

hatchR

Morgan Sparks¹ Bryan Maitland¹ Eli Felts² Allison Swartz³ Paul Frater⁴

¹ Rocky Mountain Research Station, US Forest Service

² Idaho Fish and Wildlife Conservation Office, US Fish and Wildlife Service

³ College of Forestry, Oregon State University

⁴ Wisconsin Department of Natural Resources, Madison, WI, USA

Introduction

hatchR is a software ecosystem for predicting fish developmental phenology using statistical models. It offers three primary applications:

1. Basic summarization, plotting, and data checks for water temperature data.
2. Access published parameterizations for salmonid developmental models or build your own custom parameterizations for any species with user provided data.
3. Predict hatch and/or emergence timing across ambient temperatures from common data sources such as HOB0 loggers.

hatchR is deployed in two formats. First, it can be downloaded as a R package. Secondly, for users not familiar with R, it can also be accessed as a web app built in Shiny as a point-and-click tool.

To predict phenology, you need daily average temperatures over incubation (or data that can be summarized as such) and spawn timing.

Using hatchR

hatchR can be accessed two ways:

R package

hatchR can be downloaded from CRAN and used in the R programming language for full functionality. The **hatchR** website provides numerous Articles on basic to advanced use.



Shiny app

hatchR can be accessed in a point-and-click interface via Shiny. The app loads in your browser and provides much of the functionality of the R package but is less automative.



Workflow

