Food and Agriculture Organization of the United Nations

Module 5
AquaCropPlotter

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Context

- This presentation will focus on how to visualize and interpret AquaCrop results when running multiple simulations.

- AquaCrop results are txt files with extension OUT. Even with fairly simple experimental designs, such as multiple locations and multiple years of simulations, you can easily find yourself with more than 10 files. This can scale up to hundreds of files.

- We developed AquaCropPlotter, an app that can automatically load and process the results of AquaCrop.

Resources

- AquaCropPlotter can be found on GitHub.
- AquaCropPlotter can be run locally after installing the app in R or it can be used online.
- In this tutorial we will use the online version.

AquaCropPlotter

- The app works in four steps:
  1. Load the data
  2. Combine the data
  3. Plot the data
  4. Analyse the data

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Important: Input requirements

- When you run AquaCrop, you will have PRM and OUT files. Place them in the same folder before uploading the data in AquaCropPlotter.
- **Correctly specify the file name (variables separated by underscore)**

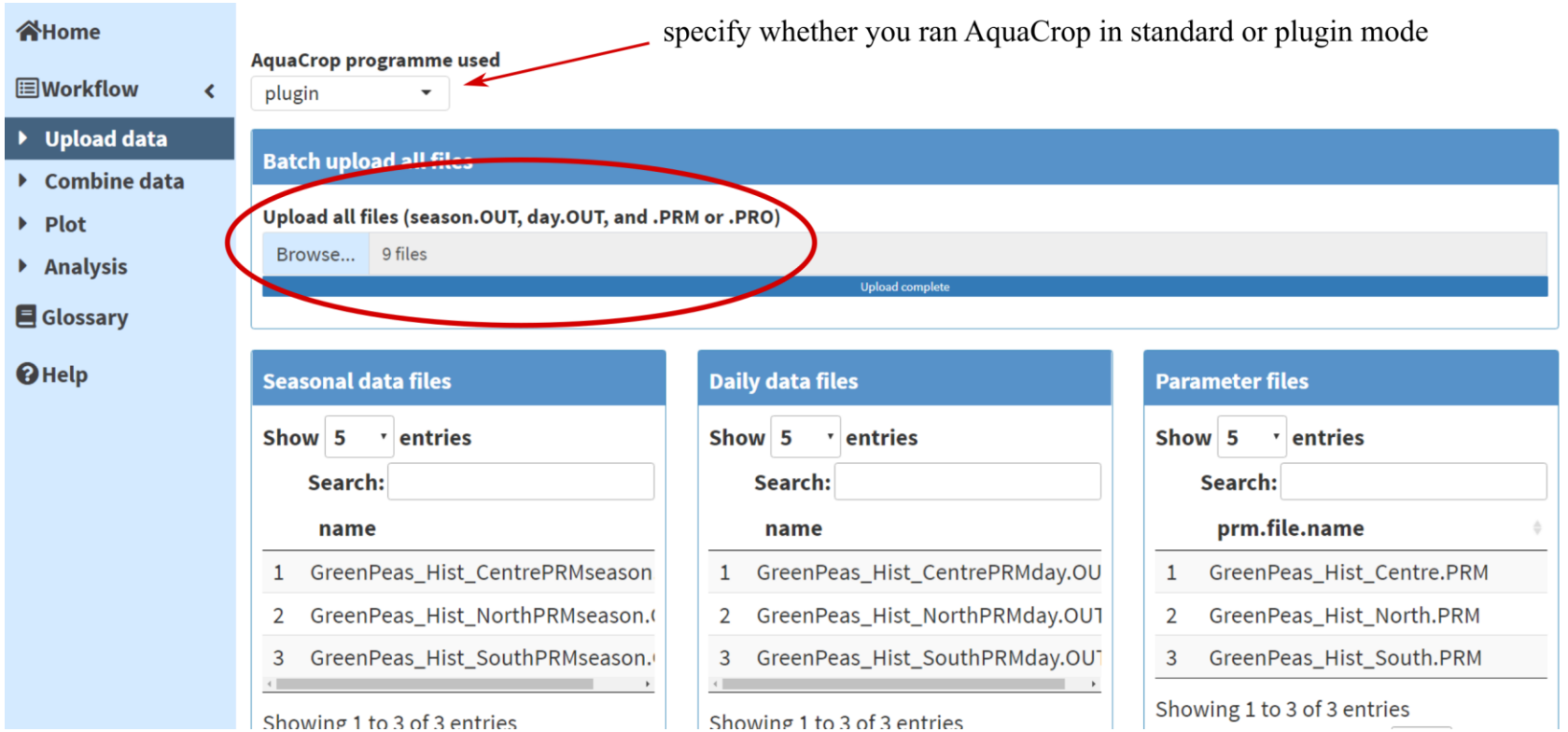
Location_crop_sowingDate

Workflow

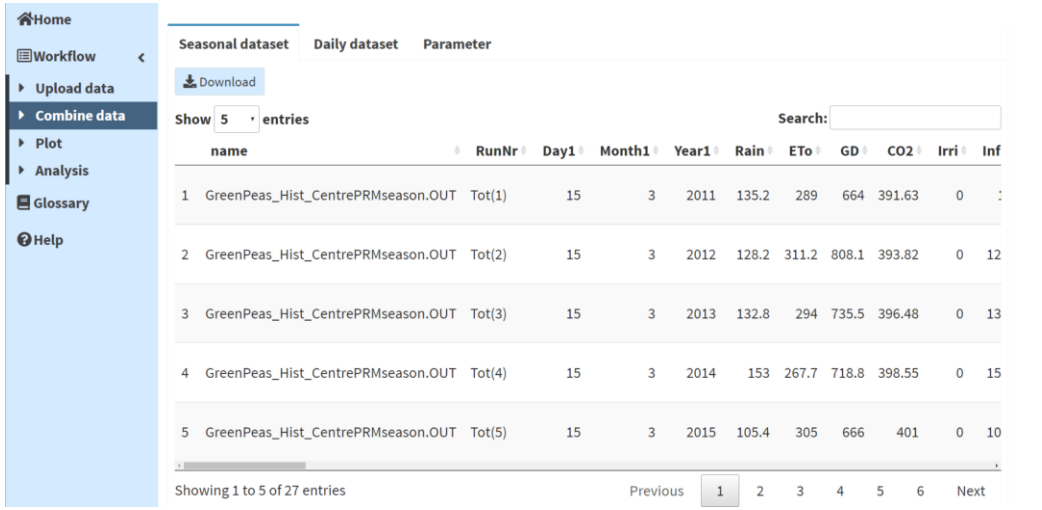
Workflow

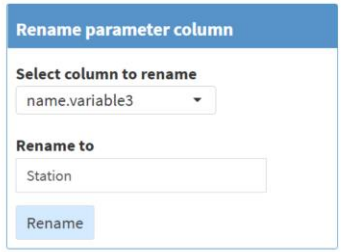
Upload data	Combined data	Plot	Analysis
- Select AquaCrop programme used (standard or plug-in) ⬆️ Upload all .OUT and .PRM files from all runs in one batch	- Combine all data into one data table - Rename variables (optional) ⬇️ download as .csv	- Plot time series, different variables - Customise plot ⬇️ download as .png, .pdf	- Time period window summary - Stress duration across phenological stages - Regression ⬇️ download as .csv

Load the data

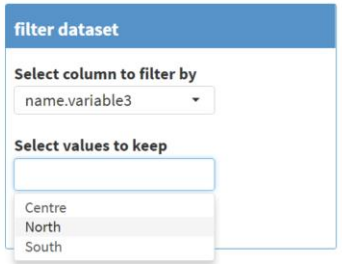


Combine the data

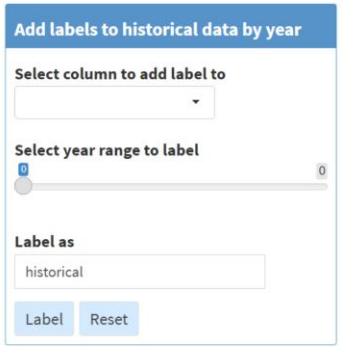




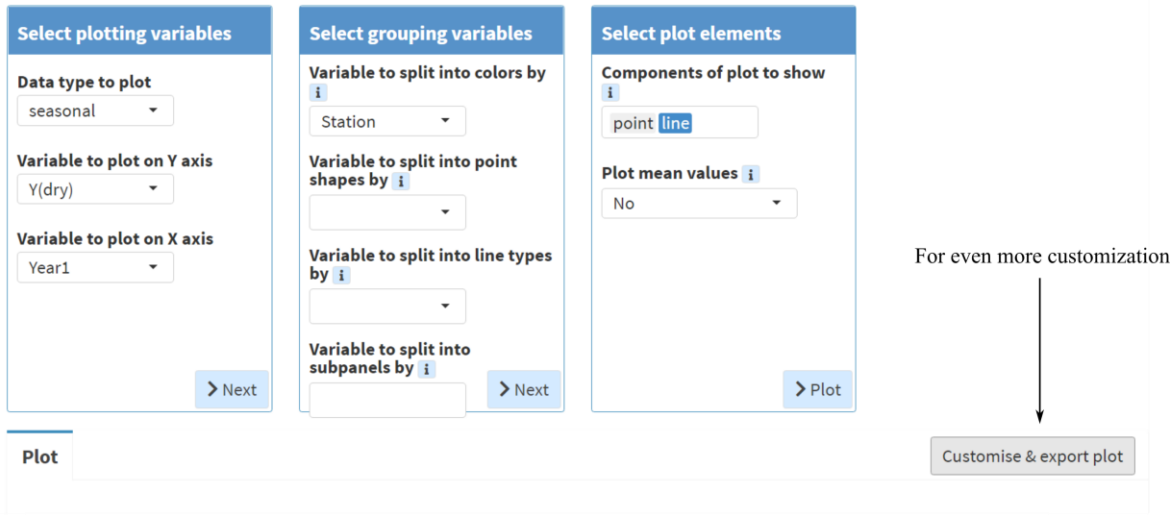
Here you can select how to rename a column. For example, in this case, name.variable3 was assigned to the different stations

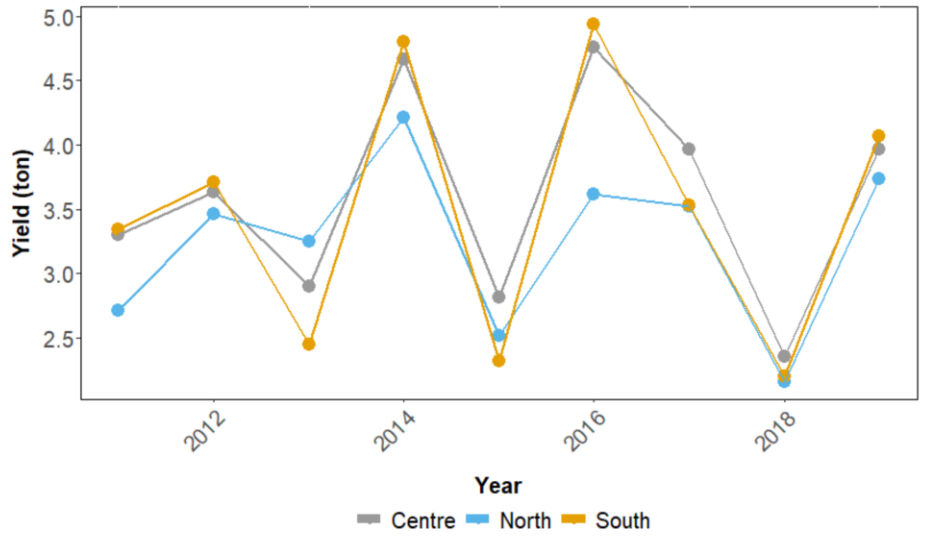


Here you can decide whether you want to only keep certain level of a variable

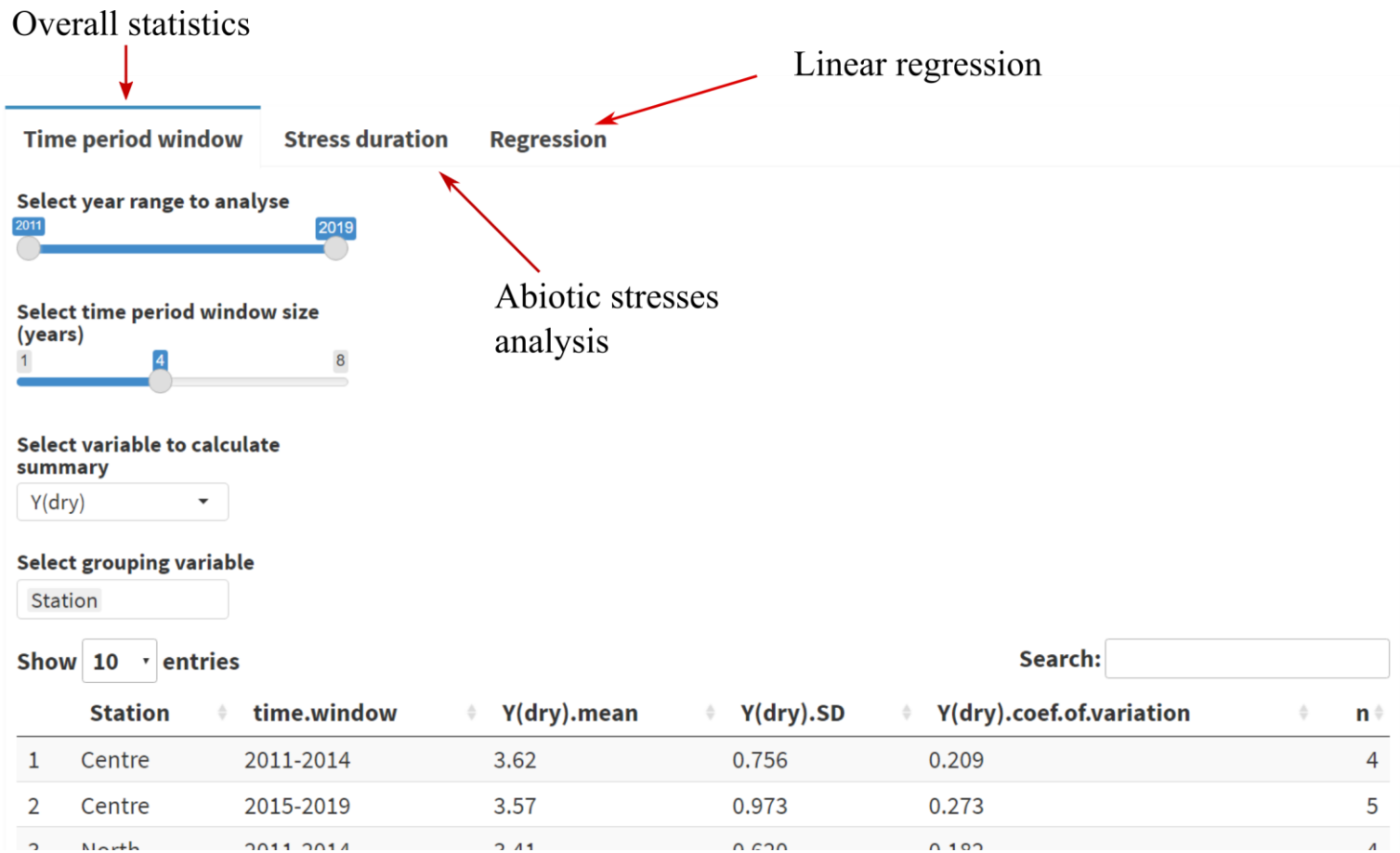


Plot the data





Analyse the data



Load the data and next steps

- In this tutorial we will be working with AquaCrop simulations for maize grown in 3 locations and using 3 different climate models.
- The data to be uploaded to the app is found in the directory Crop_Module_5.
- The rest of the tutorial will be about using the app directly
- For additional documentation, visit our page

Thank you!

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