

SHyP: an open-source Scoreboard interface for displaying and comparing scores for Hydrometeorological Predictions

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Summary

“scoreboardXXX” is an open source tool containing two major features: an interface proposing the possibility to display scores of hydrological forecasts performance and the architecture of a database for storing these scores. Its main objective is to provide to stakeholders or hydrological modellers a general framework to compare the performance of several models or model configurations. Performance comparison is very useful for works produced by different teams and providing this framework will benefit to fair comparing of scientific results. In addition, this tool permits producing plots and analysing them without substantial knowledge of programming and it could be hosted on a website: it could allow any stakeholder to use it for own purposes or data owners to display their results to anyone without necessarily making the actual data available.

Helena, stp fais-moi 5/10 lignes (pas plus) sur l’importance des prévisions, de leur comparaison, de l’intérêt de proposer cet outil, quelques scores, quelques références.

The “scoreboardXXX” interface is coded in R (R Core Team 2017) and makes full use of the capacities of the shiny package (Chang et al. 2018) as the selection of the catchments or scores of interest is made easy and graphs are interactively plotted. It contains a panel on the left for selecting the configuration of interest, some filters and the target stations and to create automatic png plots. The interface also contains several tabs for displaying scores in different ways: single plot, panel plots for comparing different stations of a single configuration, plots for comparing two configurations with the same score, a summary of the scores database, a definition of the scores and a final tab for uploading users scores.

The scores are not calculated by the “scoreboardXXX” but need either to be calculated by the users or to already be present in the database. In the interface, a tab is dedicated to the upload of new data (i.e. already computed scores). Two formats are allowed: txt files and RDS (native R format), with formats defined in the documentation. The uploaded scores are organised in an SQL databased whose architecture can be created through a script that is provided and can be run in postgresSQL (<https://www.postgresql.org/>). This allows for fast reaction from the interface when a specific set of scores is chosen by the users.

Acknowledgements

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References

- Chang, Winston, Joe Cheng, JJ Allaire, Yihui Xie, and Jonathan McPherson. 2018. *Shiny: Web Application Framework for R*. <https://CRAN.R-project.org/package=shiny>.
- R Core Team. 2017. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. <https://www.R-project.org/>.

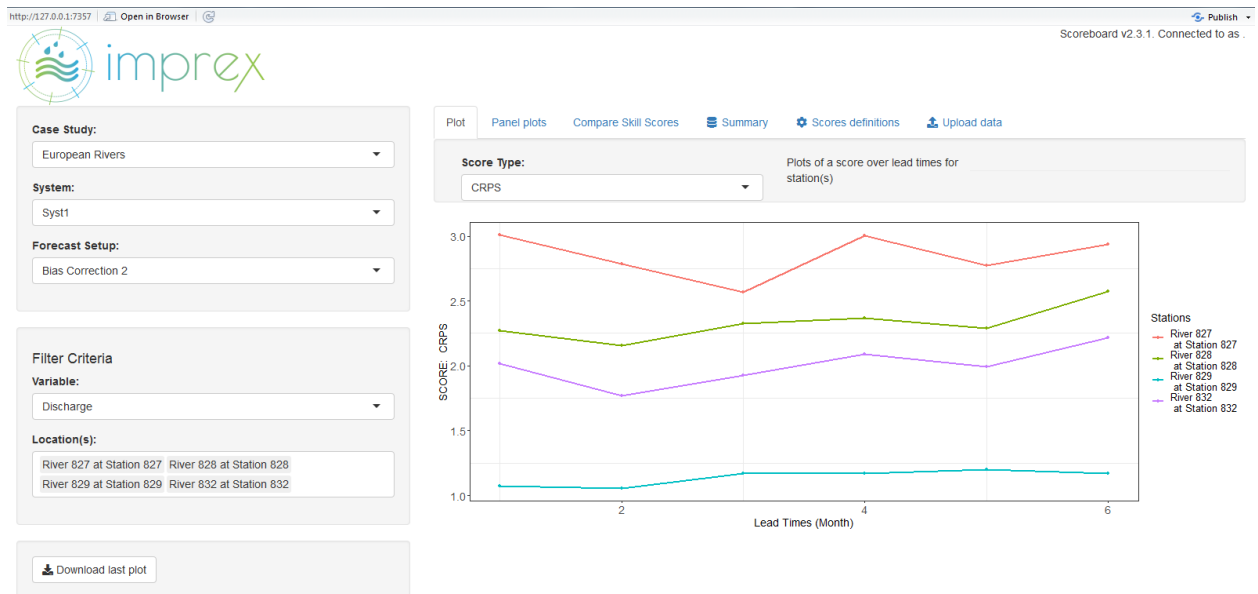


Figure 1: Overview of the interface, focus on the first tab that plots timeseries of scores.