Parameters						
	Description	**Units**	**Initial Sampling Distribution**	**Feasible Range**	**Initial s^2 (VVM)**	**Max allowable daily rate of change (LL)**
b	Pareto-distributed soil storage shape parameter	[ ]	$N(0.37, 10^{-4})$	0 – 0.3	0.004	$3x10^{-4}$
c_{max}	Maximum point soil storage depth	[mm]	$N(651, 10)$	300 – 1500	0.004	0.3
k_s	Surface Runoff Routing Coefficient	[ ]	$N(0.6, 5x10^{-4})$	0.55 – 0.99	0.018	$3x10^{-4}$
k_b	Groundwater Routing Coefficient	[ ]	$N(0.04, 5x10^{-4})$	0.001 – 0.54	0.018	$4x10^{-5}$
α	Excess Runoff Splitting Parameter	[ ]	$N(0.47, 5x10^{-4})$	0.001 – 0.99	0.018	$4x10^{-4}$
States						
S	Soil Store	[mm]	$N(180, 0.1*180)$	$(0, S_{max} = \frac{bc_{min} + c_{max}}{b+1})$		
$S_{q1,2,3}$	Quick Flow Stores	[mm]	$N(0,1)$	$(0, \infty)$		
S_s	Slow Flow Store	[mm]	$N(0,1)$	$(0, \infty)$		

Table 5: Locally Linear EnKF inputs for the HYMOD model case