principal) “The age of Tibetan ice cores and the estimation of glacial retreat in the Holocene,” Sponsored by Natural Science Foundation of China, International, $552,620 (Jan. 1, 2019 – Dec. 31, 2023).

Hou, S. (Principal), Wu, S.-Y. (Co-Principal) Grant, "Decipher the Holocene temperature conundrum on the Tibetan Plateau by the Tibetan ice core records", Natural Science Foundation of China, International, $156,000.00, Funded. (December 15, 2018 - December 15, 2021).

Wu, S.-Y. (Principal), Xu, Z. (Co-Principal), "Potential impact of climate change on desertification in Northern China," Sponsored by Natural Science Foundation of China, International, $130,000.00. (December 15, 2015 - December 15, 2019).

Wu, S.-Y. (Principal) “Climatic controls over the variation in the stable isotopic compositions of convective vs. stratiform precipitation in Ethiopia” Sponsored by University of Dayton Research Council, $6,500. (December 15, 2018 – August 15, 2019).

Wu, S.-Y. (Principal), Agnew, C. (Co-Principal), John, B. (Co-Principal), "Environment and Sustainable Development in China: An integrated approach from environmental science, economics and history," Sponsored by Global Education Fellow Program, University of Dayton, $18,115.00. (August 15, 2016 - August 15, 2017).

Wu, S.-Y. (Principal), Bedaso, Z. (Co-Principal) "Assessing the impact of climate change on the sustainability of groundwater resource in the Dayton region – an interdisciplinary approach," Sponsored by Hanley Sustainability Institute, University of Dayton, $23,988.00. (May 1, 2016 - May 31, 2017).

Wu, S.-Y. (Principal) “The impact of biogeography on the diversity of Ordovician-Silurian graptolites in South China” Sponsored by China Academy of Sciences Nanjing Institute of Geology and Paleontology, International, $25,500. (July 1, 2014 – June 30, 2015).

Goldman, D. (Principal), Wu, S.-Y. (Co-Principal), Mitchell, C. E. (Co-Principal), Melchin, M. J. (Co-Principal), Sheets, H. D. (Co-Principal), "Collaborative Research: Graptolite Biogeography, Paleo-GIS, and Evolutionary Dynamics of Early Paleozoic Zooplankton," Sponsored by National Science Foundation, Federal, $465,584.00. (June 1, 2010 - May 31, 2016).

Asari, V. K. (Co-Principal), Skill, T. D. (Principal), Wu, S.-Y. (Co-Principal), Browning, C. E. (Co-Principal), Sarangan, A. M. (Co-Principal), "CC-NIE Network Infrastructure: Network 10Gb Upgrade and Science DMZ Implementation to Support Science and Engineering Research and Enhance Outreach for High School STEM Education," Sponsored by National Science Foundation (NSF), Federal, $232,788.00. (December 2013 - November 2015).

Wu, S.-Y., "Impacts of climate change on stream quality in Great Miami River watershed, Ohio," Sponsored by University of Dayton Research Council, University of Dayton, $6,000.00. (December 15, 2010 - August 15, 2011).

Wu, S.-Y. (Principal), "Modeling Paleobiogeographic Range of Species with Geographic Information Systems (GIS)," Sponsored by University of Dayton Research Institute, University of Dayton, $6,000.00. (December 15, 2009 - December 15, 2010).

Wu, S.-Y. (Co-Principal), Sidhu, S. (Principal), "Carbon Sequestration: Using GIS to Develop a Negative Carbon Footprint for an Air Force Base," Sponsored by Wright Patterson Air Force Base, Local, $50,000.00. (August 1, 2008 - July 31, 2010).

Wu, S.-Y. (Principal), "Projecting Future Extreme Precipitation for Ohio," Sponsored by University of Dayton Research Institute, University of Dayton, $6,000.00. (November 15, 2008 - November 15, 2009).

Wu, S.-Y. (Principal), "Community vulnerability to flooding under the changing climate," Sponsored by UD SEE program, University of Dayton, $10,000.00. (March 31, 2008 - December 31, 2008).

Wu, S.-Y. (Principal), "Potential climatic change in the Great Miami River Watershed," Sponsored by University of Dayton Research Institute SEED grant, University of Dayton, $6,000.00. (January 1, 2008 - December 31, 2008).

Wu, S.-Y. (Supporting), "Spatially explicit sea-level rise and inundation estimates for the Mid-Atlantic Region," Sponsored by National Oceanic and Atmospheric Administration, Federal, $140,822.00. (March 31, 2008).

Kavanaugh, J. L. (Co-Principal), Geiger, D. R. (Co-Principal), Goldman, D. (Co-Principal), Wu, S.-Y. (Co-Principal), "Monitoring the Ecological Restoration of a Mitigation Wetland," Sponsored by Miami Valley Hospital, Private, $76,560.00. (August 8, 2007 - December 31, 2013).

Kavanaugh, J. L. (Co-Principal), Geiger, D. R. (Co-Principal), Goldman, D. (Co-Principal), Wu, S.-Y. (Co-Principal), "Wetland Mitigation at Hobart Urban Nature Preserve," Sponsored by Miami County Park District, Local, $20,000.00. (June 25, 2005 - December 31, 2010).

Wu, S.-Y. (PI), "Potential Impacts of climate change on the mid-Atlantic Coast," Sponsored by Consortium for the Atlantic Regional Assessment, Pennsylvania State University, Federal, $35,332.00. (September 1, 2004 - August 31, 2005).

## Presentations Given

Invited Talks (16)

Wu, S.-Y., Invited Lecture, "The Science of Climate Change", the Oakwood Rotary Club, Oakwood, Ohio. (November 16, 2018).

Wu, S-Y., Global climate change: impact and adaptation, Great Decisions Series, University of Dayton. (January 28, 2018).

Wu, S.-Y., "Extreme precipitation under a warming climate: mechanisms and projections," Shanghai Normal University, Shanghai, China. (July 26, 2017).

Wu, S.-Y., "Global climate change and its potential impacts," Rotary Club, Dayton, Ohio. (May 15, 2017).

Wu, S-Y., Global climate change, Great Decisions Series, University of Dayton. (November 1, 2016).

Wu, S.-Y., "Climate Change and the Hydrological Cycle," School of Geographic and Oceanic Sciences, Nanjing University, Nanjing, China. (January 15, 2015).

Wu, S-Y. (2014) Global climate change: impacts and adaptation. School of Sustainable Design, Tongji University, Shanghai, China. (November 26, 2014)

Wu, S.-Y., Annual Meeting of Geological Society of America, "Analytical functions in Geobiodiversity database," GSA, Vancouver, Canada. (October 18, 2014).

Wu, S.-Y., Centerville Library, Take on Global Issues Series, "Weather & Climate: the basic science." (March 11, 2014).

Wu, S.-Y., Quantitative methods in Stratigraphy and Paleontology, "Using R for quantitative analysis in paleontology," Nanjing Institute of Geology and Paleontology, Nanjing, China. (July 30, 2013).

Wu, S-Y. (2012). Potential impact of climate change on extreme precipitation and flooding. Department of Geography, Shanghai Normal University, Shanghai, China. July 23, 2012.

Wu, S.-Y., Quantitative Methods in Paleontology and Stratigraphy, "Use of Geographic Information Systems in Paleontology," Nanjing Institute of Geology and Paleontology, China Academy of Science, Nanjing, China. (July 21, 2010).

Wu, S.-Y., Miami University Department of Botany Seminar, "Precipitation pattern of Ohio, present and future," Miami University Department of Botany, Oxford, Ohio. (March 26, 2010).

Wu, S.-Y., CAS Dean's dinner for women faculty, "Impacts of sea level rise on Atlantic Coast," UD CAS, Dayton. (November 18, 2008).

Wu, S.-Y., Climate Change of the Great Lake Region, Michigan State University, East Lansing, Michigan. (April 9, 2008).

Wu, S.-Y., Environmental Cafe, "Statistical downscaling of GCM output for hydrological assessment," UD SEE program, Dayton. (February 29, 2008).

Professional conferences (43, 26 since 2010 listed below)

Wu, S.-Y. (Presenter & Author), Yuan, W. (Author Only), Hou, S. (Author Only), Poster, American Geophysical Union Fall Meeting 2019, American Geophysical Union, San Francisco, "Projecting future vegetation change for Northeast China using CMIP6 Models", Presenter/Lecturer, Academic, International, Peer-reviewed/refereed, Published in proceedings. (December 10, 2019).

Bedaso, Z. (Presenter & Author), Wu, S.-Y. (Author Only), Poster, American Geophysical Union Fall Meeting 2019, American Geophysical Union, San Francisco, " Daily Precipitation Isotope Variation in Midwestern United States: Implication for Hydroclimate and Moisture Sources", Presenter/Lecturer, Academic, International, Peer-reviewed/refereed, Published in proceedings. (December 10, 2019).

Wu, S.-Y. (Presenter & Author), Bedaso, Z. (Author Only), McTighe, C. (Author Only), Poster, Annual Meeting of the Geological Society of America, GSA, Indianapolis, IN, "Climatic Controls on the Stable Isotopic Composition of Precipitation in Ethiopia", Geological Soceity of America, Indianapolis, IN. (November 5, 2018).

Johnson, A. (Presenter & Author), Bedaso, Z. (Author Only), Wu, S.-Y. (Author Only), McTighe, C. (Author Only), Northeast and North Central section meeting of Geological Society of America, "Quantifying seasonal groundwater recharge under changing climate in Dayton, OH: an isotope mass balance approach," Geological Society of America, Pittsburgh, PA. (March 21, 2017).

Yuan, W., Wu, S.-Y., Annual Meeting of American Geophysical Union, "Vegetation change of sand fields in Northern China 1982-2013," American Geophysical Union, San Francisco. (December 12, 2016).

Johnson, A. (Presenter & Author), McTighe, C. (Presenter & Author), Bedaso, Z., Wu, S.-Y., HSI 2nd annual research meeting, "Assessing the impact of climate change on the sustainability of groundwater resource in the Dayton area," Hanley Sustainability Institute, Dayton, OH. (November 3, 2016).

Wu, S.-Y., Hou, S., International partnerships in ice core sciences second open science conference, "Impact of Icebergs on Net Primary Productivity in the Southern Ocean," International partnerships in ice core sciences, Hobart, Australia. (March 8, 2016).

Wu, S.-Y. (Presenter & Author), Wu, Y. (Author Only), Annual Meeting of American Geophysical Union, "Changing Characteristics of Precipitation in China," American Geophysical Union, San Francisco, CA. (December 17, 2015).

Wu, S.-Y. (Presenter & Author), Wu, Y. (Author Only), Annual Meeting of Association of American Geographers, "Changes in Precipitation over China 1960-2012," Association of American Geographers, Chicago, IL. (April 23, 2015).

Boyle, J. (Presenter & Author), Wu, S.-Y. (Author Only), Goldman, D. (Author Only), Melchin, M. J. (Author Only), Sheets, H. D. (Author Only), Mitchell, C. E. (Author Only), The Geological Society of America Annual Meeting, "Distinguishing sampling and ecologic effects on geographic range and duration in graptolites," The Geological Society of America, Vancouver, Canada. (October 21, 2014).

Wu, Y. (Presenter & Author), Wu, S.-Y. (Author Only), Annual Meeting of Association of American Geographers, "Changing characteristics of precipitation in China." (April 9, 2014).

Wu, Y. (Presenter & Author), Wu, S.-Y. (Author Only), American Geophysical Union Annual Fall Meeting, "Historical trends in mean and extreme precipitation in China," American Geophysical Union, San Francisco, USA. (December 10, 2013).

Eustace, D. (Presenter & Author), Ponnada, S. (Author Only), Wu, S.-Y. (Author Only), 4th International Conference on Road Safety & Simulation (RSS2013), "Identifying Locations with High Rates of Alcohol Related Traffic Crashes in Ohio," Roma Tre University, Rome, Italy. (October 24, 2013).

Boyle, J. (Author Only), Sheets, D. (Author Only), Wu, S.-Y. (Presenter & Author), Goldman, D. (Author Only), Melchin, M. (Author Only), Cooper, R. (Author Only), Sadler, P. (Author Only), Mitchell, C. (Author Only), NSF-NSFC Critical Transitions Workshop, "The contributions of geographic range to extinction risk in Ordovician graptolites," National Science Foundation and National Science Foundation of China, Kunming, China. (August 5, 2013).

Boyle, J. (Presenter & Author), Mitchell, C. (Author Only), Sheets, D. (Author Only), Wu, S.-Y. (Author Only), International Geoscience Programme Project 591 3rd Annual Meeting, "Reexamining the factors contributing to extinction risk in Ordovician graptolites," IGCP, Lund, Sweden. (June 9, 2013).

Wu, S.-Y. (Presenter & Author), American Geophysical Union annual meeting, "Historical trends in the extreme precipitation in the USA," American Geophysical Union, San Francisco, CA. (December 4, 2012).

Oxman, M. (Presenter & Author), Goldman, D. (Author Only), Jaak, N. (Author Only), Wu, S.-Y. (Author Only), The Geologial Society of America Annual Meeting, "Ordovician chitinozoan biogeography and paleoecology: examining the effect of habitat on species longevity," The Geologial Society of America, Charlotte, North Carolina. (November 6, 2012).

Sheets, D. (Presenter & Author), Goldman, D. (Author Only), Wu, S.-Y. (Author Only), Mitchell, C. (Author Only), The Geologial Society of America Annual Meeting, "One hundred years of range charts: extracting and managing taxonomic presence-absence data," The Geologial Society of America, Charlotte, North Carolina. (November 4, 2012).

Goldman, D., Wu, S.-Y. (Author Only), Mitchell, C. E. (Author Only), Melchin, M. J. (Author Only), Fan, J. (Author Only), Sheets, H. D. (Author Only), Geological Society of America North Central Section, "Biogeography and Mass Extinction: Extirpation and re-invasion of *Normalograptus* species (Graptolithina) in the Late Ordovician Palaeotropics.," Geological Society of America, Dayton, OH. (April 23, 2012).

Wu, S.-Y. (Presenter & Author), Davis, T. (Author Only), Annual Meeting of American Geophysical Union, "How well do NARCCAP regional climate models simulate extreme daily precipitation events?," AGU, San Francisco, CA. (December 6, 2011).

Wu, S.-Y., Miller, A. I., Annual Meeting of Geological Society of America, "The shortest distance between two points isn’t always a great circle: getting around land masses in the calibration of marine geodisparity," GSA, Minneapolis, Minnesota. (October 10, 2011).

Wu, S.-Y., North America Regional Climate Change Assessment Program users conference, "Using NARCCAP regional climate models to assessment future extreme precipitation change," National Center for Atmospheric Research, Boulder, CO. (April 7, 2011).

Johnson, C. A. (Presenter & Author), Goldman, D. (Author Only), Wu, S.-Y. (Author Only), Regional South Central Geological Society of America, "Graptolite biogeography: using paleo-GIS to examine the evolutionary dynamics of early Paleozoic zooplankton," Geological Society of America, New Orleans, Louisiana. (March 28, 2011).

Wu, S.-Y., American Geophysical Union Annual Meeting, "Projecting extreme precipitation in Ohio using NARCCAP regional climate models," American Geophysical Union, San Francesco, USA. (December 16, 2010).

Wu, S.-Y., American Association of Geographers Annual Meeting, "Impact of climate change on extreme precipitation in Ohio," American Association of Geographers, Washington, DC. (April 16, 2010).

Wu, S.-Y., American Water Resources Association 2010 Spring Specialty Conference, "Projecting extreme precipitation in Great Miami River Watershed, Ohio," American Water Resources Association, Orlando, Florida. (March 31, 2010).

Stander Symposium (38)

Theisen, A. (Presenter & Author), Wu, S.-Y. (Author Only), Stander Symposium, University of Dayton, "Air Pollution and Environmental Justice". (April 24, 2019).

Farthing, T. (Presenter & Author), Wu, S.-Y. (Author Only), Stander Symposium, University of Dayton, "Geospatial Wetland Vulnerability Assessment in Greene County, Ohio". (April 24, 2019).

Jones, E. (Presenter & Author), Wu, S.-Y. (Author Only), Stander Symposium, University of Dayton, "Land Cover Change and Biological Invasion: Chinese Tallow Tree in Eastern Texas". (April 24, 2019).

Johnstone, C. (Presenter & Author), Wu, S.-Y. (Author Only), Stander Symposium, University of Dayton, "Spatial Assessment of Current and Future Wildfire Risk in Los Angeles County, California". (April 24, 2019).

Forristell, A. (Presenter & Author), Bedaso, Z. (Author Only), Wu, S.-Y. (Author Only), Stander Symposium, University of Dayton, "Importance of high resolution precipitation isotope datasets for climate change studies". (April 24, 2019).

Yanosko, E. (Presenter & Author), Wu, S.-Y. (Author Only), Stander Symposium, University of Dayton, "GIS-Based Habitat Suitability Analysis for the Eastern Hellbender". (April 24, 2019).

Young, R. (Presenter & Author), Wu, S.-Y. (Author Only), Stander Symposium, University of Dayton, "New Natural Gas Site Locating in the Marcellus Shale Region PA". (April 24, 2019).

Chacko, M. (Presenter & Author), Wu, S.-Y. (Author Only), Stander Symposium, University of Dayton, "Spatial Analysis of the Relationship between Infant Mortality and Socioeconomic Conditions in Santa Clara, CA". (April 24, 2019).

Hays, J. (Presenter & Author), Wu, S.-Y. (Author Only), Stander Symposium, University of Dayton, "Assessing Connecticut’s flood risk using multi-criterion analysis and its implication to environmental justice". (April 18, 2018).

Hrabak, K., Wu, S.-Y., Stander Symposium, "Utilizing GIS and Multi Variable Analysis to Determine Optimal Wind Farm Site Locations in Ohio". (April 28, 2018).

Johnson, A., Wu, S.-Y., Stander Symposium, "An Exploration of Environmental Controls on δ18O Utilizing Regression Modeling and Spatial Interpolation in ArcGIS". (April 18, 2018).

McTighe, C., Wu, S.-Y., Bedaso, Z., Stander Symposium, "Climatic Controls of Stable Isotopic Composition of Precipitation in Ethiopia". (April 18, 2018).

Mutzuk, R., Wu, S.-Y., Stander Symposium, "Assessing Inundation Risk and Environmental Justice in Harris County, TX". (April 18, 2018).

Rodgers, A., Wu, S.-Y., Stander Symposium, "Mass movement susceptibility of the North Coast region of California for risk assessment and management post wildfire". (April 18, 2018).

Binger, D. (Presenter & Author), Wu, S.-Y. (Author Only), "Drought Assessment of California Using ArcGIS and Remote Sensing." (April 7, 2017).

Rowekamp, E. (Presenter & Author), Wu, S.-Y. (Author Only), "Finding ideal locations for wetland restoration in Ohio." (April 7, 2017).

Konzen, G. (Presenter & Author), McGrew, A. J. (Author Only), Wu, S.-Y. (Author Only), "Geostatistical Interpolation of Subsurface Geologic Structure in southeast Ohio and northwest West Virginia." (April 7, 2017).

Freeman, S. (Presenter & Author), Wu, S.-Y. (Author Only), "GIS Analysis of Impact of Climate Change on Agricultural Productivity in the Midwest United States." (April 7, 2017).

McTighe, C. (Presenter & Author), Johnson, A. (Author Only), Wu, S.-Y., Bedaso, Z. (Author Only), "Projecting Future Groundwater Recharge with CMIP5 Climate Models." (April 7, 2017).

Konzen, G. (Presenter & Author), McGrew, A. J. (Author Only), Wu, S.-Y. (Author Only), "Slip Tendency Analysis of Bedrock Structure in southeast Ohio and northwest West Virginia." (April 7, 2017).

Johnson, A. (Presenter & Author), McTighe, C. (Author Only), Bedaso, Z. (Author Only), Wu, S.-Y. (Author Only), "Sustainability of Dayton Groundwater Resources under Today’s Changing Climate." (April 7, 2017).

Lamantia, K., Wu, S.-Y., Stander Symposium, "Environmental Justice in Hazardous Waste disposal near Pittsburg, PA." (April 20, 2016).

Watson, J., Wu, S.-Y., Stander Symposium, "Great Lake Region Water Temperature Trend and Relationship to Climatic Variability and Change 1985-2014." (April 20, 2016).

Davis, J. (Presenter & Author), Wu, S.-Y. (Author Only), Stander Symposium, "Exploring the Biodiversity-Ecosystem Function Relationship:." (April 9, 2014).

Birdsall, A., Wu, S.-Y., Stander Symposium, "The Impact of Geography on Rural Poverty: A GIS Case Study on Kenya and Uganda." (April 9, 2014).

Comes, E. (Presenter & Author), Wu, S.-Y. (Author Only), Stander Symposium, "Using the SLOSH model to predict flood hazard areas along the New Jersey coast: both present and future risks as sea levels rise," University of Dayton. (April 17, 2013).

Davis, T. (Presenter & Author), Wu, S.-Y. (Author Only), "Changes in the precipitation regimes in the USA." (April 13, 2012).

Johnson, C. (Presenter & Author), Goldman, D. (Author Only), Wu, S.-Y. (Author Only), "Graptolite biogeography: using paleo-GIS to examine the evolutionary dynamics of early Paleozoic zooplanktons." (April 13, 2011).

Hruska, A. (Presenter & Author), Wu, S.-Y. (Author Only), "Ohio Forest Cover: Using GIS to assess forest cover and possible demographic changes." (April 13, 2011).

Wu, S.-Y. (Author Only), Eck, D. (Presenter & Author), "Climate Change impacts on flood risk in GMR waterhsed, Ohio." (April 16, 2009).

Wu, S.-Y. (Author Only), Hostetler, R. (Presenter & Author), "Environmental Justice in Montgomery County, Ohio." (April 16, 2009).

Wu, S.-Y. (Author Only), Syrowski, A. (Presenter & Author), "Projecting Extreme Precipitation for GMR Watershed, Ohio." (April 16, 2009).

Shoda, M. E. (Presenter & Author), Burky, A. J., Wu, S.-Y., Stander Symposium, "GIS analysis of land use correlated with stream macroinvertebrate community response to wastewater treatment.," University of Dayton, Dayton, OH. (April 2008).

Syrowski, A. (Presenter & Author), Wu, S.-Y. (Author Only), Stander Symposium, "Annual Trends in Midwest Seasonal Temperature and Precipitation Determined by Spatial Interpolation," University of Dayton, UD. (April 9, 2008).

Eck, D. (Presenter & Author), Wu, S.-Y., Stander Symposium, "Historical Climate Change in the Miami Valley Region," University of Dayton, UD. (April 9, 2008).

Jennings, K. R. (Presenter & Author), Benbow, M. E., McIntosh, M. D., Wu, S.-Y., Burky, A. J., Stander Symposium, "Application of aquatic flow.index to determine a predictive model for snail spat migration," University of Dayton, Dayton, Ohio. (April 2007).

Murray, K. (Presenter & Author), Wu, S.-Y. (Author Only), Stander Symposium, "Impacts of Climate Change on Flood Frequency and Magnitude in the Upper Miami Watershed," University of Dayton, Dayton, OH. (April 18, 2007).

Hathaway, E. (Presenter & Author), Goldman, D. (Author Only), Wu, S.-Y. (Author Only), Stander Symposium, "Wetland Restoration at Silver Lake," University of Dayton, Dayton, OH. (April 18, 2007).

Other

Sandy, M. R., Wu, S.-Y., Catastrophic Events: Teacher Training Workshop, Wright State University, Dayton, Ohio. (June 2008).

Goldman, D., Wu, S.-Y. (Co-Presenter), Wetland Restoration for Singapore High School Students, "Silver Lake Wetland Restoration," University of Dayton, Silver Lake, OH. (June 2008).

## Media Contributions

Newspaper

Wu, S-Y. (2010). Dayton Daily News. UD researcher predicts increased flooding. November 26, 2010.

Wu, S-Y. (2008). Dayton Daily News. Climate change in Ohio. September 8, 2008.

Radio/TV

Wu, S-Y. (2017). Dayton Access TV. The Ombudsman Program on climate change. November 11, 2017.

Wu, S-Y. (2017). ABC22/FOX45. Interview about Hurricane Harvey and the link with climate change. September 6, 2017.

Wu, S-Y. (2017). CTV/WDTN-TV. Interview about Hurricane Harvey and the link with climate change. August 30, 2017.

Wu, S-Y. (2011). SOCHE Talk: How climate models work. November 2011.

Wu, S-Y. (2011). Channel 2: Research on potential future increases in extreme precipitation. May, 2011.

Wu, S-Y. (2010). Channel 7: Climate model projections for Ohio. November, 2010

Wu, S-Y. (2009). WLQT, WMMX, WDSJ: Changes in precipitation and flood risk in the Great Miami River Watershed. May, 2009.

Online Contribution

Wu, S-Y. (2019) For a flooded Midwest, climate forcasts offer little comfort. The Conversation. March, 29, 2019. <https://theconversation.com/for-a-flooded-midwest-climate-forecasts-offer-little-comfort-114140>

Wu, S-Y. (2018) The end of global warming is not even close – A response to “The End of Global Warming” by Steven Gollmer featured in Answers in Genesis. Righting American Blog. February 16, 2018. <https://rightingamerica.net/the-end-of-global-warming-is-not-even-close/>

## SERVICE (Past 5 years)

## University of Dayton Service

University level

Academic Senate (2015-2018).

Academic Senate Academic Policy Committee (2015-2018).

Common Academic Program Academic Committee (2015-2018).

University Strategic Planning Working Group 3 - Scholarship, University. (September 15, 2016 - March 15, 2017).

Unit level - College of Arts and Sciences

Sustainability, Energy and Environment Program Advisory Committee (2009- ).

College of Arts and Sciences Graduate Committee (2009- ).

Coordinator of GIS Certificate Program (2009 - Present).

College of Arts and Sciences Strategic Planning. Team Leader for Advancing Liberal Arts and Sciences (January 16 - May 15, 2016).

Department Level – Department of Geology

Chair of the Geology Department (2019 – present)

Environmental Geology Curriculum committee (2017 – present)

Post tenure review committee (ad hoc)

Faculty search committee (ad hoc)

## Professional Service

Reviewer (ad hoc) for Journal of Hydrological Engineering, Meteorology and Atmospheric Physics, Climatic Change, Journal of Hydrology, International Journal of Climatology, Water, Natural Hazards, Environmental Modelling & Software, Estuarine, Coastal and Shelf Science, Population and Environment, Southeastern Geographer, GFF, Physical Geography, National Science Foundation, Natural Science Foundation of China.