hatchR

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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 HOBO 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.

A toolset to predict when fish hatch and emerge in the wild

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

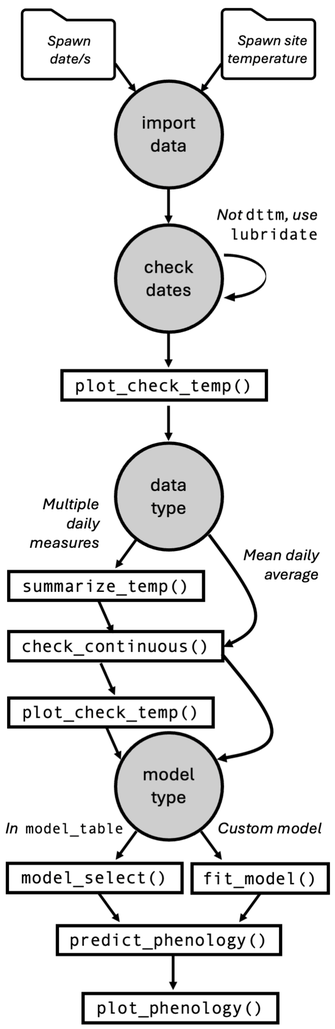

Figure 1: hatchR workflow. Processes are presented as filled circles, functions as plain text rectangles, and decisions as italicized text.