Wildfires are becoming more frequent and severe across the western U.S. and worldwide. Combining science with management is essential to understanding how best to manage forest structure and wildfire behavior and to influence the trajectory of future wildfire hazards. Working in several interdisciplinary teams of federal and tribal forest managers on long-term studies in previously burned areas improves the science of postfire management decision-making by quantifying risks and hazards associated with no action with alternative management actions.

Morris C. Johnson is a research fire ecologist at the US Forest Service, Pacific Northwest Research Station, Pacific Wildland Fire Sciences Laboratory located in Seattle, WA. He grew up in a small northeastern Louisiana town located on the banks of the Mississippi River named Waterproof, LA. His research focus is quantifying silvicultural treatment effects on changing wildfire behavior and understanding post-wildfire forest and fuel succession following large stand-replacing wildfires. He began his Forest Service career on the Rogue River-Siskiyou national forest on the Prospect Ranger District in Prospect, OR. He was a member of both the Redmond (Redmond, OR) and Redding (Redding, California) interagency hotshot crews. He earned a B.S. degree in Urban Forestry from Southern University (Baton Rouge, LA) and M.S. degree in Silvicultural and Forest Protection and Ph.D. degree in Ecosystem Analysis (Fire Ecology) both from the University of Washington (Seattle, WA). He is a Gates Millennium Scholar. Johnson is an affiliate assistant professor at the University of Washington (Seattle, WA), School of Environmental and Forest Sciences.

Suggested readings:


Dr. Candy Feller is an insect and plant ecologist at the Smithsonian Environmental Research Center (SERC). For more than 25 years, she has been carefully studying mangroves to understand how excess nutrients—like those from industrial, residential, and agricultural sources—affect mangrove ecosystems. The health of mangroves has ripple effects into marine food webs that use these mangroves as nurseries or feeding grounds, as well as for people who depend on mangroves for subsistence. She has published more than 100 scientific papers and has been project leader on multidisciplinary research programs focused on understanding the biocomplexity of mangrove ecosystems. With her collaborators, she has established a network of 30 or so long-term fertilization experiments along latitudinal and tidal gradients to investigate interactions between nutrient over-enrichment and climate change, including experimental research sites in the Caribbean, Australia, New Zealand, Belize, Panama, Florida and the Gulf of California, Bangladesh and Myanmar. She is currently working on a new project on mangroves in the Galapagos. Candy is a member of the International Union for Conservation of Nature (IUCN) Species Survival Commission (SSC) Mangrove Specialist Group, organized to share mangrove knowledge and develop conservation plans. This group will gather research and develop a global conservation strategy for mangroves based on conservation needs. Candy earned her B.A. in Biology from University of North Carolina, Greensboro, and her Ph.D. in Ecology from Georgetown University.

Suggested readings:
Dr. Timothy Ford
Chair, Professor, Associate Director for the Center for Pathogen Research and Training
University of Massachusetts Lowell

Water: Linking Environmental Science with Human Health

October 21st— 3:00 PM, Speck Auditorium, MBL

Born and educated in the UK, Timothy Ford earned his B.S. in Biochemistry at the University of Sussex, and his Ph.D. in Aquatic Microbiology at Bangor University. He did his postdoctoral training at Harvard University before taking a faculty appointment at the Harvard School of Public Health, where he served as an assistant and then an associate professor and both founded and chaired their program in water and health. Much of his biofilm and international work on the epidemiology of waterborne diseases started at Harvard. Ford then served as Head of Microbiology at Montana State University for several years, leading the NIH-funded Montana Idea Networks for Biomedical Research Excellence Program (MT-INBRE). This five-year program built research and training infrastructure in infectious disease and environmental health research throughout the state of Montana, and included all seven of Montana’s reservation communities. He also continued water and health work in India and developed partnerships in China, with a concurrent professorship at Nanjing University. Ford went on to serve as VP for Research and Dean of Graduate Studies at the University of New England, and then Dean of Health Professions at Shenandoah University before returning to environmental research as Chair of Environmental Health Sciences and Director of the Institute for Global Health at UMass Amherst. Now, at UMass Lowell, he plans to continue building multi-investigator research and training programs both locally and internationally.

Suggested readings:


Dr. Kathleen Weathers studies ecosystem processes within and among aquatic, airborne, and terrestrial systems. Weathers is an expert on fog, which carries nutrients, pollutants, and sometimes disease-causing pathogens. She studies links between ocean, air, and fog-dominated forests and recently, how fog may affect transfer of pathogens from water to land. She was co-Chair of the Global Lake Ecological Observatory Network (GLEON) for 10 years, guiding GLEON from its infancy to adulthood. GLEON is a world-wide grassroots collaboration of 800 research partners studying 150 lakes in 53 countries. Their aim: understand, predict, and communicate lakes’ response to environmental change using data from lake-based sensors. This work encompasses impacts from human activities such as road salting, agriculture, and climate change. Weathers and her colleagues have created a new model for collaborative research that explicitly empowers early career scientists. Kathleen Weathers received her B.A. in English at Albion College, her M.F.S. in Forest Science at Yale University, and her Ph.D. in Ecology at Rutgers University. She received the Eugene P. Odum Education Award from Ecological Society of America (ESA) in 2017 and served as President of ESA in 2020-2021.

Suggested readings: