**Supplementary material**

**Table S1.** Coordinates of giant armadillo presence points used to generate SDM.

|  |  |  |
| --- | --- | --- |
| Point | Longitude | Latitude |
| 1 | -52.515306 | -19.702944 |
| 2 | -52.500528 | -19.829361 |
| 3 | -52.681944 | -20.207306 |
| 4 | -52.507028 | -20.059917 |
| 5 | -52.365194 | -19.929417 |
| 6 | -52.401222 | -20.088917 |
| 7 | -52.545028 | -20.315944 |
| 8 | -52.250583 | -20.126361 |
| 9 | -52.423333 | -20.355194 |
| 10 | -52.516444 | -20.49975 |
| 11 | -52.255139 | -20.256611 |
| 12 | -52.336611 | -20.472917 |
| 13 | -52.116944 | -20.426028 |
| 14 | -52.276778 | -20.625028 |
| 15 | -52.277972 | -20.761444 |
| 16 | -52.172472 | -20.678556 |
| 17 | -52.022194 | -20.743806 |
| 18 | -52.153639 | -20.925194 |
| 19 | -51.70675 | -20.566222 |
| 20 | -51.839111 | -20.742667 |
| 21 | -51.822917 | -20.892833 |
| 22 | -51.55575 | -20.059889 |
| 23 | -51.467889 | -20.099333 |
| 24 | -51.249611 | -20.038694 |
| 25 | -53.421583 | -19.819472 |
| 26 | -53.443389 | -19.888694 |
| 27 | -53.624417 | -20.050194 |
| 28 | -53.728667 | -20.284667 |
| 29 | -53.949972 | -20.408278 |
| 30 | -53.773222 | -20.342667 |
| 31 | -53.529389 | -20.251778 |
| 32 | -53.701444 | -20.357194 |
| 33 | -53.804333 | -20.527778 |
| 34 | -53.61925 | -20.475194 |
| 35 | -53.401361 | -20.393028 |
| 36 | -54.14475 | -20.759667 |
| 37 | -53.279778 | -20.383806 |
| 38 | -53.873861 | -20.719472 |
| 39 | -53.287417 | -20.513139 |
| 40 | -52.996444 | -20.400778 |
| 41 | -53.242972 | -20.708861 |
| 42 | -52.998333 | -20.574611 |
| 43 | -53.29625 | -20.799556 |
| 44 | -53.220111 | -20.798861 |
| 45 | -53.547722 | -21.116 |
| 46 | -53.120944 | -20.959333 |
| 47 | -53.286306 | -21.197944 |
| 48 | -53.174861 | -21.260806 |
| 49 | -53.521333 | -21.446833 |
| 50 | -53.939972 | -21.192278 |
| 51 | -53.521139 | -21.5245 |
| 52 | -53.118417 | -21.366333 |
| 53 | -53.398417 | -21.498667 |
| 54 | -53.258028 | -21.459694 |
| 55 | -53.211944 | -19.093417 |
| 56 | -53.32075 | -18.948111 |
| 57 | -53.072278 | -19.134583 |
| 58 | -53.18825 | -18.811694 |
| 59 | -52.131917 | -19.06975 |
| 60 | -52.033917 | -19.175833 |
| 61 | -51.971889 | -19.051139 |
| 62 | -54.792244 | -18.037325 |
| 63 | -54.803936 | -18.147719 |
| 64 | -54.697833 | -18.455639 |
| 65 | -54.553639 | -18.560806 |
| 66 | -54.438056 | -18.32275 |
| 67 | -54.19675 | -18.433222 |
| 68 | -54.33525 | -18.193028 |
| 69 | -54.238306 | -18.120417 |
| 70 | -55.26175 | -19.742056 |
| 71 | -55.212722 | -19.675917 |
| 72 | -55.121778 | -19.675083 |
| 73 | -54.85225 | -19.649778 |
| 74 | -54.695203 | -19.638724 |
| 75 | -54.667028 | -19.706611 |
| 76 | -54.238889 | -19.799778 |
| 77 | -54.089278 | -19.793056 |
| 78 | -53.960133 | -19.923722 |
| 79 | -54.018156 | -20.030231 |
| 80 | -52.35325 | -21.557611 |
| 81 | -52.41375 | -21.595778 |
| 82 | -52.565605 | -21.503793 |
| 83 | -52.50986 | -21.361473 |
| 84 | -52.556861 | -21.306333 |
| 85 | -52.832637 | -21.548086 |
| 86 | -53.011083 | -21.496 |
| 87 | -52.827667 | -21.44225 |
| 88 | -52.918948 | -21.299102 |
| 89 | -52.933528 | -21.186417 |
| 90 | -52.905667 | -21.096444 |
| 91 | -53.050972 | -21.04825 |
| 92 | -53.034 | -20.806 |
| 93 | -53.042333 | -20.738472 |
| 94 | -53.706139 | -21.514944 |
| 95 | -53.963861 | -21.53175 |
| 96 | -53.802267 | -21.424083 |
| 97 | -53.805317 | -21.165567 |
| 98 | -54.202983 | -21.19262 |
| 99 | -53.924306 | -21.042139 |
| 100 | -54.02525 | -21.036194 |
| 101 | -54.062783 | -20.946217 |
| 102 | -54.113917 | -20.864267 |
| 103 | -54.352611 | -20.853861 |
| 104 | -54.414133 | -20.73445 |
| 105 | -54.315533 | -20.664417 |
| 106 | -54.2462 | -20.545567 |
| 107 | -54.481667 | -20.439972 |
| 108 | -53.734389 | -21.447944 |
| 109 | -54.232458 | -21.135959 |
| 110 | -54.389944 | -20.797361 |
| 111 | -54.531633 | -20.689617 |
| 112 | -54.332067 | -20.585133 |
| 113 | -53.906 | -21.432217 |
| 114 | -54.182867 | -21.070467 |
| 115 | -54.733444 | -17.916472 |
| 116 | -54.849778 | -17.807083 |
| 117 | -54.354889 | -17.7135 |
| 118 | -54.283694 | -17.685306 |
| 119 | -54.18 | -17.650833 |
| 120 | -53.954222 | -17.621472 |
| 121 | -53.888639 | -17.634056 |
| 122 | -53.844417 | -17.484222 |
| 123 | -53.405108 | -18.318844 |
| 124 | -53.177167 | -18.468508 |
| 125 | -53.097617 | -18.461258 |
| 126 | -53.498797 | -18.485681 |
| 127 | -53.449964 | -18.665189 |
| 128 | -53.07645 | -18.697003 |
| 129 | -52.342614 | -18.926839 |
| 130 | -52.371456 | -19.156083 |
| 131 | -52.432439 | -19.290258 |
| 132 | -51.886453 | -19.177703 |
| 133 | -51.718389 | -19.221922 |
| 134 | -51.642944 | -19.179483 |
| 135 | -52.468139 | -21.951889 |
| 136 | -51.753111 | -20.990611 |
| 137 | -51.908444 | -20.973722 |
| 138 | -51.877667 | -21.100861 |
| 139 | -52.503278 | -22.073194 |
| 140 | -52.703 | -21.611528 |
| 141 | -53.458333 | -22.160333 |
| 142 | -53.212639 | -22.170139 |
| 143 | -54.984472 | -20.423444 |
| 144 | -55.246944 | -20.452194 |

**Table S2.** Explanatory variables available for SDM.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variable | Description | Date | Spatial resolution | Source | Available at |
| Bioclimatic variables | 19 Bioclimatic variables, derived from the monthly temperature and rainfall values, representing annual trends (e.g., mean annual temperature, annual precipitation) seasonality (e.g., annual range in temperature and precipitation) and extreme or limiting environmental factors (e.g., temperature of the coldest and warmest month, and precipitation of the wet and dry quarters) | 1970-2000 | 30-arc second | Fick & Hijmans 2017 | https://worldclim.org/ |
| DEM\* | Global digital elevation model from USGS | 1996 | 30-arc second | Digital Object Identifier (DOI) number: /10.5066/F7DF6PQS | https://www.usgs.gov/centers/eros/science/usgs-eros-archive-digital-elevation-global-30-arc-second-elevation-gtopo30?qt-science\_center\_objects=0#qt-science\_center\_objects) |
| Elevation | SRTM imagery | 2000 | 30-arc second | Jarvis et al. 2008 | http://srtm.csi.cgiar.org/ |
| Slope | SRTM imagery | 2000 | 30-arc second | Jarvis et al. 2008 | http://srtm.csi.cgiar.org/ |
| Exposure | SRTM imagery | 2000 | 30-arc second | Jarvis et al. 2008 | http://srtm.csi.cgiar.org/ |
| Terrain Ruggedness | Terrain ruggedness as the variation in three-dimensional orientation of grid cells within a neighborhood (derived from SRTM elevation, calculated by the Vector Ruggedness Measure (VRM) Toolbox for ArcGis) | 2000 | 30-arc second | Sappington et al. 2007 | https://www.arcgis.com/home/item.html?id=9e4210b3ee7b413bbb1f98fb9c5b22d4 |
| Land cover | Classes from land cover | 2018 | 30m | Project MapBiomas 2020 | https://mapbiomas.org/ |
| Bedrock | [Depth to Bedrock (R horizon) up to 200 cm](https://soilgrids.org/) and [Sand content (50–2000 micro meter) mass fraction in %](https://soilgrids.org/) from Soil Grids | 2016 | 250m | Hengl et al. 2017 | https://www.isric.org/explore/soilgrids |
| Sand | Predictions of sand in the soil (weight %) | 2016 | 250m | Hengl et al. 2017 | https://www.isric.org/explore/soilgrids |
| Dist\_rivers | Euclidean distance from drainage |  | 30-arc second | Agência Nacional de Águas (ANA) | http://metadados.ana.gov.br/geonetwork/srv/pt/main.home |
| Forest Cover | Fraction of green vegetation cover | 2014-2017 | 300m | Copernicus Global Land Service (CGLS) | https://land.copernicus.eu/global/products/fcover |
| FAPAR | Fraction of absorbed photosynthetically active radiation | 2014-2017 | 300m | Copernicus Global Land Service (CGLS) | https://land.copernicus.eu/global/products/fcover |
| Shannon Diversity | Shannon Diversity of enhanced vegetation index (EVI) |  | 30-arc second | Tuanmu & Jetz 2015 | http://www.earthenv.org/texture |

**Figure S1.** Land cover (Mapbiomas, v4.1) in the modeled area (g-space) in the state of Mato Grosso do Sul, Brazil in 1985 (a) and 2018 (b).



(b)

(a)