

**Title:** Ecological modeling for restoration planning using R: A training series

**Abstract:** Ecological models, especially habitat suitability index models, are used by biologists and planners to evaluate the consequences of management and restoration activities on species and ecosystems. While habitat models are appropriate for some applications, incorporating additional ecological modeling and data science methods into management practices may improve restoration outcomes from planning through operation. The use of contemporary modeling and data science approaches can be greatly facilitated by practitioner's developing additional technical skills, such as the use of the R programming language, which is the predominant analytical software used in the field of ecology. In this webinar, we will introduce online training materials being developed by USACE ERDC scientists that focus on using R software for ecological planning contexts. These materials can guide practitioners on how to augment or replace spreadsheet-based ecological modeling practices that are currently popular. The introductory webinar will provide an overview of the value of using R for ecological modeling in the planning context, a synopsis of some of the specific training lessons that have been created, and how the material can be accessed and utilized. The introductory webinar will be followed soon by select short courses (i.e., 1.5 to 2-hour online trainings) that will showcase how R can be used for specific applications (e.g., machine learning, data visualization, habitat suitability modeling). The training material should help users harness the power of modern computing techniques to improve ecological modeling and planning scenarios.

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**Bio:** Ed Stowe is an ORISE Postdoctoral Fellow with the U.S. Army Engineer Research and Development Center (ERDC) Environmental Lab. He holds a B.S. in Biology from Yale University and a PhD in Ecology from the University of Georgia. His research focuses on using quantitative tools and models to evaluate the effects of management and restoration activities on freshwater fish and other organisms.