

Supplementary Materials:

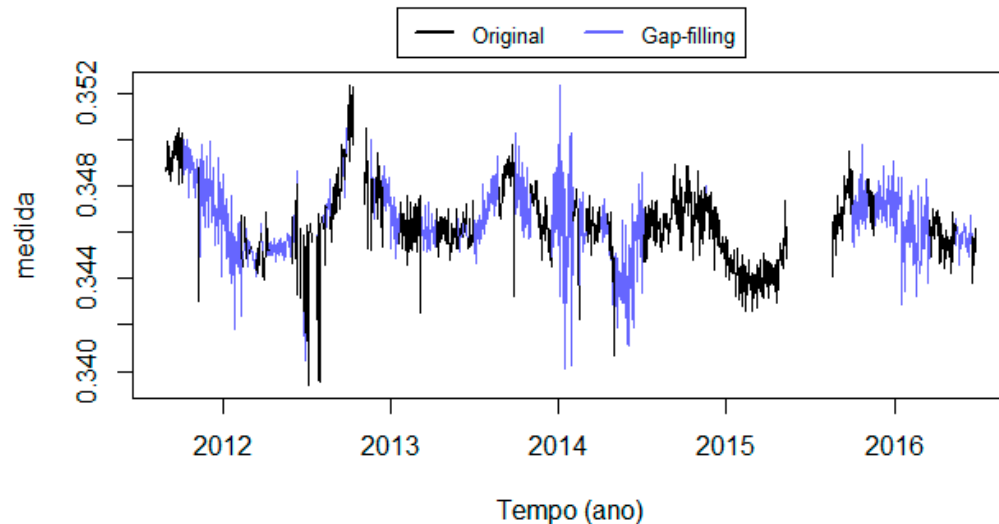


Figure S1 Performance of the gap-filling algorithm on the daily Gcc time-series of the woody cerrado site. The algorithm created, based on an Auto-regressive moving average model (ARMA) fitting over the Gcc time-series, consists of three steps: first, the optimal order of the ARMA model is chosen based on physical principles; secondly, data segments before and after a given gap are fitted using an ARMA model of the order selected in the first step; and next, the gap is interpolated using a weighted function of a forward and a backward prediction based on the models of the selected data segments. The second and third steps are repeated for each gap contained in the entire time series.

Table S1 List of plant species identified in the field that appeared in the images retrieved from the digital camera at the caatinga site.

Family	Scientific name	Life form
Anacardiaceae	<i>Spondias tuberosa</i> Arruda	Shrub Tree
Anacardiaceae	<i>Myracrodruon urundeuva</i> Allemão	Tree
Anacardiaceae	<i>Schinopsis brasiliensis</i> Engl.	Tree
Apocynaceae	<i>Aspidosperma pyrifolium</i> Mart. & Zucc.	Tree
Bignoniaceae	<i>Handroanthus spongiosus</i> (Rizzini) S.Grose	Tree
Burseraceae	<i>Commiphora leptophloeos</i> (Mart.) J.B.Gillett	Shrub Tree
Cactaceae	<i>Pilosocereus</i> Byles & Rowley	NA
Euphorbiaceae	<i>Sapium argutum</i> (Müll.Arg.) Huber	Shrub Tree
Euphorbiaceae	<i>Sapium glandulosum</i> (L.) Morong	Shrub Tree
Euphorbiaceae	<i>Cnidoscolus quercifolius</i> Pohl	Shrub Tree
Euphorbiaceae	<i>Manihot pseudoglaziovii</i> Pax & K.Hoffm.	NA
Euphorbiaceae	<i>Croton conduplicatus</i> Kunth	Shrub Sub-Shrub
Fabaceae	<i>Mimosa tenuiflora</i> (Willd.) Poir.	Shrub Tree Sub-Shrub
Fabaceae	<i>Poincianella microphylla</i> (Mart. ex G.Don) L.P.Queiroz	Shrub Tree
Fabaceae	<i>Senegalia piauiensis</i> (Benth.) Seigler & Ebinger	Shrub Tree
Fabaceae	<i>Poincianella pyramidalis</i> (Tul.) L.P.Queiroz	NA

Malvaceae	<i>Pseudobombax simplicifolium</i> A.Robyns	Tree
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Table S2 List of plant species identified in the field that appeared in the images taken at the cerrado shrubland.

Family	Scientific name	Life form
Apocynaceae	<i>Aspidosperma tomentosum</i> Mart.	Tree
Asteraceae	<i>Gochnatia pulchra</i> Cabrera	Shrub Tree
Bignoniaceae	<i>Jacaranda decurrens</i> Cham.	Shrub
Caryocaraceae	<i>Caryocar brasiliense</i> Cambess.	Tree
Cyperaceae	<i>Bulbostylis</i> Kunth	Herb
Erythroxylaceae	<i>Erythroxylum suberosum</i> A.St.-Hil.	Shrub Tree Sub-Shrub
Fabaceae	<i>Machaerium acutifolium</i> Vogel	Tree
Fabaceae	<i>Andira humilis</i> Mart. ex Benth.	Shrub Tree
Lamiaceae	<i>Aegiphila verticillata</i> Vell.	Shrub Tree Sub- shrub
Malpighiaceae	<i>Byrsonima intermedia</i> A.Juss.	Shrub
Myrtaceae	<i>Eugenia pyriformis</i> Cambess.	Shrub Tree Sub- shrub
Myrtaceae	<i>Campomanesia pubescens</i> (Mart. ex DC.) O.Berg	Shrub Tree
Arecaceae	<i>Syagrus petraea</i> (Mart.) Becc.	Herb Palm
Poaceae	<i>Andropogon</i> L.	Herb
Poaceae	<i>Loudetiopsis</i> Conert	Herb
Poaceae	<i>Trachypogon spicatus</i> (L.f.) Kuntze	Herb
Sapotaceae	<i>Pouteria torta</i> (Mart.) Radlk.	Shrub Tree
Sapotaceae	<i>Pradosia brevipes</i> (Pierre) T.D.Penn.	Sub- shrub
Verbenaceae	<i>Lippia origanoides</i> Kunth	Shrub Sub- shrub
Vochysiaceae	<i>Qualea grandiflora</i> Mart.	Shrub Tree
Vochysiaceae	<i>Vochysia tucanorum</i> Mart.	Tree

Table S3 List of plant species identified in the field that appeared in the images taken at the dense cerrado.

Family	Scientific name	Life form
Annonaceae	<i>Xylopia aromatica</i> (Lam.) Mart.	Shrub Tree
Caryocaraceae	<i>Caryocar brasiliense</i> Cambess.	Tree
Fabaceae	<i>Pterodon pubescens</i> (Benth.) Benth.	Tree
Fabaceae	<i>Leptolobium dasycarpum</i> Vogel	Tree
Fabaceae	<i>Diptychandra aurantiaca</i> Tul.	Tree
Fabaceae	<i>Anadenanthera peregrina</i> var. <i>falcata</i> (Benth.) Altschul	Shrub Tree
Fabaceae	<i>Copaifera langsdorffii</i> Desf.	Tree
Fabaceae	<i>Vatairea macrocarpa</i> (Benth.) Ducke	Tree
Sapotaceae	<i>Pouteria ramiflora</i> (Mart.) Radlk.	Shrub Tree

Table S4 List of plant species identified in the field that appeared in the images taken at the woody cerrado.

Family	Scientific name	Life form
Annonaceae	<i>Xylopia aromatica</i> (Lam.) Mart.	Shrub Tree
Apocynaceae	<i>Aspidosperma tomentosum</i> Mart.	Tree
Caryocaraceae	<i>Caryocar brasiliense</i> Cambess.	Tree
Fabaceae	<i>Pterodon pubescens</i> (Benth.) Benth.	Tree

Fabaceae	<i>Bowdichia virgilioides</i> Kunth	Shrub Tree
Melastomataceae	<i>Miconia rubiginosa</i> (Bonpl.) DC.	Shrub Tree
Myrtaceae	<i>Myrcia splendens</i> (Sw.) DC.	Tree
Myrtaceae	<i>Myrcia guianensis</i> (Aubl.) DC.	Tree
Sapotaceae	<i>Pouteria torta</i> (Mart.) Radlk.	Shrub Tree
Sapotaceae	<i>Pouteria ramiflora</i> (Mart.) Radlk.	Shrub Tree
Vochysiaceae	<i>Qualea grandiflora</i> Mart.	Shrub Tree



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