

SAMPLER ARGUMENTS

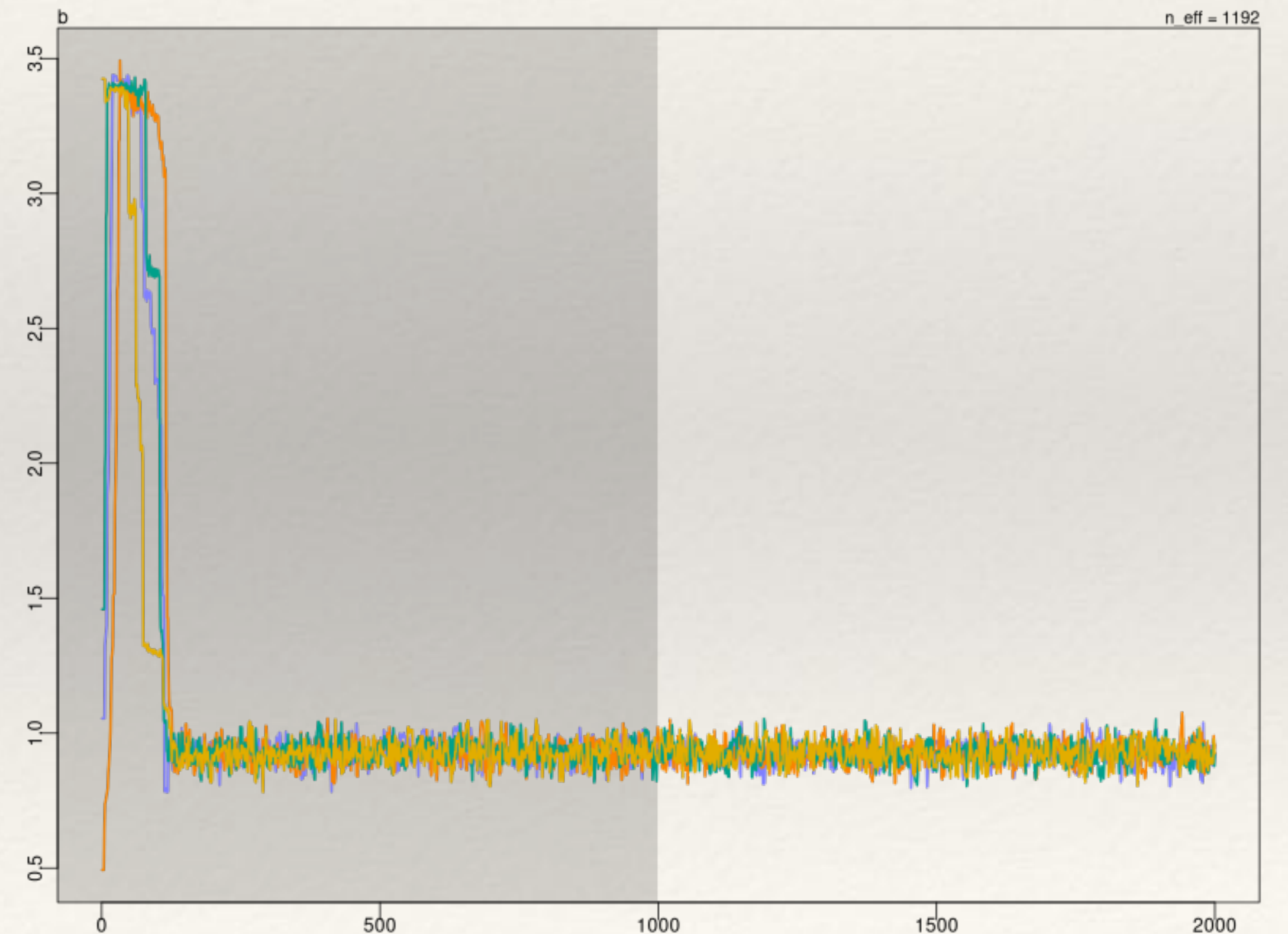
- Chains: fit the model several times
- Cores: do the fits in parallel
- Iterations: how many total samples
- Warm-up (or burn-in): starting samples that get discarded

Model summary

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> precis(fit)
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	mean	sd	5.5%	94.5%	n_eff	Rhat4
a	112.97	2.00	109.83	116.19	1013	1.01
b	0.92	0.04	0.86	0.99	1004	1.01
sigma	5.08	0.20	4.78	5.40	1543	1.00

Chains and convergence



MODEL CHECKING

After fitting the model, we can use the posterior to simulate synthetic data and compare to the data used to fit the model. Discrepancies can suggest paths to improve the model.

$$y_{sim} \sim P(y_{sim} | y) = P(y_{sim} | \theta)P(\theta | y)$$

For each value of the parameters ($\theta_i = \{a_i, b_i, \sigma_i\}$) we can simulate a synthetic dataset y_{sim} and compare to the observed data y .

$$y_{sim} = \text{Normal}(a_i + b_i x, \sigma_i)$$