



Australia's National
Science Agency



Australian Government



National
Water Grid®

River model scenario analysis for the Victoria catchment: Supplementary material

A technical report from the CSIRO Victoria River Water Resource
Assessment for the National Water Grid

Justin Hughes, Ang Yang, Bill Wang, Steve Marvanek, Matt Gibbs and Cuan Petheram



ISBN 978-1-4863-2095-0 (print)

ISBN 978-1-4863-2096-7 (online)

Citation

Hughes J, Yang A, Wang B, Marvanek S, Gibbs M and Petheram C (2024) River model scenario analysis for the Victoria catchment. A technical report from the CSIRO Victoria River Water Resource Assessment for the National Water Grid. CSIRO, Australia.

Copyright

© Commonwealth Scientific and Industrial Research Organisation 2024. To the extent permitted by law, all rights are reserved and no part of this publication covered by copyright may be reproduced or copied in any form or by any means except with the written permission of CSIRO.

Important disclaimer

CSIRO advises that the information contained in this publication comprises general statements based on scientific research. The reader is advised and needs to be aware that such information may be incomplete or unable to be used in any specific situation. No reliance or actions must therefore be made on that information without seeking prior expert professional, scientific and technical advice. To the extent permitted by law, CSIRO (including its employees and consultants) excludes all liability to any person for any consequences, including but not limited to all losses, damages, costs, expenses and any other compensation, arising directly or indirectly from using this publication (in part or in whole) and any information or material contained in it.

CSIRO is committed to providing web accessible content wherever possible. If you are having difficulties with accessing this document please contact csiroyenquiries@csiro.au.

CSIRO Victoria River Water Resource Assessment acknowledgements

This report was funded through the National Water Grid's Science Program, which sits within the Australian Government's Department of Climate Change, Energy, the Environment and Water.

Aspects of the Assessment have been undertaken in conjunction with the NT Government.

The Assessment was guided by two committees:

- i. The Assessment's Governance Committee: CRC for Northern Australia/James Cook University; CSIRO; National Water Grid (Department of Climate Change, Energy, the Environment and Water); Northern Land Council; NT Department of Environment, Parks and Water Security; NT Department of Industry, Tourism and Trade; Office of Northern Australia; Queensland Department of Agriculture and Fisheries; Queensland Department of Regional Development, Manufacturing and Water
- ii. The Assessment's joint Roper and Victoria River catchments Steering Committee: Amateur Fishermen's Association of the NT; Austrade; Centrefarm; CSIRO; National Water Grid (Department of Climate Change, Energy, the Environment and Water); Northern Land Council; NT Cattlemen's Association; NT Department of Environment, Parks and Water Security; NT Department of Industry, Tourism and Trade; NT Farmers; NT Seafood Council; Office of Northern Australia; Parks Australia; Regional Development Australia; Roper Gulf Regional Council Shire; Watertrust

Responsibility for the Assessment's content lies with CSIRO. The Assessment's committees did not have an opportunity to review the Assessment results or outputs prior to their release.

This report was reviewed by Dr. Jorge Pena-Arancibia (CSIRO) and Dr. Shaun Kim (CSIRO).

Acknowledgement of Country

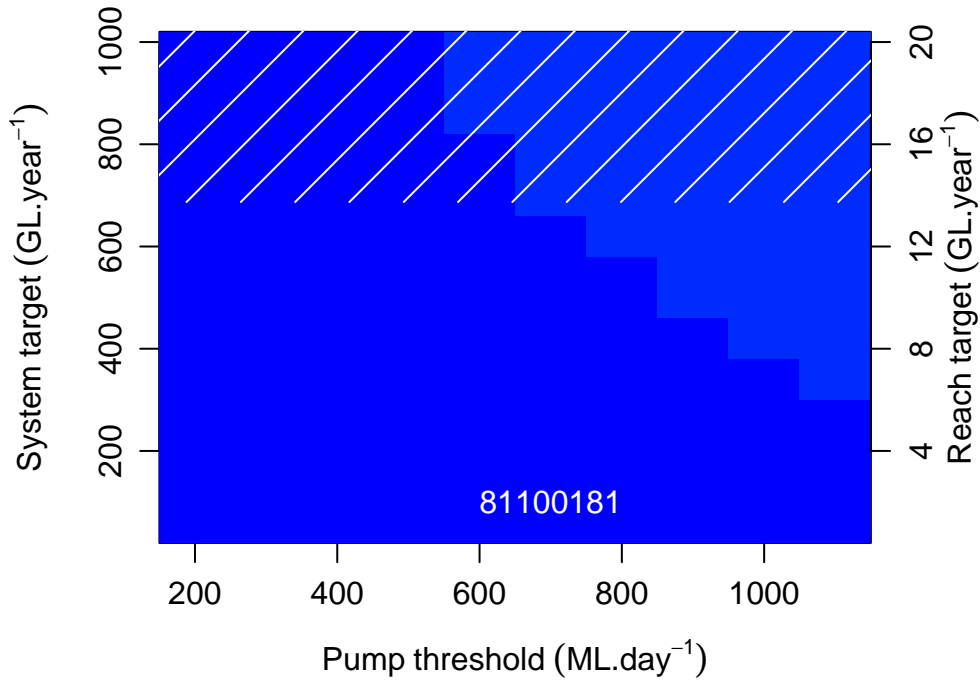
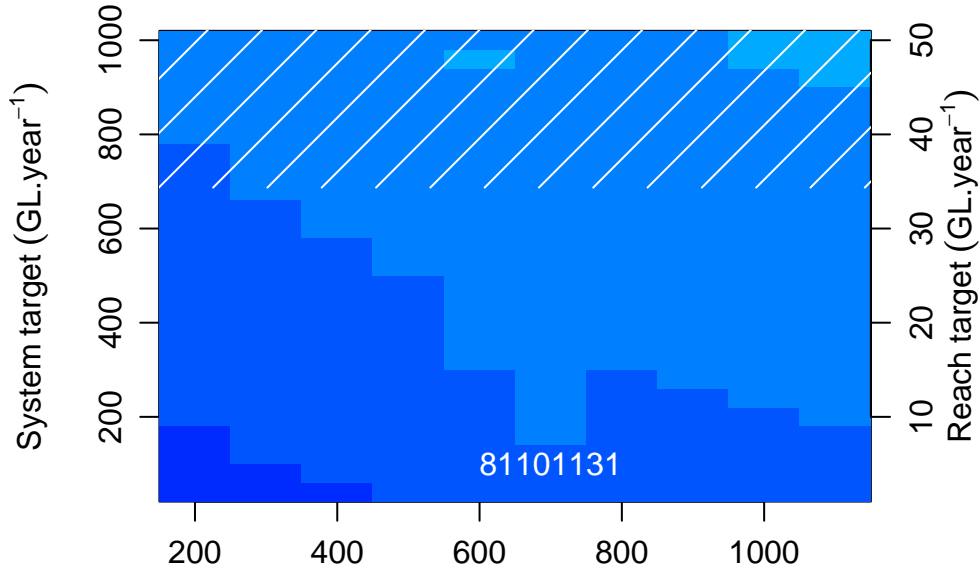
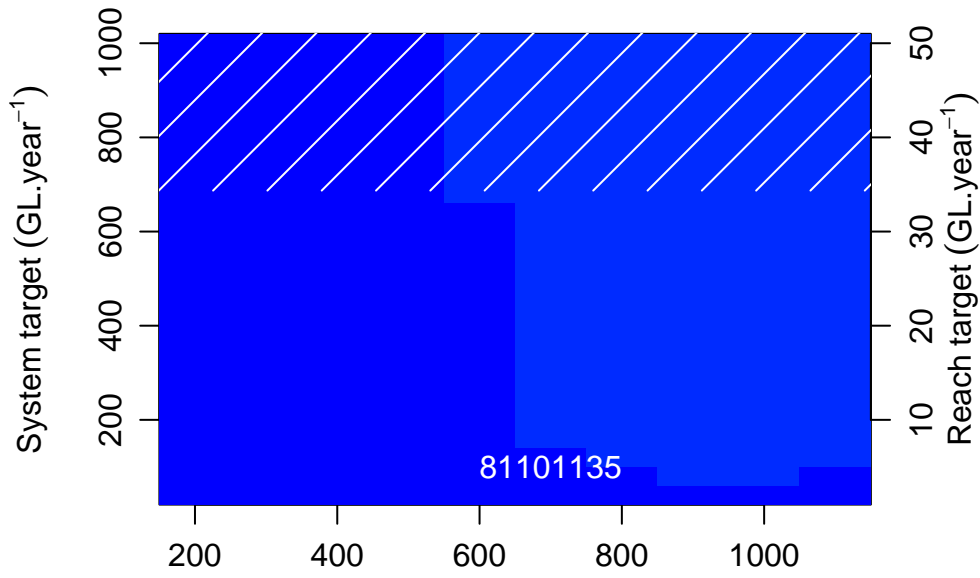
CSIRO acknowledges the Traditional Owners of the lands, seas and waters of the area that we live and work on across Australia. We acknowledge their continuing connection to their culture and pay our respects to their elders past and present.

Photo

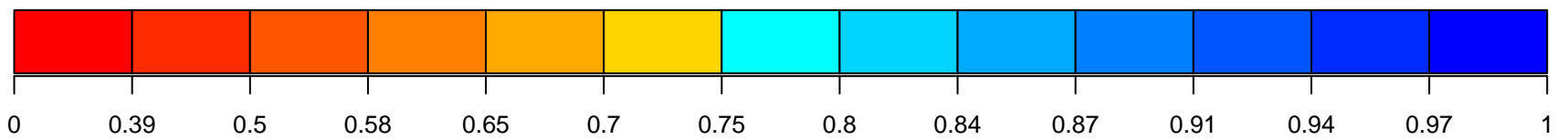
Timber Creek, NT. Source: CSIRO

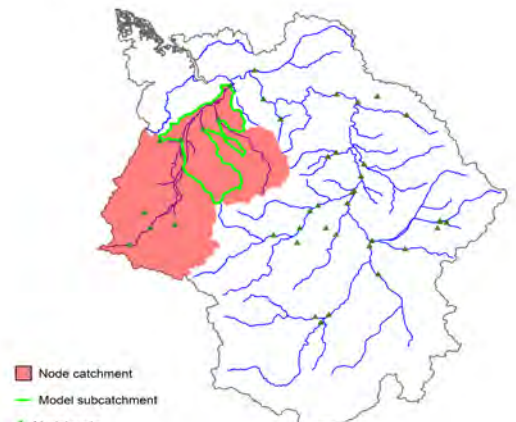
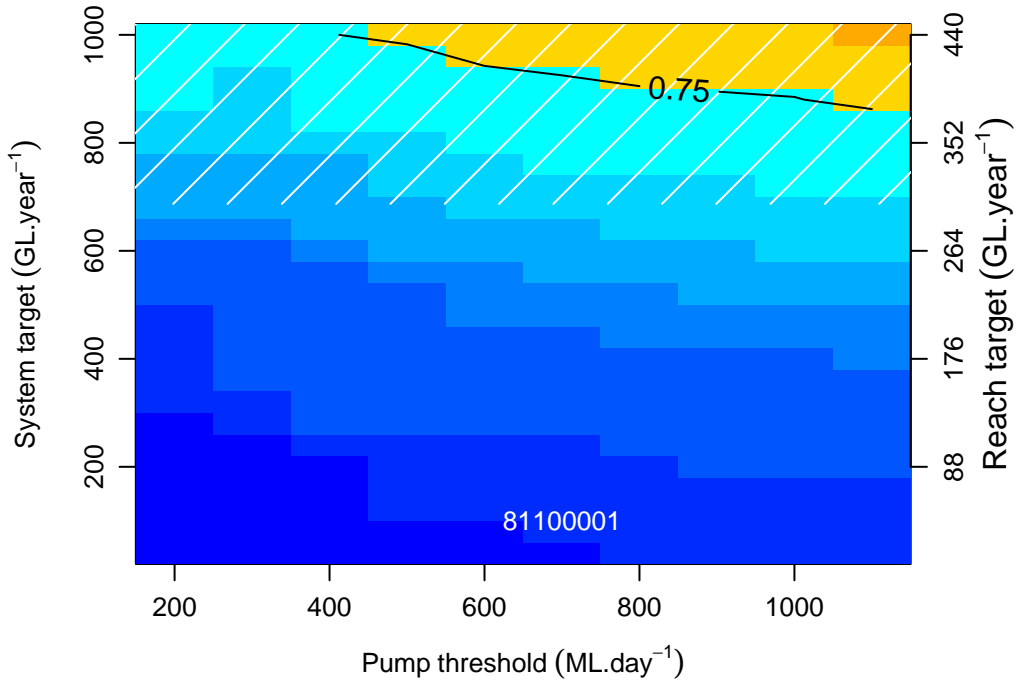
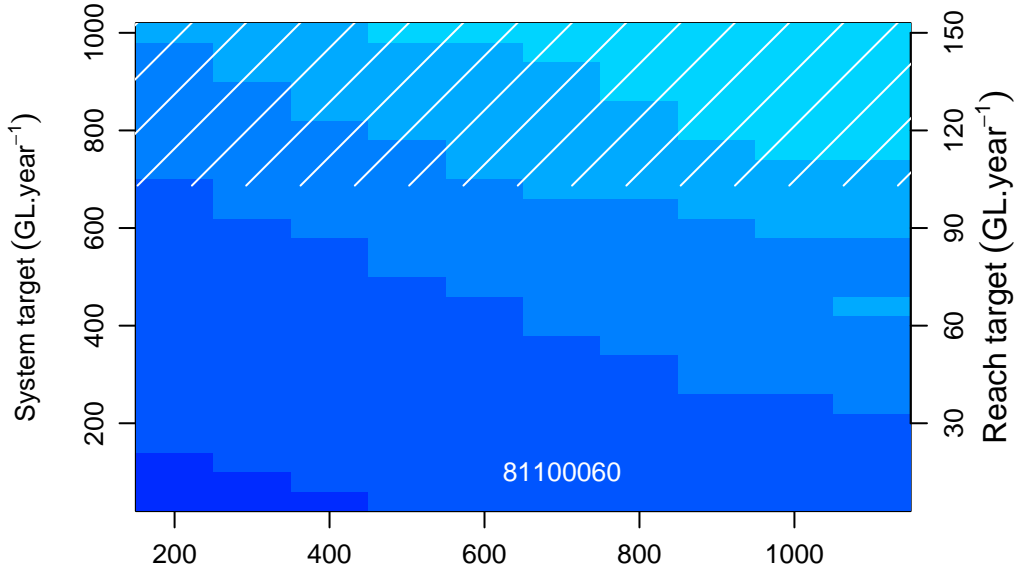
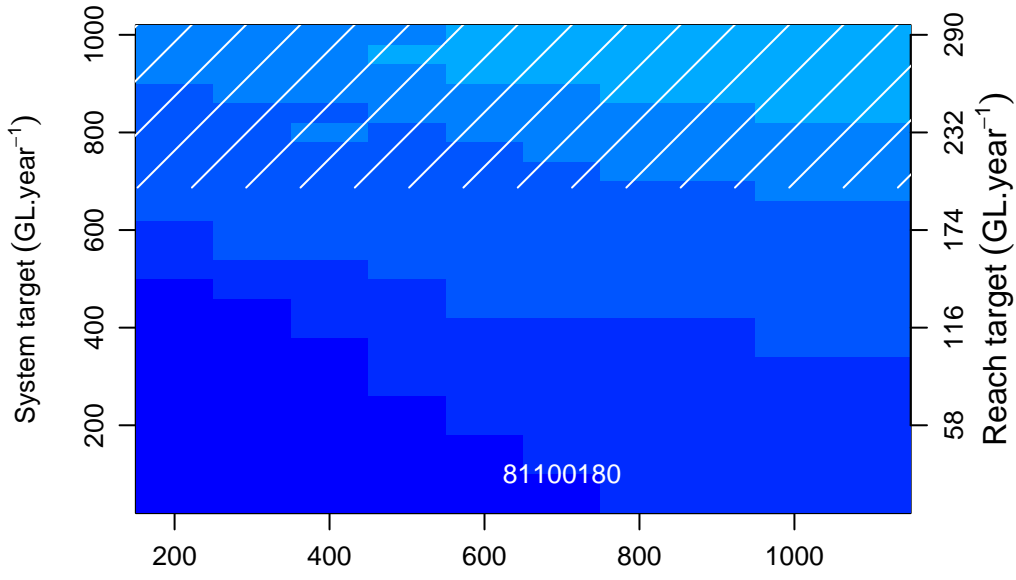
Supplementary material: Water harvest annual
reliability of supply plots, Victoria catchment

Pump rate : 10 days, EOS : 0

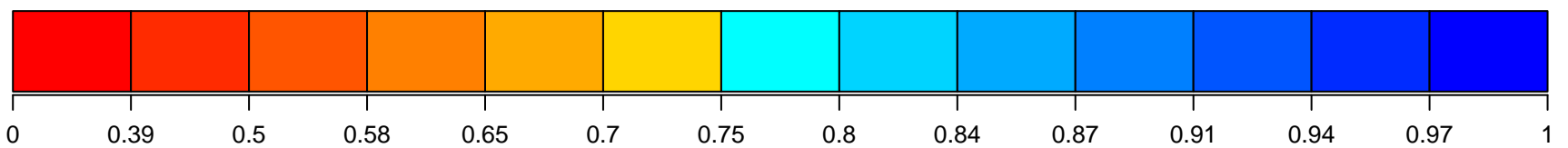


Annual reliability colour scale

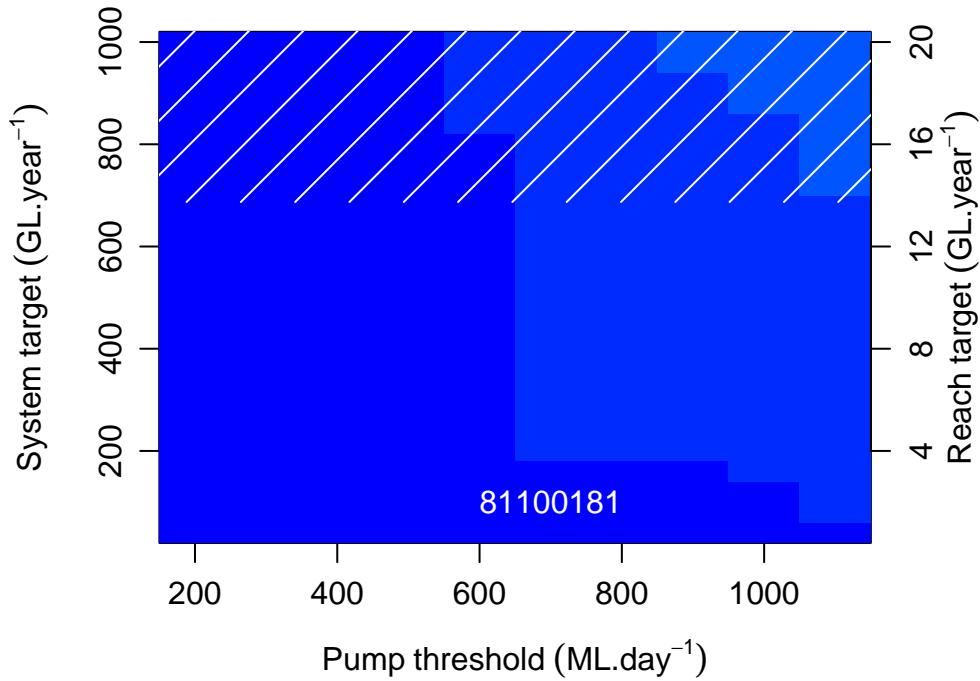
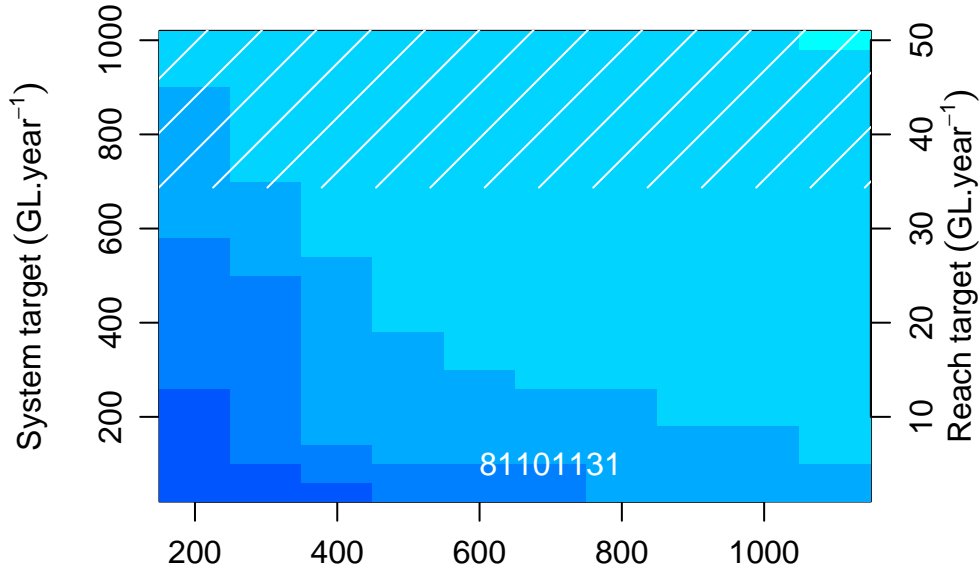
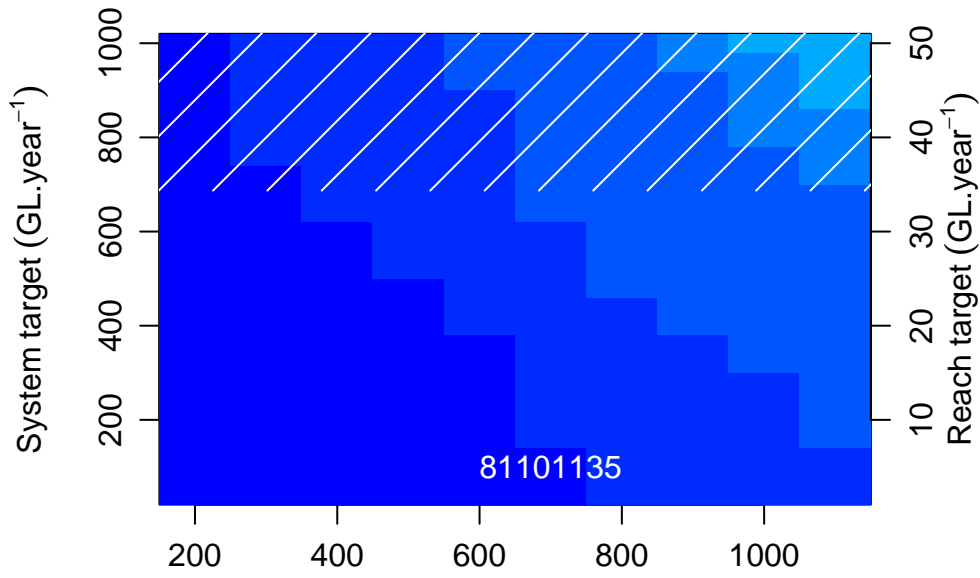




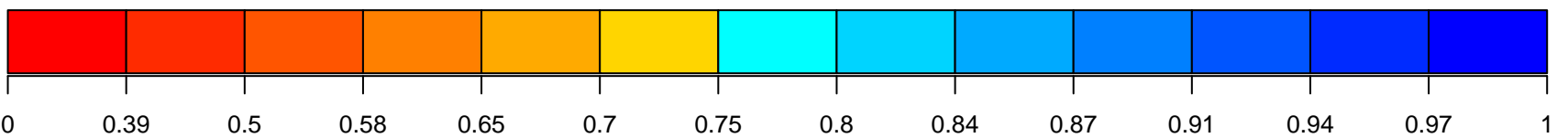
Annual reliability colour scale

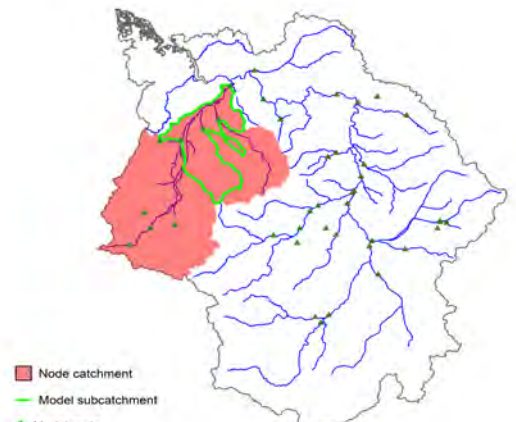
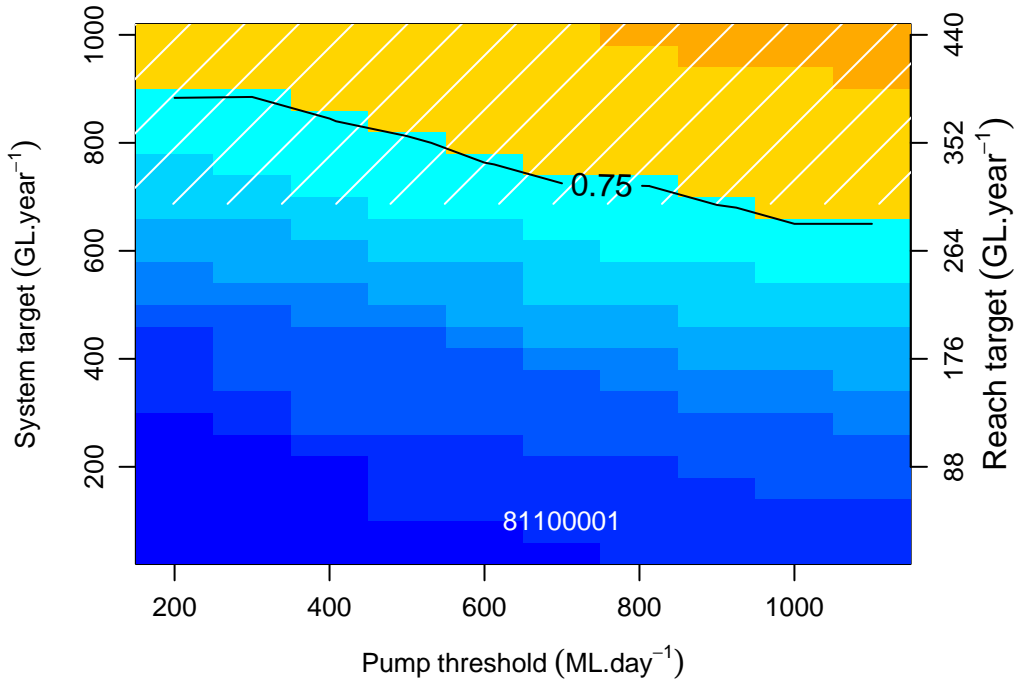
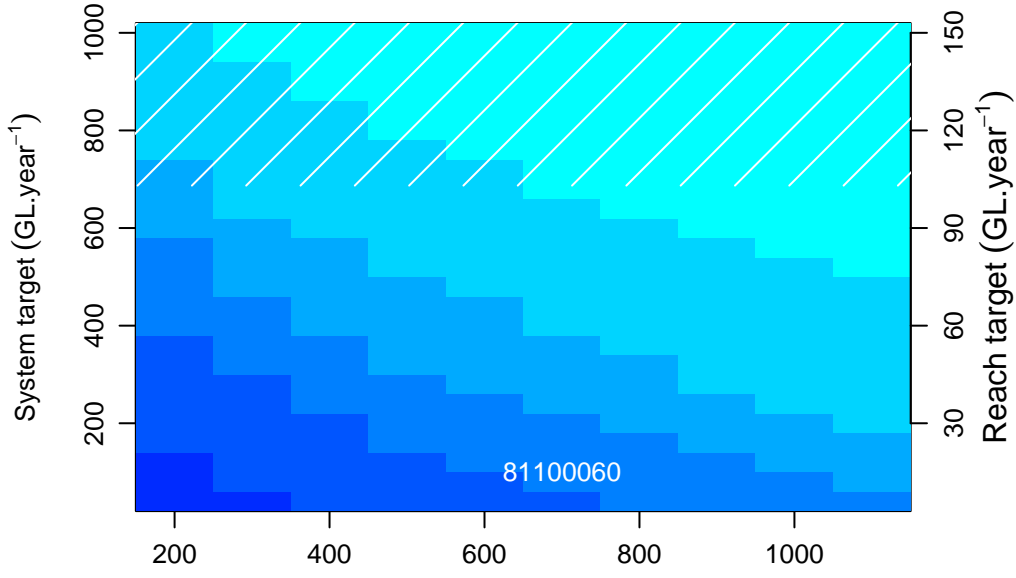
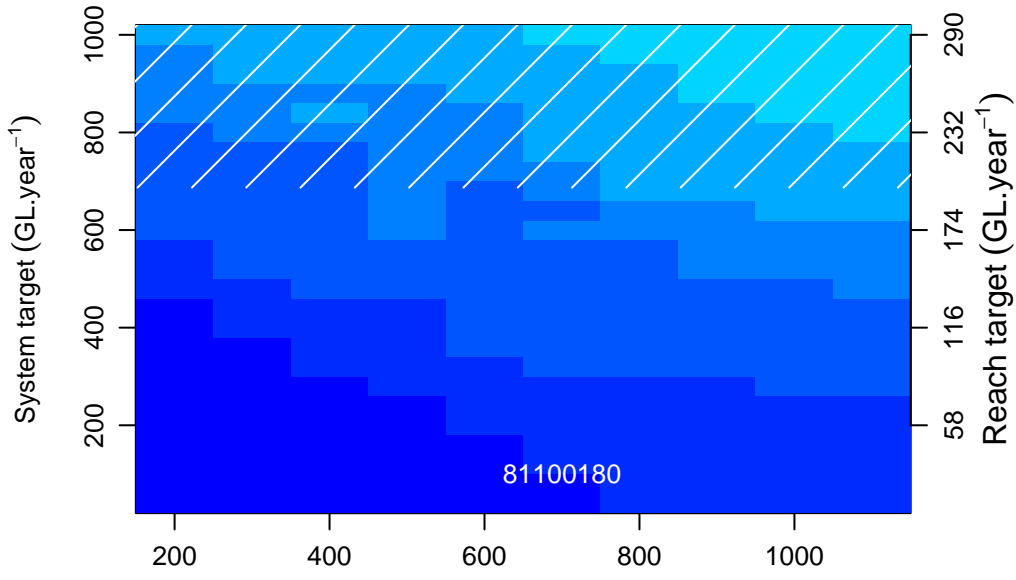


Pump rate : 20 days, EOS : 0



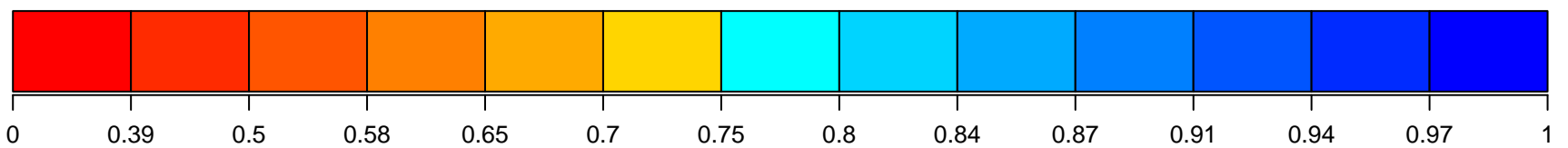
Annual reliability colour scale



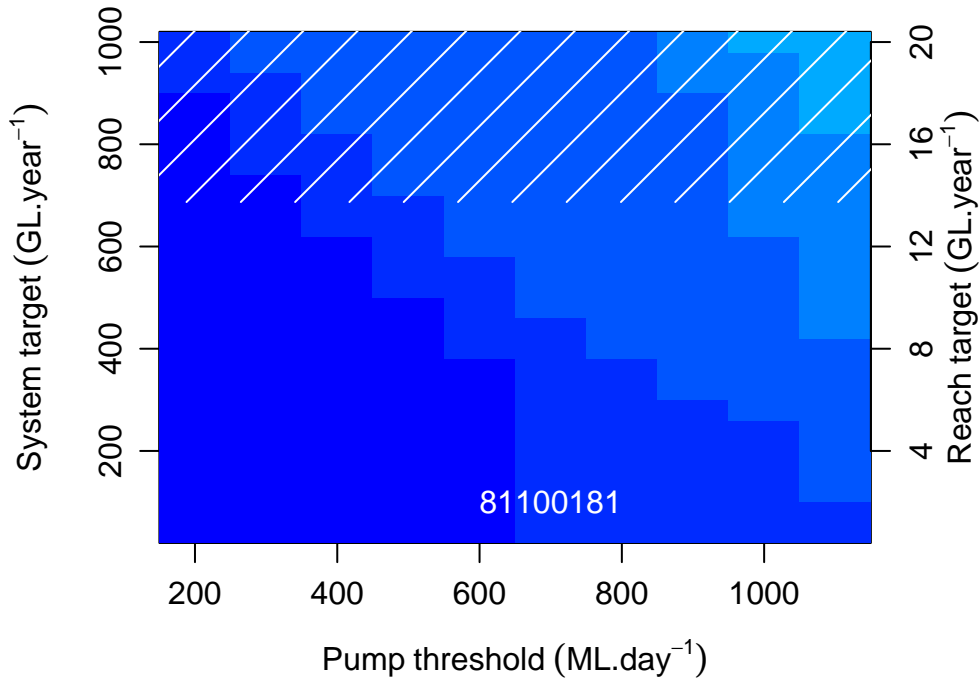
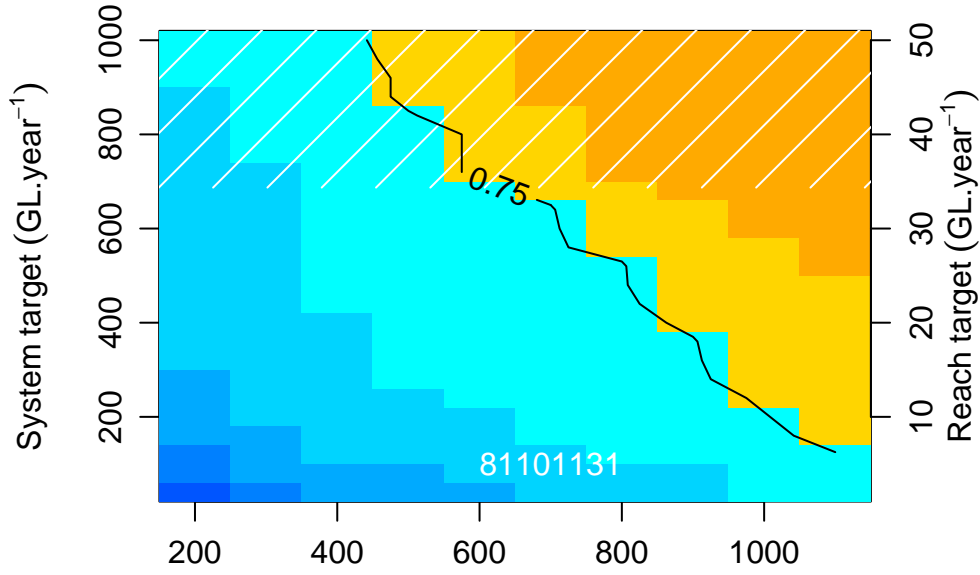
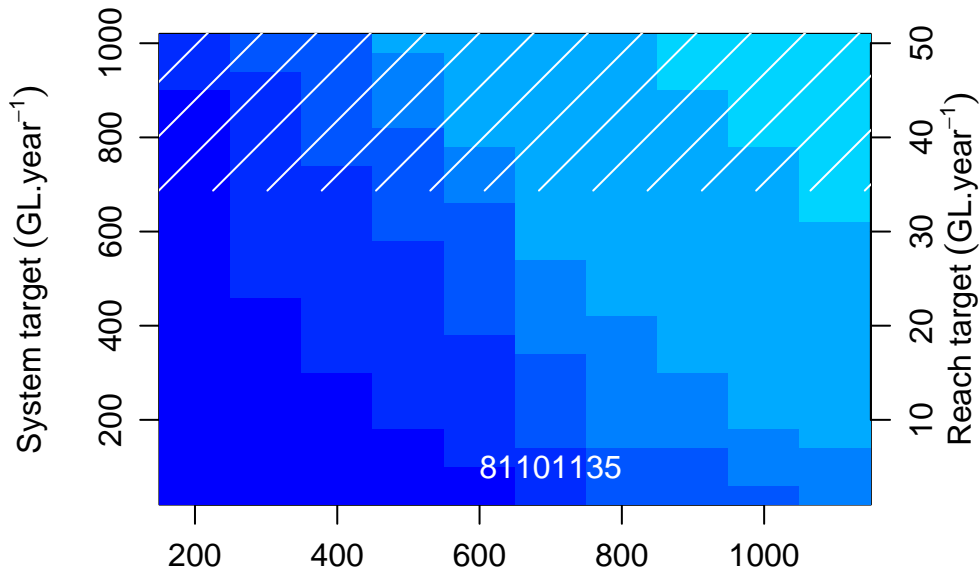


Pump threshold (ML.day⁻¹)

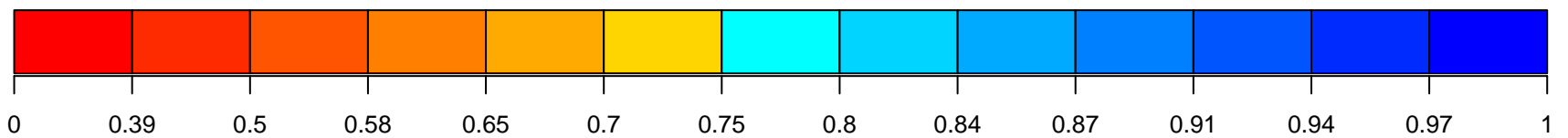
Annual reliability colour scale

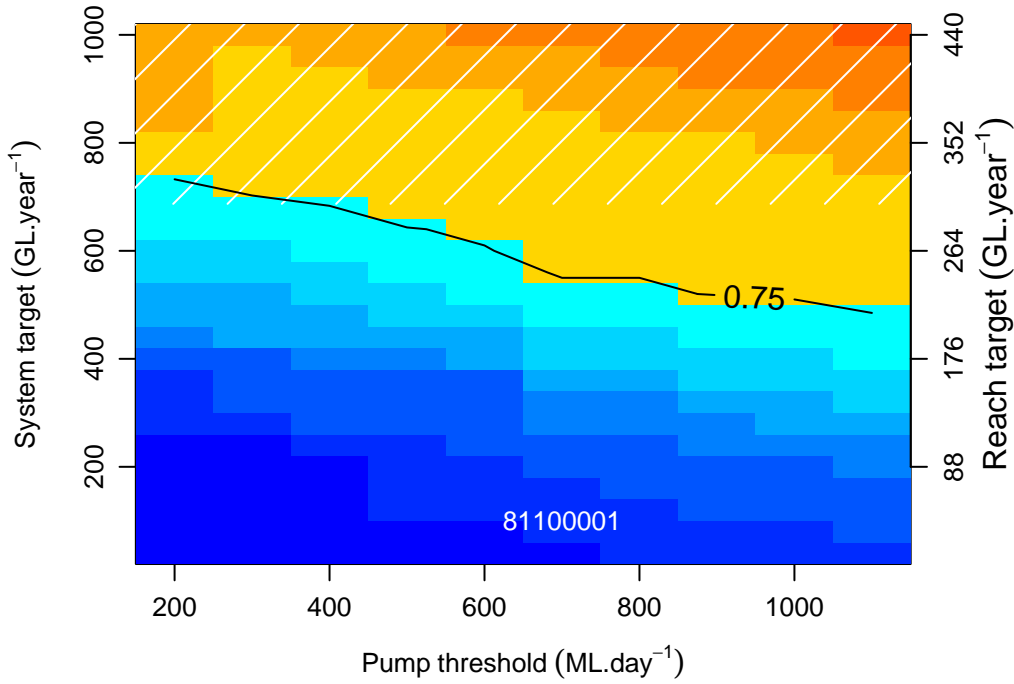
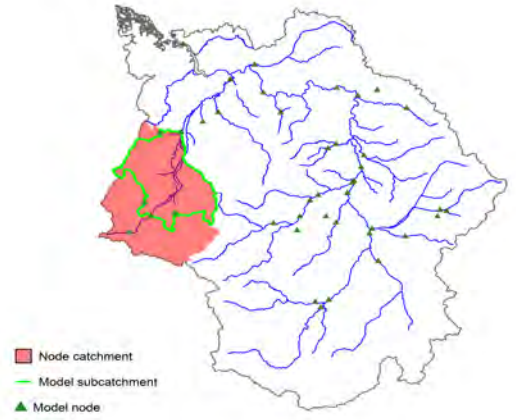
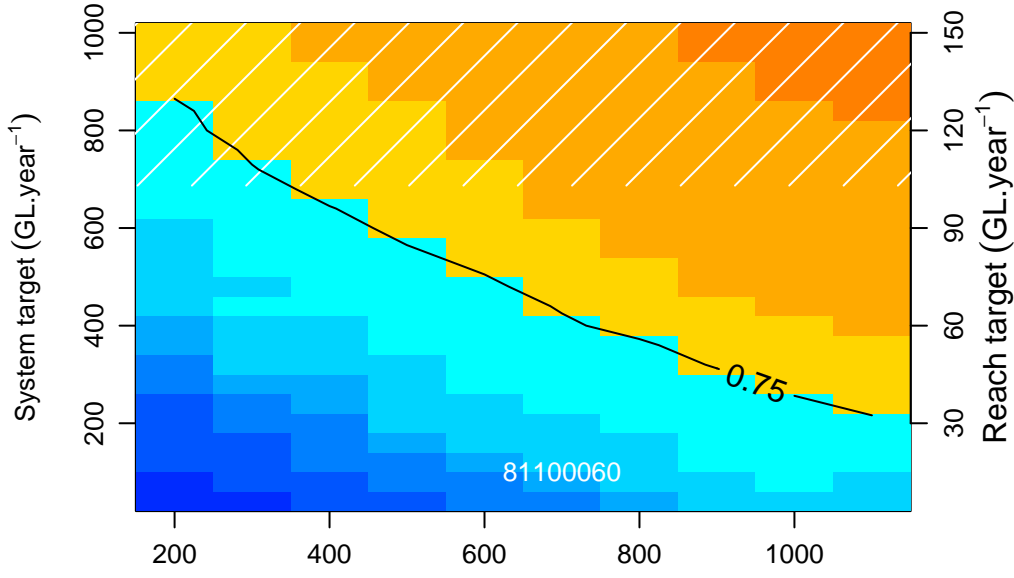
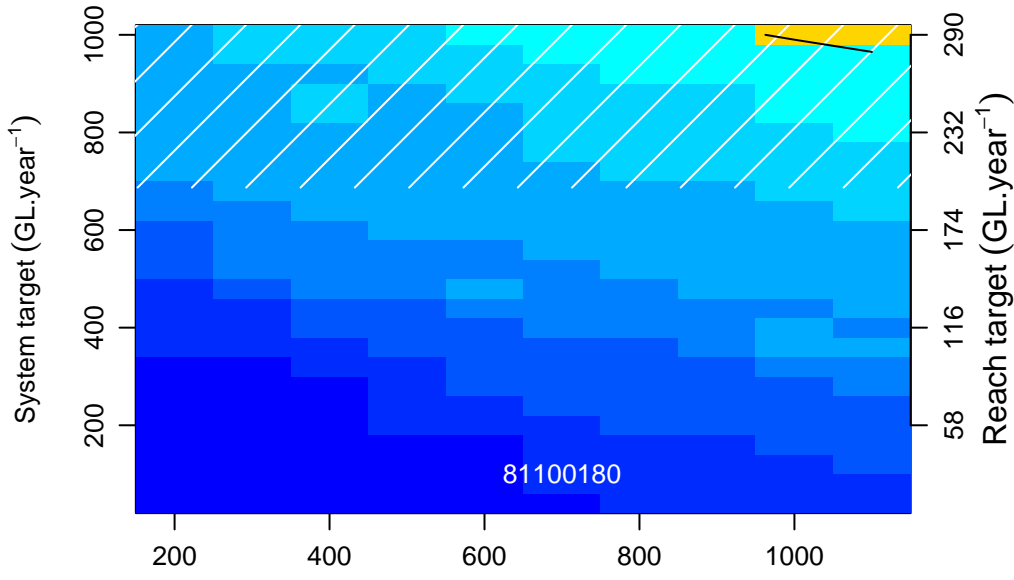


Pump rate : 30 days, EOS : 0

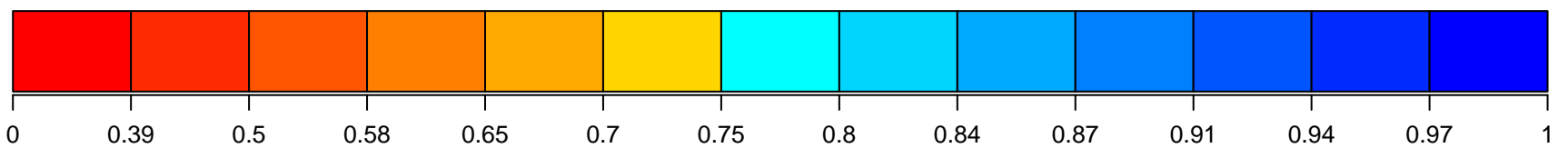


Annual reliability colour scale

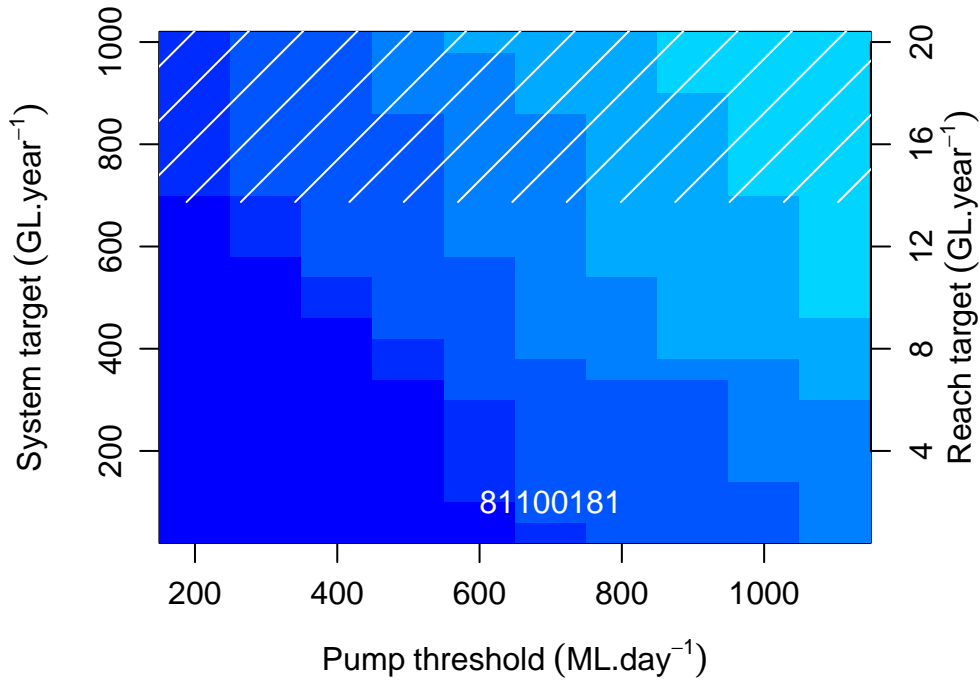
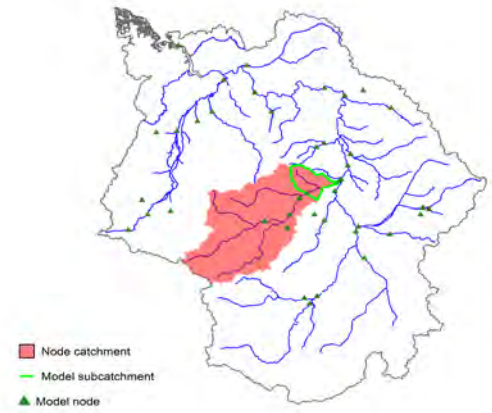
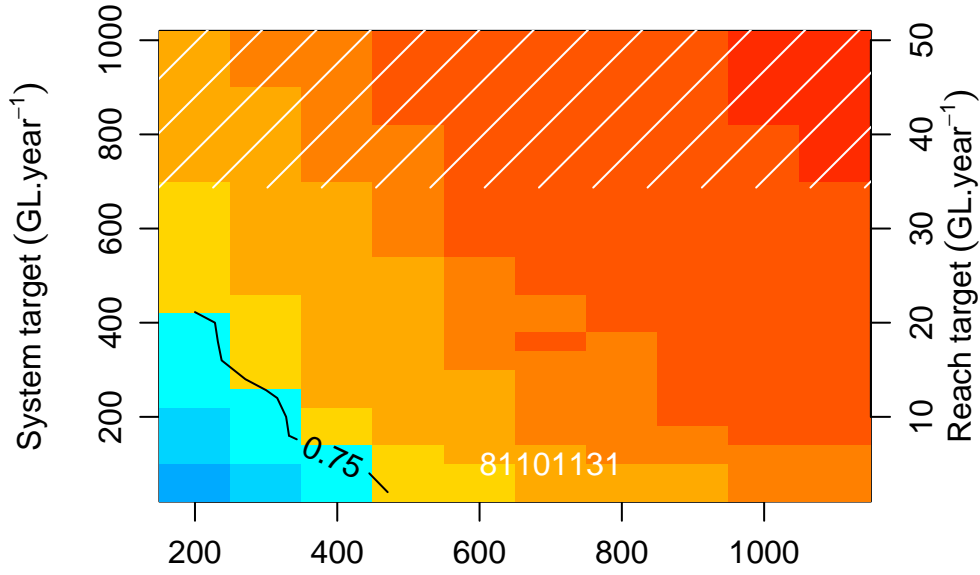
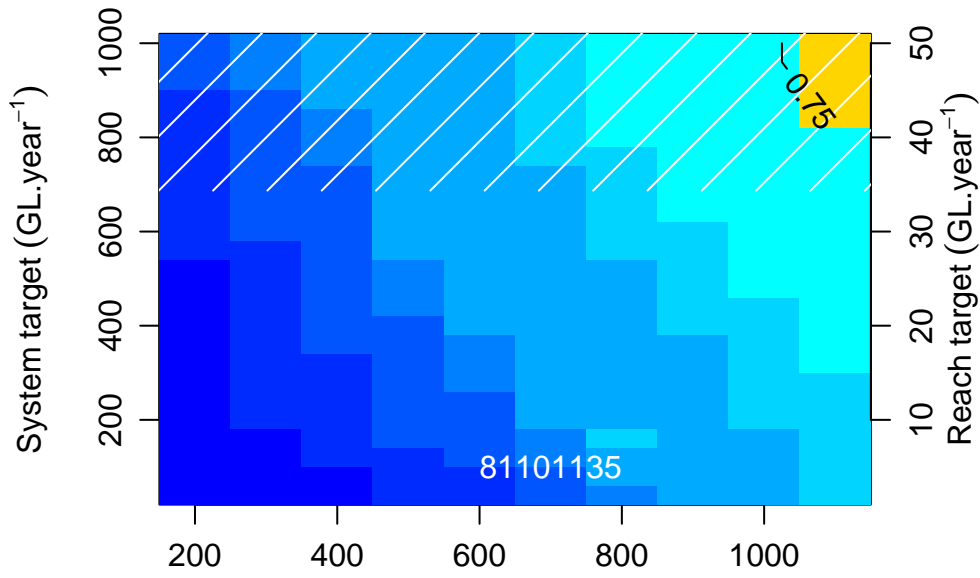




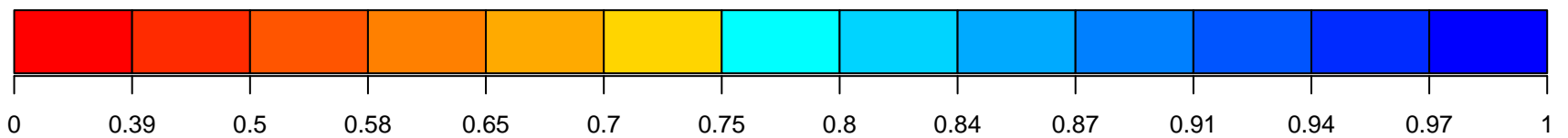
Annual reliability colour scale

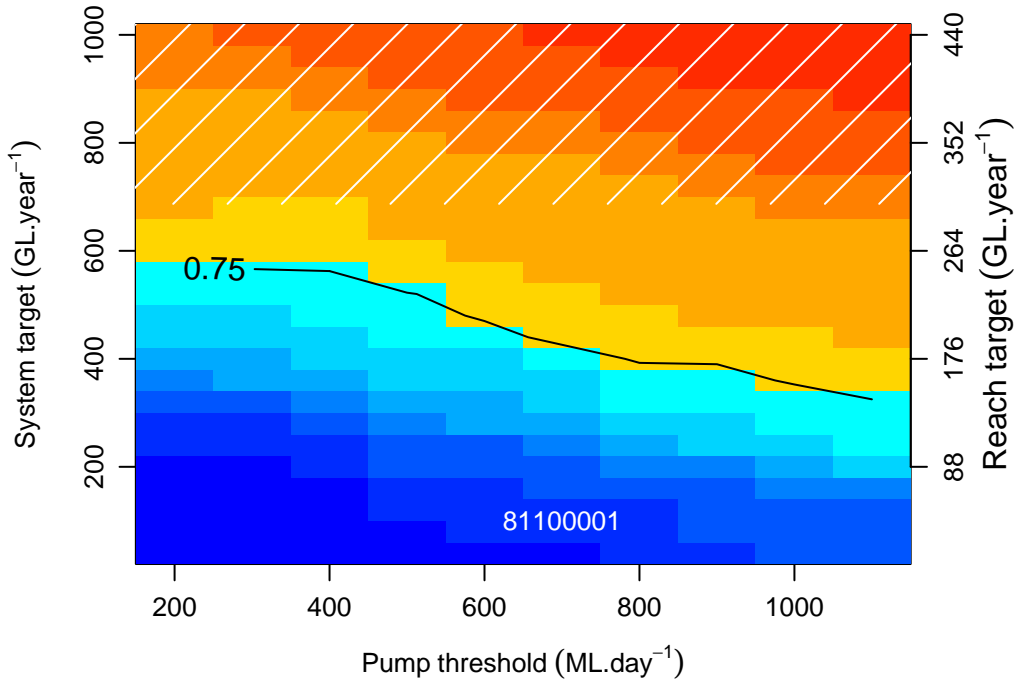
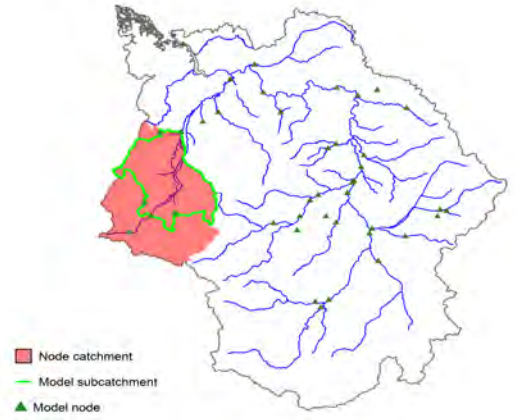
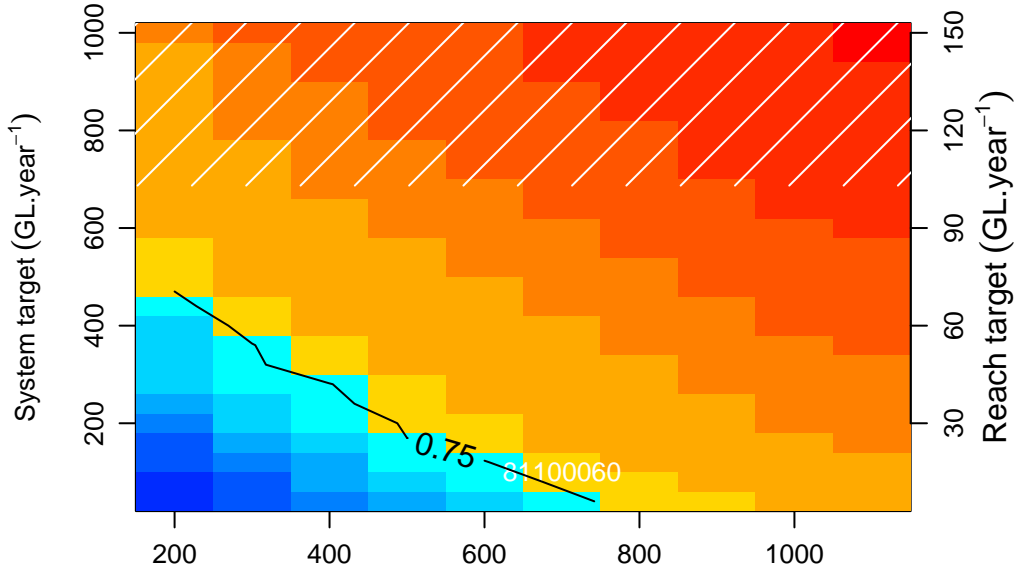
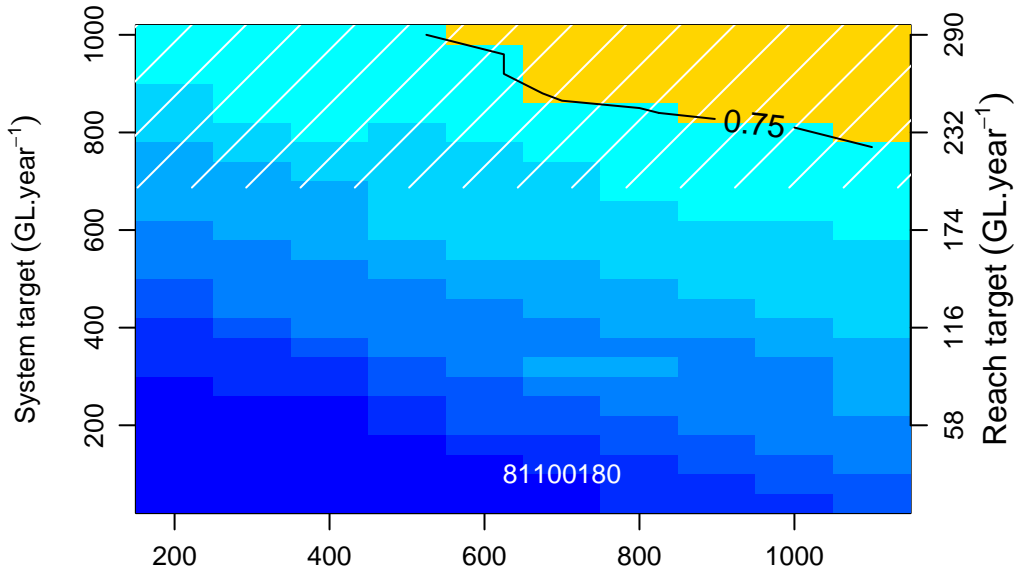


Pump rate : 40 days, EOS : 0

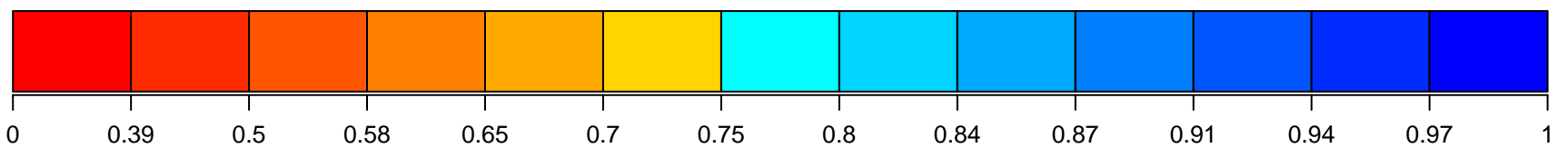


Annual reliability colour scale

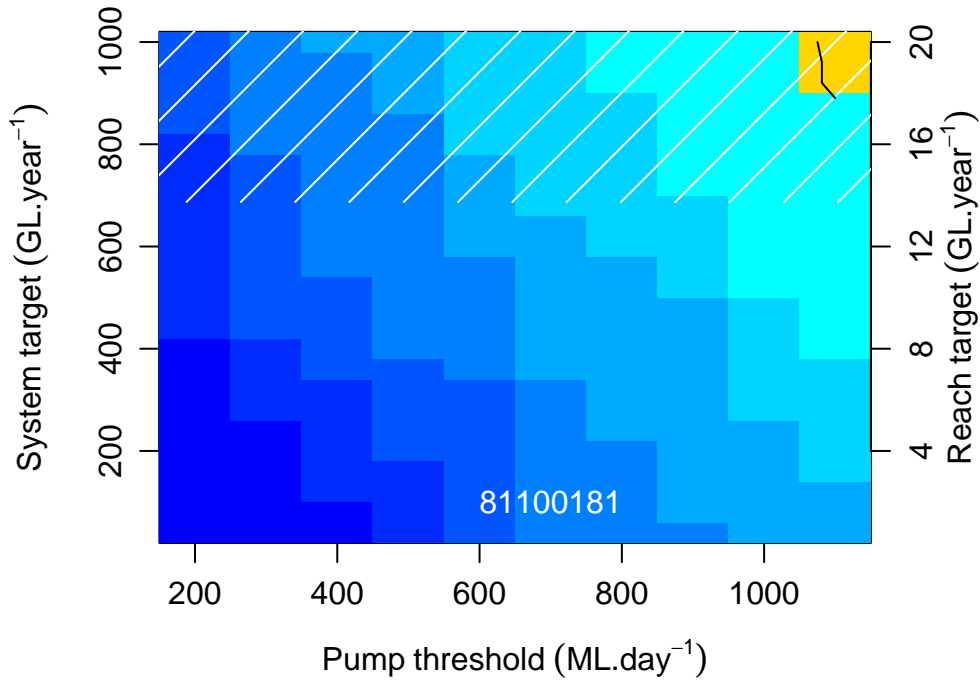
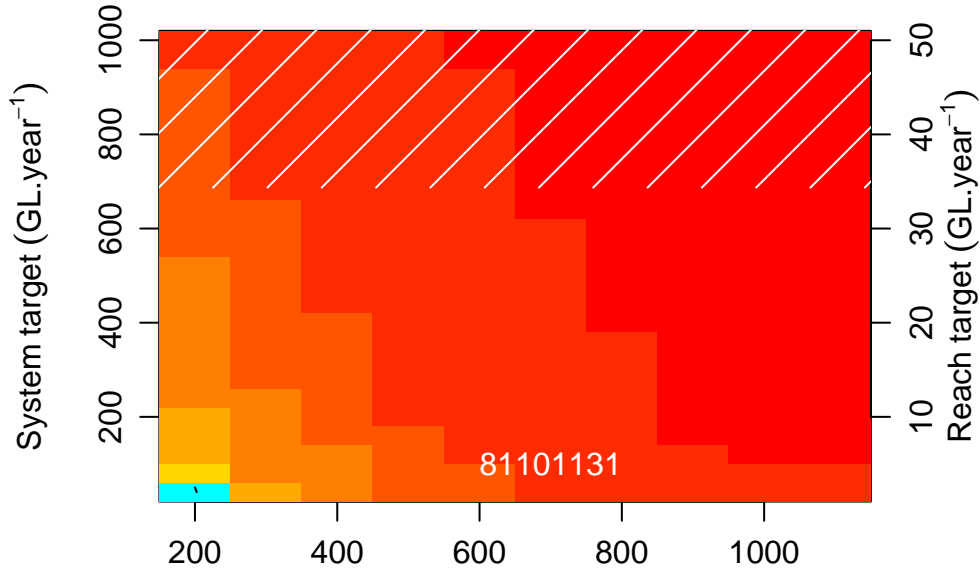
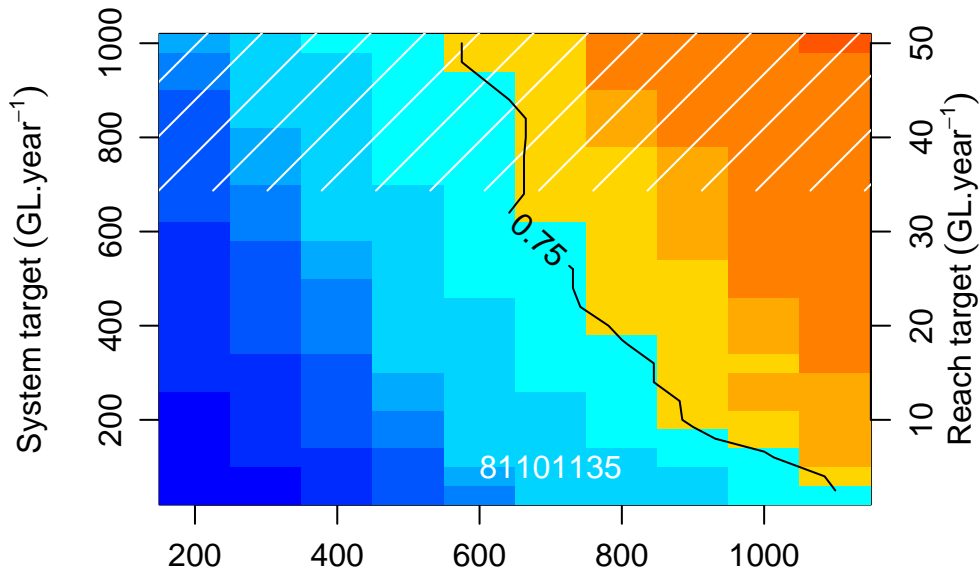




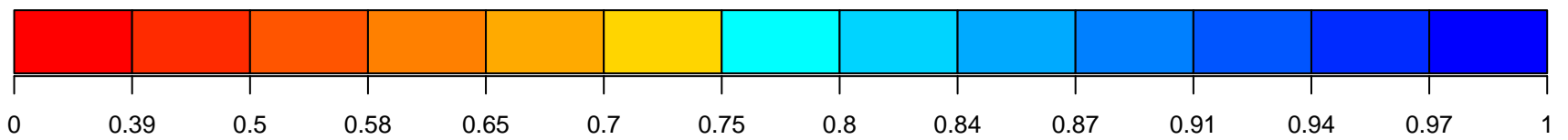
Annual reliability colour scale

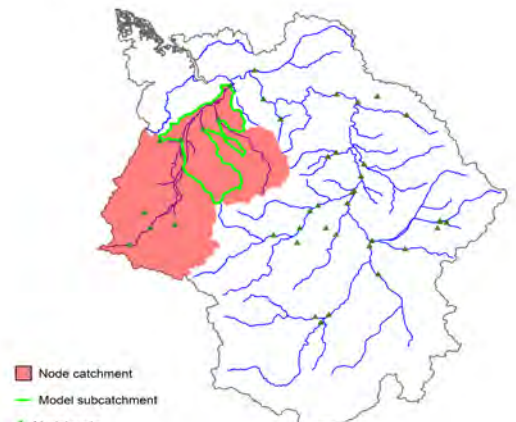
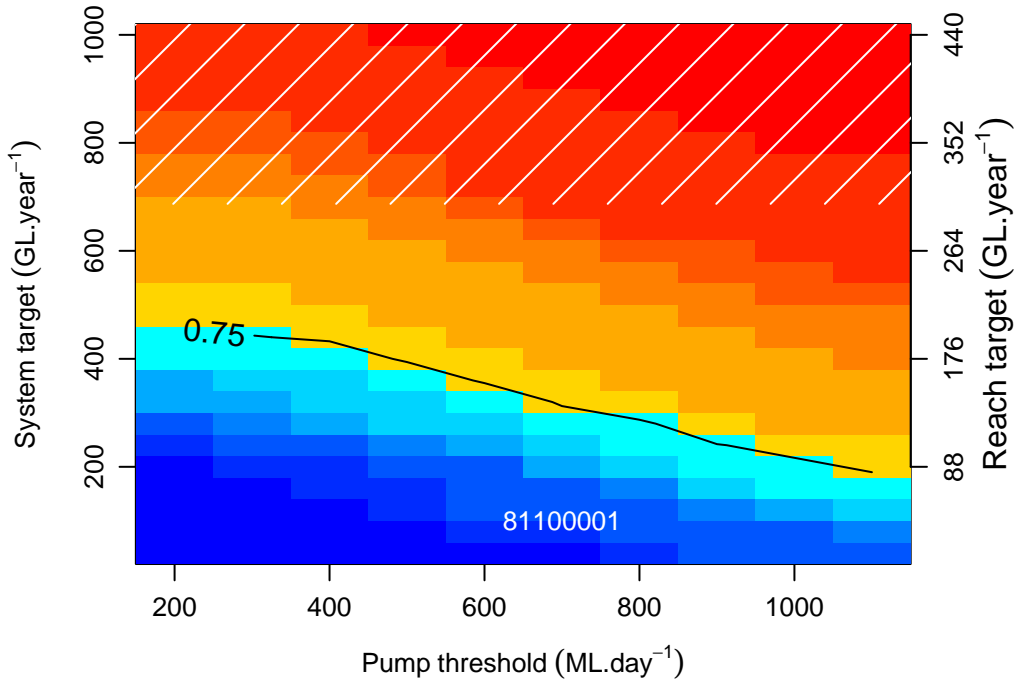
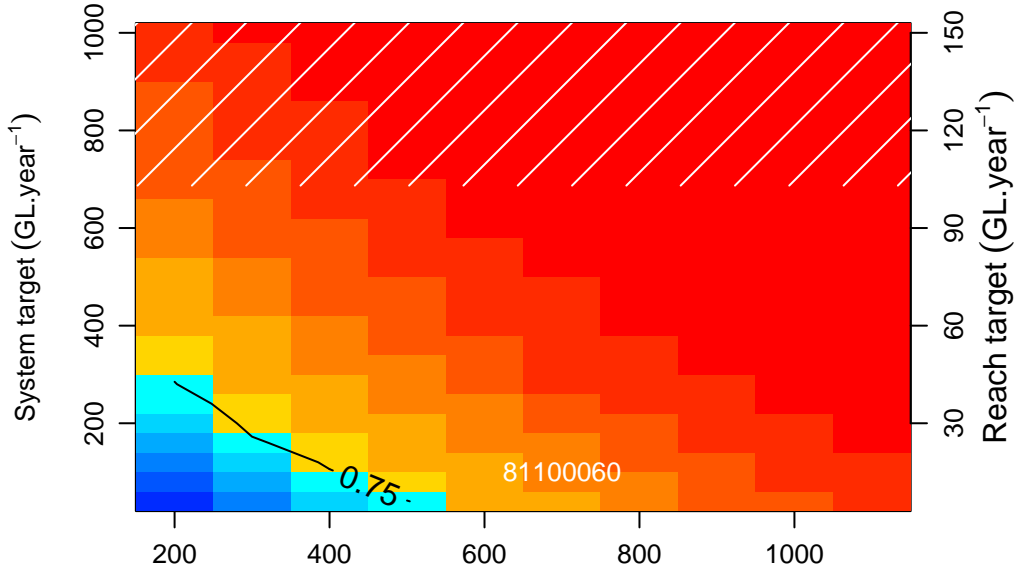
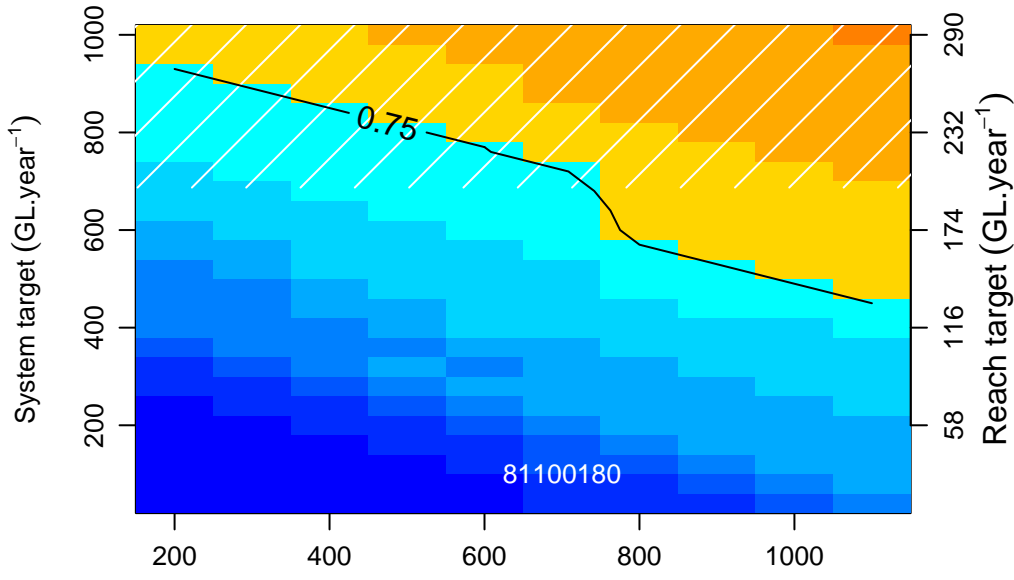


Pump rate : 50 days, EOS : 0

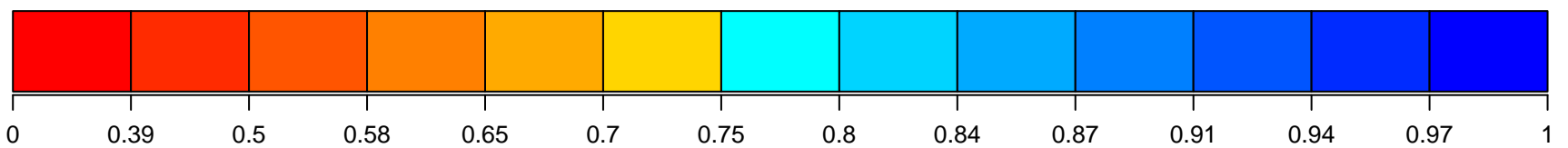


Annual reliability colour scale

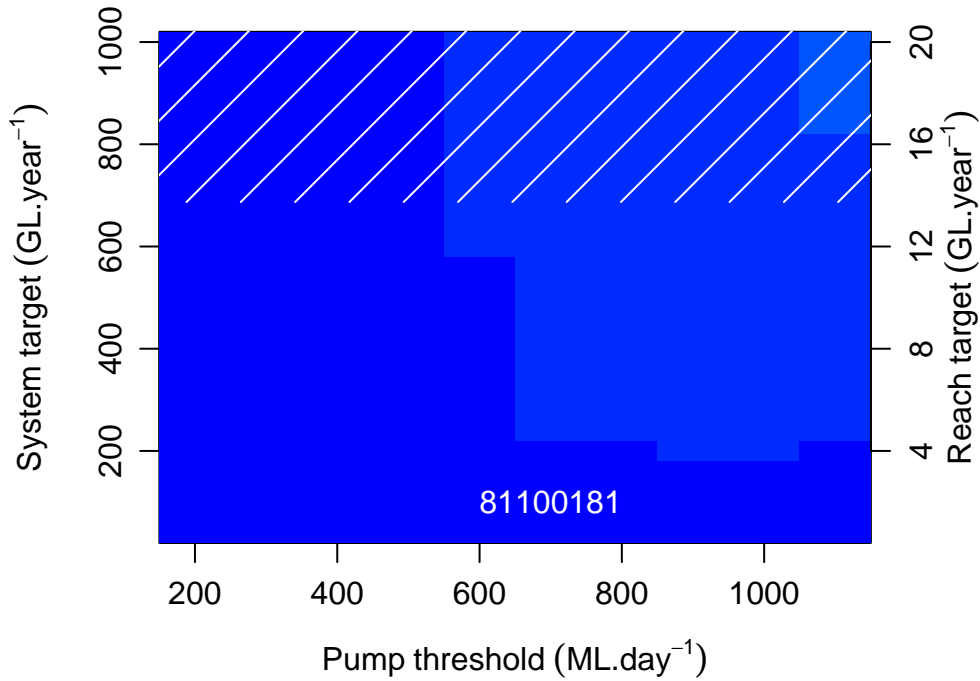
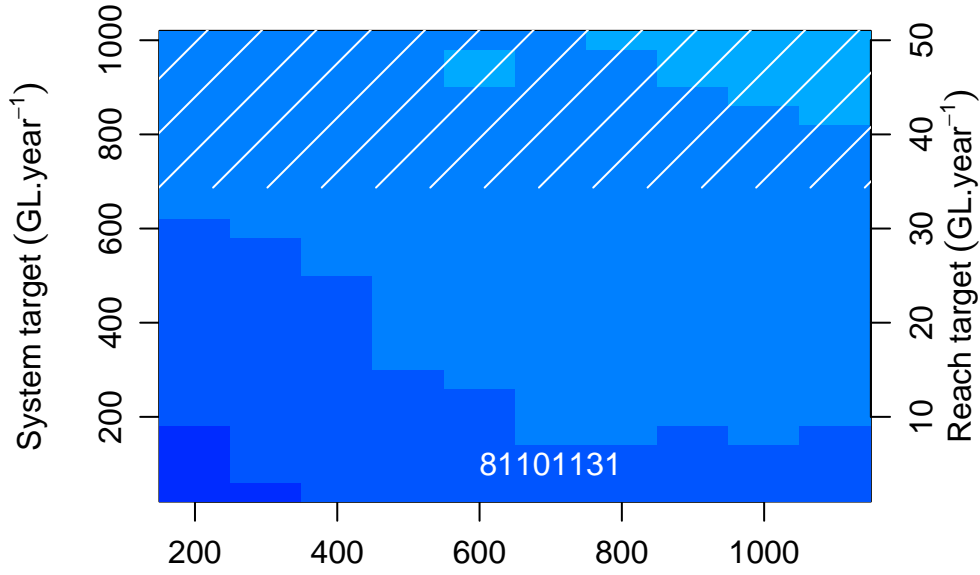
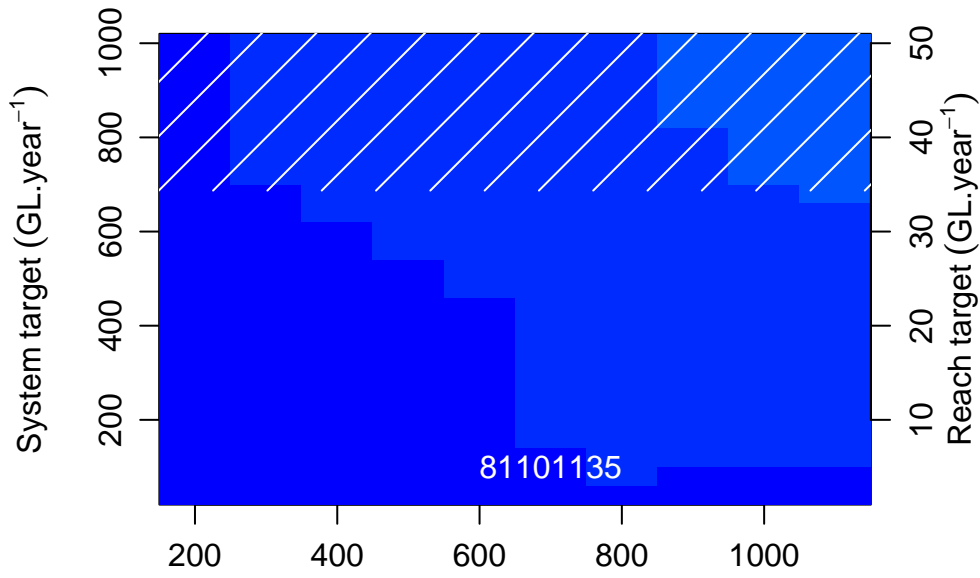




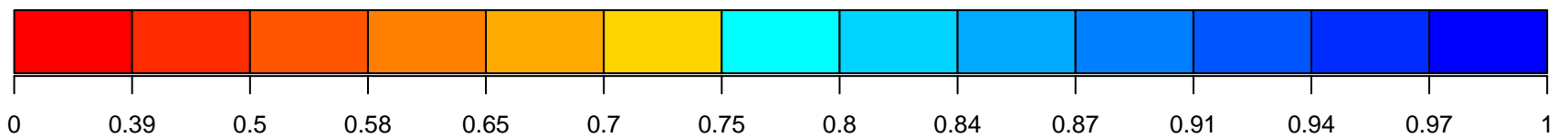
Annual reliability colour scale

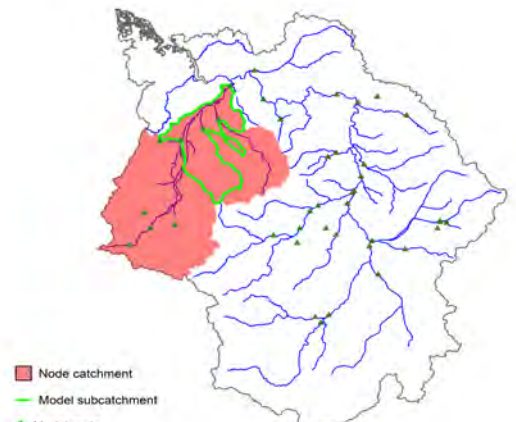
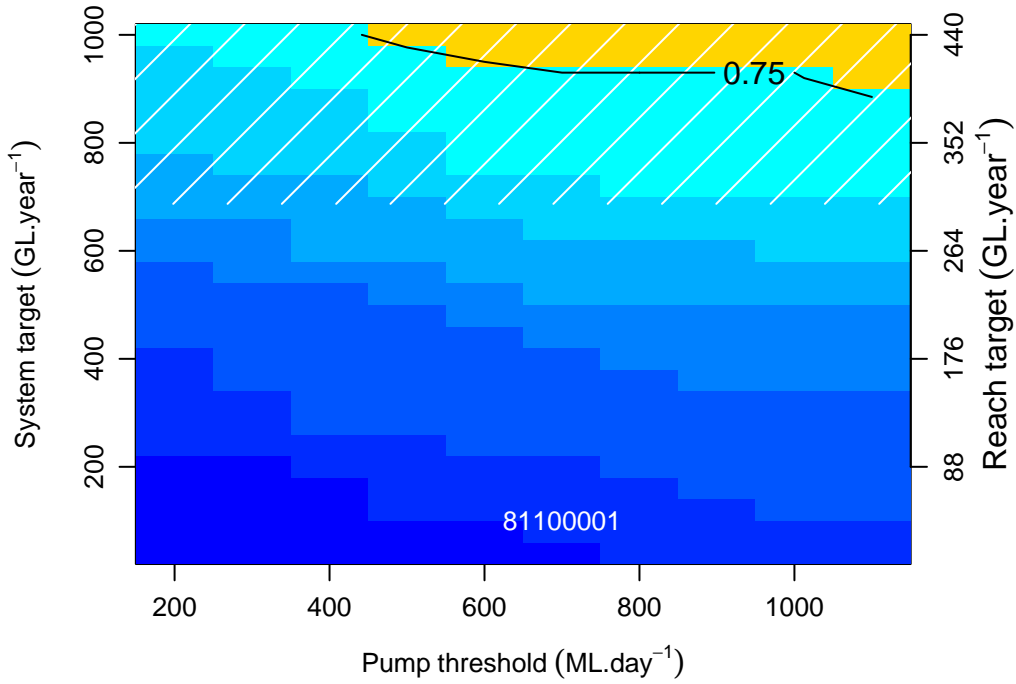
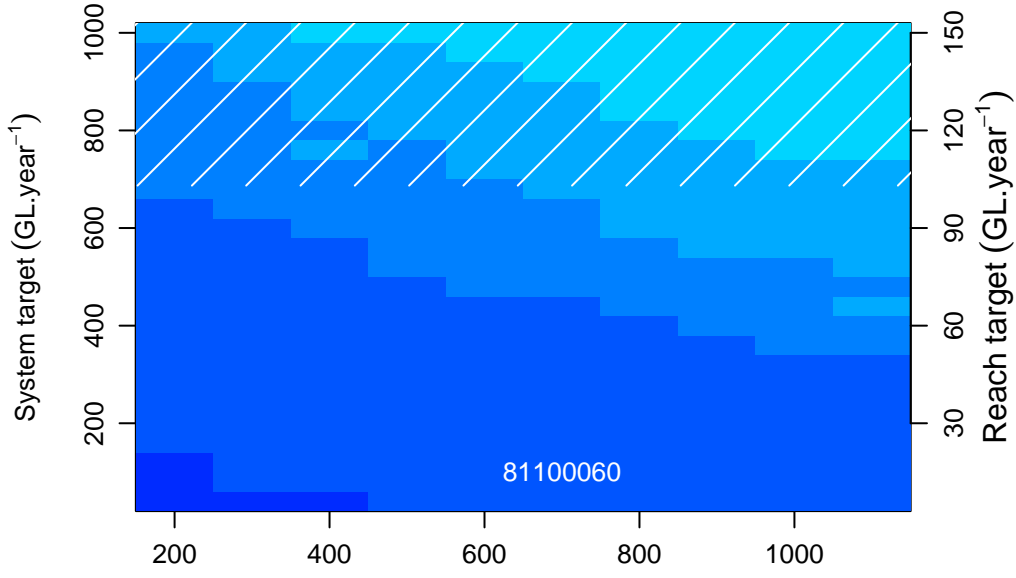
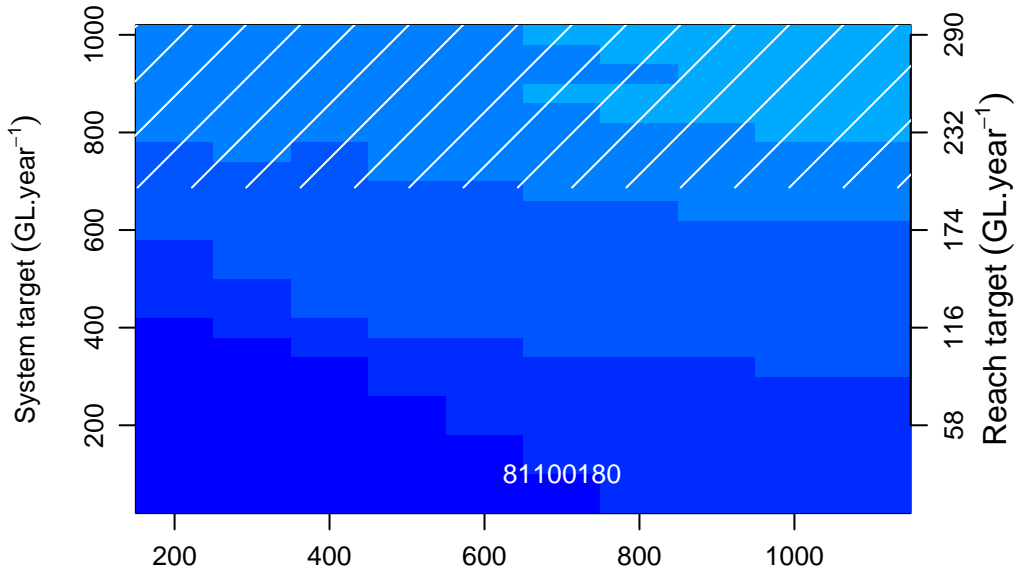


Pump rate : 10 days, EOS : 200

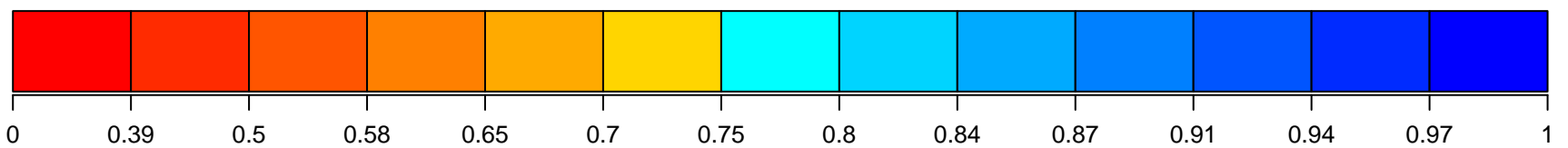


Annual reliability colour scale

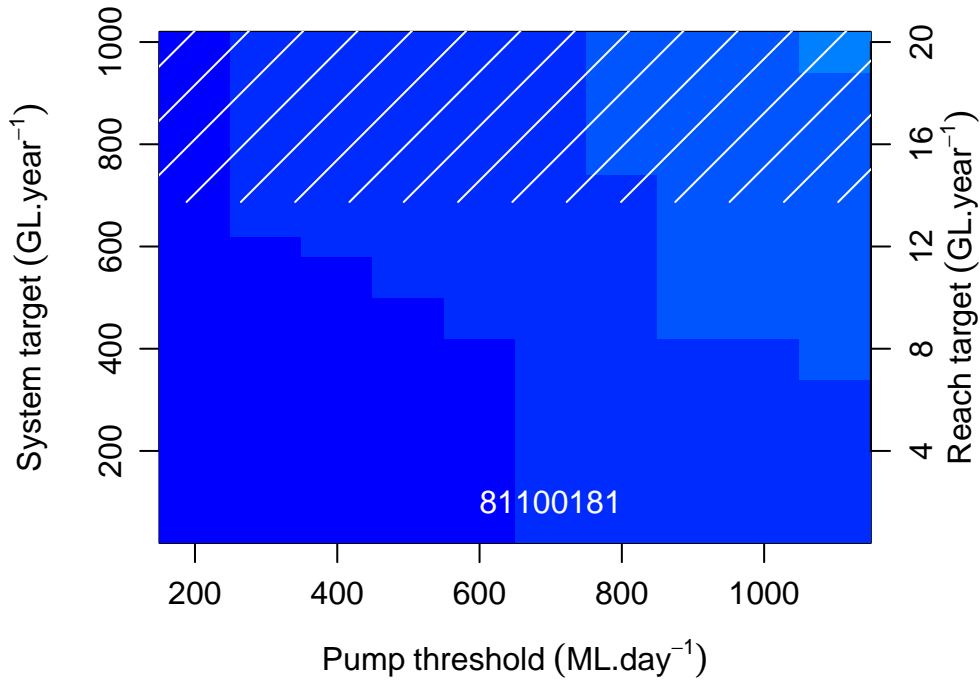
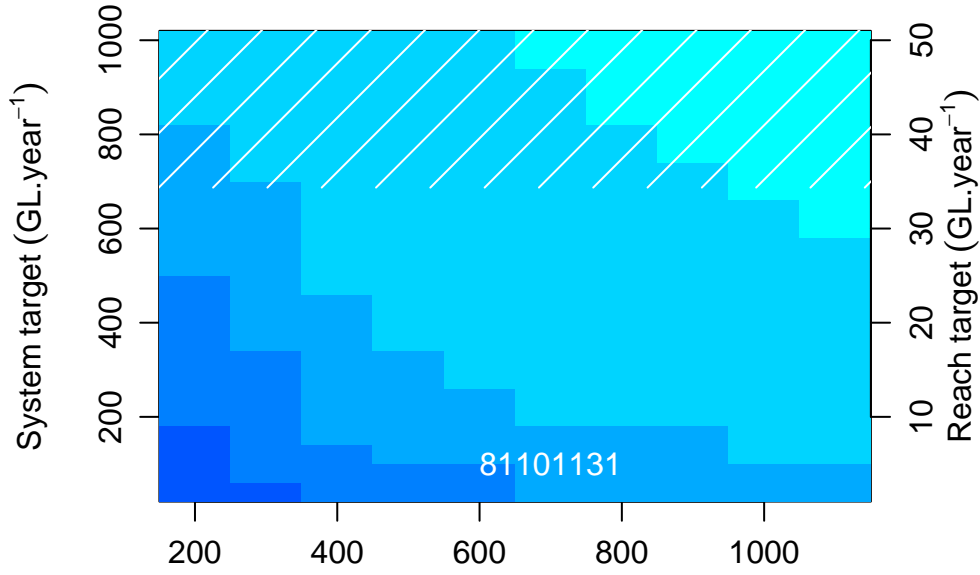
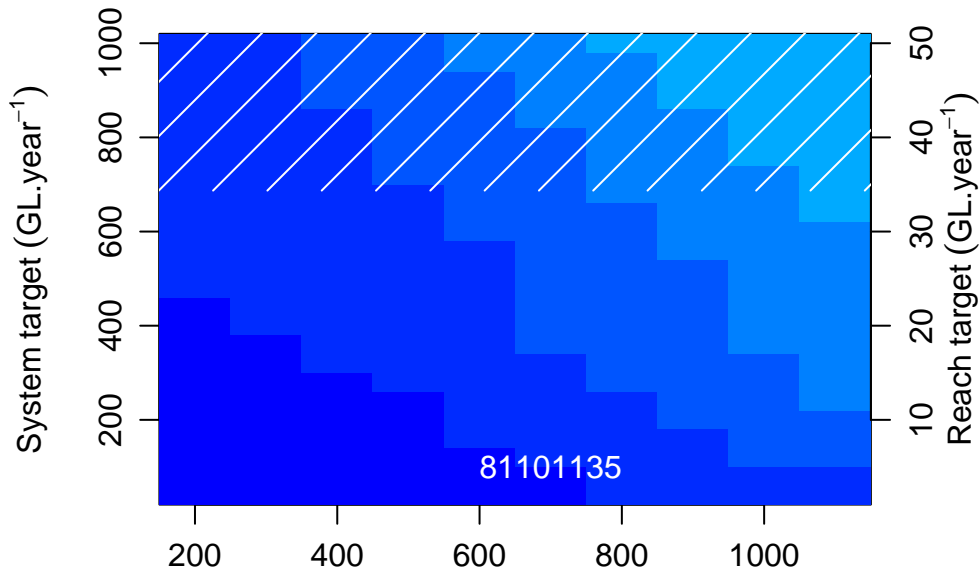




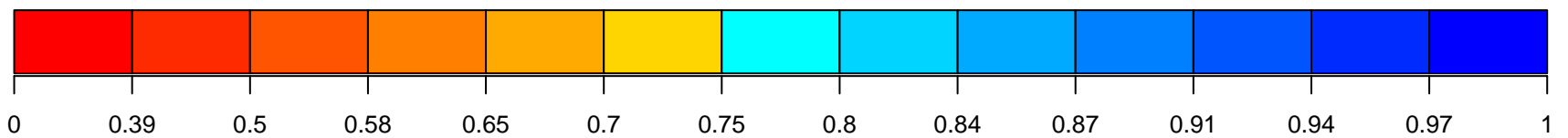
Annual reliability colour scale

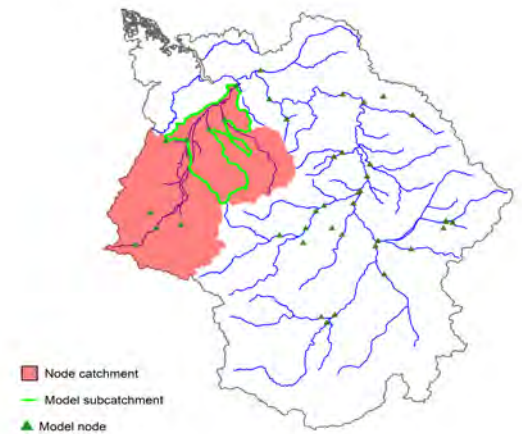
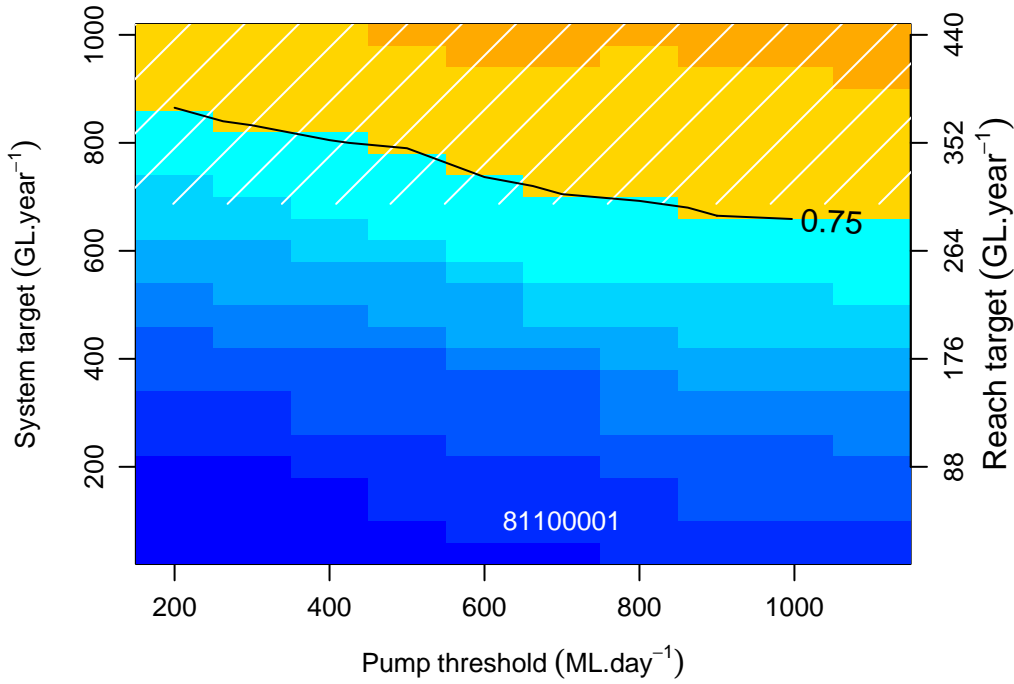
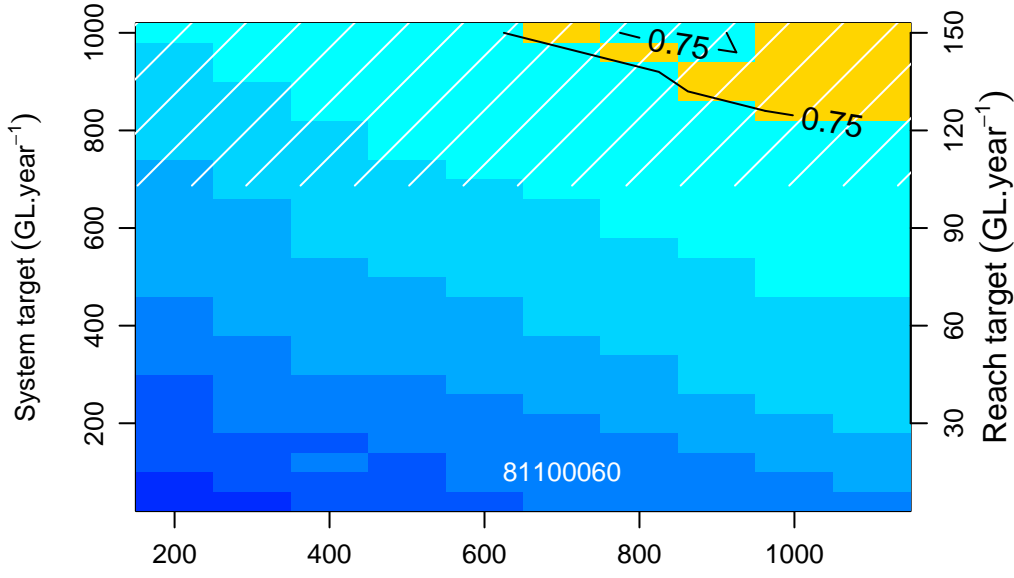
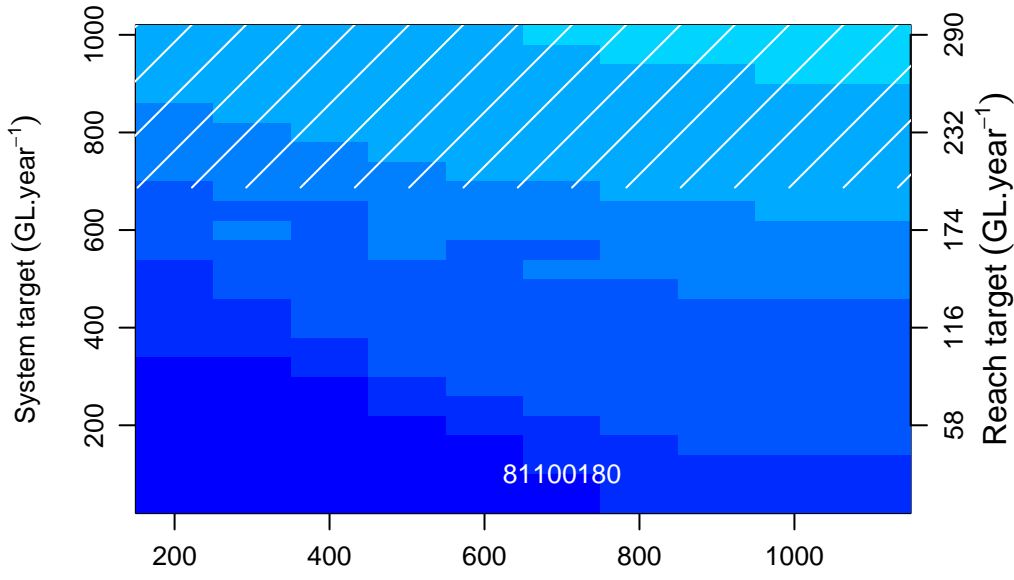


Pump rate : 20 days, EOS : 200

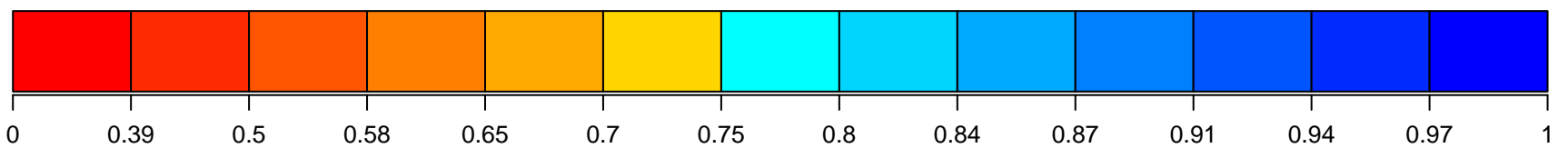


Annual reliability colour scale

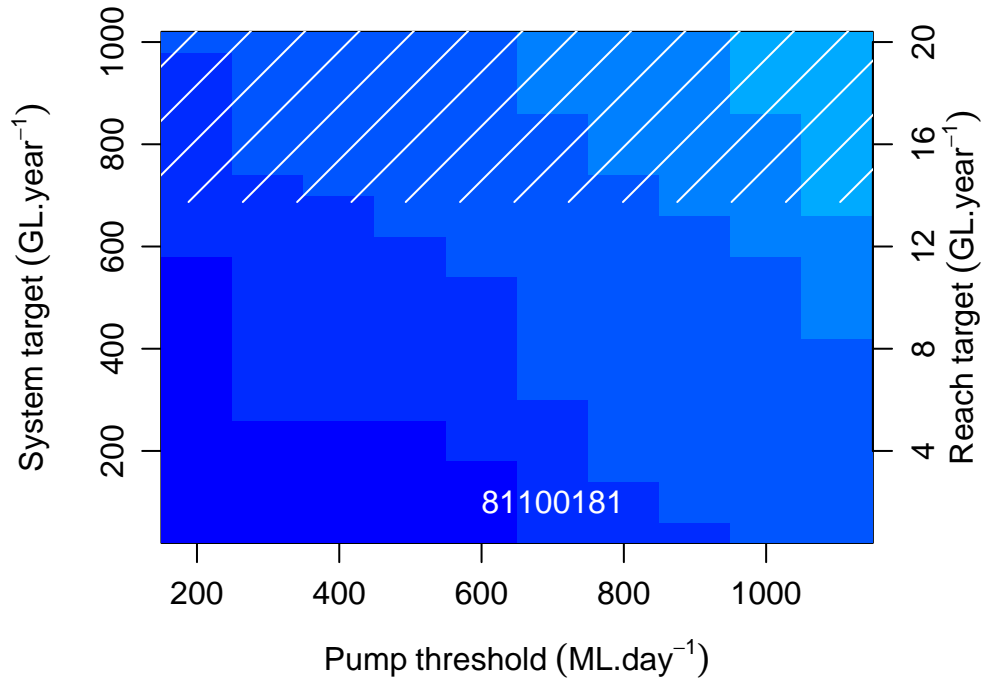
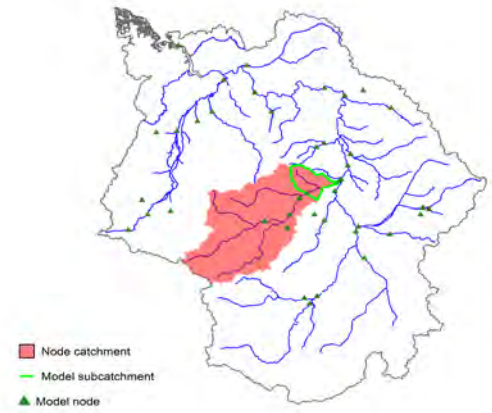
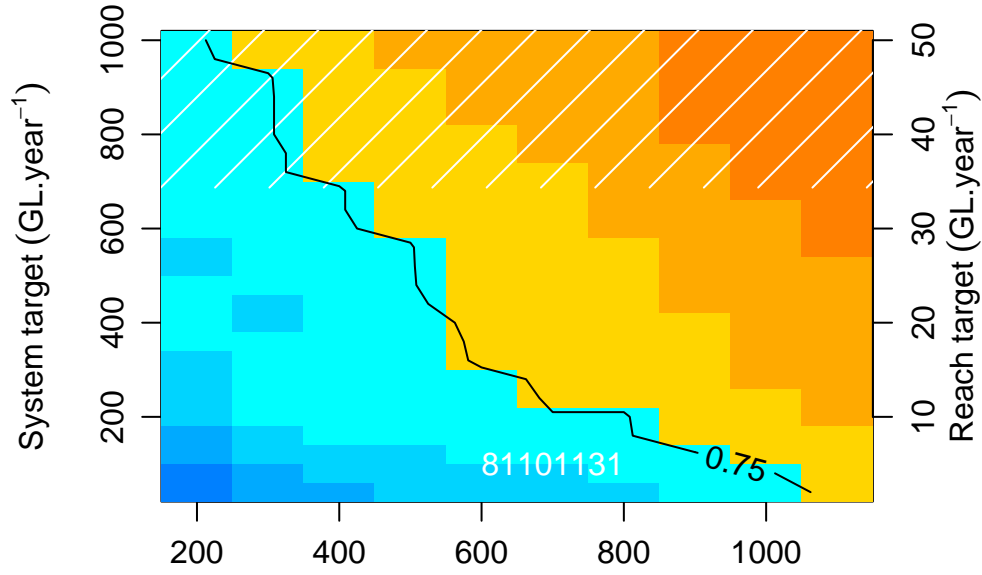
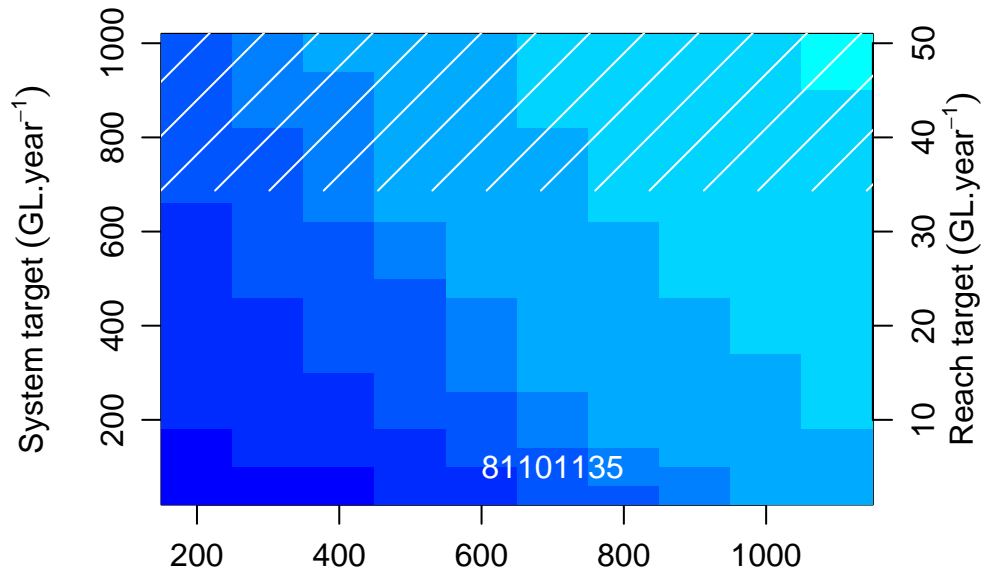




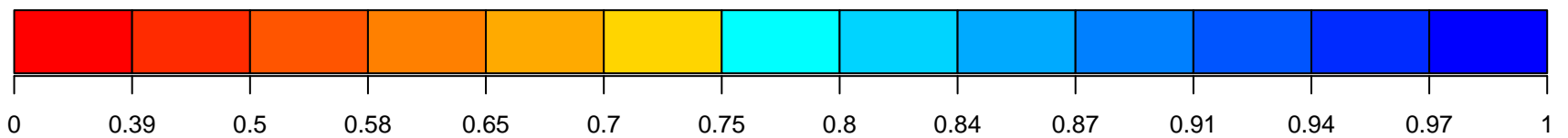
Annual reliability colour scale

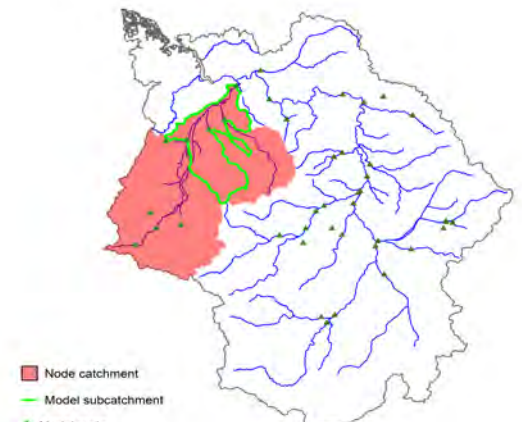
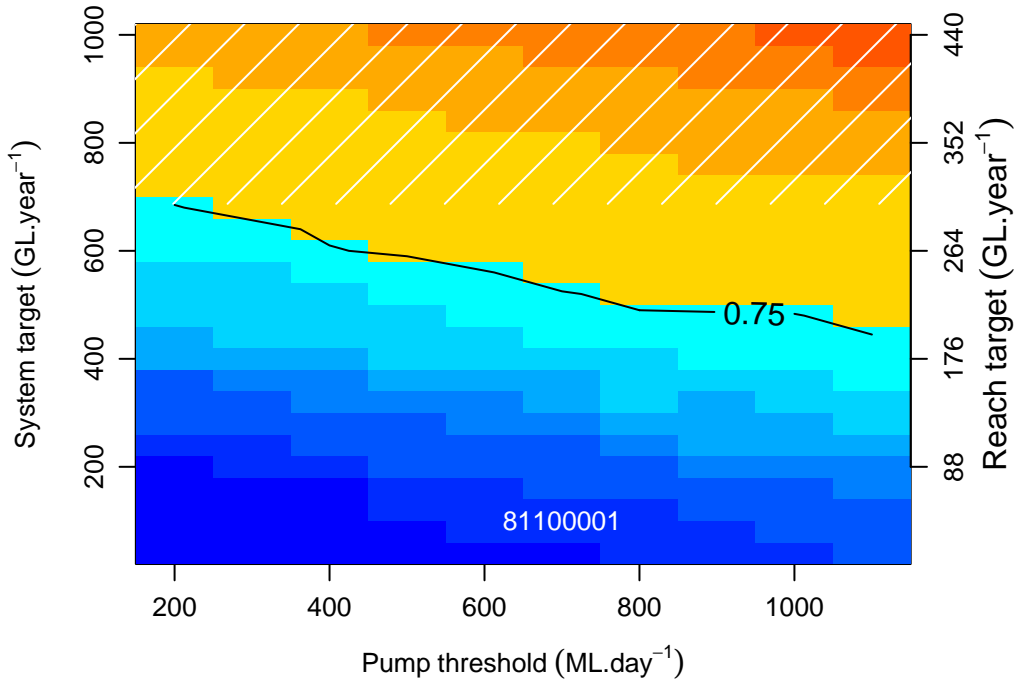
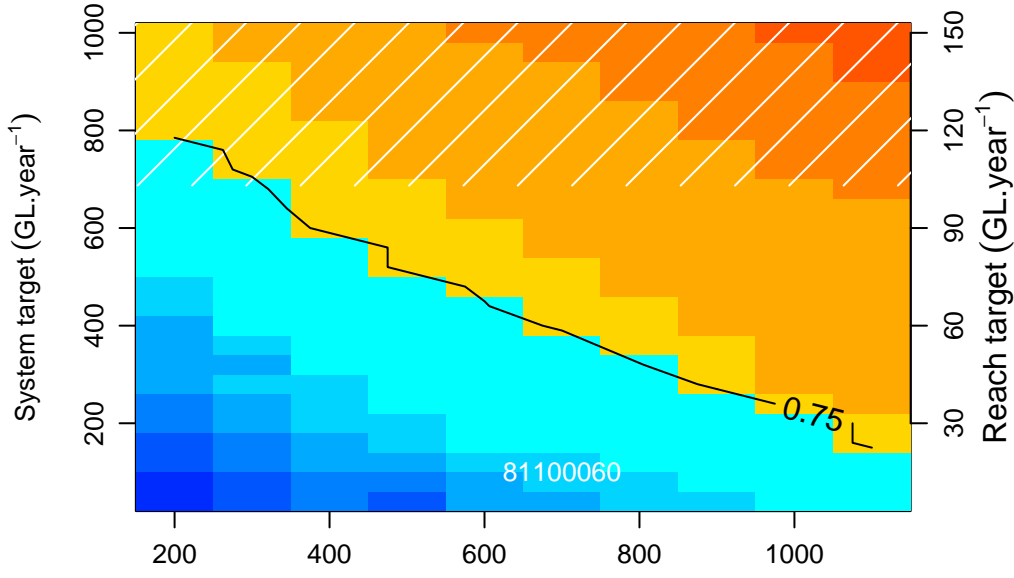
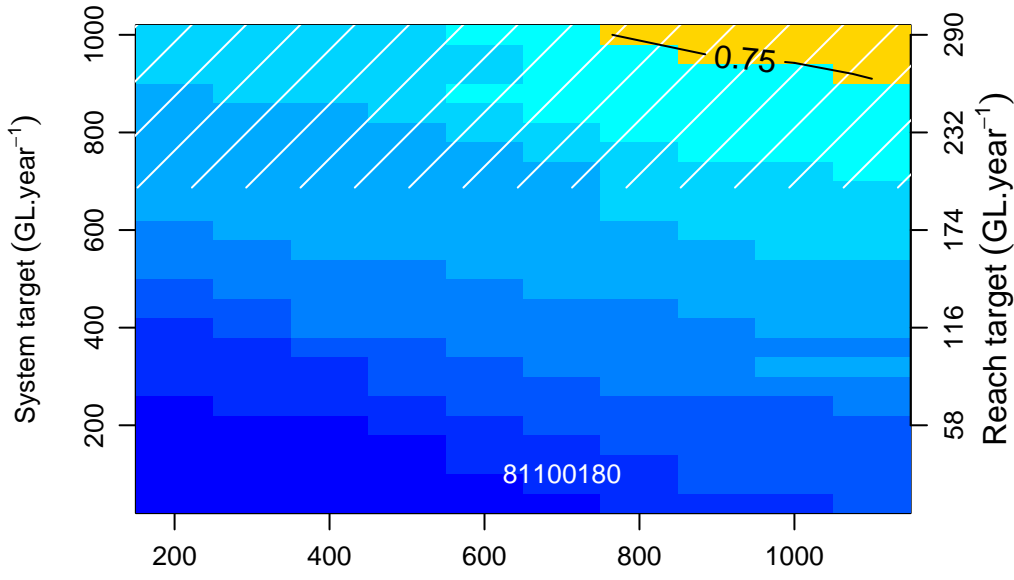


Pump rate : 30 days, EOS : 200

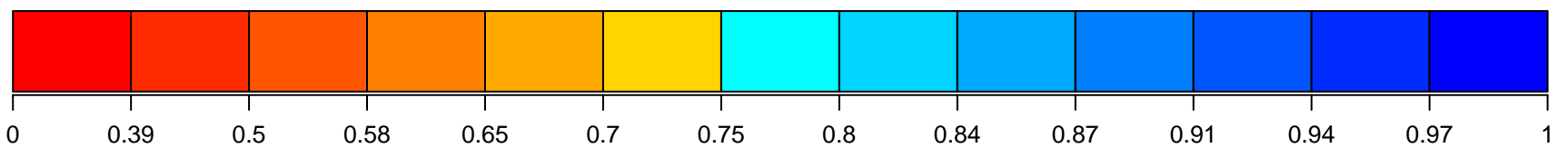


Annual reliability colour scale

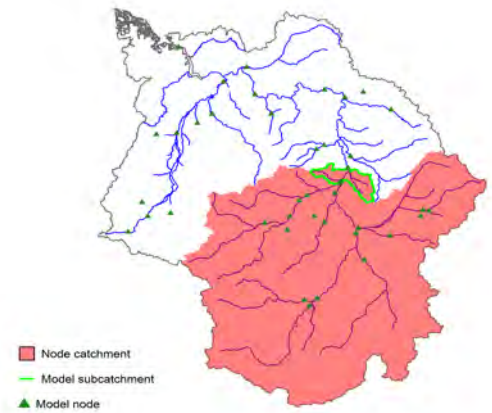
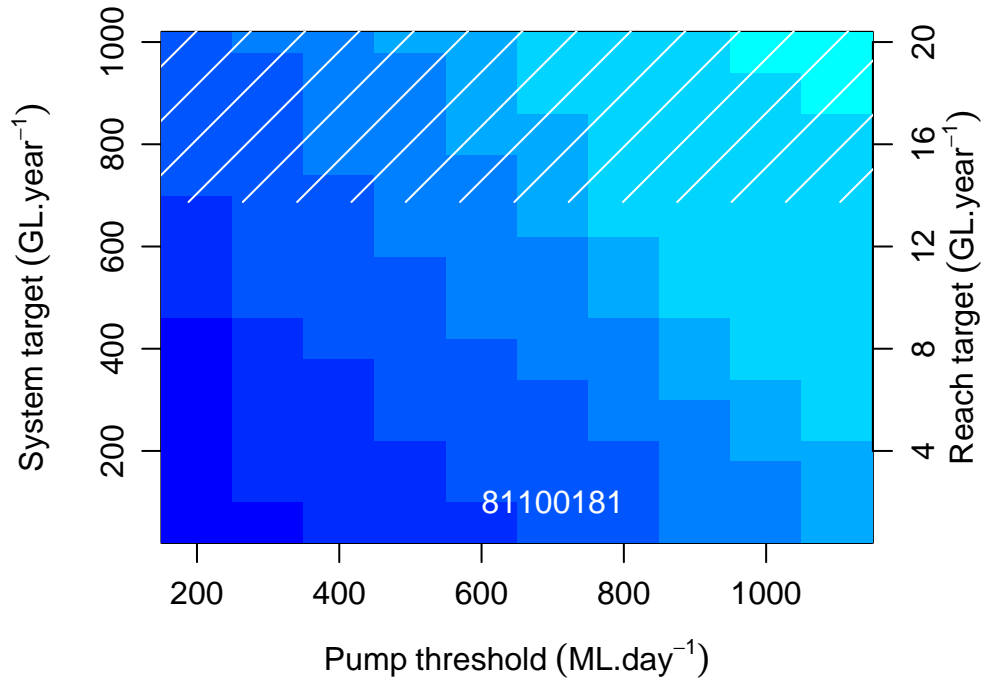
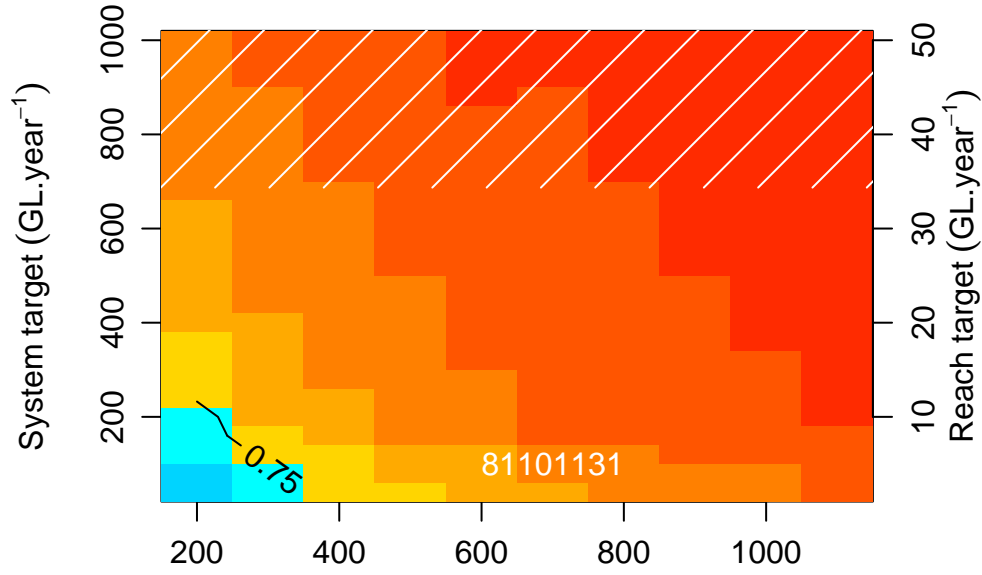
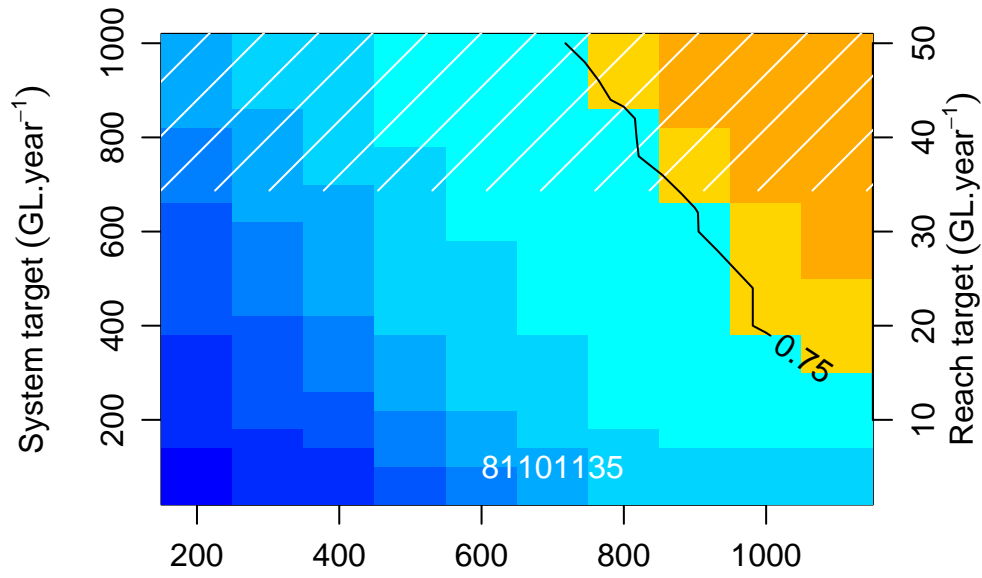




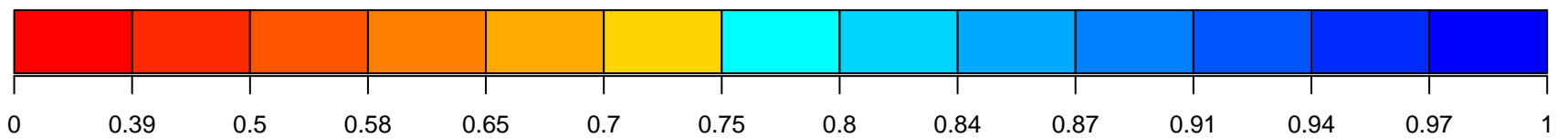
Annual reliability colour scale

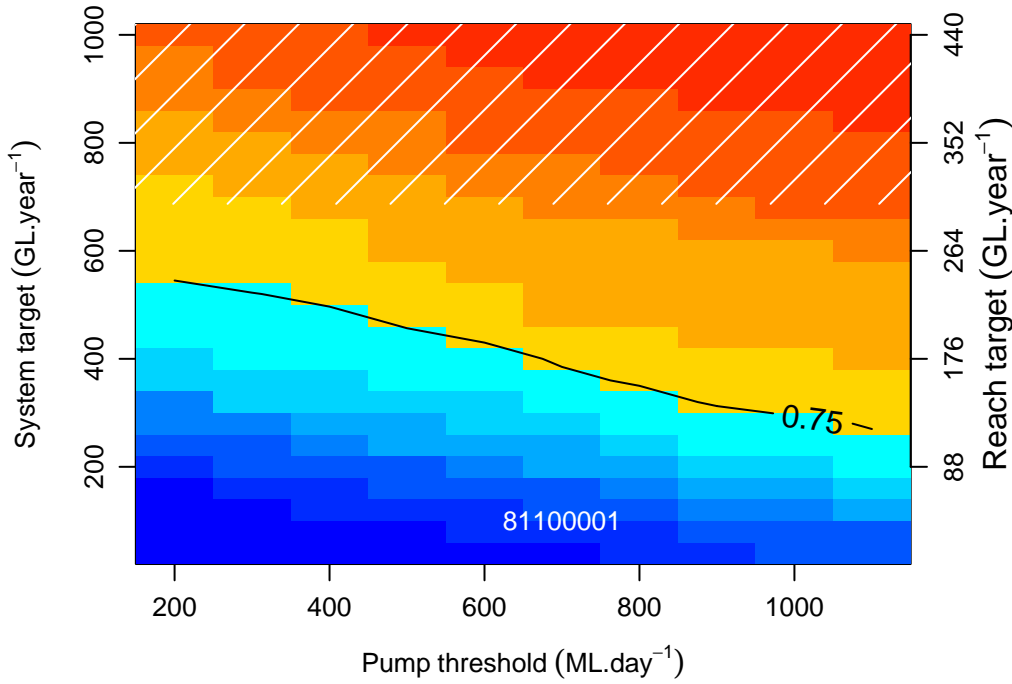
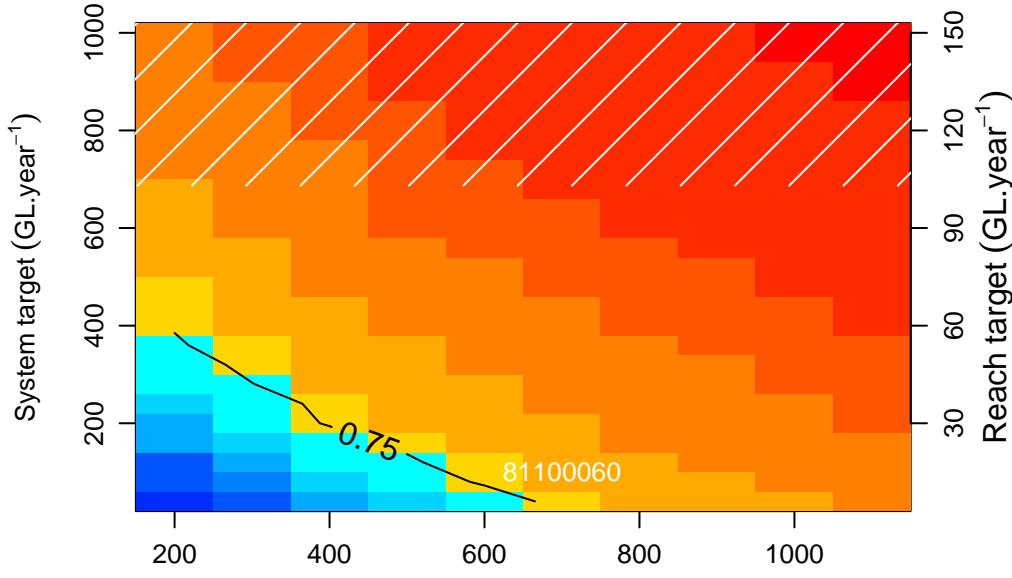
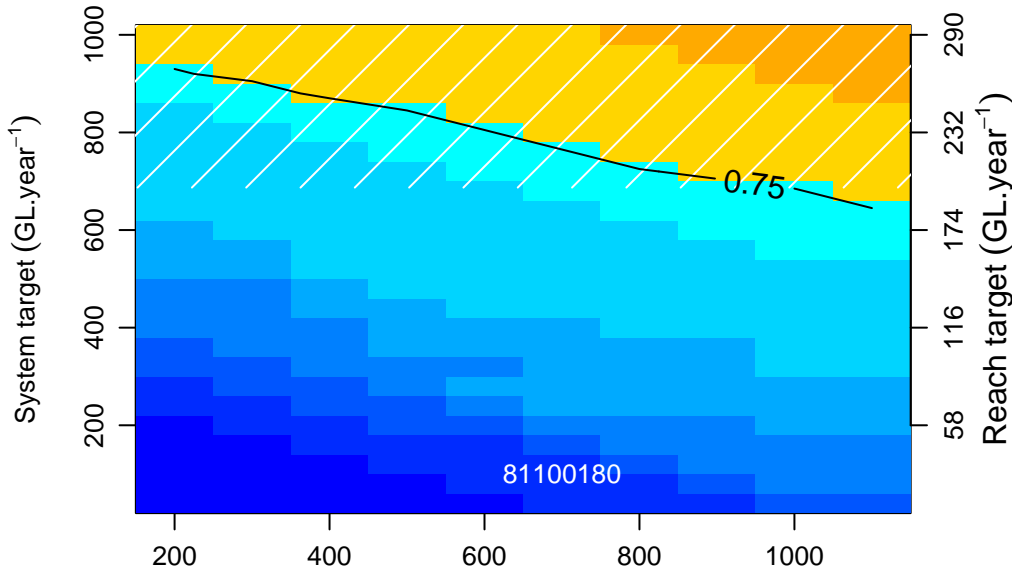


Pump rate : 40 days, EOS : 200

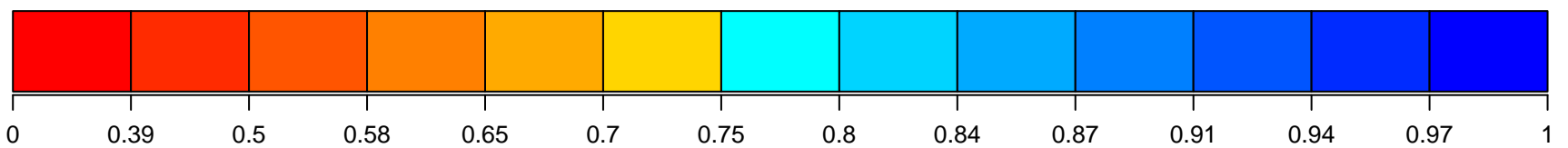


Annual reliability colour scale

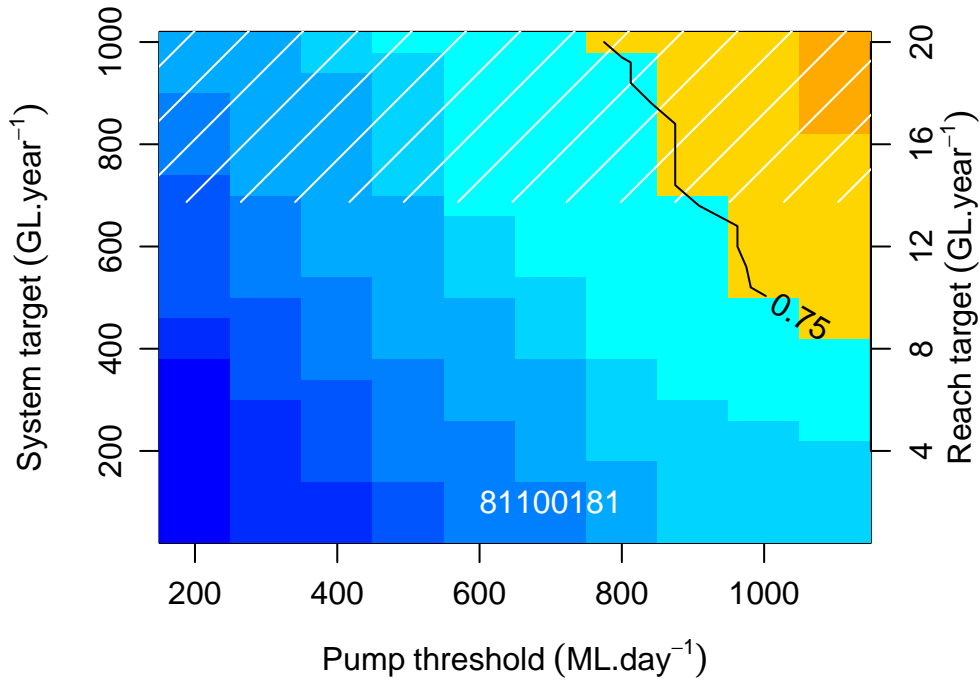
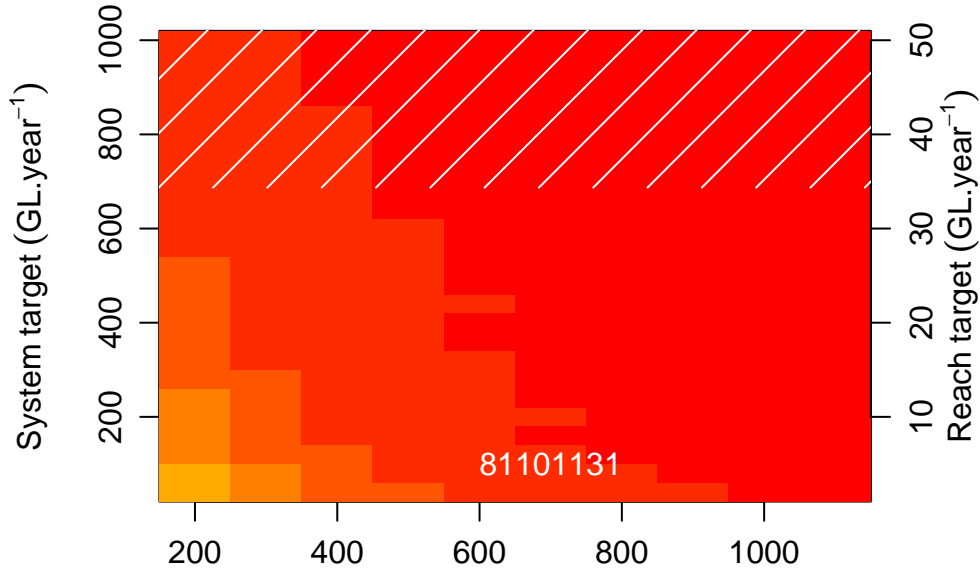
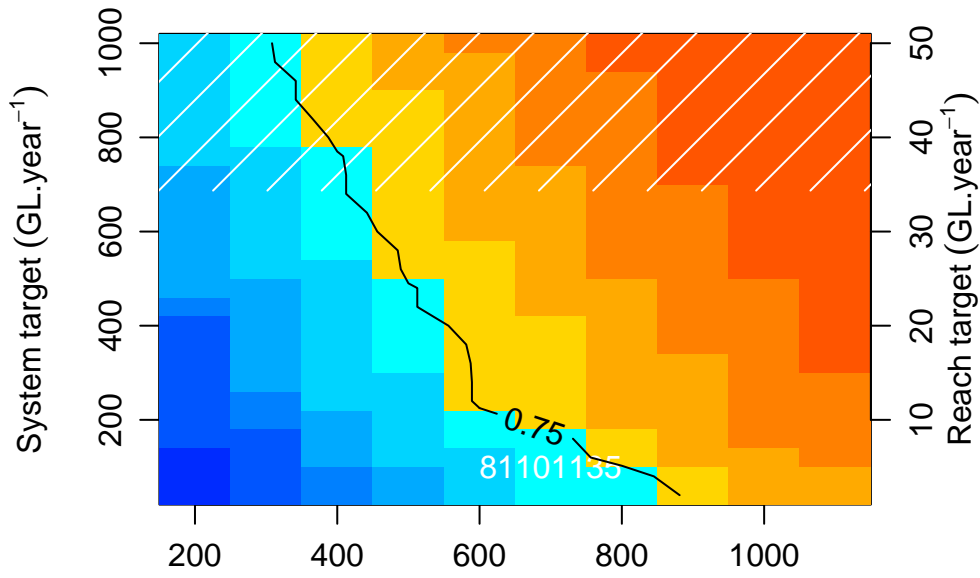




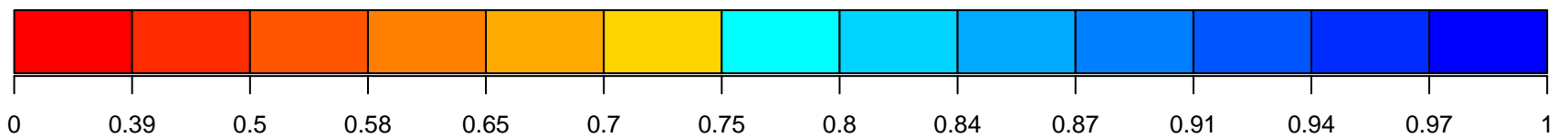
Annual reliability colour scale

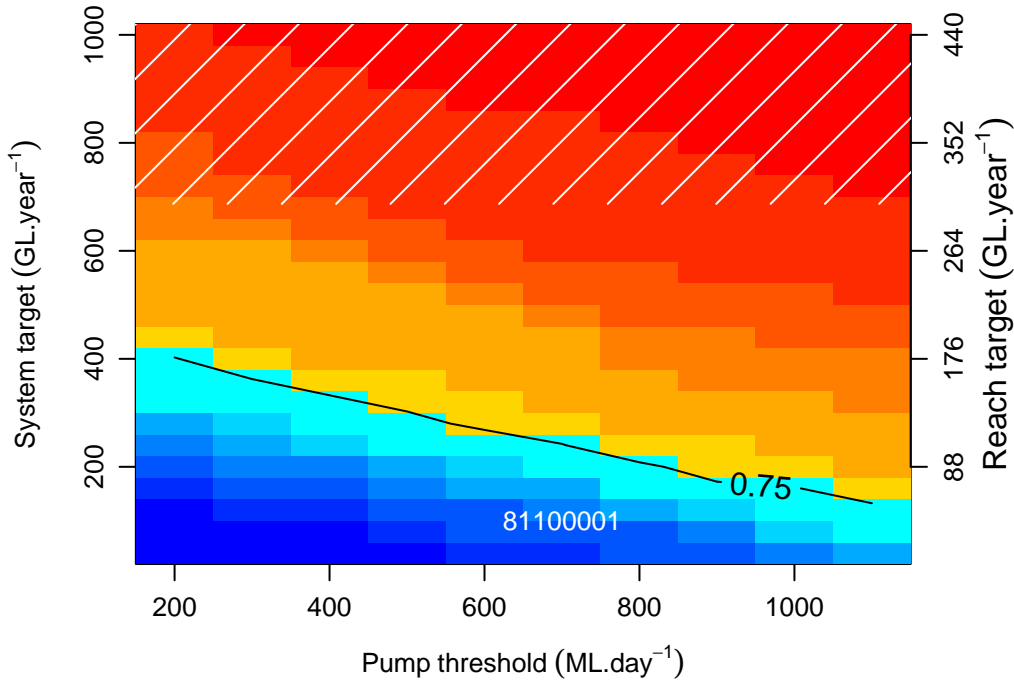
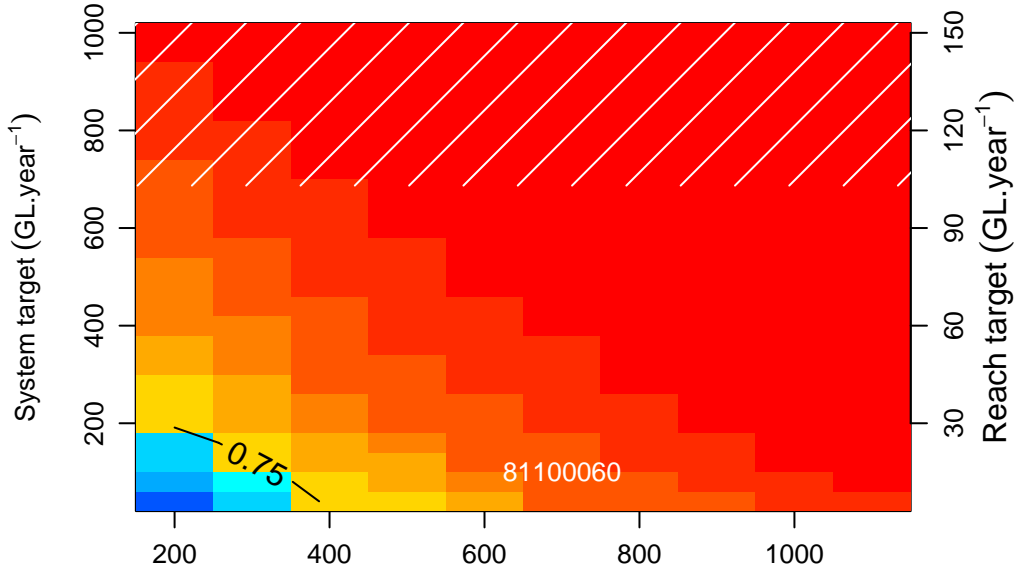
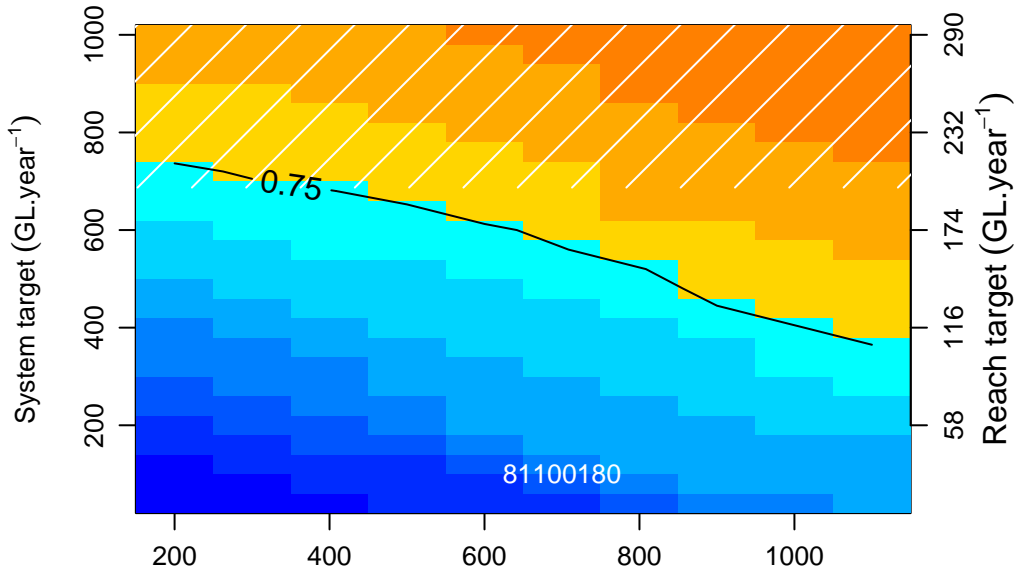


Pump rate : 50 days, EOS : 200

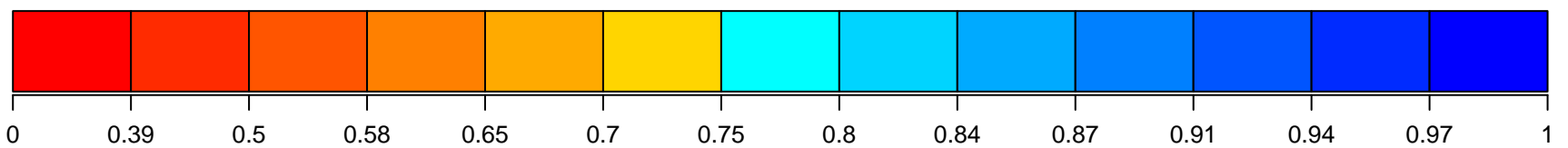


Annual reliability colour scale

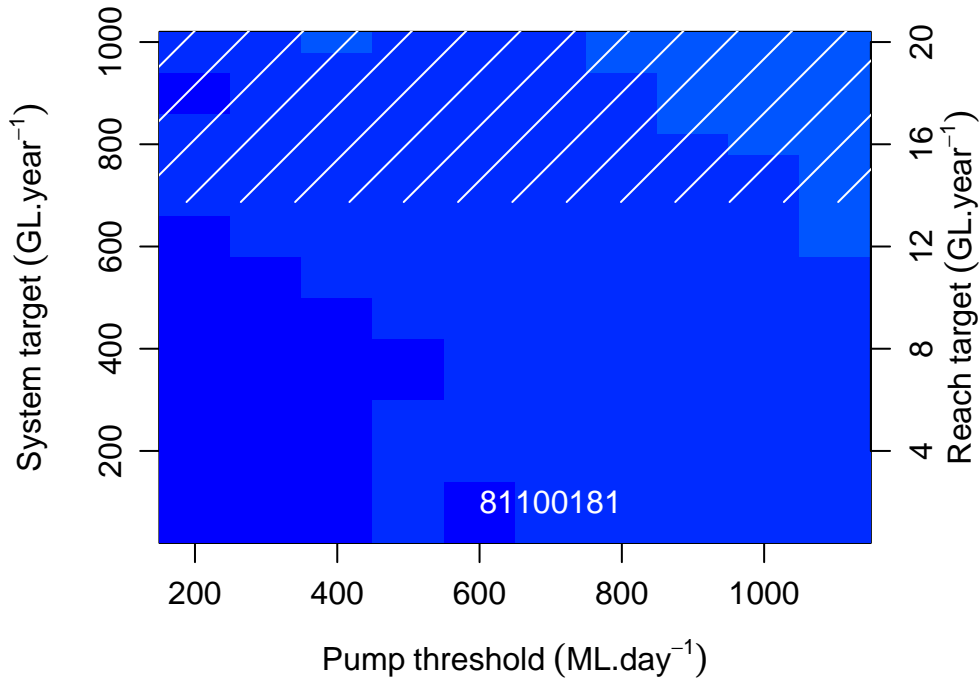
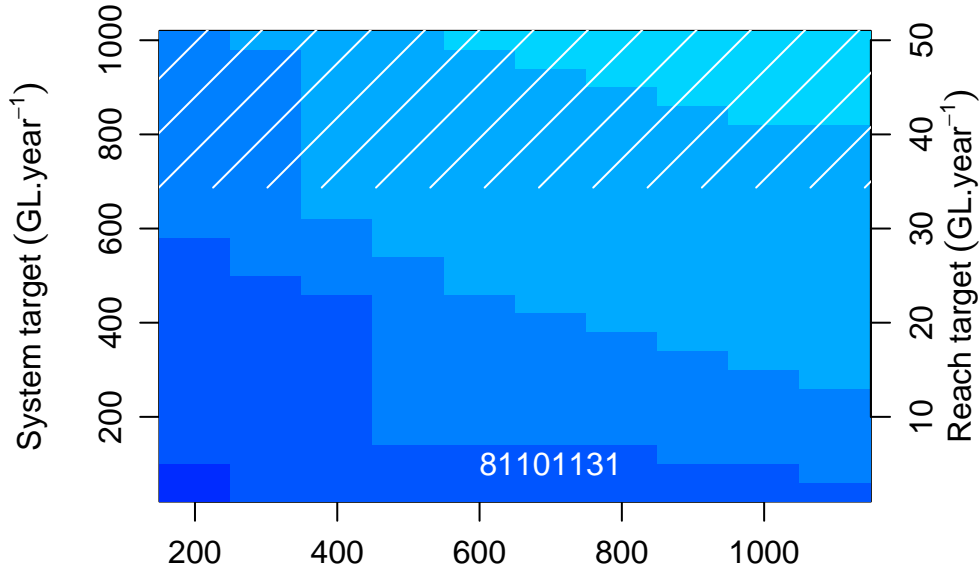
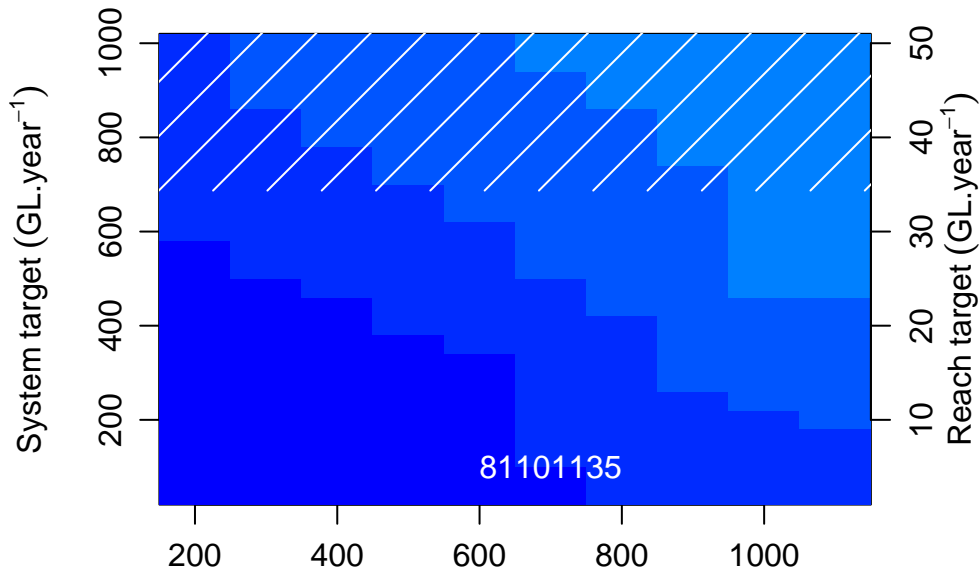




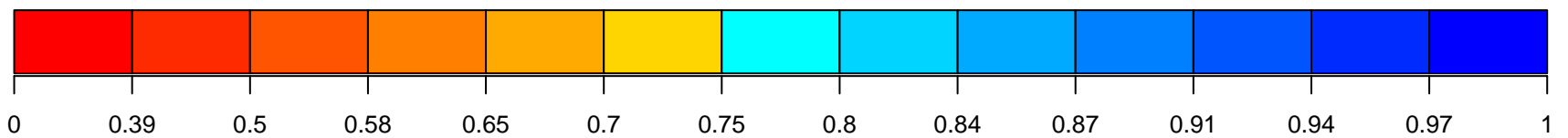
Annual reliability colour scale

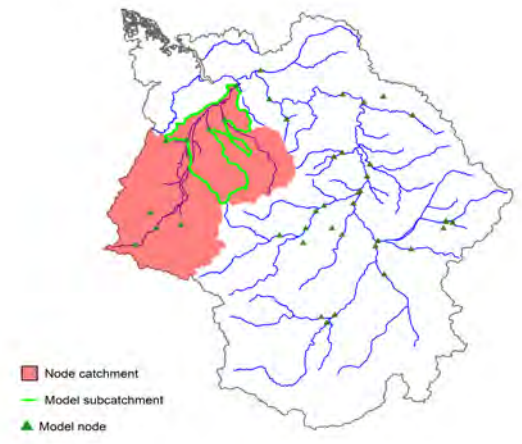
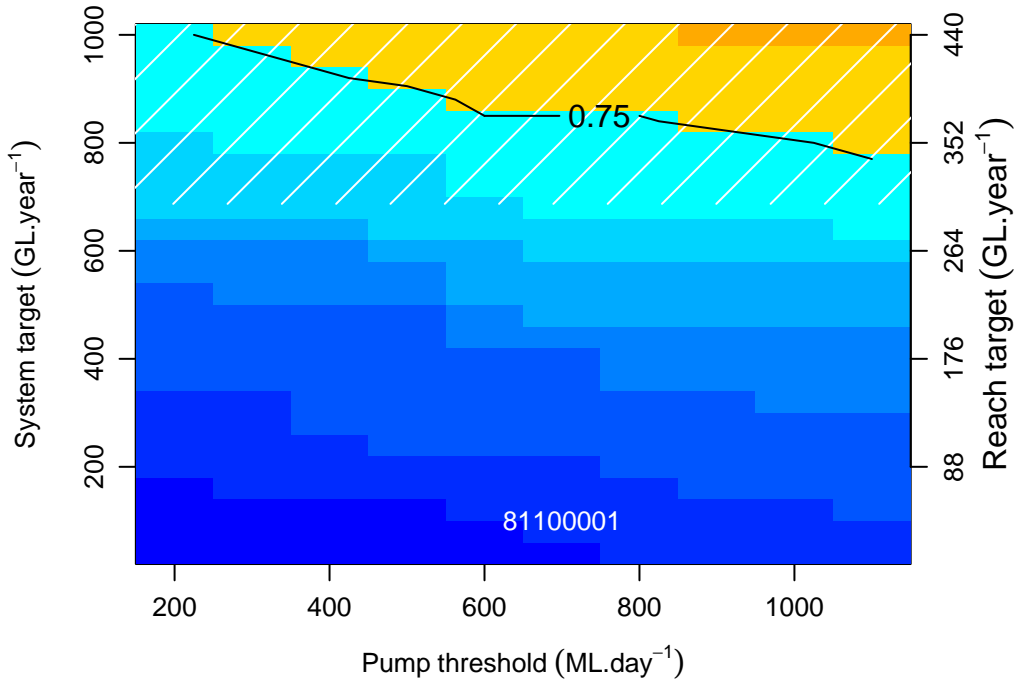
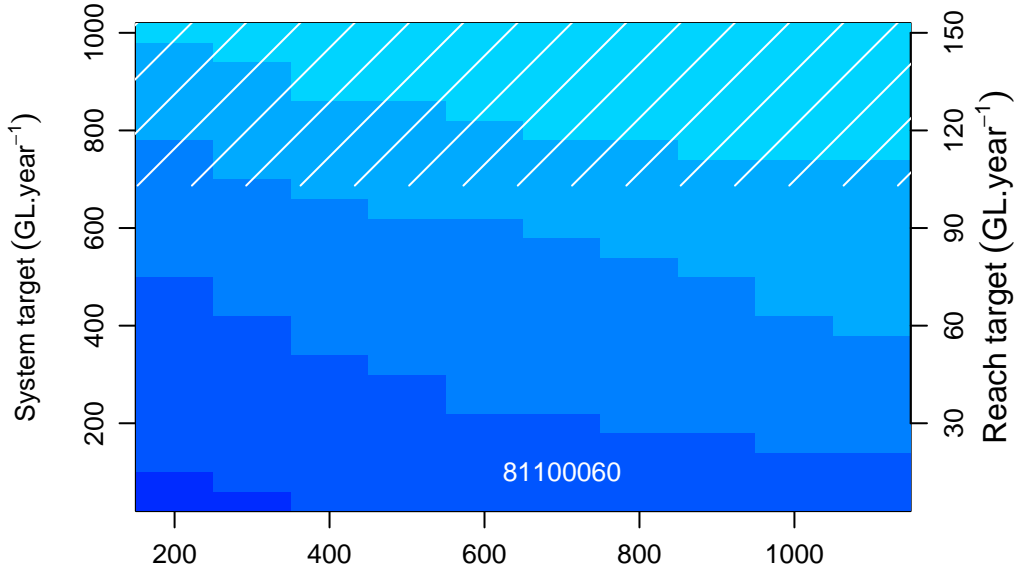
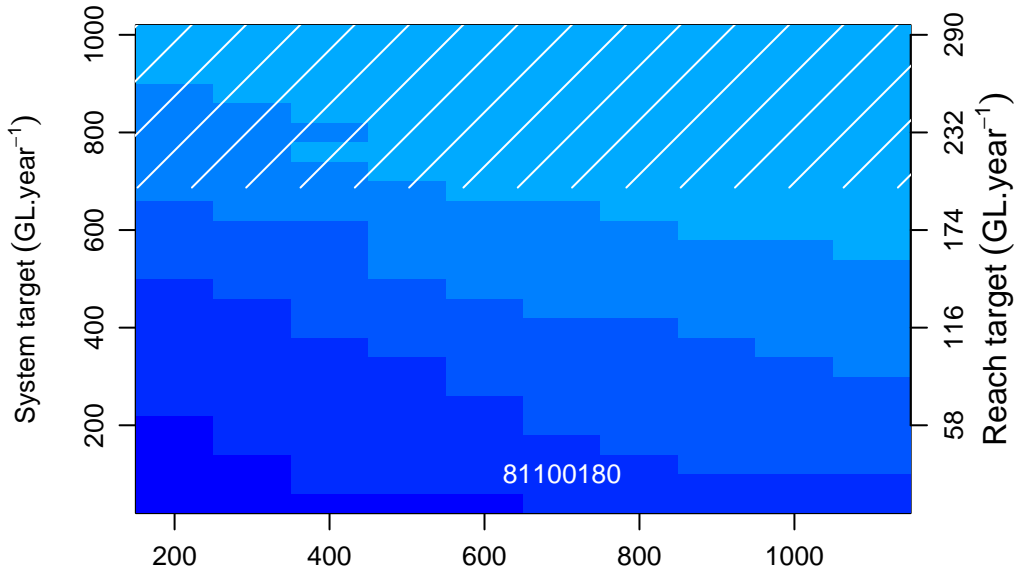


Pump rate : 10 days, EOS : 500

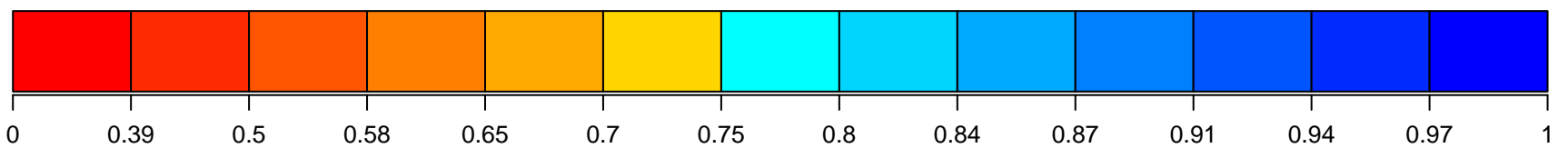


Annual reliability colour scale

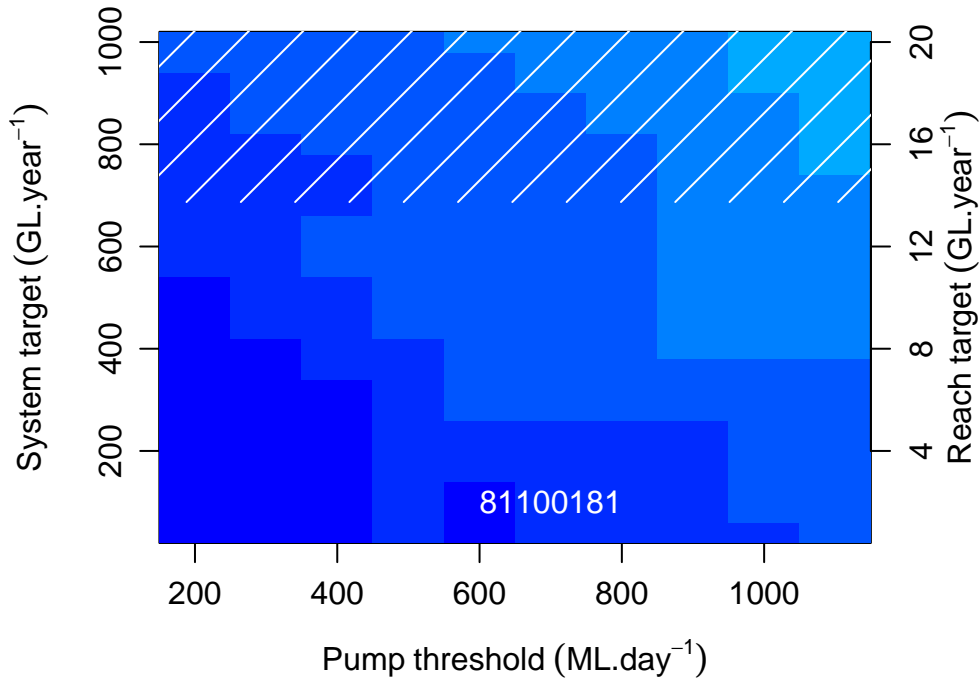
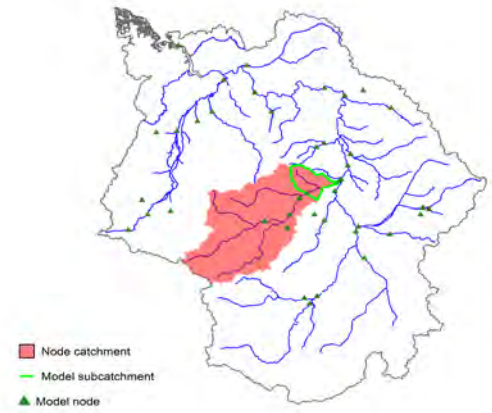
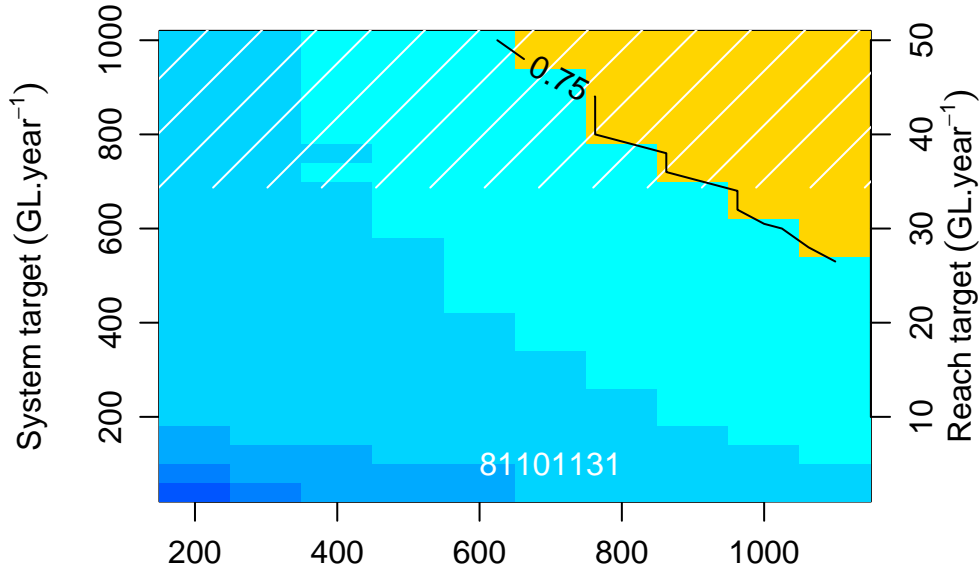
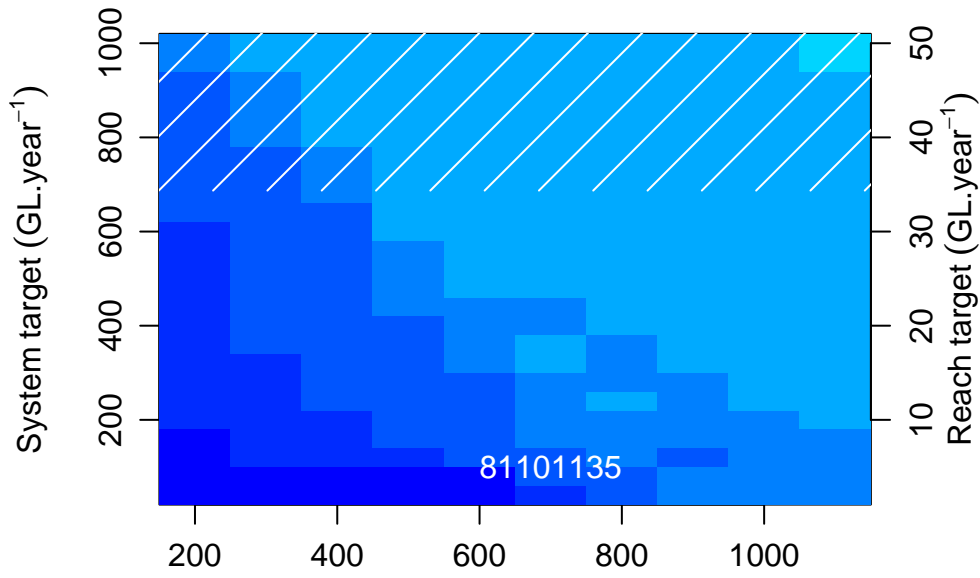




Annual reliability colour scale

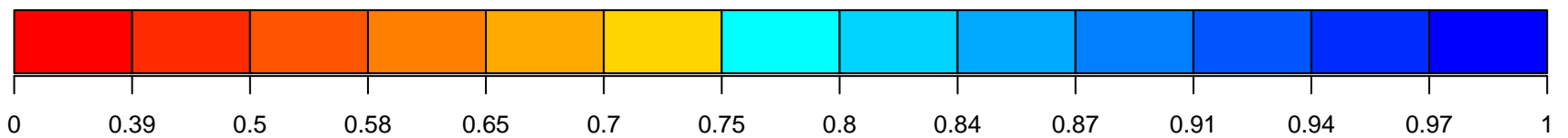


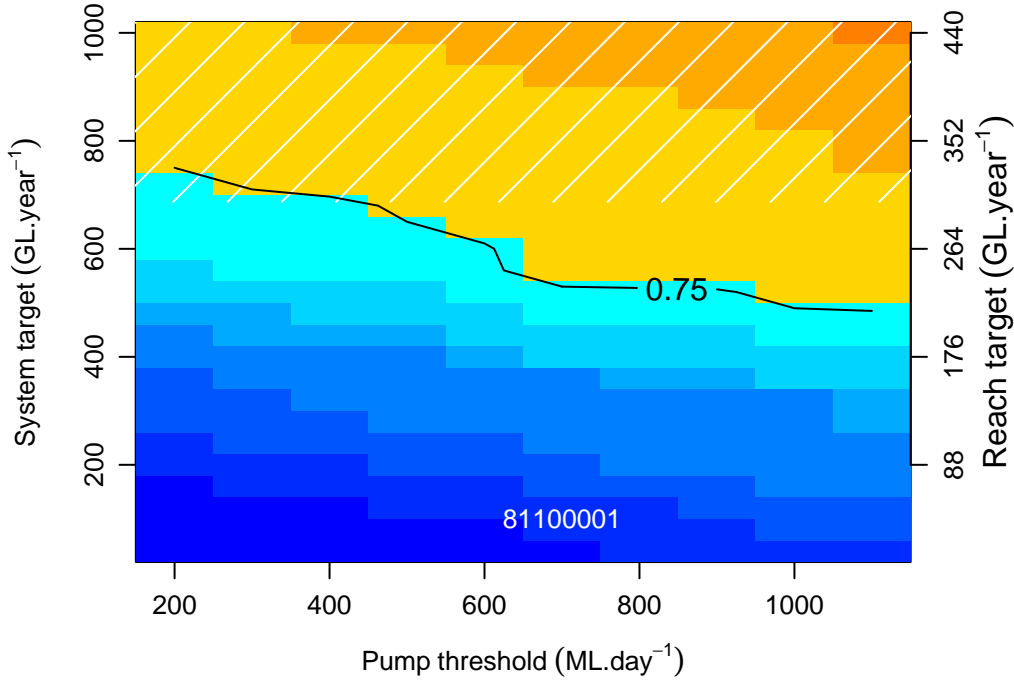
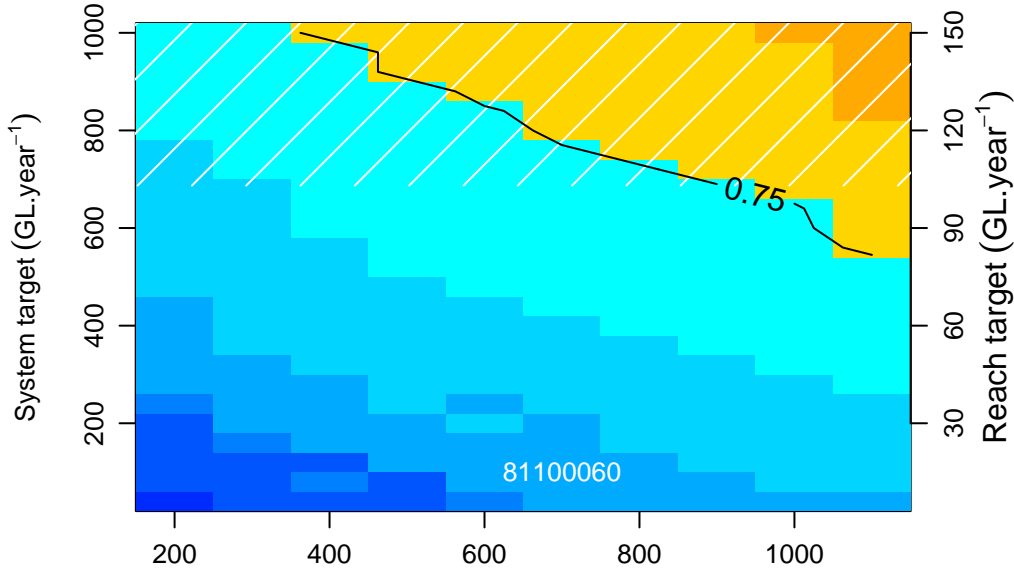
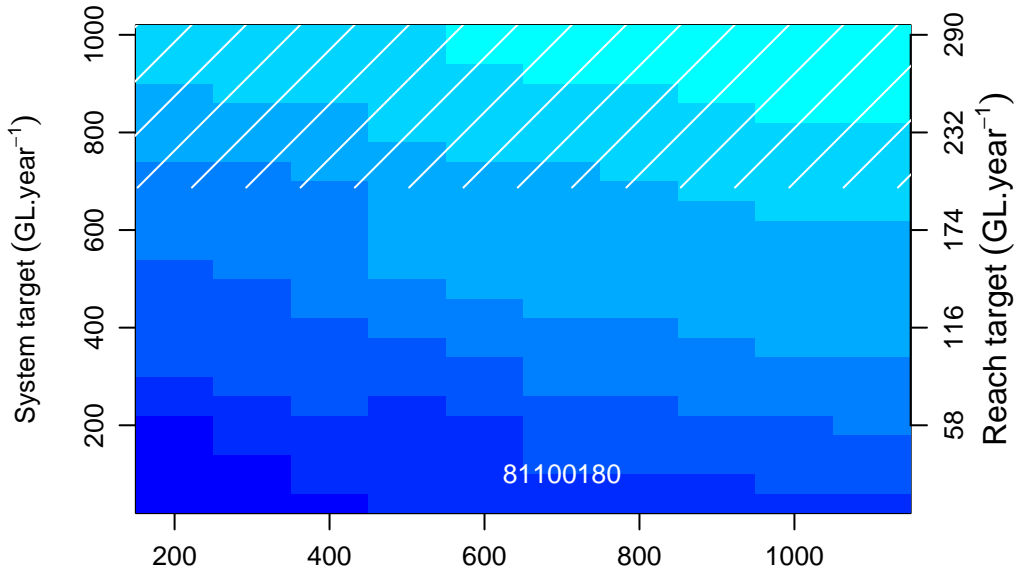
Pump rate : 20 days, EOS : 500



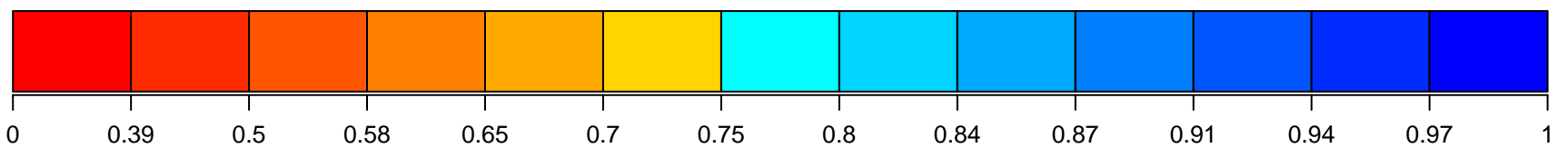
Pump threshold (ML.day⁻¹)

Annual reliability colour scale

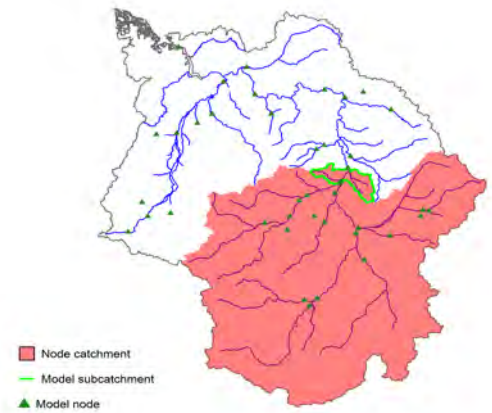
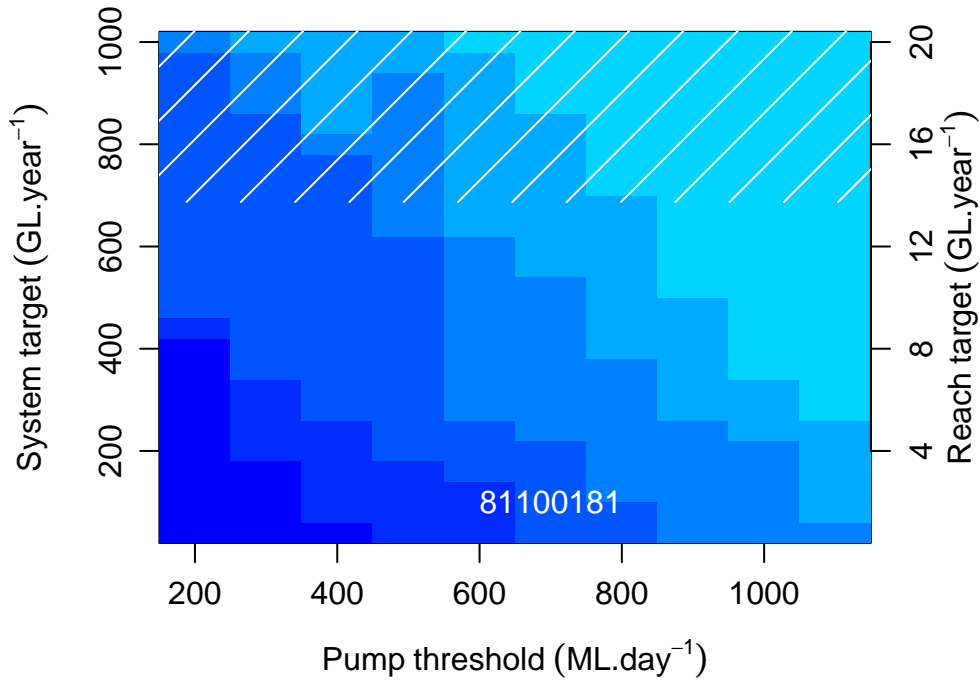
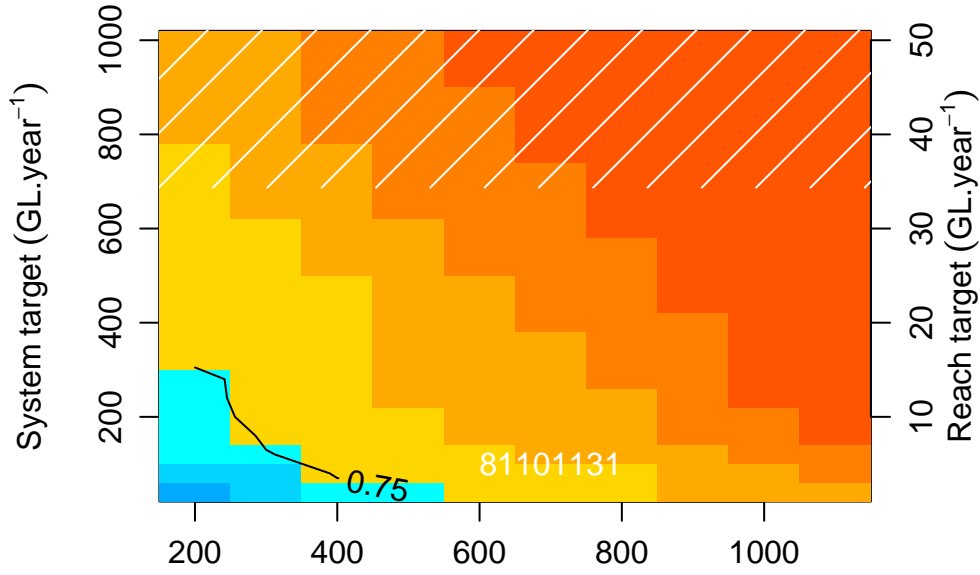
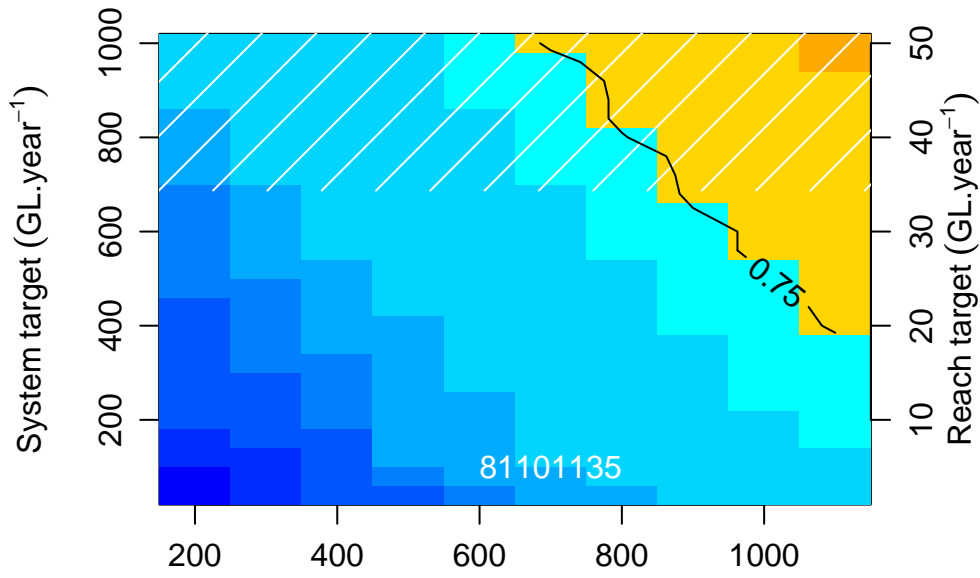




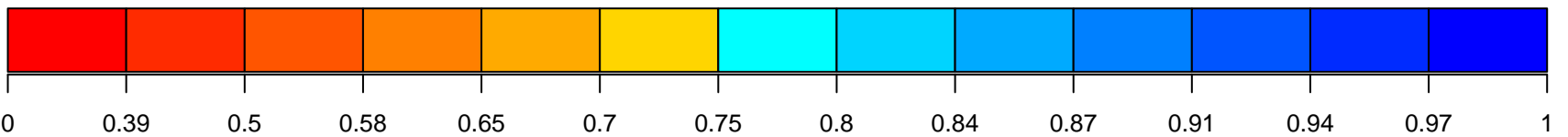
Annual reliability colour scale

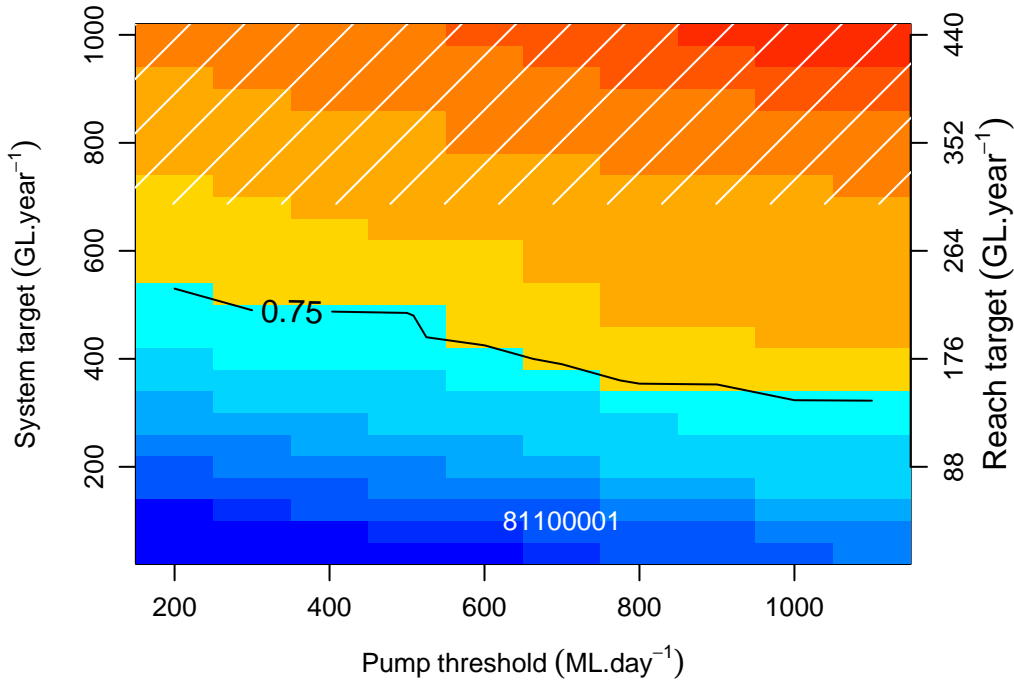
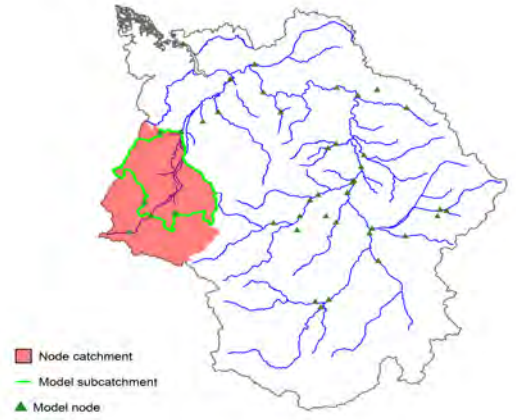
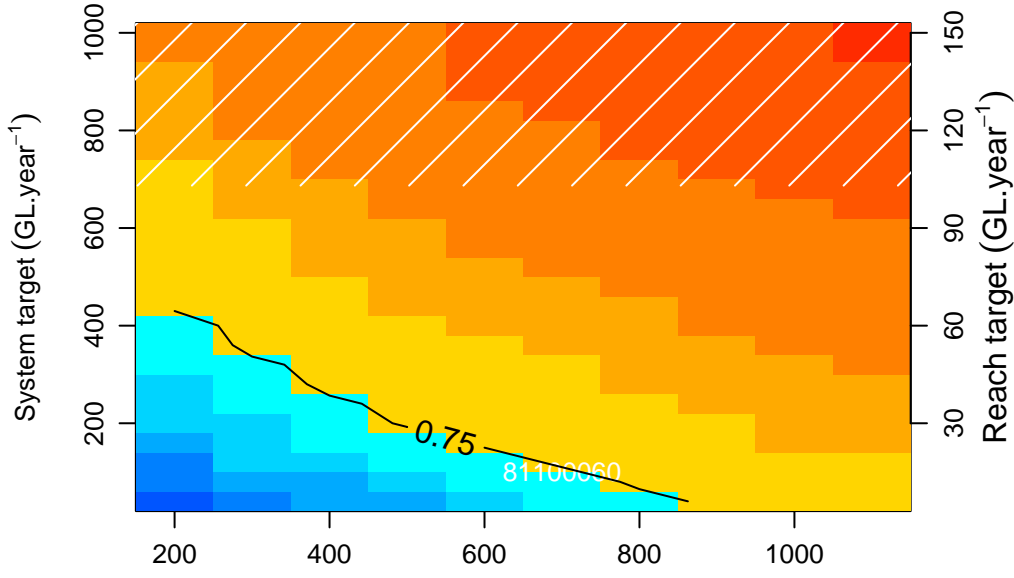
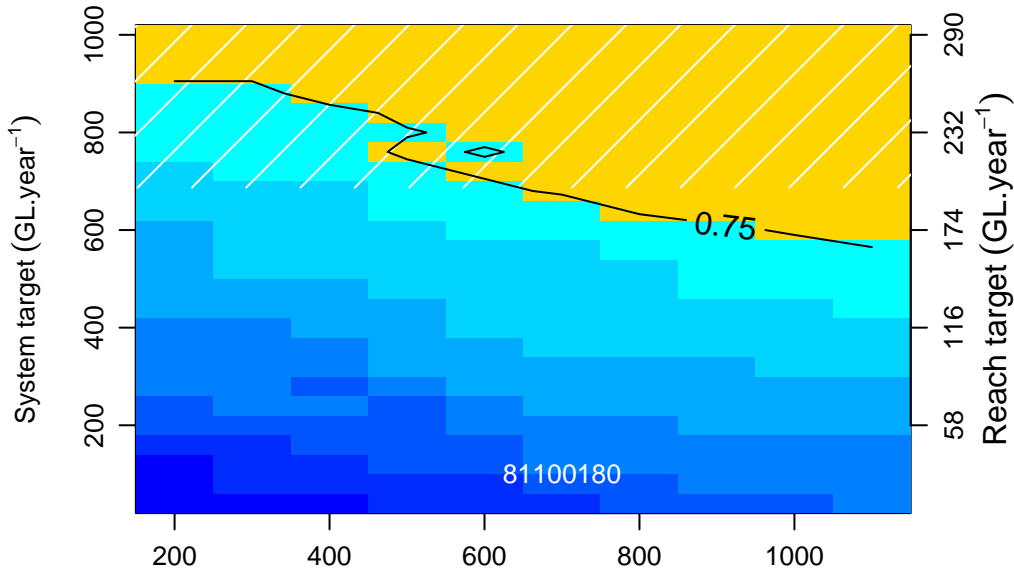


Pump rate : 30 days, EOS : 500

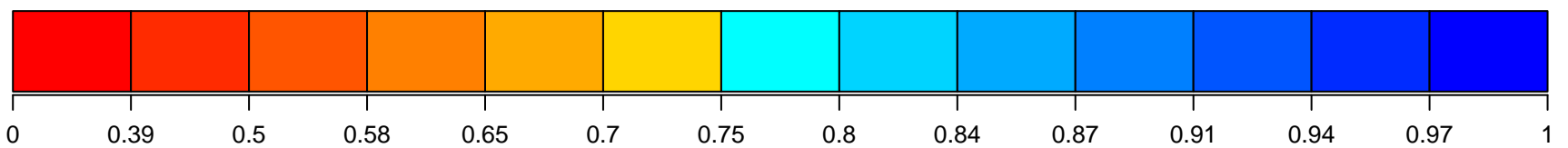


Annual reliability colour scale

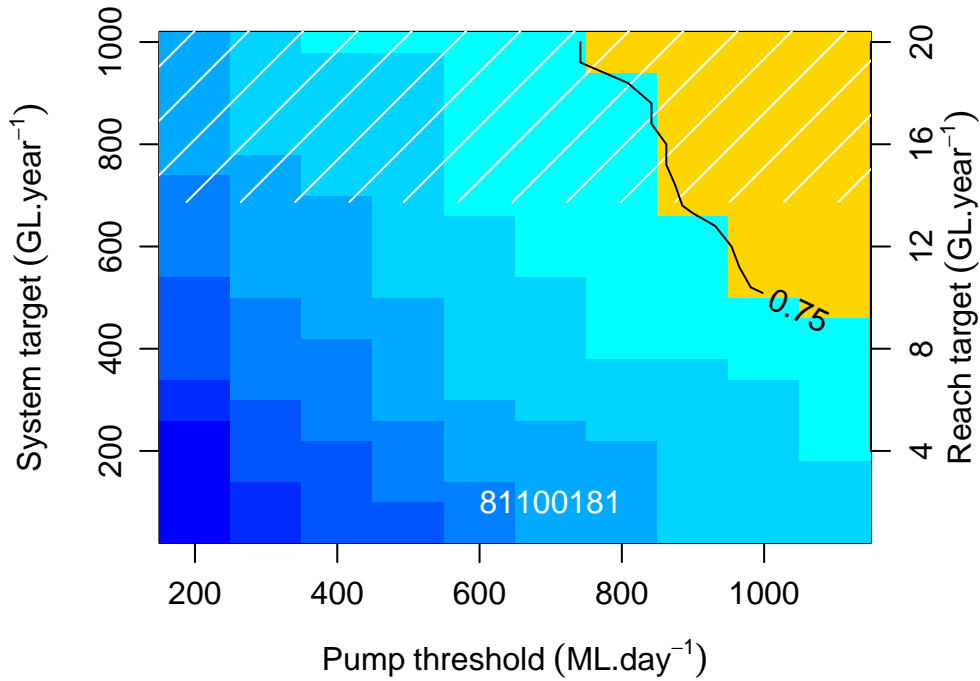
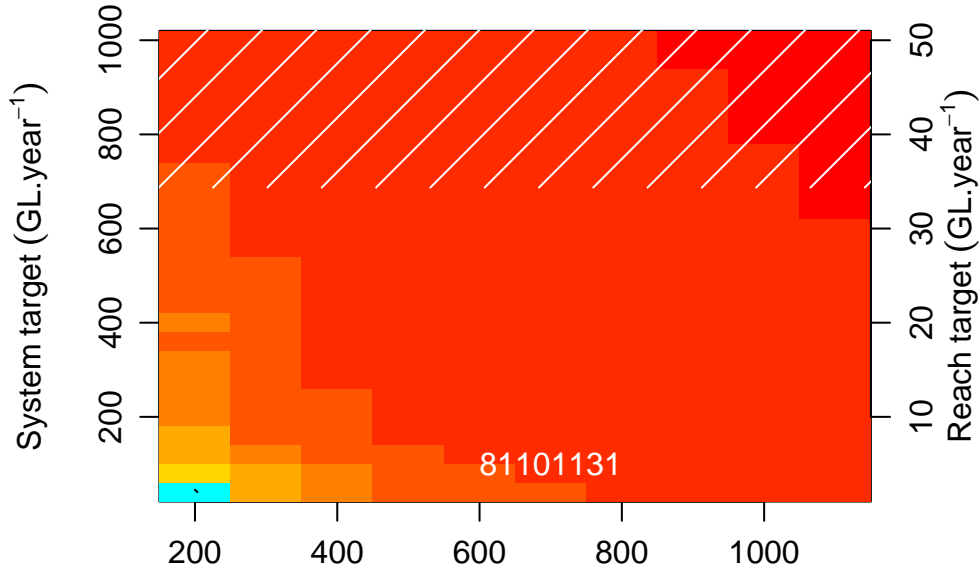
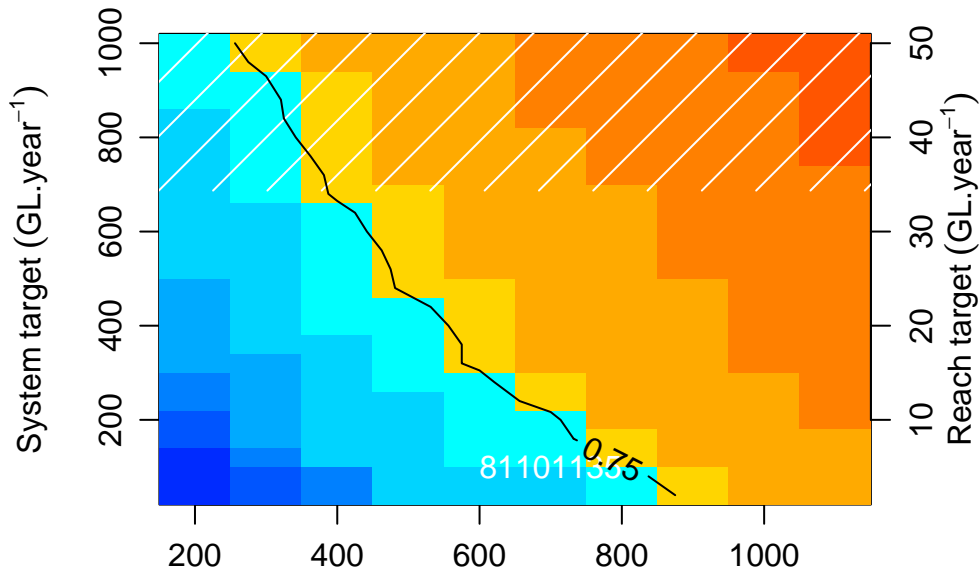




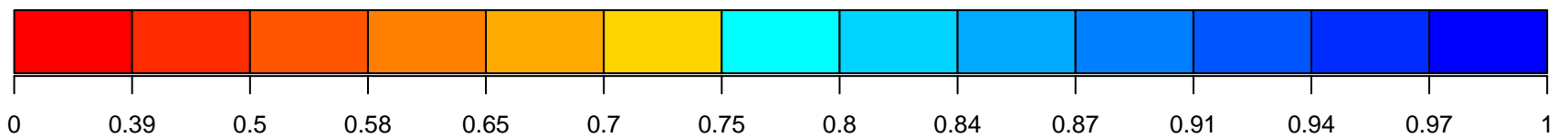
Annual reliability colour scale

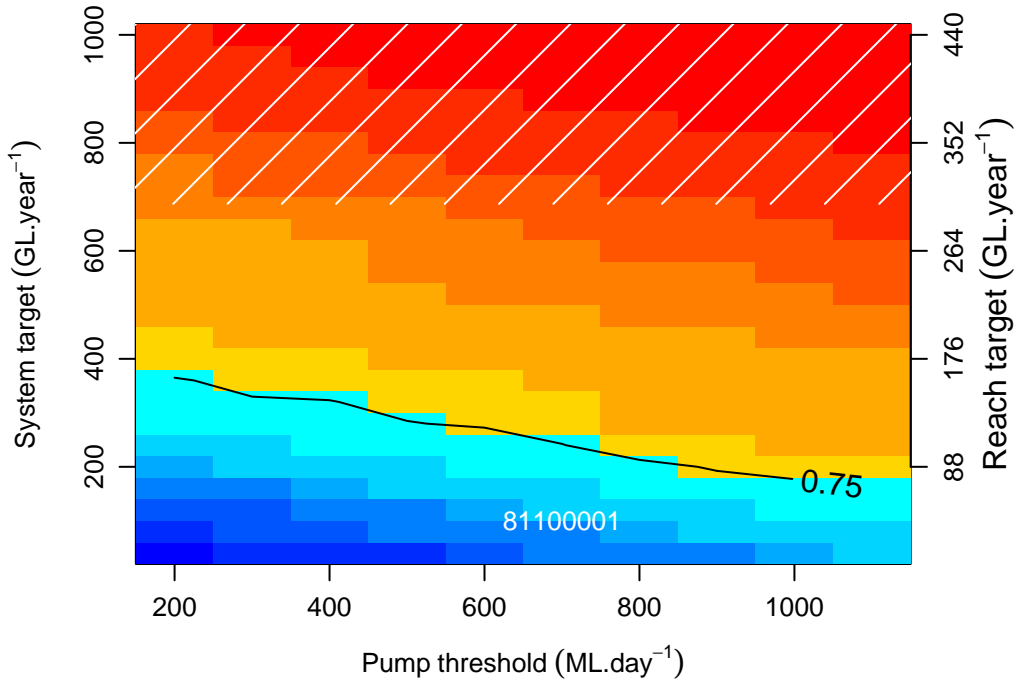
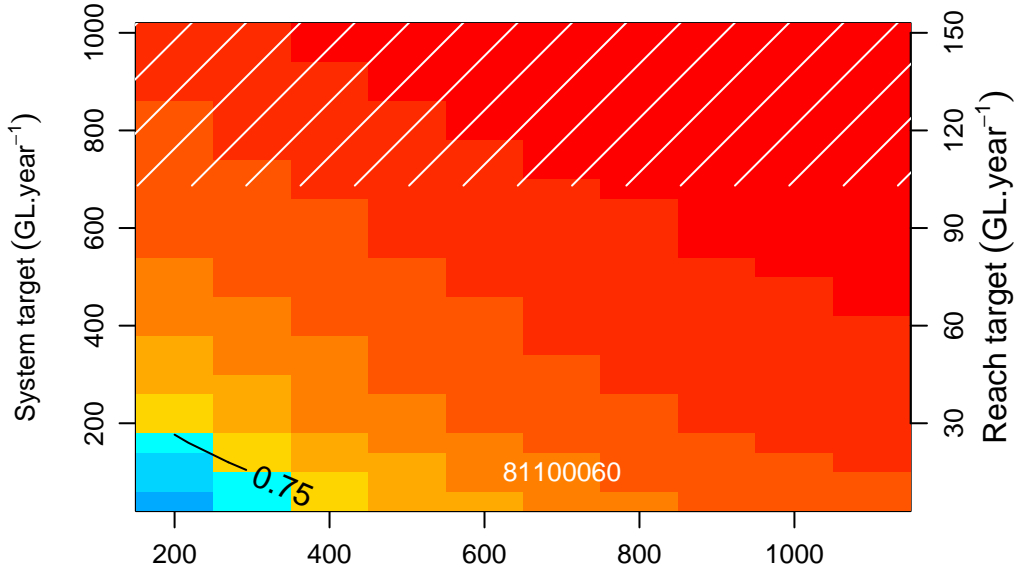
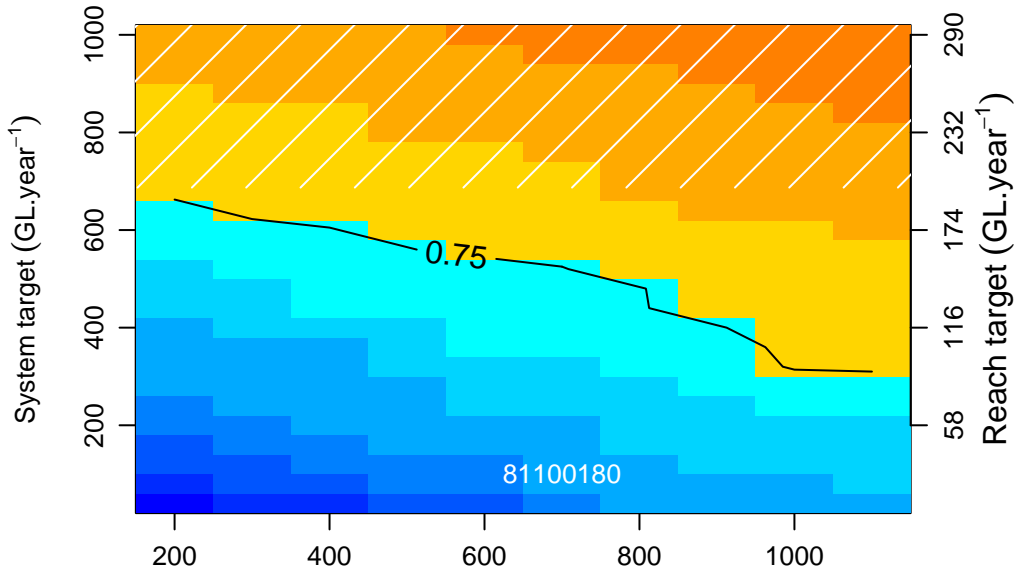


Pump rate : 40 days, EOS : 500

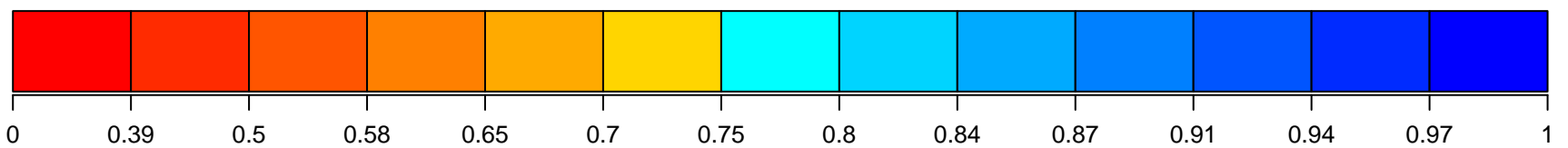


Annual reliability colour scale

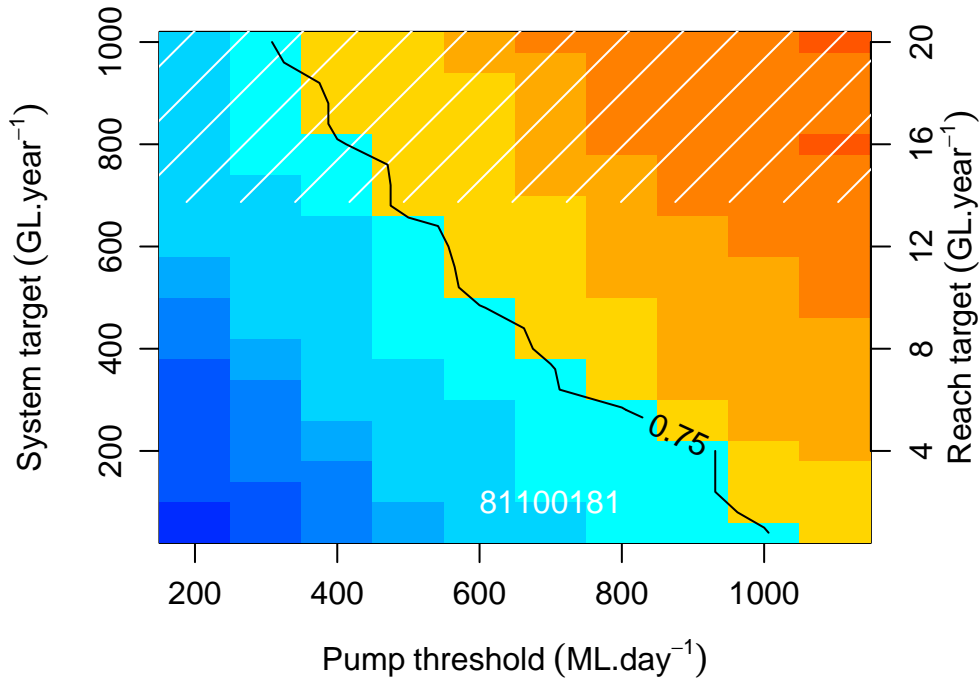
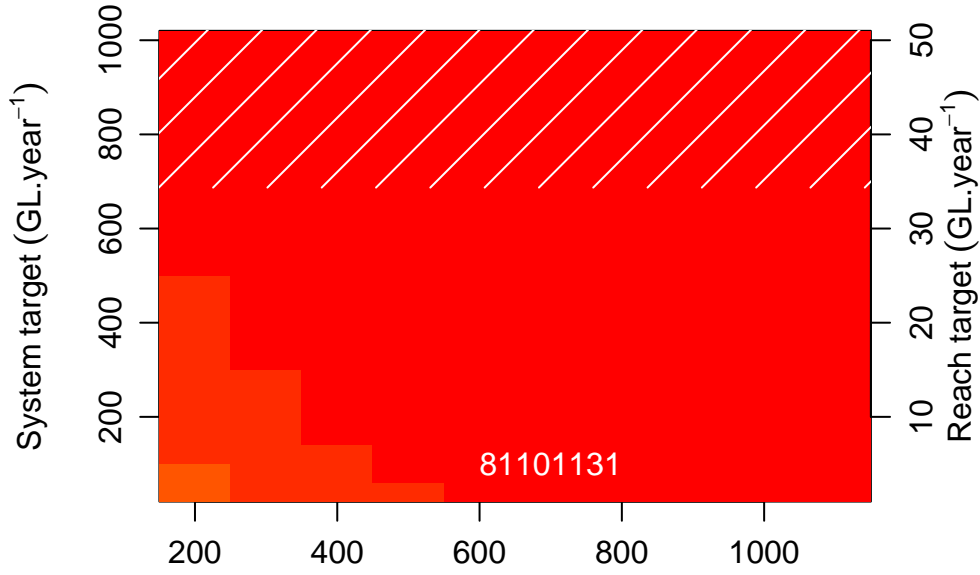
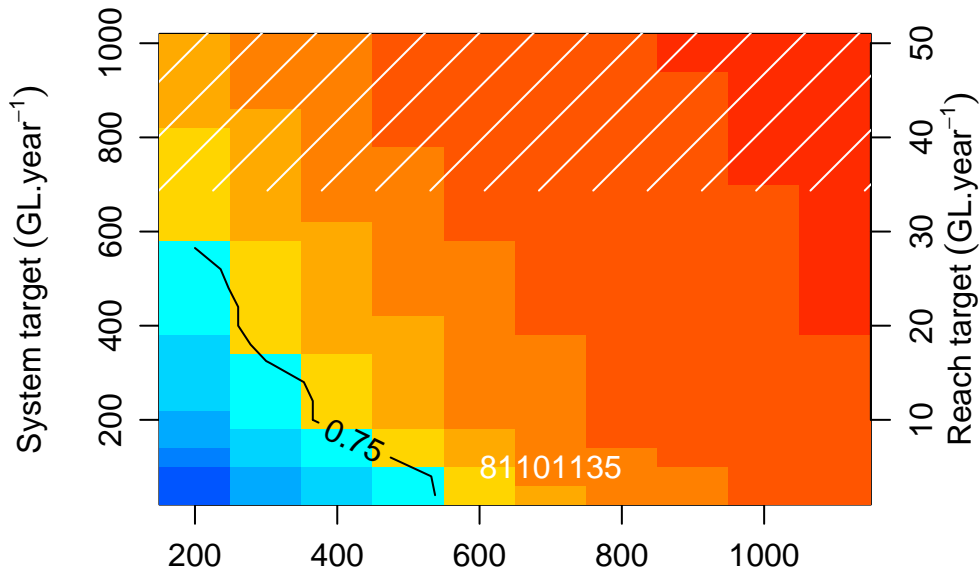




Annual reliability colour scale

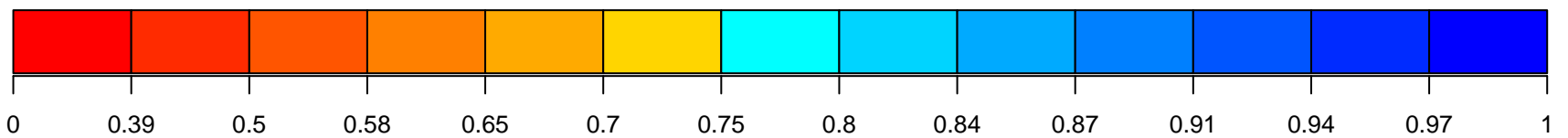


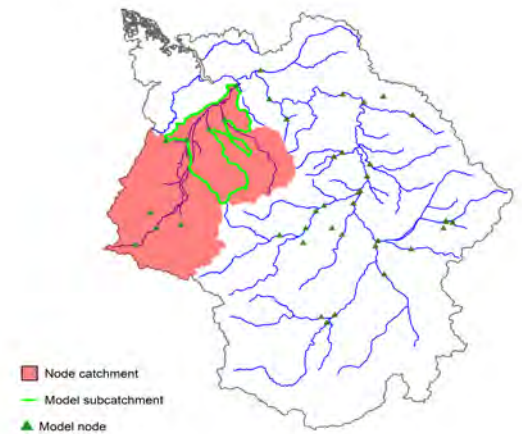
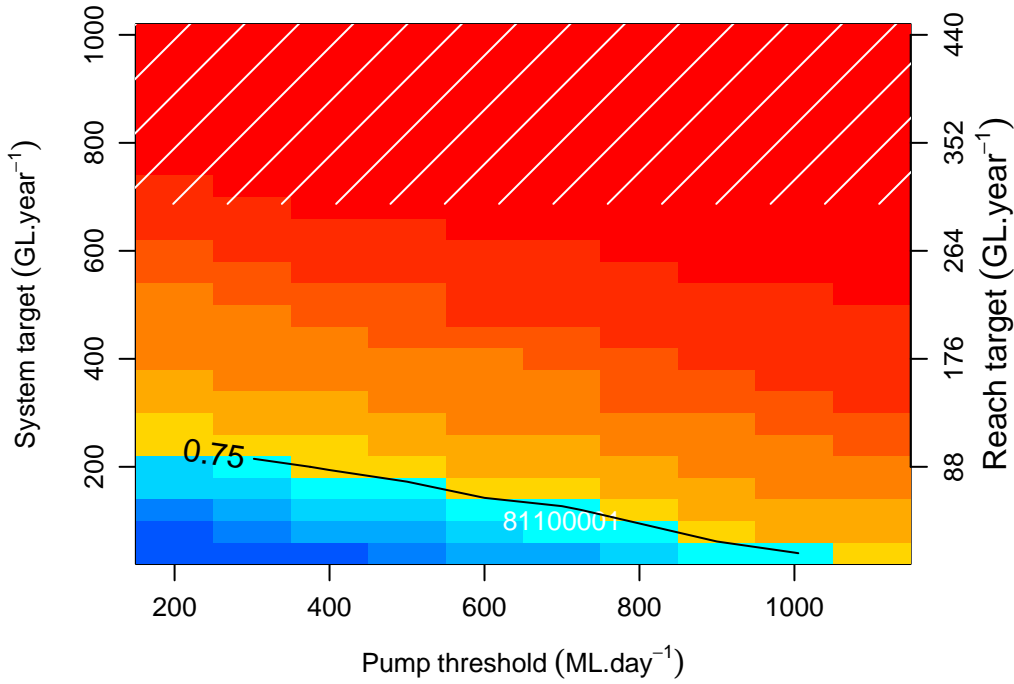
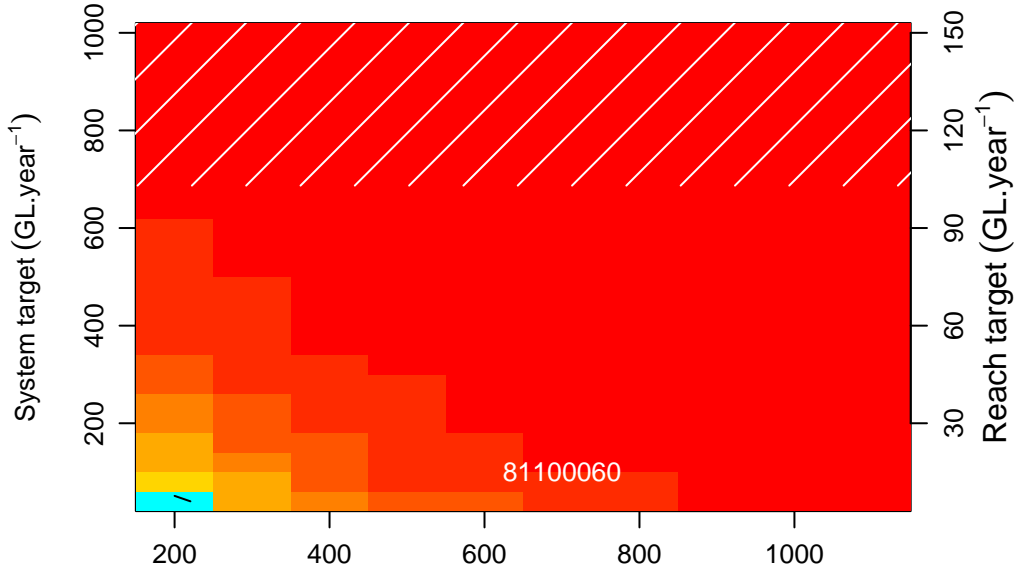
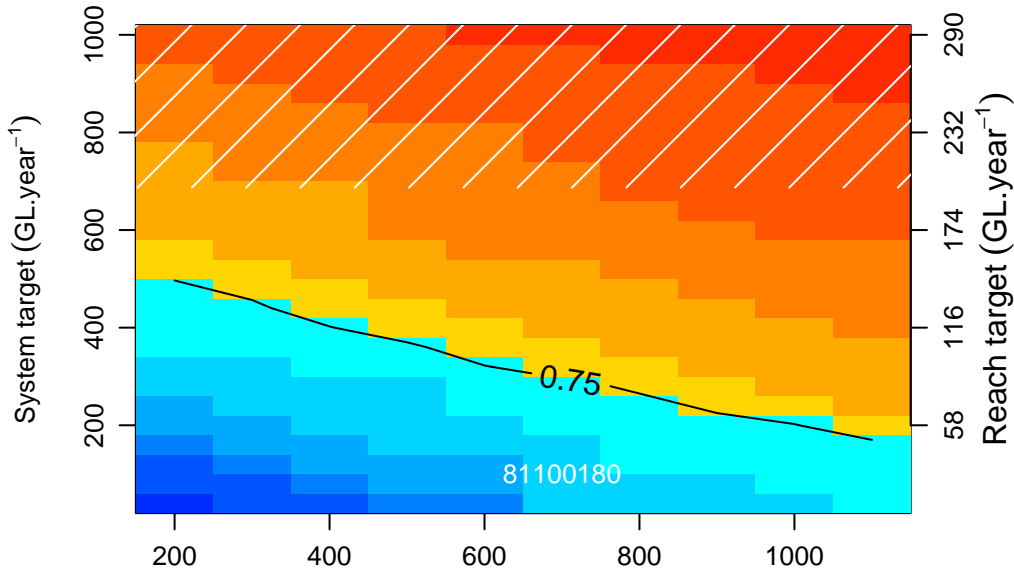
Pump rate : 50 days, EOS : 500



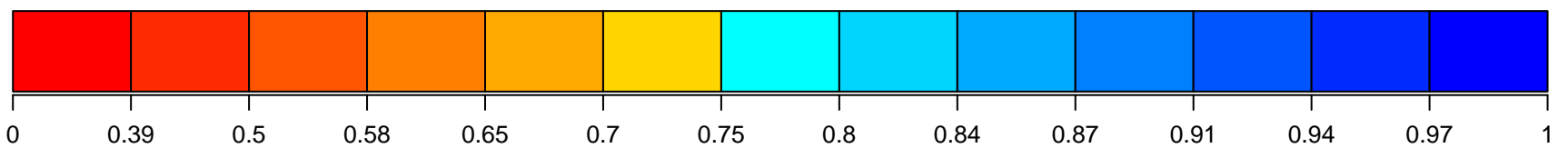
Pump threshold (ML.day⁻¹)

Annual reliability colour scale

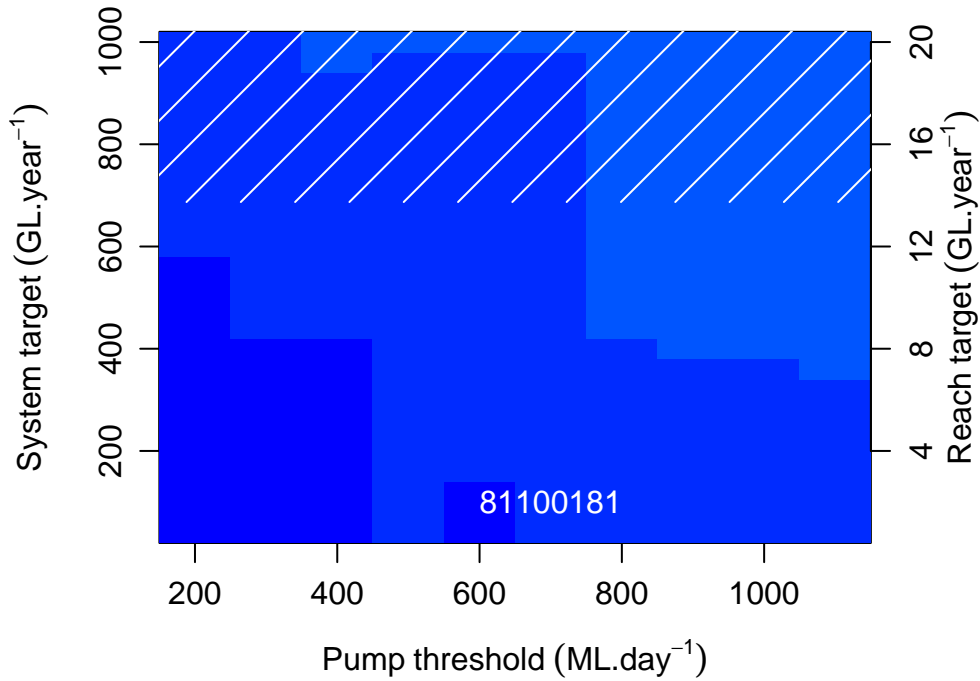
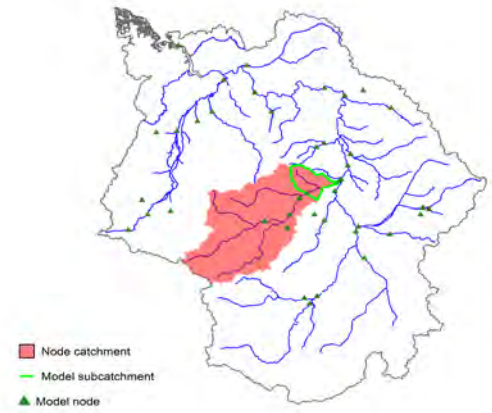
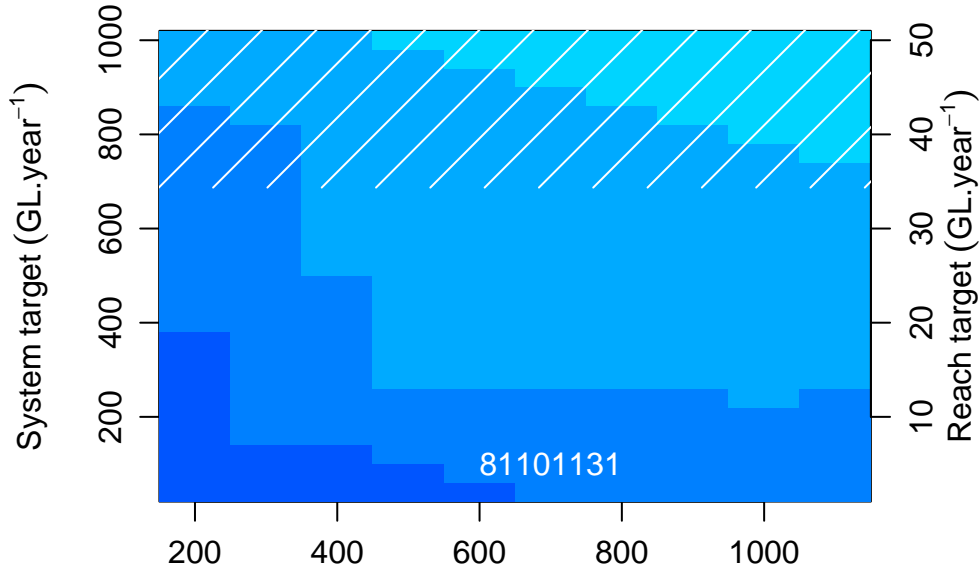
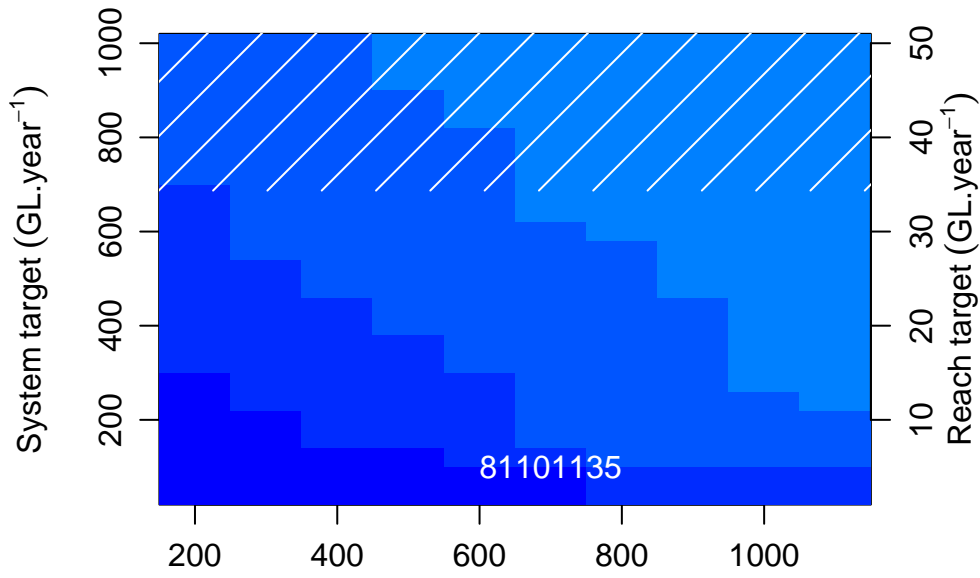




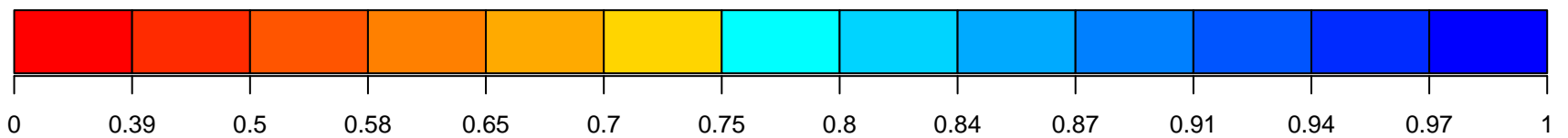
Annual reliability colour scale

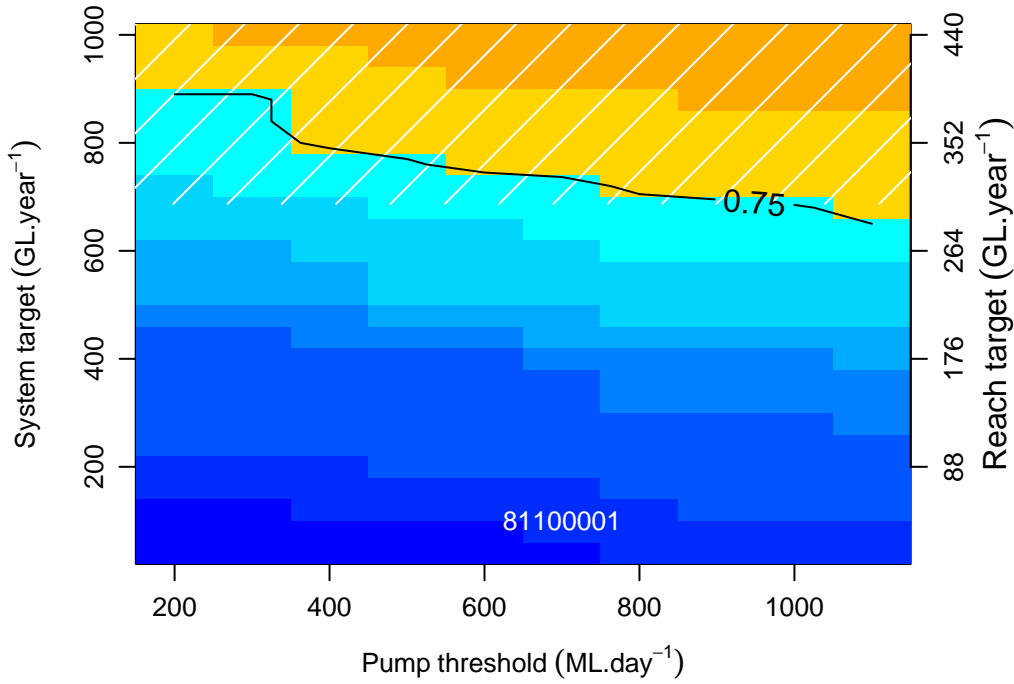
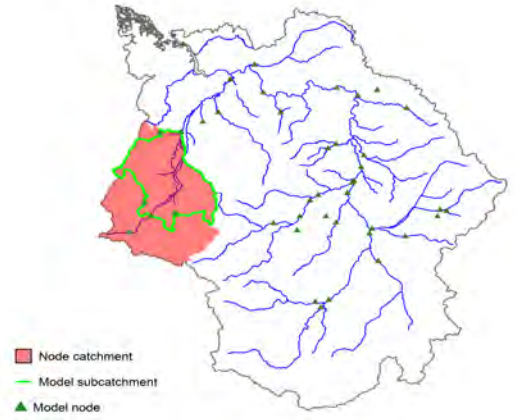
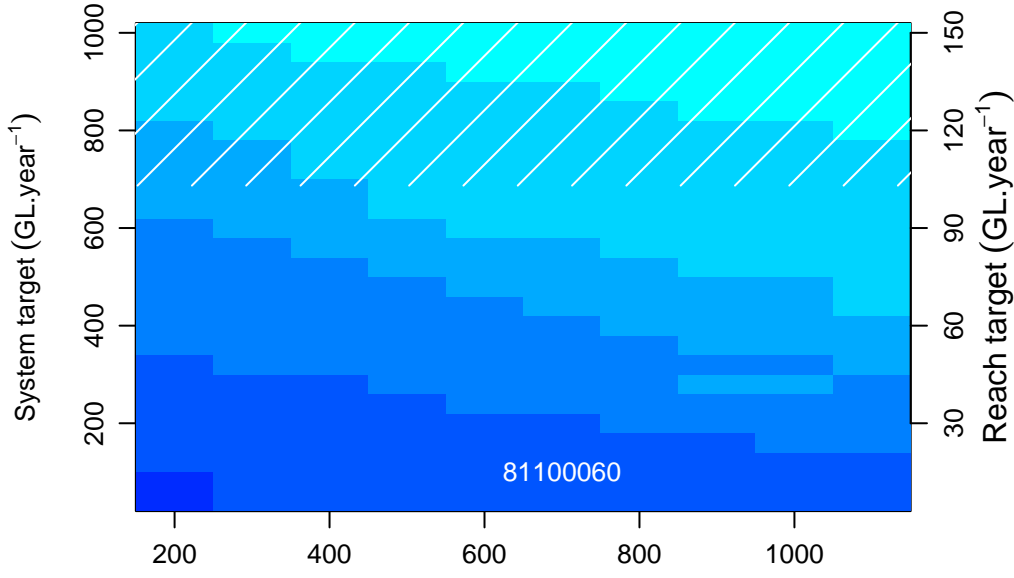
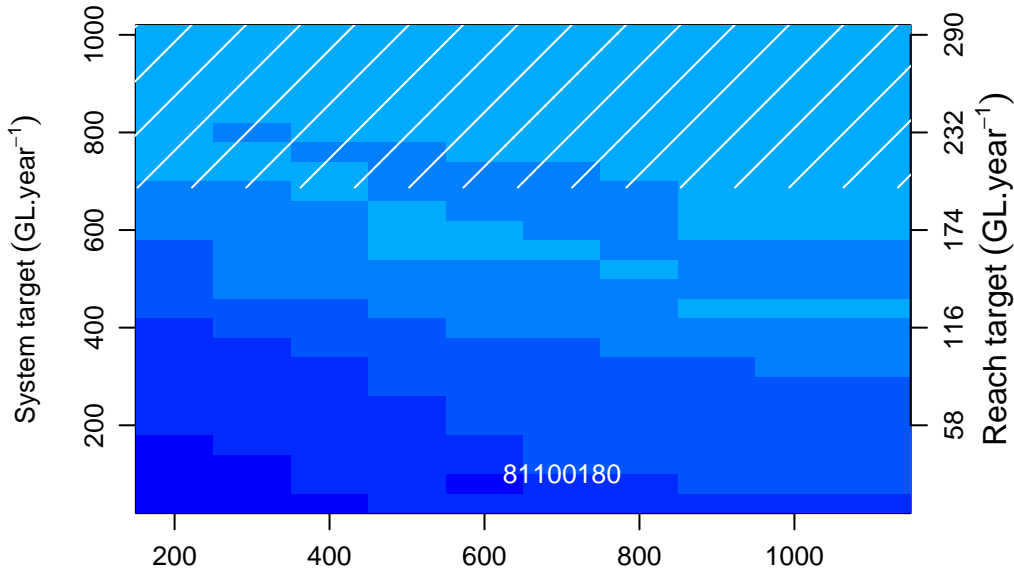


Pump rate : 10 days, EOS : 700

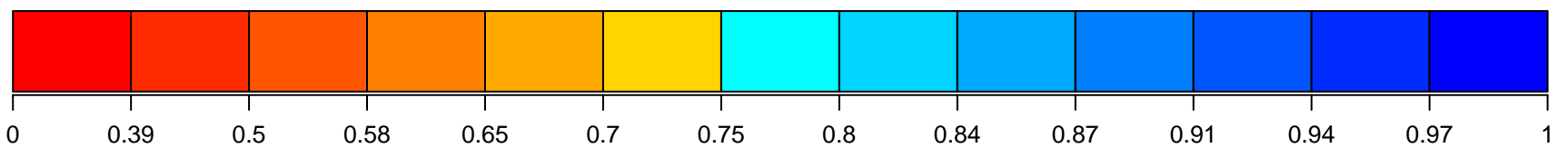


Annual reliability colour scale

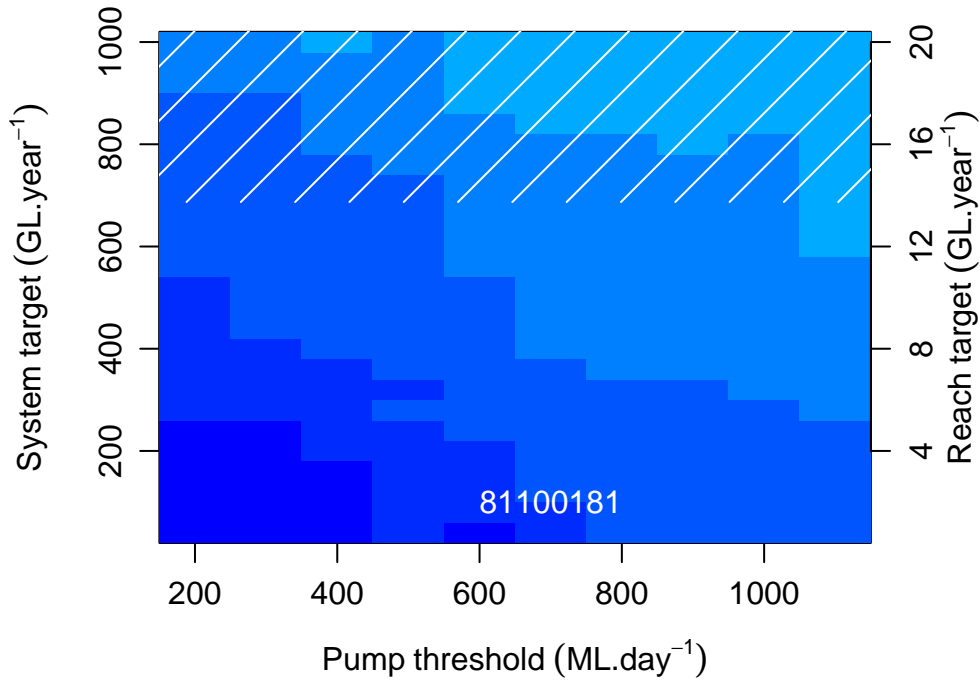
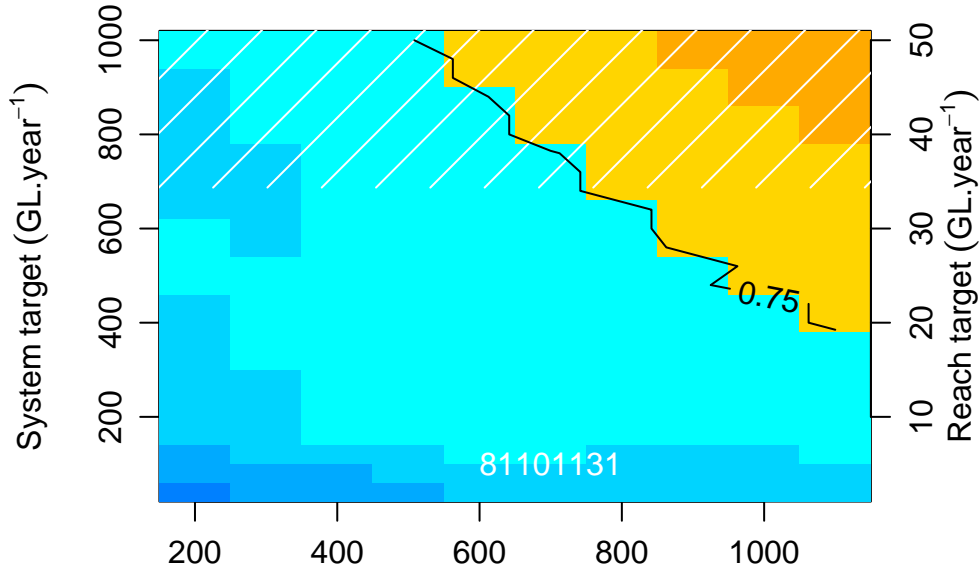
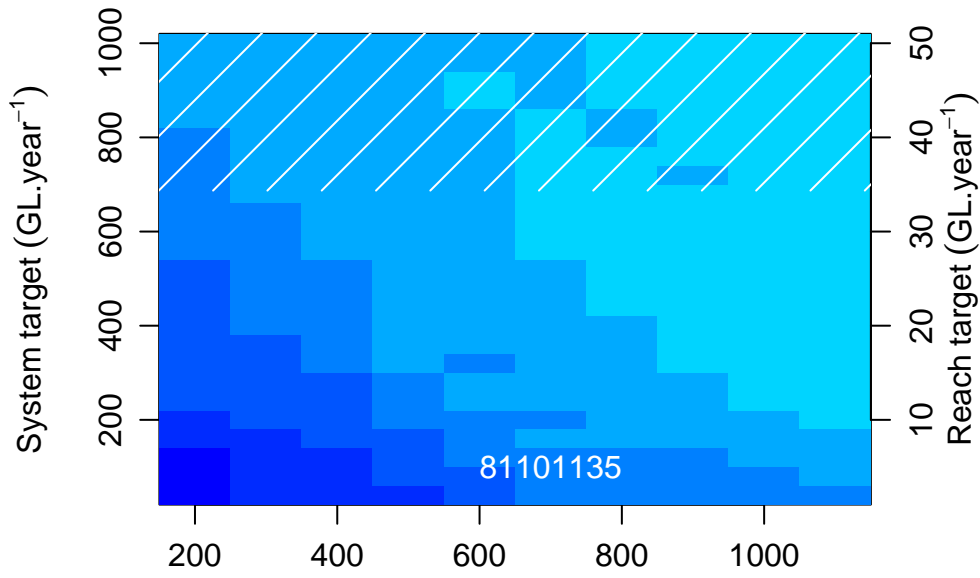




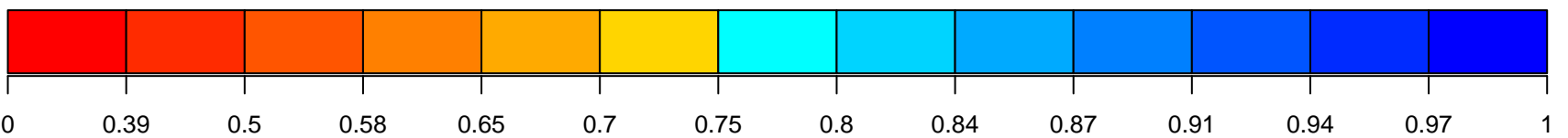
Annual reliability colour scale

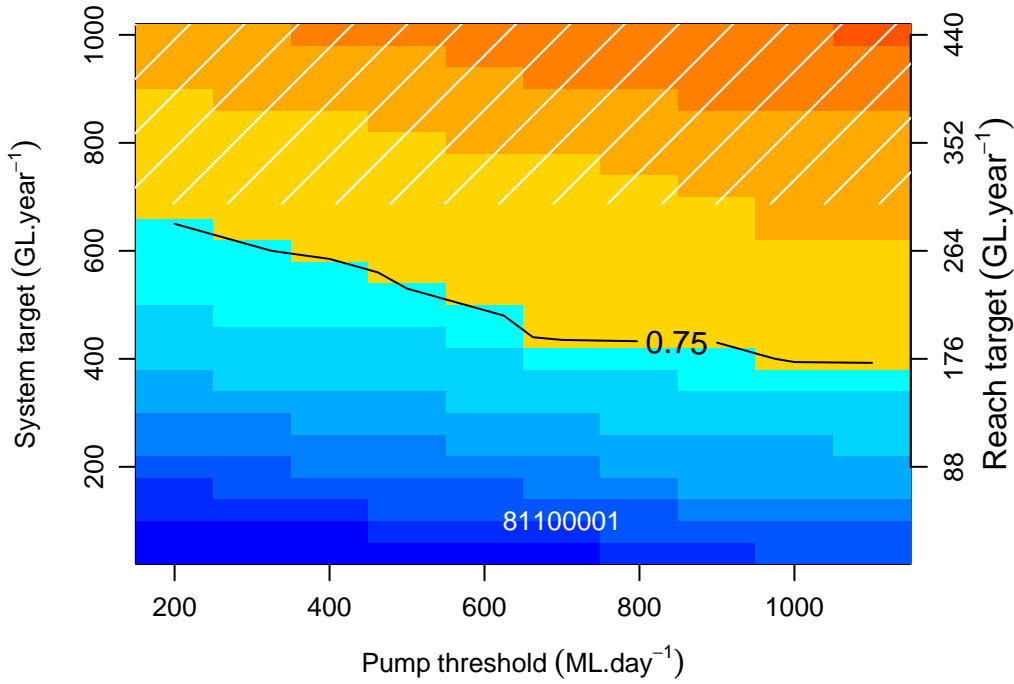
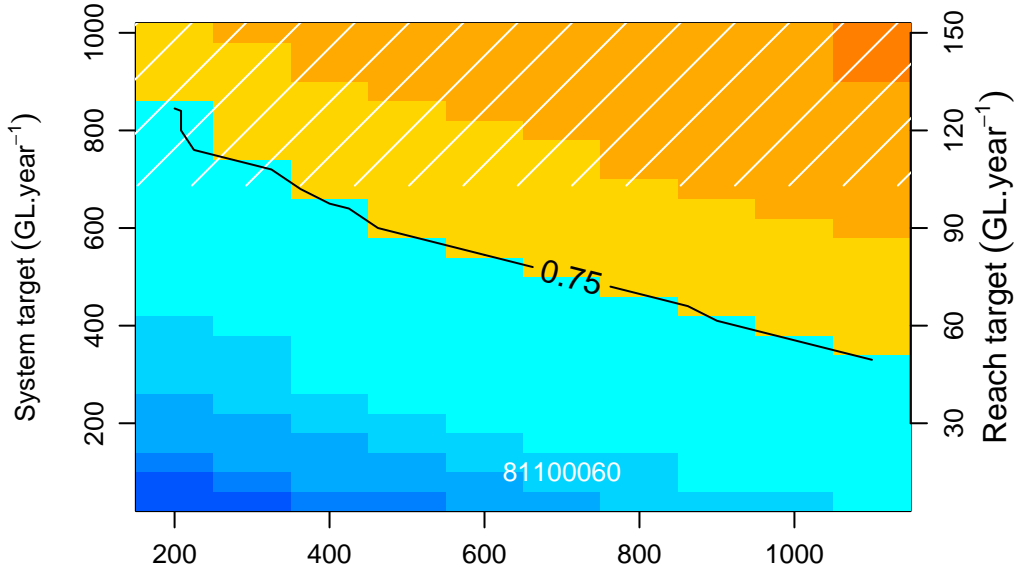
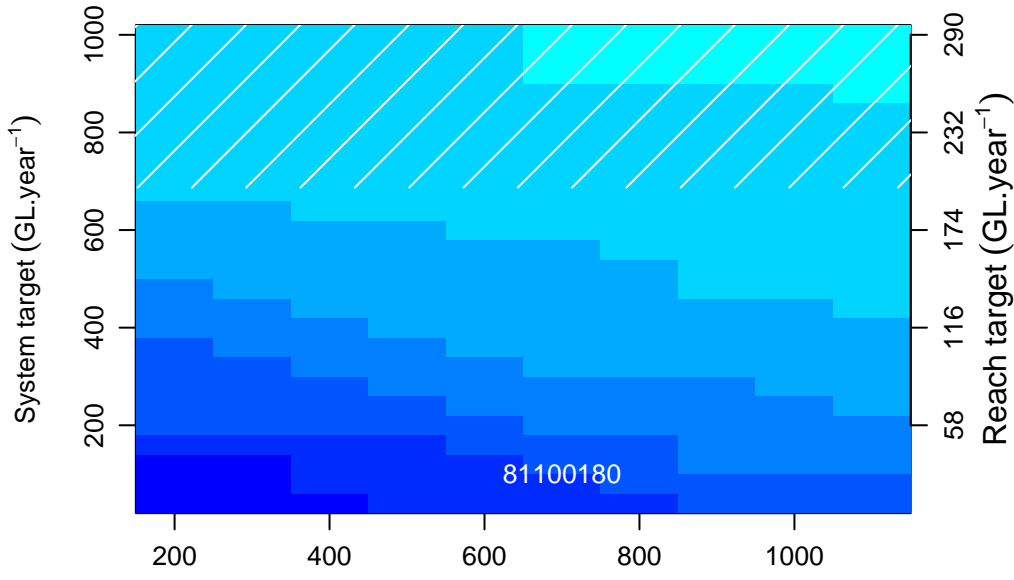


Pump rate : 20 days, EOS : 700

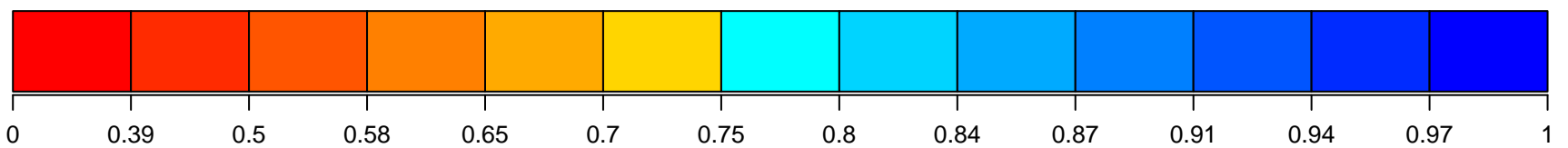


Annual reliability colour scale

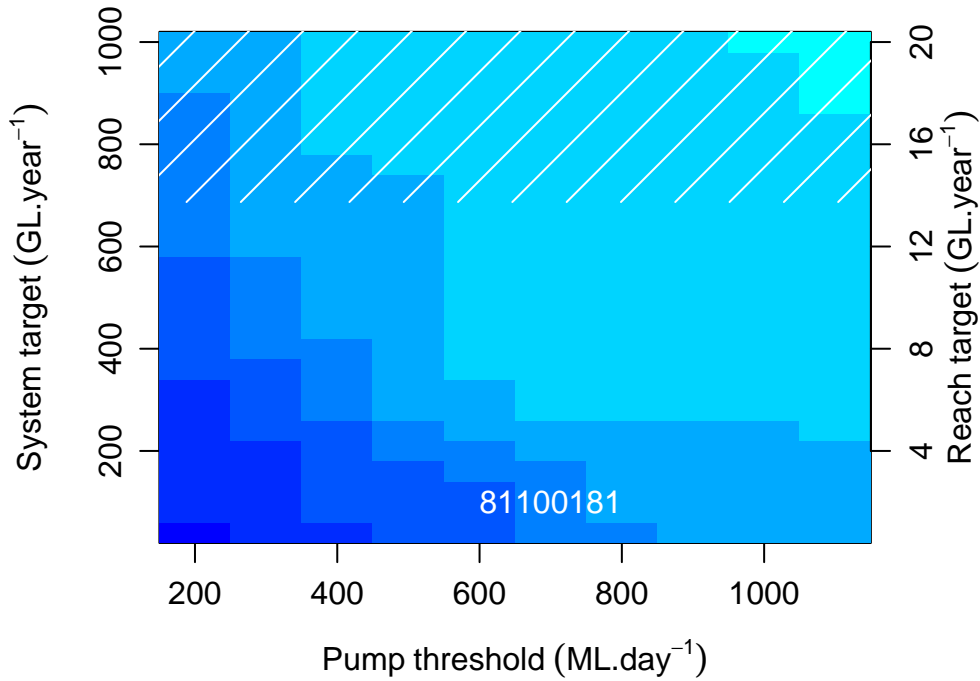
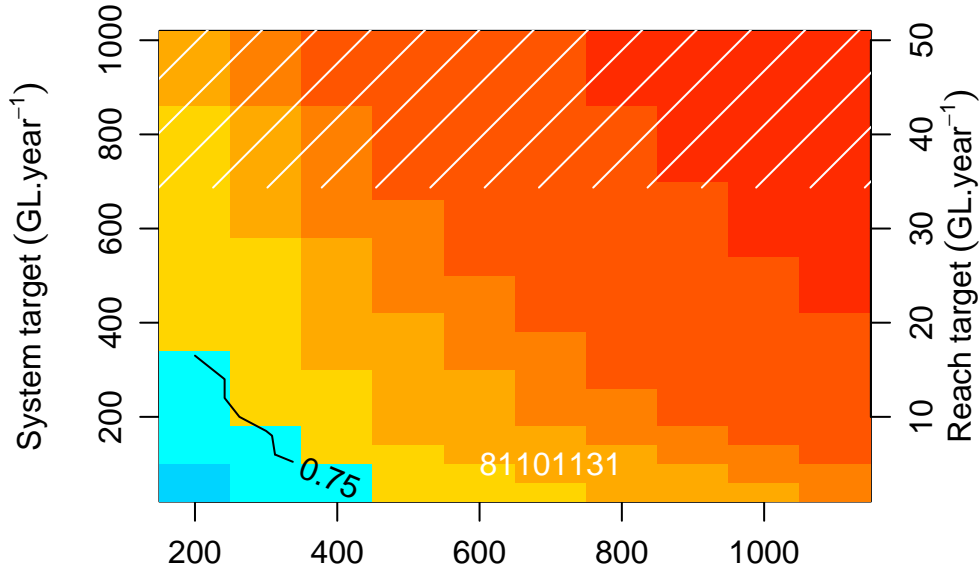
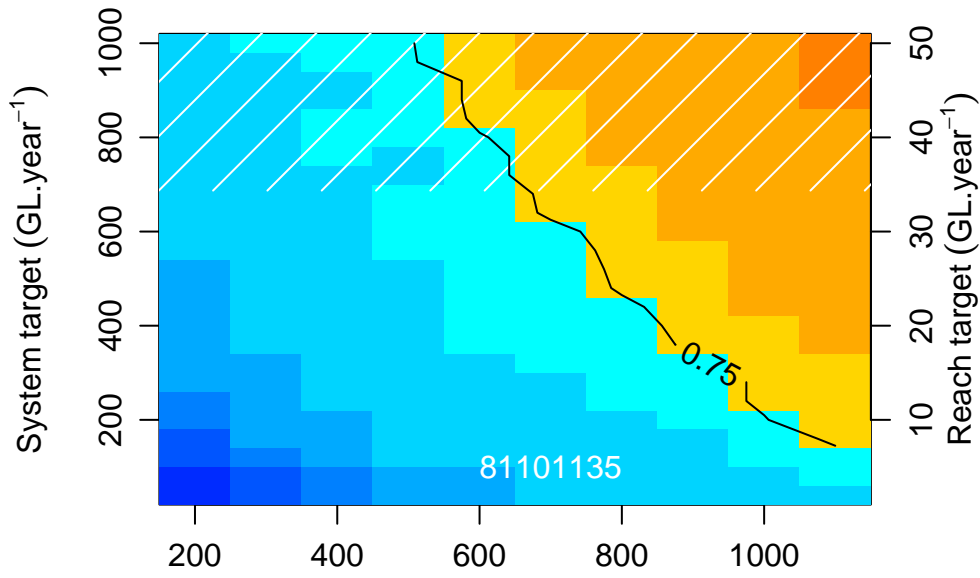




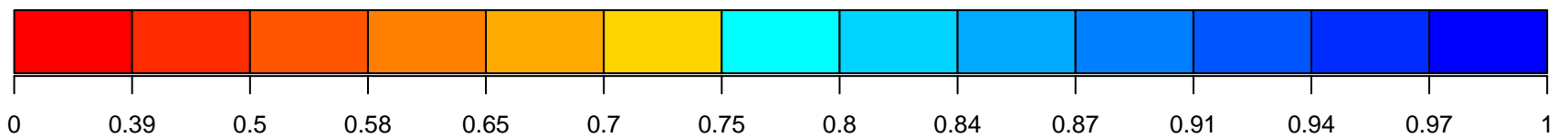
Annual reliability colour scale

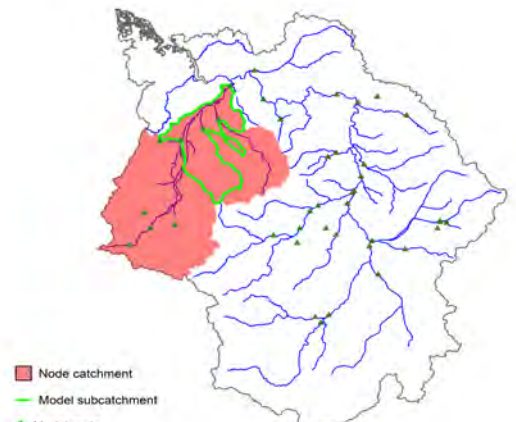
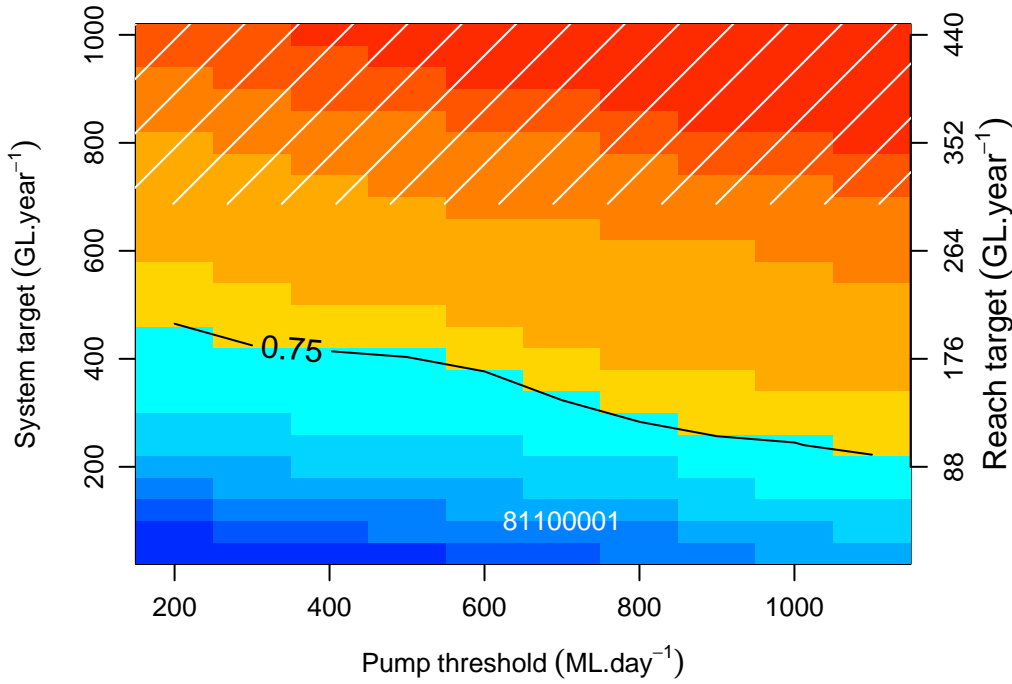
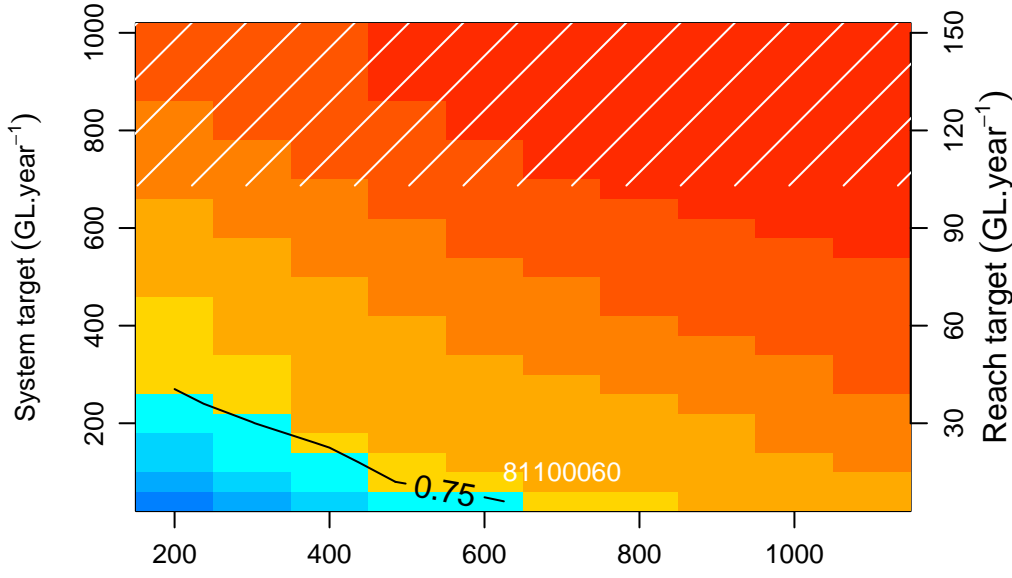
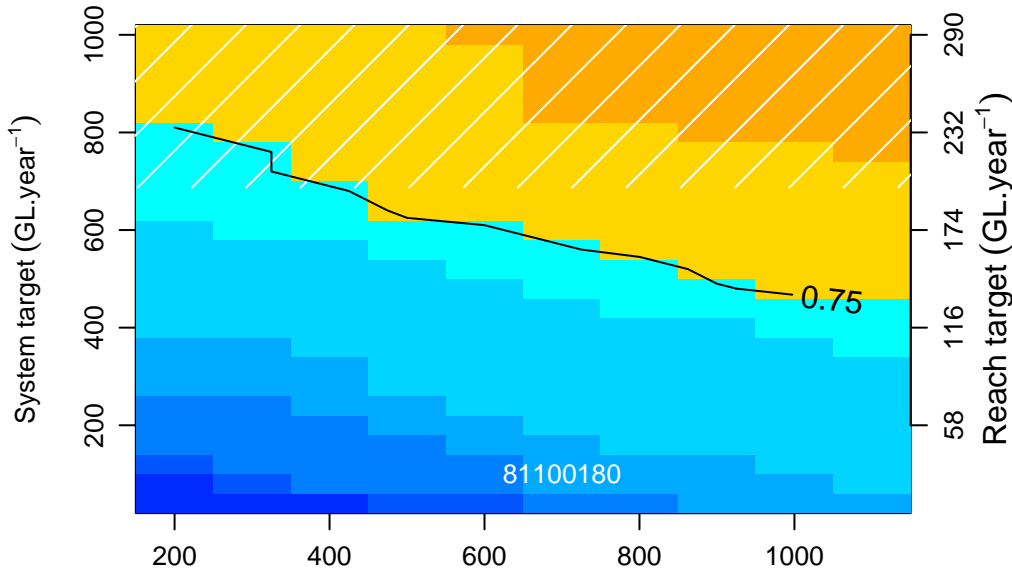


Pump rate : 30 days, EOS : 700

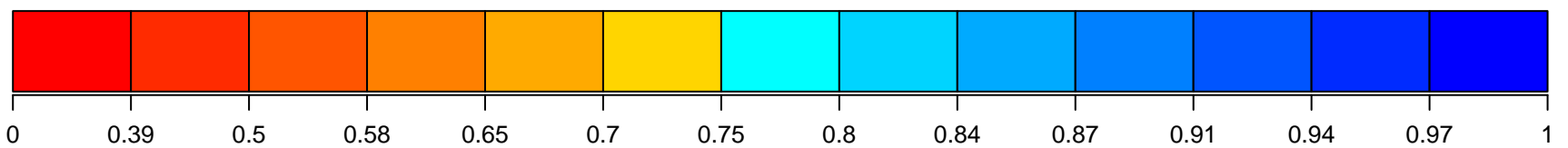


Annual reliability colour scale

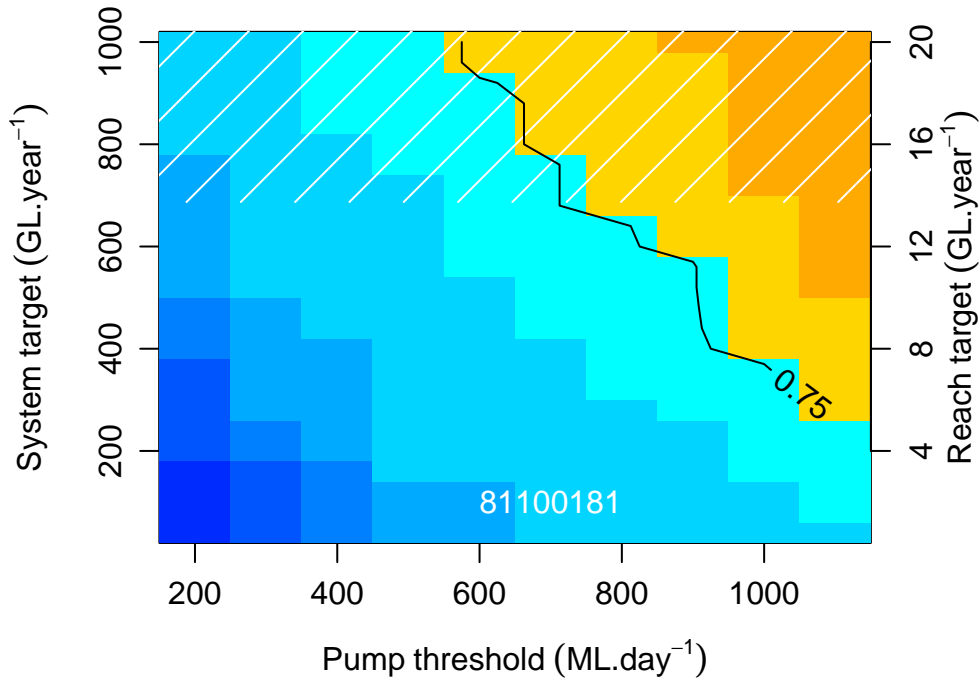
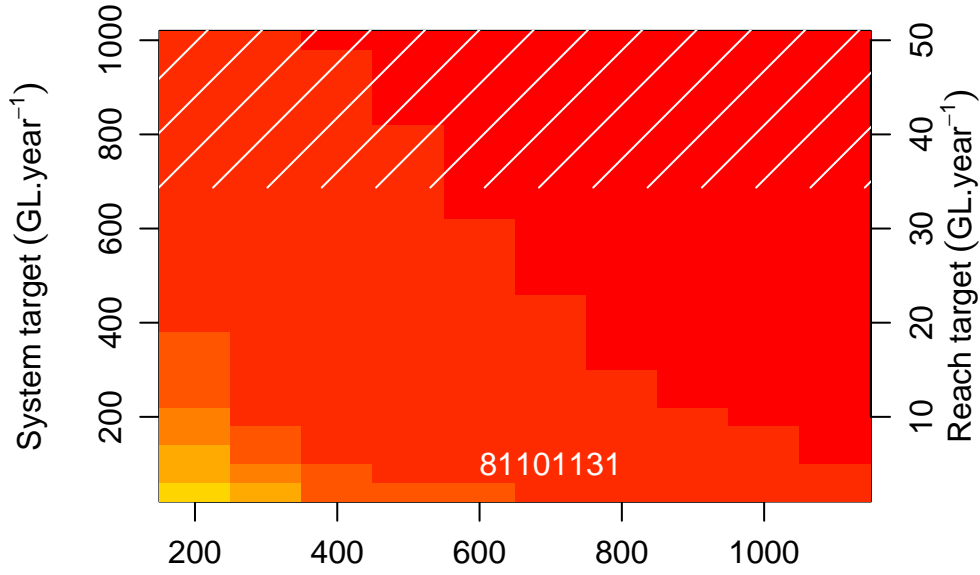
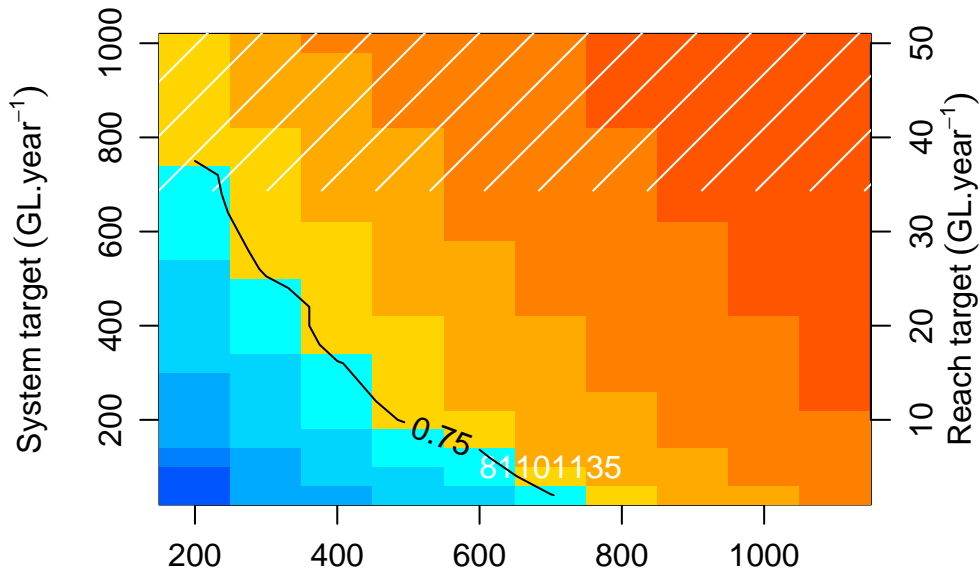




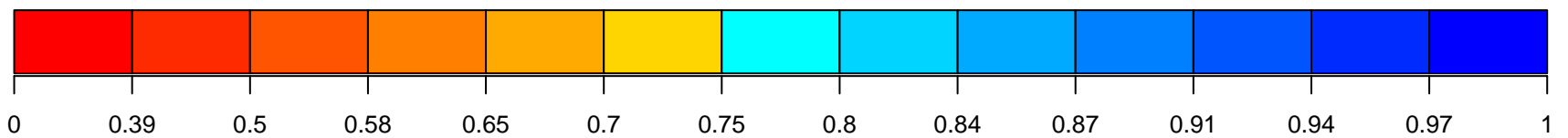
Annual reliability colour scale

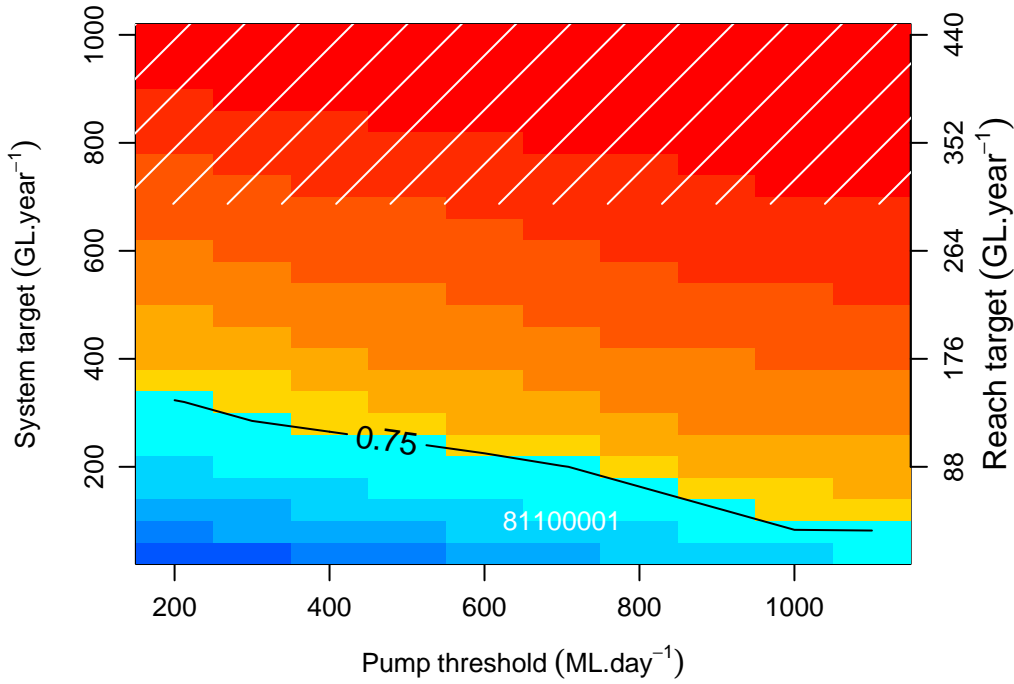
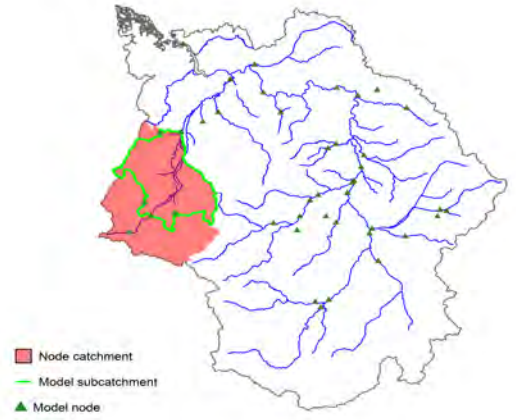
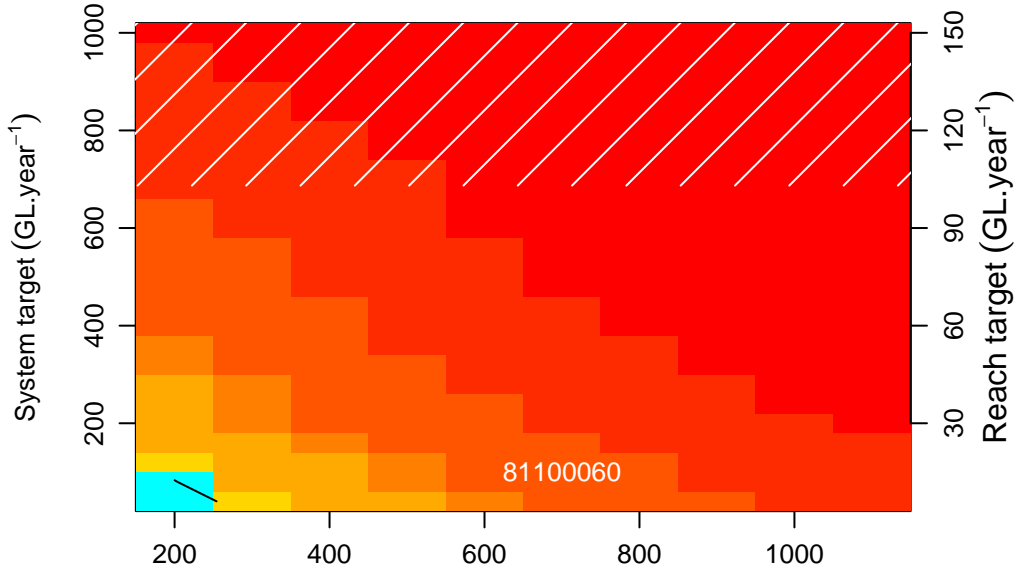
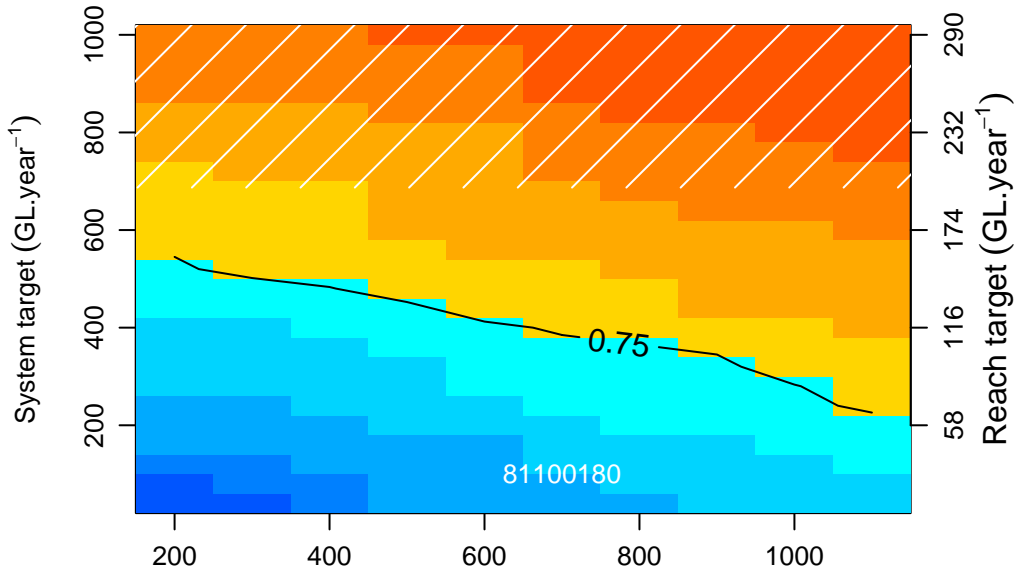


Pump rate : 40 days, EOS : 700

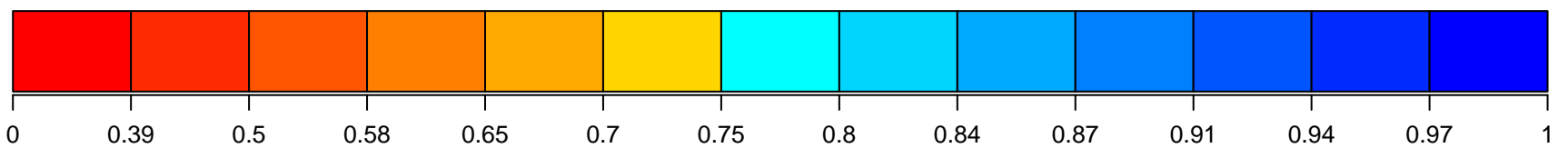


Annual reliability colour scale

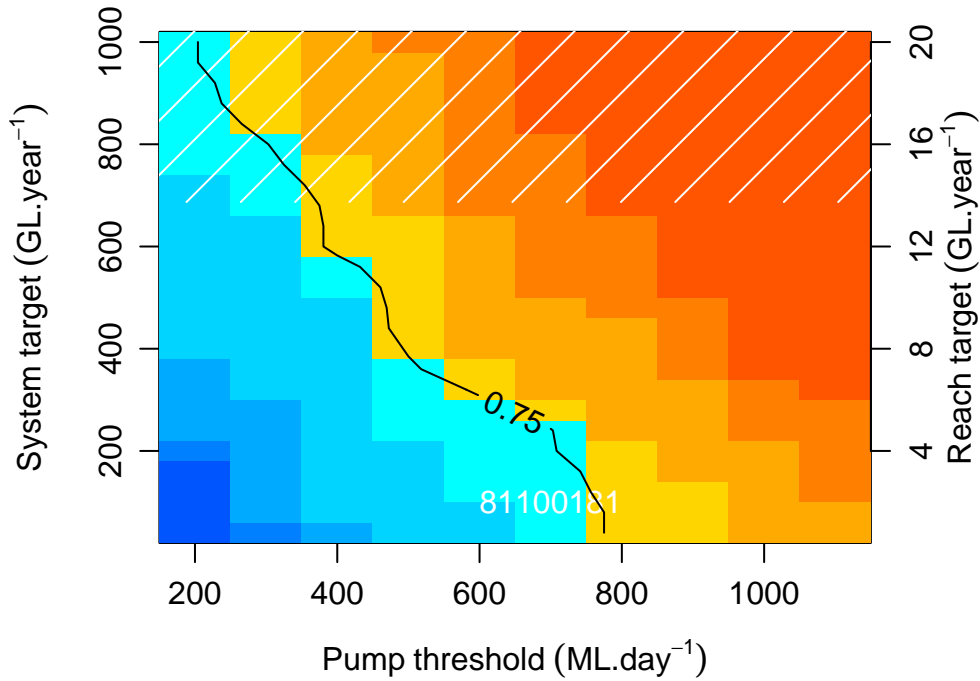
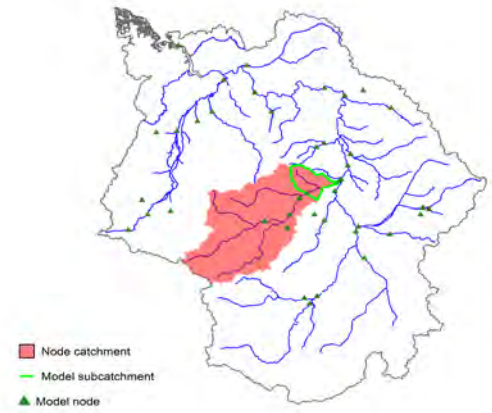
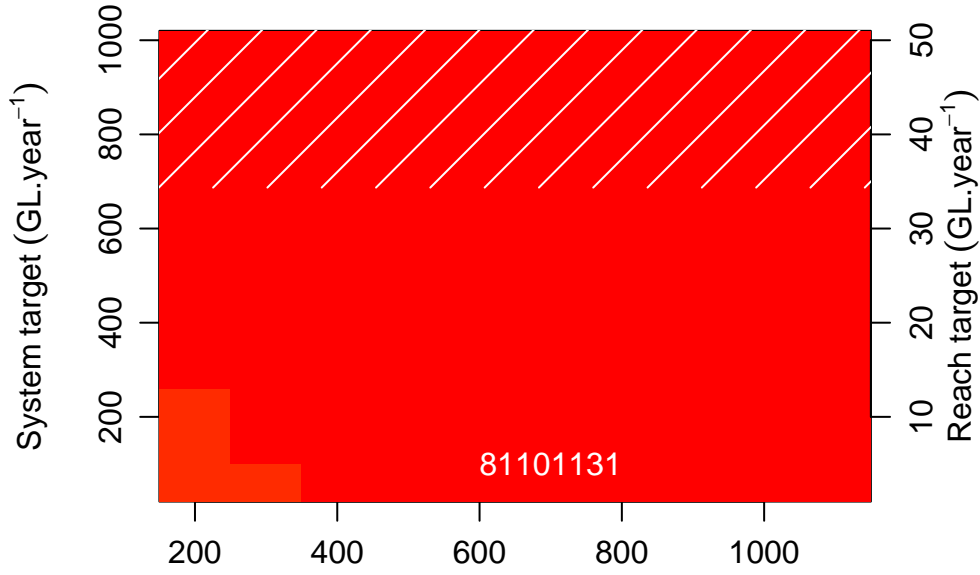
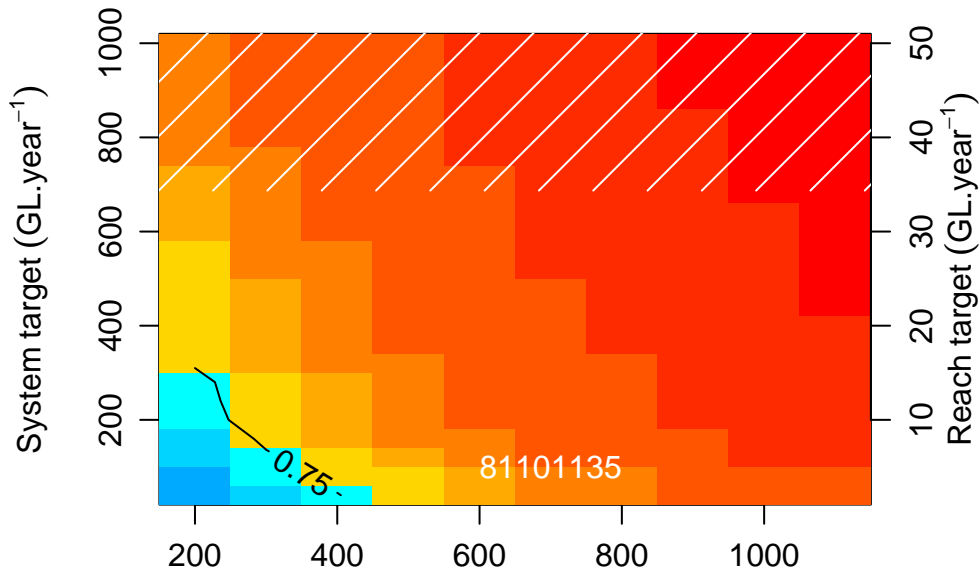




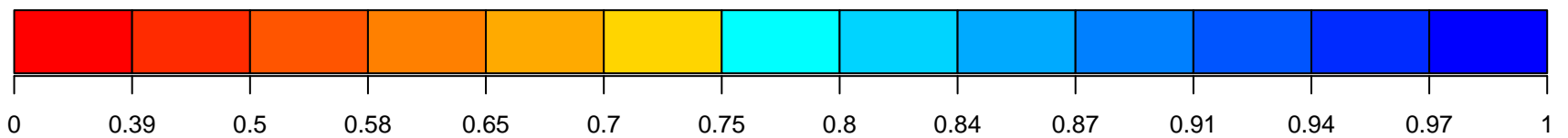
Annual reliability colour scale

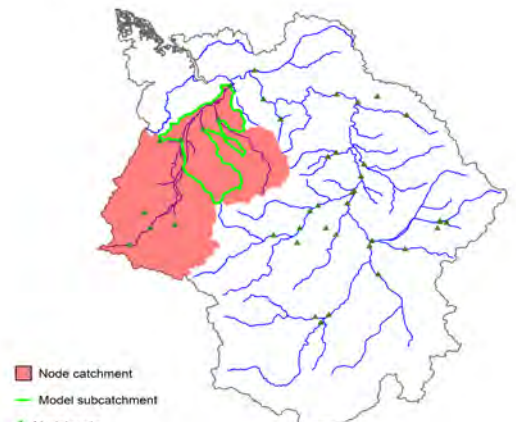
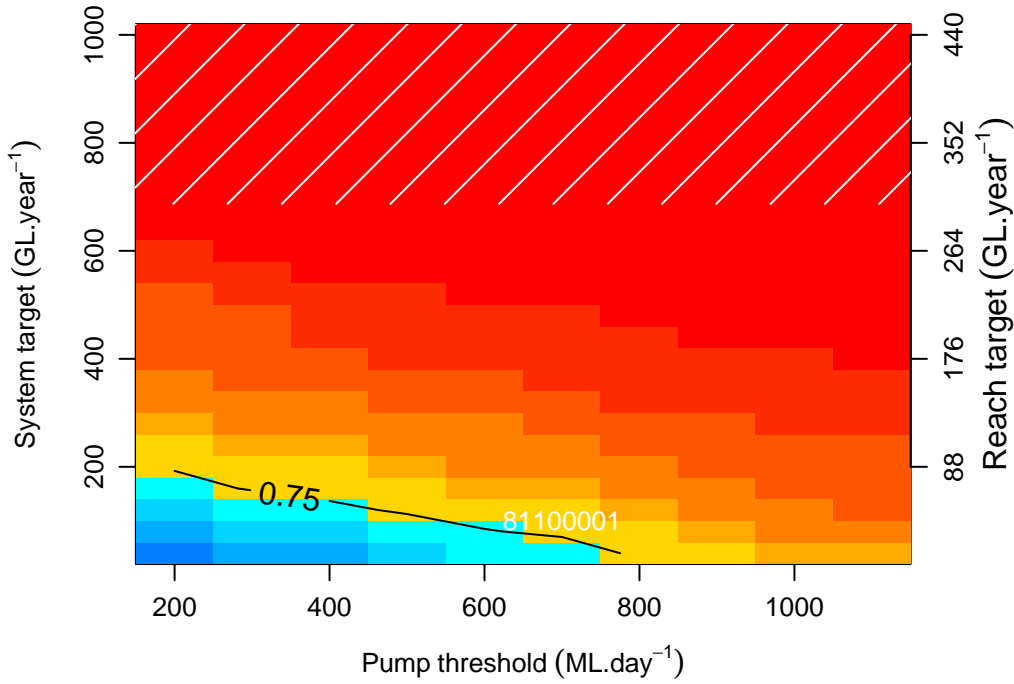
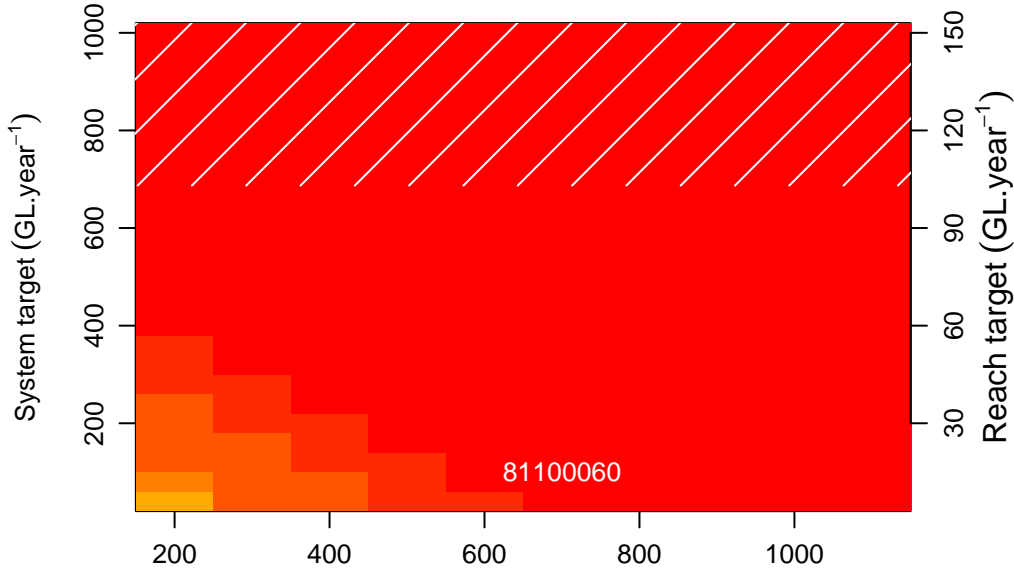
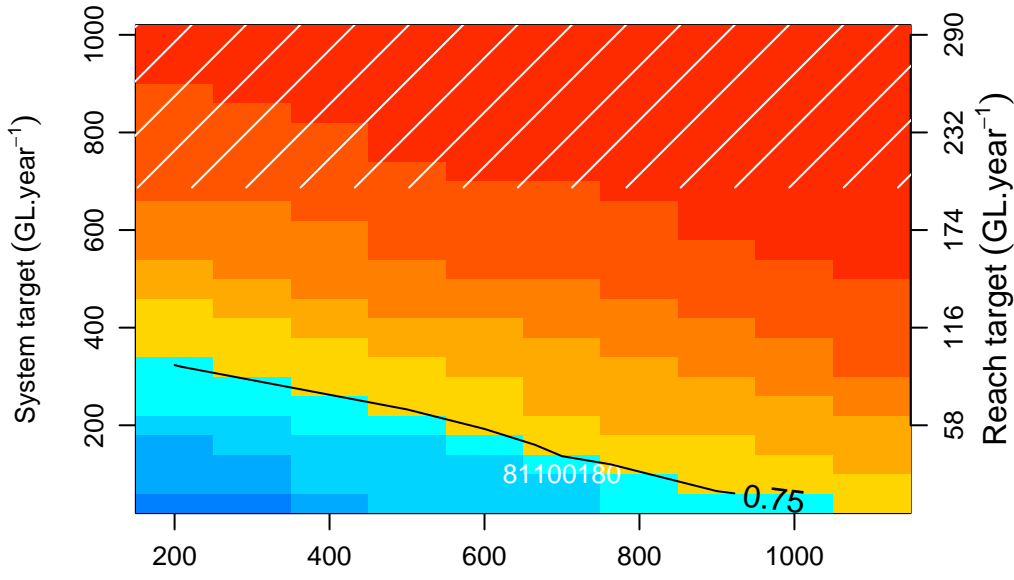


Pump rate : 50 days, EOS : 700

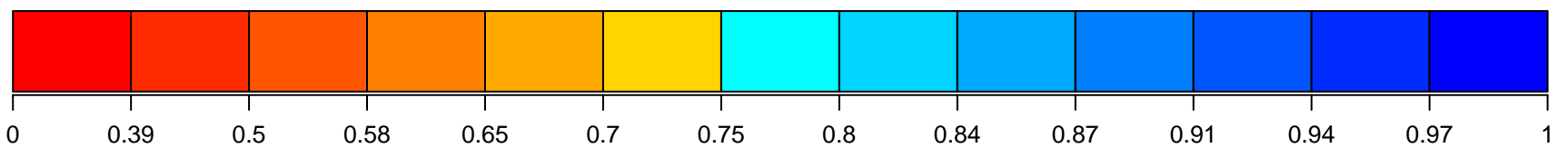


Annual reliability colour scale





Annual reliability colour scale



As Australia's national science agency and innovation catalyst, CSIRO is solving the greatest challenges through innovative science and technology.

CSIRO. Unlocking a better future for everyone.

Contact us

1300 363 400
+61 3 9545 2176
csiroenquiries@csiro.au
csiro.au

For further information

Environment

Dr Chris Chilcott
+61 8 8944 8422
chris.chilcott@csiro.au

Environment

Dr Cuan Petheram
+61 467 816 558
cuan.petheram@csiro.au

Agriculture and Food

Dr Ian Watson
+61 7 4753 8606
ian.watson@csiro.au