Supplement of

Technical note: RAT – a robustness assessment test for calibrated and uncalibrated hydrological models

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Supplementary Material 1: plots showing streamflow bias obtained with the RAT and the GSST as a function of temperature, precipitation and humidity index anomalies, for all test catchments
Figure 1. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment A1080330.
Figure 2. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment B2220010.
Figure 3. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment H2342020.
Figure 4. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment H4252010.
Figure 5. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment H7401010.
Figure 6. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment H8212010.
Figure 7. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment I5221010.
Figure 8. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment J7483010.
Figure 9. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment K1321810.
Figure 10. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment K6402520.
Figure 11. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment L0563010.
Figure 12. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment L4411710.
Figure 13. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment M0243010
Figure 14. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment M7112410.
Figure 15. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment O0592510.
Figure 16. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment O7101510.
Figure 17. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment Q5501010.
Figure 18. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment S2242510.
Figure 19. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment U4644010.
Figure 20. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment V4264010.
Figure 21. Streamflow bias obtained with the RAT (red squares) and the GSST (black dots), as a function of temperature, precipitation and humidity index anomalies, for the catchment Y4624010.
Supplementary Material 2: Plots showing streamflow annual bias obtained with the RAT function of (i) time, (ii) temperature anomalies (iii) precipitation anomalies (iv) humidity index anomalies, for all test catchments
Figure 1. Streamflow annual bias obtained with the RAT function of time (top), temperature absolute anomalies (bottom left) and precipitation P (bottom centre) and humidity index P/E0 (bottom right) anomalies, for the catchment A1080330
Figure 2. Streamflow annual bias obtained with the RAT function of time (top), temperature absolute anomalies (bottom left) and precipitation $P$ (bottom centre) and humidity index $P/E_0$ (bottom right) anomalies, for the catchment B220010.
Figure 3. Streamflow annual bias obtained with the RAT function of time (top), temperature absolute anomalies (bottom left) and precipitation $P$ (bottom centre) and humidity index $P/E_0$ (bottom right) anomalies, for the catchment H2342020.
Figure 4. Streamflow annual bias obtained with the RAT function of time (top), temperature absolute anomalies (bottom left) and precipitation P (bottom centre) and humidity index P/E0 (bottom right) anomalies, for the catchment H4252010
Figure 5. Streamflow annual bias obtained with the RAT function of time (top), temperature absolute anomalies (bottom left) and precipitation P (bottom centre) and humidity index P/E0 (bottom right) anomalies, for the catchment H7401010.
Figure 6. Streamflow annual bias obtained with the RAT function of time (top), temperature absolute anomalies (bottom left) and precipitation P (bottom centre) and humidity index P/E0 (bottom right) anomalies, for the catchment H8212010.
Figure 7. Streamflow annual bias obtained with the RAT function of time (top), temperature absolute anomalies (bottom left) and precipitation P (bottom centre) and humidity index P/E0 (bottom right) anomalies, for the catchment I5221010.
Figure 8. Streamflow annual bias obtained with the RAT function of time (top), temperature absolute anomalies (bottom left) and precipitation $P$ (bottom centre) and humidity index $P/E_0$ (bottom right) anomalies, for the catchment J7483010.
Figure 9. Streamflow annual bias obtained with the RAT function of time (top), temperature absolute anomalies (bottom left) and precipitation P (bottom centre) and humidity index P/E0 (bottom right) anomalies, for the catchment K1321810.
Figure 10. Streamflow annual bias obtained with the RAT function of time (top), temperature absolute anomalies (bottom left) and precipitation P (bottom centre) and humidity index P/E₀ (bottom right) anomalies, for the catchment K6402520.
Figure 11. Streamflow annual bias obtained with the RAT function of time (top), temperature absolute anomalies (bottom left) and precipitation P (bottom centre) and humidity index P/E0 (bottom right) anomalies, for the catchment L0563010
Figure 12. Streamflow annual bias obtained with the RAT function of time (top), temperature absolute anomalies (bottom left) and precipitation P (bottom centre) and humidity index P/E0 (bottom right) anomalies, for the catchment L441710.
Figure 13. Streamflow annual bias obtained with the RAT function of time (top), temperature absolute anomalies (bottom left) and precipitation $P$ (bottom centre) and humidity index $P/E0$ (bottom right) anomalies, for the catchment M0243010.
Figure 14. Streamflow annual bias obtained with the RAT function of time (top), temperature absolute anomalies (bottom left) and precipitation $P$ (bottom centre) and humidity index $P/E_0$ (bottom right) anomalies, for the catchment M7112410
Figure 15. Streamflow annual bias obtained with the RAT function of time (top), temperature absolute anomalies (bottom left) and precipitation $P$ (bottom centre) and humidity index $P/E_0$ (bottom right) anomalies, for the catchment O0592510.
Figure 16. Streamflow annual bias obtained with the RAT function of time (top), temperature absolute anomalies (bottom left) and precipitation P (bottom centre) and humidity index P/E0 (bottom right) anomalies, for the catchment O7101510.
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Figure 20. Streamflow annual bias obtained with the RAT function of time (top), temperature absolute anomalies (bottom left) and precipitation P (bottom centre) and humidity index $P/E_0$ (bottom right) anomalies, for the catchment V4264010.
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