Table 1: Main model set - all observations (with contractions)

| Model | Local velocity of isotherm shifts | Potential dispersal rate | Parameter | Estimate | Std.Error | Conditional R2 | Marginal R2 | DF | t-value | p-value | n | K | LL | AICc | ΔAICc | AIC weight | Rank |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Minimum rate | Mean | Maximum | Intercept | 0.3 | 0.27 | 0.15 | 0.02 | 260 | 1.11 | 0.27 | 446 | 4 | -1285.87 | 2579.82 | 0 | 0.17 | 1 |
| Minimum rate | Mean | Maximum | Minimum rate | 0.22 | 0.09 | 0.15 | 0.02 | 184 | 2.57 | 0.01 | 446 | 4 | -1285.87 | 2579.82 | 0 | 0.17 | 1 |
| Velocity of isotherm shift | Mean | - | Intercept | 0.28 | 0.27 | 0.15 | 0.01 | 260 | 1.02 | 0.31 | 446 | 4 | -1285.93 | 2579.95 | 0.13 | 0.16 | 2 |
| Velocity of isotherm shift | Mean | - | Velocity of isotherm shift | 0.22 | 0.09 | 0.15 | 0.01 | 184 | 2.54 | 0.01 | 446 | 4 | -1285.93 | 2579.95 | 0.13 | 0.16 | 2 |
| Minimum rate | Mean | Median | Intercept | 0.32 | 0.26 | 0.15 | 0.01 | 260 | 1.23 | 0.22 | 446 | 4 | -1286.29 | 2580.68 | 0.86 | 0.11 | 3 |
| Minimum rate | Mean | Median | Minimum rate | 0.24 | 0.1 | 0.15 | 0.01 | 184 | 2.39 | 0.02 | 446 | 4 | -1286.29 | 2580.68 | 0.86 | 0.11 | 3 |
| Minimum rate | 3rd quartile | Maximum | Intercept | 0.3 | 0.27 | 0.15 | 0.01 | 260 | 1.1 | 0.27 | 446 | 4 | -1286.36 | 2580.82 | 1 | 0.1 | 4 |
| Minimum rate | 3rd quartile | Maximum | Minimum rate | 0.16 | 0.07 | 0.15 | 0.01 | 184 | 2.36 | 0.02 | 446 | 4 | -1286.36 | 2580.82 | 1 | 0.1 | 4 |
| Velocity of isotherm shift | 3rd quartile | - | Intercept | 0.26 | 0.29 | 0.14 | 0.01 | 260 | 0.89 | 0.37 | 446 | 4 | -1286.56 | 2581.21 | 1.39 | 0.09 | 5 |
| Velocity of isotherm shift | 3rd quartile | - | Velocity of isotherm shift | 0.16 | 0.07 | 0.14 | 0.01 | 184 | 2.28 | 0.02 | 446 | 4 | -1286.56 | 2581.21 | 1.39 | 0.09 | 5 |
| Potential dispersal rate and velocity of isotherm shift (additive) | Mean | Median | Intercept | 0.31 | 0.27 | 0.15 | 0.02 | 259 | 1.14 | 0.25 | 446 | 5 | -1285.65 | 2581.45 | 1.63 | 0.08 | 6 |
| Potential dispersal rate and velocity of isotherm shift (additive) | Mean | Median | Potential dispersal rate | 0 | 0 | 0.15 | 0.02 | 259 | -0.74 | 0.46 | 446 | 5 | -1285.65 | 2581.45 | 1.63 | 0.08 | 6 |
| Potential dispersal rate and velocity of isotherm shift (additive) | Mean | Median | Velocity of isotherm shift | 0.23 | 0.09 | 0.15 | 0.02 | 184 | 2.62 | 0.01 | 446 | 5 | -1285.65 | 2581.45 | 1.63 | 0.08 | 6 |
| Minimum rate | 3rd quartile | Median | Intercept | 0.34 | 0.27 | 0.15 | 0.01 | 260 | 1.26 | 0.21 | 446 | 4 | -1286.9 | 2581.89 | 2.07 | 0.06 | 7 |
| Minimum rate | 3rd quartile | Median | Minimum rate | 0.18 | 0.08 | 0.15 | 0.01 | 184 | 2.12 | 0.04 | 446 | 4 | -1286.9 | 2581.89 | 2.07 | 0.06 | 7 |
| Potential dispersal rate and velocity of isotherm shift (additive) | Mean | Maximum | Intercept | 0.27 | 0.27 | 0.15 | 0.01 | 259 | 1.01 | 0.32 | 446 | 5 | -1285.93 | 2581.99 | 2.17 | 0.06 | 8 |
| Potential dispersal rate and velocity of isotherm shift (additive) | Mean | Maximum | Potential dispersal rate | 0 | 0 | 0.15 | 0.01 | 259 | 0.1 | 0.92 | 446 | 5 | -1285.93 | 2581.99 | 2.17 | 0.06 | 8 |
| Potential dispersal rate and velocity of isotherm shift (additive) | Mean | Maximum | Velocity of isotherm shift | 0.22 | 0.1 | 0.15 | 0.01 | 184 | 2.28 | 0.02 | 446 | 5 | -1285.93 | 2581.99 | 2.17 | 0.06 | 8 |
| Potential dispersal rate and velocity of isotherm shift (additive) | 3rd quartile | Median | Intercept | 0.29 | 0.29 | 0.15 | 0.01 | 259 | 0.99 | 0.32 | 446 | 5 | -1286.36 | 2582.85 | 3.03 | 0.04 | 9 |
| Potential dispersal rate and velocity of isotherm shift (additive) | 3rd quartile | Median | Potential dispersal rate | 0 | 0 | 0.15 | 0.01 | 259 | -0.63 | 0.53 | 446 | 5 | -1286.36 | 2582.85 | 3.03 | 0.04 | 9 |
| Potential dispersal rate and velocity of isotherm shift (additive) | 3rd quartile | Median | Velocity of isotherm shift | 0.17 | 0.07 | 0.15 | 0.01 | 184 | 2.33 | 0.02 | 446 | 5 | -1286.36 | 2582.85 | 3.03 | 0.04 | 9 |
| Potential dispersal rate and velocity of isotherm shift (additive) | 3rd quartile | Maximum | Intercept | 0.25 | 0.29 | 0.15 | 0.01 | 259 | 0.86 | 0.39 | 446 | 5 | -1286.51 | 2583.15 | 3.33 | 0.03 | 10 |
| Potential dispersal rate and velocity of isotherm shift (additive) | 3rd quartile | Maximum | Potential dispersal rate | 0 | 0 | 0.15 | 0.01 | 259 | 0.32 | 0.75 | 446 | 5 | -1286.51 | 2583.15 | 3.33 | 0.03 | 10 |
| Potential dispersal rate and velocity of isotherm shift (additive) | 3rd quartile | Maximum | Velocity of isotherm shift | 0.15 | 0.08 | 0.15 | 0.01 | 184 | 2.01 | 0.05 | 446 | 5 | -1286.51 | 2583.15 | 3.33 | 0.03 | 10 |
| Potential dispersal rate and velocity of isotherm shift (interactive) | Mean | Median | Intercept | 0.3 | 0.28 | 0.15 | 0.02 | 259 | 1.07 | 0.29 | 446 | 6 | -1285.54 | 2583.28 | 3.46 | 0.03 | 11 |
| Potential dispersal rate and velocity of isotherm shift (interactive) | Mean | Median | Potential dispersal rate | 0 | 0.01 | 0.15 | 0.02 | 259 | 0.04 | 0.97 | 446 | 6 | -1285.54 | 2583.28 | 3.46 | 0.03 | 11 |
| Potential dispersal rate and velocity of isotherm shift (interactive) | Mean | Median | Velocity of isotherm shift | 0.25 | 0.1 | 0.15 | 0.02 | 183 | 2.62 | 0.01 | 446 | 6 | -1285.54 | 2583.28 | 3.46 | 0.03 | 11 |
| Potential dispersal rate and velocity of isotherm shift (interactive) | Mean | Median | Potential dispersal rate:velocity of isotherm shift | 0 | 0 | 0.15 | 0.02 | 183 | -0.46 | 0.64 | 446 | 6 | -1285.54 | 2583.28 | 3.46 | 0.03 | 11 |
| Potential dispersal rate and velocity of isotherm shift (interactive) | Mean | Maximum | Intercept | 0.26 | 0.28 | 0.15 | 0.01 | 259 | 0.91 | 0.36 | 446 | 6 | -1285.91 | 2584 | 4.18 | 0.02 | 12 |
| Potential dispersal rate and velocity of isotherm shift (interactive) | Mean | Maximum | Potential dispersal rate | 0 | 0 | 0.15 | 0.01 | 259 | 0.22 | 0.82 | 446 | 6 | -1285.91 | 2584 | 4.18 | 0.02 | 12 |
| Potential dispersal rate and velocity of isotherm shift (interactive) | Mean | Maximum | Velocity of isotherm shift | 0.23 | 0.1 | 0.15 | 0.01 | 183 | 2.17 | 0.03 | 446 | 6 | -1285.91 | 2584 | 4.18 | 0.02 | 12 |
| Potential dispersal rate and velocity of isotherm shift (interactive) | Mean | Maximum | Potential dispersal rate:velocity of isotherm shift | 0 | 0 | 0.15 | 0.01 | 183 | -0.2 | 0.84 | 446 | 6 | -1285.91 | 2584 | 4.18 | 0.02 | 12 |
| Potential dispersal rate and velocity of isotherm shift (interactive) | 3rd quartile | Median | Intercept | 0.28 | 0.29 | 0.15 | 0.01 | 259 | 0.94 | 0.35 | 446 | 6 | -1286.32 | 2584.83 | 5.01 | 0.01 | 13 |
| Potential dispersal rate and velocity of isotherm shift (interactive) | 3rd quartile | Median | Potential dispersal rate | 0 | 0.01 | 0.15 | 0.01 | 259 | 0 | 1 | 446 | 6 | -1286.32 | 2584.83 | 5.01 | 0.01 | 13 |
| Potential dispersal rate and velocity of isotherm shift (interactive) | 3rd quartile | Median | Velocity of isotherm shift | 0.18 | 0.08 | 0.15 | 0.01 | 183 | 2.27 | 0.02 | 446 | 6 | -1286.32 | 2584.83 | 5.01 | 0.01 | 13 |
| Potential dispersal rate and velocity of isotherm shift (interactive) | 3rd quartile | Median | Potential dispersal rate:velocity of isotherm shift | 0 | 0 | 0.15 | 0.01 | 183 | -0.27 | 0.79 | 446 | 6 | -1286.32 | 2584.83 | 5.01 | 0.01 | 13 |
| Potential dispersal rate | - | Maximum | Intercept | 0.57 | 0.24 | 0.16 | 0 | 259 | 2.33 | 0.02 | 446 | 4 | -1288.51 | 2585.11 | 5.28 | 0.01 | 14 |
| Potential dispersal rate | - | Maximum | Potential dispersal rate | 0 | 0 | 0.16 | 0 | 259 | 1.1 | 0.27 | 446 | 4 | -1288.51 | 2585.11 | 5.28 | 0.01 | 14 |
| Potential dispersal rate and velocity of isotherm shift (interactive) | 3rd quartile | Maximum | Intercept | 0.25 | 0.3 | 0.15 | 0.01 | 259 | 0.84 | 0.4 | 446 | 6 | -1286.51 | 2585.21 | 5.38 | 0.01 | 15 |
| Potential dispersal rate and velocity of isotherm shift (interactive) | 3rd quartile | Maximum | Potential dispersal rate | 0 | 0 | 0.15 | 0.01 | 259 | 0.12 | 0.9 | 446 | 6 | -1286.51 | 2585.21 | 5.38 | 0.01 | 15 |
| Potential dispersal rate and velocity of isotherm shift (interactive) | 3rd quartile | Maximum | Velocity of isotherm shift | 0.15 | 0.08 | 0.15 | 0.01 | 183 | 1.83 | 0.07 | 446 | 6 | -1286.51 | 2585.21 | 5.38 | 0.01 | 15 |
| Potential dispersal rate and velocity of isotherm shift (interactive) | 3rd quartile | Maximum | Potential dispersal rate:velocity of isotherm shift | 0 | 0 | 0.15 | 0.01 | 183 | 0.06 | 0.96 | 446 | 6 | -1286.51 | 2585.21 | 5.38 | 0.01 | 15 |
| Potential dispersal rate | - | Median | Intercept | 0.7 | 0.24 | 0.16 | 0 | 259 | 2.95 | 0 | 446 | 4 | -1289.05 | 2586.2 | 6.38 | 0.01 | 16 |
| Potential dispersal rate | - | Median | Potential dispersal rate | 0 | 0 | 0.16 | 0 | 259 | -0.35 | 0.72 | 446 | 4 | -1289.05 | 2586.2 | 6.38 | 0.01 | 16 |