Building R packages

ACWA TMDL Training

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Florida Department of Environmental Protection

September 2021

Challenges to TMDL development

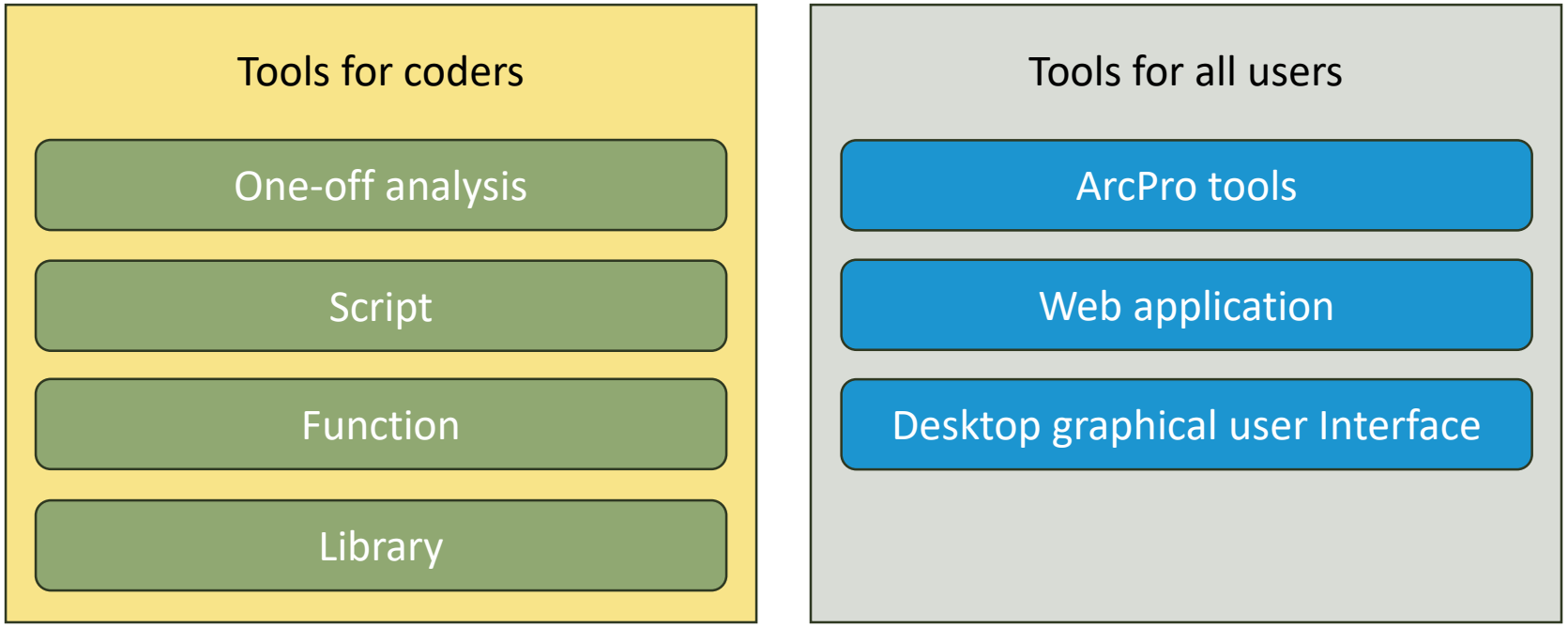
- Announcements
- Meeting Notifications and Updates
- Final TMDL Reports
- Draft TMDL Reports
- Groundwater Management Section
- Site-Specific TMDL Prioritization
  - Priority Framework Document
- TMDL Tracker
- All Water Quality Evaluation and TMDL Program Content

Waterbody Name(s)	Waterbody Identification Number (WBID)	Nutrient TMDL	Other TMDL	F.A.C. Rule No.
34th Street Basin, Clam Bayou Drain, Clam Bayou, (East Drainage), and Clam Bayou Drain (Tidal)	1716A, 1716B, 1716C, and 1716D		Fecal Coliform TMDL	62-304.645
Alachua Sink	2720A	Nutrient TMDL		62-304.500
Alafia River Above Hillsborough Bay - Tidal Segment	1621G	Nutrient TMDL		62-304.605
Allen Creek Tidal	1604		Fecal Coliform TMDL	62-304.600
Alligator Creek	123		Fecal Coliform TMDL	62-304.325

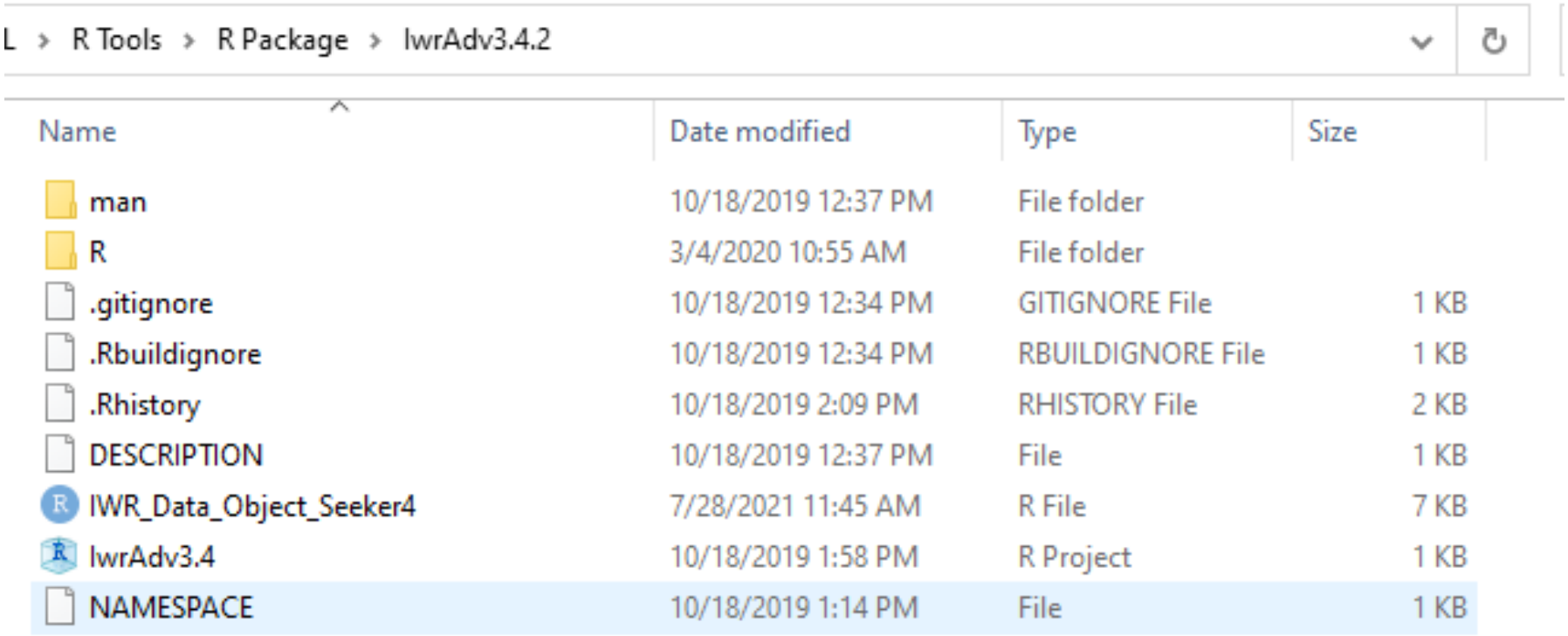
Tools of the trade

python™

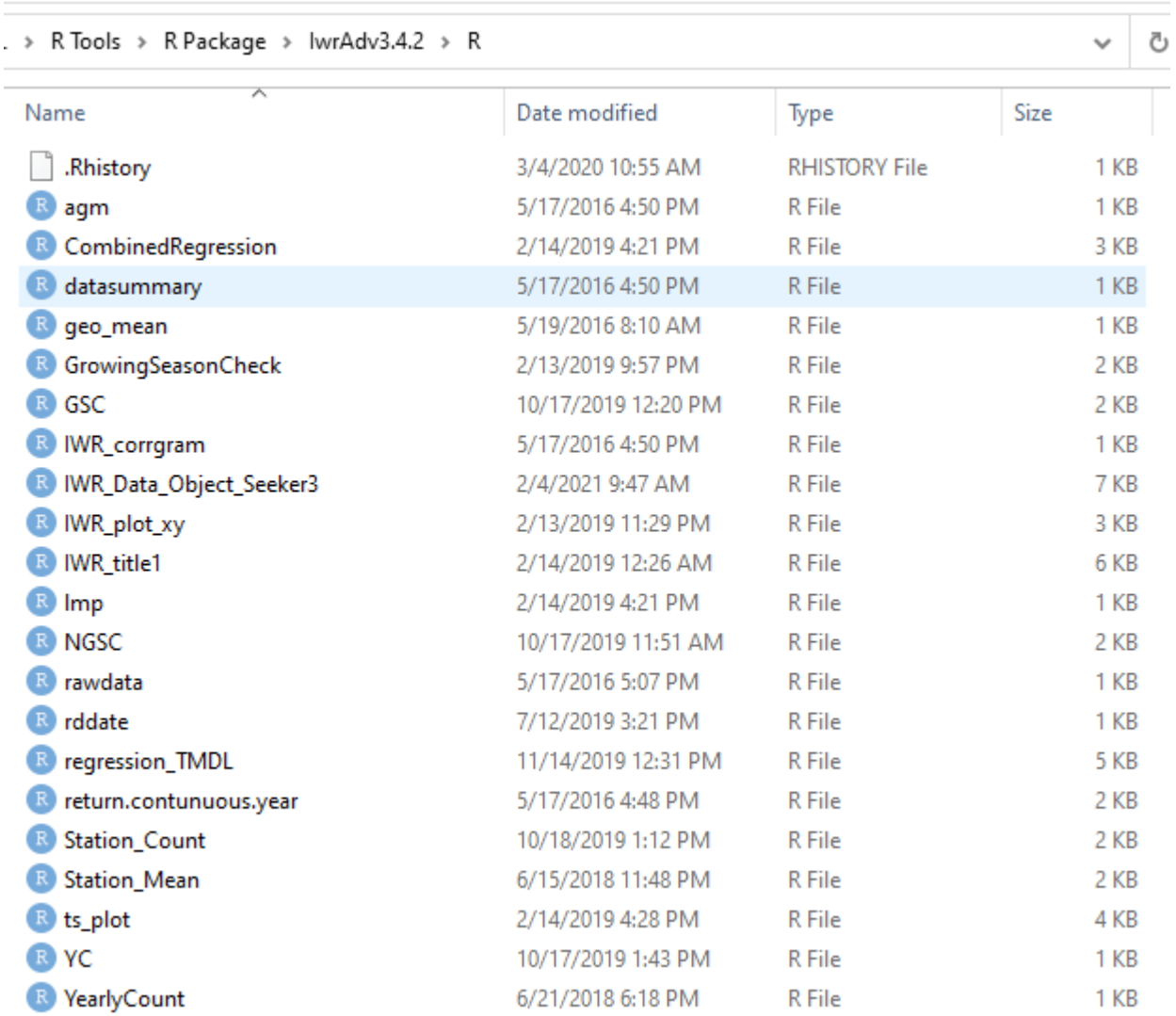
Things that code can build



What is an R package??



Packages = Set of Functions



TMDL R package

- Installable set of R functions designed to automate common tasks

- Data importing from the Florida Impaired Waters database

R Package

Data Extraction

IWR_Data_Object_Seeker

Data summaries

Yearly_Count

Station_Mean

Station_Count

Plotting Tools

IWR_Plot_XY

ts_plot

IWR_Corrgram

TMDL Modeling Tools

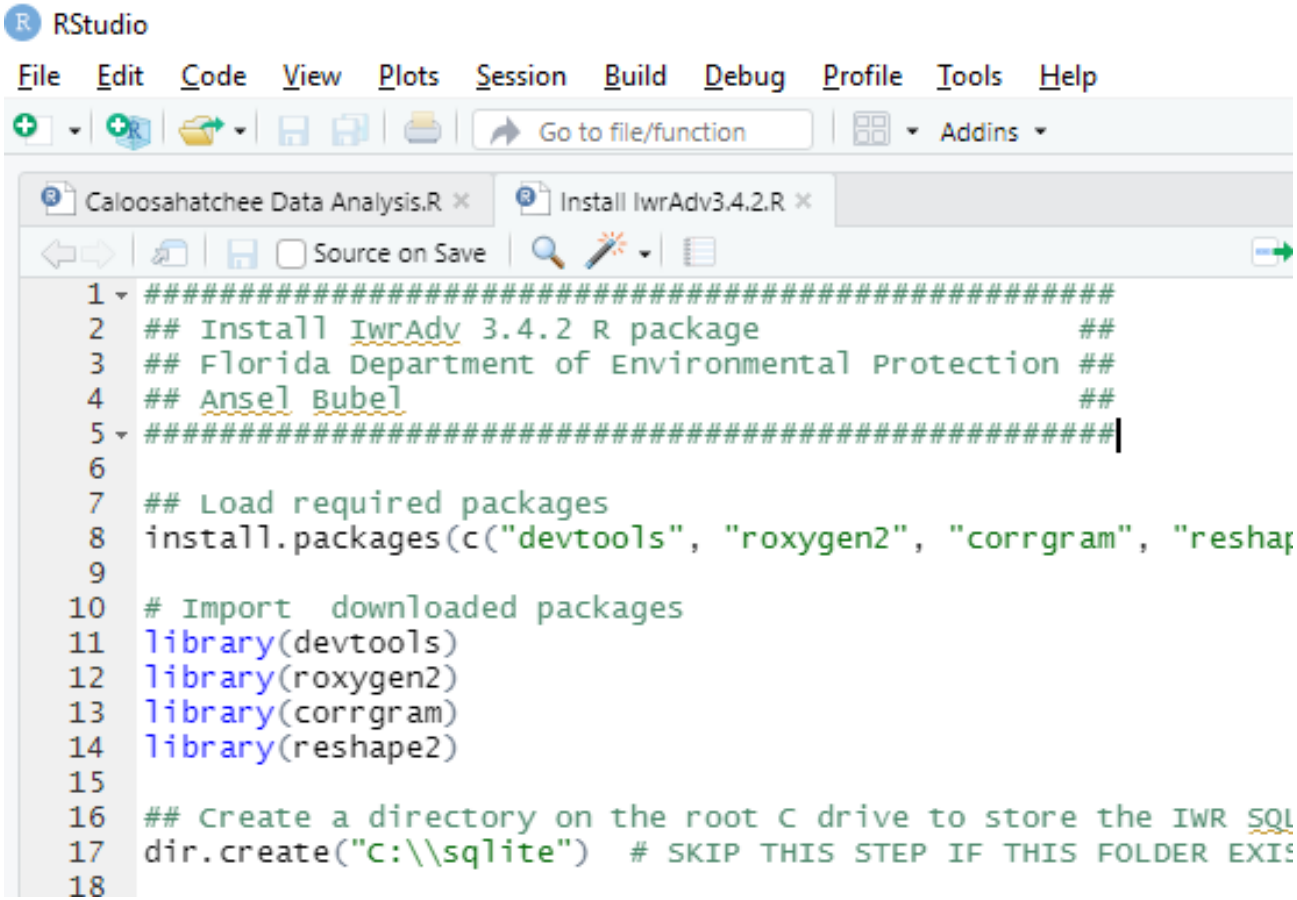
Regression_TMDL

CombinedRegression

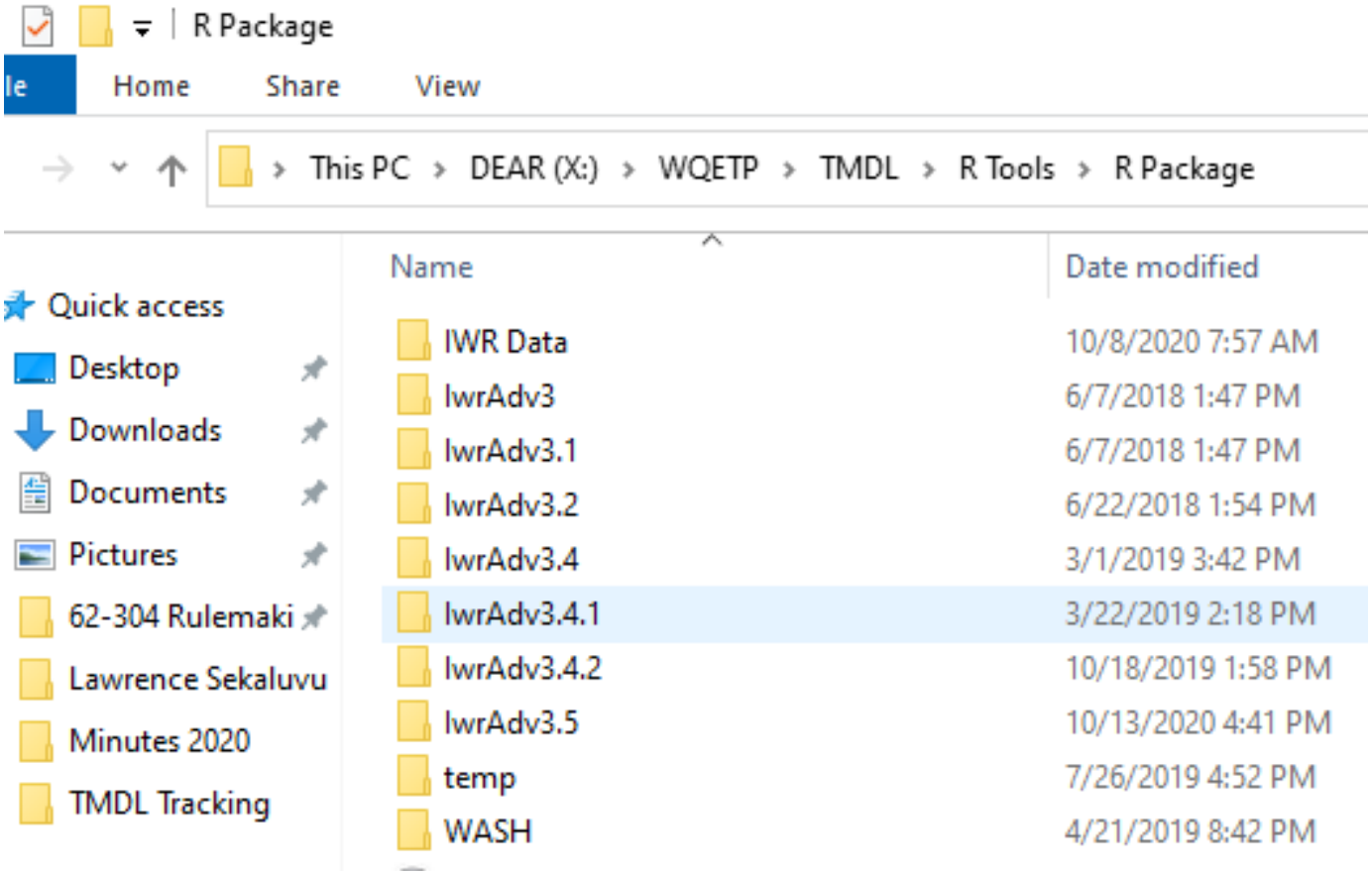
Benefits

- Toolbar Phase 1: $30k

Demo


RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function
Addins
Caloosahatchee Data Analysis.R
Install IwrAdv3.4.2.R
Source on Save
1 ##
2 ## Install IwrAdv 3.4.2 R package ##
3 ## Florida Department of Environmental Protection ##
4 ## Ansel Bubel ##
5 ##
6
7 ## Load required packages
8 install.packages(c("devtools", "roxygen2", "corrgram", "reshap
9
10 # Import downloaded packages
11 library(devtools)
12 library(roxygen2)
13 library(corrgram)
14 library(reshape2)
15
16 ## Create a directory on the root C drive to store the IWR SQL
17 dir.create("C:\\sqlite") # SKIP THIS STEP IF THIS FOLDER EXIS
18

Collaboration



Questions

IWR Database
Data Extraction
IWR_Data_Object_Seeker
Data summaries
Yearly_Count
Station_Mean
Station_Count
Plotting Tools
IWR_Plot_XY
ts_plot
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TMDL Modeling Tools
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9/24/2021