> jointmodelRP\_25\_temps

Model Info:

function: stan\_mvmer

formula (y1): DOY ~ rptemp + (1 | sp) + (1 | tag)

family (y1): gaussian [identity]

formula (y2): DOY ~ rptemp + (1 | sp) + (1 | tag)

family (y2): gaussian [identity]

formula (y3): DOY ~ rptemp + (1 | sp) + (1 | tag)

family (y3): gaussian [identity]

algorithm: sampling

priors: see help('prior\_summary')

sample: 4000 (posterior sample size)

num obs: 465 (y1), 465 (y2), 465 (y3)

groups: sp (2), tag (62)

runtime: 11.4 mins

Estimates:

mean sd 2.5% 97.5%

y1|(Intercept) 152.418 34.823 80.906 233.362

y1|rptemp -2.978 0.335 -3.654 -2.311

y1|sigma 20.762 0.686 19.540 22.219

y1|mean\_PPD 113.303 1.358 110.630 115.929

y2|(Intercept) 166.615 35.488 69.439 221.975

y2|rptemp -1.903 0.296 -2.481 -1.326

y2|sigma 18.355 0.616 17.174 19.574

y2|mean\_PPD 146.667 1.212 144.256 149.082

y3|(Intercept) 184.621 38.098 103.620 244.979

y3|rptemp -0.570 0.326 -1.198 0.071

y3|sigma 20.787 0.702 19.498 22.231

y3|mean\_PPD 181.286 1.380 178.548 183.995

Sigma[sp:y1|(Intercept),y1|(Intercept)] 5888.863 23630.269 0.153 51246.291

Sigma[sp:y2|(Intercept),y1|(Intercept)] -71.781 4124.289 -4288.675 3729.698

Sigma[sp:y3|(Intercept),y1|(Intercept)] -60.028 3487.350 -4821.976 3539.236

Sigma[sp:y2|(Intercept),y2|(Intercept)] 5548.174 26075.132 0.122 44895.293

Sigma[sp:y3|(Intercept),y2|(Intercept)] 64.124 7910.885 -3056.436 3743.025

Sigma[sp:y3|(Intercept),y3|(Intercept)] 6321.347 32061.324 0.131 51657.535

Sigma[tag:y1|(Intercept),y1|(Intercept)] 122.175 41.281 59.800 218.216

Sigma[tag:y2|(Intercept),y1|(Intercept)] 126.405 37.000 70.644 214.642

Sigma[tag:y3|(Intercept),y1|(Intercept)] 122.715 37.218 66.068 209.058

Sigma[tag:y2|(Intercept),y2|(Intercept)] 145.607 43.624 79.827 245.709

Sigma[tag:y3|(Intercept),y2|(Intercept)] 142.985 40.756 81.714 239.825

Sigma[tag:y3|(Intercept),y3|(Intercept)] 153.546 49.048 78.611 267.422

log-posterior -6499.152 13.400 -6526.267 -6473.902

Diagnostics:

mcse Rhat n\_eff

y1|(Intercept) 1.655 1.000 443

y1|rptemp 0.006 1.001 3066

y1|sigma 0.012 1.001 3432

y1|mean\_PPD 0.022 1.000 3830

y2|(Intercept) 1.171 1.009 918

y2|rptemp 0.005 1.000 3586

y2|sigma 0.010 1.000 3844

y2|mean\_PPD 0.020 1.000 3835

y3|(Intercept) 2.140 1.004 317

y3|rptemp 0.005 1.000 3573

y3|sigma 0.013 1.000 2754

y3|mean\_PPD 0.022 1.000 3768

Sigma[sp:y1|(Intercept),y1|(Intercept)] 2324.509 1.020 103

Sigma[sp:y2|(Intercept),y1|(Intercept)] 83.685 1.001 2429

Sigma[sp:y3|(Intercept),y1|(Intercept)] 64.639 1.000 2911

Sigma[sp:y2|(Intercept),y2|(Intercept)] 2510.315 1.017 108

Sigma[sp:y3|(Intercept),y2|(Intercept)] 133.750 1.000 3498

Sigma[sp:y3|(Intercept),y3|(Intercept)] 2600.360 1.017 152

Sigma[tag:y1|(Intercept),y1|(Intercept)] 1.292 1.001 1021

Sigma[tag:y2|(Intercept),y1|(Intercept)] 1.352 1.002 749

Sigma[tag:y3|(Intercept),y1|(Intercept)] 1.388 1.003 719

Sigma[tag:y2|(Intercept),y2|(Intercept)] 1.418 1.001 947

Sigma[tag:y3|(Intercept),y2|(Intercept)] 1.391 1.002 858

Sigma[tag:y3|(Intercept),y3|(Intercept)] 1.448 1.002 1147

log-posterior 0.470 1.003 814

For each parameter, mcse is Monte Carlo standard error, n\_eff is a crude measure of effective sample size, and Rhat is the potential scale reduction factor on split chains (at convergence Rhat=1).

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Model Info:

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formula (y1): DOY ~ dptemp + (1 | sp) + (1 | tag)

family (y1): gaussian [identity]

formula (y2): DOY ~ dptemp + (1 | sp) + (1 | tag)

family (y2): gaussian [identity]

formula (y3): DOY ~ dptemp + (1 | sp) + (1 | tag)

family (y3): gaussian [identity]

algorithm: sampling

priors: see help('prior\_summary')

sample: 4000 (posterior sample size)

num obs: 331 (y1), 331 (y2), 331 (y3)

groups: sp (2), tag (44)

runtime: 6.5 mins

Estimates:

mean sd 2.5% 97.5%

y1|(Intercept) 168.731 32.177 83.773 227.362

y1|dptemp -1.212 0.644 -2.474 0.049

y1|sigma 16.736 0.685 15.479 18.130

y1|mean\_PPD 152.706 1.316 150.099 155.242

y2|(Intercept) 183.210 37.194 80.808 251.224

y2|dptemp -0.914 0.607 -2.095 0.280

y2|sigma 15.801 0.624 14.619 17.092

y2|mean\_PPD 171.380 1.236 168.932 173.781

y3|(Intercept) 197.268 40.524 91.527 273.534

y3|dptemp -0.667 0.680 -2.004 0.701

y3|sigma 17.464 0.714 16.121 18.923

y3|mean\_PPD 190.134 1.342 187.527 192.748

Sigma[sp:y1|(Intercept),y1|(Intercept)] 3909.570 11420.047 0.135 32621.031

Sigma[sp:y2|(Intercept),y1|(Intercept)] 125.774 2583.390 -4132.410 5244.598

Sigma[sp:y3|(Intercept),y1|(Intercept)] 92.334 2783.446 -4248.007 5343.649

Sigma[sp:y2|(Intercept),y2|(Intercept)] 4552.554 10059.226 0.656 35256.572

Sigma[sp:y3|(Intercept),y2|(Intercept)] 76.540 3260.331 -6268.495 6715.149

Sigma[sp:y3|(Intercept),y3|(Intercept)] 5552.440 10971.175 4.701 40506.064

Sigma[tag:y1|(Intercept),y1|(Intercept)] 46.960 17.624 20.149 87.803

Sigma[tag:y2|(Intercept),y1|(Intercept)] 54.008 16.917 27.368 93.151

Sigma[tag:y3|(Intercept),y1|(Intercept)] 63.074 19.703 31.511 107.500

Sigma[tag:y2|(Intercept),y2|(Intercept)] 76.143 24.130 39.028 132.187

Sigma[tag:y3|(Intercept),y2|(Intercept)] 88.716 24.882 50.648 149.354

Sigma[tag:y3|(Intercept),y3|(Intercept)] 116.487 34.954 63.906 198.444

log-posterior -4468.483 11.084 -4491.018 -4447.222

Diagnostics:

mcse Rhat n\_eff

y1|(Intercept) 1.277 1.001 635

y1|dptemp 0.010 1.001 3840

y1|sigma 0.011 1.000 3747

y1|mean\_PPD 0.021 1.000 3903

y2|(Intercept) 1.392 1.003 714

y2|dptemp 0.010 1.000 4082

y2|sigma 0.011 1.000 3040

y2|mean\_PPD 0.020 1.000 3959

y3|(Intercept) 1.404 1.008 833

y3|dptemp 0.011 1.000 3994

y3|sigma 0.011 1.000 4073

y3|mean\_PPD 0.022 1.000 3812

Sigma[sp:y1|(Intercept),y1|(Intercept)] 291.063 1.003 1539

Sigma[sp:y2|(Intercept),y1|(Intercept)] 69.703 1.001 1374

Sigma[sp:y3|(Intercept),y1|(Intercept)] 65.274 1.001 1818

Sigma[sp:y2|(Intercept),y2|(Intercept)] 260.189 1.003 1495

Sigma[sp:y3|(Intercept),y2|(Intercept)] 96.990 1.001 1130

Sigma[sp:y3|(Intercept),y3|(Intercept)] 369.198 1.003 883

Sigma[tag:y1|(Intercept),y1|(Intercept)] 0.418 1.000 1776

Sigma[tag:y2|(Intercept),y1|(Intercept)] 0.491 1.000 1188

Sigma[tag:y3|(Intercept),y1|(Intercept)] 0.587 1.000 1128

Sigma[tag:y2|(Intercept),y2|(Intercept)] 0.652 1.000 1372

Sigma[tag:y3|(Intercept),y2|(Intercept)] 0.749 1.000 1104

Sigma[tag:y3|(Intercept),y3|(Intercept)] 0.924 1.000 1431

log-posterior 0.380 1.001 849

For each parameter, mcse is Monte Carlo standard error, n\_eff is a crude measure of effective sample size, and Rhat is the potential scale reduction factor on split chains (at convergence Rhat=1).