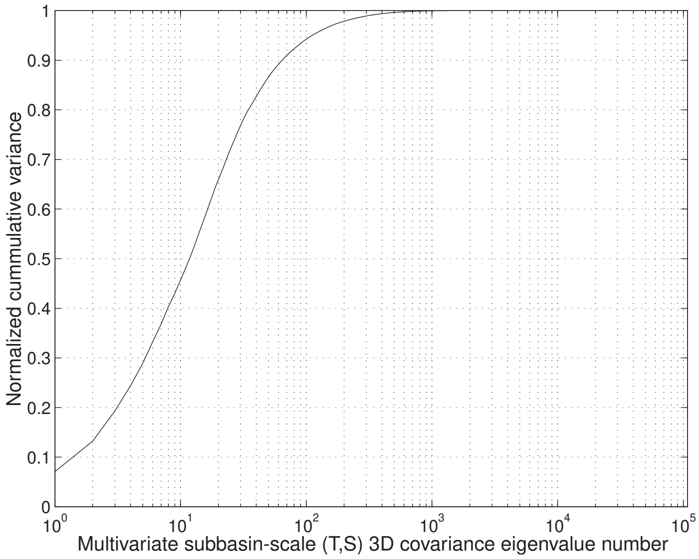

Fig. 7. Normalized cumulative variance of the subbasin-scale error covariance of the 3D tracer fields, $\mathbf{B}_{\mathrm{trc}}$ (eq. A13), as a function of the eigenvalue number.

The size of $\mathbf{B}_{\mathrm{trc}}$ is $[108120 \times 108120]$. The dominant 10 eigenvectors explain 46% of the variance, the dominant 100, 94.25%, the dominant 250, 98.5%, and dominant 500, 99.6%. Employing 100 instead of 108120 vectors reduces complexity by more than 10^3 while only missing 6% of the variance.