Antarpreet Jutla (Antar)

Engineering School of Sustainable Infrastructure & Environment,
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Professional Appointment(s)

2024-	Director, USGS Florida Water Resources Center
2019-	Associate Professor (*tenured*), Department of Environmental Engineering Sciences, University of Florida, Gainesville, FL.
2018-2019	Associate Professor (*tenured*), Department of Civil and Environmental Engineering, West Virginia University, Morgantown, WV.
2012-2018	Assistant Professor (*tenure-track*), Department of Civil and Environmental Engineering, West Virginia University, Morgantown, WV.
2011-2012	Post-Doctoral Researcher, National Oceanic and Atmospheric Administration (NOAA), Silver Spring, MD.

Education

2011	Ph.D., Civil and Environmental Engineering, *Tufts University, USA.* (Major: Water Resources)
2006	M.Sc., Civil and Geological Engineering *University of Saskatchewan, Canada.* (Major: Water Resources)
2003	M.Tech., Soil and Water Engineering, *Punjab Agricultural University, India.* (Major: Water Resources)
2001	B. Tech., Agricultural Engineering, *Punjab Agricultural University, India.*

Research Interests

- Coupled Natural-Human Systems: Predictability of human health outcomes as functions of water and climatic processes.
- Remote sensing of hydrological processes (scale issues and prediction of extreme events).
- Sustainability of water resources for food security, human nutrition and water governance.

Awards and Honors

2023	Charles S. Falkenberg Award, American Geophysical Union.
2018	National Science Foundation-CAREER award
2018	Excellence in Research Award, WVU, Morgantown
2018	Senior Outstanding Researcher of the Year, WVU, Morgantown.
2015	Junior Outstanding Researcher of the year, WVU, Morgantown.
2014	Best paper award from Remote Sensing and Programmetry Society Letters, UK, for manuscript published in Remote Sensing Letters.
2014	International Scholar Appreciation Award, West Virginia University, USA
2010-2011	Jonathan Curtis Fellowship, Tufts University, USA
2009-2010	Littleton Fellowship, Tufts University, USA
2009-2010	Tufts Institute of Environment Fellowship, Tufts University, USA
2006, 2008	Graduate Research Fellowship, Tufts University, USA

2003-2005	Graduate Fellowship, Ministry of Human Resources, Government of India.
2001	*'Innovation Potential of Students'* Project Award-2001, Indian National Academy of Engineering, India.
2001-2003	University Fellowship, Punjab Agricultural University, India
1997-2001	University Fellowship, Punjab Agricultural University, India
1990-1997	National Scholarship, Government of India.

Scholarly Experience

2005-2011	Graduate Research Assistant, Tufts University, USA
2003-2005	Graduate Research Assistant, University of Saskatchewan, Canada
2000-2001	Research Intern, National Agro Industries, India
1999-2000	Trainee-in-Research , Farm Machinery Training and Testing Institute, India

Professional Development

2017	MERRA-2 Applications Workshop, June 19, 2017, NASA -GSFC, MD
2015	Integrating prediction and forecasting for decision-making: dengue epidemic prediction. Office of Science and Technology Policy, White House, Washington DC, September 21, 2015.
2015	2nd ICESat-2 Applications Workshop, March 10 & 11, NASA -GSFC, MD
2014	How to engineer engineering education, Bucknell University, Lewisburg, PA
2013	Prediction of pathogenic vibrios using satellites, Office of Science and Technology Policy Workshop for Predict the Next Pandemic, White House, Washington DC.
2012	Chesapeake Bay & Puget Sound Health Workshop on Integrating Climate and Environmental Information with Disease Surveillance to Address Pathogens and Algal Toxins of Concern to Public Health, University of Maryland, MD.
2012	Annual Climate Prediction Applications Science Workshop, University of Florida, Miami.
2011	2nd Soil Moisture Active Passive (SMAP) Applications Workshop, Washington, DC
2007	MODIS Data Workshop, University of Maryland-Baltimore County, USA
2005	Introduction to University Teaching, University of Saskatchewan, Canada
2003	HTML-Basics, University of Saskatchewan, Canada
2004	Dreamweaver-Introduction, University of Saskatchewan, Canada
2004	Dynamics of Science-Societal Interaction, University of Saskatchewan, Canada
2001	Programming in C++, Ludhiana Institute of Management Association, India

Conference Sessions Chaired/Convened

- Co-chair, Water and Climate Change meeting session at American Microbiology Society, Atlanta, November 9-11 2023.

- Water and Climate (Co-Chair), International One Health Congress, Saskatoon, Canada, June 22-27, 2018.

- Climate, Hydroepidemiology and Health, American Geophysical Union's Fall Meeting, San Francisco, Dec 14-18, 2015.

- Water and Climate (Co-Chair), International One Health Congress, Netherlands, March 13-15, 2015.

- Hydroepidemiology: Understanding Connections Between Hydrology and Human Health, American Geophysical Union's Fall Meeting, San Francisco, Dec 15-19, 2014.

- Water, Climate and Health, European Geosciences Union General Assembly, Vienna, Austria, April 27-May 02, 2014.

- Water, Climate and Health, European Geosciences Union General Assembly, Vienna, Austria, April 05-09, 2013.

- Hydro-epidemiology: Understanding Connections Between Hydrology and Human Health, American Geophysical Union's Fall Meeting, San Francisco, Dec 3-7, 2012.

- Water, Climate and Health, European Geosciences Union General Assembly, Vienna, Austria, April 22-27, 2012.

- Hydroepidemiology: Connecting Hydrology with Human Health, American Geophysical Union's Fall Meeting, San Francisco, Dec 5-9, 2011.

- Hydroepidemiology: Connection of Hydrology with Human Health, American Geophysical Union's Fall Meeting in San Francisco, Dec 13-18, 2010.

Reviewer
American Journal of Public Health
American Journal of Tropical Medicine and Hygiene
Bulletin of World Health Organization
Earth Perspectives
Ecological Applications
Emerging Infectious Diseases
Environmental Modeling and Software
Epidemiology and Infections
GeoJournal
Hydrological Sciences Journal
International Journal of Environmental Research and Public Health
International Journal of Remote Sensing
Journal of American Water Resources Association
Journal of Coastal Research
Journal of Water Resources Planning and Management
Neural Computing and Applications
PLOS One
PLOS-Neglected Diseases
Remote Sensing
Remote Sensing of Environment
Remote Sensing of Letters
Water Resources Research

Professional Service
Member and Co-Chair AGU Fellows committee   2020-current
Editor, GeoHealth, AGU-Wiley Publication   2016-current
Editorial Board member, Environment International   2018-current

Associate Editor, Frontiers Journal of Public Health	2013-2020
Guest Editor, Water Resources Research, AGU	2013-2014
NASA Panel Member	2015, 2023
NASA EPSCoR Panel Member	2015
NASA Post-Doctoral Review Board Panel	2014, 2015
NSF Panel Member	2018

Teaching and Course Development

Course	Institute
• Water Resources Engineering	University of Florida
• Engineering Hydrology	University of Florida
• Hydrotechnical Engineering* (CE322)	West Virginia University
• Water Resources Engineering (CE427)*	West Virginia University
• Engineering Hydrology (CE425)*	West Virginia University
• Water, Health and Environmental Sustainability**	West Virginia University/University of Florida
• Environmental Systems Modeling ** *(new course)*	West Virginia University/University of Florida
• Environmental Health and Modeling[+] *(new course)*	West Virginia University
• Introduction to Geomatics* (CE305)	West Virginia University
• Hydrological Modeling using HEC-HMS for Water Professionals	World Bank
• Hydrology & Water Resources Engineering* (CEE112)	Tufts University
• Water Resources Engineering* (CE464)	University of Saskatchewan, Canada
• Engineering Mechanics* (GE124)	University of Saskatchewan, Canada

* Undergraduate; **Graduate; [+] Undergraduate/Graduate;
Student Evaluation Score (cumulative for past five years): 4.3 (out of 5)

Publications
Peer Reviewed Journal Articles *h-index* **: 22**

2024

1. *Gangwar, M., *Jamal, Y., *Usmani, M., Wu, C., and **Jutla, A**.: Carbon dioxide as an indicator of bioaerosol activity and human health in K-12 school systems: A scoping review of current knowledge. *Environmental Research-Health* DOI: 10.1088/2752-5309/ad1c41.
2. *Usmani, M., Brumfield, K., *Magers, B., Zhou, A., Oh, C., Mao, Y., Bill, B., Schmidt, A., Wu, C.Y., Shisler, J., Nguyen, T.H., Colwell, R., and **Jutla, A.:** Building environmental and sociological predictive intelligence to understand the seasonal threat of SARS-CoV-2 in human populations. *AJTMH* DOI: 10.4269/ajtmh.23-0077.
3. **Jutla, A.,** Filippelli, G. M., McMahon, K. D., Tringe, S. G., Colwell, R. R., Nguyen, H., & Imperiale, M. J. (2024). One Health, climate change, and infectious microbes: A joint effort

between AGU and ASM to understand impacts of changing climate and microbes on human well-being across scales. *mSphere*, e00035-24. https://doi.org/10.1128/msphere.00035-24

2023

4. Brumfield, K., Chen, J., *Gangwar, M., *Usmani, M., Hasan, N., **Jutla, A.,** Huq, A., Colwell, R. 2023 Environmental Factors Influencing Occurrence of *Vibrio parahaemolyticus* and *Vibrio vulnificus*. *Applied and Environmental Microbiology,* DOI: https://doi.org/10.1128/aem.00307-23.

5. *Usmani, M., Uprety, S., Bonham, N., Jamal, Y., Yuqing, M., Sano, D., Shisler, J., Unnikrishnan, A., Nguyen, H., and **Jutla, A**. 2023: Assessment of pathogens in flood waters in coastal rural regions: Case study after Hurricane Michael and Florence. *PLOS ONE*. DOI: 10.1371/journal.pone.0273757

6. *Usmani, M., Brumfield, K., *Magers, B., Chaves-Gonzalez, J., Ticehurst. H., Sumner, T., Barciela, R., McBean, F., Colwell, R., and **Jutla, A**. 2023: Combating cholera by building predictive capabilities for pathogenic Vibrio cholerae in Yemen. *Scientific Reports.* DOI: 10.1038/s41598-022-22946-y

7. Vass, W., Shankar, S., Lednicky, J., Yang, Y., Manzanas, C., Zhang, Y., Boyette, J., Fan, Z., Eiguren-Fernandez, A., **Jutla, A.,** and Chang-Yu Wu 2023 Detection and isolation of infectious SARS-CoV-2 omicron subvariants collected from residential settings, *Aerosol Science and Technolog*y, DOI: 10.1080/02786826.2023.2251537

8. **Jutla, A.,** *Usmani, M., Brumfield, K. D., *Singh, K., McBean, F., Potter, A., Gutierrez, A., Gama, S., Huq, A., & Colwell, R. R. (2023). Anticipatory decision-making for cholera in Malawi. *mBio*, e00529-23. https://doi.org/10.1128/mbio.00529-23

9. Brumfield, K. D., *Usmani, M., Santiago, S., *Singh, K., *Gangwar, M., Hasan, N. A., Netherland, M., Deliz, K., Angelini, C., Beatty, N. L., Huq, A., **Jutla, A. S.,** & Colwell, R. R. 2023. Genomic diversity of *Vibrio* spp. And metagenomic analysis of pathogens in Florida Gulf coastal waters following Hurricane Ian. *mBio*, e01476-23. https://doi.org/10.1128/mbio.01476-23

10. Mao, Y., Zeineldin, M., *Usmani, M., Uprety, S., Shisler, J. L., **Jutla, A.,** Unnikrishnan, A., & Nguyen, T. H. 2021. Distribution and Antibiotic Resistance Profiles of *Salmonella enterica* in Rural Areas of North Carolina After Hurricane Florence in 2018. *GeoHealth*, *5*(2). https://doi.org/10.1029/2020GH000294

11. *Magers, B., *Usmani, M., Wu, C.-Y., & **Jutla, A.** 2023. Geographical quantification of the seasonality of transmission of COVID-19 in human populations as a function of the variability of temperatures. *Environmental Research: Health*, *1*(4), 045006. https://doi.org/10.1088/2752-5309/ad0320

2022

12. *Usmani, M., *Magers, B., Brumfield, K., Nguyen, T., Huq, A., Barciela, R., Colwell, R., and **Jutla, A.** (2022): Predictive Intelligence for Cholera in Ukraine? AGU: *GeoHealth*. DOI: 10.1029/2022GH000681

13. *Usmani, M., *Jamal, Y., *Gangwar, M., *Magers, B., Chaves-Gonzalez, J., Wu, C.-Y., Colwell, R., & **Jutla, A.** (2022). Asymmetric Relationship between Ambient Air Temperature and Incidence of COVID-19 in the Human Population. *The American Journal of Tropical Medicine and Hygiene*. https://doi.org/10.4269/ajtmh.21-0328

14. Chamteut, O., Zhou, A., Brian, K., *Jamal, Y., **Jutla., A.**, Nguyen, H., et al. (2022) Application of neighborhood-scale wastewater-based epidemiology in low COVID-19 incidence situations. *Science of Total Environment*. https://doi.org/10.1016/j.scitotenv.2022.158448

15. Brumfield, K. D., Leddy, M., *Usmani, M., Cotruvo, J. A., Tien, C.-T., **Jutla., A., e**t al. (2022). Microbiome Analysis for Wastewater Surveillance during COVID-19. *MBio*, e00591-22. https://doi.org/10.1128/mbio.00591-22

16. *Jamal, Y., *Gangwar, M., *Usmani, M., Adams, A., Wu, C., Nguyen, T. H., **Jutla, A**., (2022). Identification of thresholds on population density for understanding the transmission of COVID-19. *GeoHealth*. https://doi.org/10.1029/2021GH000449

2021

17. Das, S.; Kaur, S.; Jutla, A. Earth Observations Based Assessment of Impact of COVID-19 Lockdown on Surface Water Quality of Buddha Nala, Punjab, India. *Water* **2021**, *13*, 1363. https://doi.org/10.3390/w13101363

18. Usmani, M., Brumfield, K. D., Jamal, Y., Huq, A., Colwell, R. R., & Jutla, A. 2021. A Review of the Environmental Trigger and Transmission Components for Prediction of Cholera. *Tropical Medicine and Infectious Disease*, *6*(3). https://doi.org/10.3390/tropicalmed6030147

19. Brumfield, K.D., Usmani, M., Chen, K.M., Gangwar, M., Jutla, A.S., Huq, A. and Colwell, R.R. 2021, Environmental parameters associated with incidence and transmission of pathogenic *Vibrio spp.. Environ Microbiol.* https://doi.org/10.1111/1462-2920.15716

2020

20. *Usmani, M., *Kondal, A., Wang, J. and **Jutla, A**., 2020. Environmental association of burning agricultural biomass in the Indus River basin, *Geohealth*, doi: 10.1029/2020GH000281.

21. Aziz, S., Pakhtigian, E., Akanda, A., **Jutla, A.,** Huq, A., Munirul Alam, Ashan, G., Colwell, R., 2020 Does improved risk information increase the value of cholera prevention? An analysis of stated vaccine demand in slum areas of urban Bangladesh, Social Science & Medicine, https://doi.org/10.1016/j.socscimed.2021.113716

22. Mao, Y., *Usmani, M., Uprety, S., Shisler., J., **Jutla, A.,** Unnikrishnan, A., and Nguyen,A. 2020. Distribution and Antibiotic Resistance Profiles of *Salmonella enterica* in Rural Areas of North Carolina After Hurricane Florence in 2018, GeoHealth, https://doi.org/10.1029/2020GH000294

23. Lednicky, J. A., Lauzardo, M., Fan, Z. H., **Jutla, A**., Tilly, T. B., *Gangwar, M., et al. (2020). Viable SARS-CoV-2 in the air of a hospital room with COVID-19 patients. *International Journal of Infectious Diseases: IJID: Official Publication of the International Society for Infectious Diseases*, *100*, 476–482. https://doi.org/10.1016/j.ijid.2020.09.025

2019

24. Johansson, M. A., Apfeldorf, K. M., Dobson, S., Devita, J., Buczak, A. L., Baugher, B., **Jutla., A.** et al. (2019). An open challenge to advance probabilistic forecasting for dengue epidemics. *Proceedings of the National Academy of Sciences*, *116*(48), 24268–24274. https://doi.org/10.1073/pnas.1909865116

25. Khan, R.*, Aldaach, H.*, McDonald*, C., Alan, M., Huq, A., Gao, Y., Akanda, Colwell, R, and **Jutla A.,** 2019**.** Exploratory analysis associating satellite derived land surface temperature to estimate cholera risk. *International Journal of Remote Sensing,* https://doi.org/10.1080/01431161.2019.1577575.

26. Khan, R.*, Usmani, M.*, Akanda, A., Palash, W., Gao, Y., Huq, A., Colwell, R, and **Jutla A.,** 2019. Long range river discharge forecasting using the Gravity Recovery and Climate Experiment (GRACE) *ASCE- Journal of Water Resources Planning and Management,* 10.1061/(ASCE)WR.1943-5452.0001072.

2018

27. Alfi, H., **Jutla, A.,** Akanda, A. 2018. Quantification of rotavirus diarrheal risk due to hydroclimatic extremes over South Asia: Prospect of satellite based observations in detecting outbreaks, *GeoHealth. doi:* 10.1002/2017GH000101.

28. Akanda, A., Aziz, S., **Jutla, A.,** Huq, A., Alam, M., Colwell., R. 2018. Satellites and cell phones form a cholera early warning system. *Earth Observing System,* Eos 99, https://doi.org/10.1029/2018EO094839

29. *Khan, R., Nguyen, T., Shisler, J. **Jutla, A.**, Colwell, R., 2018. Evaluation of risk of cholera after a natural disaster: Lessons learned from the 2015 Nepal earthquake, *ASCE- Journal of Water Resources Planning and Management,* doi: https://doi.org/10.1061/(ASCE)WR.1943-5452.0000929.

2017

30. Uprety, S., Hond, P., Sadik, N., Dangol, B., Ashikari, R., **Jutla, A.,** Shisler, J., Degnan, P., Nguyen, T., 2017. The effect of the 2015 Earthquake on the bacterial community compositions in water in Nepal. *Frontiers in Microbiology.* doi: 10.3389/fmicb.2017.02380

31. *Khan, R., *Anwar, R., Akanda, S., McDonald, M., Huq, A., **Jutla, A.,** Colwell, R., 2017. Assessment of risk of cholera in Haiti following Hurricane Matthew, *American Journal of Tropical Medicine and Hygiene.* 97(3):896-903. doi: 10.4269/ajtmh.17-0048.

32. **Jutla. A.,** *Khan, R., Colwell, R. 2017. Natural disasters and cholera outbreaks: Current understanding and future outlook, *Current Environmental Health Reports,* DOI: 10.1007/s40572-017-0132-5

2016

33. *Nasr, F., *Khan, R., Rahimikollu, J., Unnikrishnan, A., Akanda, A., Alam, A., Huq, A., **Jutla, A.,** Colwell, R., 2016. Hydroclimatic sustainability assessment of changing climate on cholera in the Ganges-Brahmaputra Basin. *Advances in Water Resources*, DOI:10.1016/j.advwatres.2016.11.018

2015

34. **Jutla, A.,** *Aldaach, H., *Billian, H., Akanda, A., Huq, A., and Colwell, R. 2015. Satellite based assessment of hydroclimatic conditions related to cholera in Zimbabwe. *PLOS-One, doi: 10.1371/journal.pone.0137828*.

35. **Jutla, A.,** Unnikrishnan, A., Akanda, A., Huq, H., and Colwell, R. 2015. Predictive time series analysis linking Bengal cholera with terrestrial water storage measured from GRACE sensors. *American Journal of Tropical Medicine and Hygiene.* DOI: 10.4269/ajtmh.14-0648

36. *Nasr, F.A., Unnikrishnan, A., Akanda, A. Islam, S., Alam, M., Huq, A., **Jutla, A.,** Colwell, R. 2015. A framework for downscaling river discharge to access impacts of climate change on endemic cholera, *Climate Research*, *doi: 10.3354/cr01310*

37. **Jutla, A.S.,** Huq, A. and Colwell, R. 2015. Diagnostic approach for monitoring hydroclimatic conditions related to emergence of West Nile Virus in West Virginia. *Frontiers Journal of Public Health.* doi: 10.3389/fpubh.2015.00010.

38. Luo, T., **Jutla, A.S**., and Islam, S. 2015. Evapotranspiration estimation over agricultural plains using MODIS data for all sky conditions, *International Journal of Remote Sensing*, doi: 10.1080/01431161.2015.1009648.

2014

39. Akanda, A.S., **Jutla, A.S.** and Colwell, R. 2014 Global diarrhoea action plan needs integrated climate-based surveillance, *The Lancet-Global Health*, 2(2):69-70.

2013

40. **Jutla, A.S.,** Whitcombe, E, Hasan, H., Haley, B., Akanda, A., Huq, A., Alam, M., Sack, B., Colwell, R. 2013. In Response: Environmental factors influencing epidemic cholera. *American Journal of Tropical Medicine and Hygiene* 89(6): 1231–1232.

41. **Jutla, A.S.,** Whitcombe, E, Hasan, H., Haley, B., Akanda, A., Huq, A., Alam, M., Sack, B., Colwell, R. 2013. Environmental factors influencing epidemic cholera. *American Journal of Tropical Medicine and Hygiene*, 89(3):597-607.

42. **Jutla, A.S.,** Akanda, A.S. and Islam, S. 2013 A framework for predicting endemic cholera using satellite derived environmental determinants. *Environmental Modelling and Software*, 47:148-158

43. **Jutla, A.S.,** Akanda, A.S., Huq, A., Faruque, A., Colwell, R. and Islam, S. 2013 A water marker monitored by satellites to predict endemic cholera, *Remote Sensing Letters*, 4(8):822-831.

44. Akanda, A.S., **Jutla, A.S.,** Gute, D., Sack, R., Alam, M., Huq, A., Colwell, R., and Islam, S. 2013. Population vulnerability to biannual cholera outbreaks and associated macro-scale drivers in Bengal Delta, *American Journal of Tropical Medicine and Hygiene*, 89(5):950-959.

2012

45. **Jutla, A.S.,** Akanda, A.S. and Islam, S. 2012. Satellite space-time variability of chlorophyll in Bay of Bengal: Connections to cholera outbreaks. *Remote Sensing of Environment*. 123:196-206.

46. Akanda, A.S., **Jutla, A.S.,** Gute, D.M., Evans, T. and Islam, S. 2012. Reinforcing Cholera Intervention Through Prediction Aided Prevention. *Bulletin of the World Health Organization*, 90(3):243-244.

2011

47. **Jutla, A.S.,** Akanda, A.S, Griffiths, J. Islam, S. and Colwell, R. 2011. Warming oceans, phytoplankton, and river discharge: Implications for cholera outbreaks. *American Journal of Tropical Medicine and Hygiene*. 85(2):303-8.

48. Akanda, A.S., **Jutla, A.S.,** Siddique, A.K., Alam, M., Sack, R., Huq, A., Colwell, R. and Islam, S. 2011. Hydroclimatic influences on seasonal and spatial cholera transmission cycles: Implications for public health intervention in the Bengal Delta, *Water Resources Research,* 47, W00H07, doi:10.1029/2010WR009914

2010

49. **Jutla, A.S.,** Akanda, A.S. and Islam, S. 2010. Tracking cholera in coastal regions using satellite observations. *Journal of American Water Resources Association.* 46(4):651-662. Doi: 10.1111/j.1752-1688.2010.00448.x.

2009

50. Akanda, A. S., **Jutla, A.S**. and Islam, S. 2009. Dual peak cholera transmission in Bengal Delta: A hydroclimatological explanation, *Geophysical Research Letters*, 36, L19401, doi:10.1029/2009GL039312.

51. Jiang, L., Islam, S., **Jutla, A.,** Senarath, S., Ramsey, B. H., and Eltahir, E. 2009. A satellite-based daily actual evapotranspiration estimation algorithm over South Florida, *Global Planetary Review,* 67(1–2): 62–77.

2007

52. Elshorbagy, A., **Jutla, A.,** Barbour, L., and Kells, J. 2007. Simulation of the hydrological processes on reconstructed watersheds using system dynamics, *Hydrological Sciences Journal,* 52(3): 538-562.

2006

53. **Jutla, A.S.,** Small, D. and Islam, S. 2006. A precipitation dipole in Eastern North America, *Geophysical Research Letters,* 33, L21703, doi:10.1029/2006GL027500.

2005

54. Elshorbagy, A., **Jutla, A.,** Barbour, L. and Kells, J. 2005. System dynamics approach to assess the sustainability of reclamation of disturbed watersheds. *Canadian Journal of Civil Engineering*, (32):144–158.

* graduate student(s) of my research group;
Five other manuscripts are at various stages of review process

Book(s) and Book Chapters
1. Sathyendranath, S., Abdulaziz, A., Menon, N., George, G., Evers-King, H., Kulk, G., Colwell, R., Jutla, A., Platt, T. 2019 Building capacity and resilience against diseases transmitted via water under climate perturbations and extreme weather stress. *Space Capacity Building in the XXI Century. Springer Nature Switzerland AG.*

2. Akanda, A.S., **Jutla, A.S.** and Islam, S. 2013. Hydroclimatology and Large Scale Population Vulnerability to Cholera Outbreaks in Bengal Delta; *in Hossain, F. et al., Climate Vulnerability: Understanding and Addressing Threats to Essential Resources – Water. Elsevier*

3. **Jutla, A.S.,** Akanda, A.S and Islam, S. 2010. Satellite remote sensing based forecasting of cholera outbreaks in the Bengal Delta. Pp 241-243. In Khan, S., et al Hydroclimatology: New Tools for solving wicked water problems, IAHS Publication 338.

4. Akanda, A. S., **Jutla, A.S**. and Islam, S. 2010. Hydrology, Climate and Human Health: a hydroclimatological approach to understand cholera transmission in South Asia and sub Saharan Africa. Pp 237-238; in Khan, S., et al Hydroclimatology: New Tools for solving wicked water problems, IAHS Publication 338.

5. **Jutla, A.S.,** Elshorbagy, A. and Kells, J. 2009. Hydrologic modeling of reconstructed watersheds using a system dynamics approach, VDM Verlag Publishing House, Monograph ISBN: 978363915538.

Technical Reports

1. **Jutla, A.,** Elshorbagy, A. and Kells, J. 2006. Simulation of the hydrological processes on reconstructed watersheds using system dynamics. *CANSIM Series Report No. CAN-06-01*, Centre for Advanced Numerical Simulation (CANSIM), Department of Civil & Geological Engineering, University of Saskatchewan, Saskatoon, SK, Canada, pp. 139.

2. Elshorbagy, A. and **Jutla, A.** 2006. Tracing the evolution of reconstructed watersheds using the parameters of the system dynamics watershed model. *CANSIM Series Report No. CAN-06-03*, Centre for Advanced Numerical Simulation (CANSIM), Department of Civil & Geological Engineering, University of Saskatchewan, Saskatoon, SK, Canada, pp. 32.

Presentations
Invited Talks / Oral Presentations (Total > 200)

1. Jutla, A. 2023: Using Earth Observations to Strengthen Anticipatory Decision Making Processes for Waterborne Diseases: A Case of Cholera. AMS, Denver, CO, USA. January 9.

2. Jutla, A., Usmani, M., Gonzalez, J., and Colwell, R. 2022: Towards a global framework for developing predictive intelligence water-borne infectious disease decision-making system. AGU, Chicago, IL, USA. December 15.

3. Magers, B., Usmani, M., Wu, CY., and Jutla, A. 2022: The Seasonality of COVID-19: The Relationship Between Transmission and Annual Temperatures. AGU, Chicago, IL, USA. December 13 (Oral).

4. Usmani, M., Gangwar, M., Jamal, Y., Brumfield, K., Huq, A., Nguyen, T., Colwell, R., and Jutla, A. 2022: Human health as an indicator of water security: A climate change conundrum. FIH, San Juan, Puerto Rico, USA. June 24.

5. Usmani, M., Jamal, Y., Gangwar, M., Sharma, V., and Jutla, A. 2022: Rethinking food security: Innovative agricultural management for next century. FIH, San Juan, Puerto Rico, USA. June 20.

6. Geohealth: A new approach to rethink geosciences and environmental engineering, *University of Delaware*, Newark, May 2019.

7. Geohealth: A new approach to rethink water resources engineering, *University of Illinois*,

Urbana, March 2019.

8. Prediction of cholera: A novel paradigm for health engineering, *ESSIE-University of Florida*, March 2019.

9. Tracking pathogenic vibrios using earth observations, *NASA Chesapeake Bay Initiative*, August 08, 2018.

10. Satellites search for modern Cassandras, *University of Illinois-Urbana*, March 15, 2018.

11. PREDICT: A next generation platform for near real-time prediction of cholera. *American Geophysical Union Fall meeting,* New Orleans, December 11-15 (with Colwell, R.)

12. Satellite search for cholera: A modern Cassandra. NASA Hyperwall, *American Public Health Association*, November 2017 (with R. Colwell).

13. Remote Sensing of Zika virus in the Americas. *American Public Health Association,* Atlanta, GA, November 10-14 (with R. Colwell).

14. Searching Cassandras to detect and prevent environmental disasters, *Carnegie Mellon University,* October 13, 2017.

15. Reanalysis data for water borne infections, MERRA-2 Workshop, NASA-GSFC, MD June 19, 2017 (with Colwell, R.)

16. A multiscale satellite based prediction of diarrheal disease: Case study from cholera. *American Meteorological Society annual meeting*, Jan 22-26, 2017 (with Colwell, R.).

17. Understanding Hydroclimatological Controls on Predictability of Zika Virus in Continental US. *American Meteorological Society annual meeting*, Jan 22-26, 2017 (with Colwell, R, Usmani, M., Lin, L).

18. Eyes in the sky: Natural disasters and human health, 4th International conference on global warming and ecosystem productivity, Ras-Al-Khaimah, UAE April 4, 2017 (with Colwell, R.)

19. Understanding coupling between natural and human systems to ensure disease resilient societies. *American Geophysical Union*, San Francisco, California, December 12-16, 2016 (with Nguyen, T. and Colwell, R.).

20. Utilizing earth observations for reaching sustainable development goals in water, sanitation and public health. *American Geophysical Union*, San Francisco, California, December 12-16, 2016 (with Akanda, A., Hasan, M., Nusrat, F., Jutla, A., Huq, A., Alam, A., and Colwell, R.).

21. Managing burden of diarrheal diseases in Sub-Saharan Africa, Health in Africa and the Post-2015 Millennium Development Goals. *University of Illinois, Urbana,* May 20-22, 2015 (with Nguyen, H., Iwelunmor, J.)

22. Role of precipitation in creating environmental conditions for diarrheal pathogens, *GPM Applications Workshop, Washington DC*, June 09, 2015 (with Colwell, R.)

23. Understanding climate change impacts in a cholera endemic megacity: disease trends, hydroclimatic indicators and near future-term projections. *American Geophysical Union*, San Francisco, California, December 14-18, 2015 (with Akanda, A., Colwell, R).

24. Jutla, A., Prediction of Dengue using statistical approaches, Integrating Prediction and Forecasting for Decision-Making: Dengue Epidemic Prediction. *Office of Science and*

Technology Policy, White House, Washington DC, September 21, 2015.

25. How changing climate will impact cholera in Asia and Africa, Climate Prediction Applications Science Workshop, *George Mason University, VA.* May 06-08, 2014 (with Colwell, R.)

26. Revisiting cholera-climate teleconnections in the native homeland: ENSO and other extremes through the regional hydroclimatic drivers. *Proceedings of the American Geophysical Union,* San Francisco, California, December 15-19, 2014 (with Akanda, A., Huq, A., Colwell, R.)

27. The challenge to predict diarrheal diseases, Cholera symposium in the Kruger National Park, Pretoria, South Africa, 13-15 Feb 2013 (Invited)

28. Hydroclimatological Controls of endemic and non-endemic cholera of the 20th century. *American Geophysical Union, San Francisco, California*, December 03-07, 2012 (with Colwell, R., Whitecombe, E.).

29. Regional water security and public health implications in Bengal Delta. *Oxford Water Security Conference, Oxford, UK,* April 16-18, 2012 (with Akanda, A., Islam, S.).

30. Hydrology, Climate and Water-related Diseases: Challenges and Opportunities. *Science Symposium on Climate and Health*. Atlanta, GA. September 12-13 2012 (with Colwell, R.).

31. Hydrology, climate and water-related diseases: Predicting cholera using satellite remote sensing, *Texas A & M University.* April 2012.

32. Hydroclimatological controls and prediction of water-related diseases: Challenges and Opportunities, *West Virginia University,* March 2012.

33. Linking Hydrology, Climate and Water-related Diseases: A challenge for which remote sensing offers a solution, *University of Maryland,* March 2012.

Conference Proceedings/Non-Refereed Articles

1. McDonald, C., Usmani, M., Colwell, R. and **Jutla, A.** 2017 Inferences from the chronology of dengue and Zika outbreaks in human population. *Proceedings of the American Geophysical Union,* New Orleans, December 11-15

2. Anwar, R., Khan, R., Usmani. M., Colwell, R., and **Jutla, A.** 2017. System dynamics based dengue modeling environment to simulate evolution of dengue infection under different climate scenarios. *Proceedings of the American Geophysical Union,* New Orleans, December 11-15.

3. Usmani, M., Kondal, A., Lin, L., Colwell, R., and **Jutla, A.** 2017. Understanding complexities in coupled dynamics of human-water and food security. *Proceedings of the American Geophysical Union,* New Orleans, December 11-15.

4. Akanda, A., Hasan, M., **Jutla, A.,** Aziz, S., Alam, M., Ahsan, G., Huq, A., and Colwell, R., 2017. Empowering Local Organizations and Decision-makers in a Changing Climate: EO-guided Environmental Surveillance of Cholera and Rotavirus for South Asia. *Proceedings of the American Geophysical Union,* New Orleans, December 11-15.

5. **Jutla, A.,** Aziz, S., Akanda, A., Alam, M., Ahsan, G., Huq, A., and Colwell, R., 2017. PREDICT: A next generation platform for near real-time prediction of cholera. *Proceedings of the American Geophysical Union,* New Orleans, December 11-15.

6. Hasan, M., Akanda, A., **Jutla, A.,** Huq, A., and Colwell, R., 2017. Understanding hydro-climatic drivers of infectious diarrheal diseases in South Asia and their projected risks from

regional climate models. *Proceedings of the American Geophysical Union,* New Orleans, December 11-15.

7. Khan, R., Jutla, A., Colwell, R. 2017. Satellite based hydroclimatic understanding of evolution of Dengue and Zika virus. *Proceedings of the American Geophysical Union,* New Orleans, December 11-15.

8. **Jutla, A**. and Colwell, R. 2017 Remote Sensing of Zika virus in the Americas. *Proceedings of the American Public Health Association,* Atlanta, GA, November 10-14.

9. **Jutla, A.,** and Colwell, R. 2017. Eyes in the sky: Natural disasters and human health, *4th International conference on global warming and ecosystem productivity*, Ras-Al-Khaimah, UAE, April 4-9.

10. **Jutla, A.,** Usmani, M., Sharma, R., Lian-Shin Lin., and Colwell, R., and 2017. Understanding Hydroclimatological Controls on Predictability of Zika Virus in Continental US. *Proceedings of American Meteorological Society*, Jan 22-26

11. **Jutla, A.,** and Colwell, R. 2017. A Multiscale Satellite Based Prediction of Diarrheal Disease: Case Study from Cholera. *Proceedings of American Meteorological Society*, Jan 22-26

12. Usmani, M., Khan, R., Lin, L., Sharma, R., **Jutla, A.** and Colwell, R. 2016. Hydroclimatic assimilation of big data for inferring ecological controls on trigger of Zika Virus. *CUAHSI Fifth Biennial Colloquium*, Shepherdstown, WV, July 24-27.

13. Hasan, M., Akanda., A., **Jutla, A.,** and Colwell, R. 2016 Geo(spatial) Health Investigation of Rotavirus in an Endemic Region: Hydroclimatic Influences and Epidemiology of Rotavirus in Bangladesh. *Proceedings of the American Geophysical Union*, San Francisco, California, December 12-16.

14. Akanda, A., Hasan, M., Nusrat, F., **Jutla, A.,** Huq, A., Alam, A., and Colwell, R. 2016 Utilizing Earth Observations for Reaching Sustainable Development Goals in Water, Sanitation and Public Health. *Proceedings of the American Geophysical Union*, San Francisco, California, December 12-16.

15. **Jutla, A.,** Nguyen, T. and Colwell, R. 2016. Understanding coupling between natural and human systems to ensure disease resilient societies. *Proceedings of the American Geophysical Union*, San Francisco, California, December 12-16.

16. Khan, R., **Jutla, A.,** Chen, A, Huq, A. and Colwell, R. 2016. Understanding scale dependency between microbiological and climatic processes for prediction of vibrios in estuarine environments. Proceedings of American Meteorological Society, Jan 10-14, New Orleans, USA.

17. Nasr-Azadani, F., **Jutla, A.,** and Colwell, R. 2016. Impact of changing climate on diarrheal diseases: a case study for cholera. Proceedings of American Meteorological Society, Jan 10-14, New Orleans, USA.

18. **Jutla, A.,** and Colwell, R. 2016. Satellite remote sensing based assessment of environmental sustainability of water, vibrios and human health. Proceedings of American Meteorological Society, Jan 10-14, New Orleans, USA.

19. Akanda, A., Huq, A., **Jutla, A.,** and Colwell, R. 2015. Understanding Climate Change Impacts in a Cholera Endemic Megacity: Disease Trends, Hydroclimatic Indicators and Near Future-Term Projections. *Proceedings of the American Geophysical Union*, San Francisco, California, December 14-18.

20. **Jutla, A.,** Sen, S. 2015. Can rainfed agriculture adapt to uncertainty in availability of water in Indus Basin? *Proceedings of the American Geophysical Union*, San Francisco, California, December 14-18.

21. Nasr-Azadani, F., Colwell, R., **Jutla, A.** 2015. Understanding Scale dependency of climatic processes with diarrheal diseases. *Proceedings of the American Geophysical Union*, San Francisco, California, December 14-18.

22. Khan, R., Aldaach, H., Akanda, A., Huq, A., **Jutla, A.,** and Colwell, R. 2015 Social-hydrological-health framework for understanding risks of occurrence of diarrheal diseases**.** *Proceedings of the American Geophysical Union*, San Francisco, California, December 14-18.

23. Jutla, A., Akanda, A., and Colwell, R. 2015 Predictive Modeling of Cholera using GRACE and TRMM Satellite Data. *Proceedings of the American Geophysical Union,* San Francisco, California, December 14-18.

24. **Jutla, A.,** and Colwell, R. 2015 What does climate change mean for diarrheal diseases? 64th *Annual meeting of the American Society of Tropical Medicine and Hygiene*, Philadelphia, Oct 25-29.

25. Khan, R., Aldaach, H., Akanda, S., Huq, A., **Jutla, A.,** Colwell, R. 2015 Can diarrheal diseases be predicted in advance? *64th Annual meeting of the American Society of Tropical Medicine and Hygiene*, Philadelphia, Oct 25-29.

26. **Jutla, A.,** Akanda, A., and Colwell, R. 2014. Long Range River Discharge Forecasting Using the Gravity Recovery and Climate Experiment (GRACE) Satellite to Predict Conditions for Endemic Cholera. *Proceedings of the American Geophysical Union*, San Francisco, California, December 15-19.

27. Nasr, A., **Jutla, A.,** Akanda, A., and Colwell, R. 2014. How Will Climate Change Impact Cholera Outbreaks? *Proceedings of the American Geophysical Union,* San Francisco, California, December 15-19.

28. Billian, H., **Jutla, A.,** and Colwell, R. 2014. Hydroclimatic Assessment of West Nile Virus Occurrence Across Continental US. *Proceedings of the American Geophysical Union*, San Francisco, California, December 15-19.

29. Aldaach, H., **Jutla, A.,** Akanda, A., and Colwell, R. 2014. Linking Satellite Derived Land Surface Temperature with Cholera: A Case Study for South Sudan. *Proceedings of the American Geophysical Union,* San Francisco, California, December 15-19.

30. Akanda, A., **Jutla, A.,** Huq, A. and Colwell, R. 2014. Revisiting Cholera-Climate Teleconnections in the Native Homeland: ENSO and other Extremes through the Regional Hydroclimatic Drivers. *Proceedings of the American Geophysical Union,* San Francisco, California, December 15-19.

31. Hasan, M., Akanda, A., **Jutla, A.,** Islam, S, Huq, A., and Colwell, R. 2014. Co-evolving Hydroclimatic Signatures and Diarrheal Disease Dynamics in Bangladesh: Implications for Water Management and Public Health. *Proceedings of the American Geophysical Union*, San Francisco, California, December 15-19.

32. **Jutla, A.S.** and Akanda, A. S 2013. Hydroepidemiology: Linking hydroclimatology with human health. Hydrology Section Newsletter of American Geophysical Union, 9-12.

33. **Jutla, A.S.,** Akanda, A. S. and Colwell, R. 2013 Understanding impacts of climatic extremes on diarrheal disease epidemics: Insights from mechanistic disease propagation models. *Proceedings of the American Geophysical Union,* San Francisco, California, December 09-13.

34. Akanda, A., **Jutla, A.S.,** Huq, A., Faruque, A., Colwell, R. 2013 Urban Cholera and Water Sustainability Challenges under Climatic and Anthropogenic Change. *Proceedings of the American Geophysical Union*, San Francisco, California, December 09-13.

35. **Jutla, A.S.,** Whitcombe, E. and Colwell, R. 2012 Hydroclimatological Controls of Endemic and Non-endemic Cholera of the 20th Century. *Proceedings of the American Geophysical*

Union, San Francisco, California, December 03-07.

36. ElNemr, W., **Jutla, A.S.,** Constantin de Magny, G., Hasan, N.A., Islam, M., Sack, B., Huq, A., Hashem, F. and Colwell, R. 2012. Environmental Monitoring of Endemic Cholera. *Proceedings of the American Geophysical Union, San Francisco, California*, December 03-07.

37. Singla, C., Garg, S., Aggarwal, R. and **Jutla, A.S.** 2012. Are Industrial Towns Safe for Human Dwelling? *Proceedings of the American Geophysical Union, San Francisco, California*, December 03-07.

38. Akanda, A.S., **Jutla, A.S.** and Islam, S. 2012. Hydroclimatic Extremes and Cholera Dynamics in the 21st Century *Proceedings of the American Geophysical Union, San Francisco, California*, December 03-07.

39. **Jutla, A. S.** and Colwell, R. 2012. Hydroclimatology, Remote Sensing and Water-related diseases: Challenges and Opportunities. *Water and Health Conference: Science, Policy and Innovation.* UNC, Chapel Hill, NC. 29 October – 2 November. *(did not present)*

40. Akanda, A.S., **Jutla, A.S.** and Islam, S. 2012. Regional Water Security and Public Health Implications in Bengal Delta. *Oxford Water Security Conference, Oxford, UK*, April 16-18.

41. **Jutla, A. S.,** Hossain, R., Lopez, C. and Trtanj, J. 2012 Is climate driving safe drinking water availability and access to sanitation facilities? *10th Annual Climate Prediction Applications Science Workshop,* March 13–15.

42. **Jutla, A.S.** and Akanda A. S. 2012. Is climate driven sanitation and water access causing increase in water-related diseases?, *World Water Forum 6*, Marseilles, France, March 12-17.

43. **Jutla, A.S.** and Akanda A. S. 2012. Hydroclimatic drivers, water-borne diseases, and population vulnerability in Bengal delta. *General Assembly of the European Geosciences Union,* Vienna, Austria, April 22-27 (Invited).

44. **Jutla, A.S.,** Akanda, A.S and Islam, S. 2011. Satellite Water Impurity Marker (SWIM) for predicting seasonal cholera outbreaks. *Proceedings of American Geophysical Union*, Fall Meeting 2011, San Francisco, USA. December 5-9.

45. Luo, T., **Jutla, A.S.,** and Islam, S. 2011. Satellite based estimation of evapotranspiration for all sky conditions. *Proceedings of American Geophysical Union*, Fall Meeting 2011, San Francisco, USA. December 5-9.

46. Akanda, A., Prasher, D., **Jutla, A.S.** and Islam, S. 2011. Climate change in the Eastern Himalayas: implications for regional water and food security, ecosystems and public health. Proceedings of World Delta Submit, Jakarta. Indonesia. November 21-24.

47. Akanda, A.S., **Jutla, A.S.,** Eltahir, E.E. and S. Islam. 2011. A spatially explicit and seasonally varying cholera prevalence model with distributed macro-scale environmental and hydroclimatic forcings. *Proceedings of American Geophysical Union*, Fall Meeting 2011, San Francisco, USA. December 5-9.

48. Prashar, D., Akanda, A., Vogel, R.M, **Jutla, A.S.,** Small, D., Islam, S. 2011. Monthly discharge estimation for large remote watersheds. *Proceedings of American Geophysical Union*, Fall Meeting 2011, San Francisco, USA. December 5-9.

49. Akanda, A.S., **Jutla, A.S.** and S. Islam. 2011. Climate change, hydroclimatic extremes, and cholera dynamics. *Proceedings of Water and Health: Where Science Meets Society*, The University of North Carolina, Chapel Hill, NC, October 3-7.

50. **Jutla, A.S.,** Akanda, A.S and Islam, S. 2011. Hydroepidemiology of cholera: predicting outbreaks using satellite derived global cholera index. *General Assembly of the European Geosciences Union,* Vienna, Austria, April 3-8.

51. Akanda, A.S, **Jutla, A.S.,** Elfatih, E. and Islam, S. 2011. Hydroepidemiology of cholera transmission in Bangladesh: a spatially explicit and seasonally varying cholera prevalence model. *General Assembly of the European Geosciences Union,* Vienna, Austria, April 3-8.

52. Islam, S., **Jutla, A. S.,** Akanda, A. 2011. Hydroepidemiology: A synthesis of micro- and macro-scale processes: combining macro-scale hydroclimatology, coastal ecology, and satellite remote sensing for predicting cholera outbreaks in South Asia and Africa, Civil and Environmental Engineering, *NSF Ecology of Marine Infectious Disease Workshop, San Juan, PR,* February 11-13.

53. Akanda, A. S., **Jutla, A. S.,** Huq, A., Colwell, R. and Islam, S. 2010. From fall to spring, or spring to fall? Seasonal cholera transmission cycles and implications for climate change. *Proceedings of American Geophysical Union*, Fall Meeting 2010, San Francisco, USA. December 13-17.

54. **Jutla, A.S.,** Akanda, A.S and Islam, S. 2010. Hydrology and human health: predicting cholera outbreaks using remote sensing data. *Proceedings of American Geophysical Union*, Fall Meeting 2010, San Francisco, USA. December 13-17.

55. Akanda, A.S., **Jutla, A.S.,** and S. Islam. 2010. Climate change, hydrologic extremes and cholera dynamics. *Water, and Health: Where Science Meets Policy*, October 25-26, Chappel Hill, NC.

56. **Jutla, A.S.,** Akanda, A.S., and S. Islam. 2010. remote sensing based forecasting of cholera outbreaks, *Remote Sensing and Hydrology Symposium*, September 27-30, Jackson, Wyoming.

57. Akanda, A.S., **Jutla, A.S.,** and S. Islam. 2009. Rivers as corridors of diarrheal disease transmission: role of coastal and terrestrial hydroclimatology. *Proceedings of the AGU Americas Meeting,* Foz do Iguacu, Brazil. August 8-12

58. Akanda, A.S., **Jutla, A.S.** and Islam, S. 2010. Hydroclimatic extremes and cholera dynamics in the 21st century. *Steve Burges Retirement Symposium,* University of Washington, Seattle, WA March 24-26

59. **Jutla, A.S.,** Akanda, S. and Islam, S. 2009. Satellites and human health: potential for tracking cholera outbreaks. *Proceedings of the American Geophysical Union, San Francisco, California*, December 14-18.

60. Akanda**,** A.S., **Jutla, A.S.,** and S. Islam. 2009. Dual peak cholera transmission in South Asia: a hydroclimatological explanation. *Proceedings of the American Geophysical Union, San Francisco, California*, December 14-18.

61. Akanda, S., **Jutla, A.S.,** and Islam, S. 2009. Climate, water and human health: Large scale hydroclimatic controls in forecasting cholera epidemics. *Proceedings of the American Geophysical Union, San Francisco, California*, December 14-18.

62. Islam, S., **Jutla, A.S.,** Akanda, S. and Islam, S. 2009. Integrating terrestrial hydrology and coastal ecology: understanding cholera dynamics using remote sensing data. *Proceedings of the American Geophysical Union, San Francisco, California*, December 14-18.

63. **Jutla, A.S.,** Akanda, S. and Islam, S. 2009. Tracking Cholera outbreaks from satellites: space-time variability of chlorophyll in northern Bay of Bengal. *Research Day on Global Health and Infectious Disease, Tufts University, USA. October 5.*

64. Akanda, S., **Jutla, A.S.,** and Islam, S. 2009. Climate extremes and infectious diseases: large scale hydroclimatic controls in forecasting cholera epidemics. *Research Day on Global Health and Infectious Disease, Tufts University, USA. October 5.*

65. **Jutla, A.S.,** Akanda, S. and Islam, S. 2009. Relationship between phytoplankton, sea surface temperature and river discharge in Bay of Bengal. *General Assembly of the European Geosciences Union, Vienna, Austria, April 19-24.*

66. **Jutla, A. S.,** Akanda, S. and Islam, S. 2009. Spatial and Temporal Variability of Chlorophyll in Bay of Bengal. *General Assembly of the European Geosciences Union, Vienna, Austria, April 19-24.*

67. Akanda, S., **Jutla, A. S.,** and Islam, S. 2009. Bimodal Explanation of cholera in Bangladesh: a hydroclimatological explanation. *General Assembly of the European Geosciences Union, Vienna, Austria, April 19-24.*

68. Islam, S., Akanda, S., **Jutla, A.S.,** Lin, C. and Gao, Y. 2009. AquaPedia: building intellectual capacity through shared learning and open access platform to resolve water conflicts. *General Assembly of the European Geosciences Union, Vienna, Austria, April 19-24.*

69. Islam, S., Moomaw, W., Akanda, S., **Jutla, A.S.,** Schulz, A., Lin, C. and Grogan, D. 2009. AquaPedia: Building Capacity to Resolve Water Conflicts. 'Education, Knowledge and Capacity Development Strategies' session, *World Water Forum 5*, Istanbul, Turkey.

70. Akanda, S., **Jutla, A. S.,** and Islam, S. 2009. Seasonal forecasting in Bangladesh: prediction and preparation for water disasters, *World Water Forum 5*, Istanbul, Turkey.

71. **Jutla, A.S.** and Islam, S. 2008. Instantaneous shortwave radiation for all sky conditions using MODIS. *General Assembly of the European Geosciences Union, Vienna, Austria, April 13-18.*

72. Akanda, A., **Jutla, A.** and Islam, S. 2008 Understanding the seasonality of cholera transmission in South Asia role of hydroclimatology. *General Assembly of the European Geosciences Union , Vienna, Austria, April 13-18.*

73. **Jutla, A.S.,** Flores, A, Vogel, R. and Islam, S. 2008. On probability distribution of extreme precipitation events. *General Assembly of the European Geosciences Union, Vienna, Austria, April 13-18.*

74. **Jutla, A.S.,** Small, D. and Islam, S. 2008. A precipitation dipole and its seasonality in Eastern North America. *General Assembly of the European Geosciences Union, Vienna, Austria, April 13-18.*

75. Akanda, A.S, **Jutla, A.** and Islam, S. 2007. Understanding the hydrology of cholera in South Asia, *Proceedings of the American Geophysical Union, San Francisco, California*, USA. Dec, 13-18.

76. Akanda, A.S, **Jutla, A.,** and Islam, S. 2007. Hydrology of cholera in South Asia: issues of seasonality, scale and remote sensing, *Boston-India Symposium: Essential Interfaces in Public Health*, Boston. October, 22-23.

77. **Jutla, A,** and Islam, S, 2007. An algorithm for estimating evapotranspiration for all sky conditions, *Proceedings of the American Geophysical Union, Acapulco, Mexico*, May 22-24.

78. **Jutla, A.,** Islam, S., Niyogi, D. and Carlson, T. 2006. A simple method for estimating canopy resistance using Penman-Monteith equation and remotely sensed evapotranspiration. *International Conference on Mesoscale Processes in Atmosphere, Ocean and Environmental Systems (IMPA2006), Indian Institute of Technology, New Delhi, India. February 14-17.*

79. **Jutla A,** Small D and Islam S. 2006. Is increased precipitation over central United States related to the decreased precipitation over Hudson Bay in Canada? *Research Days,* Tufts University, Medford, MA.

80. Elshorbagy, A. and **Jutla, A.** 2006. Hydrological modeling of reconstructed watersheds using system dynamics. *General Assembly of the European Geosciences Union , Vienna, Austria, April 2-7.*

81. **Jutla, A.,** Elshorbagy, A., and Kells, J. 2005. Beyond rainfall-runoff modeling: hydrologic simulation of reconstructed watersheds using system dynamics. *17th Canadian Hydrotechnical Conference, Edmonton, AB, Canada, August 17-19, 11-20.*

82. **Jutla, A.S.,** Elshorbagy, A. and Kells, J.A. 2004. Predicting Spring Runoff in Canadian Prairies using Artificial Neural Networks, *Proceedings of the Annual Conference of Canadian Society of Civil Engineers, Saskatoon, Saskatchewan, June 2-5.*

83. **Jutla, A.** (1999) Pollution and its impact on ecosystem, *Proceedings of Second Annual Convention of Students' Chapter ISTE, Maharashtra*, *India* 89.

84. **Jutla, A.** and Anand, S. (1999) Rural technology, *Proceedings of Second Annual Convention of Students' Chapter ISTE, Maharashtra*, *India* 92.

Graduate Advising and Mentorship

Name   **Year**

Currently Enrolled
1. Sunil Kumar, Ph.D. student
2. Komalpreet Singh, Ph.D. student
3. Bailey Magers, Ph.D. student

Graduated

M.Sc.

	Name	Year	
1.	Haidar Aldaach	2015	
2.	Rifat Anwar	2017	
3.	Ashish Kondal	2018	
4.	Lauren Diaz	2022	
5.	Bailey Magers	2022	
6.	Quirui Rui	2023	(MEng- Project report)

Ph.D.

	Name	Year	
1.	Fariborz Azadani	2016	*Research Scientist in a private industry*
2.	Lubna Hamdan	2016	*Doing something meaningful in the world*
3.	Rakibul Khan	2018	*Scientist, Michigan Department of HHS*
4.	Moiz Usmani	2022	*Post-doctoral Researcher at UF*
5.	Mayank Gangwar	2023	*Doing something meaningful in the world*
6.	Yusuf Jamal	2023	*Post-doctoral Researcher at Oklahoma U.*

Post-doctoral and Visiting Scholars

	Name	Year	
1.	Dr. Amina Raheja	2022	*Visiting Scholar from Punjab Agricultural University, India*
2	Dr. Moiz Usmani	2022	

In addition, I have served on dissertation committees of eight other graduate students over last six years.

Undergraduate Mentor
1. Brandon Bowman   2013
2. Rebecca Posa   2014*
3. Hannah Billian   2015

4.	Erica Flederbach	2015
5.	Marrisa Poultney	2016
6.	Stephan Cavanaugh	2017
7.	Claire McDonald	2019
8.	Nathan Bonham	2019*
9.	Tyler Kisling	2019
10.	Shirin Hassan	2019
11.	Matthew Green	2019
12	Bailey Magers	2019
13	Tino Vinson	2019
14	Emily Hernandez	2020
15	Emma Goldberg	2020
16	Amber Crumpler	2023

*won NSF GRFP

Media (Representative Only)

BBC News	Yemen cholera epidemic 'controlled' by computer predictions https://www.bbc.com/news/health-45259922 August 28, 2018
Scientific American	Satellite Predict Cholera https://www.scientificamerican.com/article/satellites-predict-a-cholera-outbreak-weeks-in-advance/ Jan 03, 2018
NASA	From Microscopic to Multicellular https://www.nasa.gov/feature/goddard/2017/six-stories-of-life-that-nasa-sees-from-space November 2017
Forbes	With Global Warming, Expect More Deadly Vibrio Cases https://www.forbes.com/sites/judystone/2015/07/30/with-global-warming-expect-more-deadly-vibrio-cases/#19a81d8a2d65 July 2015
EHP	Warming Trend: How Climate Shapes *Vibrio* Ecology Environmental Health Perspectives: http://ehp.niehs.nih.gov/123-A82/ April 2015
EOS	Climate Change Predicted to Worsen Spread of Cholera https://eos.org/articles/climate-change-predicted-worsen-spread-cholera January 5, 2015
American Geophysical Union	Cholera in a time of changing climate http://fallmeeting.agu.org/2014/press-item/press-conference-cholera-in-a-time-of-changing-climate Dec 15, 2014
Fox News	Deadly cholera outbreaks could increase with climate change http://www.foxnews.com/health/2014/12/17/deadly-cholera-outbreaks-could-increase-with-climate-change/ Dec 17, 2014
Science Daily	New Early Warning System for Cholera Epidemics http://www.sciencedaily.com/releases/2013/08/130815104813.htm August 16, 2013
Earthzine Magazine	Rita Colwell: Keeping Her Aim on Cholera http://www.earthzine.org/2012/11/28/rita-colwell-keeping-her-aim-on-cholera/ Nov 29, 2012

NASA Feature	*In the Time of Cholera* http://earthdata.nasa.gov/featured-stories/featured-research/time-cholera Nov 20, 2011
New York Times	*Sturdy Cholera Bug Thrives as Researchers Look to Stanch Outbreak* www.nytimes.com/gwire/2011/09/23/23greenwire-sturdy-cholera-bug-thrives-as-researchers-look-35456.html?pagewanted=1 Sept 23, 2011
BBC News	*Science in Action* www.bbc.co.uk/programmes/p00jb7dy Aug 11, 2011
Huffington Post	*Satellite Images May Help Predict The Next Cholera Outbreak* www.huffingtonpost.com/2011/07/06/cholera-outbreak-prediction-prevention_n_891756.html July 6, 2011
Science Daily	*New Insight Into Predicting Cholera Epidemics in the Bengal Delta* www.sciencedaily.com/releases/2009/11/091104101555.htm Nov 16, 2009

Professional Memberships
American Geophysical Union [AGU]
American Microbiological Society [ASM]
Sigma Xi [Elected Member]

Active Citizenship
Foundations/ Organizations

2014-2022	Advisory Member	Global Alliance Against Cholera, Veolia Foundation, France
2015-2019	Member	Global Task Force of Cholera Control, World Health Organization.
2017-2019	Member	Natural Hazards Executive Committee, AGU.
2018-2022	Member	ASCE-Watershed Management Technical Committee
2018-2019	Member	Water Science and Technology Board- National Academies of Science, Engineering and Medicine, USA
2018-	Chair	Group of Earth Observations-Infectious disease panel

WVU

2012-2017	Member	Recruitment Committee, CEE
2013-2017	Member	Safety Committee, CEE
2013-	Member	Scholarship Committee, CEE
2013-2016	Member	Digital, Media, and Emerging Educational Technology, CEE
2013-2014	Member	CEE Promotion &Tenure Committee
2014-2015	Member	CEE Water Systems Faculty Search Committee
2015-2016	Member	CEE Transportation Faculty Search Committee
2015-2016	Advisor	ASCE Student Organization
2018-	Member	Faculty Council Executive Committee
2015	Member	Goldwater Search Committee
2017-	Member	Statler Computer Committee

2017-	Member	Academic Affairs Committee
2018	Member	Division of Talent and Culture (College representative)
2018-2019	Member	CEE Environmental Faculty Search Committee
2018-2019	Member	CEE Promotion &Tenure Committee
2019	Member	Statler Engineering Dean Search Committee

Other

2006-2007	President	Indian Student Association at Tufts, Tufts University, USA
2000-2001	President	Indian Society for Technical Education, PAU Chapter, India
2004	Volunteer	Canadian Society for Civil Engineering Symposium, Canada
1999-2000	Secretary	Indian Society for Technical Education, PAU Chapter, India

Research Grants
Ongoing

16	**USGS Water Resources Research Center Grant** 09/10/2023-Ongoing: PI Jutla	$100,000
15	**NASA: Prediction of global cholera outbreak system** 3/1/2022- 2/28/2025: PI Jutla	$1.1 million
14	**Development of a wastewater hierarchical sentinel site** 9/1/2022- 8/31/2024: Co-I Jutla	$100,000
13	**GeoHealth INTERN NSF: Training of environmental engineers** 9/1/2023- 2/29/2024: PI Jutla	$53,024
12	**Building Resilience to PFAS Exposure on Vulnerable Coastal Communities Prone to Extreme Weather Floods: Brevard County FL as a Case Study** Co-I: Jutla (with K. Deliz) 06/01/2020-05/31/2024	EPA $800,000
11.	**R01: Effects of climate change on prevalence and environmental niches of clinically important vibrios in the Chesapeake Bay,** Co-PI: A. Jutla (with A. Huq, UMD**)** 06/01/2018-05/31/2024	NIH-NEIHS NSF-OCE ~$1.7 million [$315,357 UF]
10.	**CAREER: Assessing impacts of enhanced climatic variability and extreme natural events on environmental sustainability of water in fostering disease resilient public health,** PI: A. Jutla 03/01/2018-02/28/2025	NSF-CBET $500,000

Completed

9	**Empowering rural America: Assessment of resilience of livestock and food transportation infrastructure under extreme natural events,** Co-PI: A. Jutla (with T. Nguyen, UIUC; A. Unnikrishnan, PDX) 05/01/2019-04/30/2023	USDA-NIFA $200,000
8	**Predicting and preparing for cholera,** PI: A. Jutla (with UK Met Office) Funding committed, 03/01/2019- 02/28/2021	UK-DfID (~$350,000)
7	**RAPID: Characterization of pathogens in water, soil and animal facilities for resilience assessment of civil infrastructure after extreme weather events,** Co-PI: A. Jutla (with T. Nguyen, UIUC; A. Unnikrishnan, PDX) 11/15/2018-11/14/2020	NSF-CIS $60,000
6	**Predictive Assessment of transmission conditions of cholera in the environment and human population using earth observations,** PI: A. Jutla 01/01/2018-12/31/2023	NASA $573,010
5.	**Corridor H stream monitoring,** PI: A. Jutla 06/01/2105-05/31/2019	US-DOT $108,380
4.	**A multi-sensor remote sensing approach to predict cholera,** PI: A. Jutla	NASA

	03/01/2015-02/28/2019	$393,596
3.	**Socio-economic evaluation of multi-sensor remote sensing approach to predict cholera,** PI: A. Jutla 04/01/2016-02/28/2019	NASA $247,597
2.	**Healthy West Virginia: Tracking West Nile virus using satellites** PI: A. Jutla 05/15/2013-05/14/2014	NASA-EPSCoR $20,000
1.	**Tracking cholera outbreaks using remote sensing,** PI: A. Jutla 07/01/2009-06/30/2010	Tufts University, MA $5,000