

R-AUTOBEALE

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Loading Calculations Technical Symposium

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WHY modify and use R?

(vs. Fortran)

Load calculation is limited to annual period

Data pre-processing into formatted text

R => portable (cross-platform)

R => straightforward (easy!) vector manipulation

R => statistical analyses

Modifications

Recoded into R

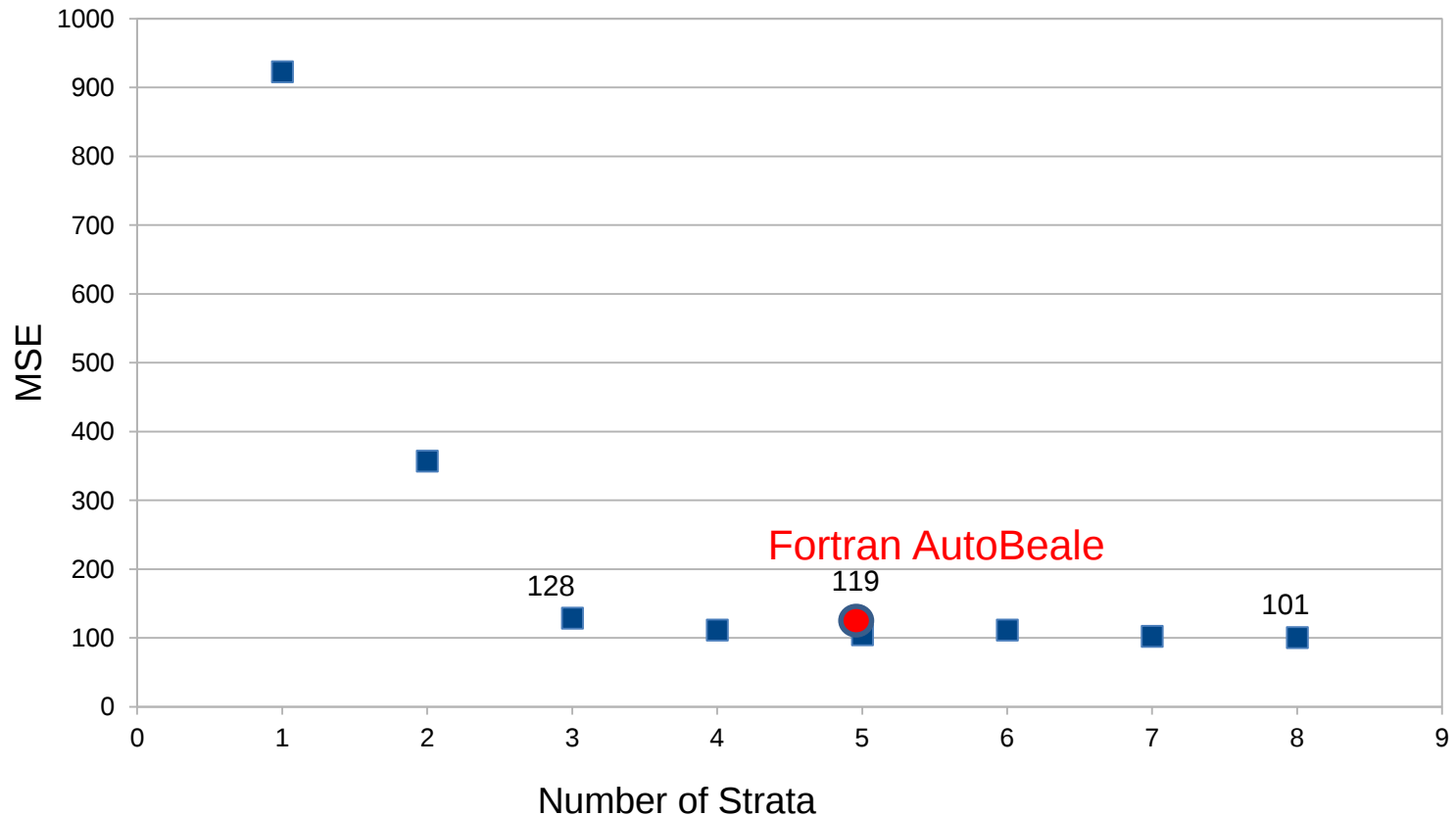
Flexible period: Monthly, Quarterly/Seasonal, Annual, User-defined.

Direct import of Excel file: Less pre-processing data.

Modifications

Auto-Stratification approach: (minimize stratum MSE)
Random Sampling: 2 to 10 strata with 5K, 10K, 20K, 50K samples.

Fortran-AutoBeale vs R-AutoBeale Error comparison



Weaknesses/TO DO

“Bone-headed” random sampling is highly inefficient

Optimum number of strata?

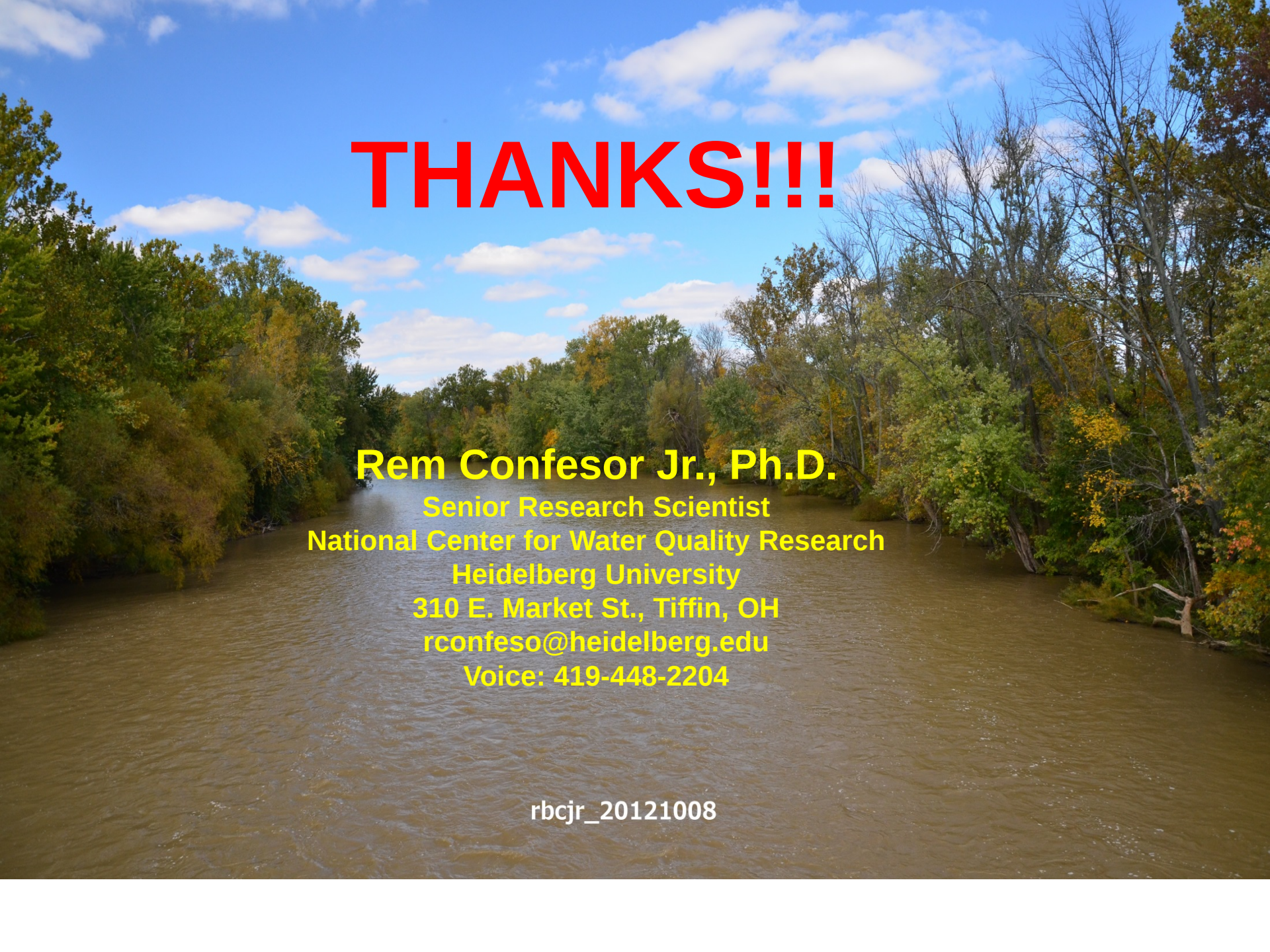
Need for more efficient optimization methods (e.g. GA):
(Steve Westenbroek, USGS Wisconsin)

Find the # of strata and stratum boundaries

Finalize results verification/codes

Currently runs in R command prompt

Improve graphical user interface



THANKS!!!

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