Supplementary Materials

Table S1. Characteristics of the existing native vegetation maps covering the entire Brazilian Cerrado and produced by semi-automatic methods and visual interpretation of varying remote sensing data.

<table>
<thead>
<tr>
<th>Reference</th>
<th>Period mapped</th>
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<th>Sensor</th>
<th>Spatial resolution (m)</th>
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<tbody>
<tr>
<td>Sano et al. (2010)</td>
<td>2002</td>
<td>Forestland, shrubland, and grassland</td>
<td>Landsat</td>
<td>30</td>
</tr>
<tr>
<td>INPE (2015)</td>
<td>2013</td>
<td>Woodland and grassland</td>
<td>Landsat</td>
<td>30</td>
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<tr>
<td>FBDS (2019)</td>
<td>2013</td>
<td>Woodland and grassland</td>
<td>RapidEye</td>
<td>5</td>
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</table>

Table S2. Scripts used in the initial and final statistical decision tree classification of the native Cerrado vegetation.

<table>
<thead>
<tr>
<th>Collections</th>
<th>Link to the scripts</th>
</tr>
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<tr>
<td>Initial SDT Classification 2000-2016</td>
<td><a href="https://code.earthengine.google.com/86886767242e9163a32ed709765ce03">https://code.earthengine.google.com/86886767242e9163a32ed709765ce03</a></td>
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<tr>
<td>Final SDT Classification 1985-2017</td>
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Table S3. Spectral metrics, indexes, and other variables used to train the Random Forest SDT classification.

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<td></td>
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<tr>
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Table S4. Rules of the temporal filters applied to classify native Cerrado vegetation. RG = General Rule; RP = First Year Rule; RU = Last Year Rule; FF = Forest; SV = Savanna; GL = Grassland; AG = Mosaic of Agriculture and Pasture; AR = Rocky Outcrop; WB = Water; and NO = Non-observed.

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<th>ID</th>
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</table>
Table S5. Confusion matrix of NV classes at level 2. Other land cover classes include agriculture and pasture fields and non-vegetated areas. UA = user’s accuracy; PA = producer’s accuracy.

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<thead>
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<td>Savanna</td>
<td>Grassland</td>
<td>Other</td>
<td>Water</td>
<td>Total</td>
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<td>925</td>
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<td>416</td>
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<td>4412</td>
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<td>533</td>
<td>1072</td>
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Table S6. Omission and commission errors of the 33 classified maps.

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Table S7. State-level distribution of native vegetation (NV) and NV net loss from 1985 to 2017.

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</table>

Table S8. Distribution of the native Cerrado vegetation (NV) inside protected areas (indigenous lands and conservation units) from 1985 to 2017.

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest</td>
<td>6,988,356</td>
<td>6,594,120</td>
<td>14</td>
<td>17</td>
</tr>
<tr>
<td>Savanna</td>
<td>4,603,747</td>
<td>4,722,051</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Grassland</td>
<td>4,624,902</td>
<td>4,878,857</td>
<td>19</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>16,217,005</td>
<td>16,195,028</td>
<td>12</td>
<td>14</td>
</tr>
</tbody>
</table>
Figure S1. Mean monthly precipitation and Normalized Difference Vegetation Index (NDVI) data from forest and savanna vegetation. Gray rectangle corresponds to the six-month optimum period for deriving the Landsat mosaic of the Brazilian Cerrado.
Figure S2. Boxplots representing the distribution of the dominant land cover classes of the Brazilian Cerrado over six spectral metrics included in the empirical decision tree classification. GVS = Green Vegetation and Shade; GV = Green Vegetation; NPV = Non-Photosynthetic Vegetation; SEFI = Savanna Ecosystem Fraction Index.
Figure S3. Location of 21,000 sampling points used for accuracy assessment. Other = water, non-vegetated, agriculture, and pasture fields.
Figure S4. Overall accuracy for the three classifications [empirical decision tree (EDT), initial statistical decision tree (SDT), and final SDT], considering the aggregated legend.
Figure S6. State-level net loss of native vegetation (NV) from 1985 to 2017. Mha = million hectares. See Fig. S6 for state identification.