Comparing *Quercus* Leaf model from Duputie vs. van der Meersch

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Based on historical climate

See bottom panels of Fig. 1-2, trends are similar (MaturationIndex dominates fitness) but now fitness is VERY low as of latitude 44.

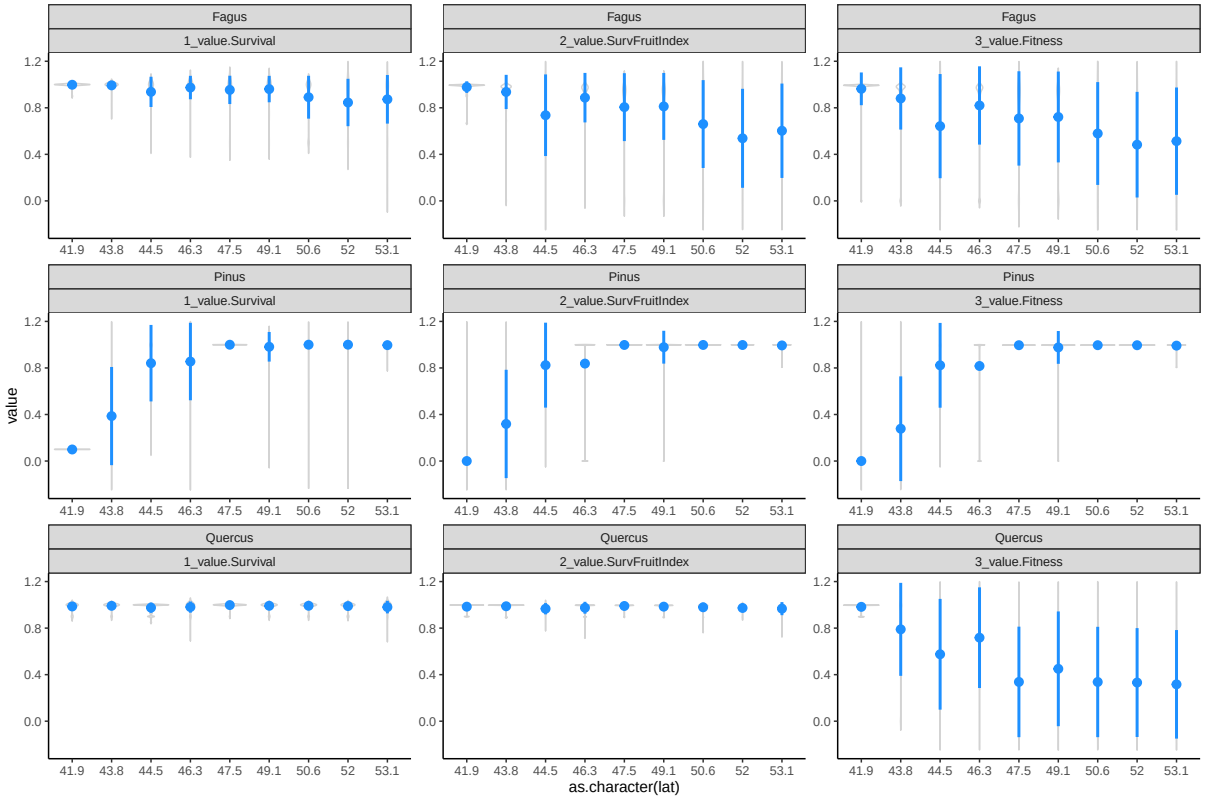

Figure 1: *Quercus* fitness across latitude (historical climate data) based on Duputie parameters. You can see PHENOFIT4 output at `https://github.com/lizzieinvancouver/climatehazards/tree/main/analyses/input/phenofit/querob_19512020_Duputie`.

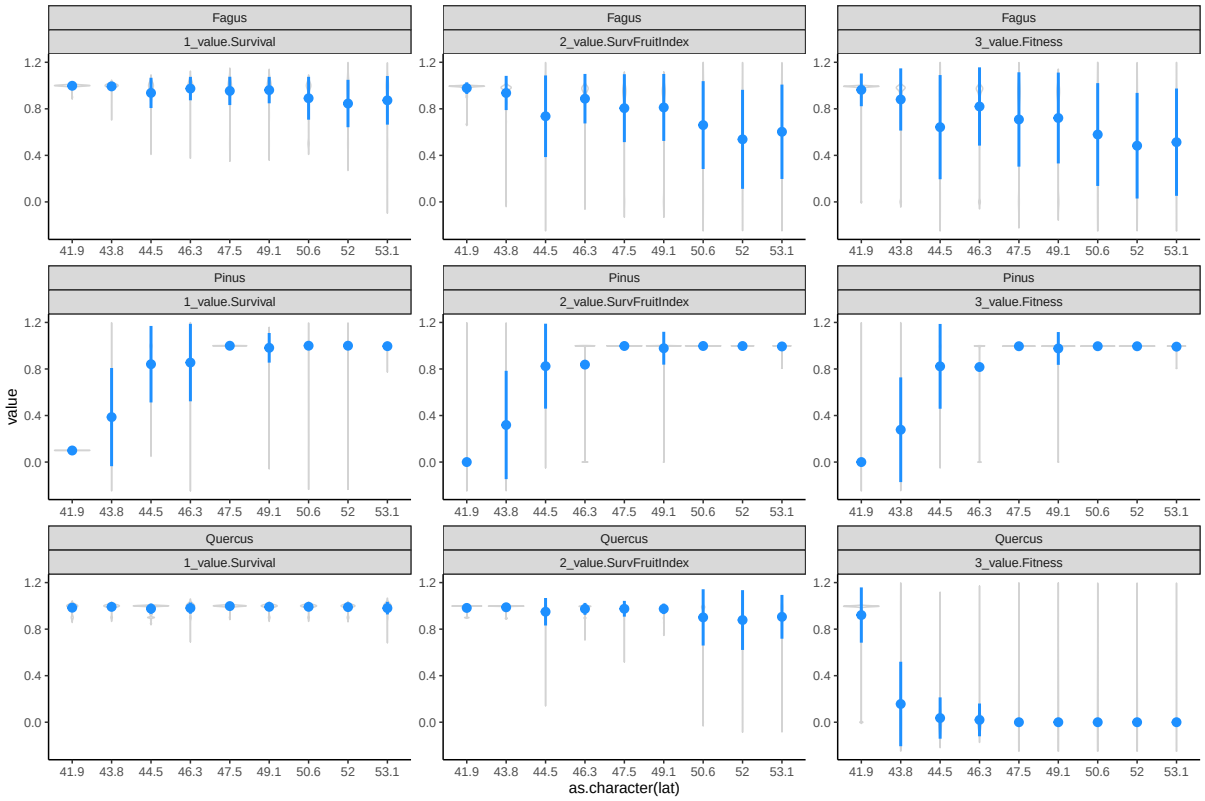

Figure 2: *Quercus* fitness across latitude (historical climate data) based on updated Leaf Model parameters. You can see PHENOFIT4 output at `https://github.com/lizzieinvancouver/climatehazards/tree/main/analyses/input/phenofit/querob_19512020`.

Based on simulated climate with mean warming

See Fig. 3-4. Fitness is now dominated by a mix depending on latitude (Survival at low latitude, MaturationIndex at mid and high).

Based on simulated climate with changing variance

See Fig. 5-6. Fitness dominated by MaturationIndex with extremely low fitness for reduced variance at low latitudes and all variance at mid and high latitudes.

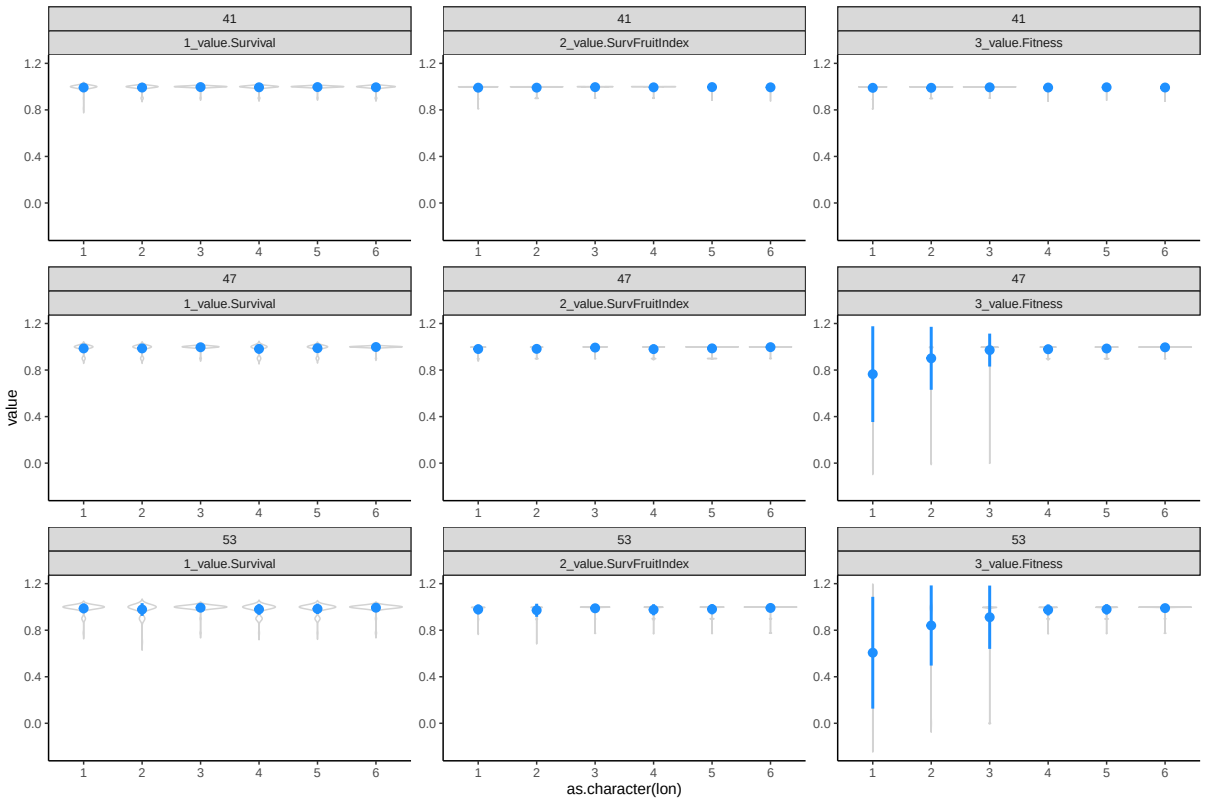

Figure 3: *Quercus* across 0 (1) to +5 (6) mean warming, based on Duputie parameters. To see the underlying components of the model, look for 'meansim' QR files at `https://github.com/lizzieinvancouver/climatehazards/tree/main/analyses/graphs/phenofit/sims/querob_Duputie`.

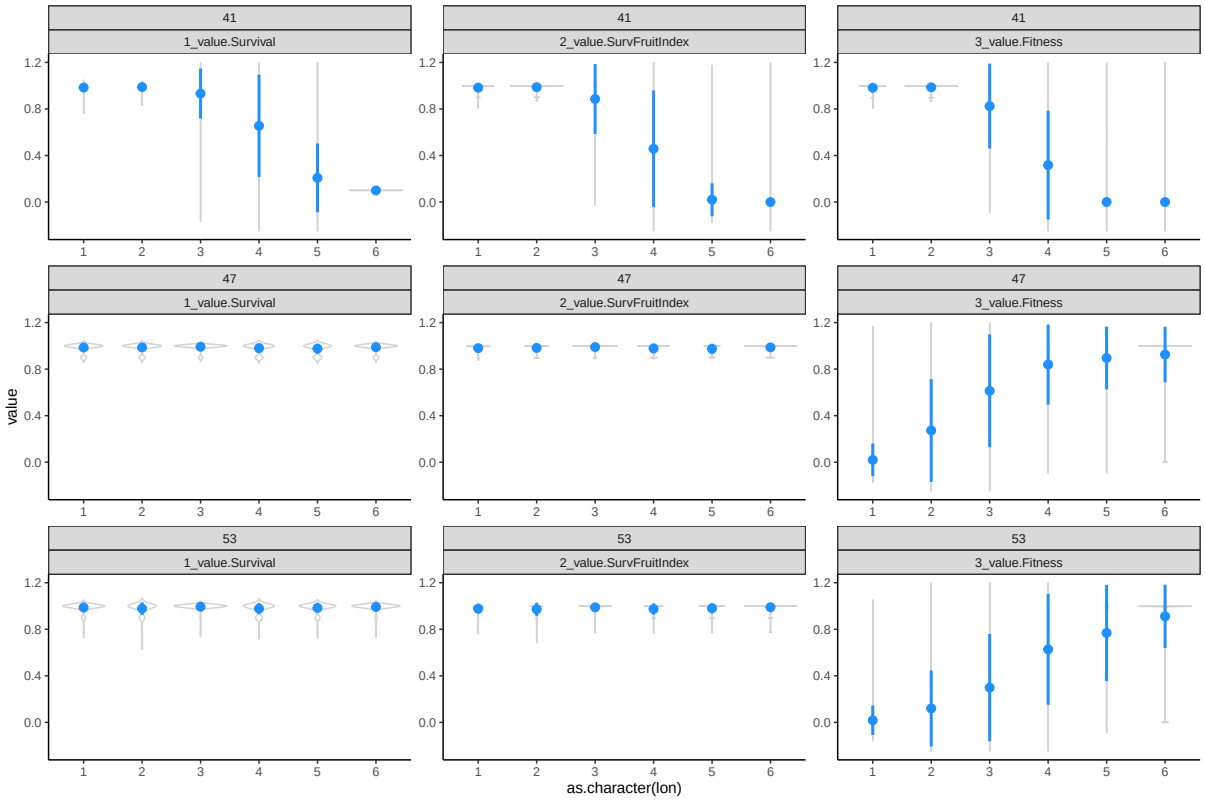

Figure 4: *Quercus* across 0 (1) to +5 (6) mean warming, based on updated parameters. To see the underlying components of the model, look for 'meansim' QR files in `https://github.com/lizzieinvancouver/climatehazards/tree/main/analyses/graphs/phenofit/sims`

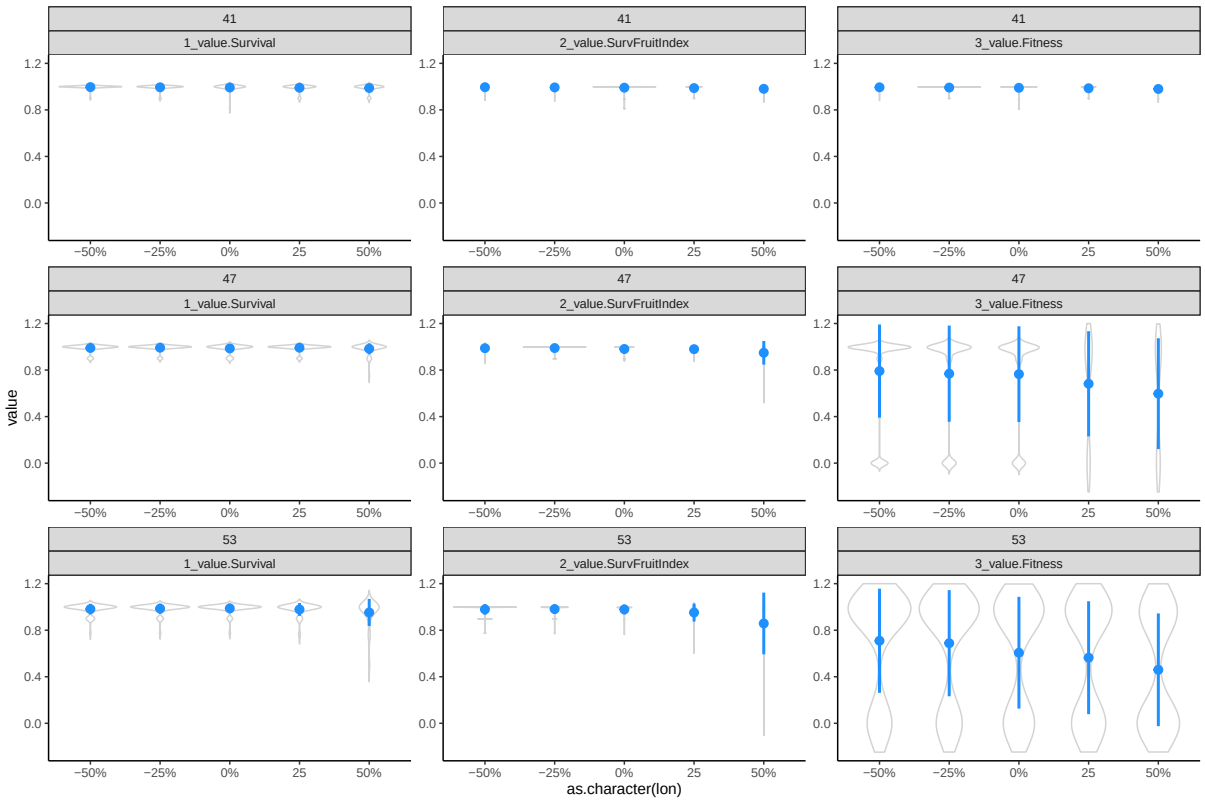

Figure 5: *Quercus* across changing variance, based on Duputie parameters. To see the underlying components of the model, look for 'dssim' QR files at `https://github.com/lizzieinvancouver/climatehazards/tree/main/analyses/graphs/phenofit/sims/querob_Duputie`.

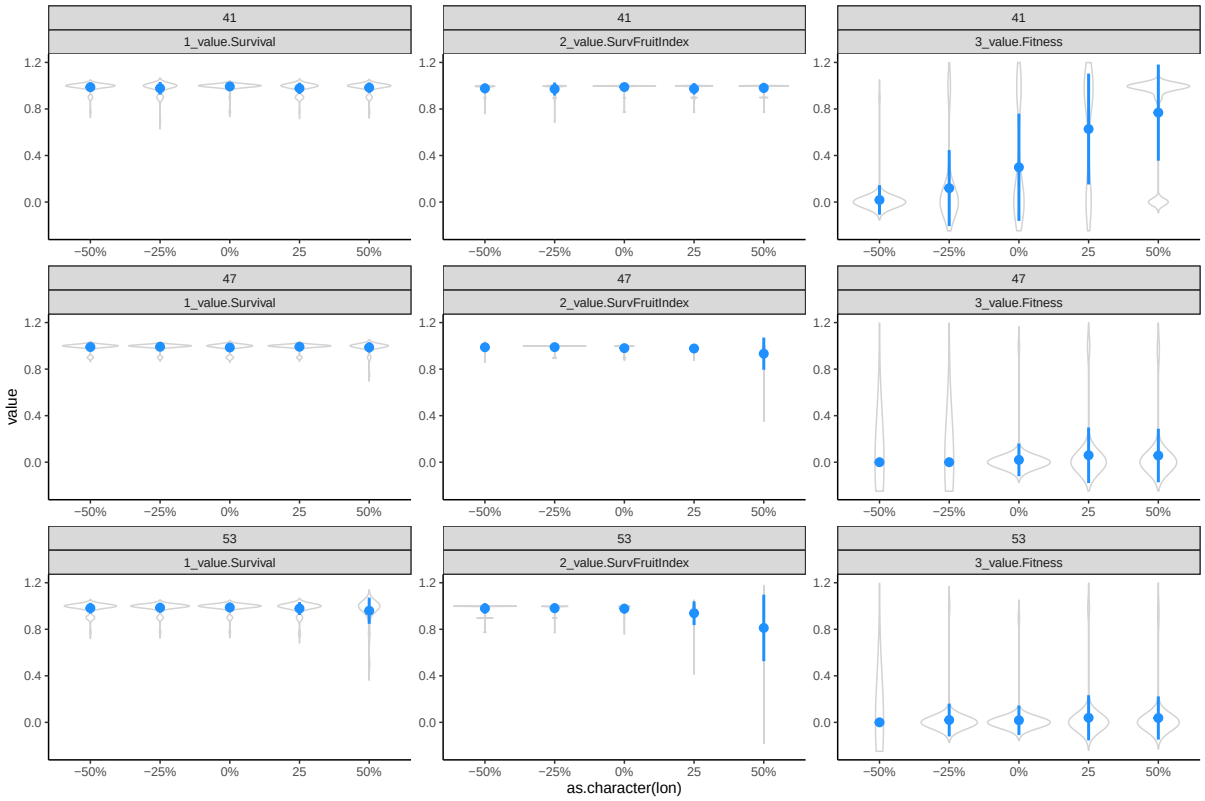

Figure 6: *Quercus* across changing variance, based on updated parameters. To see the underlying components of the model, look for 'sdsim' QR files in `https://github.com/lizzieinvancouver/climatehazards/tree/main/analyses/graphs/phenofit/sims`