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Development Interventions in Africa's Historical Borderlands: Evidence from Colonial Missions

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Abstract

Africa's historical borderlands are persistently associated with low levels of economic development. This paper examines how these regions respond to development interventions, analysing whether the long-run development advantage associated with colonial Christian missions persists near historical homeland borders. Combining georeferenced data on 3,365 pioneering mission stations with high-resolution satellite night-time luminosity data, we show that the positive association between proximity to missionary activity and contemporary economic development weakens sharply in these borderland areas. This result is robust across a wide range of specifications and is corroborated by evidence on household wealth and human capital from the Demographic and Health Surveys Program. Our findings suggest that the success of development initiatives in the historical borderlands reflects not only the interventions themselves, but also the institutional environments in which they were implemented.

Keywords: Africa, missionaries, development, borderlands, night-time luminosity, spatial analysis.

JEL Classifications: O1, F35, N10, N17

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1 Introduction

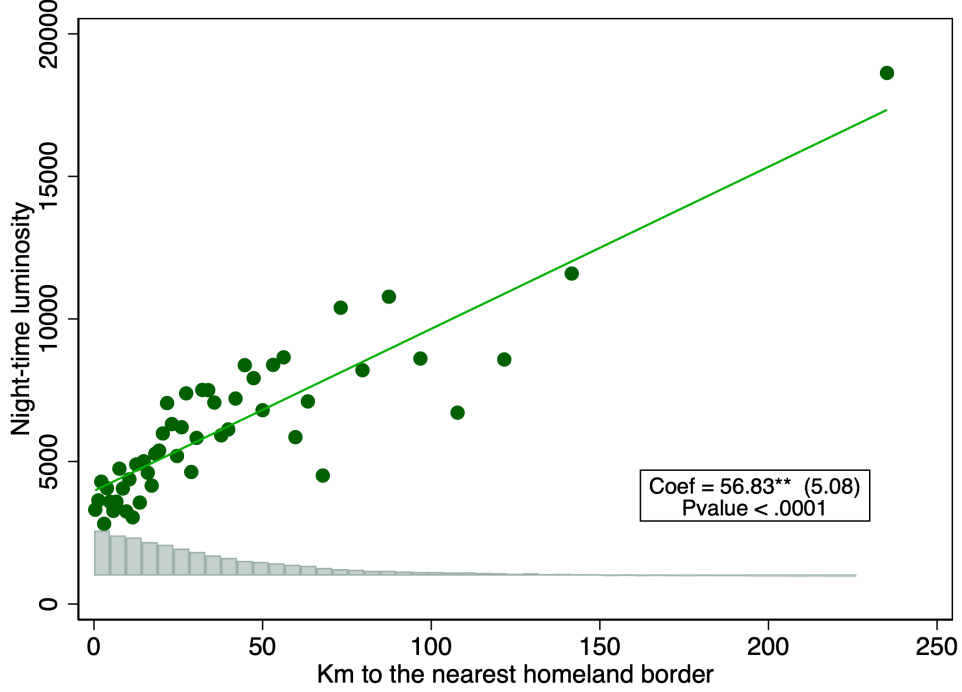
Regions surrounding Africa’s historical homeland borders, as delineated in Murdock’s (1959) ethnolinguistic map, are persistently associated with low levels of economic development (e.g. Besley and Reynal-Querol, 2014; Alesina et al., 2016; Michalopoulos and Papaioannou, 2016; Rodney, 2018). Earlier studies emphasise adverse geography, weak property rights, limited state capacity, and ethnic fragmentation as underlying reasons (e.g. Easterly and Levine, 1997; Herbst, 2000; Alesina et al., 2016; Depetris-Chauvin and Özak, 2024, 2023). Nearly half of Africa’s population today lives within 30 km of a historical homeland border, making these borderland regions a central concern for development policy. This raises the question of how receptive such regions are to place-based development initiatives.

We examine how well the long-run development advantage associated with Christian missionary activity in Africa performs near historical homeland borders. During the colonial period, European Christian missions established thousands of schools, hospitals, and religious institutions across the continent (e.g. Cole, 1961; Frankema, 2012; Herringer, 2019). A growing literature documents positive and persistent effects of these activities on education, health, gender outcomes, and economic development (e.g. Nunn, 2010; Nunn et al., 2014; Cagé and Rueda, 2016; Okoye and Pongou, 2024). We use Christian missions as a historical case to examine how receptive Africa’s historical borderlands are to development interventions.

Our central finding is that the positive association between historical missionary presence and contemporary economic development weakens sharply as mission locations approach the historical homeland borders. Figure 1 illustrates this pattern using satellite night-time luminosity as a proxy for local economic performance. Areas near mission stations exhibit higher night-time intensity on average, but this association is markedly attenuated in historical borderland regions.

To formalise these observations, we combine a high-resolution grid-cell approach with spatial spillover analyses. We start by describing the unconditional variation in night-time luminosity with respect to distance from mission stations and homeland borders, identifying the distance ranges at which these relationships become statistically indistinguishable from

Figure 1: Night-time luminosity near mission stations by distance to a homeland border



Notes: The *binscatter* is made upon a sample of 3,365 colonial mission stations described in the data section. Each scatter point reports the average night-time intensity today in areas located less than 10 km from a mission station. The underlying regression model has robust standard errors and shows the unconditional relationship between the reported variables.

those observed in plausibly neutral reference areas, as defined in existing studies. This analytical step reveals that night-time luminosity is higher within 80 km of a mission station and lower within 40 km of a homeland border relative to well-defined control-group locations. These descriptive patterns are used solely to inform the selection of distance bands in the main analysis and do not carry inferential weight.

Building on these patterns, our main specification estimates an interaction between distance to the nearest mission station and distance to the nearest homeland border. This interaction directly tests whether the association between missionary proximity and local economic development differs in borderland regions relative to otherwise comparable non-mission, non-border locations—i.e., whether the mission–development gradient attenuates as mission locations approach homeland borders. The distance bands identified in the descriptive step provide a flexible way to parameterise this heterogeneity without imposing a specific functional form on distance.

The interaction coefficients between distance to the nearest mission station and distance to the nearest homeland borders are estimated within this banded framework. All estimates are obtained from conditional specifications that control for a broad set of geographical, historical, and institutional covariates, including environmental characteristics, factors correlated with missionary settlement patterns (such as malaria prevalence, temperature, and pre-colonial population centres), and determinants of natural boundaries. This approach isolates spatial heterogeneity in the association between missionary presence and local economic development across border and non-border regions.

The main specification compares grid cells by their proximity to mission stations and homeland borders, with non-mission, non-borderland grid cells serving as the reference category, conditional on country fixed effects and a well-defined set of controls. The baseline results indicate that the association between missionary proximity and development is reduced by approximately 50 per cent within 40 km of a homeland border and becomes statistically indistinguishable from zero within 15 km. Given that roughly two-thirds of Africa’s contemporary population lives within 40 km of a historical homeland border—and one-third within 15 km—these findings point to a substantial spatial development trap affecting a large share of Africa’s contemporary population.

A wide range of robustness checks supports the interpretation that these patterns reflect genuine spatial heterogeneity rather than spurious correlation. Placebo tests based on randomised distances yield null effects, and the results are robust to alternative treatments of spatial autocorrelation, targeted sample restrictions, and controls for postcolonial influences such as railways, printing presses, and exposure to World Bank aid. Supplementary exercises using propensity score matching and instrumental variable approaches yield similar attenuation patterns, although we treat these as robustness checks rather than providing independent identification.

We also examine heterogeneity across mission stations and border polyline segments. Controlling for mission and border fixed effects leaves the qualitative results unchanged. Using information on missionary personnel for a subsample of stations, we further show that variation in mission size is unlikely to account for the observed attenuation of missionary development advantages in borderland regions.

We further show that our results are robust to using household-level outcomes from the Demographic and Health Surveys (DHS) Program. Replacing satellite night-time luminosity with DHS measures of wealth and educational attainment yields patterns consistent with the baseline results, indicating that the attenuation of the missionary-associated development advantage near historical homeland borders extends to household-level measures of assets and human capital.

Finally, we develop a conceptual framework for interpreting the attenuation pattern and present empirical evidence on several plausible mechanisms. Here, we distinguish between mission-specific factors (denomination, duration of operation, and mission-station density) and location-specific factors (pre-colonial institutions and post-colonial developments). The empirical analysis suggests that longer missionary engagement is associated with a stronger long-run development advantage both within and outside the historical borderlands, while stronger pre-colonial political centralisation is associated with a less pronounced attenuation near the homeland borders. This supports the view that the success of development initiatives in the historical borderlands reflects not only the interventions themselves, but also the institutional environments in which they were implemented.

2 Background

2.1 The historical borderlands

Historical border regions in Africa exhibit systematically lower levels of economic development than interior areas. A prominent explanation emphasises the limited reach of pre-colonial states: As argued by [Herbst \(1990, 2000\)](#), historical state builders faced high costs of projecting authority over sparsely populated territories. Pre-colonial state formation, therefore, concentrated on population centres, where taxation could be more easily enforced in exchange for public goods. Historically peripheral regions—particularly near political frontiers—were subject to weak and intermittent control, with extraction often taking the form of sporadic tribute or institutionalised raiding rather than sustained governance. This limited incentives for investment and long-run development in borderland areas.

Other historical forces helped cement this institutional marginalisation. The literature highlights the disruptive effects of Africa’s slave trades, which fragmented communities, weakened local institutions, and distorted demographic structures (e.g. [Nunn, 2008](#); [Dalton and Leung, 2014](#); [Michalopoulos et al., 2019](#)). These processes undermined state capacity and further constrained economic activity in these historically peripheral regions, compounding the disadvantages faced by the historical borderlands. Additionally, post-colonial demographic change intensified these challenges. Africa’s population grew rapidly after independence, while economic opportunities remained concentrated in established centres (e.g. [Boone, 2017](#)). As a result, although considerable heterogeneity exists across contemporary borderland regions, population pressure increasingly spilled into historically marginal areas.

Today, roughly half of Africa’s population lives within 30 km of a historical homeland border. The literature suggests that in some historical borderland regions demographic pressure interacts with weak governance, insecure property rights, and competition over natural resources, contributing to persistent conflict and limited economic progress (e.g. [Besley and Reynal-Querol, 2014](#); [Depetris-Chauvin and Özak, 2024, 2023](#)). Consistent with this literature, we document lower levels of night-time luminosity in regions surrounding the historical homeland borders delineated in [Murdock \(1959\)](#). We extend existing work by showing that the positive long-run association between Christian missionary presence and local economic development attenuates sharply near these borders.

2.2 Christian missionary activities

Christian missionary activity expanded rapidly across Africa in the late nineteenth and early twentieth centuries, largely alongside European imperial expansion (e.g. [Nunn, 2010](#); [Okoye, 2022](#); [Rueda, 2023](#)). Beyond evangelisation, missionaries made substantial local investments, providing education, healthcare, and printing infrastructure to surrounding communities (e.g. [Cole, 1961](#); [Nunn, 2010](#); [Cagé and Rueda, 2016](#); [Herringer, 2019](#); [Meier zu Selhausen et al., 2018](#); [Doyle et al., 2020](#); [Donat-Bouillud et al., 2025](#)). Mission schools eventually became sufficiently widespread that missionaries acted as the primary providers of formal education in many parts of colonial Africa (e.g. [Frankema, 2012](#); [Meier zu Selhausen, 2019](#)).

A growing literature documents that missionary activities have left persistent imprints on local development outcomes. Areas surrounding historical mission stations exhibit higher levels of human capital, improved health outcomes, and stronger economic performance in the postcolonial period (e.g. [Nunn et al., 2014](#); [Cagé and Rueda, 2016](#); [Okoye, 2021](#); [Miotto, 2023](#); [Chiseni, 2023](#); [Fors et al., 2024](#); [Brown, 2024](#); [Meier zu Selhausen and Weisdorf, 2025](#)). Missionary activity has also been linked to the formation of growth-promoting institutions, higher levels of trust, and enhanced female agency. More recent work further finds that historical mission locations are positively correlated with the subsequent allocation of World Bank development projects (e.g. [Alpino and Hammersmark, 2021](#)).

While the outcome of development interventions in Africa is known to depend strongly on local conditions (e.g. [Qian, 2015](#)), evidence on Christian missionary activity is comparatively consistent. Although estimates of the magnitude of the relationship between missionary presence and contemporary economic development vary (e.g. [Jedwab et al., 2022](#)), there is broad agreement that the original European mission stations documented in [Roome \(1925\)](#) and [Johnson \(1967\)](#)—both used in this study—are associated with higher levels of economic development today.

The literature on Africa’s historical borderlands and Christian missionary campaigns jointly point to a central empirical question. While European missionary activities generated persistent local development advantages, borderland regions have long been characterised by weak institutions, political fragmentation, and limited state capacity. Whether and to what extent European missionary interventions interacted spatially with the limited development of many borderland areas remains largely unexplored. Addressing this question requires combining fine-grained spatial data on missionary locations and historical homeland borders with contemporary measures of local economic activity. The next sections describe the data sources and empirical strategy used to examine how proximity to homeland borders conditions the long-run development advantage associated with Christian missionary activity in Africa.

3 Data

Our main empirical analysis is conducted at the grid-cell level. We partition the African continent into 257,224 grid cells of 0.1×0.1 arc degrees, corresponding to areas of approximately $10 \text{ km} \times 10 \text{ km}$.¹ This spatial resolution allows us to exploit fine-grained variation in historical and contemporary variables while maintaining broad continental coverage.

The baseline analysis relies on three key variables. The main outcome variable is satellite-measured night-time luminosity, while the two main explanatory variables are distances to colonial Christian mission stations and to pre-colonial homeland borders (Figure 2). In addition, we include a broad set of control variables capturing geographical, historical, and institutional characteristics. As alternative outcome measures, we also consider contemporary wealth and human capital indicators derived from recent household surveys. Appendix C describes the construction of all variables, their adaptation to the grid-cell framework, and access to the underlying data sources. Descriptive statistics are reported in Table A.1 in Appendix A.

3.1 Night-time luminosity and other development outcomes

Satellite night-time luminosity is widely used as a proxy for local economic activity in regions where conventional measures of income and production are unavailable or unreliable (e.g. [Henderson et al., 2012](#); [Michalopoulos and Papaioannou, 2018](#)). Following earlier studies (e.g. [Cagé and Rueda, 2016](#)), we use data from the US Defense Meteorological Satellite Program, collected by the US Air Force Weather Agency in 2010 ([Earth Observation Group, 2011](#)). To assess robustness, we also consider more recent night-time luminosity observations harmonised by [Chiovelli et al. \(2026\)](#). For ease of interpretation, we normalise night-time luminosity to range between zero and one. Higher values indicate greater intensity of artificial light emissions (Panel A of Figure 2) and, by implication, higher levels of local economic

¹The baseline sample includes three European overseas territories: the Canary Islands (Spain) and Réunion and Mayotte (both France). These territories are included because the global spatial datasets underlying our analysis define Africa geographically rather than according to contemporary political jurisdiction, causing them to appear naturally within the African raster grids. While our conclusions are robust to their exclusion, we retained the corresponding 210 grid cells in the baseline sample.

activity. As complementary development outcomes, we also use measures of household wealth and human capital derived from survey data collected by the Demographic and Health Surveys (DHS) Program.

3.2 Christian mission stations

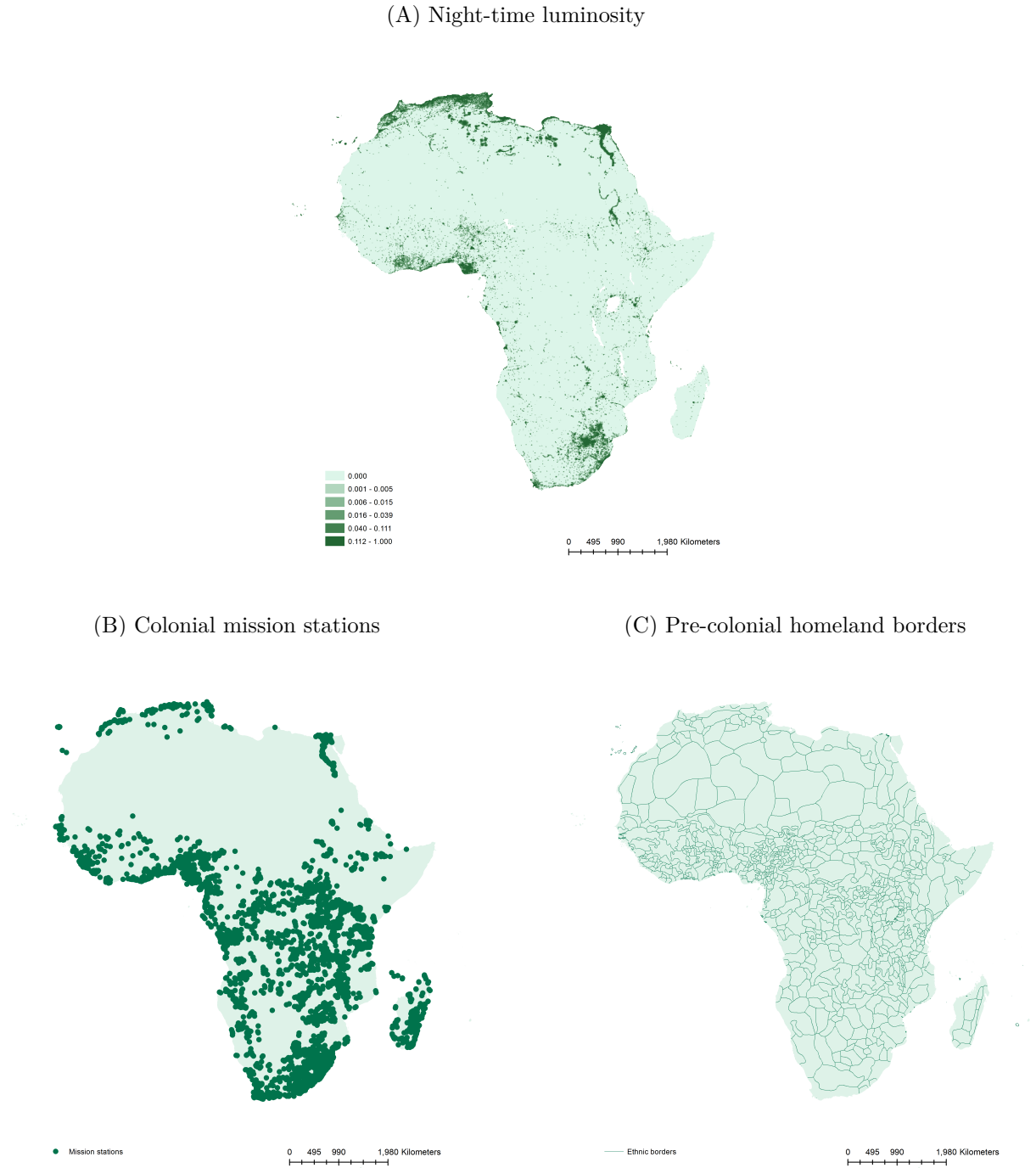
Our first main explanatory variable is the geodesic distance from the centroid of each grid cell to the nearest colonial Christian mission station (Panel A of Appendix B.1). Distance to a mission station is commonly used in the literature as a proxy for exposure to Christian missionary activity and its associated local investments (e.g. [Cagé and Rueda, 2016](#)).

Distances are computed using two complementary datasets that report the locations of colonial Christian mission stations in the 1920s. The first is the *Roome Atlas* ([Roome, 1925](#)), digitised by [Nunn \(2010\)](#). The second is a more comprehensive collection compiled by [Johnson \(1967\)](#) and digitised by [Becker et al. \(2022\)](#). Together, these sources identify 3,365 mission stations across the African continent (Panel B of Figure 2), of which 2,161 originate from [Johnson \(1967\)](#).

While the Roome Atlas is widely used in earlier studies, Johnson’s compilation is substantially more detailed ([Johnson, 1967](#), p. 170). Neither source includes the numerous smaller mission stations operated exclusively by Africans. These stations were typically established 20-30 km from the pioneering European missions and have been shown to be uncorrelated with elevated contemporary night-time luminosity ([Jedwab et al., 2022](#)). Their exclusion therefore omits mission stations that appear unrelated to contemporary economic development and is unlikely to materially affect our estimates.²

²While [Jedwab et al. \(2022\)](#) focus on estimating the average long-run association between missionary activity and contemporary development, our objective is to examine how this association varies systematically with proximity to historical homeland borders. The two studies therefore address related but distinct empirical questions.

Figure 2: The three main variables of interest



Notes: Night-time luminosity as of 2010 is reported at the grid-cell level, each of which is 0.1×0.1 arc-degrees large. *Sources:* Satellite night-time luminosity: [Earth Observation Group \(2011\)](#). Christian mission stations: [Roome \(1925\)](#); [Johnson \(1967\)](#); [Nunn et al. \(2014\)](#); [Becker et al. \(2022\)](#). Homeland borders: [Murdock \(1959\)](#); [Nunn \(2008\)](#).

For a subsample of pioneering mission stations, the *World Missionary Atlas* (Beach et al., 1925) provides information on the size and composition of foreign missionary staff in 1924. The data further report the presence of medical personnel, indicating whether a mission station operated a local hospital (Becker and Meier zu Selhausen, 2025). To assess the robustness of our baseline results, these details allow us to examine whether the magnitude of missionary resources mediates the relationship between mission proximity and contemporary economic development.

A natural concern is that the spatial distribution of mission stations may reflect underlying economic potential rather than missionary influence. Two features of the data mitigate this concern at the measurement stage. First, the pioneering mission stations documented in the Roome and Johnson sources were typically established in the late nineteenth and early twentieth centuries, prior to the emergence of modern infrastructure and long before the contemporary spatial distribution of economic activity. Second, historical accounts emphasise that missionary location decisions were driven primarily by access routes, disease environments, and religious strategy rather than by local income prospects. The empirical strategy addresses this issue through extensive controls and robustness analyses described below.

3.3 Historical homeland borders

Our second main explanatory variable is the geodesic distance from the centroid of each grid cell to the nearest pre-colonial homeland border (Panel B of Appendix B.1). Information on homeland boundaries is drawn from the ethno-linguistic map compiled by Murdock (1959) and digitised by Nunn (2008). The map, constructed using historical sources from the late nineteenth and early twentieth centuries, delineates 825 ethnic homelands across the African continent (Panel C of Figure 2).³

Murdock’s atlas has been criticised for measurement error, and for imposing sharp boundaries on fluid social landscapes (e.g. Naroll et al., 1964; Tobin, 1990; Jerven, 2011). More

³While contemporary national borders delimit today’s sovereign states, historical homeland boundaries approximate the territorial extent of pre-colonial ethno-linguistic groups, many of which now coexist within the same contemporary state.

recent work, however, documents that the spatial patterns captured by the atlas remain economically relevant today (e.g. [Michalopoulos et al., 2019](#); [Bahrami-Rad et al., 2021](#); [Depetris-Chauvin and Özak, 2024](#)). In particular, proximity to homeland borders derived from Murdock’s map has been used in earlier works as a proxy for institutional fragmentation, insecure property rights, and ethnic tension, all of which are associated with lower levels of economic development (e.g. [Depetris-Chauvin and Özak, 2024](#)). Our placebo analysis provides additional support for the relevance of these boundaries, as our estimated negative association with night-time luminosity disappears when distances to homeland borders are randomised.

An additional concern is that the location of pre-colonial homeland borders may reflect underlying economic conditions. This concern is mitigated by the historical nature of these boundaries, which predate colonial rule and modern economic development. According to [Herbst \(2000\)](#), the historical homeland borders emerged from a combination of geographical constraints, ecological adaptation, and political frictions rather than from considerations of economic productivity. As with missionary placement, the empirical analysis addresses residual concerns through extensive controls, spatial robustness checks, and placebo tests.

3.4 Confounding factors

Our analysis controls for a broad set of confounding factors commonly used in related studies. Consistent with our distance-based spatial approach, we capture many locational factors using continuous distances to relevant geographical and historical features. These include distances to coasts and navigable rivers ([Andreadis et al., 2013](#)); historical explorer routes ([Nunn and Wantchekon, 2011](#)); major mineral deposits ([Schulz and Briskey, 2005](#)); pre-colonial cities ([Chandler, 1987](#)); and historical Muslim seat locations ([Sluglett and Currie, 2015](#)). We also control for the gaps between the nearest and second-nearest mission stations calculated from ([Nunn, 2010](#); [Becker et al., 2022](#)) and homeland borders ([Murdock, 1959](#); [Nunn, 2008](#)), respectively. Several of these controls capture locational dimensions also considered by [Jedwab et al. \(2022\)](#), although our distance-based spatial framework typically operationalises them as continuous distance measures, whereas Jedwab et al. frequently use indicators capturing the presence of, or proximity to, particular features.

At the grid-cell level, the baseline specification further includes population density ([Rose and Bright, 2014](#)); absolute latitude, calculated from the grid geometry; elevation and terrain ruggedness ([Danielson and Gesch, 2011](#)); malaria and tsetse ecology ([Kiszewski et al., 2004](#); [Alsan, 2015](#)); rainfall and temperature ([Fick and Hijmans, 2017](#)); and land suitability for agriculture ([Ramankutty et al., 2002](#)). We also include indicator variables for grid cells that are uninhabited ([Rose and Bright, 2014](#)), on islands ([Andreadis et al., 2013](#)), or in major urban areas ([Patterson and Kelso, 2012](#)), as well as for those in Sub-Saharan Africa ([United Nations Geospatial, 2018](#)). All baseline specifications additionally include contemporary-country and colonial-power fixed effects.

With the exception of population, the baseline specifications control only for predetermined geographical, ecological and historical characteristics that plausibly predate both missionary placement and contemporary economic outcomes. A potential concern when using an extensive set of controls is that some variables—particularly those capturing historical infrastructure, institutional characteristics, or postcolonial interventions—may lie on channels through which missionary activity or proximity to historical homeland borders affected long-run development. To address this concern, we distinguish the baseline controls described above from additional sets of covariates introduced only in the sensitivity analyses. First, we assess the robustness of our results to two additional historical controls: pre-colonial political centralisation ([Michalopoulos and Papaioannou, 2013](#)) and distance to slave-trading ports ([SlaveVoyages, 2019](#)). These variables capture additional historical dimensions related to those considered by [Jedwab et al. \(2022\)](#). Second, a separate sensitivity check considers a set of plausible post-treatment controls. These include distances to colonial-era railways ([Nunn and Wantchekon, 2011](#)), Protestant printing presses ([Cagé and Rueda, 2016](#)), contemporary national (inland) borders ([United Nations Geospatial, 2018](#)), and postcolonial World Bank aid projects implemented between 1995 and 2014 ([AidData, 2017](#)).

Across these additional specifications, the estimated interaction between missionary proximity and homeland borders remains stable, suggesting the results are not driven by overcontrolling or by conditioning on post-treatment variables.

4 Empirical strategy

Existing studies document higher satellite night-time luminosity near colonial mission stations (e.g. [Cagé and Rueda, 2016](#)) and lower luminosity near historical homeland borders (e.g. [Michalopoulos and Papaioannou, 2014](#)). We begin by reproducing these patterns using a simple regression framework that, as in earlier work, treats missionary presence and homeland borders as independent correlates of local economic activity. We then employ spatial spillover analyses to identify the distances at which these associations become statistically indistinguishable from those observed in plausible reference areas, as defined in previous work, thereby characterising the spatial reach of each historical feature.

Building on these benchmarks, we estimate a spatial interaction model to examine how proximity to homeland borders conditions the development advantage associated with missionary presence. We first identify the baseline association between night-time luminosity and proximity to mission stations outside historical borderlands. We then trace how this association evolves as grid cells approach a homeland border, allowing us to quantify the spatial heterogeneity in missionary-related development outcomes.

4.1 Spatial spillover analyses

The spatial spillover analyses assess the distances from a mission station or homeland border at which a statistically significant association with night-time luminosity can be detected, compared with locations farther away. To this end, we estimate two separate linear regression models. The first relates night-time luminosity to distance from the nearest mission station, and the second relates luminosity to distance from the nearest homeland border.

Both models take the following form:

$$\text{Night-time luminosity}_{ck} = \alpha + \beta_k \text{Distance dummy}_{ck} + \gamma \text{Uninhabited}_c + \eta_c \quad (1)$$

where *Night-time luminosity*_{ck} denotes the (log) normalised night-time luminosity in grid cell *c* located *k* km from a mission station or homeland border. The variable *Distance dummy*_{ck} is an indicator equal to one if grid cell *c* lies within *k* km of the relevant feature and zero otherwise. *Uninhabited*_c is an indicator equal to one if grid cell *c* is uninhabited today

and is included to ensure that the estimated relationships are not mechanically driven by unpopulated areas. The term η_c denotes the error term.

The parameter k is varied discretely in fixed-distance increments, allowing us to trace how the association between night-time luminosity and proximity to a mission station or homeland border evolves with distance. For each value of k , grid cells located within k km of the relevant feature are compared to a reference group consisting of cells located beyond the maximum distance considered. This reference area, based on previous work, is chosen to be sufficiently distant so as not to be directly influenced by the feature of interest.

The coefficient β_k therefore captures the average difference in night-time luminosity between grid cells located within k km of a mission station or homeland border and those in the reference area. Plotting the sequence of estimated β_k coefficients across values of k allows us to identify the spatial range over which each historical feature is associated with contemporary economic activity. These patterns guide the selection of distance thresholds for the subsequent interaction analysis.

4.2 Spatial interaction analysis

Building on the spatial spillovers identified above, we move beyond earlier work by implementing a spatial distance interaction analysis. This approach examines how the association between night-time luminosity and proximity to colonial mission stations varies with distance to historical homeland borders. Specifically, we estimate the following linear regression model:

$$\text{Night-time luminosity}_{cij} = \alpha + \beta_{ij} \text{Distance dummy}_{cij} + \mathbf{X}_c \gamma + \delta_{c, \text{country}} + \delta_{c, \text{coloniser}} + \epsilon_c \quad (2)$$

where *Night-time luminosity*_{cij} denotes the (log) normalised night-time luminosity in grid cell c located i km from the nearest mission station and j km from the nearest homeland border. The variable *Distance dummy*_{cij} is an indicator equal to one if grid cell c lies within the distance bin defined by (i, j) and zero otherwise. The matrix $\mathbf{X}_c$ contains the set of confounding factors described in Section 3.4. The terms $\delta_{c, \text{country}}$ and $\delta_{c, \text{coloniser}}$ denote country and colonial power fixed effects, respectively, and ϵ_c is an error term.

The coefficient β_{ij} captures the average difference in night-time luminosity between grid cells located i km from a mission station and j km from a homeland border and those in a well-defined reference area. To assess how proximity to homeland borders conditions the development advantage associated with missionary presence, we compare the maximum (or outright) value of β_{ij} —typically observed in areas distant from homeland borders—to the corresponding β_{ij} estimates within the borderlands. This comparison provides a transparent measure of how the missionary-associated development premium evolves as locations approach historical homeland borders.

Distance bins (i, j) are constructed using fixed-width intervals consistent with the spatial spillover analysis described above. Each bin contains a sufficiently large number of grid cells to ensure stable estimation (Figure D.2). This discretisation balances spatial precision with statistical power and facilitates a transparent comparison of estimates across distance combinations.

In the results section, we present the estimated β_{ij} coefficients both numerically and graphically. Figures report the attenuation of the missionary-associated development premium as distance to homeland borders decreases, expressed relative to the outright coefficient observed outside the borderlands. This presentation mirrors the structure of the empirical strategy and allows for a direct visual interpretation of the spatial interaction patterns documented by the model.

5 Results

This section presents the baseline results alongside a set of basic sensitivity checks. It then turns to more extensive robustness analyses.

5.1 Baseline results

The presentation of baseline results follows the empirical strategy. We begin by presenting the spatial spillover results, estimating the association between night-time luminosity and distance to colonial mission stations and to historical homeland borders, as specified in Equation 1. These estimates identify the spatial ranges over which each feature is correlated

with local economic activity and guide the definition of treatment and control areas in the spatial interaction analysis. We then report results from the interaction analysis in Equation 2, which examines how proximity to homeland borders conditions the development advantage associated with missionary presence.

5.1.1 Spatial spillover results

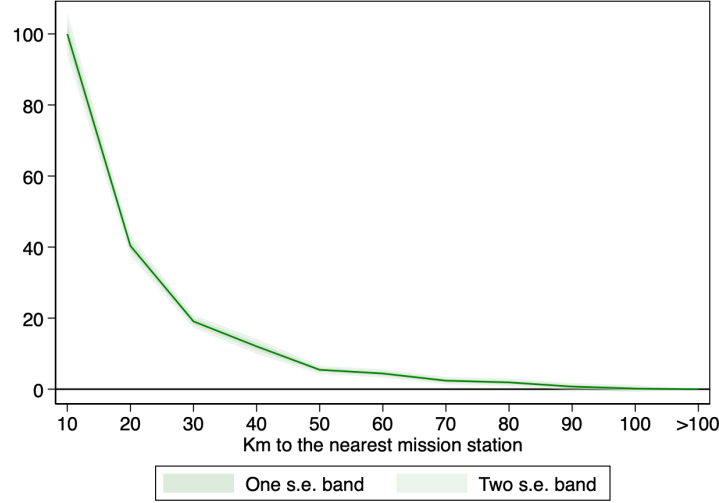
The spatial spillover analyses identify the distance thresholds beyond which the association between night-time luminosity and proximity to mission stations or homeland borders is no longer statistically detectable. Consistent with earlier findings that no systematic relationship is observed beyond 100 km (Cagé and Rueda, 2016), we define grid cells located more than 100 km from a mission station or a homeland border as the reference category. Results are robust to alternative definitions of the reference group. Grid cells within 100 km are grouped into 10-km distance bins to trace how the estimated association varies with proximity.

Figure 3 presents the estimated coefficients, expressed as a percentage of the maximum (for mission proximity) or minimum (for border proximity) night-time luminosity relative to the reference area. Shaded bands indicate ± 1 standard error (dark) and ± 2 standard errors (light). The corresponding regression results are reported in Tables D.1 and D.2. All variables are log-linearised except binary indicators. Standard errors are robust, and all specifications control for uninhabited grid cells today.

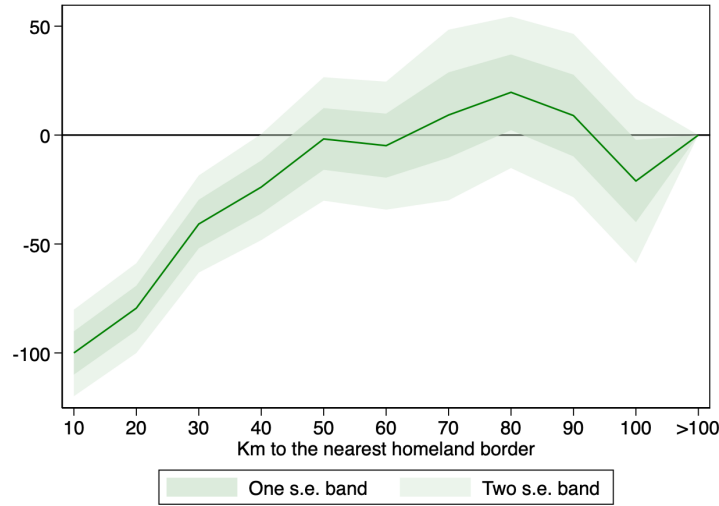
Panel A of Figure 3 shows that night-time luminosity is significantly higher up to approximately 80 km from a mission station relative to grid cells located more than 100 km away. While the direct influence of mission stations—for example, through school attendance or access to mission services—was unlikely to extend over such distances, missionary activities may nevertheless have generated broader long-run spatial spillovers through channels such as market integration, the diffusion of ideas, infrastructure development, and institutional change. These mechanisms provide a plausible explanation for the relatively wide spatial pattern observed in Figure 3.

Figure 3: Relative night-time luminosity near mission stations and homeland borders

(A) Within 10 km from missions relative to further away (%)



(B) Within 10 km from borders relative to further away (%)



Notes: Coefficients and confidence intervals are derived from the regression model (see Equation 1) described in the text and reported in Tables D.1 and D.2 (Appendix D). The estimated coefficients concern the deviation in night-time luminosity relative to a reference area of grid cells located further than 100 km away from a mission station (Panel A) or a homeland border (Panel B). The graphs show the percentage of the maximum (Panel A) and minimum (Panel B) coefficients obtained from the regression models. All variables are log-linearised except the binaries. The regression models have robust standard errors and control for grid cells that are uninhabited today.

Furthermore, Panel B shows that luminosity is significantly lower up to about 40 km from a historical homeland border compared to the same reference area. Tables D.3 and D.4 confirm that these estimates are robust to alternative reference-area definitions, including restricting the comparison group to grid cells located between 100 and 200 km away. Previous studies have argued that historical borderlands may experience lower levels of contemporary development because of weaker governance and greater ethnic fragmentation (e.g. [Alesina et al., 2016](#); [Herbst, 2000](#)). Rather than interpreting distance to a historical homeland border as a direct measure of state capacity or ethnic fragmentation, our analysis merely documents a robust empirical regularity: areas located closer to historical homeland borders exhibit systematically lower levels of contemporary night-time luminosity.

These spatial spillover estimates establish the spatial ranges over which mission stations and homeland borders are independently associated with night-time luminosity. We use these estimates to define treatment and control areas in the interaction analysis below, which examines how proximity to homeland borders conditions the development advantage associated with missionary presence.

5.1.2 Spatial interaction results

Guided by the spatial spillover estimates, we structure the interaction analysis around four spatially defined zones. The mission-proximate zone consists of grid cells located within 100 km of a mission station and is divided into cells situated either within the borderlands (less than 50 km from a homeland border) or outside the borderlands (more than 50 km away). The mission-distant reference zone comprises grid cells located more than 100 km from a mission station and is similarly divided into borderland and non-borderland areas. Figure D.1 illustrates the spatial distribution of these four zones across Africa.

Appendix Table A.2 reports descriptive characteristics for these four spatial groups. The descriptive statistics reveal systematic differences in observable characteristics across the groups, particularly between mission-proximate and more remote cells. This underscores the importance of conditioning on geographical, demographic, historical, and infrastructural characteristics in the baseline specification. At the same time, nearby cells within the broader mission-exposure range cannot serve as a clean comparison group for cells immediately sur-

rounding mission stations, since the spatial spillover analysis shows that night-time luminosity remains elevated well beyond the first 10 km. We therefore use cells located beyond 100 km from a mission station as the reference category, following the existing literature.

Figure 4 reports estimates from Equation 2. All coefficients are expressed relative to the non-borderland, non-mission reference area (top right corner of Panel A). The specification controls for the full set of confounding factors described in the Data section and illustrated in Appendix B.2, except the post-treatment distance controls. To account for potential cumulative effects, we additionally control for distances to the second-nearest mission station and homeland border. Grid cells within 100 km of a mission station are grouped into 10-km bins, while those within 50 km of a homeland border are grouped into 5-km bins. All continuous variables are log-linearised. Binary variables are included in levels. The model includes country and coloniser fixed effects, and standard errors are robust.⁴

Regression results are reported in Table D.5 and illustrated in Figure 4.⁵ To avoid over-controlling, the baseline specification, with the exception of population, includes only geographical, ecological, and historical characteristics that plausibly predate the arrival of missionaries. The robustness specifications reported below further add controls for historical infrastructure, institutional features, and postcolonial interventions—some of which may lie on post-treatment pathways—to evaluate the sensitivity of the estimates.

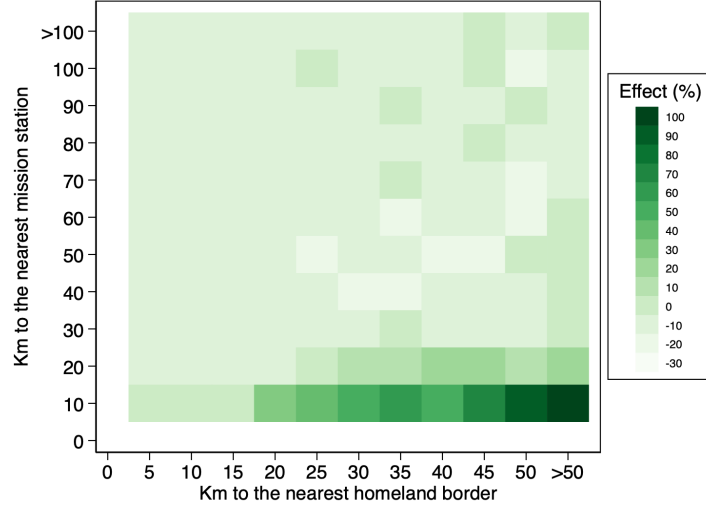
Panel A of Figure 4 displays relative night-time luminosity across the interacted distances using a two-dimensional heat map. Panel B presents the same information in three dimensions. Relative night-time luminosity is measured as the estimated β_{ij} coefficients expressed as a percentage of the outright (maximum) effect reported in Table D.5. As expected, the maximum effect is observed in the treatment zone located outside the borderlands—more than 50 km from a homeland border and within 10 km of a mission station—corresponding to the bottom-right corner of Panel A and the upper corner of Panel B.

⁴The model thus compares mission-proximate versus distant reference cells by country and coloniser.

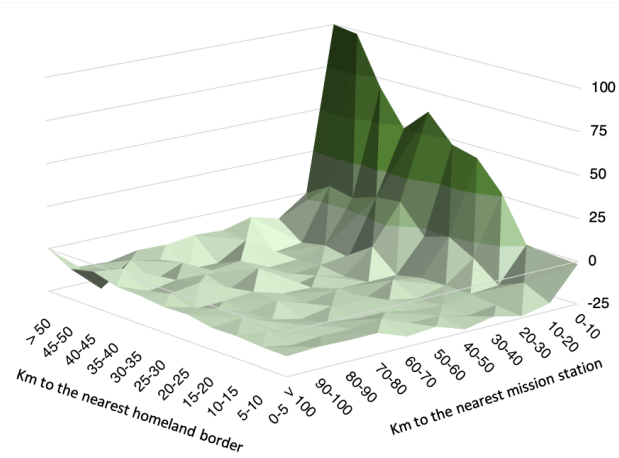
⁵A concern when using a rich set of controls is that some variables may lie on channels through which missionary activity or border proximity affected long-run development. We therefore introduce covariates sequentially (see Table D.6)

Figure 4: Relative night-time luminosity by distances to missions and borders

(A) Two-dimensional heat plot (%)

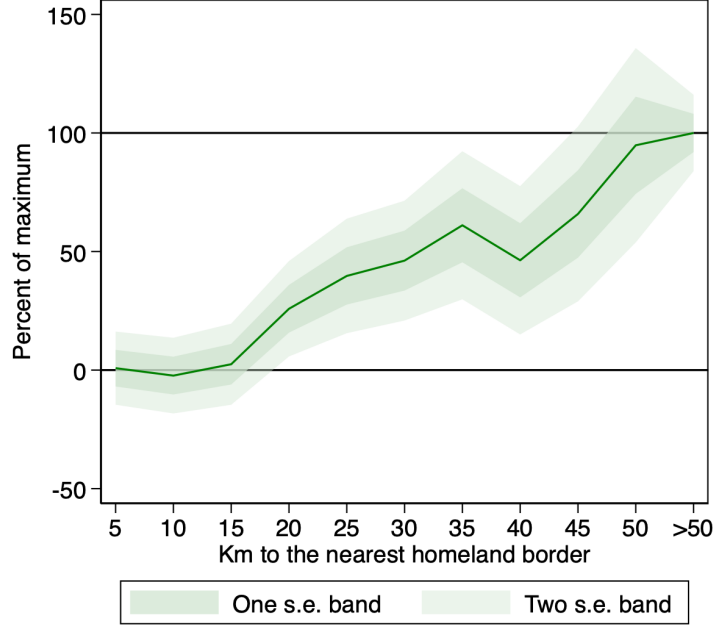


(B) Three-dimensional plot (%)



Notes: Relative night-time luminosity derives from the regression model described in the text and reported in Table D.5 (Appendix D). The tabulated coefficients represent percentage-point differences in night-time luminosity relative to a reference zone of grid cells located more than 100 km from a mission station and more than 50 km from a homeland border. Relative night-time luminosity displayed in the graphs reports the estimated coefficients as a percentage of the maximum coefficient of Table D.5. The regression model—specified in Equation 2—includes all baseline controls listed in Appendix B.2, as well as country and coloniser fixed effects, but not post-treatment distance variables. Robust standard errors are used. All continuous variables are log-linearised; binary variables are expressed in levels.

Figure 5: Relative night-time luminosity near borders



Notes: Relative night-time luminosity describes the estimated β_{ij} coefficients of each of the interacted distance bins as a percentage of the outright (maximum) β_{ij} value observed in Table D.5. The regression model—specified in Equation 2—includes all baseline controls listed in Appendix B.2, as well as country and coloniser fixed effects, but not post-treatment distance variables. Robust standard errors are used. All continuous variables are log-linearised; binary variables are expressed in levels.

Figure 5 focuses on locations within 10 km of a mission station and traces how relative night-time luminosity changes as mission-filled grid cells approach a homeland border. Two patterns emerge. First, the missionary-associated development advantage declines by roughly one-half within 40 km of a homeland border, affecting approximately 70% of Africa’s current population. Second, within 15 km of a homeland border, the estimated association between night-time luminosity and missionary presence becomes statistically indistinguishable from that observed in the reference zone outside the borderlands, a range encompassing about 33% of the population. These results are robust to using untreated borderland areas as the reference category (see Figure D.7 in Appendix D) and to excluding controls for population (Figure D.8).

The coefficients shown in Figures 4 and 5 are rescaled for expositional purposes. All regression tables in Appendix D report the estimated coefficients in their original units, which form the basis for the statistical interpretation of the results. Although the estimated

coefficients appear relatively small, the reported numbers have been normalised and their magnitude should be assessed relative to the distribution of the dependent variable, which has a mean of 0.0009 and a standard deviation of 0.006.

Lastly, like any proxy for local economic development, satellite-derived night-time luminosity has limitations. In particular, light emissions are highly skewed and many rural locations in Africa record zero luminosity despite exhibiting meaningful variation in living standards. For this reason, our night-time results should be interpreted as capturing broad differences in economic activity rather than precise measures of local welfare. Reassuringly, our findings are closely mirrored when using alternative measures of household wealth and educational attainment, suggesting that the documented attenuation pattern is not specific to the night-time measure.

5.1.3 Sensitivity

This subsection reports a set of basic sensitivity checks for the baseline results. A common concern in regional analyses is spatial autocorrelation. We address this by re-estimating the baseline specification using Conley standard errors ([Conley, 1999](#)) with a linear decay up to 100 km from the centroid of each grid cell. Panel A of Figure 6, together with Table E.1 in Appendix E, shows that the baseline results are robust to accounting for spatial dependence.

A further concern relates to the spatial composition of the reference zones. As shown in Figure D.1, substantial parts of the control area outside the borderlands lie in the Sahara Desert. These regions are largely uninhabited, distant from colonial mission stations, often far from historical homeland borders, and exhibit very low or zero night-time luminosity (Panel A of Figure 2). Although the baseline analysis controls for uninhabited grid cells, we perform additional checks to ensure that the results are not driven by these areas.

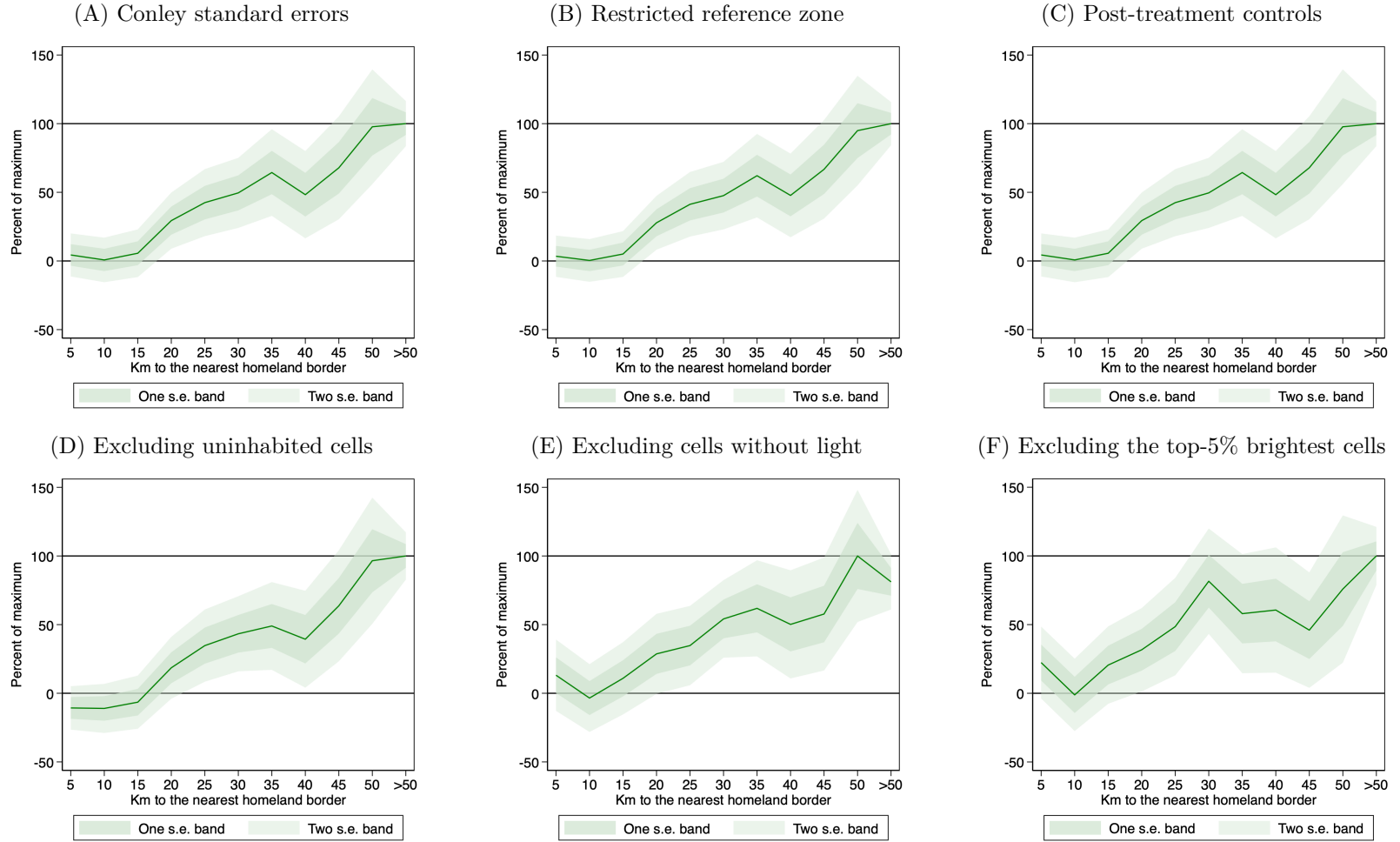
In particular, Panel B of Figure 6 restricts the reference zone to grid cells located between 100 and 200 km from a mission station and between 50 and 100 km from a homeland border, thereby excluding most of the Sahara Desert. Figure E.1 illustrates the revised spatial allocation. Table E.2 shows that the resulting estimates are qualitatively identical to the baseline results.

Panel C adds further control variables capturing factors that plausibly emerged after the arrival of missionaries, including distances to railways, printing presses, national borders, and World Bank aid projects (Table E.3). Panels D, E, and F implement alternative sample restrictions by excluding uninhabited grid cells (Table E.4); excluding grid cells with zero night-time luminosity (Table E.5), and excluding the 5% brightest grid cells (Table E.6).

Further, Panels G and H exclude South Africa and North Africa (i.e. Algeria, Egypt, Libya, Morocco, and Tunisia), respectively (Tables E.7 and E.8). Panels I and J show that replacing our baseline 2010 night-time luminosity with harmonised night-time estimates from [Chiovelli et al. \(2026\)](#) for 2010 and 2025 yields qualitatively similar results (Tables E.9 and E.10), indicating that the findings are not sensitive to the choice of satellite data adjustment or vintage. Panel K and Table E.11 show the attenuation pattern remains largely unchanged when we add two further historical controls: distance to slave ports from [SlaveVoyages \(2019\)](#) and pre-colonial centralisation, provided by [Michalopoulos and Papaioannou \(2013\)](#). Finally, Panel L reports the results of re-estimating the baseline specification while leaving one country out of the sample at a time (see Table E.12). Across all specifications, the estimated attenuation patterns remain consistent.

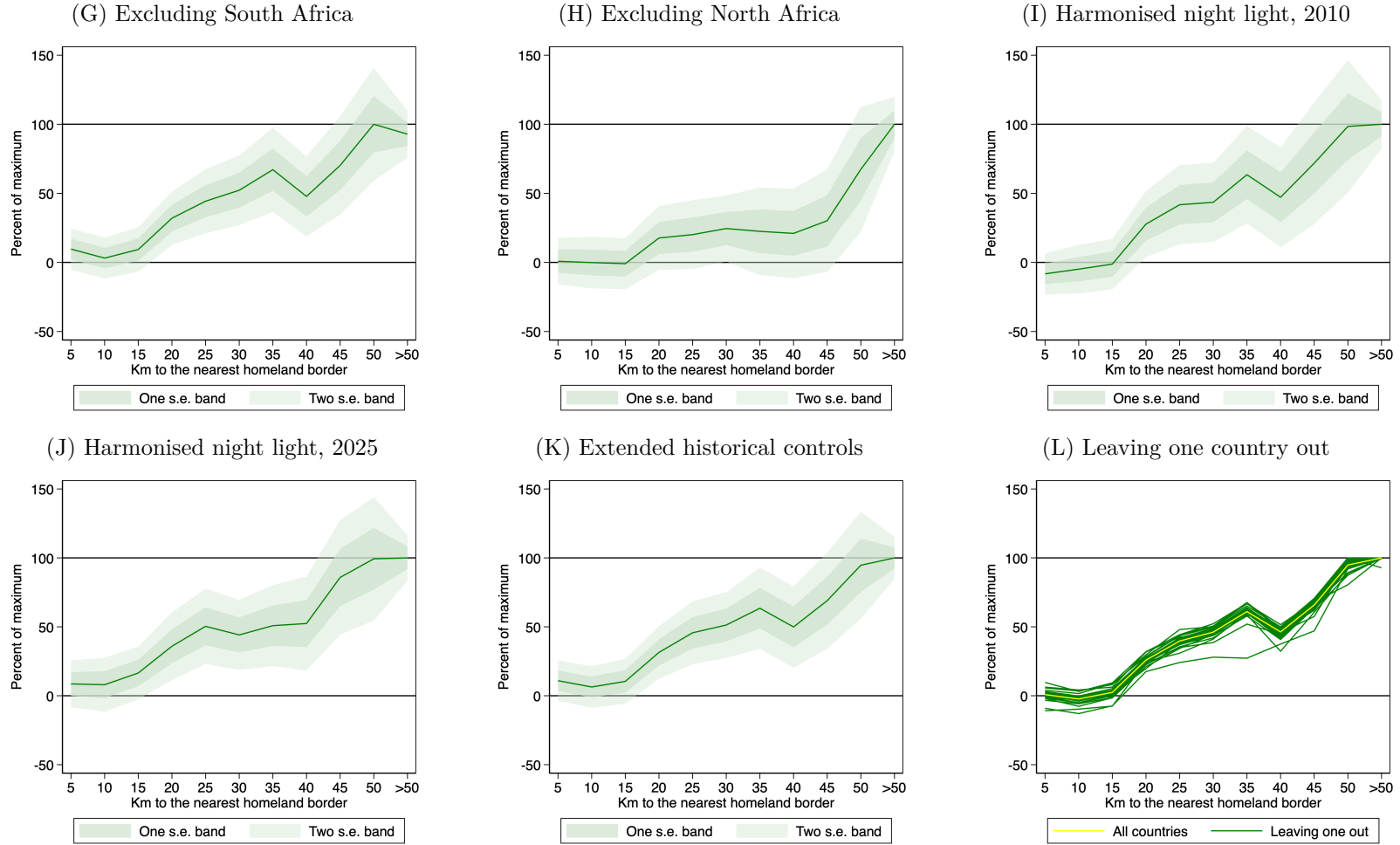
We complement these sensitivity checks with two additional exercises examining robustness to potential selection in missionary placement. A propensity-score matching exercise assesses whether the attenuation pattern persists after balancing areas on observable characteristics (Appendix G), while an instrumental-variable specification examines the sensitivity of the estimates to potential endogeneity in mission location (Appendix H). Both approaches yield attenuation patterns consistent with the baseline results. Given the limitations and additional assumptions associated with these approaches, we treat them as supplementary robustness exercises rather than as providing independent causal identification.

Figure 6: Basic sensitivity checks



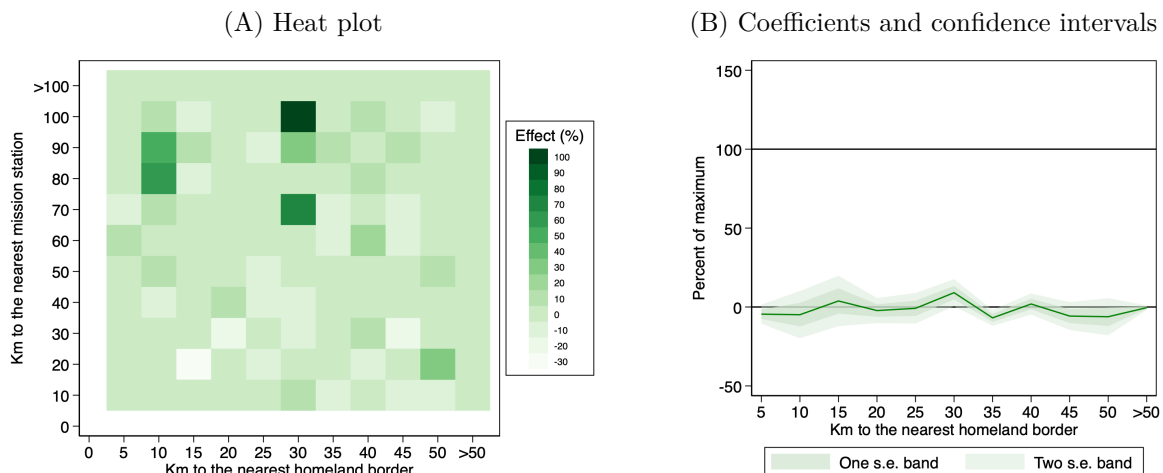
Notes: Coefficients and confidence intervals are derived from the regression models described in the text and reported in Appendix E. They represent percentage-point differences in night-time luminosity relative to a reference zone of grid cells located more than 100 km from a mission station and more than 50 km from a homeland border (Panel B: 100-200 km from missions and 50-100 km from borders). The coefficients are scaled as a share of the maximum estimated coefficient (i.e., the highest night-time luminosity in the respective tables). The regression model—specified in Equation 2—includes all baseline controls listed in Appendix B.2, as well as country and coloniser fixed effects, but not post-treatment distance variables. Panel A uses Conley standard errors. Panel C includes post-treatment distance variables (to railways, printing presses, national borders, and World Bank projects). Panel D excludes uninhabited grid cells. Panel E excludes grid cells without night-time light emissions. Panel F excludes the top 5% brightest grid cells. Robust standard errors are used in all panels except Panel A. All continuous variables are log-linearised. Binary variables are expressed in levels.

Figure 6 (continued): Basic sensitivity checks



Notes: Coefficients and confidence intervals are derived from the regression models described in the text and reported in Appendix E. They represent percentage-point differences in night-time luminosity relative to a reference zone of grid cells located more than 100 km from a mission station and more than 50 km from a historical homeland border. The coefficients are scaled as a share of the maximum estimated coefficient in the corresponding specification. The regression model, specified in Equation (2), includes all baseline controls listed in Appendix B.2, together with country and coloniser fixed effects. Robust standard errors are used. Panel G excludes South Africa, and Panel H North Africa (Algeria, Egypt, Libya, Morocco, and Tunisia). Panels I and J use corrected and harmonised night-time luminosity for 2010 and 2025, respectively, provided by [Chiovelli et al. \(2026\)](#). Panel K controls for two additional historical factors, namely distance to slave ports calculated from [SlaveVoyages \(2019\)](#) and pre-colonial political centralisation from [Michalopoulos and Papaioannou \(2013\)](#). Finally, Panel L reports the results of re-estimating the baseline specification while leaving one country out of the sample at a time. All continuous variables are log-linearised. Binary variables are expressed in levels.

Figure 7: Placebo test: randomised distances to mission stations and homeland borders



Notes: Coefficients and confidence intervals are derived from the regression model described in the text and reported in Table F.1 (Appendix F). They represent percentage-point differences in night-time luminosity relative to a reference zone of grid cells located more than 100 km from a mission station and more than 50 km from a homeland border. The coefficients are scaled as a share of the maximum estimated coefficient (i.e., the highest coefficient observed in the respective tables). The regression model—specified in Equation 2—includes all baseline controls listed in Appendix B.2, as well as country and coloniser fixed effects, but not post-treatment distance variables. Robust standard errors are used. All continuous variables are log-linearised. Binary variables are expressed in levels.

Finally, to address concerns about the spatial validity of the Murdock map and potential imprecision in mission station locations, we conduct a placebo test using randomised distances to missions and homeland borders. Re-estimating the baseline specification with these placebo measures yields no statistically significant association with night-time luminosity (Figure 7), supporting the interpretation that the baseline results reflect meaningful spatial relationships rather than random spatial correlation or mismeasurement.

5.2 Accounting for World Bank aid

A potential competing explanation for the development patterns associated with historical missionary activity is postcolonial development assistance, particularly World Bank-funded aid programmes. Figure I.1 maps the locations of World Bank projects funded between 1995 and 2014, the period for which georeferenced data are available. In the sensitivity analysis

above, we accounted for potential confounding by controlling for distance to the nearest World Bank aid project (Panel C of Figure 6). Here, we provide a more detailed assessment of the (post-treatment) role of World Bank interventions.

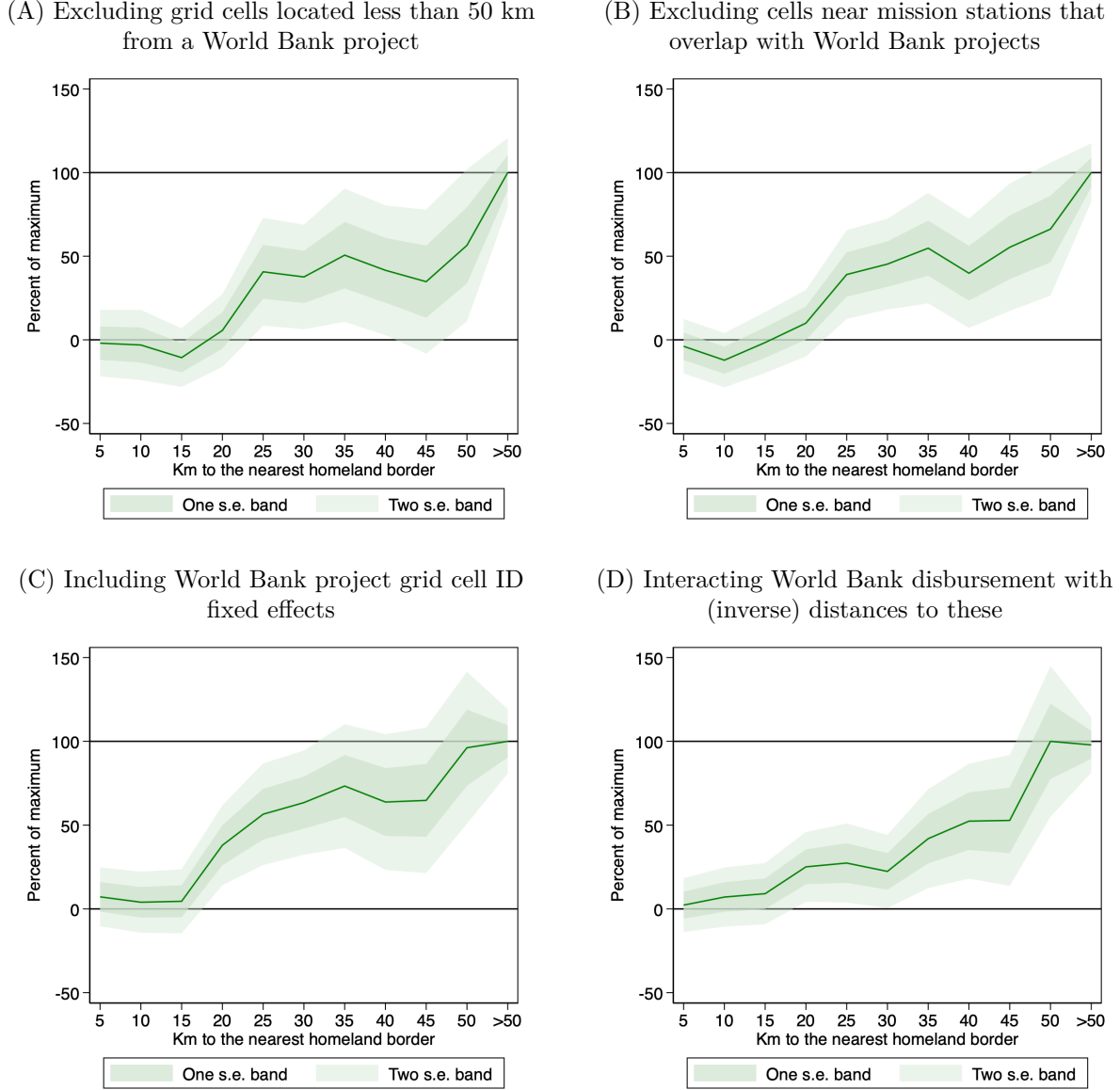
Recent work documents a positive correlation between the historical location of colonial mission stations and the subsequent allocation of World Bank aid ([Alpino and Hammersmark, 2021](#)). This raises the possibility that the baseline results partly reflect postcolonial aid rather than missionary activity, or that aid was channelled to locations where missionary presence had already been associated with stronger development outcomes.

Figure 8 addresses these concerns by subjecting the baseline specification to a set of stringent adjustments. Panel A excludes grid cells located within 50 km of a World Bank project. Panel B excludes cells located closest to mission stations that spatially overlap with World Bank projects. Panel C includes fixed effects for World Bank project identifiers, assigning the same identifier to grid cells nearest to each project. Panel D controls for World Bank disbursements interacted with inverse distance to the nearest project. Across all specifications, the attenuation observed near homeland borders remains qualitatively unchanged, indicating that the baseline results are not driven by postcolonial World Bank aid.

5.3 Heterogeneity analysis

Existing studies of missionary activity and night-time luminosity in Africa typically treat mission stations as homogeneous in their resources, an approach also adopted in our baseline analysis. In practice, however, missions differed in their financial and organisational capacity. Better-resourced stations could employ larger teaching staffs, operate higher-quality schools, and provide complementary services such as medical care or printing facilities, potentially amplifying their long-run development advantage.

Figure 8: Accounting for World Bank-funded aid projects



Notes: Coefficients and confidence intervals are derived from the regression model described in the text and reported in Tables I.1-I.4 (Appendix I). They represent percentage-point differences in night-time luminosity relative to a reference zone of grid cells located more than 100 km from a mission station and more than 50 km from a homeland border. The coefficients are scaled as a share of the maximum estimated coefficient (i.e., the highest coefficient observed in the respective tables). The regression model—specified in Equation 2—includes all baseline controls listed in Appendix B.2, as well as country and coloniser fixed effects, but not post-treatment distance variables. Robust standard errors are used. All continuous variables are log-linearised. Binary variables are expressed in levels.

A parallel concern applies to homeland borders. The baseline analysis treats borderland regions as homogeneous in their responsiveness to missionary activity, yet unobserved differences across border segments—such as local political organisation or social cohesion—may have shaped receptiveness to missionary initiatives. While the baseline specifications control for a rich set of observable characteristics, residual heterogeneity may remain. The following subsections address these issues by first exploiting variation in historical missionary staff size and then re-estimating the baseline specification with mission station and homeland border fixed effects, allowing the analysis to absorb unobserved, time-invariant differences across individual missions and border segments.

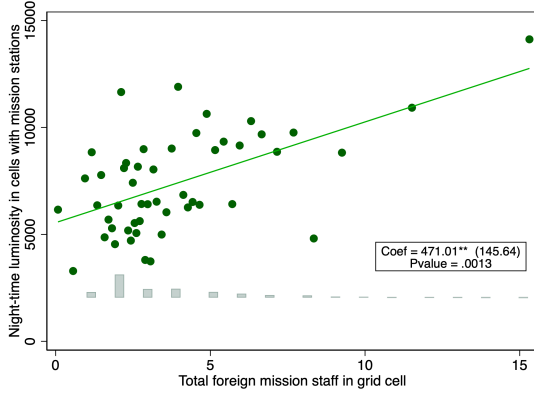
5.3.1 Differences in missionary resources

A potential concern for the baseline interpretation is that mission stations located inside the borderlands were systematically less well resourced, which could mechanically weaken their association with later economic development. We assess this possibility using detailed information from the *World Missionary Atlas* (Beach et al., 1925), which reports the number of foreign (non-African) missionary staff at 1,126 Protestant mission stations in 1924 (see Becker and Meier zu Selhausen, 2025). For the 175 cases in which multiple mission stations share a grid cell, we aggregate staff counts. These data allow us to examine whether variation in missionary resources—proxied by the number of foreign missionary staff and medical doctors—is correlated with contemporary night-time luminosity and with proximity to historical homeland borders. Summary statistics are reported in Appendix A.

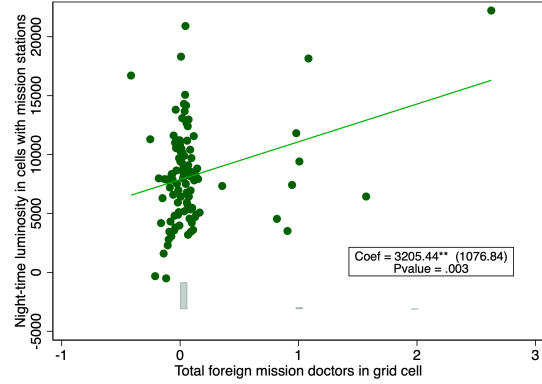
Figure 9 presents four binned scatter plots. Panels A and B show that grid cells hosting mission stations with larger foreign staffs or more missionary doctors are associated with higher levels of night-time luminosity today, consistent with a stronger local development advantage of more resource-intensive missions. Meanwhile, Panels C and D show no systematic relationship between missionary staff size or medical presence and proximity to homeland borders. Together, these results suggest that mission stations located near historical borders were not systematically under-resourced, alleviating concerns that differences in missionary resources drive the baseline attenuation patterns.

Figure 9: Night-time luminosity and foreign missionary staff in 1924

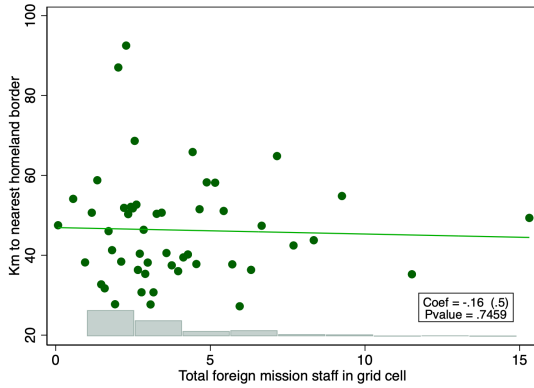
(A) Mission staff and night-time luminosity



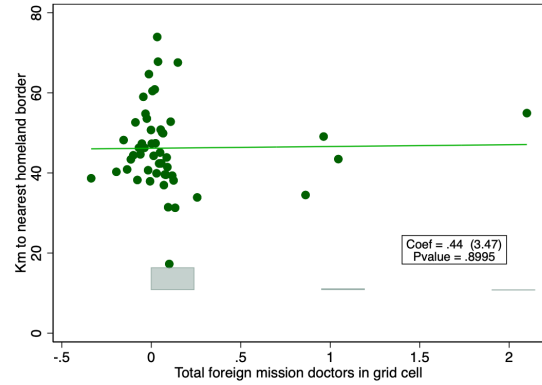
(B) Mission doctors and night-time luminosity



(C) Mission staff and km to a border



(D) Mission doctors and km to a border



Notes: The *binscatters* are constructed using a sample of 1,159 grid cells containing information on missionary staff and missionary doctors. Panels A and C exclude 33 grid cells with unusually large missionary staffs (more than 20 missionaries); results are robust to their inclusion. The underlying regression model includes all baseline controls listed in Appendix B.2, as well as country and coloniser fixed effects, but not post-treatment distance variables. Robust standard errors are used. All continuous variables are log-linearised. Binary variables are expressed in levels.

5.3.2 Mission and border fixed effects

Returning to the full sample used in the baseline analysis, we now address unobserved heterogeneity across mission stations and homeland borders using fixed-effects specifications. Each of the 257,224 grid cells is linked to its nearest mission station and nearest historical homeland border using unique identifiers. This setup allows us to absorb time-invariant characteristics specific to individual missions or border segments. Across specifications—including mission fixed effects, border fixed effects, and their interaction—the results remain consistent with the baseline findings.

5.3.2.1 Mission station heterogeneity

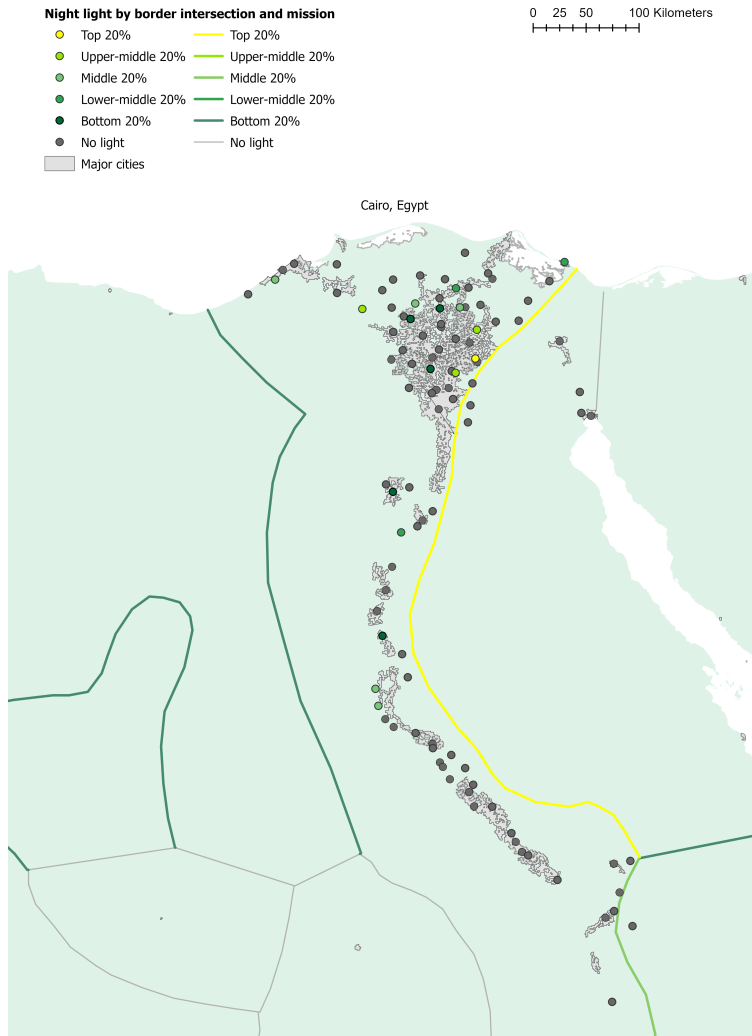
In the absence of comprehensive information on missionary resources for the full sample, we proxy mission-specific heterogeneity by including mission station fixed effects. Specifically, we assign a unique identifier to each mission station and tag grid cells with the identifier of their nearest station. Once mission station fixed effects are included, the remaining variation comes from comparisons among grid cells associated with the same mission station but differing in their proximity to historical homeland borders. This approach in other words absorbs all time-invariant characteristics of individual missions that may influence their long-run association with local development.

Figure J.1 reports average night-time luminosity within 10 km of each mission station, ranked by light intensity. Mission stations not associated with night-time luminosity are shown in grey, while the remaining stations are grouped into quantiles, ranging from dark green (lowest luminosity) to yellow (highest). Figure 10 provides illustrative zoom-ins for Cairo, Egypt (Panel A), and Accra (Ghana), Lomé (Togo), and Lagos (Nigeria) (Panel B).⁶

⁶These examples are included solely to illustrate the type of within-mission variation observed in the data and are not intended to be interpreted individually. Our estimates are identified using variation across more than 250,000 grid cells associated with their distances to thousands of mission stations, implying that the results do not depend on any particular mission station or locality.

Figure 10: Zoom-in: night-time luminosity near mission stations and homeland borders

(A) Near Cairo

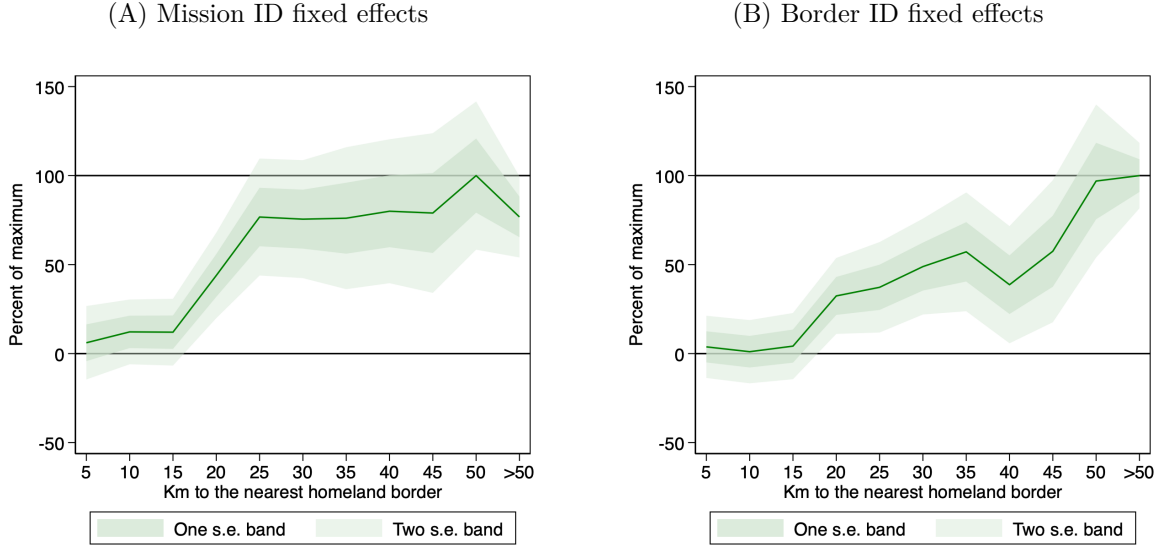


(B) Near Accra, Lomé, and Lagos



Notes: The map shows satellite night-time luminosity near colonial mission stations and historical homeland borders in Cairo, Egypt (Panel A) and Accra, Ghana, Lomé, Togo, and Lagos, Nigeria (Panel B). Mission stations and homeland borders associated with positive night-time luminosity are ranked using quantiles, while stations or borders without night-time luminosity are shown in grey. Major urban centres are indicated in light grey. Both panels use the same ranking scale.

Figure 11: Relative night-time luminosity near homeland borders: mission or border FE



Notes: The coefficients are based on the regression models reported in Tables J.1 and J.2 in Appendix J. Coefficients represent percentage-point differences in night-time luminosity relative to a reference zone of grid cells located more than 100 km from a mission station and more than 50 km from a homeland border and are expressed as a share of the maximum estimated coefficient. The regression model follows Equation 2 and includes the full set of controls listed in Appendix B.2, as well as country and coloniser fixed effects, but not post-treatment distance variables. Robust standard errors are used. Panel A includes mission station fixed effects. Panel B includes homeland border fixed effects. All continuous variables are log-linearised. Binary variables are expressed in levels.

The zoom-in maps highlight two points. First, while some mission stations coincide spatially with major cities, such coincidence does not mechanically imply high night-time luminosity, as illustrated by several grey-marked stations near Cairo. Second, some inland mission stations located far from major urban centres are nonetheless associated with high luminosity, underscoring heterogeneity in mission-level development advantages.

Estimation results incorporating mission station fixed effects are reported in Appendix J. Panel A of Figure 11 shows the predicted change in night-time luminosity as grid cells approach a homeland border, conditional on being located within 10 km of a mission station. Consistent with the baseline analysis, the missionary-associated development advantage declines sharply as it approaches a homeland border and becomes statistically indistinguishable from zero in close proximity.

5.3.2.2 Homeland border heterogeneity

We next examine heterogeneity across homeland borders. Using the original Murdock map, we identify 2,383 border polylines corresponding to 842 inland boundary polygons. Each polyline segment is assigned a unique identifier. For each grid cell, we compute the shortest distance to the nearest border polyline segment and associate the cell with that segment's identifier. This procedure allows us to incorporate nearest border-polyline fixed effects capturing unobserved, time-invariant characteristics of individual border-polyline segments.

Figure J.2 displays night-time luminosity within 10 km of each border-polyline segment, ranked using the same quantile classification as in Figure J.1. Border segments unassociated with night-time luminosity are shown in grey. As with mission stations, there is substantial heterogeneity across borders in their association with local economic activity.

As shown in Panel B of Figure 11, incorporating homeland border fixed effects yields attenuation patterns that closely mirror the baseline results. The missionary-associated development advantage again declines sharply as grid cells approach a homeland border, indicating that the baseline findings are not driven by unobserved heterogeneity across individual borders.

5.3.2.3 Combined heterogeneities

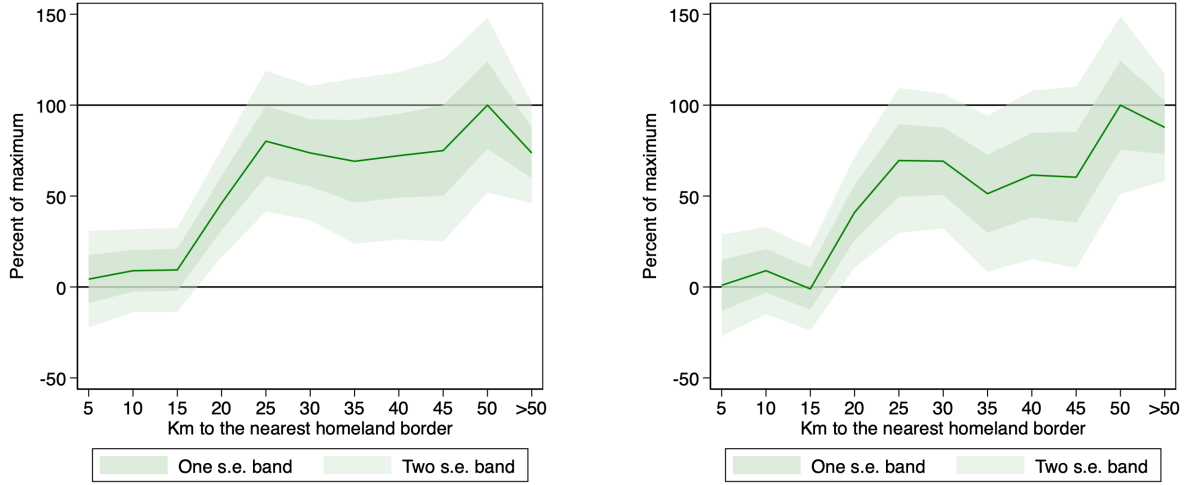
Finally, Figure 12 reports estimates from specifications that include both mission station and homeland border fixed effects. Panel A includes the two sets of fixed effects separately, while Panel B allows them to interact. In both cases, the attenuation of the missionary-associated development advantage near homeland borders remains evident, reinforcing the conclusion that the core results are robust to unobserved heterogeneity across missions and borders.

Taken together, these heterogeneity analyses jointly indicate that the attenuation of the mission-associated development advantage near historical homeland borders is not driven by compositional differences across missions or borderlands.

Figure 12: Relative night-time luminosity near homeland borders: mission and border FE

(A) Separated mission and border ID fixed effects

(B) Interacted mission and border ID fixed effects



Notes: The coefficients are based on the regression models reported in Tables J.3 and J.4 in Appendix J. Coefficients represent percentage-point differences in night-time luminosity relative to a reference zone of grid cells located more than 100 km from a mission station and more than 50 km from a homeland border and are expressed as a share of the maximum estimated coefficient. The regression model follows Equation 2 and includes the full set of controls listed in Appendix B.2, as well as country and coloniser fixed effects, but not post-treatment distance variables. Robust standard errors are used. Panel A includes mission and border fixed effects separately; Panel B includes their interaction. All continuous variables are log-linearised; binary variables are expressed in levels.

5.4 Alternative outcomes: Household wealth and human capital

A key advantage of satellite night-time luminosity is that it provides a measure of economic development across all of Africa at very high spatial resolution. Yet the question remains of how well night-time luminosity captures local living conditions. To assess whether our baseline findings translate into potentially more accurate measures of living standards, we use data from the Demographic and Health Surveys (DHS) Program. The DHS covers 46 African countries and collects nationally representative data through two-stage, stratified probabilistic household surveys: first, geographical areas (clusters) are randomly selected, followed by a random selection of households within each cluster.

DHS clusters are sometimes closely spaced. In our setting, this implies that multiple clusters may fall within a single grid cell, while most grid cells contain no clusters. We therefore conduct the analysis at the cluster level rather than at the grid-cell level. The

substantially smaller sample size in the cluster-level analysis further requires a simplification of the baseline controls. To this end, the distance controls are recast as binary indicators for whether a cluster lies within 50 km of the feature (coast, river, mine, etc.) in question.

The DHS variable most closely related to night-time luminosity is the so-called Wealth Index. This index is an asset-based relative measure of a household’s living standards, constructed from information on asset ownership, housing characteristics, and access to water and sanitation facilities. Because the index is constructed separately for each country and survey round, it captures relative wealth within a survey rather than absolute wealth levels that are directly comparable across countries and over time. Our analysis, therefore, relies on within-survey variation, while country and survey-year fixed effects absorb average differences across countries and survey rounds.

Since missionaries famously acted as the primary providers of formal education in many parts of colonial Africa ([Frankema, 2012](#)), it is not implausible that the missionary efforts are reflected in contemporary human capital outcomes among clusters located near mission stations, while clusters near homeland borders may conversely suffer from a lack of education. To capture this, we use the cluster-average total years of education completed per individual. The fact that educational systems differ across countries and survey years once again emphasises the importance of using both country and survey-year fixed effects below.

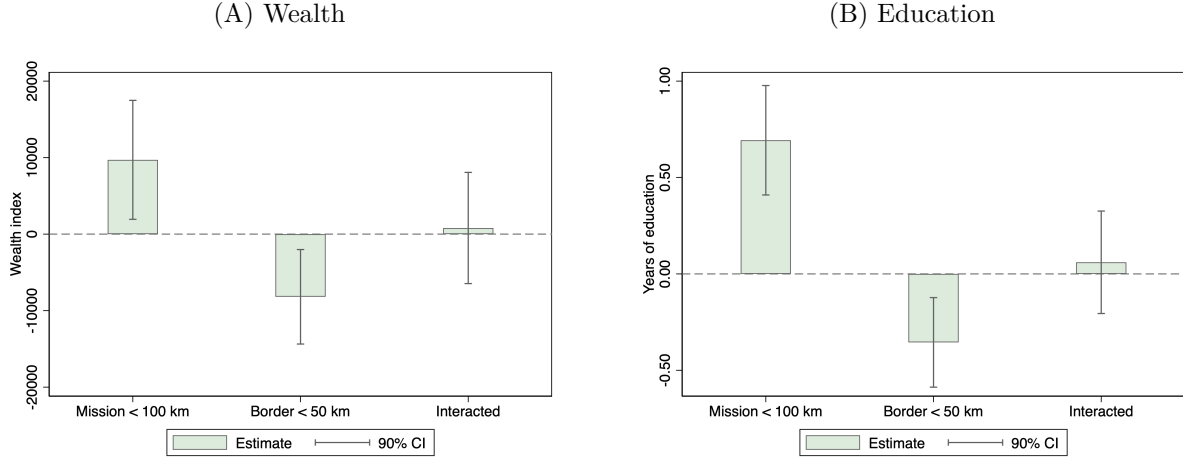
We thus estimate the following specification at the DHS cluster level:

$$Y_c = \beta_1 \text{Mission}_c + \beta_2 \text{Border}_c + \beta_3 (\text{Mission}_c \times \text{Border}_c) + X'_c \gamma + \delta_k + \delta_i + \delta_t + \varepsilon_c, \quad (3)$$

where Y_c denotes the outcome for cluster c (either the DHS Wealth Index or years of education), Mission_c is a binary indicator equal to one if the cluster lies within 100 km of a historical mission station, and Border_c is a binary indicator equal to one if the cluster lies within 50 km of a historical homeland border. X_c is a vector of control variables corresponding to those used in the baseline specification (adapted to the cluster level), while δ_k , δ_i , and δ_t denote coloniser, country, and survey year fixed effects, respectively.

Figure 13 shows the results of running the regression model for each of the two outcomes. The graphs show that households in clusters near mission stations have significantly greater

Figure 13: DHS outcomes near mission stations and homeland borders



Notes: The coefficients are based on the regression model specified in Equation 3, with results reported in Tables K.1 and K.2 in Appendix K. Coefficients represent differences in wealth and years of schooling, respectively, among clusters close to mission stations and homeland borders relative to clusters located more than 100 km from a mission station and more than 50 km from a homeland border. Both models include the baseline controls, with distance controls recast as binary indicators for whether a cluster lies within 50 km of the feature in question, as well as country and coloniser fixed effects. Robust standard errors are used. All continuous variables are log-linearised; binary variables are expressed in levels. *Source:* The Demographic and Health Surveys Program.

wealth (Panel A) and more years of education (Panel B) than those farther away. Conversely, households in clusters near homeland borders have significantly lower wealth and fewer years of education than those farther from these borders. Finally, households in clusters near both mission stations and homeland borders are not statistically different from those in clusters far from both mission stations and borders. These results closely mirror the patterns observed using night-time luminosity, confirming that the attenuation of the missionary-associated development advantage near historical homeland borders extends to household-level measures of wealth and human capital.

6 Possible mechanisms

Why is the long-run development advantage associated with colonial missionaries attenuated near historical homeland borders? Broadly speaking, the observed attenuation pattern could arise from two sources. First, mission stations themselves may have differed in terms of objectives, organisation, or resources. Second, local conditions may have influenced the long-run advantage associated with missionary activity, with historical borderlands either being less receptive to missionary interventions from the outset or experiencing post-colonial developments that eroded their long-run advantages. While both mechanisms may have contributed, the discussion below outlines these possibilities and presents empirical evidence on their plausibility, considering each mechanism separately before examining them jointly.

Regarding variation in mission characteristics, the heterogeneity analyses in Section 5.3 suggested that mission stations located near historical homeland borders were not systematically less well resourced, as measured by their staffing levels, alleviating concerns that differences in missionary investment account for the attenuation pattern. Likewise, introducing mission station fixed effects left the attenuation pattern essentially unchanged, suggesting that time-invariant unobserved differences across individual mission stations are unlikely to drive the findings. Below, we examine three additional mission characteristics that may help explain long-run differences in missionary influence: denomination, duration of operation, and mission-station density.

Turning to the second broad explanation—variation in local characteristics—two non-mutually exclusive mechanisms emerge from the literature. The first is that pre-colonial conditions made historical borderlands less receptive to missionary activity, and the second is that post-colonial developments weakened the persistence of missionary interventions. Both mechanisms imply that attenuation should be more pronounced where political institutions were weaker, consistent with the broader arguments of [Herbst \(1990, 2000\)](#).

Two examples of the latter mechanism stand out. [Boone \(2017\)](#) argues that rapid post-colonial population growth spilled into historical borderlands, further constraining long-run economic development where governance was weak. Likewise, [Jedwab et al. \(2022\)](#) suggest that missionary activity was more strongly associated with human capital than with local

economic development, raising the possibility of selective migration. In particular, if mission-educated individuals were more inclined to migrate towards areas with stronger economic opportunities or institutional capacity, this would weaken the spatial correspondence between historical missionary activity and contemporary development outcomes in regions such as the historical borderlands.

Because historical migration and human-capital data are unavailable at the spatial resolution required for our analysis, we cannot evaluate these post-colonial mechanisms directly. Instead, the empirical analysis below focuses on pre-colonial political centralisation, for which historical measures can be spatially linked to our grid cells through ethnic homelands. This allows us to examine whether stronger pre-colonial institutions mitigated the attenuation associated with historical homeland borders, as the arguments made in the literature cited above would suggest.

Table 1 presents evidence on the plausible mechanisms underlying the attenuation pattern discussed above. Columns (1)–(4) examine explanations related to mission characteristics, Column (5) considers the role of local institutional conditions, and Column (6) combines both sets of mechanisms in a joint specification.

Beginning with mission denomination, previous studies have shown that Protestant missionary activity is associated with stronger long-run development outcomes than Catholic missions, potentially owing to a greater emphasis on literacy and stronger competitive incentives ([Gallego and Woodberry, 2010](#)). At the same time, Gallego and Woodberry argue that much of this difference reflects the environment in which missionaries operated rather than denomination alone.

Testing these ideas by introducing a dummy indicating whether the nearest mission station was Protestant, we likewise find a stronger positive association with night-time luminosity than for Catholic mission stations (Column 1). However, the interaction with the Protestant denomination and a dummy for being less than 50 km from a homeland border is negative and approximately equal in magnitude to the Protestant dummy coefficient, indicating that the Protestant advantage disappears near the homeland borders.

Table 1: Evidence on plausible mechanisms

	(1)	(2)	(3)	(4)	(5)	(6)
Nearest mission station Protestant	0.0003*** (0.0000)			0.0003*** (0.0000)		0.0002*** (0.0000)
Nearest mission station Protestant $\times$ border < 50 km	-0.0003*** (0.0000)			-0.0003*** (0.0000)		-0.0003*** (0.0000)
Active years of nearest mission station (log)		0.0018** (0.0006)		0.0018** (0.0006)		0.0017** (0.0006)
Active years $\times$ border < 50 km		0.0000 (0.0000)		0.0000 (0.0000)		0.0000 (0.0000)
Mission station density in nearest mission cell			0.0014 (0.0007)	0.0012 (0.0007)		0.0012 (0.0007)
Mission station density $\times$ border < 50 km			-0.0007 (0.0008)	-0.0006 (0.0008)		-0.0006 (0.0008)
Pre-colonial centralisation index					0.0003*** (0.0000)	0.0002*** (0.0000)
Centralisation $\times$ mission < 100 km					-0.0001 (0.0001)	-0.0001 (0.0001)
Centralisation $\times$ border < 50 km					-0.0001*** (0.0000)	-0.0001*** (0.0000)
Centralisation $\times$ mission < 100 km $\times$ border < 50 km					0.0002** (0.0001)	0.0002** (0.0001)
Observations	257,224	257,224	257,224	257,224	257,224	257,224
R^2	0.342	0.343	0.342	0.344	0.343	0.344
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Coloniser FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The border indicator equals one for cells within 50 km of a historical homeland border, and the mission indicator for cells within 100 km of a mission station. In Columns (1)–(4), interaction terms capture the differential association of each mission characteristic within the 50-km border area; the corresponding association within borderlands is the sum of the main and interaction coefficients. In Columns (5)–(6), the triple interaction tests whether the attenuation of the missionary development advantage near historical homeland borders varies with pre-colonial political centralisation. A positive coefficient indicates weaker attenuation at higher levels of centralisation. All constituent lower-order terms are included, though coefficients belonging to the baseline specification are not reported. All specifications include country and coloniser fixed effects and the baseline controls. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Column (2) examines the duration of missionary presence. Using information on the 1,170 mission stations for which both establishment and closure dates are available, we find that longer periods of operation are associated with higher levels of night-time luminosity. Unlike the Protestant differential, this association persists near historical homeland borders and does not vary systematically between areas within and beyond 50 km of a border.

Further, mission-station density—measured as the total number of mission stations located within the nearest missionary grid cell—is not significantly associated with night-time luminosity (Column 3). Likewise, its interaction with the borderland indicator is statistically insignificant. These conclusions remain unchanged when all three mission characteristics are included simultaneously (Column 4). Taken together, these findings suggest that the persistence of missionary engagement, rather than the concentration of mission stations, was more important for the long-run legacy of missions.

Column (5) assesses the role of pre-colonial institutional capacity, considering political centralisation prior to the arrival of missionaries. The data are taken from [Michalopoulos and Papaioannou \(2013\)](#), who derive the measure from Murdock’s *Jurisdictional Hierarchy Beyond the Local Community Level* ([Murdock, 1967](#)). Their numeric index records the degree of political organisation above the local (typically village) level, ranging from stateless societies lacking centralised political authority (0), through petty and paramount chiefdoms (1–2), to increasingly centralised states (3–4).

Consistent with the findings of Michalopoulos and Papaioannou, higher levels of pre-colonial centralisation are positively associated with contemporary night-time luminosity. Although this association is weaker near historical homeland borders, the attenuation of the missionary development advantage is significantly less pronounced as pre-colonial centralisation increases. This pattern suggests that stronger pre-colonial political institutions may have facilitated the persistence of missionary influence in historical borderlands.

In sum, these results suggest that both mission characteristics and the pre-colonial institutional environment are associated with variation in the long-run missionary-development relationship. The development advantage associated with Protestant missions disappears near historical homeland borders, whereas the positive association with missionary activity duration persists both within and beyond the borderlands.

More importantly, the attenuation of the positive missionary development association near homeland borders becomes significantly less pronounced as pre-colonial political centralisation increases. This suggests that stronger pre-colonial political institutions helped sustain the positive connection between missionaries and development, even in borderlands, pointing to local institutional conditions as important to the persistence of missionary interventions.

7 Conclusion

This paper contributes to debates on sustained underdevelopment in Africa’s historical homeland border regions. Exploiting the extensive place-based interventions associated with missionary expansion, we examine whether the disadvantaged borderland areas respond differently to localised missionary initiatives. Using a spatial interaction framework, we show that the positive association between proximity to colonial mission stations and contemporary economic development weakens sharply near historical homeland borders. The missionary-associated development advantage declines by around one-half within 40 km of a border and becomes statistically indistinguishable from zero at shorter distances. In population terms, roughly two-thirds of Africa’s current population live in areas where the association with missionary-related interventions was substantially reduced, with about one-third residing in regions where no detectable development association remains. Our examination of plausible mechanisms indicates that the attenuation of the long-run development advantage associated with Christian missionary activity is less pronounced in areas characterised by stronger pre-colonial political institutions. This finding points to pre-colonial institutional conditions as a factor associated with the long-run legacy of historical development interventions in the borderlands, although our analysis cannot establish the precise mechanisms through which this occurs. From a policy perspective, our findings thus suggest that the long-run legacy of development interventions reflects not only the interventions themselves, but also the environments in which they were implemented.

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A Descriptive statistics

Table A.1: Descriptive statistics

Variable:	N	Mean	Std. dev.	Min	Max
Night-time luminosity 2010 (normalised)	257,224	0.001	0.010	0.00	1.00
Distance to the nearest mission station (km)	257,224	254.67	285.27	0.06	1,463.36
Distance to the nearest homeland border (km)	257,224	51.55	57.80	0.00	1,544.09
Distance: 1st-2nd nearest mission station (km)	257,224	42.94	67.39	0.00	722.97
Distance: 1st-2nd nearest homeland border (km)	257,224	44.43	48.88	0.00	376.10
Distance to the nearest coast (km)	257,224	632.88	446.41	0.00	1,732.42
Distance to the nearest river (km)	257,224	278.31	323.71	0.00	1,581.25
Distance to the nearest explorer route (km)	257,224	196.97	213.02	0.00	2,579.78
Distance to the nearest mine (km)	257,224	240.44	180.75	0.25	1,626.22
Distance to the nearest pre-colonial city (km)	257,224	692.67	380.37	1.00	2,025.73
Distance to the nearest Muslim seat (km)	257,224	1,011.25	815.22	2.17	3,719.35
Plausible post-treatment distance controls:					
- Distance to the nearest national border (km)	257,224	186.03	199.46	0.00	2,676.73
- Distance: 1st-2nd nearest national border (km)	257,224	133.97	142.66	0.00	1,071.16
- Distance to the nearest railway (km)	257,224	531.27	370.08	0.00	2,749.68
- Distance to the nearest Protestant printing press (km)	257,224	959.84	688.39	1.00	3192.00
- Distance to the nearest World Bank project (km)	257,224	251.29	217.01	0.28	1,160.83
Latitude (absolute)	257,224	16.19	9.22	0.01	37.53
Elevation (meters above sea)	257,224	623.52	445.76	-130.88	4,399.10
Ruggedness (index)	257,224	46.21	72.47	0.00	1,888.78
Land suitability (index)	257,224	0.19	0.24	0.00	1.00
Rainfall (mm)	257,224	648.69	627.33	-0.06	4,479.87
Temperature (Celsius)	257,224	23.89	3.49	7.13	30.65
Malaria ecology (index)	257,224	8.42	9.69	0.00	38.08
Tsetse fly (index)	257,224	1.55	1.60	0.00	5.00
Population density (1,000/sqkm)	257,224	37.35	385.34	0.00	81,888.88
Uninhabited cells (binary)	257,224	0.22	0.42	0.00	1.00
Major city (binary)	257,224	0.02	0.13	0.00	1.00
Sub-Sahara (binary)	257,224	0.73	0.44	0.00	1.00
Island (binary)	257,224	0.02	0.15	0.00	1.00
Coloniser (binary): Independent	257,224	0.04	0.20	0.00	1.00
Coloniser (binary): Britain	257,224	0.32	0.47	0.00	1.00
Coloniser (binary): France	257,224	0.35	0.48	0.00	1.00
Coloniser (binary): Portugal	257,224	0.07	0.25	0.00	1.00
Coloniser (binary): Italy	257,224	0.05	0.22	0.00	1.00
Coloniser (binary): Belgium	257,224	0.07	0.26	0.00	1.00
Coloniser (binary): Spain	257,224	0.01	0.11	0.00	1.00
Coloniser (binary): Germany	257,224	0.08	0.28	0.00	1.00
Beach and Fahs mission station subsample:					
Night-time intensity (normalised)	1,159	0.01	0.02	0.00	0.11
Total foreign mission staff	1,159	5.00	7.24	1.00	136.00
Total foreign medical doctors	1,159	0.12	0.43	0.00	5.00
DHS cluster level information:					
Wealth Index	14,228	1,421.57	85,560	-246,990	521,534
Mean years of education	18,809	5.50	3.42	0.00	17.56

Table A.1: Descriptive statistics (cont'd)

Country	N	Mean	Std. dev.	Min	Max	Country:	N	Mean	Std. dev.	Min	Max
AGO	257,224	0.04	0.20	0.00	1.00	MAR	257,224	0.02	0.13	0.00	1.00
BDI	257,224	0.00	0.03	0.00	1.00	MDG	257,224	0.02	0.14	0.00	1.00
BEN	257,224	0.00	0.06	0.00	1.00	MLI	257,224	0.04	0.20	0.00	1.00
BFA	257,224	0.01	0.09	0.00	1.00	MOZ	257,224	0.03	0.17	0.00	1.00
BWA	257,224	0.02	0.14	0.00	1.00	MRT	257,224	0.03	0.18	0.00	1.00
CAF	257,224	0.02	0.14	0.00	1.00	MUS	257,224	0.00	0.01	0.00	1.00
CIV	257,224	0.01	0.10	0.00	1.00	MWI	257,224	0.00	0.05	0.00	1.00
CMR	257,224	0.02	0.13	0.00	1.00	MYT	257,224	0.00	0.01	0.00	1.00
COD	257,224	0.07	0.26	0.00	1.00	NAM	257,224	0.03	0.17	0.00	1.00
COG	257,224	0.01	0.10	0.00	1.00	NER	257,224	0.04	0.19	0.00	1.00
COM	257,224	0.00	0.01	0.00	1.00	NGA	257,224	0.03	0.17	0.00	1.00
CPV	257,224	0.00	0.02	0.00	1.00	REU	257,224	0.00	0.01	0.00	1.00
DJI	257,224	0.00	0.03	0.00	1.00	RWA	257,224	0.00	0.03	0.00	1.00
DZA	257,224	0.08	0.27	0.00	1.00	SDN	257,224	0.06	0.24	0.00	1.00
EGY	257,224	0.03	0.18	0.00	1.00	SEN	257,224	0.01	0.08	0.00	1.00
ERI	257,224	0.01	0.08	0.00	1.00	SLE	257,224	0.00	0.05	0.00	1.00
ESH	257,224	0.01	0.10	0.00	1.00	SOM	257,224	0.02	0.15	0.00	1.00
ESP	257,224	0.00	0.03	0.00	1.00	SSD	257,224	0.02	0.14	0.00	1.00
ETH	257,224	0.03	0.18	0.00	1.00	STP	257,224	0.00	0.01	0.00	1.00
GAB	257,224	0.01	0.09	0.00	1.00	SWZ	257,224	0.00	0.02	0.00	1.00
GHA	257,224	0.01	0.09	0.00	1.00	SYC	257,224	0.00	0.02	0.00	1.00
GIN	257,224	0.01	0.09	0.00	1.00	TCD	257,224	0.04	0.20	0.00	1.00
GMB	257,224	0.00	0.03	0.00	1.00	TGO	257,224	0.00	0.04	0.00	1.00
GNB	257,224	0.00	0.04	0.00	1.00	TUN	257,224	0.01	0.08	0.00	1.00
GNQ	257,224	0.00	0.03	0.00	1.00	TZA	257,224	0.03	0.17	0.00	1.00
KEN	257,224	0.02	0.14	0.00	1.00	UGA	257,224	0.01	0.08	0.00	1.00
LBR	257,224	0.00	0.06	0.00	1.00	ZAF	257,224	0.04	0.21	0.00	1.00
LBY	257,224	0.06	0.23	0.00	1.00	ZMB	257,224	0.02	0.15	0.00	1.00
LSO	257,224	0.00	0.03	0.00	1.00	ZWE	257,224	0.01	0.11	0.00	1.00

Notes: This table summarises the variables used in the analysis, their underlying data type, processing method, and source are described in Table C.1.

Table A.2: Descriptive characteristics by mission and historical homeland-border proximity

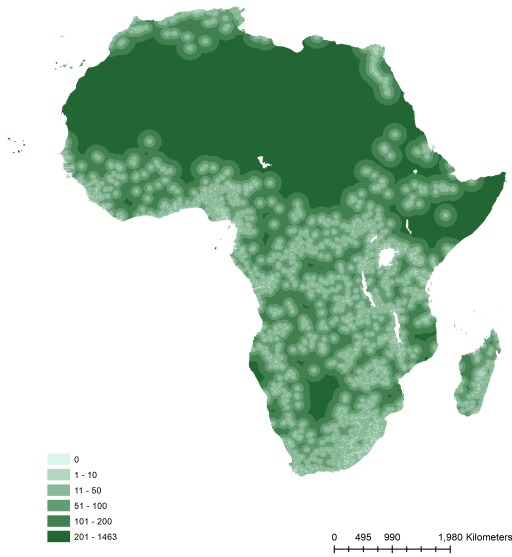
	Reference (1)	Mission only (2)	Border only (3)	Mission + border (4)
<i>A. Dependent variable</i>				
Log night-time luminosity	0.00032 (0.00312)	0.00255 (0.01186)	0.00032 (0.00302)	0.00145 (0.00735)
<i>B. Observable characteristics</i>				
Distance to coast (km)	742.743 (461.598)	403.816 (375.302)	724.413 (451.178)	536.248 (400.533)
Distance to river (km)	523.721 (362.596)	145.824 (175.481)	312.493 (332.942)	99.041 (128.429)
Distance to national border (km)	188.828 (166.727)	256.416 (277.136)	159.774 (143.908)	185.848 (229.475)
Absolute latitude	19.871 (7.471)	17.369 (10.416)	16.673 (8.244)	12.555 (9.548)
Elevation (m)	517.675 (337.212)	758.395 (513.918)	540.587 (388.926)	738.318 (503.213)
Terrain ruggedness	33.114 (62.382)	67.810 (84.217)	35.413 (64.368)	59.371 (78.618)
Land suitability	0.051 (0.137)	0.254 (0.236)	0.151 (0.229)	0.314 (0.251)
Rainfall	219.909 (387.722)	872.154 (580.108)	460.949 (499.052)	1079.727 (595.109)
Temperature	24.815 (2.943)	21.637 (3.598)	24.989 (3.219)	22.873 (3.454)
Malaria ecology	3.767 (7.415)	7.660 (8.333)	9.512 (10.619)	11.266 (9.404)
Tsetse suitability	1.186 (1.194)	1.544 (1.778)	1.350 (1.398)	2.022 (1.845)
Population density	6.197 (86.354)	71.750 (620.669)	16.046 (84.178)	69.980 (556.002)
Uninhabited cell	0.479 (0.500)	0.078 (0.268)	0.259 (0.438)	0.038 (0.192)
Island	0.012 (0.107)	0.084 (0.277)	0.003 (0.059)	0.034 (0.182)
Sub-Saharan Africa	0.548 (0.498)	0.900 (0.301)	0.642 (0.479)	0.908 (0.290)
Distance to explorer route (km)	215.536 (187.422)	224.076 (277.251)	167.852 (162.713)	200.528 (243.601)
Distance to pre-colonial city (km)	791.336 (314.449)	751.704 (441.393)	683.976 (355.143)	606.206 (406.392)
Distance to mine (km)	326.616 (203.512)	161.867 (118.972)	275.354 (178.103)	166.732 (135.363)
Distance to railway (km)	707.716 (350.533)	363.180 (359.879)	578.686 (344.952)	404.244 (339.734)
Major city in cell	0.003 (0.057)	0.034 (0.180)	0.006 (0.075)	0.037 (0.188)
N	66,567	26,596	77,761	86,300

Notes: Cells report means with standard deviations in parentheses. The sample is the baseline analysis grid ($N = 257, 224$). Groups are defined by proximity to the nearest mission station and historical homeland border.

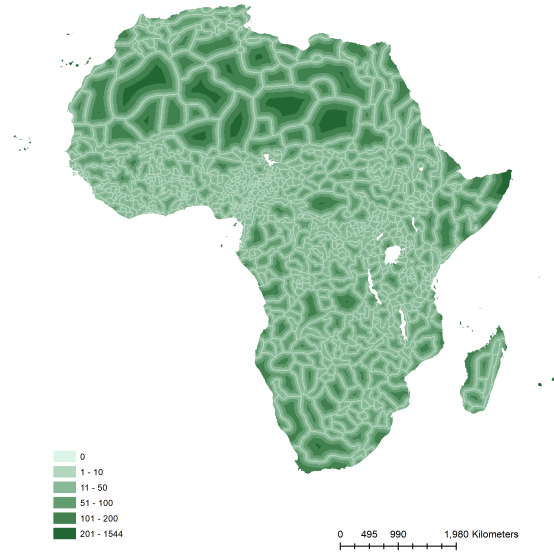
B Maps

B.1 Maps of explanatory variables

(A) Distance to nearest mission station



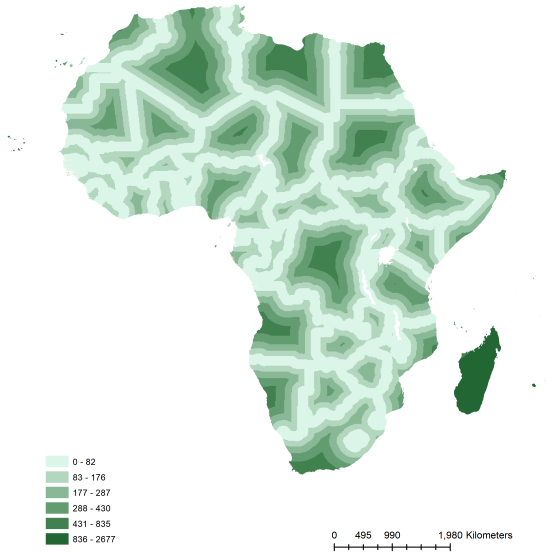
(B) Distance to nearest homeland border



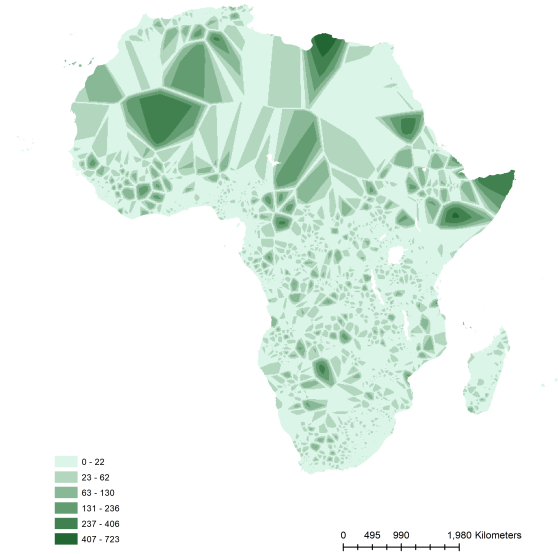
Sources: Geodesic distances were derived from our GIS-based grid cells using Christian mission stations from [Roome \(1925\)](#); [Johnson \(1967\)](#); [Nunn et al. \(2014\)](#); [Becker et al. \(2022\)](#) and homeland borders from [Murdock \(1959\)](#); [Nunn \(2008\)](#) as underlying data.

B.2 Maps of confounding factors

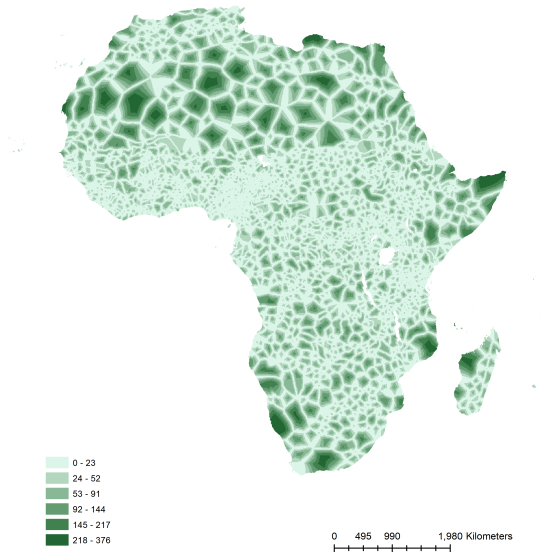
(A) Distance to inland national border



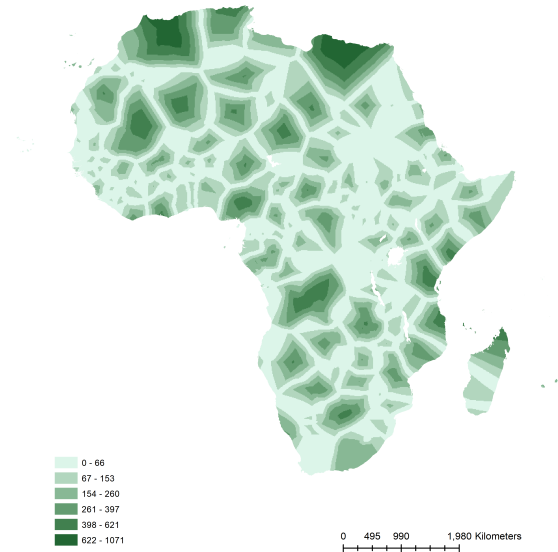
(B) Gap between 1st and 2nd mission station



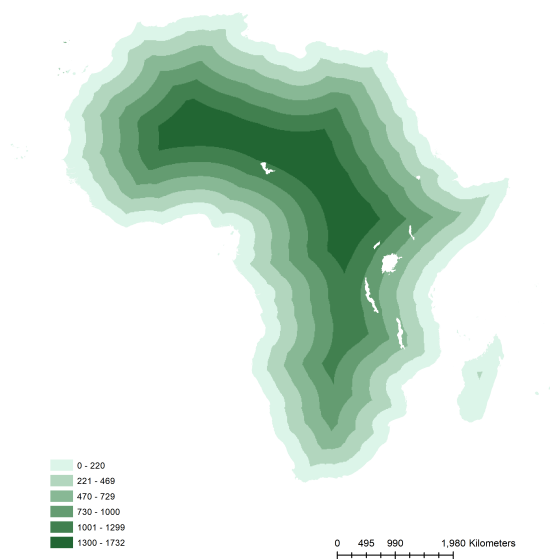
(C) Gap between 1st and 2nd homeland border



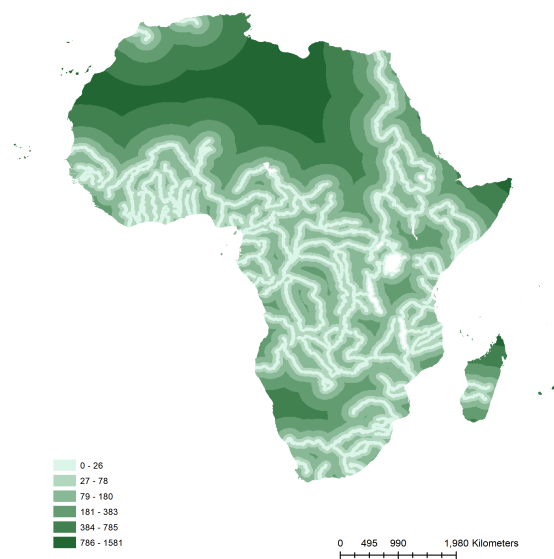
(D) Gap between 1st and 2nd national border



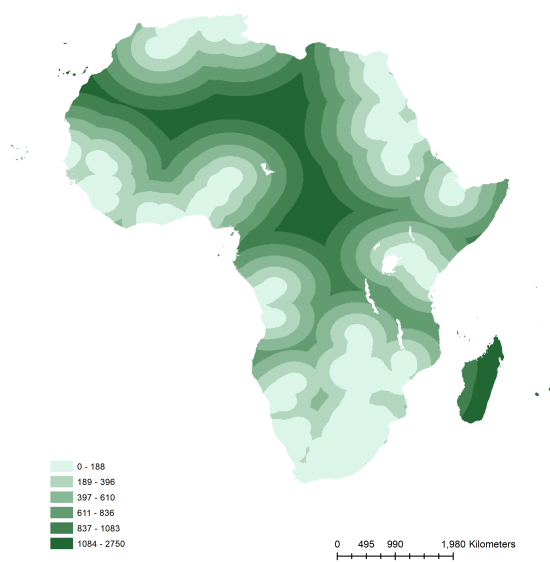
(E) Distance to coast



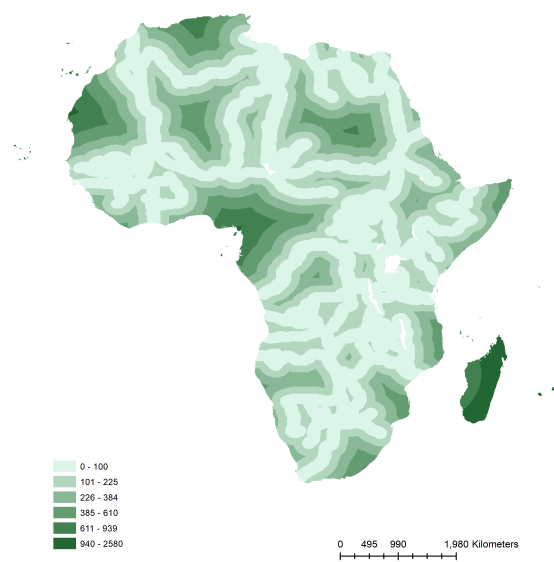
(F) Distance to river



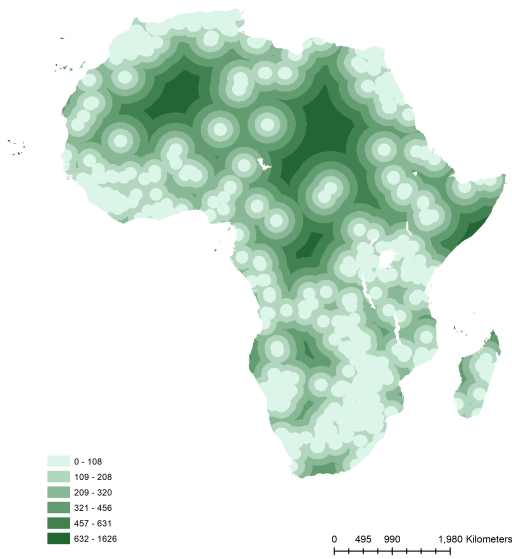
(G) Distance to rails



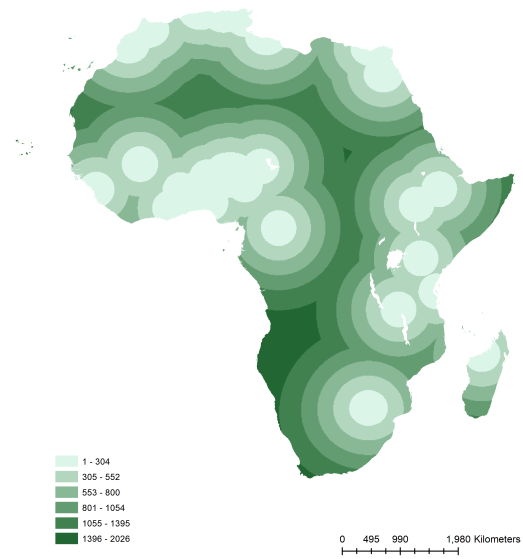
(H) Distance to explorer route



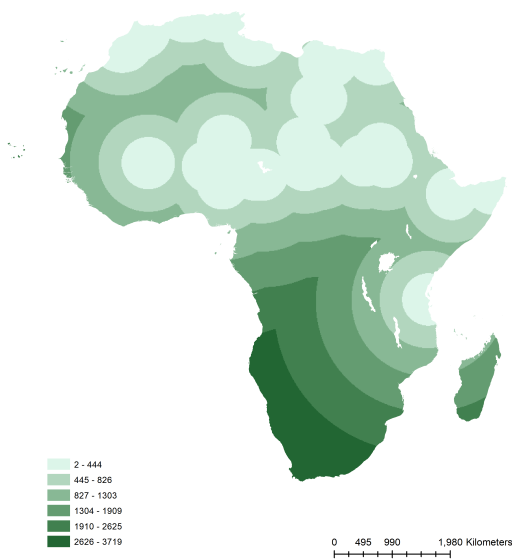
(I) Distance to mine



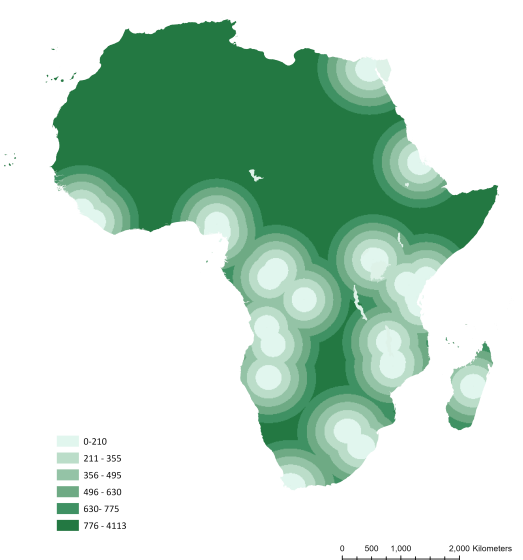
(J) Distance to pre-colonial city



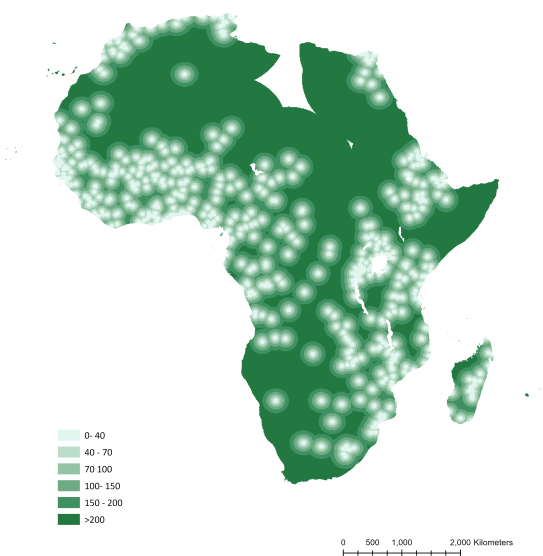
(K) Distance to Muslim seat



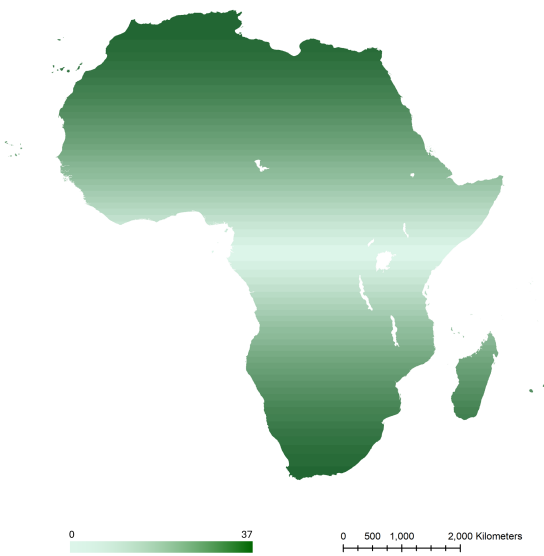
(L) Distance to printing press



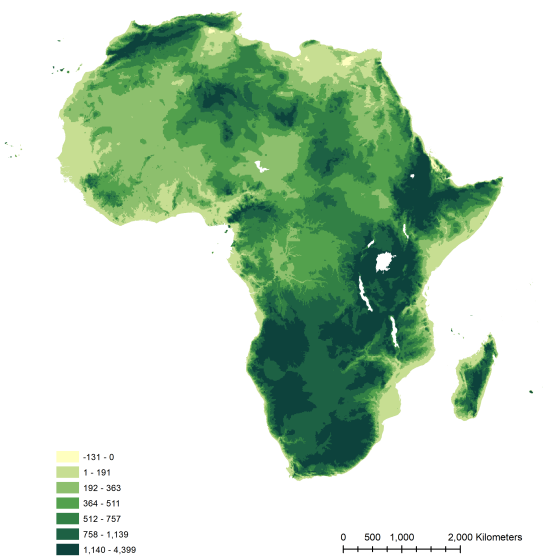
(M) Distance to World Bank project location



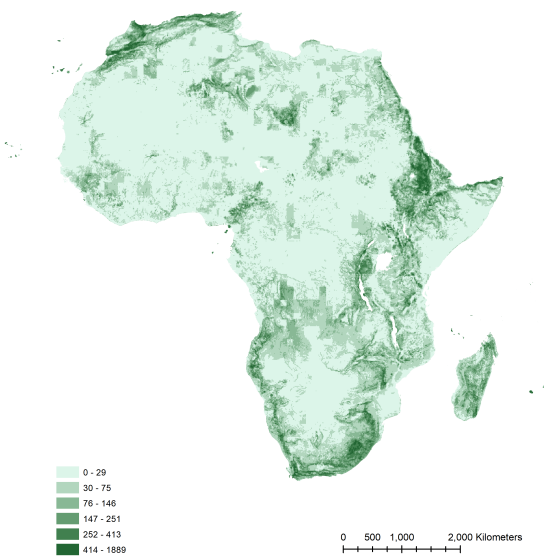
(N) Absolute latitude



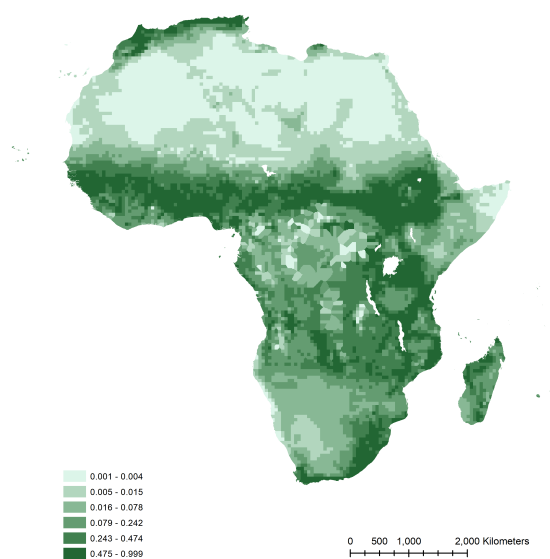
(O) Elevation



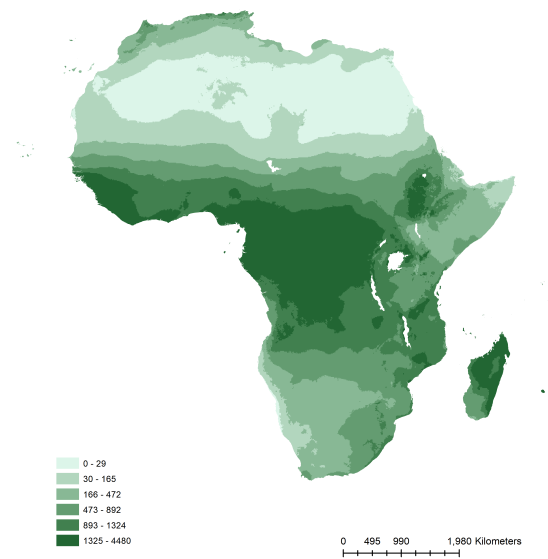
(P) Ruggedness



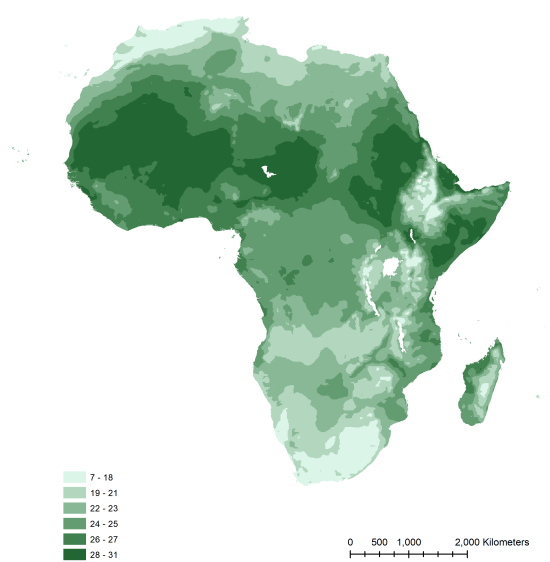
(Q) Land suitability for agriculture



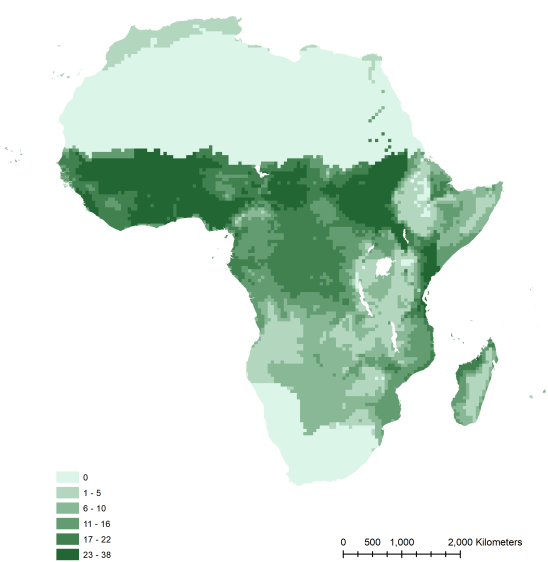
(R) Rainfall



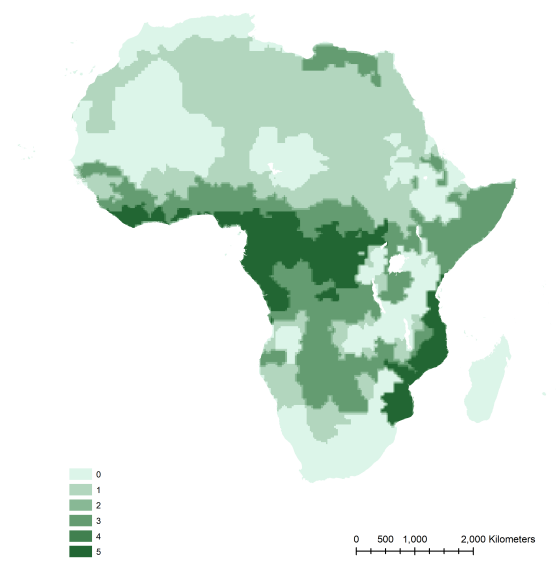
(S) Temperature



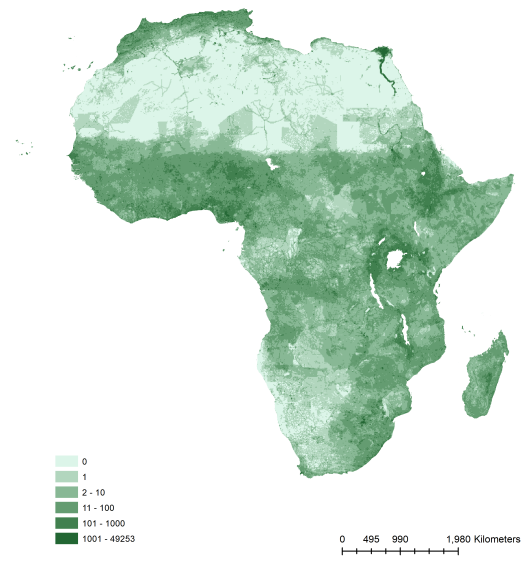
(T) Malaria



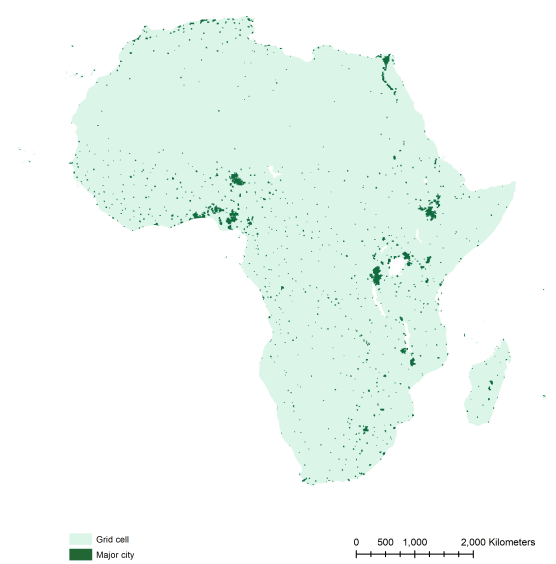
(U) Tsetse fly



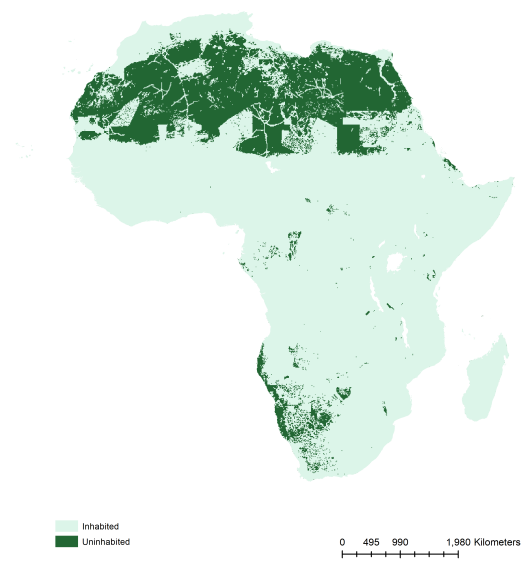
(V) Population density

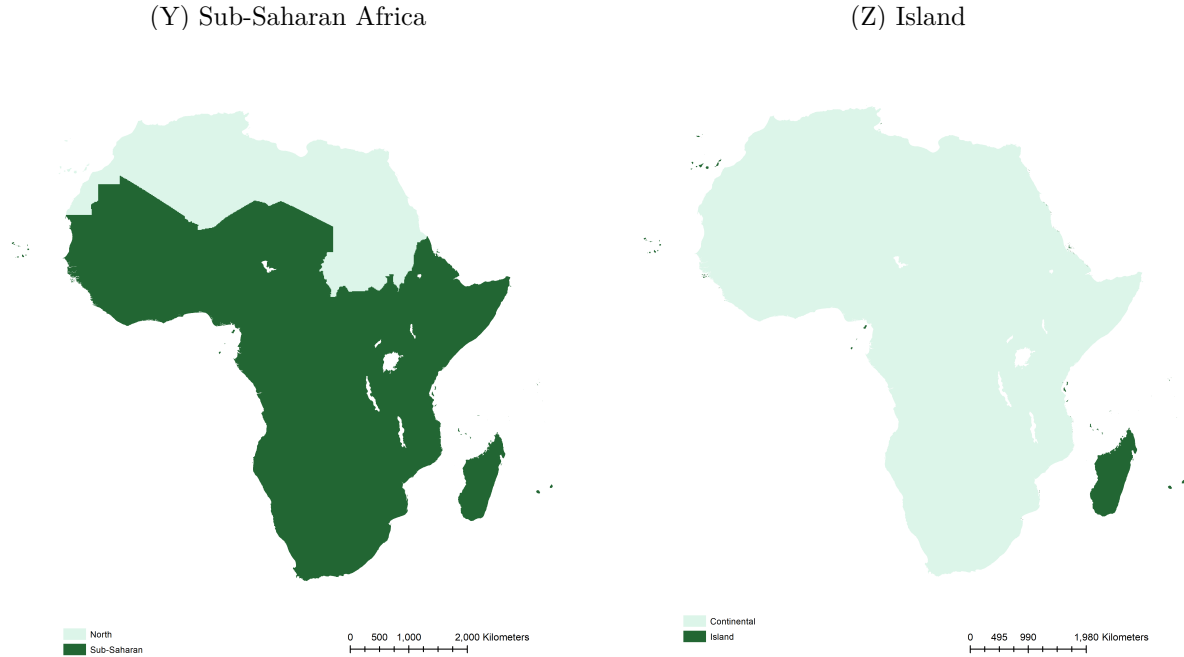


(W) Major cities



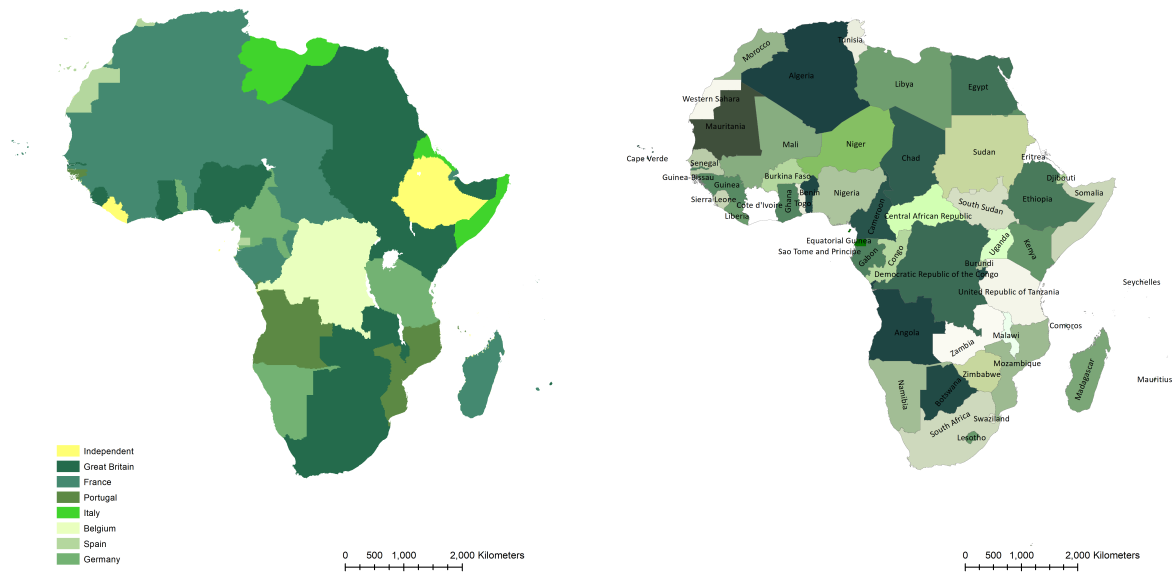
(X) Uninhabited grid cells





Sources: All distance calculations are geodesic. The underlying sources are as follows: distance to the nearest inland contemporary national border (A) and the gap between the first- and second-nearest national-border distances (D) are calculated from [United Nations Geospatial \(2018\)](#); the gap between the first- and second-nearest mission-station distances (B) from [Roome \(1925\)](#); [Johnson \(1967\)](#); [Nunn et al. \(2014\)](#); [Becker et al. \(2022\)](#); and the gap between the first- and second-nearest homeland-border distances (C) from [Murdock \(1959\)](#); [Nunn \(2008\)](#). Distances to coasts and rivers (E–F) are calculated from [Andreadis et al. \(2013\)](#); to railways and explorer routes (G–H) from [Nunn and Wantchekon \(2011\)](#); to major mineral deposits (I) from [Schulz and Briskey \(2005\)](#); to pre-colonial cities (J) from [Chandler \(1987\)](#); to Muslim seats (K) from [Sluglett and Currie \(2015\)](#); to printing presses (L) from [Cagé and Rueda \(2016\)](#); and to World Bank projects (M) from [AidData \(2017\)](#). Absolute latitude (N) is calculated in this study from the grid geometry. Elevation and ruggedness (O–P) come from [Danielson and Gesch \(2011\)](#); land suitability for agriculture (Q) from [Ramankutty et al. \(2002\)](#); rainfall and temperature (R–S) from [Fick and Hijmans \(2017\)](#); malaria ecology (T) from [Kiszewski et al. \(2004\)](#); and tsetse fly ecology (U) from [Alsan \(2015\)](#). Population density (V) and uninhabited grid cells (X) come from [Rose and Bright \(2014\)](#); major cities (W) from [Patterson and Kelso \(2012\)](#); the Sub-Saharan Africa indicator (Y) from [United Nations Geospatial \(2018\)](#); and the island indicator (Z) from [Andreadis et al. \(2013\)](#).

B.3 Maps of colonisers of 1913 and contemporary countries



Sources: Colonial powers in 1913 from [Bartholomew \(1915\)](#) and contemporary countries [United Nations Geospatial \(2018\)](#). Replication details in Appendix C.

C Replication details

This appendix explains how the data used in our study, as represented in Appendices B.1 and B.2, were prepared for analysis. Our study employs a spatial distance analysis, which relies upon geodesic distances—the shortest paths over the WGS84 ellipsoid—calculated across the entire African continent to various features (notably mission stations and homeland borders). This geodesic approach helps us analyse geographic relationships and patterns within our study area.

We begin by creating a uniform grid that covers the entire continent of Africa. The grid consists of 257,224 contiguous, mutually exclusive polygon cells, each serving as a unique analytical unit. These cells measure 0.1 x 0.1 arc degrees (approximately 11 x 11 km) and have centroids, which are the centres of the polygon areas as if they were circles. The coordinates of the centroids are based on the grid’s spatial reference system. Map N in Appendix B.2 shows the latitude for each cell.

Our analysis uses datasets in various formats, including shapefiles, rasters, and digitised maps, each requiring specific processing methods. For point data (e.g. mission station locations), we determine which grid cell each point falls into and then calculate its position relative to the grid cell centroids. This allows us to compute the shortest distance from our 257,224 cells to each of the point locations. For line data (e.g. homeland borders), we intersect the lines with the grid cells to analyse their proximity. This enabled us to calculate the shortest distance from each grid cell to the nearest border. For polygon data (e.g., administrative boundaries), we align the polygons with the grid cells and assign attributes based on the intersection area. For example, we extract the country name for the grid cell’s centroid. For raster data (e.g., satellite night-time luminosity), we align the raster with our grid cells and extract relevant statistics for each grid cell.

Table C.1 provides an overview of all data sources and extraction methods. The following sections detail the steps we took to obtain each variable.

C.1 Point shapefiles

Some of our variables, such as the location of colonial mission stations, are described in the original sources as point features. We use the latitude and longitude coordinates reported in the atlases of [Roome \(1925\)](#) and [Johnson \(1967\)](#) (see Figure 2 (B)). By assigning each mission station’s location to its corresponding grid cell, we calculate the geodesic distances in km from the centroid of each grid cell to the nearest mission station (see Map A in Appendix B.1). We also calculate the distance to the second-nearest mission station, allowing us to

determine the gap in km between the nearest and the second-nearest mission stations (see Map B in Appendix B.1). The latter information helps us account for the spatial clustering of mission stations.

We apply the same methodology to other point features. The distances to pre-colonial cities are based on a list of African metropolises between 1800 and 1850 reported by [Chandler \(1987\)](#). The latitude and longitude coordinates of pre-colonial cities are used to create a layer of point features, which we merge with our grid. The distances from each grid cell’s centroid to the closest pre-colonial city are illustrated in Map J in Appendix B.2. In the case of Muslim seats, we use the information provided in maps number 40, 41 and 42 of *“The Atlas of Islamic History”* by [Sluglett and Currie \(2015\)](#). After geocoding the locations marked as Muslim seats, we calculate the distances from each grid cell to the closest Muslim seat (see Map K in Appendix B.2). Distance to World Bank project locations (see Map M in Appendix B.2) is calculated using the coordinates of aid projects reported by [AidData \(2017\)](#). We compiled these project points into a shapefile and then computed geodesic distances from each grid-cell centroid to its nearest World Bank project.

Information about the location of major mineral deposits comes from the shapefile data of the U.S. Geological Survey from [Schulz and Briskey \(2005\)](#), which we merge with our grid layer to calculate the shortest distance from the centroid of each grid cell to a mineral deposit (see Map I in Appendix B.2). Similarly, the distance to the printing press (Map L) comes from a similar approach, retrieving the locations of printing presses from the shapefiles provided by [Cagé and Rueda \(2016\)](#).

C.2 Polyline shapefiles

Line segments represent several of our variables. These include homeland borders, national borders, railways, historical explorer routes, rivers, and coastlines. For each, we calculate geodesic distances from the centroid of each grid cell to the nearest point on the polyline, using the same method applied to point data.

Although administrative boundaries are typically stored as polygons, we convert both homeland and national borders to polylines for this analysis. We remove coastal segments to ensure we measure distances only to inland borders before calculating distances. This preprocessing step is applied to the homeland borders shown in Figure 2 (C) and the national borders shown in Map Y of Appendix B.2.

For homeland borders [Murdock \(1959\)](#), the raw distance to the nearest border is shown in Map B of Appendix B.1, and the gap to the second-nearest border—which captures any potential spatial clustering—is shown in Map C of Appendix B.2. We apply the same

procedure to national borders [United Nations Geospatial \(2018\)](#), with the raw distance in Map A and the gap in Map D of Appendix B.2.

We follow the same approach for other linear features. Distances to coastlines and navigable rivers from [Andreadis et al. \(2013\)](#) are shown in Maps E and F of Appendix B.2. This coastal shapefile also allows us to derive a binary “island” variable by identifying grid cells surrounded by water. This is illustrated in Map Z of Appendix B.2.

In addition, we obtain distances from our centroids to railways and historical explorer routes from shapefiles provided by [Nunn and Wantchekon \(2011\)](#). These correspond to Maps G and H in Appendix B.2.

C.3 Polygon shapefiles

Some of our data, such as national and colonial territories, are represented as polygons. We merge these polygons with our grid, assigning each grid cell the attributes of the relevant polygon. Information about contemporary African countries comes from [United Nations Geospatial \(2018\)](#). We also use the national boundaries shapefile to create a binary variable holding the value one for grid cells located in the Sub-Saharan region and zero otherwise, as illustrated in Map Y in Appendix B.2. We obtain information about present-day major African cities from a polygon shapefile shared by the World Urban Areas [Patterson and Kelso \(2012\)](#). We use the polygon information to create a binary variable taking on the value one if the grid cell contained a major city and zero otherwise (Map W in Appendix B.2).

C.4 Raster files

Some of the datasets used in our analysis—e.g., satellite night-time luminosity imagery, rainfall, temperature, etc.—are available in raster maps (a digital image representing geographic data where each pixel or cell represents a value on a measurable attribute). These maps were aligned with our grid coordinates before conducting the spatial joining procedure. Then, we can extract a value for each grid cell based on the average or sum of raster values within. For non-full-sized coastal grid cells for which raster values cannot be obtained, we use the average values of the surrounding (i.e. closest neighbouring) grid cells instead. The details for each variable and its sources are described below.

First, the satellite night-time data for 2010 comes from US Defense Meteorological Satellite Program data collected by the US Air Force Weather Agency, [Earth Observation Group \(2011\)](#). Each grid cell is assigned the value statistics of the raster pixels within, which are then normalised for more straightforward interpretation of the results (see Figure 2 (A)).

Several other variables are retrieved from raster datasets. Population density is derived from the LandScan raster dataset by [Rose and Bright \(2014\)](#). The raster is built upon census data regarding contemporary population distributions in thousands of people per square kilometre. We calculate the mean values of the raster pixels by cell, reported in Map V of Appendix B.2. Uninhabited grid cells are obtained from the same raster, using a binary variable equal to one if the grid cell is empty and zero if populated, as illustrated in Map X.

Elevation and ruggedness are calculated from the GMTDED2010 raster dataset of [Danielson and Gesch \(2011\)](#). For elevation, we retrieve the maximum value in km above (or below) the sea level by cell. Ruggedness is calculated as the standard deviation of elevation within each cell. These data are presented in Maps O and P of Appendix B.2.

The rainfall and temperature data are available from WorldClim ([Fick and Hijmans \(2017\)](#)). We use the second version of their Bioclimatic variables. This provides us with yearly averages at the finest resolution (30 arc seconds) between 1970 and 2000, with rainfall measured in millimetres and temperature in degrees Celsius (see Maps R and S in Appendix B.2).

Finally, some of our variables do not originate from direct raster datasets but rather from academic publications that include illustration maps. These include land suitability for agriculture, malaria, and tsetse fly ecology. Since we cannot access raster datasets, we derive the information by aligning the maps over our grid cells and obtaining the necessary statistics by cell. Land suitability for agriculture comes from the overall index of land suitability for cultivation presented in [Ramankutty et al. \(2002\)](#) (see Map Q in Appendix B.2). Similarly, we use the stability index for malaria from [Kiszewski et al. \(2004\)](#) (see Map T), which ranks cells from least suitable to most suitable in categories. Tsetse fly ecology data is derived from [Alsan \(2015\)](#), which categorises each location by its suitability index (see Map U). Lastly, information about the colonial powers in 1913 is derived from [Bartholomew \(1915\)](#). The national territories are illustrated in Map AB in Appendix B.2, while the colonial territories in 1913 are shown in Appendix B.3.

Table C.1: Summary of variables, sources, and data types

Variable	Map	Data Type	Computation	Sources
Distance to mission station	App B.1. A	Point	Calculated	Nunn (2010) ; Becker et al. (2022)
Distance to homeland border	App B.1. B	Polyline	Calculated	Murdock (1959) ; Nunn (2008)
Distance to national border	App B.2. A	Polyline	Calculated	United Nations Geospatial (2018)
Gap to 2nd mission station	App B.2. B	Point	Calculated	Nunn (2010) ; Becker et al. (2022)
Gap to 2nd homeland border	App B.2. C	Polyline	Calculated	Murdock (1959) ; Nunn (2008)
Gap to 2nd national border	App B.2. D	Polyline	Calculated	United Nations Geospatial (2018)
Distance to coast	App B.2. E	Polyline	Calculated	Andreadis et al. (2013)
Distance to river	App B.2. F	Polyline	Calculated	Andreadis et al. (2013)
Distance to railway	App B.2. G	Polyline	Calculated	Nunn and Wantchekon (2011)
Distance to explorer route	App B.2. H	Polyline	Calculated	Nunn and Wantchekon (2011)
Distance to mine	App B.2. I	Point	Calculated	Schulz and Briskey (2005)
Distance to precolonial city	App B.2. J	Point	Calculated	Chandler (1987)
Distance to Muslim seat	App B.2. K	Point	Calculated	Sluglett and Currie (2015)
Distance to printing press	App B.2. L	Point	Calculated	Cagé and Rueda (2016)
Distance to World Bank aid	App B.2. M	Point	Calculated	AidData (2017)
Absolute latitude	App B.2. N	Derived	Computed	From grid geometry
Elevation	App B.2. O	Raster	Extracted	Danielson and Gesch (2011)
Ruggedness	App B.2. P	Raster	Computed	Danielson and Gesch (2011)
Land suitability	App B.2. Q	Image	Extracted	Ramankutty et al. (2002)
Rainfall	App B.2. R	Raster	Extracted	Fick and Hijmans (2017)
Temperature	App B.2. S	Raster	Extracted	Fick and Hijmans (2017)
Malaria ecology	App B.2. T	Image	Extracted	Kiszewski et al. (2004)
Tsetse fly ecology	App B.2. U	Image	Extracted	Alsan (2015)
Distance to slave port	–	Point	Calculated	SlaveVoyages (2019)
Pre-colonial political centralisation	–	Tabular	Extracted	Michalopoulos and Papaioannou (2013)
Population density	App B.2. V	Raster	Extracted	Rose and Bright (2014)
Binary variables:				
Major city	App B.2. W	Polygon	Extracted	Patterson and Kelso (2012)
Uninhabited cell	App B.2. X	Raster	Derived	Rose and Bright (2014)
Sub-Saharan Africa	App B.2. Y	Polygon	Derived	United Nations Geospatial (2018)
Island	App B.2. Z	Polyline	Derived	Andreadis et al. (2013)
Colonial powers in 1913	App B.3.	Polygon	Extracted	Bartholomew (1915)
Contemporary countries	App B.3.	Polygon	Extracted	United Nations Geospatial (2018)

Notes: This table summarises the geospatial variables used in the analysis, including their data type, processing method, and source. “Extracted” means the value was assigned to each grid cell from the source layer (e.g., via spatial join or raster extraction). “Calculated” refers to geodesic distances from grid cell centroids to the nearest feature. “Derived” refers to flags based on feature presence (e.g., island, uninhabited). All distances are computed geodesically over the WGS84 ellipsoid.

D Baseline results

Table D.1: Night light by distance to the nearest mission station

Distance bin	Coef.	Std. err.	t	P>t	[95% confidence	intervals]
0-10 km	0.0071	0.0002	33.39	0.000	0.0067	0.0075
10-20 km	0.0029	0.0001	29.39	0.000	0.0027	0.0030
20-30 km	0.0013	0.0001	20.96	0.000	0.0012	0.0015
30-40 km	0.0009	0.0001	11.32	0.000	0.0007	0.0010
40-50 km	0.0004	0.0000	9.37	0.000	0.0003	0.0005
50-60 km	0.0003	0.0000	7.81	0.000	0.0002	0.0004
60-70 km	0.0002	0.0000	4.48	0.000	0.0001	0.0002
70-80 km	0.0001	0.0000	3.54	0.000	0.0001	0.0002
80-90 km	0.0001	0.0000	1.48	0.138	0.0000	0.0001
90-100 km	0.0000	0.0000	0.35	0.727	-0.0001	0.0001
> 100 km	0.0000	(omitted)				
Uninhabited	-0.0003	0.0000	-10.29	0.000	-0.0003	-0.0002
Constant	0.0004	0.0000	31.12	0.000	0.0004	0.0004
Robust std. err.						Yes
R2						0.053
N						257,224

Notes: The table reports the results of regressing night-time luminosity on the geodesic distances (grouped into 10-km bins) from the centroid of each grid cell to a mission station. The reference area consists of grid cells located more than 100 km from a mission station. The regression model (see Equation 1 on page 13) has robust standard errors and controls for uninhabited grid cells. All variables are log-linearised except binaries.

Table D.2: Night light by distance to the nearest homeland border

Distance bin	Coef.	Std. err.	t	P>t	95% confidence	intervals
0-10 km	-0.0004	0.0000	-10.1	0.000	-0.0005	-0.0004
10-20 km	-0.0003	0.0000	-7.7	0.000	-0.0004	-0.0003
20-30 km	-0.0002	0.0000	-3.7	0.000	-0.0003	-0.0001
30-40 km	-0.0001	0.0001	-2.0	0.050	-0.0002	0.0000
40-50 km	0.0000	0.0001	-0.1	0.900	-0.0001	0.0001
50-60 km	0.0000	0.0001	-0.3	0.741	-0.0001	0.0001
60-70 km	0.0000	0.0001	0.5	0.638	-0.0001	0.0002
70-80 km	0.0001	0.0001	1.1	0.258	-0.0001	0.0002
80-90 km	0.0000	0.0001	0.5	0.632	-0.0001	0.0002
90-100 km	-0.0001	0.0001	-1.1	0.264	-0.0003	0.0001
>100 km	0.0000	(omitted)				
Uninhabited	-0.0010	0.0000	-37.2	0.000	-0.0011	-0.0010
Constant	0.0013	0.0000	33.4	0.000	0.0012	0.0014
Other controls						No
Std. err.						Robust
R2						0.0045
N						257,224

Notes: The table reports the results of regressing night-time luminosity on the geodesic distances (grouped into 10-km bins) from the centroid of each grid cell to a homeland border. The reference area consists of grid cells more than 100 km from a homeland border. The regression model (see Equation 1 on page 13) has robust standard errors and controls for uninhabited grid cells. All variables are log-linearised except binaries.

Table D.3: Night light by distance to the nearest mission station:
Restricted reference group (100-200 km from the nearest mission station)

Distance bin	Coef.	Std. err.	t	P>t	[95% confidence	intervals]
0-10 km	0.0070	0.0002	33.0	0.000	0.0066	0.0074
10-20 km	0.0028	0.0001	28.5	0.000	0.0026	0.0030
20-30 km	0.0013	0.0001	19.4	0.000	0.0011	0.0014
30-40 km	0.0007	0.0001	10.6	0.000	0.0006	0.0009
40-50 km	0.0003	0.0000	7.2	0.000	0.0002	0.0004
50-60 km	0.0002	0.0000	5.6	0.000	0.0002	0.0003
60-70 km	0.0001	0.0000	2.3	0.020	0.0000	0.0002
70-80 km	0.0001	0.0000	1.4	0.151	-0.0000	0.0001
80-90 km	-0.0000	0.0000	-0.7	0.472	-0.0001	0.0001
90-100 km	-0.0001	0.0000	-1.8	0.079	-0.0001	0.0000
100-200 km	0.0000	(omitted)				
>200 km	-0.0001	0.0000	-6.2	0.000	-0.0002	-0.0001
Uninhabited	-0.0002	0.0001	-2.15	0.031	-0.0004	0.0000
Constant	0.0005	0.0000	29.04	0.000	0.0005	0.0005
Other controls						No
Std. err.						Robust
R2						0.0531
N						257,224

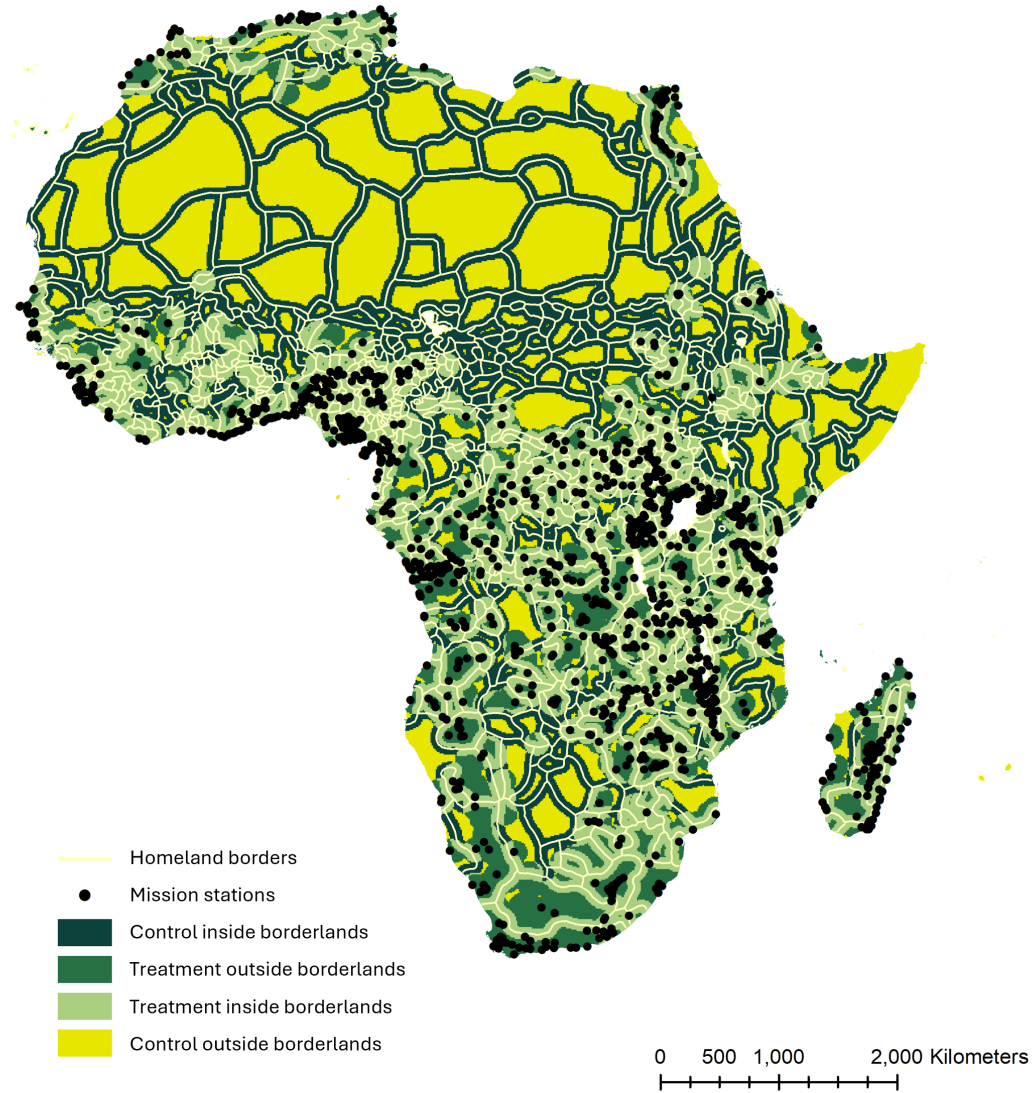
Notes: The table reports the results of regressing night-time luminosity on the geodesic distances (grouped into 10-km bins) from the centroid of each grid cell to a mission station. The reference area consists of grid cells located between 100 and 200 km from a mission station. The regression model (see Equation 1 on page 13) has robust standard errors and controls for uninhabited grid cells. All variables are log-linearised except binaries.

Table D.4: Night light by distance to the nearest homeland border:
Restricted reference group (100-200 km from the nearest homeland border)

Distance bin	Coef.	Std. err.	t	P>t	[95% confidence	intervals]
0-10 km	-0.0004	0.0000	-9.3	0.000	-0.0005	-0.0003
10-20 km	-0.0003	0.0001	-7.1	0.000	-0.0004	-0.0002
20-30 km	-0.0002	0.0001	-3.2	0.001	-0.0003	-0.0001
30-40 km	-0.0001	0.0001	-1.6	0.111	-0.0002	0.0000
40-50 km	0.0001	0.0001	0.2	0.877	-0.0001	0.0001
50-60 km	0.0000	0.0001	-0.1	0.955	-0.0001	0.0001
60-70 km	0.0001	0.0001	0.7	0.503	-0.0001	0.0002
70-80 km	0.0001	0.0001	1.3	0.179	-0.0001	0.0003
80-90 km	0.0001	0.0001	0.7	0.493	-0.0001	0.0002
90-100 km	-0.0001	0.0001	-0.9	0.372	-0.0002	0.0001
100-200 km	0.0000	(omitted)				
>200 km	0.0001	0.0001	1.2	0.228	-0.0001	0.0003
Uninhabited	-0.0010	0.0000	-37.2	0.000	-0.0011	-0.0010
Constant	0.0013	0.0000	31.7	0.000	0.0012	0.0014
Other controls						No
Std. err.						Robust
R2						0.0045
N						257,224

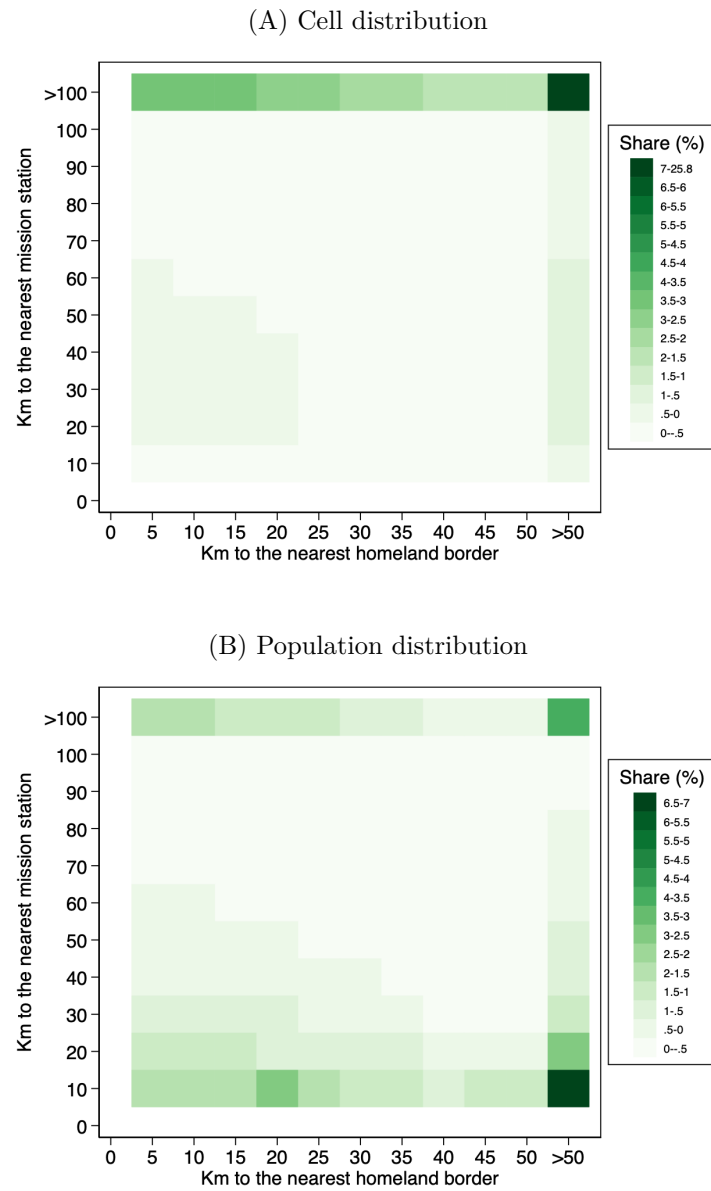
Notes: The table reports the results of regressing night-time luminosity on the geodesic distances (grouped into 10-km bins) from the centroid of each grid cell to a homeland border. The reference area consists of grid cells located between 100 and 200 km from a homeland border. The regression model (see Equation 1 on page 13) has robust standard errors and controls for uninhabited grid cells. All variables are log-linearised except binaries.

Figure D.1: Spatial groups used in the interaction analysis



Notes: The map shows how we split Africa into two: *inside* the borderlands (within 50 km of a homeland border) and *outside* the borderlands (beyond 50 km from a border). Grid cells are classified as treated if a mission station is within 100 km; otherwise, they are classified as control cells. Therefore, dark green shows control grid cells inside the borderlands; light green shows treated grid cells inside the borderlands; medium green shows treated grid cells outside the borderlands; and yellow shows control grid cells outside the borderlands.

Figure D.2: Cell and population distributions by the distance to the two markers



Note: Total population: 1,008,625,152. Source: [Rose and Bright \(2014\)](#).

Table D.5: Night-time luminosity by distance to the nearest mission station and homeland
border: baseline

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	0.0000	0.0003	0.1	0.916	-0.0006	0.0007
5-10 km	0-10 km	-0.0001	0.0004	-0.3	0.771	-0.0008	0.0006
10-15 km	0-10 km	0.0001	0.0004	0.3	0.773	-0.0006	0.0009
15-20 km	0-10 km	0.0012	0.0005	2.6	0.010	0.0003	0.0020
20-25 km	0-10 km	0.0018	0.0005	3.3	0.001	0.0007	0.0028
25-30 km	0-10 km	0.0021	0.0006	3.7	0.000	0.0010	0.0032
30-35 km	0-10 km	0.0027	0.0007	3.9	0.000	0.0014	0.0041
35-40 km	0-10 km	0.0021	0.0007	3.0	0.003	0.0007	0.0035
40-45 km	0-10 km	0.0030	0.0008	3.6	0.000	0.0013	0.0046
45-50 km	0-10 km	0.0043	0.0009	4.6	0.000	0.0025	0.0061
>50 km	0-10 km	0.0045	0.0004	12.4	0.000	0.0038	0.0052
0-5 km	10-20 km	-0.0006	0.0002	-4.1	0.000	-0.0010	-0.0003
5-10 km	10-20 km	-0.0005	0.0002	-3.0	0.003	-0.0008	-0.0002
10-15 km	10-20 km	-0.0003	0.0002	-1.3	0.201	-0.0007	0.0001
15-20 km	10-20 km	-0.0005	0.0002	-2.4	0.014	-0.0009	-0.0001
20-25 km	10-20 km	0.0002	0.0003	0.7	0.502	-0.0003	0.0007
25-30 km	10-20 km	0.0004	0.0003	1.3	0.187	-0.0002	0.0009
30-35 km	10-20 km	0.0003	0.0003	1.2	0.243	-0.0002	0.0009
35-40 km	10-20 km	0.0010	0.0004	2.6	0.008	0.0003	0.0017
40-45 km	10-20 km	0.0010	0.0004	2.7	0.007	0.0003	0.0017
45-50 km	10-20 km	0.0007	0.0004	1.6	0.100	-0.0001	0.0015
>50 km	10-20 km	0.0009	0.0002	5.0	0.000	0.0006	0.0013
0-5 km	20-30 km	-0.0005	0.0001	-3.6	0.000	-0.0008	-0.0002
5-10 km	20-30 km	-0.0004	0.0001	-2.9	0.004	-0.0007	-0.0001
10-15 km	20-30 km	-0.0004	0.0002	-2.5	0.011	-0.0007	-0.0001
15-20 km	20-30 km	-0.0005	0.0002	-3.2	0.001	-0.0009	-0.0002
20-25 km	20-30 km	-0.0005	0.0002	-2.7	0.007	-0.0008	-0.0001
25-30 km	20-30 km	-0.0006	0.0002	-3.6	0.000	-0.0009	-0.0003
30-35 km	20-30 km	0.0001	0.0002	0.3	0.784	-0.0004	0.0005
35-40 km	20-30 km	-0.0004	0.0002	-1.7	0.086	-0.0009	0.0001
40-45 km	20-30 km	-0.0003	0.0002	-1.3	0.208	-0.0007	0.0002
45-50 km	20-30 km	-0.0004	0.0003	-1.3	0.201	-0.0009	0.0002
>50 km	20-30 km	0.0001	0.0001	0.9	0.370	-0.0001	0.0004
0-5 km	30-40 km	-0.0004	0.0001	-3.2	0.001	-0.0006	-0.0001
5-10 km	30-40 km	-0.0005	0.0001	-4.3	0.000	-0.0007	-0.0003
10-15 km	30-40 km	-0.0006	0.0001	-5.6	0.000	-0.0008	-0.0004
15-20 km	30-40 km	-0.0006	0.0001	-5.0	0.000	-0.0008	-0.0004
20-25 km	30-40 km	-0.0004	0.0001	-2.6	0.008	-0.0006	-0.0001
25-30 km	30-40 km	-0.0007	0.0001	-4.6	0.000	-0.0010	-0.0004
30-35 km	30-40 km	-0.0007	0.0001	-5.8	0.000	-0.0010	-0.0005
35-40 km	30-40 km	-0.0005	0.0002	-3.0	0.003	-0.0008	-0.0002
40-45 km	30-40 km	-0.0006	0.0002	-3.5	0.000	-0.0009	-0.0003
45-50 km	30-40 km	-0.0007	0.0002	-2.8	0.005	-0.0011	-0.0002
>50 km	30-40 km	0.0002	0.0002	0.9	0.372	-0.0003	0.0007

Table D.5: Night-time luminosity by distance to the nearest mission station and homeland
border: baseline (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0006	0.0001	-6.5	0.000	-0.0008	-0.0004
5-10 km	40-50 km	-0.0004	0.0001	-4.6	0.000	-0.0006	-0.0002
10-15 km	40-50 km	-0.0006	0.0001	-6.6	0.000	-0.0008	-0.0004
15-20 km	40-50 km	-0.0005	0.0001	-4.9	0.000	-0.0007	-0.0003
20-25 km	40-50 km	-0.0008	0.0001	-6.8	0.000	-0.0010	-0.0006
25-30 km	40-50 km	-0.0006	0.0001	-6.1	0.000	-0.0008	-0.0004
30-35 km	40-50 km	-0.0006	0.0001	-4.0	0.000	-0.0009	-0.0003
35-40 km	40-50 km	-0.0007	0.0002	-4.3	0.000	-0.0010	-0.0004
40-45 km	40-50 km	-0.0010	0.0001	-6.7	0.000	-0.0013	-0.0007
45-50 km	40-50 km	-0.0002	0.0002	-0.9	0.383	-0.0007	0.0003
>50 km	40-50 km	-0.0001	0.0001	-1.0	0.296	-0.0003	0.0001
0-5 km	50-60 km	-0.0005	0.0001	-5.6	0.000	-0.0006	-0.0003
5-10 km	50-60 km	-0.0006	0.0001	-5.9	0.000	-0.0007	-0.0004
10-15 km	50-60 km	-0.0005	0.0001	-4.6	0.000	-0.0007	-0.0003
15-20 km	50-60 km	-0.0004	0.0001	-3.2	0.002	-0.0006	-0.0001
20-25 km	50-60 km	-0.0003	0.0001	-2.7	0.006	-0.0006	-0.0001
25-30 km	50-60 km	-0.0004	0.0001	-3.5	0.000	-0.0007	-0.0002
30-35 km	50-60 km	-0.0007	0.0001	-6.4	0.000	-0.0010	-0.0005
35-40 km	50-60 km	-0.0005	0.0001	-3.8	0.000	-0.0008	-0.0003
40-45 km	50-60 km	-0.0004	0.0002	-2.2	0.027	-0.0008	0.0000
45-50 km	50-60 km	-0.0007	0.0002	-4.4	0.000	-0.0010	-0.0004
>50 km	50-60 km	-0.0002	0.0001	-2.0	0.048	-0.0004	0.0000
0-5 km	60-70 km	-0.0006	0.0001	-5.3	0.000	-0.0008	-0.0004
5-10 km	60-70 km	-0.0003	0.0001	-2.9	0.003	-0.0006	-0.0001
10-15 km	60-70 km	-0.0006	0.0001	-6.1	0.000	-0.0007	-0.0004
15-20 km	60-70 km	-0.0005	0.0001	-4.3	0.000	-0.0007	-0.0002
20-25 km	60-70 km	-0.0005	0.0001	-5.0	0.000	-0.0007	-0.0003
25-30 km	60-70 km	-0.0005	0.0001	-4.0	0.000	-0.0008	-0.0003
30-35 km	60-70 km	0.0000	0.0002	0.0	0.992	-0.0004	0.0004
35-40 km	60-70 km	-0.0007	0.0001	-4.8	0.000	-0.0009	-0.0004
40-45 km	60-70 km	-0.0005	0.0001	-3.7	0.000	-0.0008	-0.0002
45-50 km	60-70 km	-0.0009	0.0001	-5.8	0.000	-0.0011	-0.0006
>50 km	60-70 km	-0.0003	0.0001	-3.7	0.000	-0.0005	-0.0002
0-5 km	70-80 km	-0.0003	0.0001	-3.1	0.002	-0.0005	-0.0001
5-10 km	70-80 km	-0.0004	0.0001	-3.7	0.000	-0.0007	-0.0002
10-15 km	70-80 km	-0.0005	0.0001	-4.9	0.000	-0.0007	-0.0003
15-20 km	70-80 km	-0.0006	0.0001	-6.8	0.000	-0.0008	-0.0004
20-25 km	70-80 km	-0.0004	0.0001	-3.7	0.000	-0.0006	-0.0002
25-30 km	70-80 km	-0.0004	0.0001	-2.6	0.010	-0.0007	-0.0001
30-35 km	70-80 km	-0.0005	0.0001	-4.1	0.000	-0.0007	-0.0002
35-40 km	70-80 km	-0.0003	0.0001	-1.8	0.080	-0.0006	0.0000
40-45 km	70-80 km	-0.0002	0.0002	-1.0	0.316	-0.0005	0.0002
45-50 km	70-80 km	-0.0004	0.0002	-1.6	0.114	-0.0008	0.0001
>50 km	70-80 km	-0.0004	0.0001	-3.7	0.000	-0.0005	-0.0002

Table D.5: Night-time luminosity by distance to the nearest mission station and homeland border: baseline (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0003	0.0001	-3.6	0.000	-0.0005	-0.0001
5-10 km	80-90 km	-0.0004	0.0001	-4.9	0.000	-0.0006	-0.0003
10-15 km	80-90 km	-0.0003	0.0001	-3.0	0.003	-0.0005	-0.0001
15-20 km	80-90 km	-0.0005	0.0001	-4.5	0.000	-0.0007	-0.0003
20-25 km	80-90 km	-0.0005	0.0001	-4.5	0.000	-0.0007	-0.0003
25-30 km	80-90 km	-0.0004	0.0001	-4.0	0.000	-0.0006	-0.0002
30-35 km	80-90 km	-0.0002	0.0001	-1.5	0.141	-0.0004	0.0001
35-40 km	80-90 km	-0.0003	0.0002	-1.9	0.056	-0.0006	0.0000
40-45 km	80-90 km	-0.0006	0.0002	-3.2	0.001	-0.0009	-0.0002
45-50 km	80-90 km	-0.0001	0.0002	-0.4	0.666	-0.0006	0.0004
>50 km	80-90 km	-0.0005	0.0001	-5.3	0.000	-0.0006	-0.0003
0-5 km	90-100 km	-0.0004	0.0001	-3.8	0.000	-0.0006	-0.0002
5-10 km	90-100 km	-0.0006	0.0001	-5.9	0.000	-0.0007	-0.0004
10-15 km	90-100 km	-0.0004	0.0001	-4.2	0.000	-0.0006	-0.0002
15-20 km	90-100 km	-0.0003	0.0001	-3.1	0.002	-0.0005	-0.0001
20-25 km	90-100 km	-0.0002	0.0001	-1.9	0.057	-0.0004	0.0000
25-30 km	90-100 km	-0.0005	0.0001	-4.5	0.000	-0.0007	-0.0003
30-35 km	90-100 km	-0.0003	0.0001	-2.8	0.005	-0.0005	-0.0001
35-40 km	90-100 km	-0.0005	0.0002	-2.8	0.005	-0.0008	-0.0001
40-45 km	90-100 km	-0.0001	0.0002	-0.4	0.673	-0.0004	0.0003
45-50 km	90-100 km	-0.0008	0.0002	-4.7	0.000	-0.0011	-0.0005
>50 km	90-100 km	-0.0004	0.0001	-3.7	0.000	-0.0006	-0.0002
0-5 km	>100 km	-0.0005	0.0000	-15.5	0.000	-0.0006	-0.0004
5-10 km	>100 km	-0.0005	0.0000	-15.4	0.000	-0.0006	-0.0004
10-15 km	>100 km	-0.0004	0.0000	-13.2	0.000	-0.0005	-0.0004
15-20 km	>100 km	-0.0004	0.0000	-13.1	0.000	-0.0005	-0.0004
20-25 km	>100 km	-0.0003	0.0000	-9.4	0.000	-0.0004	-0.0003
25-30 km	>100 km	-0.0004	0.0000	-9.5	0.000	-0.0004	-0.0003
30-35 km	>100 km	-0.0003	0.0000	-8.0	0.000	-0.0004	-0.0002
35-40 km	>100 km	-0.0003	0.0000	-6.5	0.000	-0.0004	-0.0002
40-45 km	>100 km	-0.0001	0.0001	-1.3	0.192	-0.0002	0.0000
45-50 km	>100 km	-0.0002	0.0000	-5.2	0.000	-0.0003	-0.0002
>50 km	>100 km	0.00000	(omitted)				
Controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Std. err.							Robust
R^2							0.3421
N							257,224

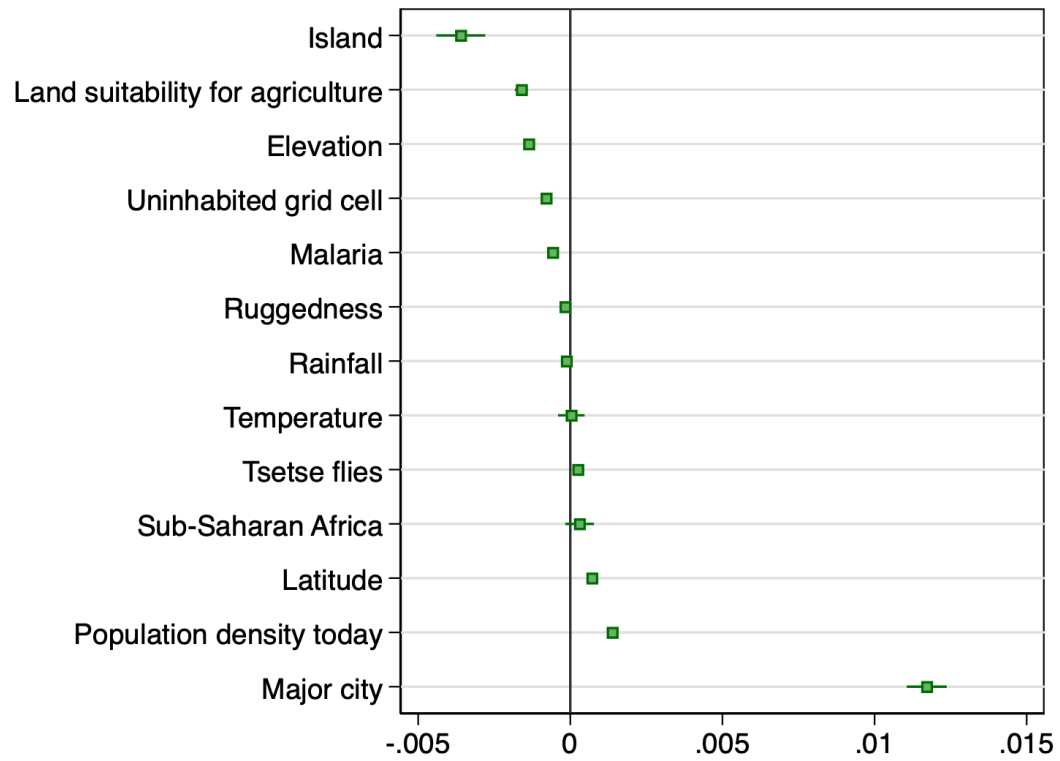
Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. All variables are log-linearised except binaries. *Coefplots* for the control variables and fixed effects are reported in Figures D.3, D.4, D.5, and D.6

Table D.6: Night-time luminosity within 10 km from a mission station by distance to the nearest homeland border: sequential inclusion of controls

	(1)	(2)	(3)	(4)	(5)
Homeland border					
0–5 km	0.0040*** (0.0004)	0.0007* (0.0004)	0.0013*** (0.0004)	0.0010*** (0.0004)	0.0000 (0.0003)
5–10 km	0.0044*** (0.0005)	0.0010** (0.0004)	0.0014*** (0.0004)	0.0011*** (0.0004)	-0.0001 (0.0004)
10–15 km	0.0043*** (0.0005)	0.0010** (0.0005)	0.0015*** (0.0004)	0.0011*** (0.0004)	0.0001 (0.0004)
15–20 km	0.0058*** (0.0006)	0.0025*** (0.0006)	0.0029*** (0.0005)	0.0025*** (0.0005)	0.0012** (0.0005)
20–25 km	0.0071*** (0.0008)	0.0037*** (0.0007)	0.0040*** (0.0006)	0.0035*** (0.0006)	0.0018*** (0.0005)
25–30 km	0.0069*** (0.0008)	0.0037*** (0.0007)	0.0040*** (0.0006)	0.0035*** (0.0006)	0.0021*** (0.0006)
30–35 km	0.0080*** (0.0010)	0.0046*** (0.0009)	0.0048*** (0.0008)	0.0043*** (0.0008)	0.0027*** (0.0007)
35–40 km	0.0073*** (0.0010)	0.0039*** (0.0009)	0.0041*** (0.0008)	0.0036*** (0.0008)	0.0021*** (0.0007)
40–45 km	0.0082*** (0.0011)	0.0049*** (0.0011)	0.0051*** (0.0009)	0.0046*** (0.0009)	0.0030*** (0.0008)
45–50 km	0.0097*** (0.0013)	0.0065*** (0.0012)	0.0064*** (0.0011)	0.0059*** (0.0010)	0.0043*** (0.0009)
>50 km	0.0104*** (0.0005)	0.0075*** (0.0005)	0.0068*** (0.0004)	0.0059*** (0.0004)	0.0045*** (0.0004)
Population controls	No	Yes	Yes	Yes	Yes
Coloniser fixed effects	No	No	Yes	Yes	Yes
Country fixed effects	No	No	Yes	Yes	Yes
Geographical/ecological controls	No	No	No	Yes	Yes
Full set of baseline controls	No	No	No	No	Yes
Robust std. err.	Yes	Yes	Yes	Yes	Yes
R^2	0.0600	0.1237	0.2441	0.2768	0.3421
N	257,224	257,224	257,224	257,224	257,224

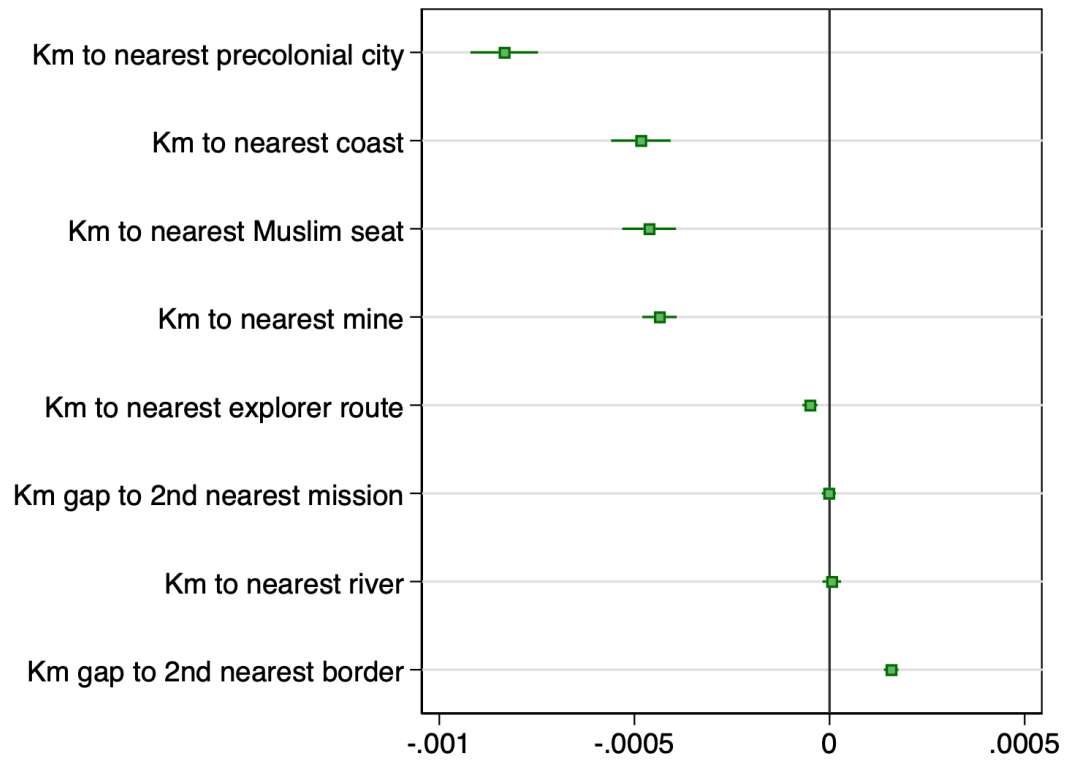
Notes: The coefficients are estimated using the model in Equation 2, while introducing the controls sequentially. Column (1) includes no controls. Column (2) adds population controls (log population density and a binary for uninhabited cells). Column (3) adds coloniser and country fixed effects. Column (4) includes geographical and ecological covariates (log absolute latitude, ruggedness, elevation, land suitability, rainfall, temperature, malaria and tsetse ecology). Column (5) includes the remaining baseline covariates (log distance to coasts, rivers, explorer routes, mines, pre-colonial cities, and Muslim seats, as well as log gaps between the first- and second-nearest mission stations and homeland borders). The full details of Column (5) are found in Table D.5. Robust standard errors are reported in parentheses.

Figure D.3: *Coefplot* for geography and demography controls



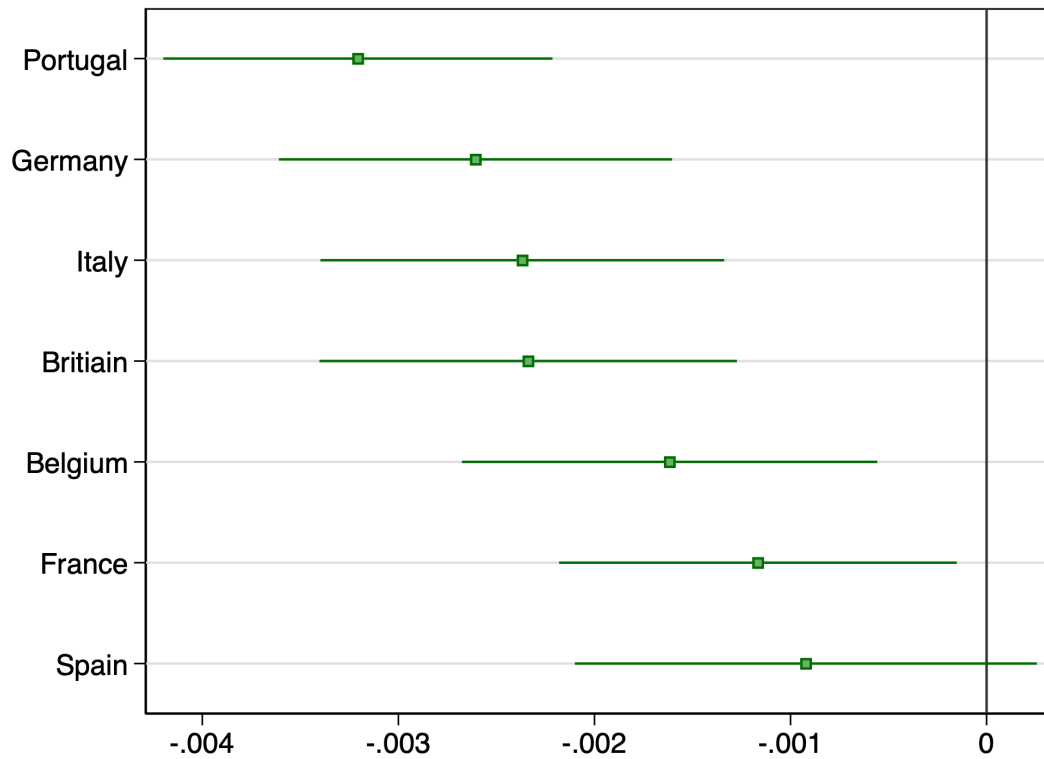
Notes: The *Coefplot* shows the coefficients and confidence intervals concerning the non-distance control variables used in the regression model underlying the results reported in Table D.5.

Figure D.4: *Coefplot* for distance controls



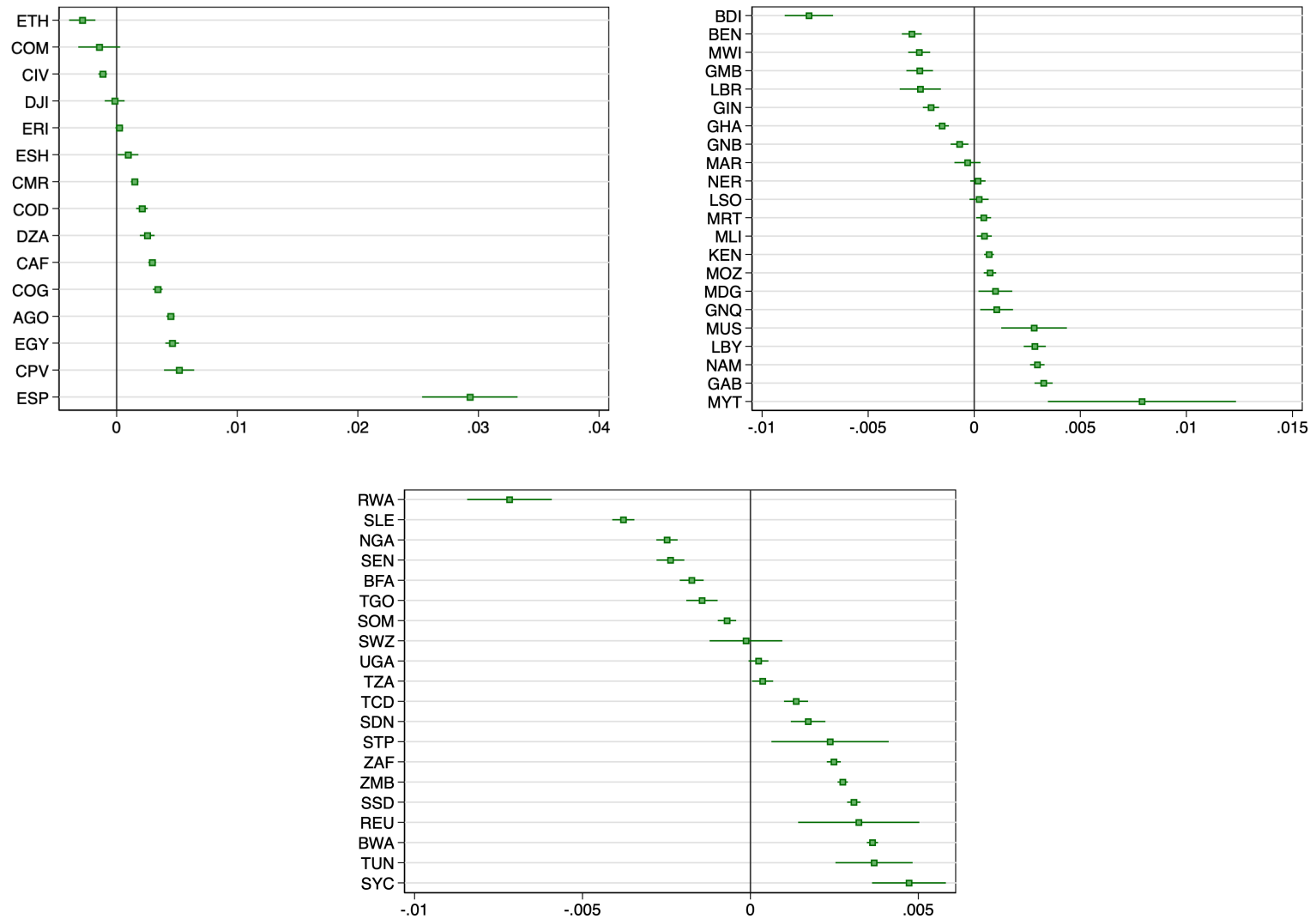
Notes: The *coefplot* shows the coefficients and confidence intervals concerning the distance control variables used in the regression model underlying the results reported in Table D.5.

Figure D.5: *Coefplot* for coloniser fixed effects



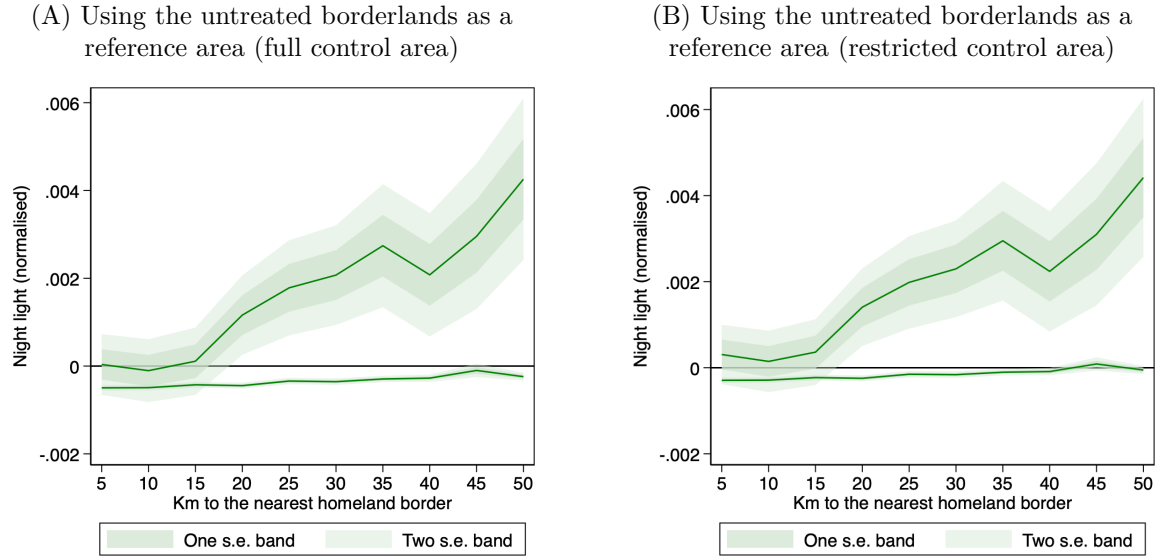
Notes: The *coefplot* shows the coefficients and confidence intervals concerning the coloniser fixed effects used in the regression model underlying the results reported in Table D.5. The reference category is grid cells independent of colonisers in 1913.

Figure D.6: *Coefplots* for country fixed effects



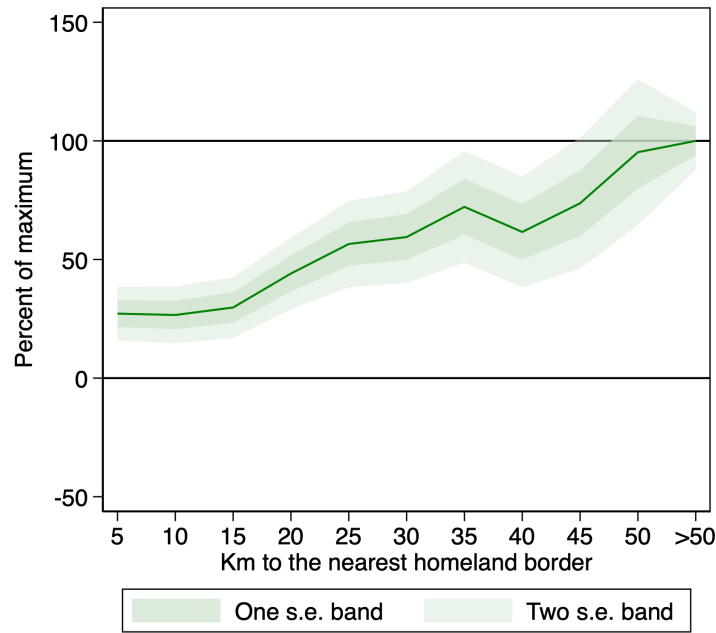
Notes: The *coefplot* shows the coefficients and confidence intervals concerning the country fixed effects used in the regression model underlying the results reported in Table D.5. The reference country is Zimbabwe.

Figure D.7: Treated and control grid cells inside and outside the borderlands



Notes: Coefficients and confidence intervals are taken from the regression model described in the text and reported in Table D.5 relative to a reference zone situated outside the borderlands, consisting of grid cells located more than 100 km from a mission station and more than 50 km from a homeland border (Panel A) or between 100 and 200 km from a mission station and between 50 and 100 km from a homeland border (Panel B). The regression model—specified in Equation 2—includes all baseline controls listed in Appendix B.2, as well as country and coloniser fixed effects, but not post-treatment distance variables. Robust standard errors are used. All continuous variables are log-linearised; binary variables are expressed in levels.

Figure D.8: Relative night-time luminosity near borders without population control



Notes: Relative night-time luminosity describes the estimated β_{ij} coefficients of each of the interacted distance bins as a percentage of the outright (maximum) β_{ij} value observed in Table D.5. The regression model—specified in Equation 2—includes all baseline controls listed in Appendix B.2, as well as country and coloniser fixed effects, but not post-treatment distance variables and population controls. Robust standard errors are used. All continuous variables are log-linearised; binary variables are expressed in levels.

Table D.7: Night-time luminosity by distance to the nearest mission station and homeland border: Excluding contemporary population controls

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	0.0025	0.0008	3.2	0.001	0.0010	0.0040
5-10 km	0-10 km	0.0030	0.0009	3.3	0.001	0.0012	0.0048
10-15 km	0-10 km	0.0033	0.0010	3.5	0.000	0.0015	0.0052
15-20 km	0-10 km	0.0060	0.0013	4.8	0.000	0.0035	0.0085
20-25 km	0-10 km	0.0078	0.0015	5.1	0.000	0.0048	0.0107
25-30 km	0-10 km	0.0077	0.0015	5.0	0.000	0.0047	0.0108
30-35 km	0-10 km	0.0101	0.0019	5.4	0.000	0.0064	0.0137
35-40 km	0-10 km	0.0083	0.0019	4.4	0.000	0.0046	0.0120
40-45 km	0-10 km	0.0106	0.0023	4.6	0.000	0.0061	0.0152
45-50 km	0-10 km	0.0134	0.0025	5.4	0.000	0.0085	0.0184
>50 km	0-10 km	0.0138	0.0009	14.6	0.000	0.0119	0.0156
0-5 km	10-20 km	0.0007	0.0004	2.0	0.047	0.0000	0.0014
5-10 km	10-20 km	0.0009	0.0004	2.3	0.022	0.0001	0.0016
10-15 km	10-20 km	0.0017	0.0006	3.1	0.002	0.0006	0.0028
15-20 km	10-20 km	0.0008	0.0004	1.9	0.059	0.0000	0.0016
20-25 km	10-20 km	0.0023	0.0006	3.8	0.000	0.0011	0.0035
25-30 km	10-20 km	0.0032	0.0007	4.3	0.000	0.0017	0.0047
30-35 km	10-20 km	0.0030	0.0007	4.3	0.000	0.0016	0.0044
35-40 km	10-20 km	0.0042	0.0009	4.6	0.000	0.0024	0.0060
40-45 km	10-20 km	0.0041	0.0009	4.5	0.000	0.0023	0.0059
45-50 km	10-20 km	0.0054	0.0016	3.4	0.001	0.0023	0.0085
>50 km	10-20 km	0.0040	0.0004	9.3	0.000	0.0031	0.0048
0-5 km	20-30 km	0.0006	0.0003	2.0	0.045	0.0000	0.0011
5-10 km	20-30 km	0.0011	0.0003	3.3	0.001	0.0004	0.0018
10-15 km	20-30 km	0.0010	0.0003	2.9	0.004	0.0003	0.0016
15-20 km	20-30 km	0.0007	0.0004	1.9	0.054	0.0000	0.0014
20-25 km	20-30 km	0.0005	0.0004	1.4	0.151	-0.0002	0.0013
25-30 km	20-30 km	0.0003	0.0003	0.9	0.350	-0.0003	0.0008
30-35 km	20-30 km	0.0017	0.0005	3.2	0.001	0.0007	0.0028
35-40 km	20-30 km	0.0006	0.0005	1.1	0.254	-0.0004	0.0017
40-45 km	20-30 km	0.0012	0.0005	2.1	0.033	0.0001	0.0022
45-50 km	20-30 km	0.0002	0.0004	0.6	0.547	-0.0006	0.0010
>50 km	20-30 km	0.0018	0.0003	6.0	0.000	0.0012	0.0024
0-5 km	30-40 km	0.0009	0.0002	4.2	0.000	0.0005	0.0014
5-10 km	30-40 km	0.0008	0.0003	3.1	0.002	0.0003	0.0014
10-15 km	30-40 km	0.0002	0.0002	1.1	0.293	-0.0002	0.0005
15-20 km	30-40 km	0.0004	0.0002	2.0	0.049	0.0000	0.0009
20-25 km	30-40 km	0.0006	0.0003	2.1	0.033	0.0000	0.0011
25-30 km	30-40 km	0.0001	0.0003	0.5	0.644	-0.0004	0.0007
30-35 km	30-40 km	-0.0001	0.0003	-0.4	0.667	-0.0006	0.0004
35-40 km	30-40 km	0.0000	0.0003	0.1	0.912	-0.0005	0.0006
40-45 km	30-40 km	0.0003	0.0003	0.8	0.396	-0.0003	0.0008
45-50 km	30-40 km	-0.0001	0.0005	-0.2	0.860	-0.0012	0.0010
>50 km	30-40 km	0.0012	0.0003	4.4	0.000	0.0006	0.0017

Table D.7: Night-time luminosity by distance to the nearest mission station and homeland border: Excluding contemporary population controls (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	0.0005	0.0002	2.4	0.017	0.0001	0.0009
5-10 km	40-50 km	0.0007	0.0002	3.7	0.000	0.0003	0.0010
10-15 km	40-50 km	0.0003	0.0002	1.7	0.094	0.0000	0.0006
15-20 km	40-50 km	0.0002	0.0002	1.0	0.341	-0.0002	0.0005
20-25 km	40-50 km	-0.0003	0.0002	-1.4	0.172	-0.0007	0.0001
25-30 km	40-50 km	0.0000	0.0002	-0.1	0.895	-0.0004	0.0003
30-35 km	40-50 km	0.0001	0.0003	0.2	0.807	-0.0005	0.0006
35-40 km	40-50 km	0.0000	0.0004	-0.1	0.899	-0.0008	0.0007
40-45 km	40-50 km	-0.0007	0.0003	-2.6	0.009	-0.0013	-0.0002
45-50 km	40-50 km	0.0003	0.0005	0.6	0.563	-0.0007	0.0013
>50 km	40-50 km	0.0008	0.0002	3.5	0.000	0.0004	0.0013
0-5 km	50-60 km	0.0004	0.0001	3.0	0.003	0.0001	0.0007
5-10 km	50-60 km	0.0001	0.0002	0.9	0.356	-0.0002	0.0004
10-15 km	50-60 km	0.0002	0.0002	1.5	0.133	-0.0001	0.0006
15-20 km	50-60 km	0.0004	0.0002	2.0	0.047	0.0000	0.0008
20-25 km	50-60 km	0.0004	0.0002	2.3	0.023	0.0001	0.0007
25-30 km	50-60 km	0.0001	0.0002	0.3	0.743	-0.0003	0.0005
30-35 km	50-60 km	-0.0004	0.0002	-1.9	0.055	-0.0008	0.0000
35-40 km	50-60 km	-0.0003	0.0002	-1.4	0.173	-0.0007	0.0001
40-45 km	50-60 km	-0.0001	0.0003	-0.3	0.740	-0.0008	0.0005
45-50 km	50-60 km	-0.0004	0.0003	-1.4	0.166	-0.0011	0.0002
>50 km	50-60 km	0.0004	0.0002	1.9	0.061	0.0000	0.0008
0-5 km	60-70 km	0.0002	0.0002	0.8	0.437	-0.0002	0.0006
5-10 km	60-70 km	0.0004	0.0002	1.7	0.092	-0.0001	0.0008
10-15 km	60-70 km	0.0000	0.0002	-0.1	0.956	-0.0003	0.0003
15-20 km	60-70 km	0.0002	0.0002	0.9	0.345	-0.0002	0.0006
20-25 km	60-70 km	0.0002	0.0002	0.8	0.410	-0.0002	0.0005
25-30 km	60-70 km	-0.0001	0.0002	-0.4	0.721	-0.0005	0.0004
30-35 km	60-70 km	0.0005	0.0003	1.6	0.113	-0.0001	0.0011
35-40 km	60-70 km	-0.0003	0.0003	-1.2	0.236	-0.0009	0.0002
40-45 km	60-70 km	-0.0003	0.0002	-1.3	0.189	-0.0007	0.0001
45-50 km	60-70 km	-0.0008	0.0003	-3.0	0.003	-0.0014	-0.0003
>50 km	60-70 km	0.0001	0.0002	0.4	0.689	-0.0003	0.0004
0-5 km	70-80 km	0.0004	0.0002	1.8	0.066	0.0000	0.0008
5-10 km	70-80 km	0.0003	0.0002	1.4	0.151	-0.0001	0.0008
10-15 km	70-80 km	0.0001	0.0002	0.4	0.687	-0.0003	0.0005
15-20 km	70-80 km	-0.0001	0.0002	-0.5	0.646	-0.0004	0.0002
20-25 km	70-80 km	0.0003	0.0002	1.7	0.083	0.0000	0.0006
25-30 km	70-80 km	-0.0001	0.0002	-0.4	0.723	-0.0005	0.0004
30-35 km	70-80 km	0.0001	0.0002	0.3	0.777	-0.0003	0.0005
35-40 km	70-80 km	0.0003	0.0003	1.0	0.295	-0.0002	0.0008
40-45 km	70-80 km	0.0002	0.0003	0.5	0.627	-0.0005	0.0008
45-50 km	70-80 km	0.0005	0.0006	0.9	0.378	-0.0006	0.0017
>50 km	70-80 km	-0.0002	0.0002	-1.0	0.322	-0.0006	0.0002

Table D.7: Night-time luminosity by distance to the nearest mission station and homeland border: Excluding contemporary population controls (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	0.0004	0.0002	2.3	0.020	0.0001	0.0007
5-10 km	80-90 km	0.0002	0.0002	1.1	0.251	-0.0001	0.0005
10-15 km	80-90 km	0.0004	0.0002	2.4	0.017	0.0001	0.0008
15-20 km	80-90 km	0.0000	0.0002	-0.3	0.794	-0.0004	0.0003
20-25 km	80-90 km	0.0001	0.0002	0.3	0.753	-0.0003	0.0004
25-30 km	80-90 km	0.0002	0.0002	1.2	0.242	-0.0001	0.0005
30-35 km	80-90 km	0.0003	0.0002	1.6	0.110	-0.0001	0.0007
35-40 km	80-90 km	0.0002	0.0003	0.8	0.409	-0.0003	0.0008
40-45 km	80-90 km	-0.0002	0.0004	-0.5	0.613	-0.0009	0.0005
45-50 km	80-90 km	0.0007	0.0006	1.2	0.243	-0.0005	0.0019
>50 km	80-90 km	-0.0004	0.0001	-2.8	0.005	-0.0007	-0.0001
0-5 km	90-100 km	0.0001	0.0002	0.5	0.631	-0.0002	0.0004
5-10 km	90-100 km	-0.0001	0.0002	-0.7	0.502	-0.0005	0.0002
10-15 km	90-100 km	0.0000	0.0002	0.0	0.974	-0.0003	0.0003
15-20 km	90-100 km	0.0002	0.0002	1.4	0.159	-0.0001	0.0006
20-25 km	90-100 km	0.0004	0.0002	2.1	0.040	0.0000	0.0007
25-30 km	90-100 km	-0.0003	0.0002	-1.4	0.170	-0.0007	0.0001
30-35 km	90-100 km	0.0001	0.0002	0.4	0.699	-0.0003	0.0004
35-40 km	90-100 km	-0.0002	0.0003	-0.7	0.499	-0.0007	0.0004
40-45 km	90-100 km	-0.0001	0.0002	-0.5	0.627	-0.0005	0.0003
45-50 km	90-100 km	-0.0004	0.0002	-1.7	0.091	-0.0008	0.0001
>50 km	90-100 km	-0.0005	0.0002	-2.8	0.005	-0.0009	-0.0002
0-5 km	>100 km	-0.0004	0.0001	-6.9	0.000	-0.0005	-0.0003
5-10 km	>100 km	-0.0004	0.0001	-7.7	0.000	-0.0005	-0.0003
10-15 km	>100 km	-0.0003	0.0001	-5.2	0.000	-0.0004	-0.0002
15-20 km	>100 km	-0.0003	0.0001	-5.6	0.000	-0.0004	-0.0002
20-25 km	>100 km	-0.0003	0.0001	-4.6	0.000	-0.0004	-0.0002
25-30 km	>100 km	-0.0003	0.0001	-4.8	0.000	-0.0004	-0.0002
30-35 km	>100 km	-0.0002	0.0001	-3.2	0.001	-0.0003	-0.0001
35-40 km	>100 km	-0.0003	0.0001	-3.6	0.000	-0.0005	-0.0001
40-45 km	>100 km	0.0000	0.0001	-0.4	0.667	-0.0002	0.0001
45-50 km	>100 km	-0.0003	0.0001	-4.3	0.000	-0.0005	-0.0002
>50 km	>100 km	0.0000			(omitted)		
Controls					Yes		
Coloniser fixed effects					Yes		
Country fixed effects					Yes		
Std. err.					Robust		
R^2					0.2558		
N					256,953		

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. All variables are log-linearised except binaries. *Coefplots* for the control variables and fixed effects are reported in Figures D.3, D.4, D.5, and D.6

E Sensitivity results

Table E.1: Night-time luminosity by distance to the nearest mission station and homeland border: With Conley standard errors

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	0.0000	0.0003	0.1	0.916	-0.0006	0.0007
5-10 km	0-10 km	-0.0001	0.0004	-0.3	0.771	-0.0008	0.0006
10-15 km	0-10 km	0.0001	0.0004	0.3	0.772	-0.0006	0.0009
15-20 km	0-10 km	0.0012	0.0005	2.6	0.010	0.0003	0.0020
20-25 km	0-10 km	0.0018	0.0005	3.3	0.001	0.0007	0.0028
25-30 km	0-10 km	0.0021	0.0006	3.7	0.000	0.0010	0.0032
30-35 km	0-10 km	0.0027	0.0007	3.9	0.000	0.0014	0.0041
35-40 km	0-10 km	0.0021	0.0007	3.0	0.003	0.0007	0.0035
40-45 km	0-10 km	0.0030	0.0008	3.6	0.000	0.0013	0.0046
45-50 km	0-10 km	0.0043	0.0009	4.6	0.000	0.0025	0.0061
>50 km	0-10 km	0.0045	0.0004	12.4	0.000	0.0038	0.0052
0-5 km	10-20 km	-0.0006	0.0002	-4.1	0.000	-0.0010	-0.0003
5-10 km	10-20 km	-0.0005	0.0002	-3.0	0.003	-0.0008	-0.0002
10-15 km	10-20 km	-0.0003	0.0002	-1.3	0.201	-0.0007	0.0001
15-20 km	10-20 km	-0.0005	0.0002	-2.4	0.014	-0.0009	-0.0001
20-25 km	10-20 km	0.0002	0.0003	0.7	0.502	-0.0003	0.0007
25-30 km	10-20 km	0.0004	0.0003	1.3	0.187	-0.0002	0.0009
30-35 km	10-20 km	0.0003	0.0003	1.2	0.242	-0.0002	0.0009
35-40 km	10-20 km	0.0010	0.0004	2.7	0.008	0.0003	0.0017
40-45 km	10-20 km	0.0010	0.0004	2.7	0.007	0.0003	0.0017
45-50 km	10-20 km	0.0007	0.0004	1.6	0.100	-0.0001	0.0015
>50 km	10-20 km	0.0009	0.0002	5.0	0.000	0.0006	0.0013
0-5 km	20-30 km	-0.0005	0.0001	-3.6	0.000	-0.0008	-0.0002
5-10 km	20-30 km	-0.0004	0.0001	-2.9	0.004	-0.0007	-0.0001
10-15 km	20-30 km	-0.0004	0.0002	-2.5	0.011	-0.0007	-0.0001
15-20 km	20-30 km	-0.0005	0.0002	-3.2	0.001	-0.0009	-0.0002
20-25 km	20-30 km	-0.0005	0.0002	-2.7	0.007	-0.0008	-0.0001
25-30 km	20-30 km	-0.0006	0.0002	-3.6	0.000	-0.0009	-0.0003
30-35 km	20-30 km	0.0001	0.0002	0.3	0.784	-0.0004	0.0005
35-40 km	20-30 km	-0.0004	0.0002	-1.7	0.086	-0.0009	0.0001
40-45 km	20-30 km	-0.0003	0.0002	-1.3	0.208	-0.0007	0.0002
45-50 km	20-30 km	-0.0004	0.0003	-1.3	0.201	-0.0009	0.0002
>50 km	20-30 km	0.0001	0.0001	0.9	0.370	-0.0001	0.0004
0-5 km	30-40 km	-0.0004	0.0001	-3.2	0.001	-0.0006	-0.0001
5-10 km	30-40 km	-0.0005	0.0001	-4.3	0.000	-0.0007	-0.0003
10-15 km	30-40 km	-0.0006	0.0001	-5.6	0.000	-0.0008	-0.0004
15-20 km	30-40 km	-0.0006	0.0001	-5.0	0.000	-0.0008	-0.0004
20-25 km	30-40 km	-0.0004	0.0001	-2.6	0.008	-0.0006	-0.0001
25-30 km	30-40 km	-0.0007	0.0001	-4.6	0.000	-0.0010	-0.0004
30-35 km	30-40 km	-0.0007	0.0001	-5.8	0.000	-0.0010	-0.0005
35-40 km	30-40 km	-0.0005	0.0002	-3.0	0.003	-0.0008	-0.0002
40-45 km	30-40 km	-0.0006	0.0002	-3.5	0.000	-0.0009	-0.0003
45-50 km	30-40 km	-0.0007	0.0002	-2.8	0.005	-0.0011	-0.0002
>50 km	30-40 km	0.0002	0.0002	0.9	0.372	-0.0003	0.0007

Table E.1: Night-time luminosity by distance to the nearest mission station and homeland border: With Conley standard errors (continued)

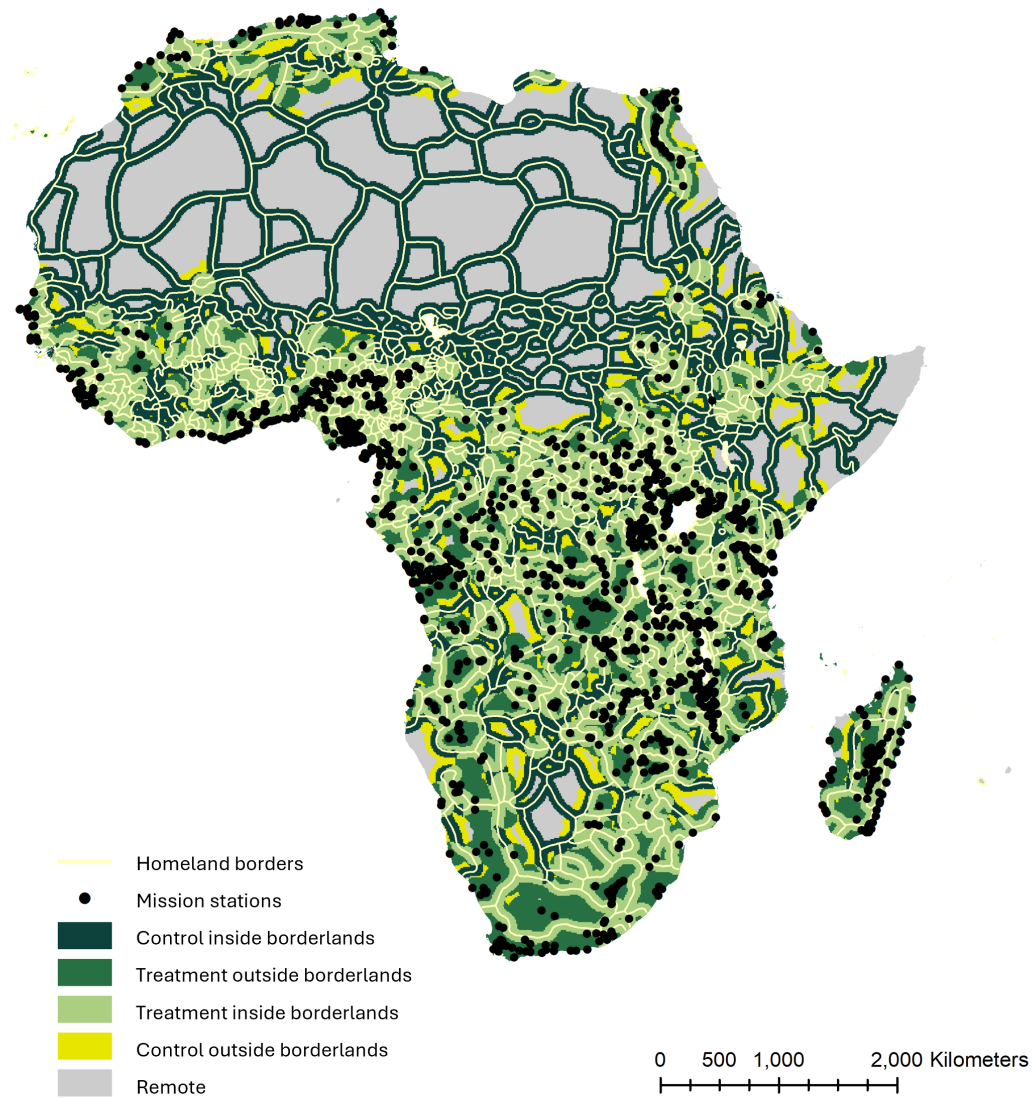
Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0006	0.0001	-6.4	0.000	-0.0008	-0.0004
5-10 km	40-50 km	-0.0004	0.0001	-4.6	0.000	-0.0006	-0.0002
10-15 km	40-50 km	-0.0006	0.0001	-6.6	0.000	-0.0008	-0.0004
15-20 km	40-50 km	-0.0005	0.0001	-4.9	0.000	-0.0007	-0.0003
20-25 km	40-50 km	-0.0008	0.0001	-6.8	0.000	-0.0010	-0.0006
25-30 km	40-50 km	-0.0006	0.0001	-6.1	0.000	-0.0008	-0.0004
30-35 km	40-50 km	-0.0006	0.0001	-4.0	0.000	-0.0009	-0.0003
35-40 km	40-50 km	-0.0007	0.0002	-4.3	0.000	-0.0010	-0.0004
40-45 km	40-50 km	-0.0010	0.0001	-6.7	0.000	-0.0013	-0.0007
45-50 km	40-50 km	-0.0002	0.0002	-0.9	0.383	-0.0007	0.0003
>50 km	40-50 km	-0.0001	0.0001	-1.0	0.296	-0.0003	0.0001
0-5 km	50-60 km	-0.0005	0.0001	-5.6	0.000	-0.0006	-0.0003
5-10 km	50-60 km	-0.0006	0.0001	-5.9	0.000	-0.0007	-0.0004
10-15 km	50-60 km	-0.0005	0.0001	-4.6	0.000	-0.0007	-0.0003
15-20 km	50-60 km	-0.0004	0.0001	-3.2	0.002	-0.0006	-0.0001
20-25 km	50-60 km	-0.0003	0.0001	-2.7	0.006	-0.0006	-0.0001
25-30 km	50-60 km	-0.0004	0.0001	-3.5	0.000	-0.0007	-0.0002
30-35 km	50-60 km	-0.0007	0.0001	-6.4	0.000	-0.0010	-0.0005
35-40 km	50-60 km	-0.0005	0.0001	-3.8	0.000	-0.0008	-0.0003
40-45 km	50-60 km	-0.0004	0.0002	-2.2	0.027	-0.0008	0.0000
45-50 km	50-60 km	-0.0007	0.0002	-4.4	0.000	-0.0010	-0.0004
>50 km	50-60 km	-0.0002	0.0001	-2.0	0.048	-0.0004	0.0000
0-5 km	60-70 km	-0.0006	0.0001	-5.3	0.000	-0.0008	-0.0004
5-10 km	60-70 km	-0.0003	0.0001	-2.9	0.003	-0.0006	-0.0001
10-15 km	60-70 km	-0.0006	0.0001	-6.1	0.000	-0.0007	-0.0004
15-20 km	60-70 km	-0.0005	0.0001	-4.3	0.000	-0.0007	-0.0002
20-25 km	60-70 km	-0.0005	0.0001	-5.0	0.000	-0.0007	-0.0003
25-30 km	60-70 km	-0.0005	0.0001	-4.0	0.000	-0.0008	-0.0003
30-35 km	60-70 km	0.0000	0.0002	0.0	0.992	-0.0004	0.0004
35-40 km	60-70 km	-0.0007	0.0001	-4.8	0.000	-0.0009	-0.0004
40-45 km	60-70 km	-0.0005	0.0001	-3.7	0.000	-0.0008	-0.0002
45-50 km	60-70 km	-0.0009	0.0001	-5.8	0.000	-0.0011	-0.0006
>50 km	60-70 km	-0.0003	0.0001	-3.7	0.000	-0.0005	-0.0002
0-5 km	70-80 km	-0.0003	0.0001	-3.1	0.002	-0.0005	-0.0001
5-10 km	70-80 km	-0.0004	0.0001	-3.7	0.000	-0.0007	-0.0002
10-15 km	70-80 km	-0.0005	0.0001	-4.9	0.000	-0.0007	-0.0003
15-20 km	70-80 km	-0.0006	0.0001	-6.8	0.000	-0.0008	-0.0004
20-25 km	70-80 km	-0.0004	0.0001	-3.7	0.000	-0.0006	-0.0002
25-30 km	70-80 km	-0.0004	0.0001	-2.6	0.010	-0.0007	-0.0001
30-35 km	70-80 km	-0.0005	0.0001	-4.1	0.000	-0.0007	-0.0002
35-40 km	70-80 km	-0.0003	0.0001	-1.8	0.080	-0.0006	0.0000
40-45 km	70-80 km	-0.0002	0.0002	-1.0	0.316	-0.0005	0.0002
45-50 km	70-80 km	-0.0004	0.0002	-1.6	0.114	-0.0008	0.0001
>50 km	70-80 km	-0.0004	0.0001	-3.7	0.000	-0.0005	-0.0002

Table E.1: Night-time luminosity by distance to mission stations and homeland borders:
With Conley standard errors (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0003	0.0001	-3.6	0.000	-0.0005	-0.0001
5-10 km	80-90 km	-0.0004	0.0001	-4.9	0.000	-0.0006	-0.0003
10-15 km	80-90 km	-0.0003	0.0001	-3.0	0.003	-0.0005	-0.0001
15-20 km	80-90 km	-0.0005	0.0001	-4.5	0.000	-0.0007	-0.0003
20-25 km	80-90 km	-0.0005	0.0001	-4.5	0.000	-0.0007	-0.0003
25-30 km	80-90 km	-0.0004	0.0001	-4.0	0.000	-0.0006	-0.0002
30-35 km	80-90 km	-0.0002	0.0001	-1.5	0.141	-0.0004	0.0001
35-40 km	80-90 km	-0.0003	0.0002	-1.9	0.056	-0.0006	0.0000
40-45 km	80-90 km	-0.0006	0.0002	-3.2	0.001	-0.0009	-0.0002
45-50 km	80-90 km	-0.0001	0.0002	-0.4	0.666	-0.0006	0.0004
>50 km	80-90 km	-0.0005	0.0001	-5.3	0.000	-0.0006	-0.0003
0-5 km	90-100 km	-0.0004	0.0001	-3.8	0.000	-0.0006	-0.0002
5-10 km	90-100 km	-0.0006	0.0001	-5.9	0.000	-0.0007	-0.0004
10-15 km	90-100 km	-0.0004	0.0001	-4.2	0.000	-0.0006	-0.0002
15-20 km	90-100 km	-0.0003	0.0001	-3.1	0.002	-0.0005	-0.0001
20-25 km	90-100 km	-0.0002	0.0001	-1.9	0.057	-0.0004	0.0000
25-30 km	90-100 km	-0.0005	0.0001	-4.5	0.000	-0.0007	-0.0003
30-35 km	90-100 km	-0.0003	0.0001	-2.8	0.005	-0.0005	-0.0001
35-40 km	90-100 km	-0.0005	0.0002	-2.8	0.005	-0.0008	-0.0001
40-45 km	90-100 km	-0.0001	0.0002	-0.4	0.673	-0.0004	0.0003
45-50 km	90-100 km	-0.0008	0.0002	-4.7	0.000	-0.0011	-0.0005
>50 km	90-100 km	-0.0004	0.0001	-3.7	0.000	-0.0006	-0.0002
0-5 km	>100 km	-0.0005	0.0000	-15.5	0.000	-0.0006	-0.0004
5-10 km	>100 km	-0.0005	0.0000	-15.4	0.000	-0.0006	-0.0004
10-15 km	>100 km	-0.0004	0.0000	-13.2	0.000	-0.0005	-0.0004
15-20 km	>100 km	-0.0004	0.0000	-13.1	0.000	-0.0005	-0.0004
20-25 km	>100 km	-0.0003	0.0000	-9.4	0.000	-0.0004	-0.0003
25-30 km	>100 km	-0.0004	0.0000	-9.5	0.000	-0.0004	-0.0003
30-35 km	>100 km	-0.0003	0.0000	-8.0	0.000	-0.0004	-0.0002
35-40 km	>100 km	-0.0003	0.0000	-6.5	0.000	-0.0004	-0.0002
40-45 km	>100 km	-0.0001	0.0001	-1.3	0.191	-0.0002	0.0000
45-50 km	>100 km	-0.0002	0.0000	-5.2	0.000	-0.0003	-0.0002
>50 km	>100 km	0.00000	(omitted)				
Controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Std. err.							Conley (HAC)
R^2							0.2937
N							257,224

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, railways, mines, national borders, historical explorer routes, pre-colonial cities, Muslim seats, Protestant printing presses, and postcolonial World Bank aid projects. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. The model includes country and coloniser fixed effects, as well as Conley (HAC) standard errors (Conley, 1999), with a linear decay extending up to 100 km from the centroid of each grid cell. All variables are log-linearised except binaries.

Figure E.1: Treated and control grid cells inside and outside the borderlands: restricted reference zone excluding remote cells



Notes: The map shows how we split Africa into two: *inside* the borderlands (within 50 km of a homeland border) and *outside* the borderlands (beyond 50 km from a border). Grid cells are classified as treated if a mission station is within 100 km; otherwise, they are classified as control cells. Therefore, dark green shows control grid cells inside the borderlands; light green shows treated grid cells inside the borderlands; medium green shows treated grid cells outside the borderlands; and yellow shows control grid cells outside the borderlands. Finally, grey shows remote grid cells situated more than 200 km from a mission station and more than 100 km from a homeland border.

Table E.2: Night-time luminosity by distance to the nearest mission station and homeland border: Restricted neutral zone

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	-0.0002	0.0003	0.5	0.647	-0.0005	-0.0008
5-10 km	0-10 km	0.0000	0.0004	0.0	0.961	-0.0007	0.0007
10-15 km	0-10 km	0.0002	0.0004	0.6	0.544	-0.0005	0.0010
15-20 km	0-10 km	0.0013	0.0005	2.8	0.004	0.0004	0.0022
20-25 km	0-10 km	0.0019	0.0005	3.5	0.000	0.0008	0.0030
25-30 km	0-10 km	0.0022	0.0006	3.9	0.000	0.0011	0.0033
30-35 km	0-10 km	0.0029	0.0007	4.1	0.000	0.0015	0.0042
35-40 km	0-10 km	0.0022	0.0007	3.1	0.002	0.0008	0.0036
40-45 km	0-10 km	0.0031	0.0008	3.7	0.000	0.0015	0.0047
45-50 km	0-10 km	0.0044	0.0009	4.8	0.000	0.0026	0.0062
>50 km	0-10 km	0.0046	0.0004	12.8	0.000	0.0039	0.0053
0-5 km	10-20 km	-0.0005	0.0002	-3.3	0.001	-0.0008	-0.0002
5-10 km	10-20 km	-0.0004	0.0002	-2.3	0.022	-0.0007	-0.0001
10-15 km	10-20 km	-0.0001	0.0002	-0.7	0.490	-0.0006	0.0003
15-20 km	10-20 km	-0.0003	0.0002	-1.8	0.071	-0.0007	0.0000
20-25 km	10-20 km	0.0003	0.0003	1.2	0.247	-0.0002	0.0008
25-30 km	10-20 km	0.0005	0.0003	1.8	0.080	-0.0001	0.0011
30-35 km	10-20 km	0.0005	0.0003	1.6	0.109	-0.0001	0.0010
35-40 km	10-20 km	0.0011	0.0004	3.0	0.003	0.0004	0.0019
40-45 km	10-20 km	0.0011	0.0004	3.0	0.003	0.0004	0.0018
45-50 km	10-20 km	0.0008	0.0004	2.0	0.050	0.0000	0.0016
>50 km	10-20 km	0.0011	0.0002	5.6	0.000	0.0007	0.0014
0-5 km	20-30 km	-0.0004	0.0001	-2.8	0.006	-0.0007	-0.0001
5-10 km	20-30 km	-0.0003	0.0001	-2.0	0.044	-0.0006	0.0000
10-15 km	20-30 km	-0.0003	0.0002	-1.7	0.081	-0.0006	0.0000
15-20 km	20-30 km	-0.0004	0.0002	-2.4	0.015	-0.0007	-0.0001
20-25 km	20-30 km	-0.0004	0.0002	-2.0	0.046	-0.0007	0.0000
25-30 km	20-30 km	-0.0004	0.0002	-2.8	0.005	-0.0007	-0.0001
30-35 km	20-30 km	0.0002	0.0002	0.8	0.431	-0.0003	0.0007
35-40 km	20-30 km	-0.0003	0.0002	-1.2	0.227	-0.0008	0.0002
40-45 km	20-30 km	-0.0002	0.0002	-0.7	0.481	-0.0006	0.0003
45-50 km	20-30 km	-0.0002	0.0003	-0.8	0.396	-0.0008	0.0003
>50 km	20-30 km	0.0002	0.0001	1.9	0.055	0.0000	0.0005
0-5 km	30-40 km	-0.0002	0.0001	-2.0	0.041	-0.0004	0.0000
5-10 km	30-40 km	-0.0004	0.0001	-3.2	0.001	-0.0006	-0.0001
10-15 km	30-40 km	-0.0005	0.0001	-4.4	0.000	-0.0007	-0.0003
15-20 km	30-40 km	-0.0005	0.0001	-4.0	0.000	-0.0007	-0.0002
20-25 km	30-40 km	-0.0002	0.0001	-1.7	0.092	-0.0005	0.0000
25-30 km	30-40 km	-0.0005	0.0001	-3.7	0.000	-0.0008	-0.0003
30-35 km	30-40 km	-0.0006	0.0001	-4.8	0.000	-0.0009	-0.0004
35-40 km	30-40 km	-0.0004	0.0002	-2.2	0.025	-0.0007	0.0000
40-45 km	30-40 km	-0.0004	0.0002	-2.7	0.006	-0.0008	-0.0001
45-50 km	30-40 km	-0.0005	0.0002	-2.3	0.024	-0.0010	-0.0001
>50 km	30-40 km	0.0003	0.0002	1.4	0.155	-0.0001	0.0008

Table E.2: Night-time luminosity by distance to the nearest mission station and homeland border: Restricted neutral zone (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0005	0.0001	-5.0	0.000	-0.0007	-0.0003
5-10 km	40-50 km	-0.0003	0.0001	-3.2	0.002	-0.0005	-0.0001
10-15 km	40-50 km	-0.0005	0.0001	-5.1	0.000	-0.0006	-0.0003
15-20 km	40-50 km	-0.0004	0.0001	-3.6	0.000	-0.0006	-0.0002
20-25 km	40-50 km	-0.0007	0.0001	-5.7	0.000	-0.0009	-0.0004
25-30 km	40-50 km	-0.0005	0.0001	-4.8	0.000	-0.0007	-0.0003
30-35 km	40-50 km	-0.0005	0.0001	-3.1	0.002	-0.0007	-0.0002
35-40 km	40-50 km	-0.0006	0.0002	-3.5	0.001	-0.0009	-0.0002
40-45 km	40-50 km	-0.0009	0.0001	-5.8	0.000	-0.0011	-0.0006
45-50 km	40-50 km	-0.0001	0.0002	-0.3	0.746	-0.0005	0.0004
>50 km	40-50 km	0.0000	0.0001	0.2	0.831	-0.0002	0.0002
0-5 km	50-60 km	-0.0003	0.0001	-4.0	0.000	-0.0005	-0.0002
5-10 km	50-60 km	-0.0004	0.0001	-4.5	0.000	-0.0006	-0.0002
10-15 km	50-60 km	-0.0004	0.0001	-3.3	0.001	-0.0006	-0.0001
15-20 km	50-60 km	-0.0002	0.0001	-2.0	0.044	-0.0005	0.0000
20-25 km	50-60 km	-0.0002	0.0001	-1.7	0.094	-0.0005	0.0000
25-30 km	50-60 km	-0.0003	0.0001	-2.5	0.014	-0.0005	-0.0001
30-35 km	50-60 km	-0.0006	0.0001	-5.2	0.000	-0.0008	-0.0004
35-40 km	50-60 km	-0.0004	0.0001	-2.8	0.005	-0.0007	-0.0001
40-45 km	50-60 km	-0.0003	0.0002	-1.5	0.128	-0.0007	0.0001
45-50 km	50-60 km	-0.0006	0.0002	-3.6	0.000	-0.0009	-0.0003
>50 km	50-60 km	-0.0001	0.0001	-0.5	0.587	-0.0002	0.0001
0-5 km	60-70 km	-0.0004	0.0001	-4.1	0.000	-0.0006	-0.0002
5-10 km	60-70 km	-0.0002	0.0001	-1.8	0.068	-0.0004	0.0000
10-15 km	60-70 km	-0.0004	0.0001	-4.6	0.000	-0.0006	-0.0002
15-20 km	60-70 km	-0.0003	0.0001	-3.0	0.002	-0.0005	-0.0001
20-25 km	60-70 km	-0.0004	0.0001	-3.8	0.000	-0.0006	-0.0002
25-30 km	60-70 km	-0.0004	0.0001	-3.0	0.002	-0.0007	-0.0001
30-35 km	60-70 km	0.0001	0.0002	0.7	0.485	-0.0002	0.0005
35-40 km	60-70 km	-0.0005	0.0001	-3.9	0.000	-0.0008	-0.0003
40-45 km	60-70 km	-0.0004	0.0001	-2.8	0.006	-0.0006	-0.0001
45-50 km	60-70 km	-0.0007	0.0001	-4.9	0.000	-0.0010	-0.0004
>50 km	60-70 km	-0.0002	0.0001	-2.2	0.027	-0.0004	0.0000
0-5 km	70-80 km	-0.0002	0.0001	-1.8	0.068	-0.0004	0.0000
5-10 km	70-80 km	-0.0003	0.0001	-2.5	0.011	-0.0005	-0.0001
10-15 km	70-80 km	-0.0004	0.0001	-3.7	0.000	-0.0006	-0.0002
15-20 km	70-80 km	-0.0005	0.0001	-5.3	0.000	-0.0006	-0.0003
20-25 km	70-80 km	-0.0002	0.0001	-2.3	0.019	-0.0004	0.0000
25-30 km	70-80 km	-0.0002	0.0001	-1.6	0.100	-0.0005	0.0000
30-35 km	70-80 km	-0.0003	0.0001	-2.9	0.003	-0.0005	-0.0001
35-40 km	70-80 km	-0.0001	0.0001	-0.9	0.388	-0.0004	0.0002
40-45 km	70-80 km	0.0000	0.0002	-0.3	0.788	-0.0004	0.0003
45-50 km	70-80 km	-0.0002	0.0002	-1.0	0.321	-0.0007	0.0002
>50 km	70-80 km	-0.0002	0.0001	-2.3	0.022	-0.0004	0.0000

Table E.2: Night-time luminosity by distance to mission stations and homeland borders:
Restricted neutral zone (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0002	0.0001	-2.1	0.036	-0.0004	0.0000
5-10 km	80-90 km	-0.0003	0.0001	-3.4	0.001	-0.0005	-0.0001
10-15 km	80-90 km	-0.0002	0.0001	-1.7	0.093	-0.0004	0.0000
15-20 km	80-90 km	-0.0003	0.0001	-3.2	0.001	-0.0005	-0.0001
20-25 km	80-90 km	-0.0003	0.0001	-3.1	0.002	-0.0005	-0.0001
25-30 km	80-90 km	-0.0003	0.0001	-2.7	0.008	-0.0005	-0.0001
30-35 km	80-90 km	0.0000	0.0001	-0.2	0.816	-0.0002	0.0002
35-40 km	80-90 km	-0.0002	0.0002	-1.1	0.284	-0.0005	0.0001
40-45 km	80-90 km	-0.0004	0.0002	-2.4	0.015	-0.0008	-0.0001
45-50 km	80-90 km	0.0000	0.0002	0.1	0.900	-0.0004	0.0005
>50 km	80-90 km	-0.0003	0.0001	-3.7	0.000	-0.0005	-0.0002
0-5 km	90-100 km	-0.0002	0.0001	-2.5	0.014	-0.0004	0.0000
5-10 km	90-100 km	-0.0004	0.0001	-4.5	0.000	-0.0006	-0.0002
10-15 km	90-100 km	-0.0003	0.0001	-2.8	0.005	-0.0005	-0.0001
15-20 km	90-100 km	-0.0002	0.0001	-1.6	0.099	-0.0003	0.0000
20-25 km	90-100 km	-0.0001	0.0001	-0.6	0.534	-0.0003	0.0001
25-30 km	90-100 km	-0.0004	0.0001	-3.2	0.001	-0.0006	-0.0001
30-35 km	90-100 km	-0.0002	0.0001	-1.5	0.125	-0.0004	0.0000
35-40 km	90-100 km	-0.0003	0.0002	-2.0	0.043	-0.0007	0.0000
40-45 km	90-100 km	0.0001	0.0002	0.3	0.750	-0.0003	0.0004
45-50 km	90-100 km	-0.0006	0.0002	-3.9	0.000	-0.0010	-0.0003
>50 km	90-100 km	-0.0003	0.0001	-2.5	0.014	-0.0005	-0.0001
0-5 km	100-200 km	-0.0003	0.0000	-10.1	0.000	-0.0004	-0.0003
5-10 km	100-200 km	-0.0003	0.0000	-10.0	0.000	-0.0004	-0.0003
10-15 km	100-200 km	-0.0003	0.0000	-7.9	0.000	-0.0003	-0.0002
15-20 km	100-200 km	-0.0003	0.0000	-8.0	0.000	-0.0003	-0.0002
20-25 km	100-200 km	-0.0002	0.0000	-4.6	0.000	-0.0002	-0.0001
25-30 km	100-200 km	-0.0002	0.0000	-4.8	0.000	-0.0003	-0.0001
30-35 km	100-200 km	-0.0001	0.0000	-3.2	0.002	-0.0002	0.0000
35-40 km	100-200 km	-0.0001	0.0000	-2.3	0.022	-0.0002	0.0000
40-45 km	100-200 km	0.0001	0.0001	1.0	0.309	-0.0001	0.0002
45-50 km	100-200 km	-0.0001	0.0000	-1.3	0.188	-0.0002	0.0000
>50 km	100-200 km	0.0000	(omitted)				
>100 km	>200 km	0.0000	0.0000	0.4	0.720	0.0000	0.0000
Controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Std. err.							Robust
R^2							0.3459
N							257,224

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. All variables are log-linearised except binaries. The reference zone is restricted to grid cells located between 100 and 200 km from a mission station and between 50 and 100 km from a homeland border.

Table E.3: Night-time luminosity by distance to the nearest mission station and homeland border: Including post-treatment distance controls

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	0.0002	0.0003	0.6	0.577	-0.0005	0.0009
5-10 km	0-10 km	0.0000	0.0004	0.1	0.927	-0.0007	0.0007
10-15 km	0-10 km	0.0002	0.0004	0.6	0.517	-0.0005	0.0010
15-20 km	0-10 km	0.0013	0.0004	2.9	0.004	0.0004	0.0022
20-25 km	0-10 km	0.0019	0.0005	3.5	0.000	0.0008	0.0029
25-30 km	0-10 km	0.0022	0.0006	3.9	0.000	0.0011	0.0033
30-35 km	0-10 km	0.0028	0.0007	4.1	0.000	0.0015	0.0042
35-40 km	0-10 km	0.0021	0.0007	3.0	0.002	0.0008	0.0035
40-45 km	0-10 km	0.0030	0.0008	3.6	0.000	0.0014	0.0046
45-50 km	0-10 km	0.0043	0.0009	4.7	0.000	0.0025	0.0061
>50 km	0-10 km	0.0044	0.0004	12.2	0.000	0.0037	0.0051
0-5 km	10-20 km	-0.0005	0.0002	-3.4	0.001	-0.0009	-0.0002
5-10 km	10-20 km	-0.0004	0.0002	-2.5	0.013	-0.0008	-0.0001
10-15 km	10-20 km	-0.0002	0.0002	-0.8	0.449	-0.0006	0.0003
15-20 km	10-20 km	-0.0004	0.0002	-2.2	0.029	-0.0008	0.0000
20-25 km	10-20 km	0.0003	0.0003	1.1	0.260	-0.0002	0.0008
25-30 km	10-20 km	0.0004	0.0003	1.5	0.132	-0.0001	0.0010
30-35 km	10-20 km	0.0004	0.0003	1.4	0.164	-0.0002	0.0010
35-40 km	10-20 km	0.0010	0.0004	2.7	0.007	0.0003	0.0017
40-45 km	10-20 km	0.0010	0.0004	2.8	0.006	0.0003	0.0017
45-50 km	10-20 km	0.0007	0.0004	1.7	0.095	-0.0001	0.0015
>50 km	10-20 km	0.0009	0.0002	4.6	0.000	0.0005	0.0013
0-5 km	20-30 km	-0.0005	0.0001	-3.2	0.002	-0.0007	-0.0002
5-10 km	20-30 km	-0.0004	0.0001	-2.5	0.011	-0.0007	-0.0001
10-15 km	20-30 km	-0.0004	0.0002	-2.2	0.025	-0.0007	0.0000
15-20 km	20-30 km	-0.0005	0.0002	-2.9	0.004	-0.0008	-0.0001
20-25 km	20-30 km	-0.0004	0.0002	-2.5	0.014	-0.0008	-0.0001
25-30 km	20-30 km	-0.0005	0.0002	-3.3	0.001	-0.0008	-0.0002
30-35 km	20-30 km	0.0001	0.0002	0.4	0.670	-0.0004	0.0006
35-40 km	20-30 km	-0.0004	0.0002	-1.7	0.085	-0.0009	0.0001
40-45 km	20-30 km	-0.0003	0.0002	-1.3	0.198	-0.0007	0.0002
45-50 km	20-30 km	-0.0004	0.0003	-1.3	0.208	-0.0009	0.0002
>50 km	20-30 km	0.0001	0.0001	0.5	0.643	-0.0002	0.0003
0-5 km	30-40 km	-0.0003	0.0001	-2.8	0.004	-0.0005	-0.0001
5-10 km	30-40 km	-0.0005	0.0001	-3.9	0.000	-0.0007	-0.0002
10-15 km	30-40 km	-0.0006	0.0001	-5.3	0.000	-0.0008	-0.0004
15-20 km	30-40 km	-0.0006	0.0001	-4.8	0.000	-0.0008	-0.0003
20-25 km	30-40 km	-0.0003	0.0001	-2.6	0.009	-0.0006	-0.0001
25-30 km	30-40 km	-0.0006	0.0001	-4.3	0.000	-0.0009	-0.0004
30-35 km	30-40 km	-0.0007	0.0001	-5.6	0.000	-0.0009	-0.0005
35-40 km	30-40 km	-0.0005	0.0002	-2.9	0.003	-0.0008	-0.0002
40-45 km	30-40 km	-0.0006	0.0002	-3.5	0.001	-0.0009	-0.0002
45-50 km	30-40 km	-0.0007	0.0002	-2.8	0.005	-0.0011	-0.0002
>50 km	30-40 km	0.0002	0.0002	0.7	0.472	-0.0003	0.0006

Table E.3: Night-time luminosity by distance to the nearest mission station and homeland border: Including post-treatment distance controls (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0006	0.0001	-6.1	0.000	-0.0008	-0.0004
5-10 km	40-50 km	-0.0004	0.0001	-4.2	0.000	-0.0006	-0.0002
10-15 km	40-50 km	-0.0006	0.0001	-6.4	0.000	-0.0008	-0.0004
15-20 km	40-50 km	-0.0005	0.0001	-4.8	0.000	-0.0007	-0.0003
20-25 km	40-50 km	-0.0008	0.0001	-6.8	0.000	-0.0010	-0.0006
25-30 km	40-50 km	-0.0006	0.0001	-5.9	0.000	-0.0008	-0.0004
30-35 km	40-50 km	-0.0006	0.0001	-4.1	0.000	-0.0009	-0.0003
35-40 km	40-50 km	-0.0007	0.0002	-4.1	0.000	-0.0010	-0.0004
40-45 km	40-50 km	-0.0010	0.0001	-6.6	0.000	-0.0013	-0.0007
45-50 km	40-50 km	-0.0002	0.0002	-0.9	0.370	-0.0007	0.0003
>50 km	40-50 km	-0.0002	0.0001	-1.4	0.151	-0.0004	0.0001
0-5 km	50-60 km	-0.0004	0.0001	-5.3	0.000	-0.0006	-0.0003
5-10 km	50-60 km	-0.0005	0.0001	-5.7	0.000	-0.0007	-0.0004
10-15 km	50-60 km	-0.0005	0.0001	-4.5	0.000	-0.0007	-0.0003
15-20 km	50-60 km	-0.0004	0.0001	-3.1	0.002	-0.0006	-0.0001
20-25 km	50-60 km	-0.0003	0.0001	-2.6	0.008	-0.0006	-0.0001
25-30 km	50-60 km	-0.0004	0.0001	-3.7	0.000	-0.0007	-0.0002
30-35 km	50-60 km	-0.0007	0.0001	-6.3	0.000	-0.0010	-0.0005
35-40 km	50-60 km	-0.0005	0.0001	-3.8	0.000	-0.0008	-0.0003
40-45 km	50-60 km	-0.0004	0.0002	-2.2	0.028	-0.0008	0.0000
45-50 km	50-60 km	-0.0007	0.0002	-4.3	0.000	-0.0010	-0.0004
>50 km	50-60 km	-0.0002	0.0001	-2.4	0.018	-0.0004	0.0000
0-5 km	60-70 km	-0.0005	0.0001	-5.1	0.000	-0.0008	-0.0003
5-10 km	60-70 km	-0.0003	0.0001	-2.9	0.004	-0.0006	-0.0001
10-15 km	60-70 km	-0.0005	0.0001	-5.9	0.000	-0.0007	-0.0004
15-20 km	60-70 km	-0.0004	0.0001	-4.2	0.000	-0.0007	-0.0002
20-25 km	60-70 km	-0.0005	0.0001	-5.1	0.000	-0.0007	-0.0003
25-30 km	60-70 km	-0.0006	0.0001	-4.1	0.000	-0.0008	-0.0003
30-35 km	60-70 km	0.0000	0.0002	-0.1	0.950	-0.0004	0.0004
35-40 km	60-70 km	-0.0007	0.0001	-4.8	0.000	-0.0009	-0.0004
40-45 km	60-70 km	-0.0005	0.0001	-3.7	0.000	-0.0008	-0.0002
45-50 km	60-70 km	-0.0008	0.0001	-5.7	0.000	-0.0011	-0.0005
>50 km	60-70 km	-0.0003	0.0001	-3.9	0.000	-0.0005	-0.0002
0-5 km	70-80 km	-0.0003	0.0001	-2.9	0.004	-0.0005	-0.0001
5-10 km	70-80 km	-0.0004	0.0001	-3.7	0.000	-0.0007	-0.0002
10-15 km	70-80 km	-0.0005	0.0001	-4.7	0.000	-0.0007	-0.0003
15-20 km	70-80 km	-0.0006	0.0001	-6.8	0.000	-0.0008	-0.0004
20-25 km	70-80 km	-0.0004	0.0001	-3.9	0.000	-0.0006	-0.0002
25-30 km	70-80 km	-0.0004	0.0001	-2.4	0.015	-0.0006	-0.0001
30-35 km	70-80 km	-0.0005	0.0001	-4.3	0.000	-0.0007	-0.0003
35-40 km	70-80 km	-0.0002	0.0001	-1.7	0.096	-0.0005	0.0000
40-45 km	70-80 km	-0.0002	0.0002	-1.2	0.231	-0.0006	0.0001
45-50 km	70-80 km	-0.0003	0.0002	-1.5	0.140	-0.0008	0.0001
>50 km	70-80 km	-0.0004	0.0001	-3.8	0.000	-0.0005	-0.0002

Table E.3: Night-time luminosity by distance to the nearest mission station and homeland border: Including post-treatment distance controls (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0003	0.0001	-3.4	0.001	-0.0005	-0.0001
5-10 km	80-90 km	-0.0004	0.0001	-4.7	0.000	-0.0006	-0.0002
10-15 km	80-90 km	-0.0003	0.0001	-2.9	0.004	-0.0005	-0.0001
15-20 km	80-90 km	-0.0005	0.0001	-4.6	0.000	-0.0007	-0.0003
20-25 km	80-90 km	-0.0004	0.0001	-4.2	0.000	-0.0006	-0.0002
25-30 km	80-90 km	-0.0004	0.0001	-3.9	0.000	-0.0006	-0.0002
30-35 km	80-90 km	-0.0002	0.0001	-1.9	0.056	-0.0004	0.0000
35-40 km	80-90 km	-0.0003	0.0002	-2.0	0.050	-0.0006	0.0000
40-45 km	80-90 km	-0.0006	0.0002	-3.4	0.001	-0.0010	-0.0003
45-50 km	80-90 km	-0.0001	0.0002	-0.5	0.626	-0.0006	0.0004
>50 km	80-90 km	-0.0004	0.0001	-5.1	0.000	-0.0006	-0.0003
0-5 km	90-100 km	-0.0004	0.0001	-3.7	0.000	-0.0005	-0.0002
5-10 km	90-100 km	-0.0005	0.0001	-5.7	0.000	-0.0007	-0.0004
10-15 km	90-100 km	-0.0004	0.0001	-3.8	0.000	-0.0005	-0.0002
15-20 km	90-100 km	-0.0003	0.0001	-2.9	0.004	-0.0005	-0.0001
20-25 km	90-100 km	-0.0002	0.0001	-1.7	0.081	-0.0004	0.0000
25-30 km	90-100 km	-0.0005	0.0001	-4.7	0.000	-0.0007	-0.0003
30-35 km	90-100 km	-0.0003	0.0001	-2.7	0.006	-0.0005	-0.0001
35-40 km	90-100 km	-0.0005	0.0002	-3.1	0.002	-0.0009	-0.0002
40-45 km	90-100 km	-0.0001	0.0002	-0.6	0.526	-0.0005	0.0002
45-50 km	90-100 km	-0.0008	0.0002	-4.9	0.000	-0.0011	-0.0005
>50 km	90-100 km	-0.0004	0.0001	-3.6	0.000	-0.0006	-0.0002
0-5 km	>100 km	-0.0005	0.0000	-14.1	0.000	-0.0005	-0.0004
5-10 km	>100 km	-0.0005	0.0000	-14.0	0.000	-0.0005	-0.0004
10-15 km	>100 km	-0.0004	0.0000	-12.2	0.000	-0.0005	-0.0003
15-20 km	>100 km	-0.0004	0.0000	-12.0	0.000	-0.0005	-0.0003
20-25 km	>100 km	-0.0003	0.0000	-8.7	0.000	-0.0004	-0.0002
25-30 km	>100 km	-0.0003	0.0000	-8.8	0.000	-0.0004	-0.0003
30-35 km	>100 km	-0.0003	0.0000	-7.5	0.000	-0.0004	-0.0002
35-40 km	>100 km	-0.0003	0.0000	-6.2	0.000	-0.0003	-0.0002
40-45 km	>100 km	-0.0001	0.0001	-1.2	0.235	-0.0002	0.0001
45-50 km	>100 km	-0.0002	0.0000	-5.0	0.000	-0.0003	-0.0001
>50 km	>100 km	0.0000	(omitted)				
Baseline controls							Yes
Post-treatment distance controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Std. err.							Robust
R^2							0.3555
N							257,224

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Post-treatment distance controls include the geodesic distances to railways, printing presses, national borders, and World Bank projects. Gaps between the first- and second-nearest mission stations, homeland borders, national borders, and World Bank projects are also accounted for.

Table E.4: Night-time luminosity by distance to the nearest mission station and homeland border: Excluding uninhabited cells

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	-0.0004	0.0003	-1.4	0.176	-0.0010	0.0002
5-10 km	0-10 km	-0.0004	0.0003	-1.2	0.216	-0.0010	0.0002
10-15 km	0-10 km	-0.0002	0.0004	-0.7	0.501	-0.0009	0.0005
15-20 km	0-10 km	0.0007	0.0004	1.7	0.099	-0.0001	0.0015
20-25 km	0-10 km	0.0013	0.0005	2.6	0.008	0.0003	0.0022
25-30 km	0-10 km	0.0016	0.0005	3.2	0.002	0.0006	0.0026
30-35 km	0-10 km	0.0018	0.0006	3.1	0.002	0.0007	0.0029
35-40 km	0-10 km	0.0014	0.0006	2.2	0.026	0.0002	0.0027
40-45 km	0-10 km	0.0023	0.0007	3.2	0.002	0.0009	0.0038
45-50 km	0-10 km	0.0035	0.0008	4.2	0.000	0.0019	0.0052
>50 km	0-10 km	0.0037	0.0003	11.7	0.000	0.0031	0.0043
0-5 km	10-20 km	-0.0010	0.0002	-6.6	0.000	-0.0013	-0.0007
5-10 km	10-20 km	-0.0007	0.0002	-4.6	0.000	-0.0011	-0.0004
10-15 km	10-20 km	-0.0006	0.0002	-3.1	0.002	-0.0010	-0.0002
15-20 km	10-20 km	-0.0009	0.0002	-4.9	0.000	-0.0012	-0.0005
20-25 km	10-20 km	-0.0003	0.0002	-1.4	0.169	-0.0007	0.0001
25-30 km	10-20 km	0.0000	0.0003	-0.1	0.955	-0.0005	0.0005
30-35 km	10-20 km	0.0000	0.0003	-0.1	0.953	-0.0005	0.0005
35-40 km	10-20 km	0.0004	0.0003	1.3	0.204	-0.0002	0.0011
40-45 km	10-20 km	0.0004	0.0003	1.3	0.178	-0.0002	0.0011
45-50 km	10-20 km	0.0002	0.0004	0.6	0.525	-0.0005	0.0010
>50 km	10-20 km	0.0002	0.0002	1.6	0.120	-0.0001	0.0006
0-5 km	20-30 km	-0.0007	0.0001	-4.8	0.000	-0.0010	-0.0004
5-10 km	20-30 km	-0.0006	0.0001	-4.1	0.000	-0.0009	-0.0003
10-15 km	20-30 km	-0.0006	0.0002	-4.2	0.000	-0.0009	-0.0003
15-20 km	20-30 km	-0.0008	0.0001	-5.6	0.000	-0.0011	-0.0005
20-25 km	20-30 km	-0.0006	0.0002	-3.6	0.000	-0.0010	-0.0003
25-30 km	20-30 km	-0.0008	0.0001	-5.3	0.000	-0.0011	-0.0005
30-35 km	20-30 km	-0.0001	0.0002	-0.6	0.581	-0.0006	0.0004
35-40 km	20-30 km	-0.0006	0.0002	-2.6	0.008	-0.0011	-0.0002
40-45 km	20-30 km	-0.0005	0.0002	-2.4	0.019	-0.0009	-0.0001
45-50 km	20-30 km	-0.0008	0.0003	-2.4	0.015	-0.0014	-0.0001
>50 km	20-30 km	-0.0003	0.0001	-2.4	0.015	-0.0005	-0.0001
0-5 km	30-40 km	-0.0005	0.0001	-4.6	0.000	-0.0007	-0.0003
5-10 km	30-40 km	-0.0007	0.0001	-5.7	0.000	-0.0009	-0.0004
10-15 km	30-40 km	-0.0007	0.0001	-6.7	0.000	-0.0010	-0.0005
15-20 km	30-40 km	-0.0008	0.0001	-6.4	0.000	-0.0010	-0.0005
20-25 km	30-40 km	-0.0005	0.0001	-3.8	0.000	-0.0008	-0.0003
25-30 km	30-40 km	-0.0009	0.0001	-5.9	0.000	-0.0011	-0.0006
30-35 km	30-40 km	-0.0008	0.0001	-6.5	0.000	-0.0011	-0.0006
35-40 km	30-40 km	-0.0008	0.0002	-4.7	0.000	-0.0012	-0.0005
40-45 km	30-40 km	-0.0007	0.0002	-4.4	0.000	-0.0011	-0.0004
45-50 km	30-40 km	-0.0010	0.0002	-4.0	0.000	-0.0014	-0.0005
>50 km	30-40 km	-0.0004	0.0001	-3.0	0.003	-0.0006	-0.0001

Table E.4: Night-time luminosity by distance to the nearest mission station and homeland border: Excluding uninhabited cells (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0008	0.0001	-7.7	0.000	-0.0010	-0.0006
5-10 km	40-50 km	-0.0006	0.0001	-6.1	0.000	-0.0008	-0.0004
10-15 km	40-50 km	-0.0007	0.0001	-7.5	0.000	-0.0009	-0.0005
15-20 km	40-50 km	-0.0006	0.0001	-5.5	0.000	-0.0008	-0.0004
20-25 km	40-50 km	-0.0008	0.0001	-7.1	0.000	-0.0011	-0.0006
25-30 km	40-50 km	-0.0007	0.0001	-6.7	0.000	-0.0009	-0.0005
30-35 km	40-50 km	-0.0008	0.0001	-5.3	0.000	-0.0011	-0.0005
35-40 km	40-50 km	-0.0009	0.0002	-5.2	0.000	-0.0013	-0.0006
40-45 km	40-50 km	-0.0010	0.0002	-6.9	0.000	-0.0013	-0.0007
45-50 km	40-50 km	-0.0003	0.0003	-1.4	0.170	-0.0008	0.0001
>50 km	40-50 km	-0.0004	0.0001	-3.3	0.001	-0.0006	-0.0001
0-5 km	50-60 km	-0.0005	0.0001	-6.6	0.000	-0.0007	-0.0004
5-10 km	50-60 km	-0.0006	0.0001	-6.4	0.000	-0.0008	-0.0004
10-15 km	50-60 km	-0.0006	0.0001	-5.2	0.000	-0.0008	-0.0004
15-20 km	50-60 km	-0.0005	0.0001	-4.4	0.000	-0.0008	-0.0003
20-25 km	50-60 km	-0.0004	0.0001	-3.3	0.001	-0.0007	-0.0002
25-30 km	50-60 km	-0.0004	0.0001	-3.4	0.001	-0.0007	-0.0002
30-35 km	50-60 km	-0.0007	0.0001	-6.2	0.000	-0.0010	-0.0005
35-40 km	50-60 km	-0.0005	0.0002	-3.4	0.001	-0.0008	-0.0002
40-45 km	50-60 km	-0.0007	0.0002	-3.4	0.001	-0.0011	-0.0003
45-50 km	50-60 km	-0.0009	0.0002	-5.2	0.000	-0.0013	-0.0006
>50 km	50-60 km	-0.0003	0.0001	-3.3	0.001	-0.0005	-0.0001
0-5 km	60-70 km	-0.0007	0.0001	-6.2	0.000	-0.0009	-0.0005
5-10 km	60-70 km	-0.0004	0.0001	-3.5	0.000	-0.0007	-0.0002
10-15 km	60-70 km	-0.0006	0.0001	-6.9	0.000	-0.0008	-0.0004
15-20 km	60-70 km	-0.0005	0.0001	-4.7	0.000	-0.0007	-0.0003
20-25 km	60-70 km	-0.0005	0.0001	-5.1	0.000	-0.0007	-0.0003
25-30 km	60-70 km	-0.0007	0.0001	-4.7	0.000	-0.0009	-0.0004
30-35 km	60-70 km	-0.0001	0.0002	-0.4	0.687	-0.0005	0.0003
35-40 km	60-70 km	-0.0008	0.0002	-4.7	0.000	-0.0011	-0.0004
40-45 km	60-70 km	-0.0005	0.0001	-3.5	0.000	-0.0008	-0.0002
45-50 km	60-70 km	-0.0008	0.0001	-5.5	0.000	-0.0011	-0.0005
>50 km	60-70 km	-0.0005	0.0001	-5.0	0.000	-0.0007	-0.0003
0-5 km	70-80 km	-0.0004	0.0001	-3.5	0.001	-0.0006	-0.0002
5-10 km	70-80 km	-0.0005	0.0001	-4.1	0.000	-0.0007	-0.0003
10-15 km	70-80 km	-0.0005	0.0001	-4.8	0.000	-0.0007	-0.0003
15-20 km	70-80 km	-0.0007	0.0001	-7.1	0.000	-0.0008	-0.0005
20-25 km	70-80 km	-0.0005	0.0001	-4.6	0.000	-0.0007	-0.0003
25-30 km	70-80 km	-0.0005	0.0001	-4.0	0.000	-0.0007	-0.0002
30-35 km	70-80 km	-0.0005	0.0001	-4.4	0.000	-0.0008	-0.0003
35-40 km	70-80 km	-0.0004	0.0002	-2.6	0.009	-0.0007	-0.0001
40-45 km	70-80 km	-0.0003	0.0002	-1.7	0.098	-0.0006	0.0001
45-50 km	70-80 km	-0.0005	0.0003	-1.8	0.066	-0.0010	0.0000
>50 km	70-80 km	-0.0004	0.0001	-4.4	0.000	-0.0006	-0.0002

Table E.4: Night-time luminosity by distance to mission stations and homeland borders:
Excluding uninhabited cells (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0003	0.0001	-3.8	0.000	-0.0005	-0.0002
5-10 km	80-90 km	-0.0004	0.0001	-5.0	0.000	-0.0006	-0.0003
10-15 km	80-90 km	-0.0004	0.0001	-3.5	0.001	-0.0006	-0.0002
15-20 km	80-90 km	-0.0006	0.0001	-5.3	0.000	-0.0008	-0.0003
20-25 km	80-90 km	-0.0004	0.0001	-4.0	0.000	-0.0006	-0.0002
25-30 km	80-90 km	-0.0005	0.0001	-4.7	0.000	-0.0007	-0.0003
30-35 km	80-90 km	-0.0003	0.0001	-2.4	0.017	-0.0005	0.0000
35-40 km	80-90 km	-0.0004	0.0002	-2.4	0.016	-0.0007	-0.0001
40-45 km	80-90 km	-0.0006	0.0002	-3.0	0.003	-0.0009	-0.0002
45-50 km	80-90 km	-0.0002	0.0003	-0.7	0.494	-0.0007	0.0003
>50 km	80-90 km	-0.0005	0.0001	-5.0	0.000	-0.0007	-0.0003
0-5 km	90-100 km	-0.0004	0.0001	-3.7	0.000	-0.0005	-0.0002
5-10 km	90-100 km	-0.0006	0.0001	-6.3	0.000	-0.0008	-0.0004
10-15 km	90-100 km	-0.0004	0.0001	-4.3	0.000	-0.0006	-0.0002
15-20 km	90-100 km	-0.0004	0.0001	-3.9	0.000	-0.0006	-0.0002
20-25 km	90-100 km	-0.0003	0.0001	-2.8	0.004	-0.0005	-0.0001
25-30 km	90-100 km	-0.0006	0.0001	-4.7	0.000	-0.0008	-0.0003
30-35 km	90-100 km	-0.0003	0.0001	-3.0	0.002	-0.0006	-0.0001
35-40 km	90-100 km	-0.0005	0.0002	-2.8	0.004	-0.0008	-0.0001
40-45 km	90-100 km	-0.0002	0.0002	-0.8	0.445	-0.0005	0.0002
45-50 km	90-100 km	-0.0008	0.0002	-5.0	0.000	-0.0011	-0.0005
>50 km	90-100 km	-0.0005	0.0001	-3.8	0.000	-0.0008	-0.0002
0-5 km	>100 km	-0.0004	0.0000	-10.1	0.000	-0.0005	-0.0003
5-10 km	>100 km	-0.0004	0.0000	-9.8	0.000	-0.0005	-0.0003
10-15 km	>100 km	-0.0004	0.0000	-8.5	0.000	-0.0004	-0.0003
15-20 km	>100 km	-0.0004	0.0000	-8.0	0.000	-0.0005	-0.0003
20-25 km	>100 km	-0.0003	0.0000	-5.1	0.000	-0.0003	-0.0002
25-30 km	>100 km	-0.0002	0.0000	-4.3	0.000	-0.0003	-0.0001
30-35 km	>100 km	-0.0002	0.0001	-3.9	0.000	-0.0003	-0.0001
35-40 km	>100 km	-0.0002	0.0001	-3.5	0.001	-0.0003	-0.0001
40-45 km	>100 km	0.0000	0.0001	-0.7	0.508	-0.0002	0.0001
45-50 km	>100 km	-0.0002	0.0001	-2.7	0.008	-0.0003	0.0000
>50 km	>100 km	0.0000	(omitted)				
Controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Std. err.							Robust
R^2							0.4571
N							199,752

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, railways, mines, national borders, historical explorer routes, pre-colonial cities, Muslim seats, Protestant printing presses, and postcolonial World Bank aid projects. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. The model includes country and coloniser fixed effects, as well as robust standard errors. All variables are log-linearised except binaries. The regression sample is restricted to grid cells inhabited today.

Table E.5: Night-time luminosity by distance to the nearest mission station and homeland border: Only cells with light

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	0.0008	0.0008	1.0	0.310	-0.0008	0.0024
5-10 km	0-10 km	-0.0002	0.0008	-0.3	0.777	-0.0017	0.0013
10-15 km	0-10 km	0.0007	0.0008	0.8	0.407	-0.0009	0.0023
15-20 km	0-10 km	0.0018	0.0009	2.0	0.049	0.0000	0.0036
20-25 km	0-10 km	0.0022	0.0009	2.4	0.016	0.0004	0.0039
25-30 km	0-10 km	0.0034	0.0009	3.8	0.000	0.0016	0.0051
30-35 km	0-10 km	0.0038	0.0011	3.5	0.000	0.0017	0.0060
35-40 km	0-10 km	0.0031	0.0012	2.5	0.011	0.0007	0.0055
40-45 km	0-10 km	0.0036	0.0013	2.8	0.005	0.0011	0.0061
45-50 km	0-10 km	0.0062	0.0015	4.2	0.000	0.0033	0.0091
>50 km	0-10 km	0.0050	0.0006	8.1	0.000	0.0038	0.0063
0-5 km	10-20 km	-0.0004	0.0006	-0.6	0.535	-0.0015	0.0008
5-10 km	10-20 km	0.0003	0.0006	0.6	0.571	-0.0008	0.0015
10-15 km	10-20 km	0.0004	0.0007	0.7	0.508	-0.0009	0.0017
15-20 km	10-20 km	0.0002	0.0007	0.3	0.787	-0.0011	0.0015
20-25 km	10-20 km	0.0014	0.0007	2.0	0.047	0.0000	0.0029
25-30 km	10-20 km	0.0014	0.0008	1.7	0.081	-0.0002	0.0029
30-35 km	10-20 km	0.0020	0.0008	2.5	0.011	0.0005	0.0036
35-40 km	10-20 km	0.0020	0.0009	2.3	0.022	0.0003	0.0038
40-45 km	10-20 km	0.0018	0.0010	1.8	0.064	-0.0001	0.0038
45-50 km	10-20 km	0.0023	0.0011	2.2	0.027	0.0003	0.0044
>50 km	10-20 km	0.0017	0.0006	3.1	0.002	0.0006	0.0028
0-5 km	20-30 km	-0.0012	0.0007	-1.6	0.113	-0.0026	0.0003
5-10 km	20-30 km	-0.0010	0.0006	-1.6	0.106	-0.0022	0.0002
10-15 km	20-30 km	0.0001	0.0007	0.2	0.857	-0.0013	0.0016
15-20 km	20-30 km	-0.0014	0.0007	-2.1	0.035	-0.0027	-0.0001
20-25 km	20-30 km	-0.0003	0.0008	-0.3	0.733	-0.0018	0.0013
25-30 km	20-30 km	-0.0012	0.0007	-1.6	0.103	-0.0026	0.0002
30-35 km	20-30 km	0.0016	0.0010	1.5	0.132	-0.0005	0.0036
35-40 km	20-30 km	0.0000	0.0009	0.0	0.976	-0.0018	0.0018
40-45 km	20-30 km	0.0012	0.0008	1.4	0.148	-0.0004	0.0028
45-50 km	20-30 km	-0.0009	0.0011	-0.8	0.443	-0.0031	0.0014
>50 km	20-30 km	-0.0001	0.0005	-0.2	0.848	-0.0011	0.0009
0-5 km	30-40 km	-0.0012	0.0007	-1.7	0.085	-0.0025	0.0002
5-10 km	30-40 km	-0.0014	0.0006	-2.2	0.026	-0.0027	-0.0002
10-15 km	30-40 km	-0.0013	0.0007	-1.9	0.054	-0.0026	0.0000
15-20 km	30-40 km	-0.0017	0.0006	-2.8	0.005	-0.0030	-0.0005
20-25 km	30-40 km	-0.0004	0.0007	-0.5	0.602	-0.0017	0.0010
25-30 km	30-40 km	-0.0019	0.0008	-2.4	0.017	-0.0034	-0.0003
30-35 km	30-40 km	-0.0017	0.0007	-2.3	0.019	-0.0032	-0.0003
35-40 km	30-40 km	-0.0020	0.0009	-2.2	0.029	-0.0038	-0.0002
40-45 km	30-40 km	-0.0027	0.0009	-3.1	0.002	-0.0044	-0.0010
45-50 km	30-40 km	-0.0007	0.0009	-0.8	0.438	-0.0026	0.0011
>50 km	30-40 km	0.0013	0.0014	0.9	0.364	-0.0015	0.0040

Table E.5: Night-time luminosity by distance to the nearest mission station and homeland border: Only cells with light (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0017	0.0007	-2.5	0.012	-0.0031	-0.0004
5-10 km	40-50 km	-0.0006	0.0007	-0.9	0.363	-0.0020	0.0007
10-15 km	40-50 km	-0.0019	0.0006	-3.1	0.002	-0.0032	-0.0007
15-20 km	40-50 km	-0.0016	0.0007	-2.5	0.012	-0.0029	-0.0004
20-25 km	40-50 km	-0.0017	0.0007	-2.4	0.015	-0.0030	-0.0003
25-30 km	40-50 km	-0.0021	0.0007	-3.1	0.002	-0.0035	-0.0008
30-35 km	40-50 km	-0.0015	0.0009	-1.6	0.112	-0.0034	0.0003
35-40 km	40-50 km	-0.0019	0.0010	-1.9	0.057	-0.0038	0.0001
40-45 km	40-50 km	-0.0029	0.0009	-3.1	0.002	-0.0047	-0.0011
45-50 km	40-50 km	0.0005	0.0013	0.4	0.683	-0.0020	0.0030
>50 km	40-50 km	0.0001	0.0006	0.1	0.915	-0.0011	0.0012
0-5 km	50-60 km	-0.0007	0.0008	-0.9	0.344	-0.0022	0.0008
5-10 km	50-60 km	-0.0015	0.0007	-2.1	0.039	-0.0028	-0.0001
10-15 km	50-60 km	-0.0012	0.0008	-1.5	0.131	-0.0028	0.0004
15-20 km	50-60 km	-0.0015	0.0008	-1.9	0.064	-0.0030	0.0001
20-25 km	50-60 km	-0.0019	0.0010	-1.9	0.052	-0.0039	0.0000
25-30 km	50-60 km	-0.0021	0.0008	-2.6	0.010	-0.0037	-0.0005
30-35 km	50-60 km	-0.0028	0.0007	-4.0	0.000	-0.0042	-0.0014
35-40 km	50-60 km	0.0000	0.0011	0.0	0.972	-0.0022	0.0023
40-45 km	50-60 km	-0.0012	0.0013	-0.9	0.342	-0.0038	0.0013
45-50 km	50-60 km	-0.0038	0.0010	-3.9	0.000	-0.0057	-0.0019
>50 km	50-60 km	0.0000	0.0006	0.1	0.944	-0.0012	0.0012
0-5 km	60-70 km	-0.0002	0.0007	-0.3	0.763	-0.0016	0.0012
5-10 km	60-70 km	-0.0003	0.0009	-0.3	0.731	-0.0022	0.0015
10-15 km	60-70 km	-0.0018	0.0008	-2.3	0.022	-0.0033	-0.0003
15-20 km	60-70 km	-0.0011	0.0008	-1.4	0.159	-0.0025	0.0004
20-25 km	60-70 km	-0.0010	0.0007	-1.5	0.146	-0.0024	0.0004
25-30 km	60-70 km	-0.0009	0.0009	-0.9	0.360	-0.0027	0.0010
30-35 km	60-70 km	0.0011	0.0012	0.9	0.370	-0.0013	0.0034
35-40 km	60-70 km	-0.0026	0.0010	-2.5	0.012	-0.0046	-0.0006
40-45 km	60-70 km	-0.0024	0.0009	-2.6	0.009	-0.0042	-0.0006
45-50 km	60-70 km	-0.0027	0.0012	-2.2	0.032	-0.0051	-0.0002
>50 km	60-70 km	0.0002	0.0007	0.3	0.799	-0.0012	0.0015
0-5 km	70-80 km	0.0001	0.0008	0.2	0.862	-0.0014	0.0016
5-10 km	70-80 km	-0.0006	0.0008	-0.8	0.450	-0.0021	0.0009
10-15 km	70-80 km	-0.0006	0.0007	-0.9	0.357	-0.0020	0.0007
15-20 km	70-80 km	-0.0025	0.0007	-3.8	0.000	-0.0039	-0.0012
20-25 km	70-80 km	-0.0025	0.0006	-3.9	0.000	-0.0037	-0.0012
25-30 km	70-80 km	-0.0004	0.0012	-0.3	0.764	-0.0027	0.0020
30-35 km	70-80 km	-0.0015	0.0007	-2.1	0.039	-0.0029	-0.0001
35-40 km	70-80 km	-0.0007	0.0011	-0.7	0.493	-0.0028	0.0014
40-45 km	70-80 km	-0.0004	0.0013	-0.3	0.752	-0.0029	0.0021
45-50 km	70-80 km	-0.0004	0.0020	-0.2	0.829	-0.0044	0.0035
>50 km	70-80 km	0.0007	0.0008	0.9	0.363	-0.0008	0.0022

Table E.5: Night-time luminosity by distance to the nearest mission station and homeland border: Only cells with light (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	0.0004	0.0008	0.5	0.645	-0.0012	0.0019
5-10 km	80-90 km	-0.0002	0.0007	-0.3	0.789	-0.0015	0.0011
10-15 km	80-90 km	-0.0005	0.0008	-0.7	0.501	-0.0021	0.0010
15-20 km	80-90 km	-0.0016	0.0008	-2.1	0.032	-0.0031	-0.0001
20-25 km	80-90 km	-0.0011	0.0007	-1.6	0.117	-0.0025	0.0003
25-30 km	80-90 km	-0.0017	0.0008	-2.2	0.029	-0.0032	-0.0002
30-35 km	80-90 km	-0.0005	0.0009	-0.5	0.592	-0.0023	0.0013
35-40 km	80-90 km	0.0005	0.0012	0.4	0.705	-0.0020	0.0029
40-45 km	80-90 km	-0.0013	0.0012	-1.0	0.305	-0.0037	0.0012
45-50 km	80-90 km	0.0013	0.0017	0.8	0.448	-0.0020	0.0045
>50 km	80-90 km	0.0003	0.0009	0.3	0.742	-0.0014	0.0020
0-5 km	90-100 km	-0.0008	0.0009	-0.9	0.357	-0.0026	0.0009
5-10 km	90-100 km	-0.0012	0.0008	-1.6	0.114	-0.0027	0.0003
10-15 km	90-100 km	-0.0009	0.0008	-1.1	0.256	-0.0025	0.0007
15-20 km	90-100 km	-0.0014	0.0008	-1.8	0.072	-0.0030	0.0001
20-25 km	90-100 km	0.0004	0.0011	0.4	0.714	-0.0018	0.0026
25-30 km	90-100 km	-0.0012	0.0009	-1.4	0.175	-0.0030	0.0005
30-35 km	90-100 km	-0.0002	0.0011	-0.2	0.857	-0.0023	0.0019
35-40 km	90-100 km	0.0004	0.0013	0.3	0.778	-0.0022	0.0029
40-45 km	90-100 km	-0.0010	0.0021	-0.5	0.651	-0.0051	0.0032
45-50 km	90-100 km	-0.0029	0.0012	-2.4	0.018	-0.0053	-0.0005
>50 km	90-100 km	0.0005	0.0010	0.4	0.655	-0.0015	0.0024
0-5 km	>100 km	0.0005	0.0004	1.4	0.172	-0.0002	0.0013
5-10 km	>100 km	0.0003	0.0004	0.9	0.389	-0.0004	0.0011
10-15 km	>100 km	0.0008	0.0004	2.1	0.039	0.0000	0.0016
15-20 km	>100 km	0.0003	0.0004	0.8	0.396	-0.0005	0.0011
20-25 km	>100 km	0.0007	0.0004	1.7	0.092	-0.0001	0.0015
25-30 km	>100 km	0.0004	0.0004	0.9	0.372	-0.0005	0.0013
30-35 km	>100 km	0.0013	0.0005	2.8	0.005	0.0004	0.0022
35-40 km	>100 km	0.0007	0.0005	1.4	0.167	-0.0003	0.0016
40-45 km	>100 km	0.0024	0.0012	1.9	0.056	-0.0001	0.0048
45-50 km	>100 km	0.0005	0.0006	0.8	0.427	-0.0007	0.0017
>50 km	>100 km	0.0000	(omitted)				
Controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Std. err.							Robust
R^2							0.5106
N							27,728

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. All variables are log-linearised except binaries. The regression sample is restricted to grid cells that emit night light today.

Table E.6: Night-time luminosity by distance to the nearest mission station and homeland border: Excluding the top 5% brightest cells

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	0.0003	0.0002	1.7	0.087	0.0000	0.0006
5-10 km	0-10 km	0.0000	0.0002	-0.1	0.929	-0.0003	0.0003
10-15 km	0-10 km	0.0003	0.0002	1.5	0.145	-0.0001	0.0006
15-20 km	0-10 km	0.0004	0.0002	2.1	0.037	0.0000	0.0008
20-25 km	0-10 km	0.0006	0.0002	2.7	0.006	0.0002	0.0011
25-30 km	0-10 km	0.0010	0.0002	4.3	0.000	0.0006	0.0015
30-35 km	0-10 km	0.0007	0.0003	2.7	0.007	0.0002	0.0013
35-40 km	0-10 km	0.0008	0.0003	2.7	0.008	0.0002	0.0013
40-45 km	0-10 km	0.0006	0.0003	2.2	0.029	0.0001	0.0011
45-50 km	0-10 km	0.0010	0.0003	2.8	0.005	0.0003	0.0016
>50 km	0-10 km	0.0013	0.0001	9.5	0.000	0.0010	0.0015
0-5 km	10-20 km	0.0000	0.0001	-0.1	0.951	-0.0002	0.0002
5-10 km	10-20 km	0.0000	0.0001	0.4	0.717	-0.0002	0.0002
10-15 km	10-20 km	0.0001	0.0001	0.5	0.592	-0.0002	0.0003
15-20 km	10-20 km	0.0001	0.0001	0.9	0.373	-0.0001	0.0003
20-25 km	10-20 km	0.0002	0.0001	1.8	0.065	0.0000	0.0005
25-30 km	10-20 km	0.0003	0.0001	2.0	0.050	0.0000	0.0006
30-35 km	10-20 km	0.0003	0.0002	2.0	0.044	0.0000	0.0006
35-40 km	10-20 km	0.0004	0.0002	2.3	0.019	0.0001	0.0008
40-45 km	10-20 km	0.0004	0.0002	2.6	0.010	0.0001	0.0007
45-50 km	10-20 km	0.0002	0.0002	1.3	0.204	-0.0001	0.0005
>50 km	10-20 km	0.0002	0.0001	3.2	0.002	0.0001	0.0004
0-5 km	20-30 km	-0.0002	0.0001	-3.3	0.001	-0.0004	-0.0001
5-10 km	20-30 km	-0.0001	0.0001	-1.6	0.106	-0.0003	0.0000
10-15 km	20-30 km	0.0000	0.0001	0.0	0.988	-0.0002	0.0002
15-20 km	20-30 km	-0.0001	0.0001	-0.9	0.383	-0.0003	0.0001
20-25 km	20-30 km	0.0000	0.0001	0.1	0.918	-0.0002	0.0002
25-30 km	20-30 km	0.0000	0.0001	-0.5	0.651	-0.0003	0.0002
30-35 km	20-30 km	-0.0001	0.0001	-0.6	0.560	-0.0003	0.0002
35-40 km	20-30 km	-0.0001	0.0001	-0.6	0.553	-0.0003	0.0002
40-45 km	20-30 km	0.0000	0.0001	-0.3	0.727	-0.0003	0.0002
45-50 km	20-30 km	0.0001	0.0001	0.5	0.614	-0.0002	0.0003
>50 km	20-30 km	0.0001	0.0001	1.5	0.144	0.0000	0.0002
0-5 km	30-40 km	-0.0001	0.0001	-1.1	0.268	-0.0002	0.0001
5-10 km	30-40 km	-0.0002	0.0001	-3.1	0.002	-0.0003	-0.0001
10-15 km	30-40 km	-0.0002	0.0001	-2.4	0.017	-0.0003	0.0000
15-20 km	30-40 km	-0.0001	0.0001	-0.9	0.361	-0.0003	0.0001
20-25 km	30-40 km	0.0000	0.0001	0.1	0.935	-0.0002	0.0002
25-30 km	30-40 km	-0.0002	0.0001	-2.7	0.008	-0.0004	-0.0001
30-35 km	30-40 km	-0.0001	0.0001	-1.1	0.286	-0.0003	0.0001
35-40 km	30-40 km	0.0001	0.0001	0.8	0.441	-0.0002	0.0004
40-45 km	30-40 km	0.0001	0.0001	0.4	0.664	-0.0002	0.0003
45-50 km	30-40 km	-0.0002	0.0001	-1.2	0.243	-0.0004	0.0001
>50 km	30-40 km	0.0002	0.0001	2.2	0.028	0.0000	0.0003

Table E.6: Night-time luminosity by distance to the nearest mission station and homeland border: Excluding the top 5% brightest cells (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0003	0.0001	-6.4	0.000	-0.0004	-0.0002
5-10 km	40-50 km	-0.0002	0.0001	-3.2	0.001	-0.0003	-0.0001
10-15 km	40-50 km	-0.0002	0.0001	-3.6	0.000	-0.0004	-0.0001
15-20 km	40-50 km	-0.0001	0.0001	-1.2	0.219	-0.0002	0.0001
20-25 km	40-50 km	-0.0003	0.0001	-3.4	0.001	-0.0004	-0.0001
25-30 km	40-50 km	-0.0002	0.0001	-2.4	0.015	-0.0003	0.0000
30-35 km	40-50 km	-0.0002	0.0001	-1.7	0.094	-0.0004	0.0000
35-40 km	40-50 km	-0.0003	0.0001	-4.2	0.000	-0.0005	-0.0002
40-45 km	40-50 km	-0.0003	0.0001	-3.5	0.000	-0.0005	-0.0001
45-50 km	40-50 km	0.0001	0.0001	0.6	0.568	-0.0002	0.0004
50 km	40-50 km	0.0000	0.0001	-0.2	0.806	-0.0001	0.0001
0-5 km	50-60 km	-0.0003	0.0001	-5.2	0.000	-0.0004	-0.0002
5-10 km	50-60 km	-0.0002	0.0001	-3.8	0.000	-0.0004	-0.0001
10-15 km	50-60 km	-0.0002	0.0001	-3.4	0.001	-0.0003	-0.0001
15-20 km	50-60 km	-0.0001	0.0001	-1.5	0.145	-0.0003	0.0000
20-25 km	50-60 km	-0.0001	0.0001	-1.2	0.216	-0.0003	0.0001
25-30 km	50-60 km	-0.0001	0.0001	-1.6	0.109	-0.0003	0.0000
30-35 km	50-60 km	-0.0002	0.0001	-2.0	0.051	-0.0004	0.0000
35-40 km	50-60 km	-0.0001	0.0001	-0.8	0.442	-0.0003	0.0001
40-45 km	50-60 km	0.0000	0.0001	0.0	0.984	-0.0003	0.0003
45-50 km	50-60 km	-0.0001	0.0001	-0.8	0.452	-0.0003	0.0002
50 km	50-60 km	0.0000	0.0001	-0.7	0.484	-0.0001	0.0001
0-5 km	60-70 km	-0.0003	0.0001	-4.8	0.000	-0.0004	-0.0002
5-10 km	60-70 km	-0.0002	0.0001	-3.1	0.002	-0.0003	-0.0001
10-15 km	60-70 km	-0.0003	0.0001	-5.8	0.000	-0.0004	-0.0002
15-20 km	60-70 km	-0.0002	0.0001	-2.0	0.046	-0.0003	0.0000
20-25 km	60-70 km	-0.0002	0.0001	-2.2	0.027	-0.0003	0.0000
25-30 km	60-70 km	-0.0003	0.0001	-4.1	0.000	-0.0004	-0.0002
30-35 km	60-70 km	0.0000	0.0001	0.4	0.724	-0.0002	0.0002
35-40 km	60-70 km	-0.0002	0.0001	-1.7	0.082	-0.0004	0.0000
40-45 km	60-70 km	-0.0001	0.0001	-1.2	0.223	-0.0003	0.0001
45-50 km	60-70 km	-0.0004	0.0001	-4.7	0.000	-0.0006	-0.0002
50 km	60-70 km	-0.0002	0.0000	-4.1	0.000	-0.0003	-0.0001
0-5 km	70-80 km	-0.0001	0.0001	-1.1	0.272	-0.0002	0.0001
5-10 km	70-80 km	-0.0002	0.0001	-4.1	0.000	-0.0004	-0.0001
10-15 km	70-80 km	-0.0003	0.0001	-4.3	0.000	-0.0004	-0.0002
15-20 km	70-80 km	-0.0003	0.0001	-5.8	0.000	-0.0004	-0.0002
20-25 km	70-80 km	-0.0001	0.0001	-2.0	0.045	-0.0003	0.0000
25-30 km	70-80 km	-0.0001	0.0001	-1.0	0.316	-0.0003	0.0001
30-35 km	70-80 km	-0.0001	0.0001	-1.6	0.100	-0.0003	0.0000
35-40 km	70-80 km	0.0000	0.0001	-0.3	0.751	-0.0003	0.0002
40-45 km	70-80 km	0.0000	0.0001	-0.2	0.841	-0.0003	0.0002
45-50 km	70-80 km	-0.0002	0.0001	-2.0	0.047	-0.0005	0.0000
50 km	70-80 km	-0.0002	0.0000	-4.1	0.000	-0.0003	-0.0001

Table E.6: Night-time luminosity by distance to the nearest mission station and homeland border: Excluding the top 5% brightest cells (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0001	0.0001	-1.5	0.129	-0.0002	0.0000
5-10 km	80-90 km	-0.0002	0.0001	-3.4	0.001	-0.0003	-0.0001
10-15 km	80-90 km	-0.0001	0.0001	-0.8	0.447	-0.0002	0.0001
15-20 km	80-90 km	-0.0002	0.0001	-2.3	0.022	-0.0003	0.0000
20-25 km	80-90 km	-0.0002	0.0001	-2.3	0.020	-0.0003	0.0000
25-30 km	80-90 km	-0.0002	0.0001	-3.2	0.001	-0.0004	-0.0001
30-35 km	80-90 km	0.0000	0.0001	0.0	0.987	-0.0002	0.0002
35-40 km	80-90 km	-0.0002	0.0001	-2.1	0.037	-0.0004	0.0000
40-45 km	80-90 km	-0.0003	0.0001	-3.2	0.001	-0.0005	-0.0001
45-50 km	80-90 km	-0.0001	0.0001	-0.4	0.725	-0.0003	0.0002
50 km	80-90 km	-0.0003	0.0000	-7.0	0.000	-0.0004	-0.0002
0-5 km	90-100 km	-0.0001	0.0001	-1.3	0.185	-0.0002	0.0000
5-10 km	90-100 km	-0.0003	0.0001	-5.4	0.000	-0.0004	-0.0002
10-15 km	90-100 km	-0.0002	0.0001	-2.9	0.003	-0.0003	-0.0001
15-20 km	90-100 km	-0.0002	0.0001	-2.6	0.009	-0.0003	0.0000
20-25 km	90-100 km	-0.0001	0.0001	-1.8	0.075	-0.0003	0.0000
25-30 km	90-100 km	-0.0002	0.0001	-3.9	0.000	-0.0004	-0.0001
30-35 km	90-100 km	-0.0002	0.0001	-2.1	0.036	-0.0003	0.0000
35-40 km	90-100 km	-0.0001	0.0002	-0.6	0.548	-0.0004	0.0002
40-45 km	90-100 km	-0.0001	0.0001	-1.1	0.256	-0.0003	0.0001
45-50 km	90-100 km	-0.0005	0.0001	-4.4	0.000	-0.0007	-0.0003
50 km	90-100 km	-0.0002	0.0001	-3.4	0.001	-0.0003	-0.0001
0-5 km	100 km	-0.0002	0.0000	-13.0	0.000	-0.0003	-0.0002
5-10 km	100 km	-0.0002	0.0000	-12.3	0.000	-0.0003	-0.0002
10-15 km	100 km	-0.0002	0.0000	-9.2	0.000	-0.0002	-0.0002
15-20 km	100 km	-0.0002	0.0000	-11.0	0.000	-0.0003	-0.0002
20-25 km	100 km	-0.0001	0.0000	-6.3	0.000	-0.0002	-0.0001
25-30 km	100 km	-0.0002	0.0000	-6.5	0.000	-0.0002	-0.0001
30-35 km	100 km	-0.0001	0.0000	-6.0	0.000	-0.0002	-0.0001
35-40 km	100 km	-0.0001	0.0000	-3.7	0.000	-0.0002	0.0000
40-45 km	100 km	-0.0001	0.0000	-2.2	0.028	-0.0001	0.0000
45-50 km	100 km	-0.0001	0.0000	-4.6	0.000	-0.0002	-0.0001
50 km	100 km	(omitted)					
Controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Std. err.							Robust
R^2							0.2869
N							255,838

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. The model includes country and coloniser fixed effects, as well as robust standard errors. All variables are log-linearised except binaries. The regression sample excludes grid cells in the top 5% of the night-time luminosity distribution.

Table E.7: Night-time luminosity by distance to the nearest mission station and homeland border: Excluding South Africa

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	0.0005	0.0004	1.3	0.195	-0.0003	0.0013
5-10 km	0-10 km	0.0002	0.0004	0.4	0.675	-0.0006	0.0009
10-15 km	0-10 km	0.0005	0.0004	1.2	0.245	-0.0003	0.0013
15-20 km	0-10 km	0.0017	0.0005	3.3	0.001	0.0007	0.0027
20-25 km	0-10 km	0.0023	0.0006	3.8	0.000	0.0011	0.0035
25-30 km	0-10 km	0.0027	0.0007	4.1	0.000	0.0014	0.0040
30-35 km	0-10 km	0.0035	0.0008	4.4	0.000	0.0019	0.0051
35-40 km	0-10 km	0.0025	0.0008	3.3	0.001	0.0010	0.0040
40-45 km	0-10 km	0.0037	0.0009	4.0	0.000	0.0019	0.0055
45-50 km	0-10 km	0.0052	0.0011	4.9	0.000	0.0031	0.0073
50 km	0-10 km	0.0049	0.0004	11.0	0.000	0.0040	0.0057
0-5 km	10-20 km	-0.0005	0.0002	-3.0	0.002	-0.0008	-0.0002
5-10 km	10-20 km	-0.0004	0.0002	-2.7	0.007	-0.0008	-0.0001
10-15 km	10-20 km	-0.0002	0.0002	-0.8	0.438	-0.0006	0.0003
15-20 km	10-20 km	-0.0005	0.0002	-2.9	0.003	-0.0008	-0.0002
20-25 km	10-20 km	0.0003	0.0003	1.2	0.240	-0.0002	0.0008
25-30 km	10-20 km	0.0001	0.0003	0.3	0.758	-0.0004	0.0006
30-35 km	10-20 km	0.0004	0.0003	1.5	0.145	-0.0002	0.0010
35-40 km	10-20 km	0.0011	0.0004	2.8	0.006	0.0003	0.0019
40-45 km	10-20 km	0.0010	0.0004	2.6	0.009	0.0002	0.0017
45-50 km	10-20 km	0.0010	0.0005	2.3	0.022	0.0001	0.0019
50 km	10-20 km	0.0015	0.0002	6.6	0.000	0.0011	0.0020
0-5 km	20-30 km	-0.0005	0.0001	-3.4	0.001	-0.0007	-0.0002
5-10 km	20-30 km	-0.0004	0.0001	-3.2	0.001	-0.0007	-0.0002
10-15 km	20-30 km	-0.0003	0.0001	-2.0	0.044	-0.0006	0.0000
15-20 km	20-30 km	-0.0005	0.0002	-3.0	0.003	-0.0008	-0.0002
20-25 km	20-30 km	-0.0005	0.0002	-3.3	0.001	-0.0008	-0.0002
25-30 km	20-30 km	-0.0004	0.0002	-2.5	0.012	-0.0007	-0.0001
30-35 km	20-30 km	0.0001	0.0002	0.5	0.648	-0.0003	0.0006
35-40 km	20-30 km	-0.0002	0.0003	-0.8	0.436	-0.0007	0.0003
40-45 km	20-30 km	-0.0001	0.0002	-0.3	0.796	-0.0005	0.0004
45-50 km	20-30 km	0.0001	0.0003	0.2	0.818	-0.0006	0.0007
50 km	20-30 km	0.0006	0.0001	4.0	0.000	0.0003	0.0009
0-5 km	30-40 km	-0.0003	0.0001	-3.4	0.001	-0.0005	-0.0001
5-10 km	30-40 km	-0.0005	0.0001	-5.0	0.000	-0.0007	-0.0003
10-15 km	30-40 km	-0.0005	0.0001	-4.2	0.000	-0.0007	-0.0002
15-20 km	30-40 km	-0.0005	0.0001	-3.9	0.000	-0.0007	-0.0002
20-25 km	30-40 km	-0.0003	0.0001	-2.7	0.008	-0.0005	-0.0001
25-30 km	30-40 km	-0.0006	0.0001	-4.0	0.000	-0.0008	-0.0003
30-35 km	30-40 km	-0.0006	0.0001	-6.1	0.000	-0.0008	-0.0004
35-40 km	30-40 km	-0.0004	0.0002	-2.2	0.025	-0.0007	0.0000
40-45 km	30-40 km	-0.0004	0.0002	-2.5	0.012	-0.0007	-0.0001
45-50 km	30-40 km	-0.0004	0.0003	-1.4	0.162	-0.0009	0.0001
50 km	30-40 km	0.0007	0.0003	2.3	0.020	0.0001	0.0013

Table E.7: Night-time luminosity by distance to the nearest mission station and homeland border: Excluding South Africa (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0005	0.0001	-5.8	0.000	-0.0007	-0.0003
5-10 km	40-50 km	-0.0003	0.0001	-2.7	0.007	-0.0004	-0.0001
10-15 km	40-50 km	-0.0004	0.0001	-4.8	0.000	-0.0006	-0.0002
15-20 km	40-50 km	-0.0004	0.0001	-4.0	0.000	-0.0006	-0.0002
20-25 km	40-50 km	-0.0006	0.0001	-5.6	0.000	-0.0009	-0.0004
25-30 km	40-50 km	-0.0004	0.0001	-4.3	0.000	-0.0006	-0.0002
30-35 km	40-50 km	-0.0004	0.0001	-2.8	0.006	-0.0007	-0.0001
35-40 km	40-50 km	-0.0006	0.0001	-4.2	0.000	-0.0009	-0.0003
40-45 km	40-50 km	-0.0007	0.0001	-5.2	0.000	-0.0010	-0.0005
45-50 km	40-50 km	-0.0001	0.0002	-0.6	0.572	-0.0006	0.0003
50 km	40-50 km	0.0002	0.0001	1.6	0.101	0.0000	0.0004
0-5 km	50-60 km	-0.0004	0.0001	-4.5	0.000	-0.0005	-0.0002
5-10 km	50-60 km	-0.0004	0.0001	-4.8	0.000	-0.0006	-0.0003
10-15 km	50-60 km	-0.0004	0.0001	-3.3	0.001	-0.0006	-0.0001
15-20 km	50-60 km	-0.0002	0.0001	-1.9	0.058	-0.0004	0.0000
20-25 km	50-60 km	-0.0002	0.0001	-1.7	0.092	-0.0005	0.0000
25-30 km	50-60 km	-0.0003	0.0001	-2.2	0.029	-0.0005	0.0000
30-35 km	50-60 km	-0.0006	0.0001	-4.8	0.000	-0.0008	-0.0003
35-40 km	50-60 km	-0.0003	0.0001	-2.4	0.016	-0.0006	-0.0001
40-45 km	50-60 km	-0.0002	0.0002	-1.1	0.256	-0.0006	0.0002
45-50 km	50-60 km	-0.0005	0.0002	-3.5	0.001	-0.0009	-0.0002
50 km	50-60 km	0.0000	0.0001	-0.1	0.898	-0.0002	0.0002
0-5 km	60-70 km	-0.0004	0.0001	-4.1	0.000	-0.0006	-0.0002
5-10 km	60-70 km	-0.0002	0.0001	-2.1	0.036	-0.0005	0.0000
10-15 km	60-70 km	-0.0004	0.0001	-5.1	0.000	-0.0006	-0.0003
15-20 km	60-70 km	-0.0003	0.0001	-3.1	0.002	-0.0005	-0.0001
20-25 km	60-70 km	-0.0004	0.0001	-4.1	0.000	-0.0006	-0.0002
25-30 km	60-70 km	-0.0004	0.0001	-3.0	0.002	-0.0007	-0.0002
30-35 km	60-70 km	0.0001	0.0002	0.4	0.680	-0.0003	0.0004
35-40 km	60-70 km	-0.0006	0.0001	-4.3	0.000	-0.0008	-0.0003
40-45 km	60-70 km	-0.0003	0.0001	-2.5	0.012	-0.0006	-0.0001
45-50 km	60-70 km	-0.0007	0.0001	-4.6	0.000	-0.0010	-0.0004
50 km	60-70 km	-0.0002	0.0001	-1.8	0.065	-0.0004	0.0000
0-5 km	70-80 km	-0.0002	0.0001	-2.3	0.021	-0.0004	0.0000
5-10 km	70-80 km	-0.0003	0.0001	-2.9	0.003	-0.0006	-0.0001
10-15 km	70-80 km	-0.0005	0.0001	-4.6	0.000	-0.0007	-0.0003
15-20 km	70-80 km	-0.0005	0.0001	-5.7	0.000	-0.0007	-0.0003
20-25 km	70-80 km	-0.0003	0.0001	-2.7	0.006	-0.0004	-0.0001
25-30 km	70-80 km	-0.0003	0.0001	-1.9	0.056	-0.0005	0.0000
30-35 km	70-80 km	-0.0003	0.0001	-3.0	0.003	-0.0006	-0.0001
35-40 km	70-80 km	-0.0002	0.0001	-1.3	0.188	-0.0005	0.0001
40-45 km	70-80 km	-0.0001	0.0002	-0.3	0.738	-0.0004	0.0003
45-50 km	70-80 km	-0.0002	0.0002	-1.1	0.276	-0.0007	0.0002
50 km	70-80 km	-0.0002	0.0001	-2.2	0.027	-0.0004	0.0000

Table E.7: Night-time luminosity by distance to the nearest mission station and homeland border: Excluding South Africa (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0002	0.0001	-2.8	0.006	-0.0004	-0.0001
5-10 km	80-90 km	-0.0003	0.0001	-4.1	0.000	-0.0005	-0.0002
10-15 km	80-90 km	-0.0002	0.0001	-2.0	0.048	-0.0004	0.0000
15-20 km	80-90 km	-0.0004	0.0001	-3.9	0.000	-0.0006	-0.0002
20-25 km	80-90 km	-0.0004	0.0001	-3.7	0.000	-0.0006	-0.0002
25-30 km	80-90 km	-0.0003	0.0001	-2.9	0.004	-0.0005	-0.0001
30-35 km	80-90 km	-0.0001	0.0001	-0.7	0.495	-0.0003	0.0001
35-40 km	80-90 km	-0.0001	0.0002	-0.9	0.357	-0.0005	0.0002
40-45 km	80-90 km	-0.0005	0.0002	-2.6	0.010	-0.0008	-0.0001
45-50 km	80-90 km	0.0000	0.0002	-0.2	0.880	-0.0005	0.0004
50 km	80-90 km	-0.0004	0.0001	-3.9	0.000	-0.0005	-0.0002
0-5 km	90-100 km	-0.0003	0.0001	-2.9	0.004	-0.0005	-0.0001
5-10 km	90-100 km	-0.0005	0.0001	-5.2	0.000	-0.0006	-0.0003
10-15 km	90-100 km	-0.0003	0.0001	-3.4	0.001	-0.0005	-0.0001
15-20 km	90-100 km	-0.0002	0.0001	-2.3	0.019	-0.0004	0.0000
20-25 km	90-100 km	-0.0001	0.0001	-1.1	0.261	-0.0003	0.0001
25-30 km	90-100 km	-0.0004	0.0001	-3.7	0.000	-0.0006	-0.0002
30-35 km	90-100 km	-0.0002	0.0001	-2.0	0.048	-0.0004	0.0000
35-40 km	90-100 km	-0.0004	0.0002	-2.1	0.038	-0.0007	0.0000
40-45 km	90-100 km	0.0000	0.0002	0.1	0.917	-0.0003	0.0004
45-50 km	90-100 km	-0.0006	0.0002	-3.6	0.000	-0.0009	-0.0003
50 km	90-100 km	-0.0004	0.0001	-3.0	0.003	-0.0006	-0.0001
0-5 km	100 km	-0.0005	0.0000	-15.2	0.000	-0.0005	-0.0004
5-10 km	100 km	-0.0005	0.0000	-15.3	0.000	-0.0005	-0.0004
10-15 km	100 km	-0.0004	0.0000	-12.7	0.000	-0.0005	-0.0003
15-20 km	100 km	-0.0004	0.0000	-12.5	0.000	-0.0005	-0.0004
20-25 km	100 km	-0.0003	0.0000	-8.8	0.000	-0.0004	-0.0002
25-30 km	100 km	-0.0003	0.0000	-9.0	0.000	-0.0004	-0.0003
30-35 km	100 km	-0.0003	0.0000	-7.7	0.000	-0.0004	-0.0002
35-40 km	100 km	-0.0003	0.0000	-5.9	0.000	-0.0003	-0.0002
40-45 km	100 km	-0.0001	0.0001	-1.1	0.266	-0.0002	0.0001
45-50 km	100 km	-0.0002	0.0000	-4.9	0.000	-0.0003	-0.0001
50 km	100 km	(omitted)					
Controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Std. err.							Robust
R^2							0.3355
N							245,676

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. The model includes country and coloniser fixed effects, as well as robust standard errors. All variables are log-linearised except binaries. The regression sample excludes grid cells belonging to South Africa.

Table E.8: Night-time luminosity by distance to the nearest mission station and homeland border: Excluding North Africa

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	0.0000	0.0003	0.1	0.919	-0.0005	0.0005
5-10 km	0-10 km	0.0000	0.0003	0.0	0.990	-0.0006	0.0006
10-15 km	0-10 km	0.0000	0.0003	-0.1	0.921	-0.0006	0.0005
15-20 km	0-10 km	0.0005	0.0004	1.5	0.127	-0.0002	0.0012
20-25 km	0-10 km	0.0006	0.0004	1.6	0.105	-0.0001	0.0014
25-30 km	0-10 km	0.0008	0.0004	2.0	0.041	0.0000	0.0015
30-35 km	0-10 km	0.0007	0.0005	1.4	0.155	-0.0003	0.0016
35-40 km	0-10 km	0.0006	0.0005	1.3	0.194	-0.0003	0.0016
40-45 km	0-10 km	0.0009	0.0006	1.6	0.104	-0.0002	0.0020
45-50 km	0-10 km	0.0021	0.0007	3.0	0.003	0.0007	0.0034
50 km	0-10 km	0.0031	0.0003	10.1	0.000	0.0025	0.0037
0-5 km	10-20 km	-0.0005	0.0001	-4.0	0.000	-0.0007	-0.0003
5-10 km	10-20 km	-0.0003	0.0001	-2.1	0.036	-0.0006	0.0000
10-15 km	10-20 km	-0.0003	0.0002	-1.6	0.114	-0.0006	0.0001
15-20 km	10-20 km	-0.0003	0.0002	-1.5	0.127	-0.0006	0.0001
20-25 km	10-20 km	-0.0002	0.0002	-1.4	0.159	-0.0006	0.0001
25-30 km	10-20 km	0.0002	0.0002	0.8	0.397	-0.0003	0.0007
30-35 km	10-20 km	-0.0001	0.0002	-0.7	0.515	-0.0005	0.0003
35-40 km	10-20 km	0.0001	0.0003	0.3	0.787	-0.0004	0.0006
40-45 km	10-20 km	0.0003	0.0003	0.9	0.370	-0.0003	0.0009
45-50 km	10-20 km	-0.0002	0.0003	-0.6	0.561	-0.0007	0.0004
50 km	10-20 km	-0.0003	0.0001	-2.3	0.019	-0.0005	0.0000
0-5 km	20-30 km	-0.0003	0.0001	-2.0	0.047	-0.0005	0.0000
5-10 km	20-30 km	-0.0002	0.0001	-1.8	0.071	-0.0005	0.0000
10-15 km	20-30 km	-0.0003	0.0001	-2.1	0.037	-0.0006	0.0000
15-20 km	20-30 km	-0.0005	0.0001	-3.7	0.000	-0.0007	-0.0002
20-25 km	20-30 km	-0.0003	0.0002	-1.5	0.127	-0.0006	0.0001
25-30 km	20-30 km	-0.0005	0.0001	-3.8	0.000	-0.0008	-0.0002
30-35 km	20-30 km	0.0000	0.0002	-0.1	0.898	-0.0004	0.0004
35-40 km	20-30 km	-0.0005	0.0002	-3.1	0.002	-0.0009	-0.0002
40-45 km	20-30 km	-0.0005	0.0001	-3.7	0.000	-0.0008	-0.0003
45-50 km	20-30 km	-0.0007	0.0001	-5.0	0.000	-0.0009	-0.0004
50 km	20-30 km	-0.0006	0.0001	-8.6	0.000	-0.0008	-0.0005
0-5 km	30-40 km	-0.0003	0.0001	-3.6	0.000	-0.0005	-0.0002
5-10 km	30-40 km	-0.0004	0.0001	-3.8	0.000	-0.0006	-0.0002
10-15 km	30-40 km	-0.0005	0.0001	-5.1	0.000	-0.0006	-0.0003
15-20 km	30-40 km	-0.0004	0.0001	-4.4	0.000	-0.0006	-0.0002
20-25 km	30-40 km	-0.0002	0.0001	-2.0	0.051	-0.0005	0.0000
25-30 km	30-40 km	-0.0006	0.0001	-5.0	0.000	-0.0008	-0.0003
30-35 km	30-40 km	-0.0005	0.0001	-5.0	0.000	-0.0007	-0.0003
35-40 km	30-40 km	-0.0005	0.0001	-3.7	0.000	-0.0008	-0.0002
40-45 km	30-40 km	-0.0006	0.0001	-5.4	0.000	-0.0008	-0.0004
45-50 km	30-40 km	-0.0007	0.0001	-6.7	0.000	-0.0010	-0.0005
50 km	30-40 km	-0.0006	0.0001	-9.0	0.000	-0.0008	-0.0005

Table E.8: Night-time luminosity by distance to the nearest mission station and homeland border: Excluding North Africa (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0005	0.0001	-7.4	0.000	-0.0007	-0.0004
5-10 km	40-50 km	-0.0005	0.0001	-7.9	0.000	-0.0006	-0.0003
10-15 km	40-50 km	-0.0005	0.0001	-8.0	0.000	-0.0006	-0.0004
15-20 km	40-50 km	-0.0004	0.0001	-5.2	0.000	-0.0005	-0.0002
20-25 km	40-50 km	-0.0006	0.0001	-6.5	0.000	-0.0007	-0.0004
25-30 km	40-50 km	-0.0005	0.0001	-7.2	0.000	-0.0006	-0.0003
30-35 km	40-50 km	-0.0005	0.0001	-5.0	0.000	-0.0007	-0.0003
35-40 km	40-50 km	-0.0005	0.0001	-4.3	0.000	-0.0008	-0.0003
40-45 km	40-50 km	-0.0007	0.0001	-7.5	0.000	-0.0009	-0.0005
45-50 km	40-50 km	-0.0003	0.0001	-2.5	0.012	-0.0006	-0.0001
50 km	40-50 km	-0.0006	0.0001	-10.7	0.000	-0.0007	-0.0005
0-5 km	50-60 km	-0.0004	0.0001	-6.4	0.000	-0.0005	-0.0003
5-10 km	50-60 km	-0.0004	0.0001	-5.9	0.000	-0.0006	-0.0003
10-15 km	50-60 km	-0.0004	0.0001	-5.3	0.000	-0.0006	-0.0003
15-20 km	50-60 km	-0.0003	0.0001	-4.2	0.000	-0.0005	-0.0002
20-25 km	50-60 km	-0.0003	0.0001	-2.8	0.005	-0.0005	-0.0001
25-30 km	50-60 km	-0.0003	0.0001	-4.0	0.000	-0.0005	-0.0002
30-35 km	50-60 km	-0.0005	0.0001	-9.0	0.000	-0.0007	-0.0004
35-40 km	50-60 km	-0.0003	0.0001	-2.2	0.028	-0.0005	0.0000
40-45 km	50-60 km	-0.0004	0.0002	-2.7	0.008	-0.0007	-0.0001
45-50 km	50-60 km	-0.0006	0.0001	-6.9	0.000	-0.0008	-0.0004
50 km	50-60 km	-0.0004	0.0001	-6.6	0.000	-0.0006	-0.0003
0-5 km	60-70 km	-0.0004	0.0001	-6.6	0.000	-0.0006	-0.0003
5-10 km	60-70 km	-0.0004	0.0001	-4.4	0.000	-0.0005	-0.0002
10-15 km	60-70 km	-0.0004	0.0001	-6.8	0.000	-0.0005	-0.0003
15-20 km	60-70 km	-0.0003	0.0001	-3.6	0.000	-0.0005	-0.0001
20-25 km	60-70 km	-0.0004	0.0001	-5.9	0.000	-0.0005	-0.0003
25-30 km	60-70 km	-0.0003	0.0001	-3.2	0.001	-0.0006	-0.0001
30-35 km	60-70 km	0.0000	0.0002	0.2	0.813	-0.0003	0.0004
35-40 km	60-70 km	-0.0003	0.0001	-2.8	0.004	-0.0005	-0.0001
40-45 km	60-70 km	-0.0003	0.0001	-2.9	0.003	-0.0005	-0.0001
45-50 km	60-70 km	-0.0006	0.0001	-6.5	0.000	-0.0008	-0.0004
50 km	60-70 km	-0.0005	0.0001	-10.8	0.000	-0.0006	-0.0004
0-5 km	70-80 km	-0.0003	0.0001	-6.0	0.000	-0.0005	-0.0002
5-10 km	70-80 km	-0.0004	0.0001	-6.5	0.000	-0.0005	-0.0003
10-15 km	70-80 km	-0.0003	0.0001	-4.8	0.000	-0.0005	-0.0002
15-20 km	70-80 km	-0.0004	0.0000	-8.7	0.000	-0.0005	-0.0003
20-25 km	70-80 km	-0.0004	0.0001	-7.3	0.000	-0.0005	-0.0003
25-30 km	70-80 km	-0.0003	0.0001	-2.2	0.030	-0.0005	0.0000
30-35 km	70-80 km	-0.0003	0.0001	-6.3	0.000	-0.0005	-0.0002
35-40 km	70-80 km	-0.0002	0.0001	-2.0	0.046	-0.0005	0.0000
40-45 km	70-80 km	-0.0003	0.0001	-3.0	0.002	-0.0005	-0.0001
45-50 km	70-80 km	-0.0004	0.0001	-3.7	0.000	-0.0007	-0.0002
50 km	70-80 km	-0.0006	0.0000	-11.9	0.000	-0.0006	-0.0005

Table E.8: Night-time luminosity by distance to the nearest mission station and homeland border: Excluding South Africa (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0003	0.0001	-5.0	0.000	-0.0004	-0.0002
5-10 km	80-90 km	-0.0003	0.0000	-5.9	0.000	-0.0003	-0.0002
10-15 km	80-90 km	-0.0003	0.0001	-6.5	0.000	-0.0004	-0.0002
15-20 km	80-90 km	-0.0003	0.0001	-4.8	0.000	-0.0004	-0.0002
20-25 km	80-90 km	-0.0003	0.0001	-5.0	0.000	-0.0004	-0.0002
25-30 km	80-90 km	-0.0003	0.0000	-7.0	0.000	-0.0004	-0.0002
30-35 km	80-90 km	-0.0002	0.0001	-4.4	0.000	-0.0003	-0.0001
35-40 km	80-90 km	-0.0004	0.0001	-4.6	0.000	-0.0005	-0.0002
40-45 km	80-90 km	-0.0004	0.0001	-5.5	0.000	-0.0006	-0.0003
45-50 km	80-90 km	-0.0002	0.0001	-2.3	0.024	-0.0004	0.0000
50 km	80-90 km	-0.0005	0.0000	-11.3	0.000	-0.0006	-0.0004
0-5 km	90-100 km	-0.0002	0.0001	-3.6	0.000	-0.0003	-0.0001
5-10 km	90-100 km	-0.0004	0.0001	-7.8	0.000	-0.0005	-0.0003
10-15 km	90-100 km	-0.0003	0.0001	-5.0	0.000	-0.0004	-0.0002
15-20 km	90-100 km	-0.0003	0.0000	-5.6	0.000	-0.0004	-0.0002
20-25 km	90-100 km	-0.0003	0.0000	-5.5	0.000	-0.0004	-0.0002
25-30 km	90-100 km	-0.0004	0.0001	-5.7	0.000	-0.0005	-0.0002
30-35 km	90-100 km	-0.0003	0.0001	-4.3	0.000	-0.0004	-0.0002
35-40 km	90-100 km	-0.0003	0.0001	-2.3	0.021	-0.0005	0.0000
40-45 km	90-100 km	-0.0003	0.0001	-4.7	0.000	-0.0005	-0.0002
45-50 km	90-100 km	-0.0005	0.0001	-5.9	0.000	-0.0006	-0.0003
50 km	90-100 km	-0.0006	0.0001	-10.8	0.000	-0.0007	-0.0005
0-5 km	100 km	-0.0002	0.0000	-12.8	0.000	-0.0003	-0.0002
5-10 km	100 km	-0.0002	0.0000	-10.9	0.000	-0.0002	-0.0002
10-15 km	100 km	-0.0002	0.0000	-12.5	0.000	-0.0003	-0.0002
15-20 km	100 km	-0.0002	0.0000	-11.3	0.000	-0.0003	-0.0002
20-25 km	100 km	-0.0002	0.0000	-10.5	0.000	-0.0002	-0.0002
25-30 km	100 km	-0.0002	0.0000	-8.3	0.000	-0.0002	-0.0001
30-35 km	100 km	-0.0002	0.0000	-9.3	0.000	-0.0002	-0.0001
35-40 km	100 km	-0.0001	0.0000	-7.0	0.000	-0.0002	-0.0001
40-45 km	100 km	0.0000	0.0001	0.1	0.900	-0.0002	0.0002
45-50 km	100 km	-0.0001	0.0000	-4.7	0.000	-0.0001	-0.0001
50 km	100 km	(omitted)					
Controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Std. err.							Robust
R^2							0.2640
N							206,424

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. The model includes country and coloniser fixed effects, as well as robust standard errors. All variables are log-linearised except binaries. The regression sample excludes grid cells belonging to North Africa (Algeria, Egypt, Libya, Morocco and Tunisia).

Table E.9: Night-time luminosity by distance to the nearest mission station and homeland border: Harmonised night-light data, 2010

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	-0.0008	0.0007	-1.1	0.266	-0.0023	0.0006
5-10 km	0-10 km	-0.0005	0.0009	-0.6	0.578	-0.0022	0.0012
10-15 km	0-10 km	-0.0001	0.0009	-0.1	0.893	-0.0019	0.0017
15-20 km	0-10 km	0.0028	0.0012	2.3	0.020	0.0004	0.0051
20-25 km	0-10 km	0.0042	0.0014	2.9	0.003	0.0014	0.0070
25-30 km	0-10 km	0.0044	0.0014	3.0	0.002	0.0015	0.0072
30-35 km	0-10 km	0.0064	0.0018	3.6	0.000	0.0029	0.0098
35-40 km	0-10 km	0.0047	0.0018	2.6	0.009	0.0012	0.0083
40-45 km	0-10 km	0.0072	0.0022	3.3	0.001	0.0029	0.0116
45-50 km	0-10 km	0.0099	0.0024	4.1	0.000	0.0052	0.0146
50 km	0-10 km	0.0101	0.0009	11.3	0.000	0.0083	0.0118
0-5 km	10-20 km	-0.0018	0.0003	-5.1	0.000	-0.0024	-0.0011
5-10 km	10-20 km	-0.0016	0.0004	-4.3	0.000	-0.0023	-0.0009
10-15 km	10-20 km	-0.0009	0.0005	-1.6	0.113	-0.0019	0.0002
15-20 km	10-20 km	-0.0016	0.0004	-3.9	0.000	-0.0024	-0.0008
20-25 km	10-20 km	-0.0002	0.0006	-0.4	0.690	-0.0014	0.0009
25-30 km	10-20 km	0.0006	0.0007	0.9	0.368	-0.0008	0.0020
30-35 km	10-20 km	0.0003	0.0007	0.5	0.614	-0.0010	0.0016
35-40 km	10-20 km	0.0016	0.0009	1.9	0.063	-0.0001	0.0033
40-45 km	10-20 km	0.0014	0.0009	1.7	0.096	-0.0003	0.0031
45-50 km	10-20 km	0.0028	0.0016	1.8	0.072	-0.0003	0.0059
50 km	10-20 km	0.0014	0.0004	3.5	0.000	0.0006	0.0022
0-5 km	20-30 km	-0.0014	0.0003	-5.2	0.000	-0.0020	-0.0009
5-10 km	20-30 km	-0.0009	0.0003	-2.9	0.004	-0.0016	-0.0003
10-15 km	20-30 km	-0.0011	0.0003	-3.4	0.001	-0.0018	-0.0005
15-20 km	20-30 km	-0.0014	0.0003	-4.1	0.000	-0.0021	-0.0007
20-25 km	20-30 km	-0.0016	0.0004	-4.3	0.000	-0.0023	-0.0009
25-30 km	20-30 km	-0.0017	0.0003	-6.1	0.000	-0.0022	-0.0012
30-35 km	20-30 km	-0.0003	0.0005	-0.6	0.579	-0.0013	0.0007
35-40 km	20-30 km	-0.0014	0.0005	-2.8	0.005	-0.0024	-0.0004
40-45 km	20-30 km	-0.0009	0.0005	-1.7	0.090	-0.0019	0.0001
45-50 km	20-30 km	-0.0018	0.0004	-4.7	0.000	-0.0026	-0.0011
50 km	20-30 km	-0.0001	0.0003	-0.4	0.684	-0.0007	0.0004
0-5 km	30-40 km	-0.0008	0.0002	-3.4	0.001	-0.0012	-0.0003
5-10 km	30-40 km	-0.0010	0.0003	-3.6	0.000	-0.0015	-0.0004
10-15 km	30-40 km	-0.0014	0.0002	-7.8	0.000	-0.0018	-0.0011
15-20 km	30-40 km	-0.0014	0.0002	-6.4	0.000	-0.0018	-0.0010
20-25 km	30-40 km	-0.0010	0.0003	-3.8	0.000	-0.0015	-0.0005
25-30 km	30-40 km	-0.0016	0.0003	-5.8	0.000	-0.0022	-0.0011
30-35 km	30-40 km	-0.0017	0.0003	-6.6	0.000	-0.0022	-0.0012
35-40 km	30-40 km	-0.0016	0.0003	-5.8	0.000	-0.0022	-0.0011
40-45 km	30-40 km	-0.0016	0.0003	-5.4	0.000	-0.0022	-0.0010
45-50 km	30-40 km	-0.0017	0.0005	-3.4	0.001	-0.0027	-0.0007

Table E.9: Night-time luminosity by distance to the nearest mission station and homeland border: Harmonised night-time luminosity data, 2010 (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
>50 km	30-40 km	-0.0004	0.0003	-1.4	0.151	-0.0009	0.0001
0-5 km	40-50 km	-0.0010	0.0002	-4.9	0.000	-0.0014	-0.0006
5-10 km	40-50 km	-0.0007	0.0002	-3.9	0.000	-0.0011	-0.0004
10-15 km	40-50 km	-0.0011	0.0002	-6.8	0.000	-0.0015	-0.0008
15-20 km	40-50 km	-0.0012	0.0002	-6.2	0.000	-0.0015	-0.0008
20-25 km	40-50 km	-0.0018	0.0002	-8.4	0.000	-0.0022	-0.0014
25-30 km	40-50 km	-0.0014	0.0002	-7.5	0.000	-0.0017	-0.0010
30-35 km	40-50 km	-0.0014	0.0003	-5.3	0.000	-0.0019	-0.0009
35-40 km	40-50 km	-0.0015	0.0004	-4.3	0.000	-0.0022	-0.0008
40-45 km	40-50 km	-0.0022	0.0003	-7.8	0.000	-0.0028	-0.0017
45-50 km	40-50 km	-0.0008	0.0005	-1.8	0.076	-0.0018	0.0001
>50 km	40-50 km	-0.0005	0.0002	-2.4	0.016	-0.0010	-0.0001
0-5 km	50-60 km	-0.0008	0.0001	-5.2	0.000	-0.0011	-0.0005
5-10 km	50-60 km	-0.0011	0.0002	-6.8	0.000	-0.0014	-0.0008
10-15 km	50-60 km	-0.0010	0.0002	-5.9	0.000	-0.0013	-0.0007
15-20 km	50-60 km	-0.0009	0.0002	-4.2	0.000	-0.0013	-0.0005
20-25 km	50-60 km	-0.0010	0.0002	-5.5	0.000	-0.0014	-0.0007
25-30 km	50-60 km	-0.0012	0.0002	-5.6	0.000	-0.0016	-0.0008
30-35 km	50-60 km	-0.0016	0.0002	-7.3	0.000	-0.0020	-0.0012
35-40 km	50-60 km	-0.0014	0.0002	-6.0	0.000	-0.0018	-0.0009
40-45 km	50-60 km	-0.0013	0.0003	-3.8	0.000	-0.0020	-0.0006
45-50 km	50-60 km	-0.0017	0.0003	-5.3	0.000	-0.0023	-0.0011
>50 km	50-60 km	-0.0006	0.0002	-3.3	0.001	-0.0010	-0.0003
0-5 km	60-70 km	-0.0010	0.0002	-4.6	0.000	-0.0014	-0.0005
5-10 km	60-70 km	-0.0007	0.0002	-3.1	0.002	-0.0011	-0.0003
10-15 km	60-70 km	-0.0010	0.0002	-5.6	0.000	-0.0013	-0.0006
15-20 km	60-70 km	-0.0010	0.0002	-5.1	0.000	-0.0014	-0.0006
20-25 km	60-70 km	-0.0010	0.0002	-5.3	0.000	-0.0014	-0.0007
25-30 km	60-70 km	-0.0013	0.0002	-5.4	0.000	-0.0017	-0.0008
30-35 km	60-70 km	-0.0006	0.0003	-2.1	0.033	-0.0012	-0.0001
35-40 km	60-70 km	-0.0014	0.0003	-5.1	0.000	-0.0019	-0.0008
40-45 km	60-70 km	-0.0013	0.0002	-5.9	0.000	-0.0017	-0.0009
45-50 km	60-70 km	-0.0018	0.0003	-6.2	0.000	-0.0023	-0.0012
>50 km	60-70 km	-0.0007	0.0002	-3.7	0.000	-0.0011	-0.0003
0-5 km	70-80 km	-0.0007	0.0002	-3.2	0.001	-0.0011	-0.0003
5-10 km	70-80 km	-0.0007	0.0002	-2.9	0.004	-0.0012	-0.0002
10-15 km	70-80 km	-0.0009	0.0002	-3.9	0.000	-0.0013	-0.0004
15-20 km	70-80 km	-0.0011	0.0002	-6.1	0.000	-0.0014	-0.0007
20-25 km	70-80 km	-0.0007	0.0002	-3.5	0.000	-0.0010	-0.0003
25-30 km	70-80 km	-0.0010	0.0002	-4.2	0.000	-0.0014	-0.0005
30-35 km	70-80 km	-0.0010	0.0002	-4.6	0.000	-0.0014	-0.0006
35-40 km	70-80 km	-0.0007	0.0003	-2.7	0.008	-0.0012	-0.0002
40-45 km	70-80 km	-0.0005	0.0003	-1.7	0.088	-0.0012	0.0001
45-50 km	70-80 km	-0.0005	0.0006	-0.8	0.428	-0.0016	0.0007
>50 km	70-80 km	-0.0008	0.0002	-4.1	0.000	-0.0012	-0.0004

Table E.9: Night-time luminosity by distance to the nearest mission station and homeland border: Harmonised night-time luminosity data, 2010 (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0005	0.0002	-3.3	0.001	-0.0009	-0.0002
5-10 km	80-90 km	-0.0007	0.0002	-4.5	0.000	-0.0010	-0.0004
10-15 km	80-90 km	-0.0006	0.0002	-3.0	0.003	-0.0009	-0.0002
15-20 km	80-90 km	-0.0009	0.0002	-4.5	0.000	-0.0013	-0.0005
20-25 km	80-90 km	-0.0008	0.0002	-4.2	0.000	-0.0012	-0.0004
25-30 km	80-90 km	-0.0006	0.0002	-3.4	0.001	-0.0010	-0.0003
30-35 km	80-90 km	-0.0004	0.0002	-2.0	0.043	-0.0008	0.0000
35-40 km	80-90 km	-0.0006	0.0003	-1.9	0.053	-0.0012	0.0000
40-45 km	80-90 km	-0.0010	0.0004	-2.7	0.008	-0.0017	-0.0003
45-50 km	80-90 km	-0.0001	0.0006	-0.2	0.827	-0.0013	0.0010
>50 km	80-90 km	-0.0010	0.0002	-6.3	0.000	-0.0013	-0.0007
0-5 km	90-100 km	-0.0007	0.0002	-3.9	0.000	-0.0010	-0.0003
5-10 km	90-100 km	-0.0009	0.0002	-4.8	0.000	-0.0013	-0.0005
10-15 km	90-100 km	-0.0006	0.0002	-3.6	0.000	-0.0010	-0.0003
15-20 km	90-100 km	-0.0005	0.0002	-2.5	0.014	-0.0008	-0.0001
20-25 km	90-100 km	-0.0002	0.0002	-1.2	0.248	-0.0006	0.0002
25-30 km	90-100 km	-0.0009	0.0002	-4.3	0.000	-0.0014	-0.0005
30-35 km	90-100 km	-0.0005	0.0002	-2.4	0.018	-0.0009	-0.0001
35-40 km	90-100 km	-0.0010	0.0003	-3.3	0.001	-0.0016	-0.0004
40-45 km	90-100 km	-0.0005	0.0002	-1.9	0.054	-0.0009	0.0000
45-50 km	90-100 km	-0.0013	0.0003	-4.9	0.000	-0.0018	-0.0008
>50 km	90-100 km	-0.0011	0.0002	-5.7	0.000	-0.0014	-0.0007
0-5 km	>100 km	-0.0009	0.0001	-15.0	0.000	-0.0010	-0.0007
5-10 km	>100 km	-0.0009	0.0001	-14.9	0.000	-0.0010	-0.0007
10-15 km	>100 km	-0.0008	0.0001	-13.1	0.000	-0.0009	-0.0006
15-20 km	>100 km	-0.0007	0.0001	-12.0	0.000	-0.0009	-0.0006
20-25 km	>100 km	-0.0006	0.0001	-9.6	0.000	-0.0008	-0.0005
25-30 km	>100 km	-0.0007	0.0001	-9.7	0.000	-0.0008	-0.0005
30-35 km	>100 km	-0.0005	0.0001	-7.2	0.000	-0.0006	-0.0004
35-40 km	>100 km	-0.0005	0.0001	-6.1	0.000	-0.0007	-0.0004
40-45 km	>100 km	-0.0003	0.0001	-3.5	0.000	-0.0004	-0.0001
45-50 km	>100 km	-0.0005	0.0001	-6.1	0.000	-0.0006	-0.0003
>50 km	>100 km	0.0000			(omitted)		
Controls					Yes		
Coloniser fixed effects					Yes		
Country fixed effects					Yes		
Std. err.					Robust		
R^2					0.2958		
N					256,953		

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. The model includes country and coloniser fixed effects, as well as robust standard errors. All variables are log-linearised except binaries. The dependent variable is harmonized night-time luminosity in 2010 from [Chiovelli et al. \(2026\)](#).

Table E.10: Night-time luminosity by distance to the nearest mission station and homeland border: Harmonised night-time luminosity data, 2025

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	0.0011	0.0011	1.0	0.314	-0.0011	0.0033
5-10 km	0-10 km	0.0011	0.0013	0.8	0.412	-0.0015	0.0036
10-15 km	0-10 km	0.0022	0.0013	1.7	0.084	-0.0003	0.0046
15-20 km	0-10 km	0.0047	0.0016	2.9	0.003	0.0016	0.0079
20-25 km	0-10 km	0.0066	0.0018	3.7	0.000	0.0031	0.0101
25-30 km	0-10 km	0.0058	0.0017	3.5	0.001	0.0025	0.0091
30-35 km	0-10 km	0.0067	0.0019	3.5	0.001	0.0029	0.0105
35-40 km	0-10 km	0.0069	0.0022	3.1	0.002	0.0025	0.0113
40-45 km	0-10 km	0.0113	0.0027	4.1	0.000	0.0059	0.0167
45-50 km	0-10 km	0.0131	0.0029	4.4	0.000	0.0073	0.0188
50 km	0-10 km	0.0132	0.0011	12.1	0.000	0.0110	0.0153
0-5 km	10-20 km	-0.0014	0.0006	-2.6	0.010	-0.0025	-0.0003
5-10 km	10-20 km	-0.0014	0.0006	-2.4	0.015	-0.0026	-0.0003
10-15 km	10-20 km	-0.0001	0.0008	-0.1	0.922	-0.0017	0.0015
15-20 km	10-20 km	-0.0013	0.0006	-2.0	0.046	-0.0026	0.0000
20-25 km	10-20 km	0.0009	0.0008	1.1	0.282	-0.0007	0.0026
25-30 km	10-20 km	0.0012	0.0009	1.3	0.200	-0.0006	0.0030
30-35 km	10-20 km	0.0008	0.0009	0.9	0.354	-0.0009	0.0025
35-40 km	10-20 km	0.0028	0.0011	2.6	0.011	0.0007	0.0050
40-45 km	10-20 km	0.0033	0.0012	2.6	0.008	0.0008	0.0057
45-50 km	10-20 km	0.0046	0.0018	2.5	0.013	0.0010	0.0081
50 km	10-20 km	0.0019	0.0005	3.6	0.000	0.0009	0.0029
0-5 km	20-30 km	-0.0015	0.0004	-3.4	0.001	-0.0024	-0.0006
5-10 km	20-30 km	-0.0012	0.0005	-2.4	0.015	-0.0021	-0.0002
10-15 km	20-30 km	-0.0013	0.0005	-2.6	0.008	-0.0022	-0.0003
15-20 km	20-30 km	-0.0020	0.0005	-3.9	0.000	-0.0030	-0.0010
20-25 km	20-30 km	-0.0019	0.0006	-3.2	0.001	-0.0030	-0.0007
25-30 km	20-30 km	-0.0016	0.0006	-2.8	0.006	-0.0027	-0.0005
30-35 km	20-30 km	0.0001	0.0008	0.1	0.932	-0.0014	0.0016
35-40 km	20-30 km	-0.0013	0.0008	-1.6	0.113	-0.0028	0.0003
40-45 km	20-30 km	-0.0009	0.0008	-1.1	0.258	-0.0024	0.0006
45-50 km	20-30 km	-0.0016	0.0007	-2.2	0.025	-0.0030	-0.0002
50 km	20-30 km	-0.0001	0.0004	-0.4	0.717	-0.0009	0.0006
0-5 km	30-40 km	-0.0006	0.0004	-1.6	0.108	-0.0014	0.0001
5-10 km	30-40 km	-0.0014	0.0004	-3.9	0.000	-0.0022	-0.0007
10-15 km	30-40 km	-0.0018	0.0003	-5.3	0.000	-0.0024	-0.0011
15-20 km	30-40 km	-0.0022	0.0003	-6.9	0.000	-0.0029	-0.0016
20-25 km	30-40 km	-0.0014	0.0004	-3.4	0.001	-0.0022	-0.0006
25-30 km	30-40 km	-0.0023	0.0005	-4.8	0.000	-0.0032	-0.0013
30-35 km	30-40 km	-0.0026	0.0004	-6.7	0.000	-0.0033	-0.0018
35-40 km	30-40 km	-0.0021	0.0005	-4.3	0.000	-0.0031	-0.0011
40-45 km	30-40 km	-0.0020	0.0005	-4.2	0.000	-0.0030	-0.0011
45-50 km	30-40 km	-0.0021	0.0009	-2.4	0.017	-0.0038	-0.0004
50 km	30-40 km	0.0001	0.0004	0.3	0.787	-0.0007	0.0009

Table E.10: Night-time luminosity by distance to the nearest mission station and homeland border: Harmonised night-time luminosity data, 2025 (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0017	0.0003	-5.4	0.000	-0.0024	-0.0011
5-10 km	40-50 km	-0.0012	0.0003	-3.9	0.000	-0.0018	-0.0006
10-15 km	40-50 km	-0.0018	0.0003	-6.5	0.000	-0.0023	-0.0012
15-20 km	40-50 km	-0.0017	0.0003	-5.1	0.000	-0.0023	-0.0010
20-25 km	40-50 km	-0.0027	0.0004	-7.1	0.000	-0.0034	-0.0020
25-30 km	40-50 km	-0.0024	0.0003	-8.7	0.000	-0.0030	-0.0019
30-35 km	40-50 km	-0.0024	0.0004	-6.2	0.000	-0.0032	-0.0017
35-40 km	40-50 km	-0.0024	0.0005	-4.4	0.000	-0.0034	-0.0013
40-45 km	40-50 km	-0.0034	0.0004	-7.7	0.000	-0.0043	-0.0026
45-50 km	40-50 km	-0.0010	0.0008	-1.4	0.177	-0.0025	0.0005
>50 km	40-50 km	-0.0004	0.0003	-1.3	0.185	-0.0011	0.0002
0-5 km	50-60 km	-0.0015	0.0003	-5.9	0.000	-0.0020	-0.0010
5-10 km	50-60 km	-0.0018	0.0003	-6.3	0.000	-0.0024	-0.0013
10-15 km	50-60 km	-0.0017	0.0003	-6.1	0.000	-0.0023	-0.0012
15-20 km	50-60 km	-0.0016	0.0003	-4.8	0.000	-0.0022	-0.0009
20-25 km	50-60 km	-0.0015	0.0003	-4.3	0.000	-0.0021	-0.0008
25-30 km	50-60 km	-0.0016	0.0004	-4.0	0.000	-0.0024	-0.0008
30-35 km	50-60 km	-0.0026	0.0003	-7.5	0.000	-0.0032	-0.0019
35-40 km	50-60 km	-0.0021	0.0004	-6.1	0.000	-0.0028	-0.0014
40-45 km	50-60 km	-0.0021	0.0005	-4.2	0.000	-0.0031	-0.0011
45-50 km	50-60 km	-0.0025	0.0005	-5.0	0.000	-0.0034	-0.0015
>50 km	50-60 km	-0.0008	0.0003	-2.8	0.006	-0.0014	-0.0002
0-5 km	60-70 km	-0.0018	0.0003	-5.4	0.000	-0.0024	-0.0011
5-10 km	60-70 km	-0.0014	0.0003	-4.3	0.000	-0.0021	-0.0008
10-15 km	60-70 km	-0.0018	0.0003	-6.6	0.000	-0.0023	-0.0012
15-20 km	60-70 km	-0.0014	0.0004	-3.7	0.000	-0.0021	-0.0006
20-25 km	60-70 km	-0.0018	0.0003	-5.3	0.000	-0.0025	-0.0011
25-30 km	60-70 km	-0.0021	0.0004	-5.5	0.000	-0.0028	-0.0013
30-35 km	60-70 km	-0.0010	0.0004	-2.5	0.014	-0.0018	-0.0002
35-40 km	60-70 km	-0.0020	0.0004	-4.8	0.000	-0.0028	-0.0012
40-45 km	60-70 km	-0.0017	0.0004	-4.6	0.000	-0.0025	-0.0010
45-50 km	60-70 km	-0.0028	0.0005	-5.8	0.000	-0.0038	-0.0019
>50 km	60-70 km	-0.0010	0.0003	-3.8	0.000	-0.0016	-0.0005
0-5 km	70-80 km	-0.0010	0.0003	-2.8	0.005	-0.0016	-0.0003
5-10 km	70-80 km	-0.0012	0.0004	-3.0	0.003	-0.0020	-0.0004
10-15 km	70-80 km	-0.0017	0.0003	-4.9	0.000	-0.0024	-0.0010
15-20 km	70-80 km	-0.0018	0.0003	-6.2	0.000	-0.0023	-0.0012
20-25 km	70-80 km	-0.0014	0.0003	-4.6	0.000	-0.0019	-0.0008
25-30 km	70-80 km	-0.0016	0.0004	-4.3	0.000	-0.0023	-0.0009
30-35 km	70-80 km	-0.0015	0.0004	-4.2	0.000	-0.0022	-0.0008
35-40 km	70-80 km	-0.0009	0.0005	-1.7	0.085	-0.0019	0.0001
40-45 km	70-80 km	-0.0003	0.0008	-0.4	0.707	-0.0018	0.0012
45-50 km	70-80 km	-0.0012	0.0007	-1.7	0.098	-0.0027	0.0002
>50 km	70-80 km	-0.0015	0.0003	-5.6	0.000	-0.0020	-0.0010

Table E.10: Night-time luminosity by distance to the nearest mission station and homeland border: Harmonised night-time luminosity data, 2025 (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0009	0.0003	-2.8	0.005	-0.0016	-0.0003
5-10 km	80-90 km	-0.0010	0.0003	-3.6	0.000	-0.0016	-0.0005
10-15 km	80-90 km	-0.0010	0.0003	-3.0	0.003	-0.0016	-0.0003
15-20 km	80-90 km	-0.0016	0.0003	-4.7	0.000	-0.0022	-0.0009
20-25 km	80-90 km	-0.0014	0.0003	-4.1	0.000	-0.0021	-0.0007
25-30 km	80-90 km	-0.0013	0.0003	-4.2	0.000	-0.0019	-0.0007
30-35 km	80-90 km	-0.0008	0.0003	-2.3	0.021	-0.0014	-0.0001
35-40 km	80-90 km	-0.0011	0.0006	-1.9	0.064	-0.0024	0.0001
40-45 km	80-90 km	-0.0020	0.0007	-3.0	0.003	-0.0033	-0.0007
45-50 km	80-90 km	0.0001	0.0010	0.1	0.926	-0.0019	0.0020
>50 km	80-90 km	-0.0018	0.0002	-7.8	0.000	-0.0022	-0.0013
0-5 km	90-100 km	-0.0006	0.0004	-1.4	0.157	-0.0014	0.0002
5-10 km	90-100 km	-0.0015	0.0003	-4.9	0.000	-0.0021	-0.0009
10-15 km	90-100 km	-0.0011	0.0003	-3.4	0.001	-0.0017	-0.0005
15-20 km	90-100 km	-0.0009	0.0003	-3.0	0.003	-0.0014	-0.0003
20-25 km	90-100 km	-0.0006	0.0004	-1.7	0.096	-0.0013	0.0001
25-30 km	90-100 km	-0.0018	0.0003	-5.4	0.000	-0.0025	-0.0012
30-35 km	90-100 km	-0.0011	0.0004	-3.0	0.002	-0.0018	-0.0004
35-40 km	90-100 km	-0.0015	0.0006	-2.8	0.005	-0.0026	-0.0005
40-45 km	90-100 km	-0.0013	0.0004	-3.3	0.001	-0.0021	-0.0005
45-50 km	90-100 km	-0.0025	0.0005	-5.6	0.000	-0.0034	-0.0016
>50 km	90-100 km	-0.0018	0.0003	-5.9	0.000	-0.0024	-0.0012
0-5 km	>100 km	-0.0013	0.0001	-15.5	0.000	-0.0015	-0.0012
5-10 km	>100 km	-0.0012	0.0001	-13.4	0.000	-0.0014	-0.0011
10-15 km	>100 km	-0.0011	0.0001	-11.5	0.000	-0.0012	-0.0009
15-20 km	>100 km	-0.0010	0.0001	-9.3	0.000	-0.0012	-0.0008
20-25 km	>100 km	-0.0010	0.0001	-9.0	0.000	-0.0012	-0.0008
25-30 km	>100 km	-0.0010	0.0001	-9.1	0.000	-0.0012	-0.0008
30-35 km	>100 km	-0.0007	0.0001	-6.5	0.000	-0.0009	-0.0005
35-40 km	>100 km	-0.0007	0.0001	-5.7	0.000	-0.0010	-0.0005
40-45 km	>100 km	-0.0004	0.0001	-3.2	0.001	-0.0006	-0.0002
45-50 km	>100 km	-0.0007	0.0001	-5.7	0.000	-0.0009	-0.0004
>50 km	>100 km	0.0000			(omitted)		
Controls					Yes		
Coloniser fixed effects					Yes		
Country fixed effects					Yes		
Std. err.					Robust		
R ²					0.3540		
N					256,953		

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. The model includes country and coloniser fixed effects, as well as robust standard errors. All variables are log-linearised except binaries. The dependent variable is harmonized night-time luminosity in 2025 from [Chiovelli et al. \(2026\)](#).

Table E.11: Night-time luminosity by distance to the nearest mission station and homeland border: Additional historical controls

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	0.0001	0.0007	0.1	0.887	-0.0014	0.0016
5-10 km	0-10 km	0.0003	0.0009	0.4	0.704	-0.0014	0.0021
10-15 km	0-10 km	0.0007	0.0009	0.7	0.463	-0.0011	0.0025
15-20 km	0-10 km	0.0035	0.0012	2.9	0.004	0.0011	0.0058
20-25 km	0-10 km	0.0050	0.0014	3.5	0.000	0.0022	0.0078
25-30 km	0-10 km	0.0051	0.0014	3.6	0.000	0.0023	0.0079
30-35 km	0-10 km	0.0069	0.0018	3.9	0.000	0.0035	0.0104
35-40 km	0-10 km	0.0053	0.0018	3.0	0.003	0.0018	0.0089
40-45 km	0-10 km	0.0079	0.0022	3.6	0.000	0.0036	0.0122
45-50 km	0-10 km	0.0104	0.0024	4.3	0.000	0.0057	0.0151
50 km	0-10 km	0.0106	0.0009	12.0	0.000	0.0089	0.0123
0-5 km	10-20 km	-0.0009	0.0003	-2.6	0.009	-0.0016	-0.0002
5-10 km	10-20 km	-0.0008	0.0004	-2.3	0.021	-0.0016	-0.0001
10-15 km	10-20 km	-0.0002	0.0005	-0.3	0.727	-0.0013	0.0009
15-20 km	10-20 km	-0.0010	0.0004	-2.5	0.014	-0.0018	-0.0002
20-25 km	10-20 km	0.0004	0.0006	0.6	0.534	-0.0008	0.0015
25-30 km	10-20 km	0.0012	0.0007	1.7	0.082	-0.0002	0.0026
30-35 km	10-20 km	0.0009	0.0007	1.4	0.173	-0.0004	0.0022
35-40 km	10-20 km	0.0022	0.0009	2.5	0.011	0.0005	0.0039
40-45 km	10-20 km	0.0019	0.0009	2.2	0.028	0.0002	0.0036
45-50 km	10-20 km	0.0033	0.0016	2.1	0.033	0.0003	0.0064
50 km	10-20 km	0.0019	0.0004	4.7	0.000	0.0011	0.0027
0-5 km	20-30 km	-0.0007	0.0003	-2.7	0.007	-0.0013	-0.0002
5-10 km	20-30 km	-0.0003	0.0003	-0.9	0.344	-0.0009	0.0003
10-15 km	20-30 km	-0.0007	0.0003	-2.0	0.049	-0.0013	0.0000
15-20 km	20-30 km	-0.0009	0.0003	-2.5	0.011	-0.0015	-0.0002
20-25 km	20-30 km	-0.0011	0.0004	-3.0	0.003	-0.0018	-0.0004
25-30 km	20-30 km	-0.0012	0.0003	-4.2	0.000	-0.0017	-0.0006
30-35 km	20-30 km	0.0003	0.0005	0.5	0.601	-0.0007	0.0013
35-40 km	20-30 km	-0.0009	0.0005	-1.9	0.063	-0.0019	0.0001
40-45 km	20-30 km	-0.0004	0.0005	-0.8	0.430	-0.0014	0.0006
45-50 km	20-30 km	-0.0014	0.0004	-3.6	0.000	-0.0022	-0.0007
50 km	20-30 km	0.0002	0.0003	0.8	0.404	-0.0003	0.0008
0-5 km	30-40 km	-0.0002	0.0002	-0.8	0.413	-0.0006	0.0003
5-10 km	30-40 km	-0.0004	0.0003	-1.6	0.108	-0.0010	0.0001
10-15 km	30-40 km	-0.0010	0.0002	-5.5	0.000	-0.0014	-0.0007
15-20 km	30-40 km	-0.0009	0.0002	-4.1	0.000	-0.0013	-0.0005
20-25 km	30-40 km	-0.0006	0.0003	-2.2	0.026	-0.0011	-0.0001
25-30 km	30-40 km	-0.0012	0.0003	-4.4	0.000	-0.0018	-0.0007
30-35 km	30-40 km	-0.0013	0.0003	-5.1	0.000	-0.0018	-0.0008
35-40 km	30-40 km	-0.0012	0.0003	-4.4	0.000	-0.0018	-0.0007
40-45 km	30-40 km	-0.0012	0.0003	-4.1	0.000	-0.0018	-0.0006
45-50 km	30-40 km	-0.0013	0.0005	-2.5	0.013	-0.0022	-0.0003
50 km	30-40 km	0.0000	0.0003	0.0	0.991	-0.0005	0.0005

Table E.11: Night-time luminosity by distance to the nearest mission station and homeland border: Additional historical controls (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0004	0.0002	-2.1	0.032	-0.0008	0.0000
5-10 km	40-50 km	-0.0003	0.0002	-1.6	0.105	-0.0007	0.0001
10-15 km	40-50 km	-0.0007	0.0002	-4.4	0.000	-0.0011	-0.0004
15-20 km	40-50 km	-0.0008	0.0002	-4.2	0.000	-0.0012	-0.0004
20-25 km	40-50 km	-0.0015	0.0002	-7.0	0.000	-0.0019	-0.0011
25-30 km	40-50 km	-0.0009	0.0002	-5.1	0.000	-0.0013	-0.0006
30-35 km	40-50 km	-0.0011	0.0003	-4.1	0.000	-0.0016	-0.0006
35-40 km	40-50 km	-0.0012	0.0004	-3.4	0.001	-0.0019	-0.0005
40-45 km	40-50 km	-0.0019	0.0003	-6.5	0.000	-0.0024	-0.0013
45-50 km	40-50 km	-0.0005	0.0005	-1.0	0.318	-0.0014	0.0004
50 km	40-50 km	-0.0002	0.0002	-0.7	0.480	-0.0006	0.0003
0-5 km	50-60 km	-0.0003	0.0001	-1.8	0.075	-0.0005	0.0000
5-10 km	50-60 km	-0.0007	0.0002	-4.4	0.000	-0.0010	-0.0004
10-15 km	50-60 km	-0.0007	0.0002	-4.0	0.000	-0.0010	-0.0004
15-20 km	50-60 km	-0.0006	0.0002	-2.6	0.008	-0.0010	-0.0001
20-25 km	50-60 km	-0.0007	0.0002	-3.8	0.000	-0.0011	-0.0003
25-30 km	50-60 km	-0.0009	0.0002	-4.3	0.000	-0.0013	-0.0005
30-35 km	50-60 km	-0.0012	0.0002	-5.4	0.000	-0.0016	-0.0008
35-40 km	50-60 km	-0.0010	0.0002	-4.4	0.000	-0.0014	-0.0006
40-45 km	50-60 km	-0.0009	0.0003	-2.7	0.007	-0.0016	-0.0003
45-50 km	50-60 km	-0.0014	0.0003	-4.3	0.000	-0.0020	-0.0007
50 km	50-60 km	-0.0003	0.0002	-1.7	0.098	-0.0007	0.0001
0-5 km	60-70 km	-0.0005	0.0002	-2.3	0.019	-0.0009	-0.0001
5-10 km	60-70 km	-0.0004	0.0002	-1.6	0.103	-0.0008	0.0001
10-15 km	60-70 km	-0.0007	0.0002	-4.1	0.000	-0.0011	-0.0004
15-20 km	60-70 km	-0.0007	0.0002	-3.6	0.000	-0.0011	-0.0003
20-25 km	60-70 km	-0.0008	0.0002	-4.2	0.000	-0.0012	-0.0004
25-30 km	60-70 km	-0.0010	0.0002	-4.2	0.000	-0.0014	-0.0005
30-35 km	60-70 km	-0.0004	0.0003	-1.3	0.182	-0.0010	0.0002
35-40 km	60-70 km	-0.0011	0.0003	-4.0	0.000	-0.0016	-0.0005
40-45 km	60-70 km	-0.0009	0.0002	-4.0	0.000	-0.0013	-0.0005
45-50 km	60-70 km	-0.0014	0.0003	-4.9	0.000	-0.0020	-0.0008
50 km	60-70 km	-0.0004	0.0002	-2.0	0.041	-0.0008	0.0000
0-5 km	70-80 km	-0.0003	0.0002	-1.5	0.144	-0.0007	0.0001
5-10 km	70-80 km	-0.0004	0.0002	-1.9	0.064	-0.0009	0.0000
10-15 km	70-80 km	-0.0007	0.0002	-3.1	0.002	-0.0011	-0.0002
15-20 km	70-80 km	-0.0009	0.0002	-4.8	0.000	-0.0012	-0.0005
20-25 km	70-80 km	-0.0005	0.0002	-2.6	0.009	-0.0008	-0.0001
25-30 km	70-80 km	-0.0007	0.0002	-3.1	0.002	-0.0012	-0.0003
30-35 km	70-80 km	-0.0007	0.0002	-3.3	0.001	-0.0011	-0.0003
35-40 km	70-80 km	-0.0004	0.0003	-1.6	0.109	-0.0009	0.0001
40-45 km	70-80 km	-0.0003	0.0003	-1.0	0.313	-0.0009	0.0003
45-50 km	70-80 km	-0.0002	0.0006	-0.3	0.783	-0.0013	0.0009
50 km	70-80 km	-0.0005	0.0002	-2.5	0.012	-0.0009	-0.0001

Table E.11: Night-time luminosity by distance to the nearest mission station and homeland border: Additional historical controls (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0002	0.0002	-1.4	0.155	-0.0006	0.0001
5-10 km	80-90 km	-0.0005	0.0002	-2.9	0.004	-0.0008	-0.0002
10-15 km	80-90 km	-0.0005	0.0002	-2.5	0.014	-0.0008	-0.0001
15-20 km	80-90 km	-0.0007	0.0002	-3.3	0.001	-0.0011	-0.0003
20-25 km	80-90 km	-0.0006	0.0002	-3.2	0.001	-0.0010	-0.0002
25-30 km	80-90 km	-0.0004	0.0002	-2.4	0.017	-0.0008	-0.0001
30-35 km	80-90 km	-0.0002	0.0002	-1.0	0.319	-0.0006	0.0002
35-40 km	80-90 km	-0.0004	0.0003	-1.3	0.210	-0.0010	0.0002
40-45 km	80-90 km	-0.0008	0.0004	-2.1	0.036	-0.0015	0.0000
45-50 km	80-90 km	0.0001	0.0006	0.1	0.892	-0.0011	0.0012
50 km	80-90 km	-0.0007	0.0002	-4.6	0.000	-0.0010	-0.0004
0-5 km	90-100 km	-0.0004	0.0002	-2.4	0.016	-0.0008	-0.0001
5-10 km	90-100 km	-0.0007	0.0002	-3.8	0.000	-0.0011	-0.0004
10-15 km	90-100 km	-0.0005	0.0002	-2.7	0.006	-0.0008	-0.0001
15-20 km	90-100 km	-0.0004	0.0002	-1.9	0.052	-0.0007	0.0000
20-25 km	90-100 km	-0.0001	0.0002	-0.4	0.664	-0.0004	0.0003
25-30 km	90-100 km	-0.0008	0.0002	-3.5	0.000	-0.0012	-0.0003
30-35 km	90-100 km	-0.0003	0.0002	-1.6	0.107	-0.0007	0.0001
35-40 km	90-100 km	-0.0008	0.0003	-2.7	0.007	-0.0014	-0.0002
40-45 km	90-100 km	-0.0003	0.0002	-1.4	0.170	-0.0008	0.0001
45-50 km	90-100 km	-0.0011	0.0003	-4.1	0.000	-0.0016	-0.0005
50 km	90-100 km	-0.0009	0.0002	-4.9	0.000	-0.0013	-0.0006
0-5 km	100 km	-0.0006	0.0001	-10.9	0.000	-0.0007	-0.0005
5-10 km	100 km	-0.0007	0.0001	-12.8	0.000	-0.0008	-0.0006
10-15 km	100 km	-0.0007	0.0001	-11.8	0.000	-0.0008	-0.0006
15-20 km	100 km	-0.0007	0.0001	-11.1	0.000	-0.0008	-0.0005
20-25 km	100 km	-0.0006	0.0001	-8.5	0.000	-0.0007	-0.0004
25-30 km	100 km	-0.0006	0.0001	-9.0	0.000	-0.0007	-0.0005
30-35 km	100 km	-0.0004	0.0001	-5.9	0.000	-0.0005	-0.0003
35-40 km	100 km	-0.0005	0.0001	-5.7	0.000	-0.0007	-0.0003
40-45 km	100 km	-0.0002	0.0001	-2.6	0.008	-0.0004	-0.0001
45-50 km	100 km	-0.0004	0.0001	-5.5	0.000	-0.0006	-0.0003
50 km	100 km	0.0000			(omitted)		
Controls					Yes		
Coloniser fixed effects					Yes		
Country fixed effects					Yes		
Std. err.					Robust		
R ²					0.3034		
N					256,953		

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. The model includes country and coloniser fixed effects, as well as robust standard errors. All variables are log-linearised except binaries. The regression two further historical controls: distance to slave ports from [SlaveVoyages \(2019\)](#) and pre-colonial centralisation, provided by [Michalopoulos and Papaioannou \(2013\)](#).

Table E.12: Leave-one-country-out analysis:
relative mission coefficients by distance to the nearest homeland border

Country omitted	Obs.	Distance to nearest homeland border (km)										
		0–5	5–10	10–15	15–20	20–25	25–30	30–35	35–40	40–45	45–50	>50
ALL	257,224	1	-2	2	26	40	46	61	46	66	95	100
AGO	246,659	0	-2	2	25	38	46	60	45	63	87	100
BDI	257,045	1	-3	2	25	40	46	61	47	66	94	100
BEN	256,193	0	-2	1	27	40	46	62	47	66	95	100
BFA	255,119	1	-2	3	26	40	47	61	47	67	94	100
BWA	252,352	1	-3	2	26	40	46	61	47	65	94	100
CAF	252,418	1	-2	2	26	40	46	62	46	65	94	100
CIV	254,453	0	-3	2	25	40	46	61	46	66	95	100
CMR	252,644	2	-1	3	26	41	48	64	47	69	96	100
COD	238,601	6	3	8	30	48	50	67	52	68	92	100
COG	254,576	1	-2	3	27	41	47	62	48	65	95	100
COM	257,190	1	-2	2	26	40	46	61	46	66	95	100
CPV	257,132	1	-2	3	26	40	46	61	46	66	95	100
DJI	256,971	-1	-3	3	26	40	46	61	46	66	95	100
DZA	236,144	-1	-1	-1	23	36	42	59	32	61	89	100
EGY	248,632	-9	-13	-7	18	24	28	27	37	47	92	100
ERI	255,712	1	-2	3	26	40	46	60	46	65	95	100
ESH	254,826	1	-2	3	26	40	46	61	46	66	95	100
ESP	257,060	1	-3	2	27	41	48	64	48	69	99	100
ETH	248,245	-2	-8	-1	21	34	45	60	43	63	94	100
GAB	255,033	1	-2	3	26	40	47	62	47	66	97	100
GHA	255,250	1	-4	2	20	39	45	60	46	67	94	100
GIN	255,184	1	-2	3	26	39	46	61	46	67	93	100
GMB	256,976	1	-2	2	26	40	47	61	46	63	96	100
GNB	256,802	1	-2	2	26	40	46	61	46	66	95	100
GNQ	256,962	1	-2	2	26	40	46	62	47	66	95	100
KEN	252,330	6	4	6	32	43	44	62	50	68	97	100
LBR	256,290	1	-2	3	25	41	47	62	47	67	95	100
LBY	242,209	1	-1	4	28	43	50	65	50	71	100	99
LSO	256,980	1	-2	2	25	39	45	60	45	64	93	100

Table E.12: Leave-one-country-out analysis (continued):
Relative mission coefficients by distance to the nearest homeland border

Country omitted	Obs.	Distance to nearest homeland border (km)										
		0–5	5–10	10–15	15–20	20–25	25–30	30–35	35–40	40–45	45–50	>50
ALL	257,224	1	-2	2	26	40	46	61	46	66	95	100
MAR	252,807	2	-3	3	24	38	47	61	46	57	97	100
MDG	251,810	2	-1	4	26	42	47	61	47	62	94	100
MLI	246,921	0	-3	2	26	39	46	60	43	65	95	100
MOZ	249,730	-1	-5	1	25	39	46	63	45	67	95	100
MRT	248,328	0	-3	2	25	39	46	61	46	66	95	100
MUS	257,183	1	-2	2	26	40	46	61	46	66	95	100
MWI	256,487	2	-3	3	27	40	48	60	49	66	100	100
MYT	257,213	1	-2	2	26	40	46	61	46	66	95	100
NAM	249,842	0	-2	2	25	37	44	58	41	64	92	100
NER	247,484	-2	-5	0	24	38	45	60	45	65	94	100
NGA	249,501	-11	-10	-7	25	31	41	60	41	67	89	100
REU	257,189	1	-2	2	26	40	46	61	46	66	95	100
RWA	257,060	1	-3	3	25	39	47	61	48	66	95	100
SDN	241,501	-3	-6	-1	23	35	39	52	45	65	95	100
SEN	255,668	2	-1	4	27	41	48	63	49	69	99	100
SLE	256,566	1	-2	3	26	41	46	63	47	66	94	100
SOM	251,606	0	-4	2	25	40	46	61	46	65	95	100
SSD	252,289	0	-2	2	26	39	46	61	46	66	95	100
STP	257,200	1	-2	2	26	40	46	61	46	66	95	100
SWZ	257,095	1	-2	2	26	40	46	62	46	68	98	100
SYC	257,156	1	-2	2	26	40	46	61	46	66	95	100
TCD	246,859	0	-3	2	25	39	46	61	46	66	95	100
TGO	256,722	1	-2	3	27	41	46	60	47	64	93	100
TUN	255,528	3	0	5	28	39	45	60	48	68	81	100
TZA	249,498	4	2	9	29	44	51	68	49	68	97	100
UGA	255,592	1	-2	2	27	40	47	60	50	69	94	100
ZAF	245,676	10	3	9	32	44	52	67	48	70	100	93
ZMB	251,244	1	-2	3	27	42	49	64	49	67	97	100
ZWE	254,025	1	-2	3	26	40	46	63	46	68	95	100

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. The model includes country and coloniser fixed effects, as well as robust standard errors. All variables are log-linearised except binaries. The specification is re-estimated sequentially excluding one country at a time from the sample.

F Placebo test results

Table F.1: Night-time luminosity by distance to the nearest mission station and homeland border: Randomised distances

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	-0.0006	0.0004	-1.5	0.135	-0.0015	0.0002
5-10 km	0-10 km	-0.0007	0.0011	-0.7	0.514	-0.0028	0.0014
10-15 km	0-10 km	0.0005	0.0011	0.5	0.632	-0.0017	0.0028
15-20 km	0-10 km	-0.0003	0.0006	-0.6	0.570	-0.0014	0.0008
20-25 km	0-10 km	-0.0001	0.0007	-0.2	0.862	-0.0015	0.0012
25-30 km	0-10 km	0.0013	0.0006	2.1	0.033	0.0001	0.0025
30-35 km	0-10 km	-0.0010	0.0004	-2.7	0.006	-0.0017	-0.0003
35-40 km	0-10 km	0.0003	0.0005	0.6	0.569	-0.0007	0.0012
40-45 km	0-10 km	-0.0008	0.0006	-1.3	0.194	-0.0020	0.0004
45-50 km	0-10 km	-0.0009	0.0008	-1.0	0.294	-0.0025	0.0008
>50 km	0-10 km	-0.0001	0.0001	-0.6	0.559	-0.0003	0.0001
0-5 km	10-20 km	0.0006	0.0014	0.5	0.649	-0.0020	0.0033
5-10 km	10-20 km	0.0002	0.0007	0.3	0.798	-0.0012	0.0015
10-15 km	10-20 km	-0.0047	0.0036	-1.3	0.192	-0.0118	0.0024
15-20 km	10-20 km	0.0001	0.0007	0.2	0.877	-0.0012	0.0015
20-25 km	10-20 km	-0.0009	0.0008	-1.2	0.249	-0.0025	0.0007
25-30 km	10-20 km	-0.0006	0.0003	-1.9	0.063	-0.0012	0.0000
30-35 km	10-20 km	0.0001	0.0003	0.3	0.751	-0.0004	0.0006
35-40 km	10-20 km	-0.0015	0.0007	-2.1	0.033	-0.0030	-0.0001
40-45 km	10-20 km	0.0004	0.0004	0.8	0.425	-0.0005	0.0012
45-50 km	10-20 km	0.0038	0.0037	1.0	0.307	-0.0035	0.0110
>50 km	10-20 km	-0.0002	0.0001	-2.4	0.018	-0.0004	0.0000
0-5 km	20-30 km	-0.0001	0.0008	-0.1	0.886	-0.0017	0.0015
5-10 km	20-30 km	0.0003	0.0006	0.5	0.650	-0.0010	0.0016
10-15 km	20-30 km	0.0004	0.0004	1.0	0.308	-0.0004	0.0012
15-20 km	20-30 km	-0.0027	0.0001	-38.7	0.000	-0.0029	-0.0026
20-25 km	20-30 km	-0.0006	0.0014	-0.4	0.680	-0.0034	0.0022
25-30 km	20-30 km	-0.0014	0.0015	-0.9	0.362	-0.0044	0.0016
30-35 km	20-30 km	0.0001	0.0008	0.1	0.943	-0.0016	0.0017
35-40 km	20-30 km	0.0008	0.0006	1.3	0.186	-0.0004	0.0021
40-45 km	20-30 km	-0.0021	0.0018	-1.2	0.232	-0.0056	0.0014
45-50 km	20-30 km	0.0006	0.0008	0.8	0.406	-0.0009	0.0022
>50 km	20-30 km	0.0003	0.0002	1.3	0.186	-0.0001	0.0006
0-5 km	30-40 km	0.0007	0.0013	0.5	0.606	-0.0018	0.0032
5-10 km	30-40 km	-0.0010	0.0008	-1.3	0.194	-0.0025	0.0005
10-15 km	30-40 km	-0.0003	0.0005	-0.5	0.595	-0.0014	0.0008
15-20 km	30-40 km	0.0012	0.0001	21.9	0.000	0.0011	0.0013
20-25 km	30-40 km	-0.0009	0.0005	-1.8	0.069	-0.0018	0.0001
25-30 km	30-40 km	-0.0011	0.0007	-1.5	0.137	-0.0025	0.0003
30-35 km	30-40 km	0.0003	0.0012	0.3	0.799	-0.0020	0.0026
35-40 km	30-40 km	-0.0002	0.0010	-0.2	0.825	-0.0021	0.0017
40-45 km	30-40 km	-0.0007	0.0004	-1.7	0.094	-0.0015	0.0001
45-50 km	30-40 km	0.0004	0.0008	0.5	0.604	-0.0011	0.0020
>50 km	30-40 km	0.0001	0.0001	0.6	0.543	-0.0002	0.0003

Table F.1: Night-time luminosity by distance to the nearest mission station and homeland border: Randomised distances (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	0.0006	0.0008	0.7	0.467	-0.0010	0.0021
5-10 km	40-50 km	0.0014	0.0015	0.9	0.354	-0.0015	0.0043
10-15 km	40-50 km	0.0000	0.0008	0.0	0.974	-0.0015	0.0015
15-20 km	40-50 km	0.0002	0.0005	0.4	0.691	-0.0008	0.0013
20-25 km	40-50 km	-0.0011	0.0005	-2.0	0.048	-0.0022	0.0000
25-30 km	40-50 km	-0.0004	0.0005	-0.9	0.371	-0.0014	0.0005
30-35 km	40-50 km	0.0002	0.0004	0.4	0.656	-0.0006	0.0010
35-40 km	40-50 km	0.0000	0.0006	0.1	0.952	-0.0011	0.0012
40-45 km	40-50 km	-0.0005	0.0009	-0.6	0.566	-0.0023	0.0012
45-50 km	40-50 km	0.0010	0.0007	1.4	0.155	-0.0004	0.0024
>50 km	40-50 km	0.0001	0.0001	0.6	0.526	-0.0002	0.0003
0-5 km	50-60 km	0.0010	0.0001	17.7	0.000	0.0009	0.0012
5-10 km	50-60 km	-0.0002	0.0008	-0.3	0.777	-0.0017	0.0013
10-15 km	50-60 km	-0.0002	0.0005	-0.5	0.600	-0.0012	0.0007
15-20 km	50-60 km	-0.0005	0.0012	-0.5	0.640	-0.0028	0.0017
20-25 km	50-60 km	-0.0003	0.0003	-1.0	0.328	-0.0010	0.0003
25-30 km	50-60 km	-0.0005	0.0007	-0.7	0.505	-0.0019	0.0009
30-35 km	50-60 km	-0.0009	0.0006	-1.4	0.163	-0.0021	0.0004
35-40 km	50-60 km	0.0021	0.0024	0.9	0.382	-0.0027	0.0069
40-45 km	50-60 km	-0.0010	0.0006	-1.7	0.086	-0.0021	0.0001
45-50 km	50-60 km	-0.0004	0.0004	-0.8	0.414	-0.0012	0.0005
>50 km	50-60 km	-0.0001	0.0001	-0.7	0.483	-0.0003	0.0001
0-5 km	60-70 km	-0.0015	0.0010	-1.5	0.137	-0.0034	0.0005
5-10 km	60-70 km	0.0011	0.0009	1.2	0.233	-0.0007	0.0028
10-15 km	60-70 km	0.0005	0.0009	0.6	0.572	-0.0013	0.0024
15-20 km	60-70 km	-0.0001	0.0004	-0.3	0.750	-0.0009	0.0006
20-25 km	60-70 km	-0.0005	0.0010	-0.5	0.626	-0.0025	0.0015
25-30 km	60-70 km	0.0102	0.0095	1.1	0.282	-0.0084	0.0288
30-35 km	60-70 km	-0.0013	0.0001	-9.4	0.000	-0.0015	-0.0010
35-40 km	60-70 km	0.0005	0.0011	0.4	0.658	-0.0017	0.0027
40-45 km	60-70 km	-0.0013	0.0007	-1.9	0.064	-0.0027	0.0001
45-50 km	60-70 km	-0.0002	0.0008	-0.2	0.850	-0.0018	0.0015
>50 km	60-70 km	0.0001	0.0001	0.9	0.383	-0.0001	0.0004
0-5 km	70-80 km	-0.0002	0.0007	-0.3	0.776	-0.0017	0.0013
5-10 km	70-80 km	0.0087	0.0085	1.0	0.307	-0.0080	0.0253
10-15 km	70-80 km	-0.0010	0.0006	-1.7	0.084	-0.0022	0.0001
15-20 km	70-80 km	0.0001	0.0004	0.1	0.890	-0.0007	0.0009
20-25 km	70-80 km	0.0000	0.0008	0.0	0.989	-0.0016	0.0016
25-30 km	70-80 km	0.0005	0.0004	1.2	0.233	-0.0003	0.0014
30-35 km	70-80 km	-0.0005	0.0010	-0.5	0.635	-0.0025	0.0015
35-40 km	70-80 km	0.0008	0.0009	0.9	0.365	-0.0010	0.0027
40-45 km	70-80 km	0.0000	0.0008	0.0	0.973	-0.0015	0.0015
45-50 km	70-80 km	0.0000	0.0008	0.0	0.991	-0.0015	0.0015
>50 km	70-80 km	0.0000	0.0001	-0.3	0.766	-0.0002	0.0002

Table F.1: Night-time luminosity by distance to mission stations and homeland borders:
Randomised distances (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	0.0000	0.0009	0.0	1.000	-0.0018	0.0018
5-10 km	80-90 km	0.0077	0.0076	1.0	0.307	-0.0071	0.0226
10-15 km	80-90 km	0.0008	0.0010	0.8	0.442	-0.0012	0.0028
15-20 km	80-90 km	0.0005	0.0010	0.5	0.599	-0.0014	0.0025
20-25 km	80-90 km	-0.0011	0.0010	-1.1	0.266	-0.0030	0.0008
25-30 km	80-90 km	0.0039	0.0079	0.5	0.623	-0.0115	0.0193
30-35 km	80-90 km	0.0011	0.0003	3.4	0.001	0.0005	0.0017
35-40 km	80-90 km	-0.0004	0.0009	-0.4	0.661	-0.0022	0.0014
40-45 km	80-90 km	0.0011	0.0005	2.3	0.022	0.0002	0.0021
45-50 km	80-90 km	0.0003	0.0004	0.6	0.517	-0.0006	0.0011
>50 km	80-90 km	0.0000	0.0001	0.1	0.901	-0.0002	0.0002
0-5 km	90-100 km	0.0000	0.0003	0.1	0.951	-0.0005	0.0005
5-10 km	90-100 km	0.0007	0.0008	0.9	0.364	-0.0009	0.0023
10-15 km	90-100 km	-0.0008	0.0008	-1.1	0.279	-0.0023	0.0007
15-20 km	90-100 km	0.0006	0.0007	0.9	0.389	-0.0008	0.0019
20-25 km	90-100 km	-0.0004	0.0008	-0.4	0.654	-0.0020	0.0012
25-30 km	90-100 km	0.0141	0.0117	1.2	0.228	-0.0089	0.0371
30-35 km	90-100 km	0.0003	0.0004	0.6	0.519	-0.0006	0.0011
35-40 km	90-100 km	0.0019	0.0018	1.1	0.290	-0.0016	0.0054
40-45 km	90-100 km	0.0000	0.0006	0.1	0.960	-0.0012	0.0013
45-50 km	90-100 km	-0.0021	0.0011	-1.8	0.069	-0.0043	0.0002
>50 km	90-100 km	0.0000	0.0001	-0.3	0.749	-0.0003	0.0002
0-5 km	>100 km	-0.0003	0.0002	-1.8	0.066	-0.0006	0.0000
5-10 km	>100 km	0.0000	0.0002	0.1	0.922	-0.0004	0.0004
10-15 km	>100 km	0.0003	0.0002	1.5	0.132	-0.0001	0.0008
15-20 km	>100 km	-0.0001	0.0002	-0.5	0.590	-0.0004	0.0002
20-25 km	>100 km	0.0001	0.0002	0.7	0.464	-0.0002	0.0005
25-30 km	>100 km	-0.0002	0.0001	-1.2	0.235	-0.0004	0.0001
30-35 km	>100 km	-0.0001	0.0001	-0.9	0.356	-0.0003	0.0001
35-40 km	>100 km	-0.0001	0.0002	-0.5	0.598	-0.0004	0.0002
40-45 km	>100 km	-0.0001	0.0001	-0.9	0.366	-0.0004	0.0001
45-50 km	>100 km	0.0000	0.0002	0.0	0.985	-0.0003	0.0004
>50 km	>100 km	0.0000	(omitted)				
Controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Std. err.							Robust
R^2							0.3338
N							257,224

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. All variables are log-linearised except binaries. The distances to mission stations and homeland borders were randomised.

G Propensity score matching

To address concerns that systematic differences in geographical or historical characteristics drive the baseline results, we apply propensity score matching to approximate a randomised comparison (e.g. [Rosenbaum and Rubin, 1983](#); [Abadie and Cattaneo, 2018](#)). By construction, this exercise addresses selection on observables only and does not account for selection on unobserved determinants of missionary placement.

In particular, we estimate each grid cell’s probability of treatment—defined as having a mission station within 100 km—using a logistic model that includes geographical and historical characteristics plausibly related to missionary settlement. In addition to country and coloniser indicators, these covariates include latitude, terrain ruggedness, elevation, land suitability for agriculture, rainfall, temperature, malaria and tsetse ecologies, and distances to rivers, coasts, mines, explorer routes, pre-colonial cities, Muslim seats, colonial railways, and national borders in 1913. Table G.1 shows that these variables significantly predict treatment status.

Using the estimated propensity scores, we match each treated grid cell to an untreated cell with a similar score, imposing a caliper of 0.01 and restricting the sample to the region of common support. Table G.2 documents that the mean standardised bias across covariates falls by 70–90% after matching. As reported in Table G.3, the matching procedure retains approximately one-third of the original sample, reducing mean bias from 28% to 4%. Table G.4 further shows that covariates explaining about 50% of treatment assignment prior to matching account for only 3% after matching, indicating substantial improvement in covariate balance.

We then re-estimate the baseline specification in Equation 2 using the matched sample. Figure G.1 shows that the interaction results remain qualitatively unchanged after equalising observable characteristics relevant to missionary settlement. This suggests that the spatial patterns documented in the baseline analysis are unlikely to be driven by selection on observables.

Table G.1: Propensity score matching results

Variable	Coefficient	Std. Err.	z	P>z	95% Confidence	Interval
Latitude	0.0402	0.0032	12.49	0.0000	0.0339	0.0466
Ruggedness	-0.0005	0.0001	-4.67	0.0000	-0.0007	-0.0003
Elevation	-0.0008	0.0000	-26.11	0.0000	-0.0009	-0.0008
Distance to river	-0.0027	0.0001	-44.41	0.0000	-0.0028	-0.0026
Distance to coast	-0.0013	0.0000	-35.17	0.0000	-0.0014	-0.0012
Distance to railway	-0.0016	0.0000	-34.88	0.0000	-0.0017	-0.0015
Distance to explorer route	-0.0011	0.0001	-18.12	0.0000	-0.0013	-0.0010
Distance to pre-colonial city	-0.0005	0.0000	-14.61	0.0000	-0.0006	-0.0005
Distance to Muslim seat	-0.0001	0.0000	-3.93	0.0000	-0.0002	-0.0001
Distance to mine	-0.0010	0.0001	-16.51	0.0000	-0.0011	-0.0009
Land suitability	0.4852	0.0360	13.47	0.0000	0.4146	0.5558
Rainfall	0.0020	0.0000	60.22	0.0000	0.0019	0.0021
Temperature	-0.2073	0.0058	-35.76	0.0000	-0.2186	-0.1959
Malaria ecology	0.0153	0.0015	10.13	0.0000	0.0123	0.0182
Tsetse fly	-0.1850	0.0061	-30.34	0.0000	-0.1969	-0.1730
Coloniser						
Britain	0.4913	0.0944	5.20	0.0000	0.3063	0.6763
France	0.1917	0.0926	2.07	0.0380	0.0103	0.3731
Portugal	-0.5168	0.1128	-4.58	0.0000	-0.7378	-0.2958
Italy	0.3957	0.1021	3.88	0.0000	0.1957	0.5957
Belgium	1.4546	0.1677	8.68	0.0000	1.1260	1.7832
Spain	0.3613	0.1744	2.07	0.0380	0.0196	0.7030
Germany	0.1927	0.0982	1.96	0.0500	0.0002	0.3852

Table G.1: Propensity score matching results (continued)

Variable	Coefficient	Std. Err.	z	P>z	95% Confidence	Interval
BEN	-3.6389	0.1363	-26.71	0.0000	-3.9060	-3.3719
BFA	-0.8651	0.1262	-6.85	0.0000	-1.1124	-0.6177
BWA	-2.3464	0.1015	-23.12	0.0000	-2.5453	-2.1474
CAF	-0.7016	0.1148	-6.11	0.0000	-0.9266	-0.4766
CIV	-2.8801	0.1175	-24.50	0.0000	-3.1105	-2.6497
CMR	-1.1749	0.1147	-10.25	0.0000	-1.3997	-0.9501
COD	-0.3221	0.1611	-2.00	0.0460	-0.6378	-0.0063
COG	-1.0003	0.1157	-8.64	0.0000	-1.2271	-0.7735
DJI	0.0965	0.1769	0.55	0.5860	-0.2503	0.4432
DZA	-2.2573	0.1322	-17.08	0.0000	-2.5164	-1.9982
EGY	-3.1233	0.1213	-25.74	0.0000	-3.3611	-2.8855
ERI	-0.6738	0.1265	-5.33	0.0000	-0.9217	-0.4260
ESP	1.7301	0.2623	6.60	0.0000	1.2160	2.2441
ETH	-2.1392	0.1317	-16.24	0.0000	-2.3973	-1.8810
GAB	-1.2838	0.1207	-10.64	0.0000	-1.5204	-1.0473
GHA	-2.2301	0.1179	-18.92	0.0000	-2.4612	-1.9991
GIN	-2.5632	0.1313	-19.53	0.0000	-2.8205	-2.3059
GMB	-1.9072	0.1761	-10.83	0.0000	-2.2524	-1.5621
GNB	-3.0229	0.1316	-22.98	0.0000	-3.2807	-2.7650
GNQ	-1.8359	0.2277	-8.06	0.0000	-2.2822	-1.3895
KEN	-1.5440	0.1102	-14.01	0.0000	-1.7601	-1.3280
LBR	-2.8620	0.1563	-18.31	0.0000	-3.1684	-2.5556
LBY	-2.4307	0.1470	-16.54	0.0000	-2.7188	-2.1426
MAR	-3.6233	0.1375	-26.35	0.0000	-3.8929	-3.3538
MDG	1.2369	0.1377	8.98	0.0000	0.9671	1.5067
MLI	-1.5973	0.1205	-13.26	0.0000	-1.8335	-1.3612
MOZ	-1.2975	0.0556	-23.32	0.0000	-1.4065	-1.1884
MRT	-3.5234	0.1528	-23.06	0.0000	-3.8228	-3.2239
NAM	-0.1086	0.0982	-1.11	0.2690	-0.3011	0.0839
NER	-6.2805	0.4254	-14.76	0.0000	-7.1143	-5.4467
NGA	-1.0559	0.1143	-9.24	0.0000	-1.2800	-0.8319
SDN	-2.3771	0.1125	-21.13	0.0000	-2.5976	-2.1567
SEN	-2.4915	0.1179	-21.13	0.0000	-2.7226	-2.2604
SOM	-1.6677	0.1183	-14.09	0.0000	-1.8997	-1.4358
SSD	0.1200	0.1064	1.13	0.2590	-0.0886	0.3285
TCD	-2.8398	0.1434	-19.80	0.0000	-3.1209	-2.5587
TGO	-1.3639	0.1657	-8.23	0.0000	-1.6886	-1.0392
TUN	-1.9461	0.1489	-13.07	0.0000	-2.2380	-1.6542
TZA	0.6406	0.1147	5.58	0.0000	0.4157	0.8655
UGA	0.8831	0.1369	6.45	0.0000	0.6148	1.1514
ZAF	-0.5864	0.1034	-5.67	0.0000	-0.7891	-0.3838
ZMB	-0.3852	0.0988	-3.90	0.0000	-0.5788	-0.1916
ZWE	-0.6710	0.1083	-6.20	0.0000	-0.8832	-0.4587

Notes: The table estimates the probability of missionary settlement through a logistic regression, where the treatment probability depends on pre-settlement covariates. Matching is restricted to the common-support region, with a calliper of 0.01 on the estimated logit, and is performed without replacement using one nearest neighbour per treated unit. The regression sample consists of grid cells with positive common-support weights.

Table G.2: Propensity score matching test results

Variable	Sample	Treated	Control	%Bias	% Δ bias	t-test	p-value	V(T)/V(C)
Latitude	Unmatched	13.7060	18.0480	-47.80		-120.64	0.00	1.53*
	Matched	14.1760	13.5200	7.20	84.90	9.70	0.00	1.10*
Ruggedness	Unmatched	59.9860	34.2570	36.60		92.42	0.00	1.59*
	Matched	50.3690	53.5480	-4.50	87.60	-5.33	0.00	0.80*
Elevation	Unmatched	739.3800	535.0800	46.60		118.40	0.00	1.85*
	Matched	671.8000	699.5000	-6.30	86.40	-7.33	0.00	0.92*
Distance to river	Unmatched	110.7700	401.4800	-106.20		-253.60	0.00	0.16*
	Matched	142.2900	118.5200	8.70	91.80	19.64	0.00	1.85*
Distance to coast	Unmatched	507.2900	744.1800	-55.50		-137.26	0.00	0.78*
	Matched	535.0900	522.3600	3.00	94.60	4.43	0.00	1.26*
Distance to railway	Unmatched	397.4700	631.8800	-67.20		-167.30	0.00	0.97*
	Matched	436.2400	424.6900	3.30	95.10	4.79	0.00	1.36*
Distance to explorer route	Unmatched	206.9100	180.7600	12.40		31.75	0.00	2.59*
	Matched	182.0900	194.1100	-5.70	54.00	-8.18	0.00	1.31*
Distance to pre-colonial city	Unmatched	644.0000	729.5700	-22.30		-56.39	0.00	1.53*
	Matched	639.8900	636.7700	0.80	96.40	0.94	0.35	0.98*
Distance to Muslim seat	Unmatched	1354.6000	737.3100	79.50		202.51	0.00	2.05*
	Matched	1130.4000	1179.8000	-6.40	92.00	-7.52	0.00	1.01
Distance to mine	Unmatched	166.9600	300.0500	-81.10		-197.99	0.00	0.48*
	Matched	195.7500	187.8800	4.80	94.10	8.18	0.00	1.34*
Land suitability	Unmatched	0.2964	0.1064	84.30		213.00	0.00	1.55*
	Matched	0.2540	0.2813	-12.10	85.70	-14.23	0.00	0.88*
Rainfall	Unmatched	1020.8000	353.5400	125.70		317.85	0.00	1.59*
	Matched	825.0700	905.7400	-15.20	87.90	-20.17	0.00	1.01
Temperature	Unmatched	22.6060	24.9510	-70.90		-178.02	0.00	1.27*
	Matched	23.5540	23.3690	5.60	92.10	7.27	0.00	0.93*
Malaria ecology	Unmatched	10.4440	6.9715	36.50		90.61	0.00	0.91*
	Matched	11.6600	12.2060	-5.70	84.30	-7.26	0.00	1.04*
Tsetse fly	Unmatched	1.9238	1.2859	39.80		101.17	0.00	1.96*
	Matched	2.0379	2.1449	-6.70	83.20	-8.07	0.00	0.87*

Table G.2: Propensity score matching test results (continued)

Variable	Sample	Treated	Control	%bias	%Δ bias	t-test	p-value	V(T)/V(C)
Coloniser								
Britain	Unmatched	0.3495	0.2899	12.80		32.01	0.00	.
	Matched	0.2904	0.2606	6.40	49.90	8.90	0.00	.
France	Unmatched	0.2049	0.4786	-60.30		-148.39	0.00	.
	Matched	0.2614	0.2476	3.00	95.00	4.22	0.00	.
Portugal	Unmatched	0.1030	0.0437	22.90		58.40	0.00	.
	Matched	0.1466	0.1635	-6.50	71.40	-6.25	0.00	.
Italy	Unmatched	0.0110	0.0824	-34.30		-81.93	0.00	.
	Matched	0.0261	0.0144	5.60	83.70	10.92	0.00	.
Belgium	Unmatched	0.1488	0.0172	49.10		128.67	0.00	.
	Matched	0.0687	0.0740	-2.00	96.00	-2.76	0.01	.
Spain	Unmatched	0.0044	0.0038	0.90		2.22	0.03	.
	Matched	0.0043	0.0044	0.00	97.60	-0.03	0.98	.
Germany	Unmatched	0.1390	0.0395	35.40		91.25	0.00	.
	Matched	0.1315	0.1640	-11.60	67.30	-12.27	0.00	.
Country								
BEN	Unmatched	0.0024	0.0054	-4.90		-11.97	0.00	.
	Matched	0.0068	0.0034	5.50	-11.60	6.34	0.00	.
BFA	Unmatched	0.0106	0.0066	4.30		10.92	0.00	.
	Matched	0.0200	0.0195	0.50	87.40	0.48	0.63	.
BWA	Unmatched	0.0091	0.0273	-13.60		-32.91	0.00	.
	Matched	0.0245	0.0102	10.70	21.00	14.40	0.00	.
CAF	Unmatched	0.0141	0.0229	-6.60		-16.23	0.00	.
	Matched	0.0375	0.0293	6.10	6.90	6.11	0.00	.
CIV	Unmatched	0.0130	0.0094	3.30		8.40	0.00	.
	Matched	0.0279	0.0332	-5.00	-48.90	-4.07	0.00	.
CMR	Unmatched	0.0237	0.0138	7.30		18.42	0.00	.
	Matched	0.0354	0.0450	-7.00	3.10	-6.51	0.00	.
COD	Unmatched	0.1466	0.0168	48.80		127.71	0.00	.
	Matched	0.0671	0.0726	-2.10	95.70	-2.89	0.00	.
COG	Unmatched	0.0180	0.0047	12.60		32.64	0.00	.
	Matched	0.0154	0.0200	-4.40	65.40	-4.68	0.00	.
DJI	Unmatched	0.0014	0.0007	2.00		5.20	0.00	.
	Matched	0.0026	0.0031	-1.40	33.30	-1.10	0.27	.
DZA	Unmatched	0.0315	0.1242	-35.10		-84.74	0.00	.
	Matched	0.0429	0.0363	2.50	92.90	4.51	0.00	.
EGY	Unmatched	0.0200	0.0450	-14.10		-34.49	0.00	.
	Matched	0.0429	0.0265	9.20	34.60	11.82	0.00	.
ERI	Unmatched	0.0071	0.0051	2.60		6.53	0.00	.
	Matched	0.0141	0.0166	-3.20	-21.70	-2.68	0.01	.
ESP	Unmatched	0.0007	0.0006	0.60		1.58	0.11	.
	Matched	0.0019	0.0018	0.30	44.60	0.28	0.78	.
ETH	Unmatched	0.0282	0.0413	-7.20		-17.71	0.00	.
	Matched	0.0630	0.0632	-0.10	99.20	-0.06	0.95	.
GAB	Unmatched	0.0153	0.0035	12.30		31.88	0.00	.
	Matched	0.0110	0.0150	-4.20	65.70	-4.81	0.00	.
GHA	Unmatched	0.0135	0.0034	11.00		28.55	0.00	.
	Matched	0.0133	0.0145	-1.30	88.20	-1.35	0.18	.
GIN	Unmatched	0.0157	0.0022	14.40		37.74	0.00	.
	Matched	0.0080	0.0083	-0.40	97.40	-0.53	0.60	.
GMB	Unmatched	0.0013	0.0007	1.90		4.76	0.00	.
	Matched	0.0014	0.0016	-0.50	72.90	-0.56	0.58	.

Table G.2: Propensity score matching test results (continued)

Variable	Sample	Treated	Control	%bias	%Δ bias	t-test	p-value	V(T)/V(C)
GNB	Unmatched	0.0027	0.0009	4.10		10.59	0.00	.
	Matched	0.0041	0.0037	0.80	80.30	0.73	0.47	.
GNQ	Unmatched	0.0018	0.0005	4.00		10.35	0.00	.
	Matched	0.0014	0.0019	-1.30	67.40	-1.45	0.15	.
KEN	Unmatched	0.0222	0.0172	3.60		8.96	0.00	.
	Matched	0.0198	0.0140	4.10	-16.10	5.91	0.00	.
LBR	Unmatched	0.0073	0.0009	9.90		26.01	0.00	.
	Matched	0.0035	0.0039	-0.60	94.30	-0.78	0.43	.
LBY	Unmatched	0.0049	0.1022	-44.30		-104.79	0.00	.
	Matched	0.0139	0.0032	4.90	89.00	15.20	0.00	.
MAR	Unmatched	0.0152	0.0193	-3.10		-7.74	0.00	.
	Matched	0.0238	0.0234	0.30	89.20	0.38	0.70	.
MDG	Unmatched	0.0437	0.0041	26.20		68.79	0.00	.
	Matched	0.0179	0.0176	0.20	99.10	0.37	0.72	.
MLI	Unmatched	0.0167	0.0597	-22.50		-54.40	0.00	.
	Matched	0.0277	0.0270	0.40	98.30	0.58	0.56	.
MOZ	Unmatched	0.0423	0.0199	12.90		32.97	0.00	.
	Matched	0.0604	0.0734	-7.50	41.90	-6.98	0.00	.
MRT	Unmatched	0.0009	0.0621	-35.60		-83.91	0.00	.
	Matched	0.0025	0.0002	1.40	96.20	8.22	0.00	.
NAM	Unmatched	0.0432	0.0183	14.40		36.88	0.00	.
	Matched	0.0633	0.0783	-8.70	39.70	-7.82	0.00	.
NER	Unmatched	0.0001	0.0687	-38.40		-90.29	0.00	.
	Matched	0.0002	0.0000	0.10	99.80	2.26	0.02	.
NGA	Unmatched	0.0529	0.0131	22.40		57.99	0.00	.
	Matched	0.0345	0.0430	-4.80	78.70	-5.88	0.00	.
SDN	Unmatched	0.0136	0.1004	-38.10		-90.94	0.00	.
	Matched	0.0389	0.0259	5.70	85.00	9.71	0.00	.
SEN	Unmatched	0.0064	0.0060	0.60		1.40	0.16	.
	Matched	0.0149	0.0157	-1.10	-89.50	-0.91	0.37	.
SOM	Unmatched	0.0053	0.0355	-21.40		-51.21	0.00	.
	Matched	0.0151	0.0065	6.20	71.30	10.99	0.00	.
SSD	Unmatched	0.0252	0.0151	7.20		18.26	0.00	.
	Matched	0.0471	0.0513	-3.00	58.80	-2.58	0.01	.
TCD	Unmatched	0.0013	0.0722	-38.40		-90.50	0.00	.
	Matched	0.0036	0.0005	1.70	95.50	9.11	0.00	.
TGO	Unmatched	0.0036	0.0008	6.10		15.83	0.00	.
	Matched	0.0016	0.0024	-1.70	71.60	-2.41	0.02	.
TUN	Unmatched	0.0083	0.0055	3.40		8.54	0.00	.
	Matched	0.0095	0.0107	-1.60	53.90	-1.73	0.08	.
TZA	Unmatched	0.0629	0.0054	32.10		84.32	0.00	.
	Matched	0.0213	0.0233	-1.10	96.60	-1.79	0.07	.
UGA	Unmatched	0.0137	0.0009	15.10		39.96	0.00	.
	Matched	0.0035	0.00	-0.10	99.10	-0.25	0.80	.
ZAF	Unmatched	0.0976	0.0052	42.80		113.07	0.00	.
	Matched	0.0178	0.0223	-2.10	95.10	-4.37	0.00	.
ZMB	Unmatched	0.0464	0.0059	25.60		66.93	0.00	.
	Matched	0.0217	0.0256	-2.50	90.30	-3.46	0.00	.
ZWE	Unmatched	0.0253	0.0028	19.20		50.40	0.00	.
	Matched	0.0101	0.0121	-1.70	91.20	-2.54	0.01	.

Notes: The table presents the results of t-tests and bias between matched and unmatched sample means, comparing treated and control groups. The matching procedure uses one-to-one nearest-neighbour matching with a *caliper* of 0.01 on the estimated logit, restricted to the *common-support* region.

Table G.3: Common support table

Treatment assignment	Off support	On support	Total
Untreated	102,329	39,341	141,670
Treated	72,018	38,722	110,740
Total	174,347	78,063	252,410

Notes: The table displays the distribution of treated and untreated units based on their *common support*.

Table G.4: Balance diagnostics

Sample	Pseudo- R^2	LR χ^2	P> χ^2	Mean bias	Median bias	Rubin's B	Rubin's R	%Var
Unmatched	0.505	174,913.30	0	28	21.4	202.2*	0.26*	100
Matched	0.033	3,254.98	0	4	3.2	43.1*	1.86	87

Notes: Pseudo- R^2 , LR χ^2 and $p > \chi^2$ test how well covariates predict treatment. Mean/Median bias is the average/median standardised difference in covariate means between treated and controls. Rubin's B is the absolute difference in the means of the propensity-score index; Rubin's R is the ratio of its variances. %Var shows the per cent reduction in overall bias from unmatched to matched. Asterisks (*) indicate statistics that exceed commonly used balance thresholds.

Table G.5: Night-time luminosity by distance to the nearest mission station and homeland border: Propensity Score Matching

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	0.0022	0.0011	2.1	0.040	0.0001	0.0043
5-10 km	0-10 km	0.0011	0.0009	1.2	0.213	-0.0006	0.0028
10-15 km	0-10 km	0.0011	0.0010	1.1	0.272	-0.0009	0.0030
15-20 km	0-10 km	0.0016	0.0012	1.4	0.160	-0.0006	0.0039
20-25 km	0-10 km	0.0040	0.0016	2.5	0.012	0.0009	0.0070
25-30 km	0-10 km	0.0044	0.0015	2.9	0.004	0.0014	0.0074
30-35 km	0-10 km	0.0057	0.0019	2.9	0.004	0.0018	0.0095
35-40 km	0-10 km	0.0040	0.0016	2.5	0.012	0.0009	0.0071
40-45 km	0-10 km	0.0076	0.0028	2.7	0.007	0.0021	0.0130
45-50 km	0-10 km	0.0073	0.0024	3.0	0.003	0.0025	0.0121
>50 km	0-10 km	0.0078	0.0010	7.8	0.000	0.0058	0.0098
0-5 km	10-20 km	-0.0001	0.0003	-0.3	0.783	-0.0008	0.0006
5-10 km	10-20 km	-0.0004	0.0003	-1.4	0.172	-0.0009	0.0002
10-15 km	10-20 km	0.0008	0.0005	1.5	0.138	-0.0002	0.0018
15-20 km	10-20 km	0.0003	0.0004	0.8	0.440	-0.0005	0.0011
20-25 km	10-20 km	0.0006	0.0006	1.1	0.284	-0.0005	0.0017
25-30 km	10-20 km	0.0015	0.0007	2.0	0.045	0.0000	0.0029
30-35 km	10-20 km	0.0010	0.0007	1.5	0.136	-0.0003	0.0023
35-40 km	10-20 km	0.0021	0.0009	2.5	0.013	0.0004	0.0038
40-45 km	10-20 km	0.0022	0.0009	2.4	0.014	0.0004	0.0040
45-50 km	10-20 km	0.0030	0.0012	2.6	0.010	0.0007	0.0054
>50 km	10-20 km	0.0022	0.0005	4.7	0.000	0.0013	0.0031
0-5 km	20-30 km	-0.0009	0.0002	-5.6	0.000	-0.0012	-0.0006
5-10 km	20-30 km	-0.0004	0.0002	-2.0	0.045	-0.0009	0.0000
10-15 km	20-30 km	-0.0002	0.0002	-0.8	0.434	-0.0007	0.0003
15-20 km	20-30 km	-0.0004	0.0003	-1.2	0.244	-0.0010	0.0003
20-25 km	20-30 km	-0.0009	0.0002	-4.6	0.000	-0.0012	-0.0005
25-30 km	20-30 km	-0.0005	0.0003	-1.7	0.097	-0.0011	0.0001
30-35 km	20-30 km	0.0000	0.0004	0.1	0.946	-0.0007	0.0008
35-40 km	20-30 km	0.0000	0.0005	0.1	0.941	-0.0010	0.0011
40-45 km	20-30 km	-0.0001	0.0003	-0.2	0.862	-0.0007	0.0006
45-50 km	20-30 km	-0.0004	0.0003	-1.5	0.142	-0.0009	0.0001
>50 km	20-30 km	0.0008	0.0003	2.9	0.004	0.0003	0.0014
0-5 km	30-40 km	-0.0005	0.0001	-3.9	0.000	-0.0007	-0.0002
5-10 km	30-40 km	-0.0005	0.0002	-2.9	0.003	-0.0009	-0.0002
10-15 km	30-40 km	-0.0004	0.0001	-3.0	0.003	-0.0007	-0.0002
15-20 km	30-40 km	-0.0007	0.0002	-4.4	0.000	-0.0010	-0.0004
20-25 km	30-40 km	-0.0004	0.0002	-2.1	0.034	-0.0008	0.0000
25-30 km	30-40 km	-0.0009	0.0002	-3.8	0.000	-0.0014	-0.0004
30-35 km	30-40 km	-0.0010	0.0002	-4.8	0.000	-0.0013	-0.0006
35-40 km	30-40 km	-0.0008	0.0003	-3.0	0.003	-0.0014	-0.0003
40-45 km	30-40 km	-0.0007	0.0002	-3.2	0.001	-0.0012	-0.0003
45-50 km	30-40 km	-0.0003	0.0006	-0.5	0.638	-0.0014	0.0008
>50 km	30-40 km	0.0007	0.0003	2.7	0.006	0.0002	0.0013

Table G.5: Night-time luminosity by distance to the nearest mission station and homeland border: Propensity Score Matching (continued)

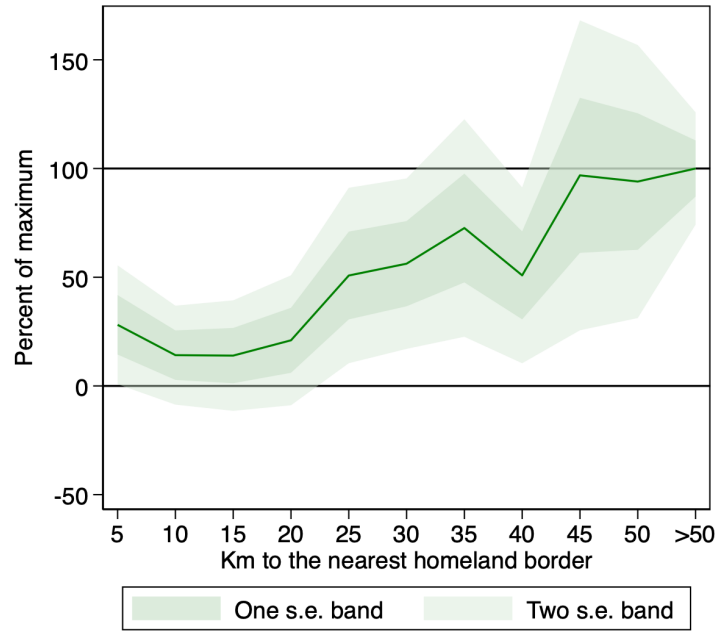
Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0005	0.0002	-2.8	0.005	-0.0009	-0.0002
5-10 km	40-50 km	-0.0005	0.0001	-3.8	0.000	-0.0007	-0.0002
10-15 km	40-50 km	-0.0004	0.0001	-2.5	0.012	-0.0007	-0.0001
15-20 km	40-50 km	-0.0005	0.0002	-2.6	0.011	-0.0008	-0.0001
20-25 km	40-50 km	-0.0007	0.0002	-3.4	0.001	-0.0012	-0.0003
25-30 km	40-50 km	-0.0005	0.0002	-2.6	0.010	-0.0008	-0.0001
30-35 km	40-50 km	-0.0006	0.0003	-2.4	0.016	-0.0011	-0.0001
35-40 km	40-50 km	-0.0010	0.0003	-3.8	0.000	-0.0015	-0.0005
40-45 km	40-50 km	-0.0014	0.0003	-5.2	0.000	-0.0019	-0.0008
45-50 km	40-50 km	-0.0006	0.0004	-1.4	0.148	-0.0014	0.0002
>50 km	40-50 km	-0.0001	0.0002	-0.7	0.479	-0.0005	0.0002
0-5 km	50-60 km	-0.0002	0.0002	-1.2	0.215	-0.0005	0.0001
5-10 km	50-60 km	-0.0003	0.0002	-1.9	0.062	-0.0006	0.0000
10-15 km	50-60 km	-0.0004	0.0001	-2.8	0.005	-0.0007	-0.0001
15-20 km	50-60 km	-0.0003	0.0002	-1.4	0.163	-0.0007	0.0001
20-25 km	50-60 km	-0.0004	0.0001	-3.0	0.003	-0.0007	-0.0001
25-30 km	50-60 km	-0.0005	0.0002	-2.4	0.017	-0.0009	-0.0001
30-35 km	50-60 km	-0.0008	0.0002	-4.7	0.000	-0.0012	-0.0005
35-40 km	50-60 km	-0.0009	0.0002	-4.6	0.000	-0.0012	-0.0005
40-45 km	50-60 km	-0.0010	0.0003	-3.8	0.000	-0.0015	-0.0005
45-50 km	50-60 km	-0.0011	0.0003	-3.8	0.000	-0.0016	-0.0005
>50 km	50-60 km	-0.0001	0.0002	-0.3	0.741	-0.0004	0.0003
0-5 km	60-70 km	-0.0003	0.0002	-2.0	0.042	-0.0006	0.0000
5-10 km	60-70 km	-0.0002	0.0002	-1.1	0.256	-0.0006	0.0002
10-15 km	60-70 km	-0.0006	0.0001	-4.4	0.000	-0.0009	-0.0003
15-20 km	60-70 km	-0.0005	0.0002	-3.0	0.003	-0.0009	-0.0002
20-25 km	60-70 km	-0.0006	0.0001	-4.1	0.000	-0.0009	-0.0003
25-30 km	60-70 km	-0.0007	0.0002	-3.6	0.000	-0.0010	-0.0003
30-35 km	60-70 km	-0.0004	0.0002	-2.0	0.049	-0.0007	0.0000
35-40 km	60-70 km	-0.0006	0.0002	-2.9	0.004	-0.0010	-0.0002
40-45 km	60-70 km	-0.0005	0.0002	-2.9	0.004	-0.0009	-0.0002
45-50 km	60-70 km	-0.0008	0.0002	-4.2	0.000	-0.0012	-0.0004
>50 km	60-70 km	-0.0001	0.0002	-0.5	0.621	-0.0004	0.0002
0-5 km	70-80 km	-0.0001	0.0002	-0.4	0.655	-0.0004	0.0003
5-10 km	70-80 km	-0.0002	0.0002	-1.3	0.186	-0.0006	0.0001
10-15 km	70-80 km	-0.0004	0.0002	-2.4	0.015	-0.0008	-0.0001
15-20 km	70-80 km	-0.0007	0.0001	-4.6	0.000	-0.0010	-0.0004
20-25 km	70-80 km	-0.0003	0.0001	-2.3	0.020	-0.0006	-0.0001
25-30 km	70-80 km	-0.0006	0.0002	-3.7	0.000	-0.0009	-0.0003
30-35 km	70-80 km	-0.0005	0.0002	-2.8	0.005	-0.0009	-0.0002
35-40 km	70-80 km	-0.0003	0.0002	-1.4	0.149	-0.0006	0.0001
40-45 km	70-80 km	-0.0002	0.0002	-1.1	0.263	-0.0007	0.0002
45-50 km	70-80 km	0.0000	0.0004	0.1	0.940	-0.0008	0.0008
>50 km	70-80 km	-0.0001	0.0002	-0.6	0.574	-0.0004	0.0002

Table G.5: Night-time luminosity by distance to the nearest mission station and homeland border: Propensity Score Matching (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0002	0.0001	-1.0	0.297	-0.0004	0.0001
5-10 km	80-90 km	-0.0006	0.0001	-4.6	0.000	-0.0009	-0.0004
10-15 km	80-90 km	-0.0004	0.0001	-2.5	0.012	-0.0007	-0.0001
15-20 km	80-90 km	-0.0005	0.0002	-3.0	0.002	-0.0008	-0.0002
20-25 km	80-90 km	-0.0002	0.0002	-1.5	0.127	-0.0006	0.0001
25-30 km	80-90 km	-0.0001	0.0002	-0.4	0.698	-0.0004	0.0002
30-35 km	80-90 km	0.0001	0.0001	0.6	0.561	-0.0002	0.0004
35-40 km	80-90 km	-0.0001	0.0003	-0.4	0.687	-0.0006	0.0004
40-45 km	80-90 km	-0.0001	0.0003	-0.5	0.615	-0.0007	0.0004
45-50 km	80-90 km	0.0007	0.0004	1.6	0.102	-0.0001	0.0014
>50 km	80-90 km	-0.0001	0.0001	-0.9	0.373	-0.0004	0.0002
0-5 km	90-100 km	-0.0003	0.0001	-2.4	0.019	-0.0006	-0.0001
5-10 km	90-100 km	-0.0006	0.0001	-4.2	0.000	-0.0009	-0.0003
10-15 km	90-100 km	-0.0003	0.0002	-2.0	0.046	-0.0006	0.0000
15-20 km	90-100 km	-0.0002	0.0001	-1.4	0.152	-0.0005	0.0001
20-25 km	90-100 km	-0.0001	0.0002	-0.6	0.547	-0.0004	0.0002
25-30 km	90-100 km	-0.0003	0.0002	-2.1	0.034	-0.0007	0.0000
30-35 km	90-100 km	-0.0001	0.0002	-0.4	0.667	-0.0004	0.0003
35-40 km	90-100 km	0.0000	0.0003	-0.1	0.950	-0.0005	0.0005
40-45 km	90-100 km	0.0004	0.0003	1.3	0.182	-0.0002	0.0011
45-50 km	90-100 km	-0.0005	0.0003	-1.9	0.051	-0.0010	0.0000
>50 km	90-100 km	0.0000	0.0002	0.0	0.976	-0.0003	0.0003
0-5 km	>100 km	0.0000	0.0001	0.1	0.889	-0.0001	0.0001
5-10 km	>100 km	0.0001	0.0001	0.8	0.432	-0.0001	0.0002
10-15 km	>100 km	0.0001	0.0001	0.9	0.392	-0.0001	0.0002
15-20 km	>100 km	0.0000	0.0001	0.4	0.679	-0.0001	0.0002
20-25 km	>100 km	0.0001	0.0001	1.7	0.082	0.0000	0.0003
25-30 km	>100 km	0.0001	0.0001	1.3	0.196	0.0000	0.0002
30-35 km	>100 km	0.0002	0.0001	2.4	0.015	0.0000	0.0003
35-40 km	>100 km	0.0001	0.0001	1.8	0.079	0.0000	0.0003
40-45 km	>100 km	0.0006	0.0002	2.5	0.012	0.0001	0.0010
45-50 km	>100 km	0.0003	0.0001	2.2	0.029	0.0000	0.0005
>50 km	>100 km	0.0000	(omitted)				
Controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Std. err.							Robust
R^2							0.4069
N							78,063

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, railways, mines, national borders, historical explorer routes, pre-colonial cities, Muslim seats, Protestant printing presses, and postcolonial World Bank aid projects. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. All variables are log-linearised except binaries. The regression sample includes the grid cells contained in the balanced sample created through the propensity score matching procedure described above.

Figure G.1: Subsample balanced using propensity score matching



Notes: Coefficients and confidence intervals are derived from a regression model using a balanced subsample of 78,063 grid cells obtained from propensity score matching as described above and reported in Table G.5. The coefficients represent percentage-point differences in night-time luminosity relative to a reference zone of grid cells located more than 100 km from a mission station and more than 50 km from a homeland border. The coefficients are scaled as a share of the maximum estimated coefficient (i.e., the highest coefficient observed in the respective tables). The regression model—specified in Equation 2—includes all baseline controls listed in Appendix B.2, as well as country and coloniser fixed effects, but not post-treatment distance variables. Robust standard errors are used. All continuous variables are log-linearised. Binary variables are expressed in levels.

H Instrumental variable analysis

A challenge in interpreting the positive association between night-time luminosity and proximity to colonial mission stations is the possibility of endogenous missionary placement. Missionaries may have systematically settled in areas with favourable initial conditions for economic development, such as regions well suited to food production. Although the baseline analysis controls for a rich set of observable geographical and historical characteristics—including land suitability for agriculture—unobserved factors could still bias the estimates.

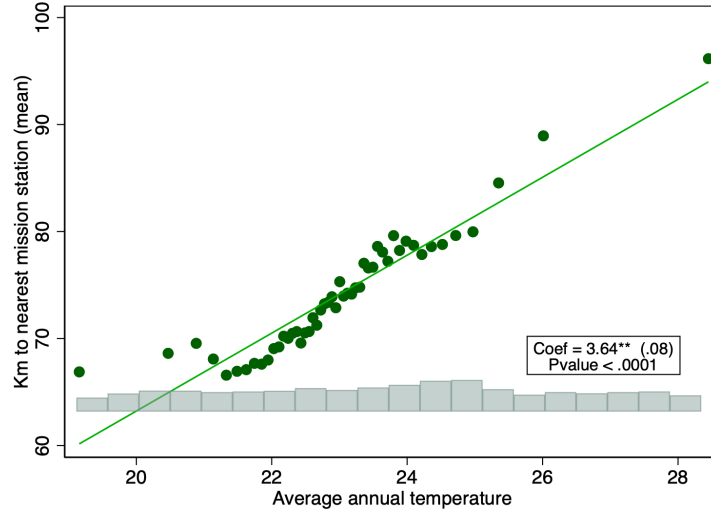
Clean identification is difficult to achieve in this context. Nevertheless, we propose an instrumental variable approach that uses variation in temperature to predict missionary proximity. Following [Easterly and Levine \(2016\)](#), we note that European settlers tended to favour cooler climates resembling those in Europe, partly to reduce exposure to tropical diseases. As a result, missionary settlement was less common in warmer regions of tropical Africa. Figure H.1 corroborates this pattern, showing that mission stations were systematically less likely to be found in areas with higher temperatures, even after conditioning on other factors relevant to colonial settlement.

Our instrumental variable strategy uses temperature to predict proximity to colonial mission stations. We restrict the sample to grid cells located within 200 km of a mission station and discretise distance to missions into 20 categories of 10 km each. Observed temperatures within this sample are likewise grouped into 20 quantile-based categories. In the first stage of the two-stage least squares (2SLS) analysis, the temperature categories predict the distance-to-mission categories, controlling for the same covariates as in the baseline specification, with the exception of temperature itself. Figure H.2 illustrates the resulting relationship between the instrument and the predicted distance categories.

Table H.1 reports the 2SLS estimates. The first-stage results (Panel D) show a strong positive relationship between temperature and distance to mission stations, confirming that missionaries were more likely to locate in cooler areas. The second-stage results (Panel A) indicate that the predicted distance-to-mission categories are negatively associated with night-time luminosity, implying lower economic activity further from mission stations. Because the interacted distance-to-border categories cannot be included directly in the first stage, we instead control for the continuous distance to the nearest homeland border. The results are robust to the exclusion of this control.

While the exclusion restriction cannot be tested directly, reduced-form evidence supports the proposed channel. Although temperature is negatively correlated with night-time luminosity overall (Panel B of Table H.1), the relationship becomes statistically insignificant for grid cells located more than 100 km from a mission station (Panel C). This reduced-form

Figure H.1: Temperature and missionary settlement

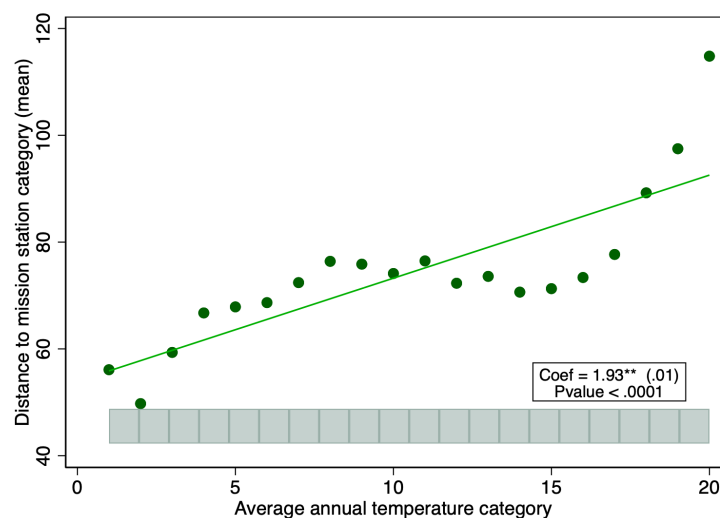


Notes: The underlying *binscatter* regression model controls for a set of observable factors plausibly influential to missionary settlement, including distances to coasts, rivers, historical explorer routes, mines, pre-colonial cities, Muslim seats, and pre-colonial homeland borders, as well as latitude, ruggedness, elevation, land suitability for agriculture, rainfall, malaria, tsetse flies, and indicators for Sub-Saharan Africa and island locations. The regression sample is restricted to grid cells located within 200 km of a mission station.

pattern is consistent with the proposed channel, although it cannot establish the exclusion restriction.

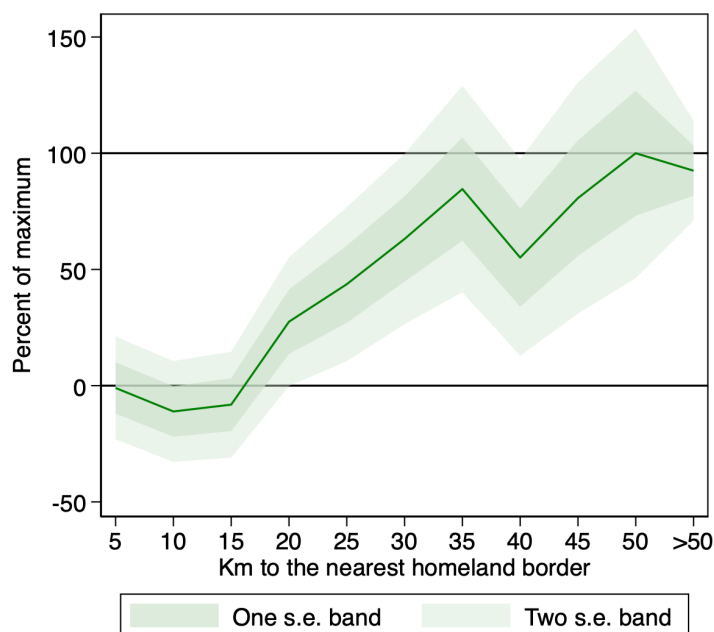
Figure H.3 visualises the interaction results obtained from the second stage of the 2SLS, where the predicted distance-to-mission categories are interacted with distance-to-border categories. The resulting pattern closely mirrors the baseline estimates, indicating that the attenuation of the missionary-associated development advantage near homeland borders persists when missionary proximity is instrumented using temperature. This further supports the interpretation that the baseline results are not driven by endogenous mission location.

Figure H.2: Temperature and predicted distances to mission stations categories



Notes: The underlying regression model controls for factors arguably influential to missionary settlement including the distances to coasts, rivers, railways, explorer routes, mines, pre-colonial cities, Muslim seats, and pre-colonial homeland borders, as well as latitude, ruggedness, elevation, land suitability for agriculture, rainfall, malaria, tsetse flies, and whether or not the locality belonged to Sub-Saharan Africa or was on an island. The sample is restricted to grid cells located less than 200 km from a mission station.

Figure H.3: Predicting the distances to missions using exogenous variation in temperature



Notes: Coefficients and confidence intervals are derived from the IV regression model described in the text and Appendix H and reported in Table H.2. They represent percentage-point differences in night-time luminosity relative to a reference zone of grid cells located more than 100 km from a mission station and more than 50 km from a homeland border. The coefficients are scaled as a share of the maximum estimated coefficient (i.e., the highest coefficient observed in the respective tables). The regression model—specified in Equation 2—includes all baseline controls listed in Appendix B.2 except temperature and post-treatment distance variables. Temperature is used to instrument distances to mission stations. Country and coloniser fixed effects are included, and robust standard errors are used. All continuous variables are log-linearised. Binary variables are expressed in levels.

Table H.1: Instrumental variable analysis

Panel A: Second stage						
Night-time luminosity (normalised)	Coefficient	std. err.	t	P>t	[95% conf.	interval]
<i>Instrumented</i>						
Distance to mission (cat.)	-0.00012	0.0000	-12.65	0.0000	-0.00019	-0.00010
R2						0.1748
N						159,589
Panel B: Reduced form						
Night light (normalised)	Coefficient	std. err.	t	P>t	[95% conf.	interval]
<i>Instrument</i>						
Temperature (cat.)	-0.00018	0.0000	-12.65	0.0000	-0.00019	-0.00015
R2						0.3856
N						159,589
Panel C: Reduced form (>100 km)						
Night light (normalised)	Coefficient	std. err.	t	P>t	[95% conf.	interval]
<i>Instrument</i>						
Temperature (cat.)	-0.0000	0.0000	-1.32	0.1860	-0.0000	-0.0000
R2						0.2574
N						46,693
Panel D: First stage						
Distance to mission (cat.)	Coefficient	Std. Err.	z	P>z	[95% Confidence	Interval]
<i>Instrument</i>						
Temperature (cat.)	1.4664	0.0629	23.32	0.0000	1.3432	1.5896
Controls						Yes
Coloniser fixed effects						Yes
Country fixed effects						Yes
Robust std. err.						Yes
N						159,589
<i>Instrumented</i>		R-sq.	Adj. R-sq.	Par. R-sq.	F(83,257137)	Prob>F
Distance to mission (cat.)		0.3898	0.3895	0.0040	544	0.0000

Notes: The regression model includes the same control as the baseline model (see Equation 2) except temperature, that is, the distances to coasts, rivers, historical explorer routes, mines, pre-colonial cities, Muslim seats, as well as latitude, ruggedness, elevation, land suitability for agriculture, and malaria and tsetse fly ecology, plus binaries for Sub-Saharan African and islands. The regression sample is restricted to grid cells less than 200 km from a mission station. Panel C differs from Panel B in that the former only includes grid cells more than 100 km from a mission station.

Table H.2: Night-time luminosity by distance to the nearest mission station and homeland border: Instrumental variable: temperature

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	0.0000	0.0003	-0.1	0.929	-0.0007	0.0006
5-10 km	0-10 km	-0.0003	0.0003	-1.0	0.306	-0.0009	0.0003
10-15 km	0-10 km	-0.0002	0.0003	-0.7	0.473	-0.0009	0.0004
15-20 km	0-10 km	0.0008	0.0004	2.0	0.047	0.0000	0.0016
20-25 km	0-10 km	0.0013	0.0005	2.6	0.008	0.0003	0.0022
25-30 km	0-10 km	0.0018	0.0005	3.4	0.001	0.0008	0.0029
30-35 km	0-10 km	0.0025	0.0006	3.8	0.000	0.0012	0.0037
35-40 km	0-10 km	0.0016	0.0006	2.6	0.009	0.0004	0.0028
40-45 km	0-10 km	0.0024	0.0007	3.2	0.001	0.0009	0.0038
45-50 km	0-10 km	0.0029	0.0008	3.7	0.000	0.0014	0.0045
>50 km	0-10 km	0.0027	0.0003	8.6	0.000	0.0021	0.0033
0-5 km	10-20 km	-0.0006	0.0001	-4.3	0.000	-0.0009	-0.0004
5-10 km	10-20 km	-0.0005	0.0002	-3.5	0.001	-0.0008	-0.0002
10-15 km	10-20 km	-0.0004	0.0002	-1.9	0.063	-0.0007	0.0000
15-20 km	10-20 km	-0.0006	0.0002	-3.4	0.001	-0.0009	-0.0002
20-25 km	10-20 km	0.0001	0.0002	0.3	0.772	-0.0004	0.0005
25-30 km	10-20 km	0.0002	0.0003	0.7	0.465	-0.0003	0.0007
30-35 km	10-20 km	0.0001	0.0003	0.5	0.584	-0.0004	0.0006
35-40 km	10-20 km	0.0008	0.0003	2.3	0.024	0.0001	0.0015
40-45 km	10-20 km	0.0007	0.0003	2.2	0.027	0.0001	0.0014
45-50 km	10-20 km	0.0005	0.0004	1.4	0.166	-0.0002	0.0013
>50 km	10-20 km	0.0007	0.0002	3.9	0.000	0.0003	0.0010
0-5 km	20-30 km	-0.0006	0.0001	-4.0	0.000	-0.0008	-0.0003
5-10 km	20-30 km	-0.0005	0.0001	-3.4	0.001	-0.0007	-0.0002
10-15 km	20-30 km	-0.0004	0.0002	-2.5	0.011	-0.0007	-0.0001
15-20 km	20-30 km	-0.0005	0.0002	-3.1	0.002	-0.0008	-0.0002
20-25 km	20-30 km	-0.0005	0.0002	-3.4	0.001	-0.0009	-0.0002
25-30 km	20-30 km	-0.0006	0.0001	-4.0	0.000	-0.0009	-0.0003
30-35 km	20-30 km	-0.0001	0.0002	-0.5	0.624	-0.0005	0.0003
35-40 km	20-30 km	-0.0004	0.0002	-1.8	0.066	-0.0009	0.0000
40-45 km	20-30 km	-0.0003	0.0002	-1.5	0.123	-0.0008	0.0001
45-50 km	20-30 km	-0.0004	0.0003	-1.6	0.118	-0.0010	0.0001
>50 km	20-30 km	-0.0001	0.0001	-0.5	0.605	-0.0003	0.0002
0-5 km	30-40 km	-0.0003	0.0001	-3.2	0.002	-0.0006	-0.0001
5-10 km	30-40 km	-0.0005	0.0001	-4.1	0.000	-0.0007	-0.0002
10-15 km	30-40 km	-0.0006	0.0001	-5.6	0.000	-0.0008	-0.0004
15-20 km	30-40 km	-0.0006	0.0001	-5.0	0.000	-0.0008	-0.0004
20-25 km	30-40 km	-0.0003	0.0001	-2.4	0.017	-0.0006	-0.0001
25-30 km	30-40 km	-0.0007	0.0001	-4.8	0.000	-0.0010	-0.0004
30-35 km	30-40 km	-0.0007	0.0001	-5.7	0.000	-0.0009	-0.0005
35-40 km	30-40 km	-0.0006	0.0002	-4.0	0.000	-0.0010	-0.0003
40-45 km	30-40 km	-0.0007	0.0002	-4.5	0.000	-0.0010	-0.0004
45-50 km	30-40 km	-0.0008	0.0002	-3.5	0.000	-0.0012	-0.0003
>50 km	30-40 km	0.0001	0.0002	0.5	0.589	-0.0003	0.0006

Table H.2: Night-time luminosity by distance to the nearest mission station and homeland border: Instrumental variable: temperature (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0006	0.0001	-6.1	0.000	-0.0008	-0.0004
5-10 km	40-50 km	-0.0004	0.0001	-3.8	0.000	-0.0005	-0.0002
10-15 km	40-50 km	-0.0006	0.0001	-6.3	0.000	-0.0007	-0.0004
15-20 km	40-50 km	-0.0004	0.0001	-4.5	0.000	-0.0006	-0.0003
20-25 km	40-50 km	-0.0007	0.0001	-6.4	0.000	-0.0010	-0.0005
25-30 km	40-50 km	-0.0006	0.0001	-6.0	0.000	-0.0008	-0.0004
30-35 km	40-50 km	-0.0006	0.0001	-4.1	0.000	-0.0009	-0.0003
35-40 km	40-50 km	-0.0007	0.0002	-4.5	0.000	-0.0011	-0.0004
40-45 km	40-50 km	-0.0010	0.0001	-7.2	0.000	-0.0013	-0.0008
45-50 km	40-50 km	-0.0003	0.0002	-1.3	0.191	-0.0007	0.0001
>50 km	40-50 km	-0.0002	0.0001	-1.7	0.082	-0.0003	0.0000
0-5 km	50-60 km	-0.0004	0.0001	-4.8	0.000	-0.0005	-0.0002
5-10 km	50-60 km	-0.0005	0.0001	-5.2	0.000	-0.0007	-0.0003
10-15 km	50-60 km	-0.0004	0.0001	-3.8	0.000	-0.0006	-0.0002
15-20 km	50-60 km	-0.0003	0.0001	-2.6	0.009	-0.0005	-0.0001
20-25 km	50-60 km	-0.0003	0.0001	-2.5	0.012	-0.0006	-0.0001
25-30 km	50-60 km	-0.0004	0.0001	-3.5	0.001	-0.0007	-0.0002
30-35 km	50-60 km	-0.0008	0.0001	-6.6	0.000	-0.0010	-0.0006
35-40 km	50-60 km	-0.0005	0.0001	-3.4	0.001	-0.0008	-0.0002
40-45 km	50-60 km	-0.0005	0.0002	-2.5	0.012	-0.0008	-0.0001
45-50 km	50-60 km	-0.0007	0.0002	-4.6	0.000	-0.0010	-0.0004
>50 km	50-60 km	-0.0002	0.0001	-1.8	0.072	-0.0003	0.0000
0-5 km	60-70 km	-0.0005	0.0001	-4.4	0.000	-0.0007	-0.0003
5-10 km	60-70 km	-0.0003	0.0001	-2.6	0.009	-0.0005	-0.0001
10-15 km	60-70 km	-0.0005	0.0001	-5.5	0.000	-0.0007	-0.0003
15-20 km	60-70 km	-0.0004	0.0001	-3.4	0.001	-0.0006	-0.0002
20-25 km	60-70 km	-0.0005	0.0001	-4.8	0.000	-0.0007	-0.0003
25-30 km	60-70 km	-0.0005	0.0001	-3.7	0.000	-0.0008	-0.0002
30-35 km	60-70 km	0.0000	0.0002	0.2	0.868	-0.0003	0.0004
35-40 km	60-70 km	-0.0007	0.0001	-4.7	0.000	-0.0010	-0.0004
40-45 km	60-70 km	-0.0006	0.0001	-4.0	0.000	-0.0009	-0.0003
45-50 km	60-70 km	-0.0007	0.0001	-5.0	0.000	-0.0010	-0.0004
>50 km	60-70 km	-0.0002	0.0001	-2.0	0.044	-0.0003	0.0000
0-5 km	70-80 km	-0.0003	0.0001	-2.5	0.011	-0.0005	-0.0001
5-10 km	70-80 km	-0.0004	0.0001	-3.2	0.002	-0.0006	-0.0001
10-15 km	70-80 km	-0.0005	0.0001	-4.4	0.000	-0.0007	-0.0003
15-20 km	70-80 km	-0.0006	0.0001	-6.1	0.000	-0.0007	-0.0004
20-25 km	70-80 km	-0.0003	0.0001	-3.0	0.003	-0.0005	-0.0001
25-30 km	70-80 km	-0.0003	0.0001	-1.9	0.053	-0.0006	0.0000
30-35 km	70-80 km	-0.0004	0.0001	-3.7	0.000	-0.0007	-0.0002
35-40 km	70-80 km	-0.0002	0.0002	-1.4	0.156	-0.0005	0.0001
40-45 km	70-80 km	-0.0001	0.0002	-0.6	0.540	-0.0005	0.0002
45-50 km	70-80 km	-0.0002	0.0002	-0.9	0.367	-0.0006	0.0002
>50 km	70-80 km	-0.0002	0.0001	-1.7	0.085	-0.0003	0.0000

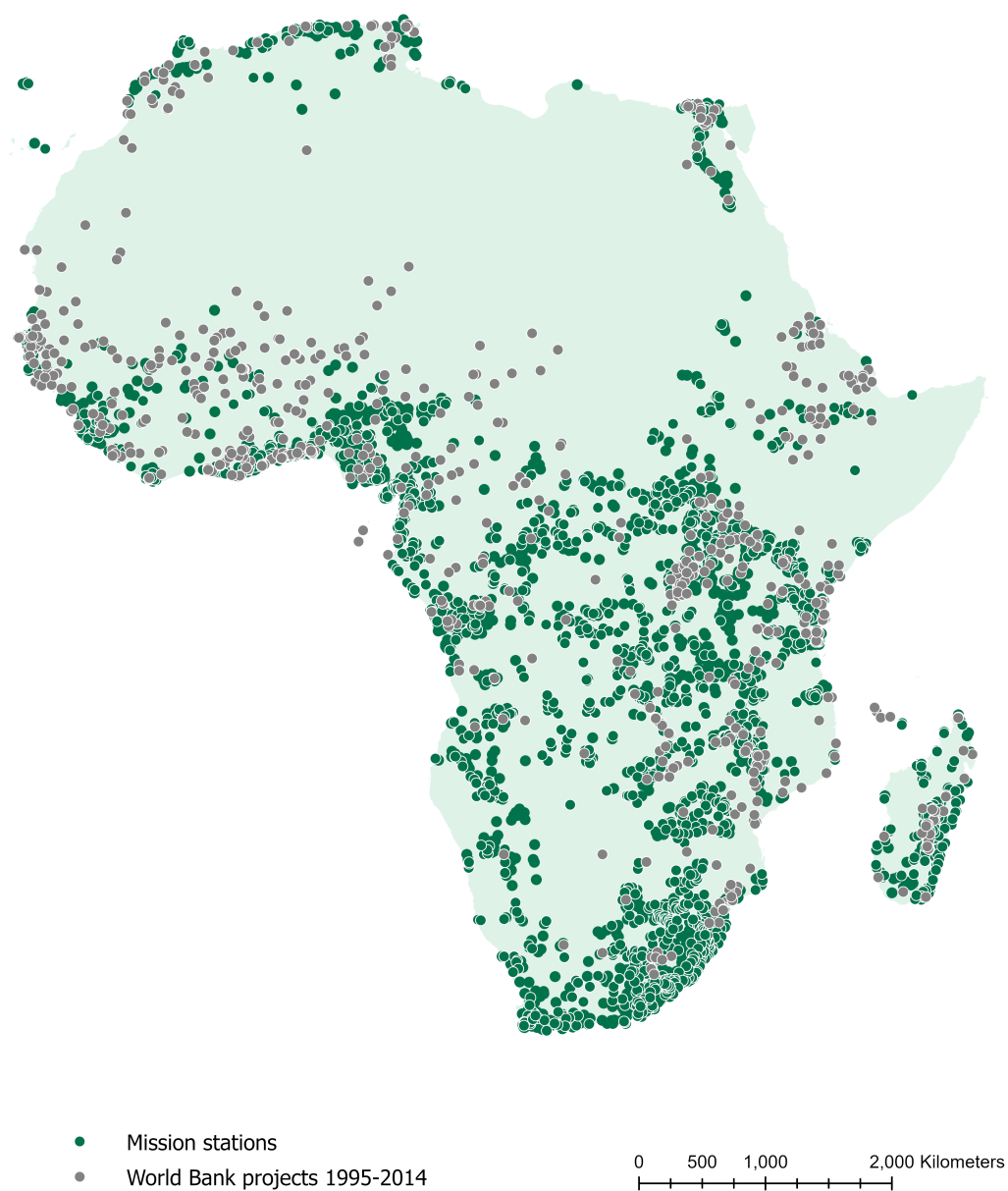
Table H.2: Night-time luminosity by distance to the nearest mission station and homeland border: Instrumental variable: temperature (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0003	0.0001	-3.0	0.003	-0.0005	-0.0001
5-10 km	80-90 km	-0.0004	0.0001	-4.4	0.000	-0.0006	-0.0002
10-15 km	80-90 km	-0.0002	0.0001	-1.8	0.074	-0.0004	0.0000
15-20 km	80-90 km	-0.0004	0.0001	-3.4	0.001	-0.0006	-0.0002
20-25 km	80-90 km	-0.0004	0.0001	-3.3	0.001	-0.0006	-0.0001
25-30 km	80-90 km	-0.0003	0.0001	-2.6	0.009	-0.0005	-0.0001
30-35 km	80-90 km	0.0000	0.0001	-0.3	0.798	-0.0003	0.0002
35-40 km	80-90 km	-0.0002	0.0002	-1.1	0.254	-0.0005	0.0001
40-45 km	80-90 km	-0.0004	0.0002	-2.3	0.019	-0.0008	-0.0001
45-50 km	80-90 km	0.0001	0.0002	0.3	0.776	-0.0004	0.0005
>50 km	80-90 km	-0.0003	0.0001	-3.5	0.001	-0.0005	-0.0001
0-5 km	90-100 km	-0.0003	0.0001	-2.8	0.005	-0.0005	-0.0001
5-10 km	90-100 km	-0.0004	0.0001	-4.5	0.000	-0.0006	-0.0002
10-15 km	90-100 km	-0.0003	0.0001	-3.1	0.002	-0.0005	-0.0001
15-20 km	90-100 km	-0.0002	0.0001	-2.1	0.034	-0.0004	0.0000
20-25 km	90-100 km	0.0000	0.0001	-0.4	0.686	-0.0003	0.0002
25-30 km	90-100 km	-0.0003	0.0001	-2.6	0.009	-0.0005	-0.0001
30-35 km	90-100 km	0.0000	0.0001	-0.1	0.949	-0.0002	0.0002
35-40 km	90-100 km	-0.0003	0.0002	-1.7	0.089	-0.0006	0.0000
40-45 km	90-100 km	0.0002	0.0002	0.9	0.343	-0.0002	0.0006
45-50 km	90-100 km	-0.0007	0.0002	-3.8	0.000	-0.0010	-0.0003
>50 km	90-100 km	-0.0002	0.0001	-2.0	0.050	-0.0005	0.0000
0-5 km	>100 km	-0.0004	0.0001	-3.7	0.000	-0.0006	-0.0002
5-10 km	>100 km	-0.0003	0.0001	-3.0	0.003	-0.0005	-0.0001
10-15 km	>100 km	-0.0003	0.0001	-2.8	0.005	-0.0005	-0.0001
15-20 km	>100 km	-0.0002	0.0001	-2.4	0.015	-0.0004	0.0000
20-25 km	>100 km	-0.0003	0.0001	-2.1	0.038	-0.0005	0.0000
25-30 km	>100 km	-0.0003	0.0001	-2.1	0.040	-0.0005	0.0000
30-35 km	>100 km	0.0002	0.0002	1.1	0.266	-0.0001	0.0005
35-40 km	>100 km	-0.0004	0.0002	-1.9	0.058	-0.0008	0.0000
40-45 km	>100 km	-0.0002	0.0002	-1.2	0.235	-0.0006	0.0001
45-50 km	>100 km	0.0004	0.0005	0.7	0.504	-0.0007	0.0014
>50 km	>100 km	0.0000	(omitted)				
Controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Std. err.							Robust
R2							0.3659
N							159,248

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. All variables are log-linearised except binaries. The regression sample was restricted to grid cells located less than 200 km from a mission station and 100 km from a homeland border.

I Accounting for World Bank aid projects

Figure I.1: The location of World Bank aid projects, 1995-2014



Source: [AidData \(2017\)](#).

Table I.1: Night-time luminosity by distance to mission stations and homeland borders:
Without World Bank project within 50 km

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	-0.0001	0.0004	-0.2	0.841	-0.0008	0.0007
5-10 km	0-10 km	-0.0001	0.0004	-0.3	0.769	-0.0009	0.0007
10-15 km	0-10 km	-0.0004	0.0003	-1.2	0.224	-0.0010	0.0002
15-20 km	0-10 km	0.0002	0.0004	0.5	0.605	-0.0006	0.0010
20-25 km	0-10 km	0.0015	0.0006	2.5	0.012	0.0003	0.0027
25-30 km	0-10 km	0.0014	0.0006	2.4	0.016	0.0003	0.0025
30-35 km	0-10 km	0.0019	0.0007	2.5	0.011	0.0004	0.0033
35-40 km	0-10 km	0.0016	0.0007	2.1	0.032	0.0001	0.0030
40-45 km	0-10 km	0.0013	0.0008	1.6	0.106	-0.0003	0.0029
45-50 km	0-10 km	0.0021	0.0009	2.5	0.013	0.0004	0.0038
>50 km	0-10 km	0.0037	0.0004	9.7	0.000	0.0030	0.0045
0-5 km	10-20 km	-0.0005	0.0001	-3.2	0.002	-0.0008	-0.0002
5-10 km	10-20 km	-0.0002	0.0002	-1.3	0.188	-0.0005	0.0001
10-15 km	10-20 km	0.0001	0.0002	0.3	0.800	-0.0004	0.0005
15-20 km	10-20 km	-0.0001	0.0002	-0.5	0.646	-0.0005	0.0003
20-25 km	10-20 km	0.0000	0.0002	0.1	0.884	-0.0004	0.0005
25-30 km	10-20 km	0.0011	0.0004	2.9	0.003	0.0004	0.0018
30-35 km	10-20 km	0.0001	0.0003	0.3	0.760	-0.0005	0.0006
35-40 km	10-20 km	0.0008	0.0004	2.0	0.041	0.0000	0.0015
40-45 km	10-20 km	0.0010	0.0004	2.5	0.013	0.0002	0.0018
45-50 km	10-20 km	0.0004	0.0004	1.0	0.302	-0.0003	0.0011
>50 km	10-20 km	0.0005	0.0002	3.2	0.002	0.0002	0.0009
0-5 km	20-30 km	-0.0002	0.0001	-1.3	0.199	-0.0004	0.0001
5-10 km	20-30 km	-0.0001	0.0001	-0.6	0.559	-0.0004	0.0002
10-15 km	20-30 km	-0.0001	0.0002	-0.9	0.366	-0.0004	0.0002
15-20 km	20-30 km	-0.0004	0.0002	-2.4	0.018	-0.0007	-0.0001
20-25 km	20-30 km	-0.0002	0.0002	-0.8	0.407	-0.0005	0.0002
25-30 km	20-30 km	-0.0004	0.0001	-2.8	0.005	-0.0007	-0.0001
30-35 km	20-30 km	0.0000	0.0002	-0.1	0.937	-0.0004	0.0004
35-40 km	20-30 km	-0.0002	0.0003	-0.7	0.475	-0.0007	0.0003
40-45 km	20-30 km	-0.0002	0.0002	-1.0	0.316	-0.0007	0.0002
45-50 km	20-30 km	-0.0005	0.0002	-2.8	0.005	-0.0009	-0.0002
>50 km	20-30 km	0.0001	0.0001	0.5	0.593	-0.0002	0.0003
0-5 km	30-40 km	-0.0001	0.0001	-0.8	0.432	-0.0003	0.0001
5-10 km	30-40 km	-0.0003	0.0001	-2.2	0.025	-0.0005	0.0000
10-15 km	30-40 km	-0.0003	0.0001	-3.4	0.001	-0.0005	-0.0001
15-20 km	30-40 km	-0.0004	0.0001	-3.3	0.001	-0.0006	-0.0002
20-25 km	30-40 km	0.0000	0.0001	0.3	0.763	-0.0002	0.0003
25-30 km	30-40 km	-0.0005	0.0001	-3.8	0.000	-0.0008	-0.0002
30-35 km	30-40 km	-0.0005	0.0001	-3.4	0.001	-0.0007	-0.0002
35-40 km	30-40 km	-0.0003	0.0002	-1.8	0.072	-0.0006	0.0000
40-45 km	30-40 km	-0.0003	0.0002	-1.8	0.070	-0.0007	0.0000
45-50 km	30-40 km	-0.0006	0.0002	-3.3	0.001	-0.0010	-0.0003
>50 km	30-40 km	0.0004	0.0003	1.3	0.186	-0.0002	0.0009

Table I.1: Night-time luminosity by distance to mission stations and homeland borders:
Without World Bank project within 50 km (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0004	0.0001	-4.7	0.000	-0.0006	-0.0002
5-10 km	40-50 km	-0.0003	0.0001	-3.4	0.001	-0.0004	-0.0001
10-15 km	40-50 km	-0.0003	0.0001	-3.9	0.000	-0.0005	-0.0002
15-20 km	40-50 km	-0.0002	0.0001	-2.1	0.040	-0.0004	0.0000
20-25 km	40-50 km	-0.0004	0.0001	-3.2	0.002	-0.0006	-0.0001
25-30 km	40-50 km	-0.0003	0.0001	-3.2	0.001	-0.0005	-0.0001
30-35 km	40-50 km	-0.0004	0.0001	-2.8	0.005	-0.0007	-0.0001
35-40 km	40-50 km	-0.0004	0.0002	-2.3	0.021	-0.0008	-0.0001
40-45 km	40-50 km	-0.0006	0.0001	-4.4	0.000	-0.0009	-0.0003
45-50 km	40-50 km	0.0000	0.0002	0.1	0.937	-0.0004	0.0005
>50 km	40-50 km	-0.0001	0.0001	-0.5	0.602	-0.0002	0.0001
0-5 km	50-60 km	-0.0002	0.0001	-3.1	0.002	-0.0004	-0.0001
5-10 km	50-60 km	-0.0003	0.0001	-2.9	0.004	-0.0005	-0.0001
10-15 km	50-60 km	-0.0003	0.0001	-2.7	0.008	-0.0005	-0.0001
15-20 km	50-60 km	-0.0001	0.0001	-0.7	0.479	-0.0003	0.0001
20-25 km	50-60 km	-0.0001	0.0001	-0.9	0.358	-0.0004	0.0001
25-30 km	50-60 km	-0.0001	0.0001	-0.9	0.348	-0.0004	0.0001
30-35 km	50-60 km	-0.0004	0.0001	-4.2	0.000	-0.0006	-0.0002
35-40 km	50-60 km	-0.0003	0.0001	-2.5	0.013	-0.0005	-0.0001
40-45 km	50-60 km	-0.0002	0.0002	-1.0	0.328	-0.0006	0.0002
45-50 km	50-60 km	-0.0004	0.0002	-2.5	0.013	-0.0007	-0.0001
>50 km	50-60 km	-0.0001	0.0001	-0.6	0.558	-0.0002	0.0001
0-5 km	60-70 km	-0.0002	0.0001	-1.8	0.068	-0.0004	0.0000
5-10 km	60-70 km	-0.0001	0.0001	-0.6	0.582	-0.0003	0.0002
10-15 km	60-70 km	-0.0003	0.0001	-3.7	0.000	-0.0005	-0.0001
15-20 km	60-70 km	-0.0003	0.0001	-2.8	0.005	-0.0005	-0.0001
20-25 km	60-70 km	-0.0003	0.0001	-3.0	0.003	-0.0004	-0.0001
25-30 km	60-70 km	-0.0003	0.0001	-2.0	0.050	-0.0006	0.0000
30-35 km	60-70 km	0.0002	0.0002	1.2	0.230	-0.0001	0.0006
35-40 km	60-70 km	-0.0003	0.0001	-2.5	0.012	-0.0006	-0.0001
40-45 km	60-70 km	-0.0003	0.0001	-2.2	0.027	-0.0005	0.0000
45-50 km	60-70 km	-0.0005	0.0001	-4.0	0.000	-0.0007	-0.0002
>50 km	60-70 km	-0.0002	0.0001	-2.0	0.043	-0.0004	0.0000
0-5 km	70-80 km	0.0000	0.0001	0.0	0.976	-0.0002	0.0002
5-10 km	70-80 km	-0.0002	0.0001	-1.5	0.139	-0.0004	0.0001
10-15 km	70-80 km	-0.0002	0.0001	-2.2	0.027	-0.0004	0.0000
15-20 km	70-80 km	-0.0004	0.0001	-4.6	0.000	-0.0005	-0.0002
20-25 km	70-80 km	-0.0001	0.0001	-0.8	0.399	-0.0003	0.0001
25-30 km	70-80 km	-0.0002	0.0001	-2.3	0.021	-0.0005	0.0000
30-35 km	70-80 km	-0.0002	0.0001	-2.6	0.009	-0.0004	-0.0001
35-40 km	70-80 km	0.0000	0.0001	0.2	0.807	-0.0003	0.0003
40-45 km	70-80 km	-0.0001	0.0002	-0.6	0.517	-0.0005	0.0002
45-50 km	70-80 km	-0.0001	0.0003	-0.3	0.731	-0.0006	0.0004
>50 km	70-80 km	-0.0001	0.0001	-1.4	0.153	-0.0003	0.0001

Table I.1: Night-time luminosity by distance to mission stations and homeland borders:
Without World Bank project within 50 km (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0001	0.0001	-0.6	0.567	-0.0002	0.0001
5-10 km	80-90 km	-0.0002	0.0001	-2.4	0.016	-0.0003	0.0000
10-15 km	80-90 km	-0.0001	0.0001	-0.9	0.349	-0.0003	0.0001
15-20 km	80-90 km	-0.0003	0.0001	-2.8	0.005	-0.0005	-0.0001
20-25 km	80-90 km	-0.0002	0.0001	-3.3	0.001	-0.0004	-0.0001
25-30 km	80-90 km	-0.0002	0.0001	-2.2	0.025	-0.0004	0.0000
30-35 km	80-90 km	-0.0001	0.0001	-0.6	0.563	-0.0002	0.0001
35-40 km	80-90 km	-0.0002	0.0002	-1.1	0.289	-0.0005	0.0001
40-45 km	80-90 km	-0.0003	0.0002	-1.9	0.054	-0.0007	0.0000
45-50 km	80-90 km	0.0002	0.0003	0.6	0.547	-0.0003	0.0007
>50 km	80-90 km	-0.0002	0.0001	-2.6	0.009	-0.0004	-0.0001
0-5 km	90-100 km	-0.0001	0.0001	-1.5	0.139	-0.0003	0.0000
5-10 km	90-100 km	-0.0003	0.0001	-4.1	0.000	-0.0005	-0.0002
10-15 km	90-100 km	-0.0002	0.0001	-1.8	0.066	-0.0003	0.0000
15-20 km	90-100 km	-0.0001	0.0001	-1.6	0.104	-0.0003	0.0000
20-25 km	90-100 km	-0.0002	0.0001	-2.3	0.023	-0.0003	0.0000
25-30 km	90-100 km	-0.0003	0.0001	-3.4	0.001	-0.0005	-0.0001
30-35 km	90-100 km	-0.0002	0.0001	-2.2	0.029	-0.0003	0.0000
35-40 km	90-100 km	-0.0002	0.0002	-1.5	0.146	-0.0005	0.0001
40-45 km	90-100 km	0.0000	0.0002	0.2	0.840	-0.0003	0.0004
45-50 km	90-100 km	-0.0006	0.0001	-4.1	0.000	-0.0009	-0.0003
>50 km	90-100 km	-0.0002	0.0001	-1.3	0.194	-0.0004	0.0001
0-5 km	>100 km	-0.0003	0.0000	-9.1	0.000	-0.0003	-0.0002
5-10 km	>100 km	-0.0003	0.0000	-9.8	0.000	-0.0003	-0.0002
10-15 km	>100 km	-0.0002	0.0000	-7.1	0.000	-0.0003	-0.0002
15-20 km	>100 km	-0.0003	0.0000	-8.2	0.000	-0.0003	-0.0002
20-25 km	>100 km	-0.0002	0.0000	-4.4	0.000	-0.0002	-0.0001
25-30 km	>100 km	-0.0002	0.0000	-5.2	0.000	-0.0003	-0.0001
30-35 km	>100 km	-0.0002	0.0000	-4.3	0.000	-0.0002	-0.0001
35-40 km	>100 km	-0.0001	0.0000	-2.7	0.006	-0.0002	0.0000
40-45 km	>100 km	0.0000	0.0001	0.3	0.747	-0.0001	0.0002
45-50 km	>100 km	-0.0001	0.0000	-2.3	0.023	-0.0002	0.0000
>50 km	>100 km	0.0000	(omitted)				
Controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Std. err.							Robust
R^2							0.2849
N							229,077

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. All variables are log-linearised except binaries. The regression sample excludes grid cells located less than 50 km from a World Bank project.

Table I.2: Night-time luminosity by distance to mission stations and homeland borders:
Without cells near mission stations overlapping with World Bank projects

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	-0.0002	0.0003	-0.5	0.635	-0.0008	0.0005
5-10 km	0-10 km	-0.0005	0.0003	-1.5	0.133	-0.0012	0.0002
10-15 km	0-10 km	-0.0001	0.0004	-0.2	0.859	-0.0008	0.0007
15-20 km	0-10 km	0.0004	0.0004	1.0	0.315	-0.0004	0.0012
20-25 km	0-10 km	0.0016	0.0005	2.9	0.003	0.0005	0.0027
25-30 km	0-10 km	0.0019	0.0006	3.3	0.001	0.0008	0.0030
30-35 km	0-10 km	0.0023	0.0007	3.3	0.001	0.0009	0.0036
35-40 km	0-10 km	0.0016	0.0007	2.4	0.015	0.0003	0.0030
40-45 km	0-10 km	0.0023	0.0008	2.9	0.004	0.0007	0.0038
45-50 km	0-10 km	0.0027	0.0008	3.3	0.001	0.0011	0.0043
>50 km	0-10 km	0.0041	0.0004	11.5	0.000	0.0034	0.0048
0-5 km	10-20 km	-0.0007	0.0002	-4.1	0.000	-0.0010	-0.0003
5-10 km	10-20 km	-0.0006	0.0002	-3.6	0.000	-0.0009	-0.0003
10-15 km	10-20 km	-0.0003	0.0002	-1.4	0.159	-0.0007	0.0001
15-20 km	10-20 km	-0.0005	0.0002	-2.5	0.013	-0.0009	-0.0001
20-25 km	10-20 km	0.0001	0.0003	0.4	0.719	-0.0004	0.0006
25-30 km	10-20 km	0.0004	0.0003	1.2	0.230	-0.0002	0.0009
30-35 km	10-20 km	0.0002	0.0003	0.9	0.386	-0.0003	0.0008
35-40 km	10-20 km	0.0008	0.0004	2.2	0.030	0.0001	0.0015
40-45 km	10-20 km	0.0007	0.0003	1.9	0.052	0.0000	0.0013
45-50 km	10-20 km	0.0003	0.0004	0.8	0.402	-0.0004	0.0010
>50 km	10-20 km	0.0006	0.0002	3.6	0.000	0.0003	0.0009
0-5 km	20-30 km	-0.0006	0.0001	-3.9	0.000	-0.0009	-0.0003
5-10 km	20-30 km	-0.0004	0.0001	-2.9	0.003	-0.0007	-0.0001
10-15 km	20-30 km	-0.0005	0.0002	-2.8	0.004	-0.0008	-0.0001
15-20 km	20-30 km	-0.0006	0.0002	-3.4	0.001	-0.0009	-0.0002
20-25 km	20-30 km	-0.0005	0.0002	-2.8	0.006	-0.0008	-0.0001
25-30 km	20-30 km	-0.0006	0.0002	-4.1	0.000	-0.0009	-0.0003
30-35 km	20-30 km	0.0000	0.0002	-0.1	0.938	-0.0005	0.0005
35-40 km	20-30 km	-0.0003	0.0002	-1.2	0.215	-0.0008	0.0002
40-45 km	20-30 km	-0.0004	0.0002	-1.6	0.113	-0.0008	0.0001
45-50 km	20-30 km	-0.0005	0.0003	-1.6	0.113	-0.0011	0.0001
>50 km	20-30 km	0.0000	0.0001	0.2	0.840	-0.0002	0.0003
0-5 km	30-40 km	-0.0004	0.0001	-3.7	0.000	-0.0006	-0.0002
5-10 km	30-40 km	-0.0006	0.0001	-4.6	0.000	-0.0008	-0.0003
10-15 km	30-40 km	-0.0007	0.0001	-6.1	0.000	-0.0009	-0.0005
15-20 km	30-40 km	-0.0006	0.0001	-5.4	0.000	-0.0009	-0.0004
20-25 km	30-40 km	-0.0004	0.0001	-2.8	0.006	-0.0006	-0.0001
25-30 km	30-40 km	-0.0007	0.0001	-4.9	0.000	-0.0010	-0.0004
30-35 km	30-40 km	-0.0007	0.0001	-5.8	0.000	-0.0010	-0.0005
35-40 km	30-40 km	-0.0005	0.0002	-3.1	0.002	-0.0008	-0.0002
40-45 km	30-40 km	-0.0006	0.0002	-4.0	0.000	-0.0010	-0.0003
45-50 km	30-40 km	-0.0008	0.0002	-4.0	0.000	-0.0011	-0.0004
>50 km	30-40 km	0.0002	0.0002	0.8	0.403	-0.0003	0.0007

Table I.2: Night-time luminosity by distance to mission stations and homeland borders:
Without cells near mission stations overlapping with World Bank projects (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0007	0.0001	-6.8	0.000	-0.0008	-0.0005
5-10 km	40-50 km	-0.0005	0.0001	-4.9	0.000	-0.0006	-0.0003
10-15 km	40-50 km	-0.0006	0.0001	-7.0	0.000	-0.0008	-0.0004
15-20 km	40-50 km	-0.0005	0.0001	-5.4	0.000	-0.0007	-0.0004
20-25 km	40-50 km	-0.0008	0.0001	-7.1	0.000	-0.0011	-0.0006
25-30 km	40-50 km	-0.0007	0.0001	-7.0	0.000	-0.0009	-0.0005
30-35 km	40-50 km	-0.0007	0.0001	-4.6	0.000	-0.0009	-0.0004
35-40 km	40-50 km	-0.0007	0.0002	-4.5	0.000	-0.0010	-0.0004
40-45 km	40-50 km	-0.0009	0.0001	-6.8	0.000	-0.0012	-0.0007
45-50 km	40-50 km	-0.0001	0.0002	-0.4	0.681	-0.0006	0.0004
>50 km	40-50 km	-0.0001	0.0001	-1.3	0.189	-0.0003	0.0001
0-5 km	50-60 km	-0.0005	0.0001	-6.3	0.000	-0.0007	-0.0004
5-10 km	50-60 km	-0.0006	0.0001	-6.5	0.000	-0.0008	-0.0004
10-15 km	50-60 km	-0.0005	0.0001	-4.9	0.000	-0.0007	-0.0003
15-20 km	50-60 km	-0.0004	0.0001	-3.9	0.000	-0.0007	-0.0002
20-25 km	50-60 km	-0.0004	0.0001	-3.0	0.003	-0.0006	-0.0001
25-30 km	50-60 km	-0.0005	0.0001	-4.0	0.000	-0.0007	-0.0002
30-35 km	50-60 km	-0.0008	0.0001	-7.3	0.000	-0.0010	-0.0006
35-40 km	50-60 km	-0.0006	0.0001	-4.2	0.000	-0.0008	-0.0003
40-45 km	50-60 km	-0.0004	0.0002	-2.3	0.022	-0.0008	-0.0001
45-50 km	50-60 km	-0.0007	0.0001	-4.6	0.000	-0.0010	-0.0004
>50 km	50-60 km	-0.0002	0.0001	-2.0	0.048	-0.0004	0.0000
0-5 km	60-70 km	-0.0006	0.0001	-5.9	0.000	-0.0008	-0.0004
5-10 km	60-70 km	-0.0004	0.0001	-3.3	0.001	-0.0006	-0.0002
10-15 km	60-70 km	-0.0006	0.0001	-6.6	0.000	-0.0008	-0.0004
15-20 km	60-70 km	-0.0005	0.0001	-4.6	0.000	-0.0007	-0.0003
20-25 km	60-70 km	-0.0006	0.0001	-5.7	0.000	-0.0007	-0.0004
25-30 km	60-70 km	-0.0006	0.0001	-4.1	0.000	-0.0008	-0.0003
30-35 km	60-70 km	0.0000	0.0002	-0.1	0.915	-0.0004	0.0003
35-40 km	60-70 km	-0.0007	0.0001	-5.1	0.000	-0.0009	-0.0004
40-45 km	60-70 km	-0.0006	0.0001	-4.1	0.000	-0.0008	-0.0003
45-50 km	60-70 km	-0.0008	0.0001	-5.7	0.000	-0.0011	-0.0005
>50 km	60-70 km	-0.0003	0.0001	-3.8	0.000	-0.0005	-0.0002
0-5 km	70-80 km	-0.0004	0.0001	-3.4	0.001	-0.0006	-0.0002
5-10 km	70-80 km	-0.0004	0.0001	-3.8	0.000	-0.0007	-0.0002
10-15 km	70-80 km	-0.0006	0.0001	-5.2	0.000	-0.0008	-0.0004
15-20 km	70-80 km	-0.0006	0.0001	-7.1	0.000	-0.0008	-0.0004
20-25 km	70-80 km	-0.0004	0.0001	-4.1	0.000	-0.0006	-0.0002
25-30 km	70-80 km	-0.0004	0.0001	-2.6	0.010	-0.0007	-0.0001
30-35 km	70-80 km	-0.0005	0.0001	-4.2	0.000	-0.0007	-0.0002
35-40 km	70-80 km	-0.0003	0.0001	-2.2	0.026	-0.0006	0.0000
40-45 km	70-80 km	-0.0002	0.0002	-1.2	0.215	-0.0006	0.0001
45-50 km	70-80 km	-0.0004	0.0002	-1.7	0.087	-0.0009	0.0001
>50 km	70-80 km	-0.0004	0.0001	-3.7	0.000	-0.0005	-0.0002

Table I.2: Night-time luminosity by distance to mission stations and homeland borders:
Without cells near mission stations overlapping with World Bank projects (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0004	0.0001	-4.1	0.000	-0.0005	-0.0002
5-10 km	80-90 km	-0.0004	0.0001	-5.2	0.000	-0.0006	-0.0003
10-15 km	80-90 km	-0.0004	0.0001	-3.4	0.001	-0.0006	-0.0001
15-20 km	80-90 km	-0.0005	0.0001	-4.6	0.000	-0.0007	-0.0003
20-25 km	80-90 km	-0.0005	0.0001	-4.7	0.000	-0.0007	-0.0003
25-30 km	80-90 km	-0.0005	0.0001	-4.6	0.000	-0.0006	-0.0003
30-35 km	80-90 km	-0.0002	0.0001	-1.7	0.087	-0.0004	0.0000
35-40 km	80-90 km	-0.0004	0.0002	-2.2	0.030	-0.0007	0.0000
40-45 km	80-90 km	-0.0006	0.0002	-3.4	0.001	-0.0010	-0.0003
45-50 km	80-90 km	-0.0001	0.0002	-0.5	0.583	-0.0006	0.0003
>50 km	80-90 km	-0.0005	0.0001	-5.2	0.000	-0.0006	-0.0003
0-5 km	90-100 km	-0.0004	0.0001	-4.2	0.000	-0.0006	-0.0002
5-10 km	90-100 km	-0.0006	0.0001	-6.1	0.000	-0.0007	-0.0004
10-15 km	90-100 km	-0.0004	0.0001	-4.7	0.000	-0.0006	-0.0003
15-20 km	90-100 km	-0.0003	0.0001	-3.4	0.001	-0.0005	-0.0001
20-25 km	90-100 km	-0.0003	0.0001	-2.3	0.019	-0.0005	0.0000
25-30 km	90-100 km	-0.0005	0.0001	-5.0	0.000	-0.0007	-0.0003
30-35 km	90-100 km	-0.0004	0.0001	-3.2	0.001	-0.0006	-0.0001
35-40 km	90-100 km	-0.0005	0.0002	-3.1	0.002	-0.0009	-0.0002
40-45 km	90-100 km	-0.0001	0.0002	-0.7	0.507	-0.0005	0.0002
45-50 km	90-100 km	-0.0008	0.0002	-4.8	0.000	-0.0011	-0.0005
>50 km	90-100 km	-0.0004	0.0001	-3.6	0.000	-0.0006	-0.0002
0-5 km	>100 km	-0.0005	0.0000	-15.1	0.000	-0.0006	-0.0004
5-10 km	>100 km	-0.0005	0.0000	-14.8	0.000	-0.0005	-0.0004
10-15 km	>100 km	-0.0004	0.0000	-12.7	0.000	-0.0005	-0.0004
15-20 km	>100 km	-0.0004	0.0000	-12.3	0.000	-0.0005	-0.0004
20-25 km	>100 km	-0.0003	0.0000	-8.5	0.000	-0.0004	-0.0002
25-30 km	>100 km	-0.0003	0.0000	-8.6	0.000	-0.0004	-0.0003
30-35 km	>100 km	-0.0003	0.0000	-7.5	0.000	-0.0004	-0.0002
35-40 km	>100 km	-0.0002	0.0000	-5.6	0.000	-0.0003	-0.0002
40-45 km	>100 km	-0.0001	0.0001	-1.0	0.312	-0.0002	0.0001
45-50 km	>100 km	-0.0002	0.0000	-4.5	0.000	-0.0003	-0.0001
>50 km	>100 km	0.0000	(omitted)				
Controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Std. err.							Robust
R^2							0.3320
N							245,430

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. All variables are log-linearised except binaries. The regression sample excludes grid cells located near mission stations that share a grid cell with a World Bank project.

Table I.3: Night-time luminosity by distance to mission stations and homeland borders:
Including World Bank project grid cell ID fixed effects

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	0.0002	0.0003	0.8	0.413	-0.0003	0.0008
5-10 km	0-10 km	0.0001	0.0003	0.4	0.661	-0.0004	0.0007
10-15 km	0-10 km	0.0001	0.0003	0.5	0.634	-0.0005	0.0007
15-20 km	0-10 km	0.0012	0.0004	3.2	0.001	0.0005	0.0019
20-25 km	0-10 km	0.0018	0.0005	3.7	0.000	0.0009	0.0027
25-30 km	0-10 km	0.0020	0.0005	4.1	0.000	0.0010	0.0030
30-35 km	0-10 km	0.0023	0.0006	4.0	0.000	0.0012	0.0035
35-40 km	0-10 km	0.0020	0.0006	3.1	0.002	0.0008	0.0033
40-45 km	0-10 km	0.0021	0.0007	3.0	0.003	0.0007	0.0034
45-50 km	0-10 km	0.0031	0.0007	4.2	0.000	0.0016	0.0045
>50 km	0-10 km	0.0032	0.0003	10.4	0.000	0.0026	0.0038
0-5 km	10-20 km	-0.0003	0.0001	-2.0	0.045	-0.0005	0.0000
5-10 km	10-20 km	-0.0001	0.0001	-0.6	0.578	-0.0004	0.0002
10-15 km	10-20 km	0.0000	0.0002	0.2	0.844	-0.0003	0.0004
15-20 km	10-20 km	-0.0002	0.0002	-0.9	0.387	-0.0005	0.0002
20-25 km	10-20 km	0.0003	0.0002	1.3	0.204	-0.0001	0.0007
25-30 km	10-20 km	0.0006	0.0003	2.2	0.026	0.0001	0.0011
30-35 km	10-20 km	0.0003	0.0003	1.3	0.185	-0.0002	0.0008
35-40 km	10-20 km	0.0008	0.0003	2.6	0.009	0.0002	0.0015
40-45 km	10-20 km	0.0013	0.0003	3.6	0.000	0.0006	0.0019
45-50 km	10-20 km	0.0005	0.0003	1.6	0.109	-0.0001	0.0011
>50 km	10-20 km	0.0006	0.0002	3.9	0.000	0.0003	0.0010
0-5 km	20-30 km	-0.0002	0.0001	-1.5	0.141	-0.0004	0.0001
5-10 km	20-30 km	-0.0001	0.0001	-0.4	0.667	-0.0003	0.0002
10-15 km	20-30 km	-0.0001	0.0001	-0.7	0.469	-0.0004	0.0002
15-20 km	20-30 km	-0.0002	0.0001	-1.5	0.123	-0.0005	0.0001
20-25 km	20-30 km	-0.0002	0.0002	-1.3	0.177	-0.0005	0.0001
25-30 km	20-30 km	-0.0003	0.0002	-1.9	0.051	-0.0006	0.0000
30-35 km	20-30 km	0.0003	0.0002	1.3	0.189	-0.0001	0.0007
35-40 km	20-30 km	-0.0002	0.0002	-1.1	0.264	-0.0007	0.0002
40-45 km	20-30 km	0.0000	0.0002	0.0	0.970	-0.0004	0.0004
45-50 km	20-30 km	-0.0003	0.0003	-1.0	0.318	-0.0008	0.0003
>50 km	20-30 km	0.0001	0.0001	1.0	0.331	-0.0001	0.0004
0-5 km	30-40 km	0.0000	0.0001	-0.4	0.692	-0.0002	0.0002
5-10 km	30-40 km	-0.0001	0.0001	-1.2	0.227	-0.0003	0.0001
10-15 km	30-40 km	-0.0003	0.0001	-3.0	0.002	-0.0005	-0.0001
15-20 km	30-40 km	-0.0003	0.0001	-3.1	0.002	-0.0006	-0.0001
20-25 km	30-40 km	-0.0001	0.0001	-0.7	0.480	-0.0003	0.0002
25-30 km	30-40 km	-0.0005	0.0001	-3.4	0.001	-0.0008	-0.0002
30-35 km	30-40 km	-0.0005	0.0001	-3.9	0.000	-0.0008	-0.0003
35-40 km	30-40 km	-0.0005	0.0002	-3.0	0.003	-0.0008	-0.0002
40-45 km	30-40 km	-0.0005	0.0002	-3.0	0.003	-0.0008	-0.0002
45-50 km	30-40 km	-0.0008	0.0002	-3.5	0.000	-0.0012	-0.0003
>50 km	30-40 km	0.0002	0.0002	0.9	0.352	-0.0002	0.0007

Table I.3: Night-time luminosity by distance to mission stations and homeland borders:
Including World Bank project grid cell ID fixed effects (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0002	0.0001	-1.9	0.062	-0.0003	0.0000
5-10 km	40-50 km	-0.0001	0.0001	-1.3	0.196	-0.0003	0.0001
10-15 km	40-50 km	-0.0002	0.0001	-3.0	0.003	-0.0004	-0.0001
15-20 km	40-50 km	-0.0002	0.0001	-2.5	0.012	-0.0004	-0.0001
20-25 km	40-50 km	-0.0005	0.0001	-4.6	0.000	-0.0007	-0.0003
25-30 km	40-50 km	-0.0004	0.0001	-3.6	0.000	-0.0006	-0.0002
30-35 km	40-50 km	-0.0004	0.0001	-2.8	0.005	-0.0007	-0.0001
35-40 km	40-50 km	-0.0004	0.0002	-2.7	0.006	-0.0008	-0.0001
40-45 km	40-50 km	-0.0008	0.0001	-5.7	0.000	-0.0011	-0.0006
45-50 km	40-50 km	-0.0002	0.0002	-1.0	0.324	-0.0007	0.0002
>50 km	40-50 km	0.0000	0.0001	0.2	0.830	-0.0002	0.0002
0-5 km	50-60 km	0.0000	0.0001	-0.5	0.606	-0.0002	0.0001
5-10 km	50-60 km	-0.0002	0.0001	-1.9	0.061	-0.0003	0.0000
10-15 km	50-60 km	-0.0002	0.0001	-1.6	0.106	-0.0004	0.0000
15-20 km	50-60 km	-0.0001	0.0001	-0.8	0.403	-0.0003	0.0001
20-25 km	50-60 km	0.0000	0.0001	-0.3	0.753	-0.0003	0.0002
25-30 km	50-60 km	-0.0002	0.0001	-1.8	0.074	-0.0004	0.0000
30-35 km	50-60 km	-0.0004	0.0001	-3.2	0.001	-0.0006	-0.0001
35-40 km	50-60 km	-0.0004	0.0001	-2.8	0.005	-0.0006	-0.0001
40-45 km	50-60 km	-0.0003	0.0002	-1.9	0.056	-0.0006	0.0000
45-50 km	50-60 km	-0.0004	0.0001	-2.6	0.008	-0.0007	-0.0001
>50 km	50-60 km	0.0001	0.0001	1.0	0.308	-0.0001	0.0003
0-5 km	60-70 km	-0.0002	0.0001	-1.8	0.075	-0.0004	0.0000
5-10 km	60-70 km	0.0000	0.0001	-0.1	0.939	-0.0002	0.0002
10-15 km	60-70 km	-0.0003	0.0001	-3.0	0.002	-0.0004	-0.0001
15-20 km	60-70 km	-0.0001	0.0001	-0.7	0.490	-0.0003	0.0001
20-25 km	60-70 km	-0.0003	0.0001	-3.0	0.003	-0.0005	-0.0001
25-30 km	60-70 km	-0.0002	0.0001	-1.9	0.062	-0.0005	0.0000
30-35 km	60-70 km	0.0002	0.0002	1.2	0.213	-0.0001	0.0005
35-40 km	60-70 km	-0.0002	0.0001	-1.8	0.068	-0.0005	0.0000
40-45 km	60-70 km	-0.0003	0.0001	-1.9	0.064	-0.0005	0.0000
45-50 km	60-70 km	-0.0005	0.0001	-3.5	0.001	-0.0007	-0.0002
>50 km	60-70 km	0.0000	0.0001	0.0	0.998	-0.0002	0.0002
0-5 km	70-80 km	0.0000	0.0001	0.4	0.664	-0.0002	0.0002
5-10 km	70-80 km	-0.0001	0.0001	-1.0	0.310	-0.0003	0.0001
10-15 km	70-80 km	-0.0002	0.0001	-1.8	0.068	-0.0004	0.0000
15-20 km	70-80 km	-0.0003	0.0001	-4.0	0.000	-0.0005	-0.0002
20-25 km	70-80 km	-0.0002	0.0001	-1.6	0.108	-0.0003	0.0000
25-30 km	70-80 km	-0.0001	0.0001	-0.4	0.695	-0.0003	0.0002
30-35 km	70-80 km	-0.0002	0.0001	-1.6	0.116	-0.0004	0.0000
35-40 km	70-80 km	0.0000	0.0001	0.2	0.858	-0.0002	0.0003
40-45 km	70-80 km	0.0001	0.0002	0.8	0.416	-0.0002	0.0005
45-50 km	70-80 km	0.0001	0.0002	0.3	0.763	-0.0004	0.0005
>50 km	70-80 km	0.0000	0.0001	0.4	0.665	-0.0001	0.0002

Table I.3: Night-time luminosity by distance to mission stations and homeland borders:
Including World Bank project grid cell ID fixed effects (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0001	0.0001	-1.0	0.297	-0.0003	0.0001
5-10 km	80-90 km	-0.0002	0.0001	-2.3	0.022	-0.0004	0.0000
10-15 km	80-90 km	0.0000	0.0001	-0.3	0.769	-0.0002	0.0002
15-20 km	80-90 km	-0.0002	0.0001	-1.6	0.106	-0.0003	0.0000
20-25 km	80-90 km	-0.0001	0.0001	-1.4	0.159	-0.0003	0.0001
25-30 km	80-90 km	-0.0001	0.0001	-0.9	0.355	-0.0003	0.0001
30-35 km	80-90 km	0.0001	0.0001	1.0	0.333	-0.0001	0.0003
35-40 km	80-90 km	0.0000	0.0001	0.1	0.949	-0.0003	0.0003
40-45 km	80-90 km	-0.0004	0.0002	-2.1	0.039	-0.0007	0.0000
45-50 km	80-90 km	0.0001	0.0002	0.6	0.548	-0.0003	0.0006
>50 km	80-90 km	0.0000	0.0001	0.1	0.882	-0.0002	0.0002
0-5 km	90-100 km	-0.0002	0.0001	-2.4	0.015	-0.0004	0.0000
5-10 km	90-100 km	-0.0002	0.0001	-3.0	0.003	-0.0004	-0.0001
10-15 km	90-100 km	-0.0001	0.0001	-1.7	0.098	-0.0003	0.0000
15-20 km	90-100 km	-0.0001	0.0001	-1.5	0.125	-0.0003	0.0000
20-25 km	90-100 km	0.0000	0.0001	0.4	0.700	-0.0002	0.0002
25-30 km	90-100 km	-0.0002	0.0001	-2.1	0.037	-0.0004	0.0000
30-35 km	90-100 km	-0.0002	0.0001	-1.8	0.064	-0.0004	0.0000
35-40 km	90-100 km	-0.0002	0.0002	-1.2	0.246	-0.0005	0.0001
40-45 km	90-100 km	0.0001	0.0002	0.5	0.608	-0.0003	0.0005
45-50 km	90-100 km	-0.0004	0.0002	-2.7	0.006	-0.0007	-0.0001
>50 km	90-100 km	0.0001	0.0001	1.1	0.272	-0.0001	0.0003
0-5 km	>100 km	-0.0002	0.0000	-7.6	0.000	-0.0003	-0.0002
5-10 km	>100 km	-0.0002	0.0000	-8.1	0.000	-0.0003	-0.0002
10-15 km	>100 km	-0.0002	0.0000	-6.1	0.000	-0.0002	-0.0001
15-20 km	>100 km	-0.0002	0.0000	-6.9	0.000	-0.0003	-0.0002
20-25 km	>100 km	-0.0001	0.0000	-3.2	0.001	-0.0002	0.0000
25-30 km	>100 km	-0.0002	0.0000	-5.0	0.000	-0.0002	-0.0001
30-35 km	>100 km	-0.0001	0.0000	-2.6	0.010	-0.0002	0.0000
35-40 km	>100 km	-0.0001	0.0000	-2.5	0.013	-0.0002	0.0000
40-45 km	>100 km	0.0001	0.0001	0.8	0.398	-0.0001	0.0002
45-50 km	>100 km	-0.0001	0.0000	-1.9	0.064	-0.0002	0.0000
>50 km	>100 km	0.0000	(omitted)				
Controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Std. err.							Robust
R^2							0.4754
N							257,224

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. All variables are log-linearised except binaries. The regression model also controls for World Bank project fixed effects.

Table I.4: Night-time luminosity by distance to mission stations and homeland borders:
World Bank Disbursements weighted by inverse distance

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	0.0001	0.0004	0.3	0.777	-0.0007	0.0009
5-10 km	0-10 km	0.0004	0.0004	0.8	0.423	-0.0005	0.0012
10-15 km	0-10 km	0.0005	0.0005	1.0	0.319	-0.0004	0.0013
15-20 km	0-10 km	0.0013	0.0005	2.4	0.016	0.0002	0.0023
20-25 km	0-10 km	0.0014	0.0006	2.3	0.020	0.0002	0.0025
25-30 km	0-10 km	0.0011	0.0005	2.1	0.040	0.0001	0.0022
30-35 km	0-10 km	0.0021	0.0007	2.8	0.004	0.0006	0.0035
35-40 km	0-10 km	0.0026	0.0009	3.1	0.002	0.0009	0.0043
40-45 km	0-10 km	0.0026	0.0010	2.7	0.007	0.0007	0.0045
45-50 km	0-10 km	0.0050	0.0011	4.4	0.000	0.0028	0.0072
>50 km	0-10 km	0.0049	0.0004	11.9	0.000	0.0041	0.0057
0-5 km	10-20 km	-0.0005	0.0002	-2.9	0.003	-0.0009	-0.0002
5-10 km	10-20 km	-0.0003	0.0002	-1.5	0.123	-0.0007	0.0001
10-15 km	10-20 km	-0.0003	0.0002	-1.1	0.289	-0.0007	0.0002
15-20 km	10-20 km	-0.0005	0.0002	-2.1	0.037	-0.0010	0.0000
20-25 km	10-20 km	-0.0001	0.0003	-0.2	0.828	-0.0006	0.0005
25-30 km	10-20 km	0.0002	0.0003	0.6	0.576	-0.0004	0.0008
30-35 km	10-20 km	0.0001	0.0003	0.4	0.722	-0.0005	0.0008
35-40 km	10-20 km	0.0004	0.0004	1.1	0.289	-0.0004	0.0012
40-45 km	10-20 km	0.0006	0.0004	1.5	0.123	-0.0002	0.0015
45-50 km	10-20 km	0.0007	0.0005	1.4	0.149	-0.0002	0.0016
>50 km	10-20 km	0.0008	0.0002	3.8	0.000	0.0004	0.0013
0-5 km	20-30 km	-0.0006	0.0001	-4.3	0.000	-0.0009	-0.0003
5-10 km	20-30 km	-0.0004	0.0002	-2.3	0.024	-0.0007	-0.0001
10-15 km	20-30 km	-0.0005	0.0002	-3.0	0.003	-0.0008	-0.0002
15-20 km	20-30 km	-0.0005	0.0002	-2.8	0.005	-0.0009	-0.0002
20-25 km	20-30 km	-0.0006	0.0002	-2.7	0.007	-0.0010	-0.0001
25-30 km	20-30 km	-0.0006	0.0002	-3.5	0.000	-0.0010	-0.0003
30-35 km	20-30 km	-0.0001	0.0003	-0.3	0.737	-0.0006	0.0004
35-40 km	20-30 km	-0.0007	0.0003	-2.5	0.011	-0.0012	-0.0001
40-45 km	20-30 km	-0.0003	0.0003	-1.3	0.193	-0.0008	0.0002
45-50 km	20-30 km	-0.0005	0.0003	-1.5	0.124	-0.0012	0.0001
>50 km	20-30 km	-0.0001	0.0001	-0.6	0.579	-0.0003	0.0002
0-5 km	30-40 km	-0.0004	0.0001	-3.1	0.002	-0.0007	-0.0001
5-10 km	30-40 km	-0.0006	0.0001	-4.2	0.000	-0.0009	-0.0003
10-15 km	30-40 km	-0.0006	0.0001	-5.7	0.000	-0.0008	-0.0004
15-20 km	30-40 km	-0.0007	0.0001	-5.3	0.000	-0.0010	-0.0004
20-25 km	30-40 km	-0.0004	0.0002	-2.6	0.009	-0.0007	-0.0001
25-30 km	30-40 km	-0.0008	0.0002	-4.6	0.000	-0.0012	-0.0005
30-35 km	30-40 km	-0.0008	0.0001	-5.3	0.000	-0.0011	-0.0005
35-40 km	30-40 km	-0.0006	0.0002	-2.8	0.004	-0.0010	-0.0002
40-45 km	30-40 km	-0.0006	0.0002	-3.1	0.002	-0.0009	-0.0002
45-50 km	30-40 km	-0.0009	0.0003	-3.1	0.002	-0.0014	-0.0003
>50 km	30-40 km	0.0002	0.0003	0.7	0.486	-0.0004	0.0007

Table I.4: Night-time luminosity by distance to mission stations and homeland borders:
World Bank disbursements weighted by inverse distance (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0006	0.0001	-5.8	0.000	-0.0008	-0.0004
5-10 km	40-50 km	-0.0006	0.0001	-5.6	0.000	-0.0008	-0.0004
10-15 km	40-50 km	-0.0006	0.0001	-5.9	0.000	-0.0008	-0.0004
15-20 km	40-50 km	-0.0006	0.0001	-5.3	0.000	-0.0009	-0.0004
20-25 km	40-50 km	-0.0009	0.0001	-6.7	0.000	-0.0012	-0.0007
25-30 km	40-50 km	-0.0007	0.0001	-6.0	0.000	-0.0009	-0.0005
30-35 km	40-50 km	-0.0006	0.0002	-3.7	0.000	-0.0010	-0.0003
35-40 km	40-50 km	-0.0008	0.0002	-3.7	0.000	-0.0012	-0.0004
40-45 km	40-50 km	-0.0011	0.0002	-5.8	0.000	-0.0014	-0.0007
45-50 km	40-50 km	-0.0002	0.0003	-0.8	0.451	-0.0008	0.0004
>50 km	40-50 km	-0.0002	0.0001	-1.6	0.119	-0.0004	0.0000
0-5 km	50-60 km	-0.0005	0.0001	-4.4	0.000	-0.0007	-0.0003
5-10 km	50-60 km	-0.0005	0.0001	-5.3	0.000	-0.0007	-0.0003
10-15 km	50-60 km	-0.0006	0.0001	-5.6	0.000	-0.0008	-0.0004
15-20 km	50-60 km	-0.0004	0.0001	-3.6	0.000	-0.0007	-0.0002
20-25 km	50-60 km	-0.0004	0.0001	-3.2	0.001	-0.0007	-0.0002
25-30 km	50-60 km	-0.0005	0.0001	-3.4	0.001	-0.0008	-0.0002
30-35 km	50-60 km	-0.0008	0.0001	-5.3	0.000	-0.0010	-0.0005
35-40 km	50-60 km	-0.0006	0.0002	-3.4	0.001	-0.0009	-0.0002
40-45 km	50-60 km	-0.0004	0.0002	-1.6	0.120	-0.0008	0.0001
45-50 km	50-60 km	-0.0008	0.0002	-3.7	0.000	-0.0012	-0.0004
>50 km	50-60 km	-0.0002	0.0001	-1.7	0.083	-0.0004	0.0000
0-5 km	60-70 km	-0.0005	0.0001	-3.9	0.000	-0.0008	-0.0003
5-10 km	60-70 km	-0.0003	0.0001	-1.8	0.065	-0.0006	0.0000
10-15 km	60-70 km	-0.0006	0.0001	-5.2	0.000	-0.0008	-0.0004
15-20 km	60-70 km	-0.0005	0.0001	-4.3	0.000	-0.0008	-0.0003
20-25 km	60-70 km	-0.0005	0.0001	-4.3	0.000	-0.0008	-0.0003
25-30 km	60-70 km	-0.0006	0.0002	-3.5	0.000	-0.0009	-0.0002
30-35 km	60-70 km	-0.0003	0.0001	-2.2	0.029	-0.0006	0.0000
35-40 km	60-70 km	-0.0007	0.0002	-4.1	0.000	-0.0010	-0.0003
40-45 km	60-70 km	-0.0005	0.0002	-2.6	0.008	-0.0008	-0.0001
45-50 km	60-70 km	-0.0009	0.0002	-5.1	0.000	-0.0013	-0.0006
>50 km	60-70 km	-0.0004	0.0001	-3.7	0.000	-0.0006	-0.0002
0-5 km	70-80 km	-0.0003	0.0001	-1.9	0.063	-0.0005	0.0000
5-10 km	70-80 km	-0.0003	0.0001	-2.0	0.046	-0.0006	0.0000
10-15 km	70-80 km	-0.0006	0.0001	-4.3	0.000	-0.0008	-0.0003
15-20 km	70-80 km	-0.0005	0.0001	-4.7	0.000	-0.0007	-0.0003
20-25 km	70-80 km	-0.0004	0.0001	-3.2	0.001	-0.0006	-0.0001
25-30 km	70-80 km	-0.0003	0.0002	-1.6	0.102	-0.0007	0.0001
30-35 km	70-80 km	-0.0005	0.0001	-3.8	0.000	-0.0007	-0.0002
35-40 km	70-80 km	-0.0002	0.0002	-1.4	0.161	-0.0006	0.0001
40-45 km	70-80 km	-0.0002	0.0002	-0.8	0.435	-0.0006	0.0003
45-50 km	70-80 km	-0.0004	0.0003	-1.4	0.155	-0.0009	0.0001
>50 km	70-80 km	-0.0004	0.0001	-3.3	0.001	-0.0006	-0.0002

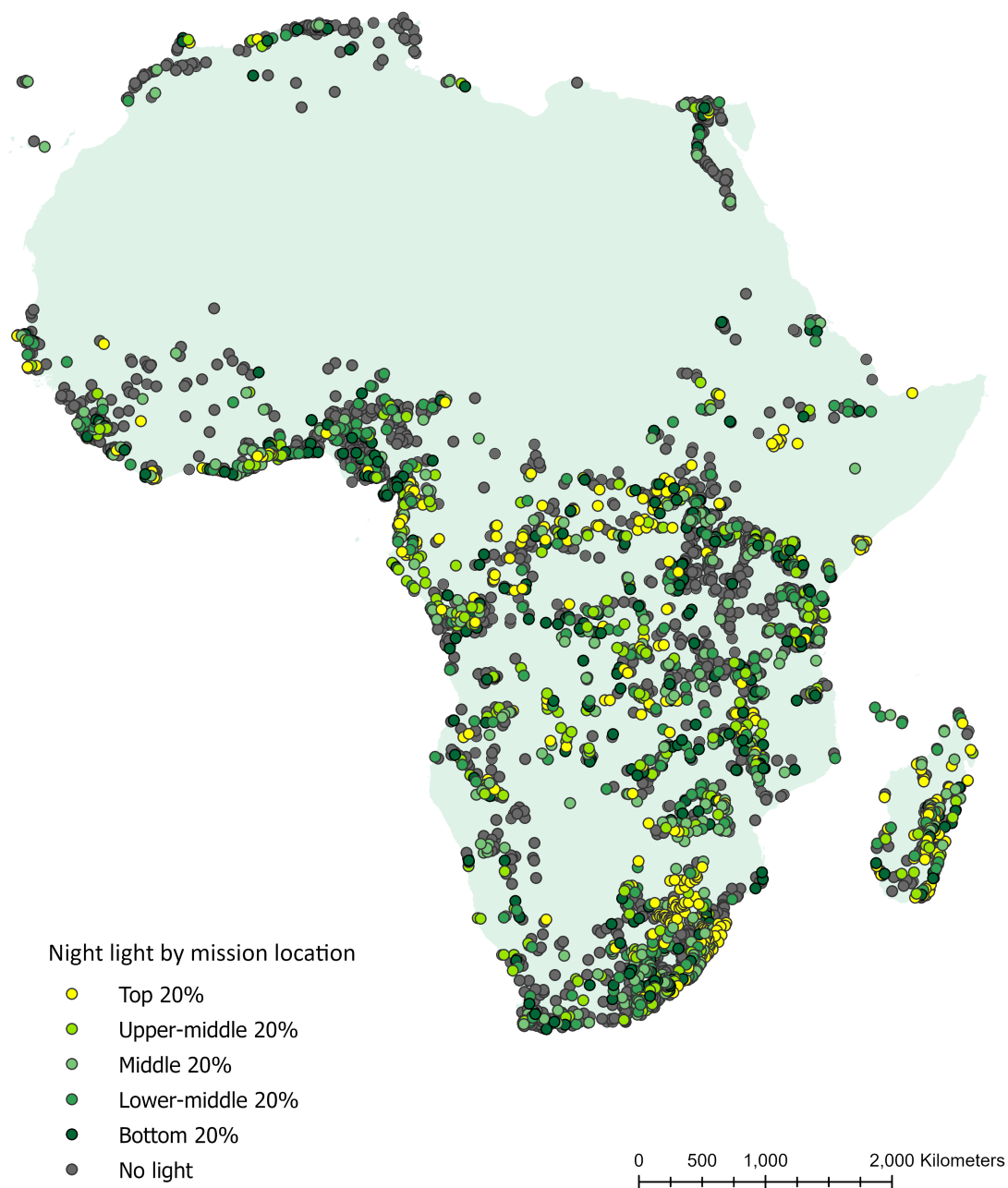
Table I.4: Night-time luminosity by distance to mission stations and homeland borders:
World Bank disbursements weighted by inverse distance (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0002	0.0001	-1.8	0.072	-0.0004	0.0000
5-10 km	80-90 km	-0.0003	0.0001	-3.2	0.001	-0.0005	-0.0001
10-15 km	80-90 km	-0.0002	0.0001	-1.9	0.059	-0.0005	0.0000
15-20 km	80-90 km	-0.0005	0.0001	-3.8	0.000	-0.0007	-0.0002
20-25 km	80-90 km	-0.0004	0.0001	-3.6	0.000	-0.0007	-0.0002
25-30 km	80-90 km	-0.0003	0.0001	-3.0	0.003	-0.0006	-0.0001
30-35 km	80-90 km	-0.0001	0.0001	-0.7	0.486	-0.0003	0.0002
35-40 km	80-90 km	-0.0003	0.0002	-1.4	0.161	-0.0007	0.0001
40-45 km	80-90 km	-0.0006	0.0002	-2.7	0.007	-0.0010	-0.0002
45-50 km	80-90 km	0.0000	0.0003	-0.1	0.944	-0.0006	0.0006
>50 km	80-90 km	-0.0004	0.0001	-3.5	0.000	-0.0006	-0.0002
0-5 km	90-100 km	-0.0003	0.0001	-2.4	0.019	-0.0005	0.0000
5-10 km	90-100 km	-0.0004	0.0001	-3.9	0.000	-0.0007	-0.0002
10-15 km	90-100 km	-0.0003	0.0001	-2.8	0.006	-0.0006	-0.0001
15-20 km	90-100 km	-0.0003	0.0001	-2.1	0.032	-0.0005	0.0000
20-25 km	90-100 km	0.0000	0.0001	-0.1	0.917	-0.0003	0.0002
25-30 km	90-100 km	-0.0004	0.0001	-3.4	0.001	-0.0007	-0.0002
30-35 km	90-100 km	-0.0003	0.0001	-2.3	0.023	-0.0005	0.0000
35-40 km	90-100 km	-0.0003	0.0002	-1.6	0.108	-0.0008	0.0001
40-45 km	90-100 km	0.0001	0.0002	0.4	0.673	-0.0004	0.0005
45-50 km	90-100 km	-0.0007	0.0002	-3.8	0.000	-0.0011	-0.0004
>50 km	90-100 km	-0.0003	0.0001	-2.0	0.042	-0.0006	0.0000
0-5 km	>100 km	-0.0005	0.0000	-12.0	0.000	-0.0005	-0.0004
5-10 km	>100 km	-0.0005	0.0000	-12.6	0.000	-0.0005	-0.0004
10-15 km	>100 km	-0.0004	0.0000	-9.7	0.000	-0.0004	-0.0003
15-20 km	>100 km	-0.0004	0.0000	-10.7	0.000	-0.0005	-0.0003
20-25 km	>100 km	-0.0003	0.0000	-7.0	0.000	-0.0004	-0.0002
25-30 km	>100 km	-0.0003	0.0000	-7.5	0.000	-0.0004	-0.0002
30-35 km	>100 km	-0.0003	0.0000	-6.4	0.000	-0.0004	-0.0002
35-40 km	>100 km	-0.0003	0.0000	-5.6	0.000	-0.0004	-0.0002
40-45 km	>100 km	-0.0001	0.0001	-0.9	0.372	-0.0003	0.0001
45-50 km	>100 km	-0.0003	0.0001	-5.5	0.000	-0.0004	-0.0002
>50 km	>100 km	0.0000	(omitted)				
Controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Std. err.							Robust
R^2							0.3520
N							207,377

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. All variables are log-linearised except binaries. The regression controls for the interacted (inverse) distance to a World Bank project and its disbursement. Grid cells surrounding the World Bank projects for which no disbursements were mentioned were excluded from the analysis.

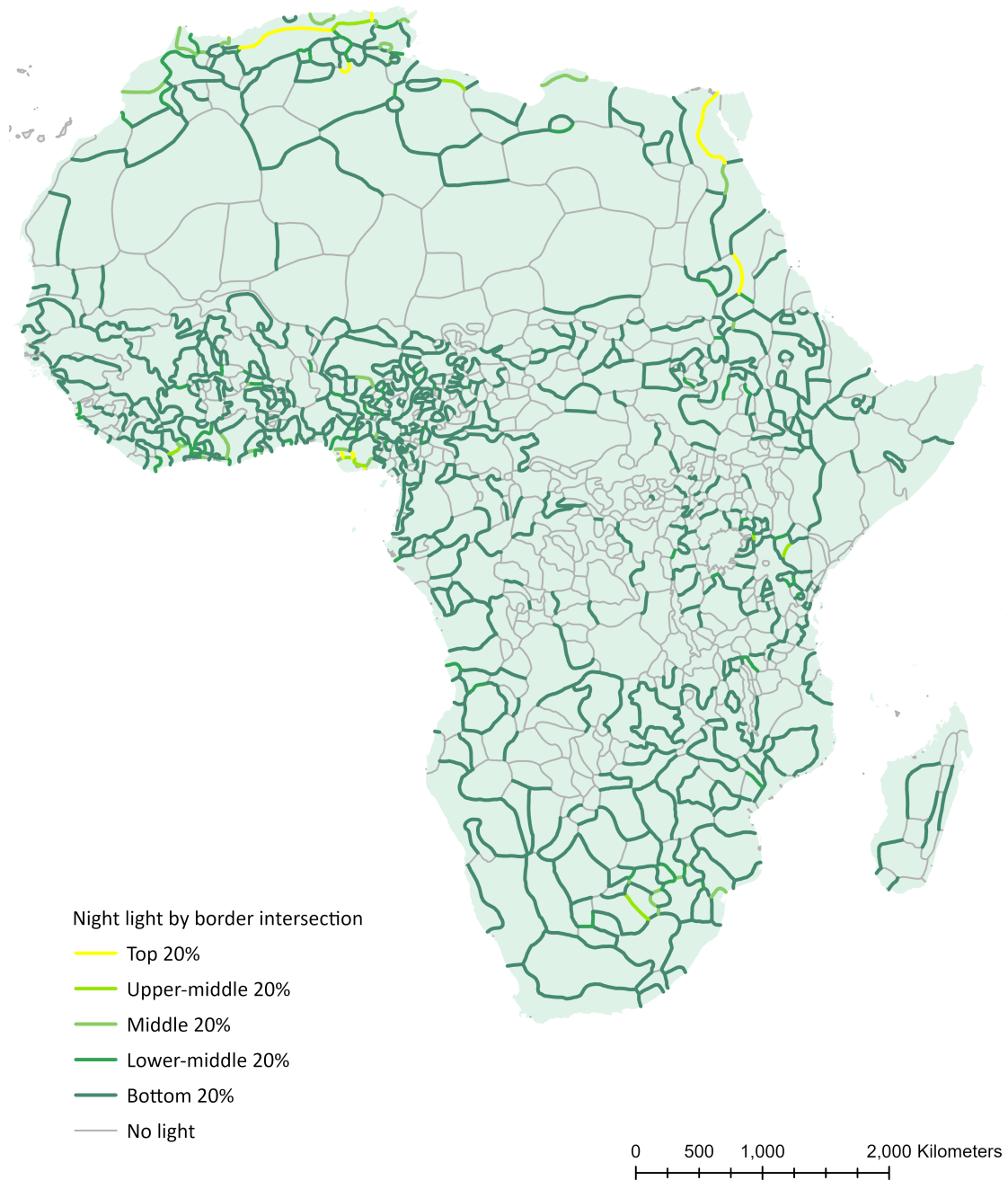
J Heterogeneity results

Figure J.1: Night-time luminosity near the colonial mission stations



Notes: The map shows the satellite night-time luminosity near the colonial mission stations. Mission stations with positive night-time luminosity are ranked using quantiles, while mission stations without night-time luminosity are illustrated in grey. The ranking used is the same as in Figure J.2.

Figure J.2: Night-time luminosity near the historical homeland borders



Notes: The map shows the satellite night-time luminosity near the homeland borders. Homeland borders with positive night-time luminosity are ranked using quantiles, while homeland borders without night-time luminosity are illustrated in grey. The ranking used is the same as in Figure J.1.

Table J.1: Night-time luminosity by distance to the nearest mission station and homeland border: Mission station ID fixed effects

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	0.0002	0.0003	0.6	0.554	-0.0004	0.0007
5-10 km	0-10 km	0.0003	0.0003	1.3	0.179	-0.0002	0.0008
10-15 km	0-10 km	0.0003	0.0003	1.3	0.199	-0.0002	0.0008
15-20 km	0-10 km	0.0012	0.0003	3.7	0.000	0.0006	0.0019
20-25 km	0-10 km	0.0021	0.0005	4.7	0.000	0.0012	0.0030
25-30 km	0-10 km	0.0021	0.0005	4.6	0.000	0.0012	0.0030
30-35 km	0-10 km	0.0021	0.0005	3.8	0.000	0.0010	0.0032
35-40 km	0-10 km	0.0022	0.0006	4.0	0.000	0.0011	0.0033
40-45 km	0-10 km	0.0022	0.0006	3.5	0.000	0.0010	0.0034
45-50 km	0-10 km	0.0028	0.0006	4.8	0.000	0.0016	0.0039
>50 km	0-10 km	0.0021	0.0003	6.7	0.000	0.0015	0.0027
0-5 km	10-20 km	-0.0003	0.0001	-2.5	0.011	-0.0005	-0.0001
5-10 km	10-20 km	-0.0003	0.0001	-2.6	0.010	-0.0005	-0.0001
10-15 km	10-20 km	-0.0001	0.0002	-0.6	0.517	-0.0004	0.0002
15-20 km	10-20 km	-0.0002	0.0001	-1.3	0.207	-0.0004	0.0001
20-25 km	10-20 km	0.0001	0.0002	0.3	0.793	-0.0003	0.0004
25-30 km	10-20 km	0.0005	0.0002	2.5	0.013	0.0001	0.0009
30-35 km	10-20 km	0.0007	0.0002	3.0	0.003	0.0002	0.0011
35-40 km	10-20 km	0.0010	0.0003	3.5	0.000	0.0004	0.0016
40-45 km	10-20 km	0.0012	0.0003	3.7	0.000	0.0005	0.0018
45-50 km	10-20 km	0.0004	0.0003	1.5	0.138	-0.0001	0.0010
>50 km	10-20 km	0.0006	0.0002	3.6	0.000	0.0003	0.0010
0-5 km	20-30 km	-0.0004	0.0001	-3.3	0.001	-0.0006	-0.0002
5-10 km	20-30 km	-0.0003	0.0001	-2.2	0.028	-0.0005	0.0000
10-15 km	20-30 km	-0.0004	0.0001	-3.6	0.000	-0.0007	-0.0002
15-20 km	20-30 km	-0.0003	0.0001	-2.5	0.011	-0.0006	-0.0001
20-25 km	20-30 km	-0.0005	0.0001	-3.5	0.000	-0.0007	-0.0002
25-30 km	20-30 km	-0.0004	0.0001	-3.2	0.002	-0.0007	-0.0002
30-35 km	20-30 km	0.0002	0.0002	1.0	0.306	-0.0002	0.0006
35-40 km	20-30 km	-0.0002	0.0002	-1.2	0.229	-0.0006	0.0001
40-45 km	20-30 km	0.0000	0.0002	0.1	0.901	-0.0004	0.0004
45-50 km	20-30 km	-0.0001	0.0003	-0.2	0.818	-0.0006	0.0005
>50 km	20-30 km	0.0000	0.0001	-0.4	0.711	-0.0003	0.0002
0-5 km	30-40 km	-0.0004	0.0001	-4.2	0.000	-0.0006	-0.0002
5-10 km	30-40 km	-0.0004	0.0001	-4.4	0.000	-0.0006	-0.0002
10-15 km	30-40 km	-0.0004	0.0001	-5.1	0.000	-0.0006	-0.0003
15-20 km	30-40 km	-0.0005	0.0001	-5.0	0.000	-0.0007	-0.0003
20-25 km	30-40 km	-0.0002	0.0001	-1.8	0.069	-0.0004	0.0000
25-30 km	30-40 km	-0.0006	0.0001	-4.7	0.000	-0.0009	-0.0003
30-35 km	30-40 km	-0.0006	0.0001	-4.8	0.000	-0.0008	-0.0003
35-40 km	30-40 km	-0.0006	0.0002	-4.2	0.000	-0.0009	-0.0003
40-45 km	30-40 km	-0.0007	0.0002	-3.8	0.000	-0.0010	-0.0003
45-50 km	30-40 km	-0.0008	0.0002	-3.6	0.000	-0.0013	-0.0004
>50 km	30-40 km	0.0000	0.0002	0.0	0.989	-0.0004	0.0004

Table J.1: Night-time luminosity by distance to the nearest mission station and homeland border: Mission station ID fixed effects (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0005	0.0001	-5.3	0.000	-0.0006	-0.0003
5-10 km	40-50 km	-0.0004	0.0001	-4.3	0.000	-0.0005	-0.0002
10-15 km	40-50 km	-0.0005	0.0001	-6.4	0.000	-0.0007	-0.0004
15-20 km	40-50 km	-0.0005	0.0001	-5.3	0.000	-0.0006	-0.0003
20-25 km	40-50 km	-0.0005	0.0001	-5.5	0.000	-0.0007	-0.0003
25-30 km	40-50 km	-0.0005	0.0001	-5.1	0.000	-0.0007	-0.0003
30-35 km	40-50 km	-0.0007	0.0001	-5.0	0.000	-0.0010	-0.0004
35-40 km	40-50 km	-0.0008	0.0002	-4.6	0.000	-0.0011	-0.0004
40-45 km	40-50 km	-0.0010	0.0001	-7.0	0.000	-0.0013	-0.0007
45-50 km	40-50 km	-0.0004	0.0002	-2.0	0.050	-0.0008	0.0000
>50 km	40-50 km	-0.0003	0.0001	-2.6	0.009	-0.0005	-0.0001
0-5 km	50-60 km	-0.0004	0.0001	-5.3	0.000	-0.0005	-0.0002
5-10 km	50-60 km	-0.0003	0.0001	-4.0	0.000	-0.0005	-0.0002
10-15 km	50-60 km	-0.0004	0.0001	-4.9	0.000	-0.0006	-0.0003
15-20 km	50-60 km	-0.0002	0.0001	-2.3	0.023	-0.0005	0.0000
20-25 km	50-60 km	-0.0004	0.0001	-3.4	0.001	-0.0006	-0.0002
25-30 km	50-60 km	-0.0006	0.0001	-5.4	0.000	-0.0008	-0.0004
30-35 km	50-60 km	-0.0006	0.0001	-4.9	0.000	-0.0009	-0.0004
35-40 km	50-60 km	-0.0005	0.0001	-4.1	0.000	-0.0008	-0.0003
40-45 km	50-60 km	-0.0006	0.0002	-3.5	0.001	-0.0009	-0.0003
45-50 km	50-60 km	-0.0006	0.0001	-4.8	0.000	-0.0008	-0.0004
>50 km	50-60 km	-0.0001	0.0001	-1.5	0.142	-0.0003	0.0000
0-5 km	60-70 km	-0.0004	0.0001	-4.0	0.000	-0.0006	-0.0002
5-10 km	60-70 km	-0.0003	0.0001	-2.7	0.008	-0.0005	-0.0001
10-15 km	60-70 km	-0.0005	0.0001	-6.2	0.000	-0.0007	-0.0004
15-20 km	60-70 km	-0.0004	0.0001	-4.1	0.000	-0.0006	-0.0002
20-25 km	60-70 km	-0.0006	0.0001	-5.0	0.000	-0.0008	-0.0003
25-30 km	60-70 km	-0.0005	0.0001	-3.9	0.000	-0.0008	-0.0003
30-35 km	60-70 km	-0.0001	0.0001	-0.8	0.445	-0.0004	0.0002
35-40 km	60-70 km	-0.0006	0.0001	-4.5	0.000	-0.0009	-0.0004
40-45 km	60-70 km	-0.0006	0.0001	-4.7	0.000	-0.0008	-0.0003
45-50 km	60-70 km	-0.0008	0.0001	-6.3	0.000	-0.0011	-0.0006
>50 km	60-70 km	-0.0003	0.0001	-2.9	0.004	-0.0005	-0.0001
0-5 km	70-80 km	-0.0002	0.0001	-2.3	0.024	-0.0004	0.0000
5-10 km	70-80 km	-0.0004	0.0001	-3.8	0.000	-0.0006	-0.0002
10-15 km	70-80 km	-0.0004	0.0001	-4.1	0.000	-0.0006	-0.0002
15-20 km	70-80 km	-0.0006	0.0001	-6.7	0.000	-0.0008	-0.0004
20-25 km	70-80 km	-0.0004	0.0001	-4.5	0.000	-0.0005	-0.0002
25-30 km	70-80 km	-0.0003	0.0001	-2.3	0.022	-0.0006	0.0000
30-35 km	70-80 km	-0.0005	0.0001	-4.9	0.000	-0.0007	-0.0003
35-40 km	70-80 km	-0.0002	0.0001	-1.9	0.061	-0.0005	0.0000
40-45 km	70-80 km	-0.0001	0.0002	-0.8	0.409	-0.0005	0.0002
45-50 km	70-80 km	-0.0003	0.0002	-1.3	0.189	-0.0007	0.0001
>50 km	70-80 km	-0.0002	0.0001	-2.5	0.011	-0.0004	-0.0001

Table J.1: Night-time luminosity by distance to the nearest mission station and homeland border: Mission station ID fixed effects (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0004	0.0001	-4.3	0.000	-0.0006	-0.0002
5-10 km	80-90 km	-0.0004	0.0001	-5.6	0.000	-0.0006	-0.0003
10-15 km	80-90 km	-0.0003	0.0001	-2.8	0.005	-0.0004	-0.0001
15-20 km	80-90 km	-0.0004	0.0001	-3.9	0.000	-0.0006	-0.0002
20-25 km	80-90 km	-0.0004	0.0001	-4.3	0.000	-0.0006	-0.0002
25-30 km	80-90 km	-0.0003	0.0001	-3.8	0.000	-0.0005	-0.0002
30-35 km	80-90 km	-0.0002	0.0001	-2.3	0.020	-0.0004	0.0000
35-40 km	80-90 km	-0.0002	0.0001	-1.5	0.130	-0.0005	0.0001
40-45 km	80-90 km	-0.0004	0.0002	-2.4	0.017	-0.0007	-0.0001
45-50 km	80-90 km	0.0000	0.0002	-0.2	0.864	-0.0005	0.0004
>50 km	80-90 km	-0.0003	0.0001	-3.6	0.000	-0.0005	-0.0002
0-5 km	90-100 km	-0.0004	0.0001	-4.2	0.000	-0.0005	-0.0002
5-10 km	90-100 km	-0.0005	0.0001	-6.6	0.000	-0.0007	-0.0004
10-15 km	90-100 km	-0.0005	0.0001	-4.8	0.000	-0.0006	-0.0003
15-20 km	90-100 km	-0.0004	0.0001	-4.4	0.000	-0.0005	-0.0002
20-25 km	90-100 km	-0.0001	0.0001	-1.7	0.083	-0.0003	0.0000
25-30 km	90-100 km	-0.0003	0.0001	-3.6	0.000	-0.0005	-0.0001
30-35 km	90-100 km	-0.0002	0.0001	-2.4	0.018	-0.0004	0.0000
35-40 km	90-100 km	-0.0003	0.0002	-1.9	0.056	-0.0006	0.0000
40-45 km	90-100 km	-0.0001	0.0002	-0.6	0.531	-0.0004	0.0002
45-50 km	90-100 km	-0.0006	0.0001	-4.3	0.000	-0.0008	-0.0003
>50 km	90-100 km	-0.0002	0.0001	-1.8	0.078	-0.0004	0.0000
0-5 km	>100 km	-0.0003	0.0000	-10.8	0.000	-0.0004	-0.0003
5-10 km	>100 km	-0.0003	0.0000	-11.2	0.000	-0.0004	-0.0003
10-15 km	>100 km	-0.0003	0.0000	-8.8	0.000	-0.0003	-0.0002
15-20 km	>100 km	-0.0003	0.0000	-9.4	0.000	-0.0004	-0.0002
20-25 km	>100 km	-0.0002	0.0000	-5.3	0.000	-0.0002	-0.0001
25-30 km	>100 km	-0.0002	0.0000	-6.1	0.000	-0.0003	-0.0001
30-35 km	>100 km	-0.0002	0.0000	-4.7	0.000	-0.0002	-0.0001
35-40 km	>100 km	-0.0001	0.0000	-2.9	0.004	-0.0002	0.0000
40-45 km	>100 km	0.0000	0.0001	0.1	0.923	-0.0001	0.0002
45-50 km	>100 km	-0.0001	0.0000	-2.0	0.046	-0.0002	0.0000
>50 km	>100 km	0.0000	(omitted)				
Controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Mission fixed effects							Yes
Std. err.							Robust
R2							0.5876
N							257,224

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. All variables are log-linearised except binaries.

Table J.2: Night-time luminosity by distance to the nearest mission station and homeland
border: Border ID fixed effects

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	0.0001	0.0003	0.4	0.664	-0.0005	0.0007
5-10 km	0-10 km	0.0000	0.0003	0.1	0.904	-0.0006	0.0006
10-15 km	0-10 km	0.0001	0.0003	0.5	0.650	-0.0005	0.0008
15-20 km	0-10 km	0.0011	0.0004	3.0	0.002	0.0004	0.0019
20-25 km	0-10 km	0.0013	0.0004	2.9	0.003	0.0004	0.0022
25-30 km	0-10 km	0.0017	0.0005	3.6	0.000	0.0008	0.0026
30-35 km	0-10 km	0.0020	0.0006	3.4	0.001	0.0009	0.0032
35-40 km	0-10 km	0.0014	0.0006	2.4	0.019	0.0002	0.0025
40-45 km	0-10 km	0.0020	0.0007	2.9	0.004	0.0006	0.0034
45-50 km	0-10 km	0.0034	0.0008	4.5	0.000	0.0019	0.0049
>50 km	0-10 km	0.0035	0.0003	10.9	0.000	0.0029	0.0041
0-5 km	10-20 km	-0.0005	0.0001	-3.2	0.002	-0.0007	-0.0002
5-10 km	10-20 km	-0.0002	0.0001	-1.3	0.209	-0.0005	0.0001
10-15 km	10-20 km	-0.0003	0.0002	-1.6	0.100	-0.0007	0.0001
15-20 km	10-20 km	-0.0003	0.0002	-1.8	0.069	-0.0006	0.0000
20-25 km	10-20 km	0.0002	0.0002	1.1	0.255	-0.0002	0.0007
25-30 km	10-20 km	0.0002	0.0002	0.8	0.424	-0.0003	0.0006
30-35 km	10-20 km	0.0002	0.0002	0.7	0.507	-0.0003	0.0006
35-40 km	10-20 km	0.0005	0.0003	1.5	0.131	-0.0001	0.0011
40-45 km	10-20 km	0.0007	0.0003	2.3	0.019	0.0001	0.0014
45-50 km	10-20 km	0.0004	0.0004	1.2	0.215	-0.0003	0.0011
>50 km	10-20 km	0.0005	0.0002	2.8	0.005	0.0001	0.0008
0-5 km	20-30 km	-0.0004	0.0001	-3.1	0.002	-0.0007	-0.0001
5-10 km	20-30 km	-0.0004	0.0001	-2.7	0.008	-0.0006	-0.0001
10-15 km	20-30 km	-0.0004	0.0001	-2.7	0.006	-0.0007	-0.0001
15-20 km	20-30 km	-0.0005	0.0001	-3.2	0.002	-0.0007	-0.0002
20-25 km	20-30 km	-0.0005	0.0002	-2.9	0.004	-0.0008	-0.0001
25-30 km	20-30 km	-0.0004	0.0001	-2.4	0.018	-0.0006	-0.0001
30-35 km	20-30 km	0.0002	0.0002	1.0	0.330	-0.0002	0.0006
35-40 km	20-30 km	-0.0003	0.0002	-1.2	0.225	-0.0007	0.0002
40-45 km	20-30 km	-0.0002	0.0002	-1.1	0.269	-0.0006	0.0002
45-50 km	20-30 km	-0.0007	0.0003	-2.5	0.012	-0.0013	-0.0002
>50 km	20-30 km	-0.0003	0.0001	-2.1	0.039	-0.0005	0.0000
0-5 km	30-40 km	-0.0002	0.0001	-2.1	0.039	-0.0004	0.0000
5-10 km	30-40 km	-0.0003	0.0001	-2.7	0.007	-0.0005	-0.0001
10-15 km	30-40 km	-0.0004	0.0001	-3.8	0.000	-0.0006	-0.0002
15-20 km	30-40 km	-0.0006	0.0001	-4.7	0.000	-0.0008	-0.0003
20-25 km	30-40 km	-0.0002	0.0001	-1.2	0.236	-0.0004	0.0001
25-30 km	30-40 km	-0.0007	0.0001	-4.8	0.000	-0.0009	-0.0004
30-35 km	30-40 km	-0.0007	0.0001	-5.1	0.000	-0.0009	-0.0004
35-40 km	30-40 km	-0.0007	0.0002	-4.5	0.000	-0.0010	-0.0004
40-45 km	30-40 km	-0.0009	0.0002	-5.1	0.000	-0.0012	-0.0005
45-50 km	30-40 km	-0.0009	0.0002	-3.9	0.000	-0.0014	-0.0005
>50 km	30-40 km	0.0000	0.0003	0.0	0.965	-0.0005	0.0005

Table J.2: Night-time luminosity by distance to the nearest mission station and homeland border: Border ID fixed effects (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0003	0.0001	-2.9	0.004	-0.0005	-0.0001
5-10 km	40-50 km	-0.0002	0.0001	-2.1	0.040	-0.0004	0.0000
10-15 km	40-50 km	-0.0004	0.0001	-4.2	0.000	-0.0006	-0.0002
15-20 km	40-50 km	-0.0005	0.0001	-4.2	0.000	-0.0007	-0.0003
20-25 km	40-50 km	-0.0006	0.0001	-4.6	0.000	-0.0008	-0.0003
25-30 km	40-50 km	-0.0006	0.0001	-5.1	0.000	-0.0008	-0.0004
30-35 km	40-50 km	-0.0006	0.0001	-4.2	0.000	-0.0009	-0.0003
35-40 km	40-50 km	-0.0006	0.0002	-3.7	0.000	-0.0009	-0.0003
40-45 km	40-50 km	-0.0009	0.0001	-6.4	0.000	-0.0012	-0.0006
45-50 km	40-50 km	-0.0004	0.0002	-1.9	0.056	-0.0008	0.0000
>50 km	40-50 km	-0.0003	0.0001	-3.0	0.003	-0.0005	-0.0001
0-5 km	50-60 km	-0.0002	0.0001	-2.2	0.025	-0.0004	0.0000
5-10 km	50-60 km	-0.0002	0.0001	-2.6	0.010	-0.0004	-0.0001
10-15 km	50-60 km	-0.0003	0.0001	-2.8	0.006	-0.0005	-0.0001
15-20 km	50-60 km	-0.0003	0.0001	-2.3	0.019	-0.0005	0.0000
20-25 km	50-60 km	-0.0003	0.0001	-2.5	0.013	-0.0005	-0.0001
25-30 km	50-60 km	-0.0004	0.0001	-3.3	0.001	-0.0007	-0.0002
30-35 km	50-60 km	-0.0006	0.0001	-4.5	0.000	-0.0009	-0.0004
35-40 km	50-60 km	-0.0006	0.0001	-3.9	0.000	-0.0009	-0.0003
40-45 km	50-60 km	-0.0007	0.0002	-3.8	0.000	-0.0011	-0.0003
45-50 km	50-60 km	-0.0007	0.0002	-3.9	0.000	-0.0011	-0.0004
>50 km	50-60 km	-0.0002	0.0001	-2.0	0.044	-0.0004	0.0000
0-5 km	60-70 km	-0.0002	0.0001	-2.4	0.015	-0.0004	0.0000
5-10 km	60-70 km	-0.0002	0.0001	-2.1	0.032	-0.0005	0.0000
10-15 km	60-70 km	-0.0004	0.0001	-4.0	0.000	-0.0006	-0.0002
15-20 km	60-70 km	-0.0003	0.0001	-2.5	0.013	-0.0005	-0.0001
20-25 km	60-70 km	-0.0004	0.0001	-3.7	0.000	-0.0006	-0.0002
25-30 km	60-70 km	-0.0005	0.0001	-4.0	0.000	-0.0007	-0.0003
30-35 km	60-70 km	0.0000	0.0002	0.3	0.788	-0.0003	0.0004
35-40 km	60-70 km	-0.0007	0.0002	-4.2	0.000	-0.0010	-0.0004
40-45 km	60-70 km	-0.0006	0.0002	-4.0	0.000	-0.0009	-0.0003
45-50 km	60-70 km	-0.0009	0.0002	-4.8	0.000	-0.0012	-0.0005
>50 km	60-70 km	-0.0004	0.0001	-3.8	0.000	-0.0006	-0.0002
0-5 km	70-80 km	-0.0002	0.0001	-1.7	0.096	-0.0004	0.0000
5-10 km	70-80 km	-0.0001	0.0001	-1.2	0.216	-0.0004	0.0001
10-15 km	70-80 km	-0.0002	0.0001	-2.5	0.014	-0.0004	-0.0001
15-20 km	70-80 km	-0.0004	0.0001	-4.5	0.000	-0.0006	-0.0002
20-25 km	70-80 km	-0.0002	0.0001	-2.5	0.012	-0.0004	-0.0001
25-30 km	70-80 km	-0.0002	0.0001	-1.7	0.088	-0.0005	0.0000
30-35 km	70-80 km	-0.0003	0.0001	-2.7	0.008	-0.0005	-0.0001
35-40 km	70-80 km	-0.0002	0.0001	-1.7	0.087	-0.0005	0.0000
40-45 km	70-80 km	-0.0001	0.0002	-0.3	0.733	-0.0004	0.0003
45-50 km	70-80 km	-0.0002	0.0002	-1.0	0.297	-0.0007	0.0002
>50 km	70-80 km	-0.0003	0.0001	-3.3	0.001	-0.0005	-0.0001

Table J.2: Night-time luminosity by distance to the nearest mission station and homeland border: Border ID fixed effects (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0001	0.0001	-0.8	0.452	-0.0002	0.0001
5-10 km	80-90 km	-0.0001	0.0001	-1.7	0.085	-0.0003	0.0000
10-15 km	80-90 km	-0.0003	0.0001	-2.6	0.010	-0.0004	-0.0001
15-20 km	80-90 km	-0.0002	0.0001	-2.4	0.017	-0.0005	0.0000
20-25 km	80-90 km	-0.0003	0.0001	-2.8	0.004	-0.0004	-0.0001
25-30 km	80-90 km	-0.0002	0.0001	-2.3	0.023	-0.0004	0.0000
30-35 km	80-90 km	-0.0001	0.0001	-0.7	0.510	-0.0003	0.0001
35-40 km	80-90 km	-0.0003	0.0002	-1.9	0.062	-0.0006	0.0000
40-45 km	80-90 km	-0.0004	0.0002	-2.4	0.015	-0.0007	-0.0001
45-50 km	80-90 km	0.0001	0.0002	0.3	0.797	-0.0004	0.0005
>50 km	80-90 km	-0.0003	0.0001	-3.4	0.001	-0.0005	-0.0001
0-5 km	90-100 km	-0.0002	0.0001	-2.4	0.017	-0.0004	0.0000
5-10 km	90-100 km	-0.0003	0.0001	-3.7	0.000	-0.0005	-0.0001
10-15 km	90-100 km	-0.0001	0.0001	-1.6	0.106	-0.0003	0.0000
15-20 km	90-100 km	-0.0002	0.0001	-2.2	0.026	-0.0004	0.0000
20-25 km	90-100 km	-0.0001	0.0001	-0.9	0.356	-0.0003	0.0001
25-30 km	90-100 km	-0.0003	0.0001	-2.8	0.005	-0.0006	-0.0001
30-35 km	90-100 km	-0.0002	0.0001	-1.7	0.093	-0.0004	0.0000
35-40 km	90-100 km	-0.0003	0.0002	-1.8	0.071	-0.0007	0.0000
40-45 km	90-100 km	0.0000	0.0002	-0.1	0.939	-0.0004	0.0003
45-50 km	90-100 km	-0.0005	0.0002	-3.1	0.002	-0.0009	-0.0002
>50 km	90-100 km	-0.0003	0.0001	-2.2	0.031	-0.0005	0.0000
0-5 km	>100 km	-0.0002	0.0000	-6.2	0.000	-0.0002	-0.0001
5-10 km	>100 km	-0.0002	0.0000	-7.3	0.000	-0.0003	-0.0002
10-15 km	>100 km	-0.0002	0.0000	-5.9	0.000	-0.0002	-0.0001
15-20 km	>100 km	-0.0002	0.0000	-6.0	0.000	-0.0003	-0.0001
20-25 km	>100 km	-0.0001	0.0000	-3.2	0.001	-0.0002	0.0000
25-30 km	>100 km	-0.0001	0.0000	-3.9	0.000	-0.0002	-0.0001
30-35 km	>100 km	-0.0001	0.0000	-3.1	0.002	-0.0002	0.0000
35-40 km	>100 km	0.0000	0.0000	-1.2	0.214	-0.0001	0.0000
40-45 km	>100 km	0.0000	0.0001	0.5	0.624	-0.0001	0.0002
45-50 km	>100 km	0.0000	0.0000	-0.9	0.381	-0.0001	0.0000
>50 km	>100 km	0.0000	(omitted)				
Controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Std. err.							Robust
R^2							0.4700
N							257,224

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. All variables are log-linearised except binaries.

Table J.3: Night-time luminosity by distance to the nearest mission station and homeland border: Mission station and homeland border ID fixed effects

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	0.0001	0.0003	0.3	0.746	-0.0005	0.0007
5-10 km	0-10 km	0.0002	0.0003	0.8	0.434	-0.0003	0.0007
10-15 km	0-10 km	0.0002	0.0003	0.8	0.416	-0.0003	0.0007
15-20 km	0-10 km	0.0010	0.0003	3.1	0.002	0.0004	0.0016
20-25 km	0-10 km	0.0018	0.0004	4.1	0.000	0.0009	0.0026
25-30 km	0-10 km	0.0016	0.0004	4.0	0.000	0.0008	0.0024
30-35 km	0-10 km	0.0015	0.0005	3.0	0.002	0.0005	0.0025
35-40 km	0-10 km	0.0016	0.0005	3.1	0.002	0.0006	0.0026
40-45 km	0-10 km	0.0016	0.0005	3.0	0.003	0.0006	0.0027
45-50 km	0-10 km	0.0022	0.0005	4.2	0.000	0.0012	0.0032
>50 km	0-10 km	0.0016	0.0003	5.3	0.000	0.0010	0.0022
0-5 km	10-20 km	-0.0003	0.0001	-2.6	0.008	-0.0006	-0.0001
5-10 km	10-20 km	-0.0003	0.0001	-2.3	0.022	-0.0005	0.0000
10-15 km	10-20 km	-0.0002	0.0002	-1.5	0.143	-0.0006	0.0001
15-20 km	10-20 km	-0.0002	0.0001	-1.6	0.103	-0.0005	0.0000
20-25 km	10-20 km	-0.0001	0.0002	-0.4	0.655	-0.0005	0.0003
25-30 km	10-20 km	0.0002	0.0002	1.3	0.210	-0.0001	0.0006
30-35 km	10-20 km	0.0004	0.0002	1.7	0.081	0.0000	0.0008
35-40 km	10-20 km	0.0006	0.0003	2.2	0.027	0.0001	0.0011
40-45 km	10-20 km	0.0008	0.0003	2.7	0.008	0.0002	0.0013
45-50 km	10-20 km	0.0001	0.0003	0.3	0.777	-0.0005	0.0006
>50 km	10-20 km	0.0002	0.0002	1.5	0.140	-0.0001	0.0006
0-5 km	20-30 km	-0.0004	0.0001	-3.1	0.002	-0.0006	-0.0001
5-10 km	20-30 km	-0.0003	0.0001	-2.2	0.025	-0.0005	0.0000
10-15 km	20-30 km	-0.0005	0.0001	-3.8	0.000	-0.0007	-0.0002
15-20 km	20-30 km	-0.0003	0.0001	-2.6	0.010	-0.0006	-0.0001
20-25 km	20-30 km	-0.0006	0.0001	-4.1	0.000	-0.0008	-0.0003
25-30 km	20-30 km	-0.0005	0.0001	-3.4	0.001	-0.0007	-0.0002
30-35 km	20-30 km	0.0001	0.0002	0.3	0.734	-0.0003	0.0004
35-40 km	20-30 km	-0.0004	0.0002	-1.9	0.063	-0.0007	0.0000
40-45 km	20-30 km	-0.0002	0.0002	-1.0	0.301	-0.0006	0.0002
45-50 km	20-30 km	-0.0005	0.0003	-1.7	0.094	-0.0010	0.0001
>50 km	20-30 km	-0.0004	0.0001	-2.8	0.006	-0.0006	-0.0001
0-5 km	30-40 km	-0.0003	0.0001	-3.5	0.000	-0.0005	-0.0002
5-10 km	30-40 km	-0.0004	0.0001	-4.2	0.000	-0.0006	-0.0002
10-15 km	30-40 km	-0.0004	0.0001	-4.1	0.000	-0.0006	-0.0002
15-20 km	30-40 km	-0.0005	0.0001	-5.0	0.000	-0.0008	-0.0003
20-25 km	30-40 km	-0.0002	0.0001	-1.7	0.082	-0.0004	0.0000
25-30 km	30-40 km	-0.0006	0.0001	-4.8	0.000	-0.0009	-0.0004
30-35 km	30-40 km	-0.0006	0.0001	-5.3	0.000	-0.0009	-0.0004
35-40 km	30-40 km	-0.0008	0.0002	-5.3	0.000	-0.0011	-0.0005
40-45 km	30-40 km	-0.0008	0.0002	-4.7	0.000	-0.0012	-0.0005
45-50 km	30-40 km	-0.0010	0.0002	-4.3	0.000	-0.0015	-0.0005
>50 km	30-40 km	-0.0002	0.0002	-1.2	0.223	-0.0006	0.0001

Table J.3: Night-time luminosity by distance to the nearest mission station and homeland border: Mission station and homeland border ID fixed effects (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0004	0.0001	-4.2	0.000	-0.0006	-0.0002
5-10 km	40-50 km	-0.0004	0.0001	-3.9	0.000	-0.0005	-0.0002
10-15 km	40-50 km	-0.0005	0.0001	-5.4	0.000	-0.0006	-0.0003
15-20 km	40-50 km	-0.0005	0.0001	-4.9	0.000	-0.0007	-0.0003
20-25 km	40-50 km	-0.0005	0.0001	-5.1	0.000	-0.0007	-0.0003
25-30 km	40-50 km	-0.0005	0.0001	-5.6	0.000	-0.0007	-0.0003
30-35 km	40-50 km	-0.0007	0.0001	-5.2	0.000	-0.0010	-0.0004
35-40 km	40-50 km	-0.0007	0.0002	-4.4	0.000	-0.0010	-0.0004
40-45 km	40-50 km	-0.0010	0.0001	-7.3	0.000	-0.0012	-0.0007
45-50 km	40-50 km	-0.0005	0.0002	-2.2	0.031	-0.0009	0.0000
>50 km	40-50 km	-0.0005	0.0001	-4.2	0.000	-0.0007	-0.0003
0-5 km	50-60 km	-0.0003	0.0001	-4.2	0.000	-0.0005	-0.0002
5-10 km	50-60 km	-0.0003	0.0001	-3.7	0.000	-0.0005	-0.0002
10-15 km	50-60 km	-0.0004	0.0001	-3.9	0.000	-0.0006	-0.0002
15-20 km	50-60 km	-0.0003	0.0001	-2.5	0.014	-0.0005	-0.0001
20-25 km	50-60 km	-0.0004	0.0001	-3.5	0.000	-0.0006	-0.0002
25-30 km	50-60 km	-0.0005	0.0001	-4.8	0.000	-0.0007	-0.0003
30-35 km	50-60 km	-0.0006	0.0001	-4.3	0.000	-0.0008	-0.0003
35-40 km	50-60 km	-0.0004	0.0001	-3.6	0.000	-0.0006	-0.0002
40-45 km	50-60 km	-0.0006	0.0002	-3.8	0.000	-0.0010	-0.0003
45-50 km	50-60 km	-0.0006	0.0001	-4.6	0.000	-0.0009	-0.0004
>50 km	50-60 km	-0.0003	0.0001	-2.6	0.008	-0.0005	-0.0001
0-5 km	60-70 km	-0.0003	0.0001	-3.6	0.000	-0.0005	-0.0002
5-10 km	60-70 km	-0.0003	0.0001	-2.9	0.004	-0.0005	-0.0001
10-15 km	60-70 km	-0.0005	0.0001	-5.7	0.000	-0.0007	-0.0003
15-20 km	60-70 km	-0.0004	0.0001	-3.9	0.000	-0.0006	-0.0002
20-25 km	60-70 km	-0.0005	0.0001	-4.4	0.000	-0.0007	-0.0003
25-30 km	60-70 km	-0.0005	0.0001	-4.1	0.000	-0.0007	-0.0003
30-35 km	60-70 km	-0.0001	0.0001	-0.6	0.539	-0.0004	0.0002
35-40 km	60-70 km	-0.0006	0.0001	-4.0	0.000	-0.0009	-0.0003
40-45 km	60-70 km	-0.0006	0.0001	-4.3	0.000	-0.0008	-0.0003
45-50 km	60-70 km	-0.0007	0.0001	-5.5	0.000	-0.0009	-0.0004
>50 km	60-70 km	-0.0003	0.0001	-3.4	0.001	-0.0005	-0.0001
0-5 km	70-80 km	-0.0002	0.0001	-2.6	0.010	-0.0004	-0.0001
5-10 km	70-80 km	-0.0003	0.0001	-2.6	0.010	-0.0005	-0.0001
10-15 km	70-80 km	-0.0004	0.0001	-3.8	0.000	-0.0006	-0.0002
15-20 km	70-80 km	-0.0005	0.0001	-5.8	0.000	-0.0007	-0.0003
20-25 km	70-80 km	-0.0004	0.0001	-4.3	0.000	-0.0005	-0.0002
25-30 km	70-80 km	-0.0003	0.0001	-2.0	0.041	-0.0005	0.0000
30-35 km	70-80 km	-0.0004	0.0001	-3.9	0.000	-0.0006	-0.0002
35-40 km	70-80 km	-0.0003	0.0001	-1.9	0.054	-0.0005	0.0000
40-45 km	70-80 km	-0.0001	0.0002	-0.7	0.490	-0.0004	0.0002
45-50 km	70-80 km	-0.0003	0.0002	-1.3	0.193	-0.0007	0.0001
>50 km	70-80 km	-0.0002	0.0001	-2.4	0.014	-0.0004	0.0000

Table J.3: Night-time luminosity by distance to the nearest mission station and homeland border: Mission station and homeland border ID fixed effects (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0003	0.0001	-2.9	0.004	-0.0004	-0.0001
5-10 km	80-90 km	-0.0003	0.0001	-3.7	0.000	-0.0004	-0.0001
10-15 km	80-90 km	-0.0003	0.0001	-3.3	0.001	-0.0005	-0.0001
15-20 km	80-90 km	-0.0003	0.0001	-2.9	0.003	-0.0005	-0.0001
20-25 km	80-90 km	-0.0003	0.0001	-3.8	0.000	-0.0005	-0.0002
25-30 km	80-90 km	-0.0003	0.0001	-3.7	0.000	-0.0005	-0.0002
30-35 km	80-90 km	-0.0002	0.0001	-2.0	0.049	-0.0004	0.0000
35-40 km	80-90 km	-0.0002	0.0001	-1.8	0.072	-0.0005	0.0000
40-45 km	80-90 km	-0.0004	0.0002	-2.6	0.008	-0.0007	-0.0001
45-50 km	80-90 km	0.0000	0.0002	0.2	0.860	-0.0004	0.0005
>50 km	80-90 km	-0.0003	0.0001	-2.7	0.006	-0.0004	-0.0001
0-5 km	90-100 km	-0.0003	0.0001	-3.6	0.000	-0.0005	-0.0001
5-10 km	90-100 km	-0.0004	0.0001	-5.2	0.000	-0.0006	-0.0003
10-15 km	90-100 km	-0.0003	0.0001	-3.0	0.003	-0.0004	-0.0001
15-20 km	90-100 km	-0.0003	0.0001	-3.7	0.000	-0.0005	-0.0001
20-25 km	90-100 km	-0.0001	0.0001	-1.5	0.135	-0.0003	0.0000
25-30 km	90-100 km	-0.0003	0.0001	-3.0	0.003	-0.0005	-0.0001
30-35 km	90-100 km	-0.0002	0.0001	-2.3	0.020	-0.0004	0.0000
35-40 km	90-100 km	-0.0003	0.0002	-1.6	0.113	-0.0006	0.0001
40-45 km	90-100 km	0.0000	0.0002	-0.3	0.784	-0.0004	0.0003
45-50 km	90-100 km	-0.0005	0.0001	-3.8	0.000	-0.0008	-0.0003
>50 km	90-100 km	-0.0001	0.0001	-1.3	0.187	-0.0004	0.0001
0-5 km	>100 km	-0.0002	0.0000	-6.5	0.000	-0.0002	-0.0001
5-10 km	>100 km	-0.0002	0.0000	-7.2	0.000	-0.0003	-0.0002
10-15 km	>100 km	-0.0002	0.0000	-5.6	0.000	-0.0002	-0.0001
15-20 km	>100 km	-0.0002	0.0000	-5.8	0.000	-0.0002	-0.0001
20-25 km	>100 km	-0.0001	0.0000	-2.8	0.005	-0.0002	0.0000
25-30 km	>100 km	-0.0001	0.0000	-3.3	0.001	-0.0002	0.0000
30-35 km	>100 km	-0.0001	0.0000	-2.7	0.006	-0.0002	0.0000
35-40 km	>100 km	0.0000	0.0000	-0.7	0.463	-0.0001	0.0000
40-45 km	>100 km	0.0000	0.0001	0.6	0.543	-0.0001	0.0002
45-50 km	>100 km	0.0000	0.0000	-0.8	0.396	-0.0001	0.0000
>50 km	>100 km	0.0000	(omitted)				
Controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Mission fixed effects							Yes
Border fixed effects							Yes
Std. err.							Robust
R2							0.6205
N							257,224

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. All variables are log-linearised except binaries.

Table J.4: Night-time luminosity by distance to the nearest mission station and homeland border: Mission station and homeland border ID fixed effects interacted

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	0-10 km	0.0000	0.0003	0.1	0.948	-0.0006	0.0006
5-10 km	0-10 km	0.0002	0.0003	0.7	0.455	-0.0003	0.0007
10-15 km	0-10 km	0.0000	0.0002	-0.1	0.925	-0.0005	0.0005
15-20 km	0-10 km	0.0009	0.0003	2.7	0.007	0.0002	0.0015
20-25 km	0-10 km	0.0015	0.0004	3.5	0.000	0.0007	0.0023
25-30 km	0-10 km	0.0015	0.0004	3.7	0.000	0.0007	0.0023
30-35 km	0-10 km	0.0011	0.0005	2.4	0.017	0.0002	0.0020
35-40 km	0-10 km	0.0013	0.0005	2.7	0.008	0.0003	0.0023
40-45 km	0-10 km	0.0013	0.0005	2.4	0.016	0.0002	0.0024
45-50 km	0-10 km	0.0022	0.0005	4.1	0.000	0.0011	0.0032
>50 km	0-10 km	0.0019	0.0003	5.9	0.000	0.0013	0.0025
0-5 km	10-20 km	-0.0004	0.0001	-3.3	0.001	-0.0007	-0.0002
5-10 km	10-20 km	-0.0004	0.0001	-2.7	0.006	-0.0006	-0.0001
10-15 km	10-20 km	-0.0004	0.0002	-2.2	0.030	-0.0007	0.0000
15-20 km	10-20 km	-0.0003	0.0001	-2.1	0.039	-0.0006	0.0000
20-25 km	10-20 km	-0.0002	0.0002	-1.1	0.281	-0.0006	0.0002
25-30 km	10-20 km	0.0000	0.0002	0.1	0.897	-0.0004	0.0004
30-35 km	10-20 km	0.0003	0.0002	1.4	0.160	-0.0001	0.0007
35-40 km	10-20 km	0.0005	0.0003	1.7	0.095	-0.0001	0.0010
40-45 km	10-20 km	0.0007	0.0003	2.5	0.011	0.0002	0.0013
45-50 km	10-20 km	0.0001	0.0003	0.4	0.689	-0.0005	0.0007
>50 km	10-20 km	0.0004	0.0002	2.5	0.014	0.0001	0.0008
0-5 km	20-30 km	-0.0004	0.0001	-3.0	0.003	-0.0006	-0.0001
5-10 km	20-30 km	-0.0003	0.0001	-2.1	0.034	-0.0005	0.0000
10-15 km	20-30 km	-0.0005	0.0001	-4.0	0.000	-0.0007	-0.0003
15-20 km	20-30 km	-0.0003	0.0001	-2.5	0.013	-0.0006	-0.0001
20-25 km	20-30 km	-0.0006	0.0001	-4.6	0.000	-0.0009	-0.0004
25-30 km	20-30 km	-0.0005	0.0001	-3.5	0.000	-0.0008	-0.0002
30-35 km	20-30 km	0.0000	0.0002	-0.1	0.920	-0.0004	0.0004
35-40 km	20-30 km	-0.0004	0.0002	-2.4	0.018	-0.0008	-0.0001
40-45 km	20-30 km	-0.0002	0.0002	-0.9	0.365	-0.0006	0.0002
45-50 km	20-30 km	-0.0005	0.0003	-1.6	0.107	-0.0010	0.0001
>50 km	20-30 km	-0.0002	0.0001	-1.8	0.069	-0.0005	0.0000
0-5 km	30-40 km	-0.0003	0.0001	-3.3	0.001	-0.0005	-0.0001
5-10 km	30-40 km	-0.0004	0.0001	-4.0	0.000	-0.0006	-0.0002
10-15 km	30-40 km	-0.0004	0.0001	-3.7	0.000	-0.0006	-0.0002
15-20 km	30-40 km	-0.0005	0.0001	-4.6	0.000	-0.0007	-0.0003
20-25 km	30-40 km	-0.0002	0.0001	-1.5	0.138	-0.0004	0.0001
25-30 km	30-40 km	-0.0006	0.0001	-4.3	0.000	-0.0008	-0.0003
30-35 km	30-40 km	-0.0007	0.0001	-5.9	0.000	-0.0009	-0.0005
35-40 km	30-40 km	-0.0008	0.0002	-5.0	0.000	-0.0011	-0.0005
40-45 km	30-40 km	-0.0010	0.0002	-5.1	0.000	-0.0013	-0.0006
45-50 km	30-40 km	-0.0010	0.0002	-4.1	0.000	-0.0014	-0.0005
>50 km	30-40 km	-0.0001	0.0002	-0.8	0.445	-0.0005	0.0002

Table J.4: Night-time luminosity by distance to the nearest mission station and homeland border: Mission station and homeland border ID fixed effects interacted (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	40-50 km	-0.0004	0.0001	-3.7	0.000	-0.0005	-0.0002
5-10 km	40-50 km	-0.0004	0.0001	-4.0	0.000	-0.0006	-0.0002
10-15 km	40-50 km	-0.0005	0.0001	-5.5	0.000	-0.0007	-0.0003
15-20 km	40-50 km	-0.0005	0.0001	-5.0	0.000	-0.0007	-0.0003
20-25 km	40-50 km	-0.0005	0.0001	-5.0	0.000	-0.0007	-0.0003
25-30 km	40-50 km	-0.0005	0.0001	-5.3	0.000	-0.0007	-0.0003
30-35 km	40-50 km	-0.0007	0.0001	-4.8	0.000	-0.0009	-0.0004
35-40 km	40-50 km	-0.0006	0.0002	-4.0	0.000	-0.0009	-0.0003
40-45 km	40-50 km	-0.0010	0.0001	-7.1	0.000	-0.0012	-0.0007
45-50 km	40-50 km	-0.0005	0.0002	-2.1	0.039	-0.0009	0.0000
>50 km	40-50 km	-0.0004	0.0001	-3.8	0.000	-0.0007	-0.0002
0-5 km	50-60 km	-0.0003	0.0001	-3.8	0.000	-0.0004	-0.0001
5-10 km	50-60 km	-0.0003	0.0001	-3.5	0.001	-0.0005	-0.0001
10-15 km	50-60 km	-0.0004	0.0001	-4.3	0.000	-0.0006	-0.0002
15-20 km	50-60 km	-0.0003	0.0001	-2.7	0.007	-0.0005	-0.0001
20-25 km	50-60 km	-0.0003	0.0001	-3.3	0.001	-0.0006	-0.0001
25-30 km	50-60 km	-0.0005	0.0001	-5.2	0.000	-0.0007	-0.0003
30-35 km	50-60 km	-0.0005	0.0001	-4.1	0.000	-0.0008	-0.0003
35-40 km	50-60 km	-0.0003	0.0001	-3.0	0.003	-0.0005	-0.0001
40-45 km	50-60 km	-0.0006	0.0002	-3.5	0.001	-0.0009	-0.0003
45-50 km	50-60 km	-0.0006	0.0001	-4.4	0.000	-0.0009	-0.0003
>50 km	50-60 km	-0.0002	0.0001	-2.3	0.023	-0.0004	0.0000
0-5 km	60-70 km	-0.0003	0.0001	-3.3	0.001	-0.0005	-0.0001
5-10 km	60-70 km	-0.0003	0.0001	-3.3	0.001	-0.0005	-0.0001
10-15 km	60-70 km	-0.0004	0.0001	-5.0	0.000	-0.0006	-0.0003
15-20 km	60-70 km	-0.0003	0.0001	-3.2	0.001	-0.0005	-0.0001
20-25 km	60-70 km	-0.0005	0.0001	-4.5	0.000	-0.0008	-0.0003
25-30 km	60-70 km	-0.0005	0.0001	-3.8	0.000	-0.0007	-0.0002
30-35 km	60-70 km	-0.0001	0.0001	-1.0	0.340	-0.0004	0.0001
35-40 km	60-70 km	-0.0006	0.0001	-4.0	0.000	-0.0008	-0.0003
40-45 km	60-70 km	-0.0006	0.0001	-4.3	0.000	-0.0008	-0.0003
45-50 km	60-70 km	-0.0006	0.0001	-4.9	0.000	-0.0008	-0.0004
>50 km	60-70 km	-0.0003	0.0001	-3.0	0.003	-0.0005	-0.0001
0-5 km	70-80 km	-0.0003	0.0001	-2.8	0.006	-0.0005	-0.0001
5-10 km	70-80 km	-0.0002	0.0001	-2.4	0.019	-0.0004	0.0000
10-15 km	70-80 km	-0.0004	0.0001	-3.5	0.000	-0.0006	-0.0002
15-20 km	70-80 km	-0.0004	0.0001	-5.3	0.000	-0.0006	-0.0003
20-25 km	70-80 km	-0.0004	0.0001	-4.3	0.000	-0.0005	-0.0002
25-30 km	70-80 km	-0.0003	0.0001	-1.9	0.057	-0.0005	0.0000
30-35 km	70-80 km	-0.0004	0.0001	-3.8	0.000	-0.0006	-0.0002
35-40 km	70-80 km	-0.0003	0.0001	-1.9	0.052	-0.0005	0.0000
40-45 km	70-80 km	-0.0001	0.0002	-0.7	0.486	-0.0004	0.0002
45-50 km	70-80 km	-0.0003	0.0002	-1.2	0.233	-0.0007	0.0002
>50 km	70-80 km	-0.0002	0.0001	-2.1	0.032	-0.0004	0.0000

Table J.4: Night-time luminosity by distance to the nearest mission station and homeland border: Mission station and homeland border ID fixed effects interacted (continued)

Homeland border	Mission station	Coef.	Std. Err.	t	P>t	95% Confidence	Interval
0-5 km	80-90 km	-0.0002	0.0001	-2.3	0.020	-0.0004	0.0000
5-10 km	80-90 km	-0.0003	0.0001	-3.6	0.000	-0.0004	-0.0001
10-15 km	80-90 km	-0.0003	0.0001	-3.5	0.001	-0.0005	-0.0001
15-20 km	80-90 km	-0.0002	0.0001	-2.4	0.016	-0.0004	0.0000
20-25 km	80-90 km	-0.0003	0.0001	-3.7	0.000	-0.0005	-0.0001
25-30 km	80-90 km	-0.0003	0.0001	-3.4	0.001	-0.0005	-0.0001
30-35 km	80-90 km	-0.0002	0.0001	-2.4	0.016	-0.0004	0.0000
35-40 km	80-90 km	-0.0003	0.0001	-1.9	0.061	-0.0005	0.0000
40-45 km	80-90 km	-0.0005	0.0002	-2.8	0.004	-0.0008	-0.0001
45-50 km	80-90 km	0.0000	0.0002	0.2	0.858	-0.0004	0.0005
>50 km	80-90 km	-0.0002	0.0001	-2.3	0.023	-0.0004	0.0000
0-5 km	90-100 km	-0.0003	0.0001	-3.5	0.000	-0.0004	-0.0001
5-10 km	90-100 km	-0.0004	0.0001	-5.0	0.000	-0.0005	-0.0002
10-15 km	90-100 km	-0.0003	0.0001	-3.2	0.001	-0.0005	-0.0001
15-20 km	90-100 km	-0.0003	0.0001	-3.6	0.000	-0.0005	-0.0001
20-25 km	90-100 km	-0.0001	0.0001	-1.3	0.180	-0.0003	0.0001
25-30 km	90-100 km	-0.0004	0.0001	-3.1	0.002	-0.0006	-0.0001
30-35 km	90-100 km	-0.0002	0.0001	-2.2	0.028	-0.0004	0.0000
35-40 km	90-100 km	-0.0003	0.0002	-1.7	0.091	-0.0006	0.0000
40-45 km	90-100 km	-0.0001	0.0002	-0.3	0.732	-0.0004	0.0003
45-50 km	90-100 km	-0.0006	0.0001	-4.0	0.000	-0.0009	-0.0003
>50 km	90-100 km	-0.0001	0.0001	-0.9	0.368	-0.0003	0.0001
0-5 km	>100 km	-0.0002	0.0000	-5.7	0.000	-0.0002	-0.0001
5-10 km	>100 km	-0.0002	0.0000	-6.3	0.000	-0.0002	-0.0001
10-15 km	>100 km	-0.0001	0.0000	-4.9	0.000	-0.0002	-0.0001
15-20 km	>100 km	-0.0002	0.0000	-5.3	0.000	-0.0002	-0.0001
20-25 km	>100 km	-0.0001	0.0000	-2.5	0.012	-0.0001	0.0000
25-30 km	>100 km	-0.0001	0.0000	-3.4	0.001	-0.0002	0.0000
30-35 km	>100 km	-0.0001	0.0000	-2.9	0.004	-0.0002	0.0000
35-40 km	>100 km	0.0000	0.0000	-1.0	0.337	-0.0001	0.0000
40-45 km	>100 km	0.0000	0.0001	0.5	0.587	-0.0001	0.0002
45-50 km	>100 km	0.0000	0.0000	-1.1	0.288	-0.0001	0.0000
>50 km	>100 km	0.0000	(omitted)				
Controls							Yes
Coloniser fixed effects							Yes
Country fixed effects							Yes
Mission fixed effects							Yes
Border fixed effects							Yes
Std. err.							Robust
R2							0.6293
N							257,224

Notes: The regression model, displayed in Equation 2, controls for latitude, ruggedness, elevation, rainfall, temperature, land suitability for agriculture, malaria, tsetse flies, population density, uninhabited grid cells, major cities, islands, Sub-Saharan Africa, as well as the geodesic distances to coasts, rivers, mines, historical explorer routes, pre-colonial cities, and Muslim seats. Gaps between the first- and second-nearest mission stations and homeland borders are also accounted for. All variables are log-linearised except binaries.

K DHS data and cluster-level outcomes

This section describes the DHS data used in the analysis and the procedures used to construct the cluster-level outcome variables. We draw on microdata from the Demographic and Health Surveys (DHS) Program (ICF, 2017), using the Household Recode (HR), the Individual Recode for women (IR), and the Men’s Recode (MR) files. The HR file contains household-level information, while the IR and MR files contain harmonised individual-level information for women and men, respectively. Our sample covers nationally representative DHS surveys from 36 African countries.⁷

The analysis is conducted at the DHS cluster level, corresponding to the primary sampling units of the survey design. Each cluster is associated with a GPS location that allows it to be linked to its spatial context (ICF, nd). For confidentiality, however, the DHS Program randomly displaces these coordinates: urban clusters are displaced by up to 2 km, rural clusters by up to 5 km, and 1% of rural clusters by up to 10 km. The recorded coordinates therefore do not identify the exact location of surveyed clusters. In addition, DHS clusters are unevenly distributed across space, so many grid cells contain no clusters while some contain multiple clusters. For these reasons, the DHS analysis is conducted at the cluster level rather than at the grid-cell level used in the baseline analysis. Each cluster is assigned the historical variables and geographical controls of the grid cell in which its recorded coordinates fall. Because the displacement protocol may introduce spatial misclassification, especially near grid-cell boundaries, we restrict the DHS sample to clusters located either within or beyond 100 km of a mission station and either within or beyond 50 km of a homeland border.

To capture local living standards and human capital, we construct cluster-level outcomes from the DHS microdata. From the HR file, we use the continuous DHS Wealth Index factor score (`hv271`). From the IR and MR files, we use years of education, measured by `v133` and `mv133`, respectively. The wealth index is an asset-based measure of household living standards constructed separately for each country and survey round using principal components analysis, while `v133` and `mv133` record completed years of schooling at the individual level. We aggregate these variables to the cluster level by computing weighted means using the appropriate DHS sampling weights. For education, the cluster-level measure pools female and male respondents by combining weighted observations from the IR and MR files. The resulting variables provide cluster-level measures of average living standards and educational attainment. Summary statistics are reported in Table A.1 in the Appendix.

⁷Angola, Burkina Faso, Benin, Burundi, the Democratic Republic of the Congo, the Central African Republic, Côte d’Ivoire, Cameroon, Ethiopia, Gabon, Ghana, The Gambia, Guinea, Kenya, Comoros, Liberia, Lesotho, Madagascar, Mali, Mauritania, Malawi, Mozambique, Nigeria, Niger, Namibia, Rwanda, Sierra Leone, Senegal, Eswatini, Chad, Togo, Tanzania, Uganda, South Africa, Zambia, and Zimbabwe.

Table K.1: Wealth index by distance to missions and borders

Variable	Coef.	Std. Err.	t	P>t	95% Confidence Interval	
Mission < 100 km away	0.0200	0.0088	2.28	0.022	0.0028	0.0372
Border < 50 km away	-0.0168	0.0070	-2.40	0.017	-0.0306	-0.0031
Interaction	0.0029	0.0082	0.35	0.725	-0.0132	0.0189
Gap to 2nd mission station	-0.0027	0.0015	-1.80	0.072	-0.0057	0.0002
Gap to 2nd homeland border	0.0012	0.0014	0.86	0.392	-0.0015	0.0039
Distance to coast	-0.0131	0.0064	-2.06	0.040	-0.0256	-0.0006
Distance to river	0.0000	(omitted)				
Distance to explorer route	-0.0074	0.0040	-1.84	0.066	-0.0154	0.0005
Distance to mine	-0.0165	0.0038	-4.37	0.000	-0.0239	-0.0091
Distance to pre-colonial city	0.0135	0.0098	1.37	0.170	-0.0058	0.0327
Distance to Muslim seat	-0.0463	0.0220	-2.10	0.036	-0.0894	-0.0031
Absolute latitude	-0.0062	0.0065	-0.95	0.343	-0.0189	0.0066
Ruggedness	0.0059	0.0016	3.61	0.000	0.0027	0.0090
Elevation	-0.0253	0.0052	-4.90	0.000	-0.0354	-0.0152
Land suitability	-0.0106	0.0118	-0.90	0.366	-0.0337	0.0124
Rainfall	-0.0158	0.0043	-3.67	0.000	-0.0243	-0.0074
Temperature	-0.1573	0.0293	-5.37	0.000	-0.2148	-0.0999
Malaria ecology	-0.0077	0.0030	-2.55	0.011	-0.0136	-0.0018
Tsetse fly ecology	0.0090	0.0034	2.63	0.009	0.0023	0.0157
Major City	0.1284	0.0036	35.39	0.000	0.1213	0.1355
Sub-saharan Africa	-0.0333	0.0853	-0.39	0.696	-0.2005	0.1339
Island	0.0265	0.0492	0.54	0.590	-0.0699	0.1229
Coloniser fixed effects					Yes	
Country fixed effects					Yes	
Survey year fixed effects					Yes	
Std. err.					Robust	
R^2					0.2668	
Root MSE					0.1318	
N					13,966	

Notes: The coefficients are based on the regression model specified in Equation 3 and represent differences in night-time luminosity relative to a reference zone of grid cells located more than 100 km from a mission station and more than 50 km from a homeland border. The model includes the full set of controls listed in Appendix B.2, as well as country and coloniser fixed effects, but not post-treatment distance variables. Robust standard errors are used. All continuous variables are log-linearised; binary variables are expressed in levels. *Source:* The Demographic and Health Surveys Program.

Table K.2: Years of education by distance to missions and borders

Variable	Coef.	Std. Err.	t	P>t	95% Confidence Interval	
Mission < 100 km away	0.0157	0.0039	4.01	0	0.0080	0.0234
Border < 50 km away	-0.0083	0.0032	-2.59	0.01	-0.0146	-0.0020
Interaction	0.0014	0.0037	0.39	0.694	-0.0057	0.0086
Gap to 2nd mission	-0.0014	0.0006	-2.25	0.024	-0.0026	-0.0002
Gap to 2nd border	0.0010	0.0006	1.75	0.081	-0.0001	0.0022
Distance to coast	-0.0020	0.0027	-0.75	0.456	-0.0073	0.0033
Distance to river	0.0000	(omitted)				
Distance to explorer route	-0.0010	0.0017	-0.58	0.559	-0.0043	0.0023
Distance to mine	-0.0034	0.0015	-2.27	0.023	-0.0063	-0.0005
Distance to city	0.0013	0.0057	0.23	0.819	-0.0099	0.0125
Distance to Muslim seat	-0.0043	0.0213	-0.2	0.841	-0.0461	0.0375
Absolte Latitude	-0.0139	0.0027	-5.11	0	-0.0192	-0.0086
Ruggedness	0.0028	0.0007	4.1	0	0.0015	0.0042
Elevation	-0.0067	0.0021	-3.14	0.002	-0.0109	-0.0025
Land suitability	-0.0097	0.0049	-1.97	0.048	-0.0194	-0.0001
Rainfall	0.0115	0.0018	6.52	0	0.0080	0.0149
Temperature	-0.0802	0.0108	-7.41	0	-0.1014	-0.0590
Malaria ecology	-0.0024	0.0012	-1.97	0.049	-0.0048	0.0000
Tsetse fly ecology	0.0116	0.0014	8.32	0	0.0089	0.0143
Major cities	0.0364	0.0014	26.87	0	0.0337	0.0390
Sub-saharan Africa	-0.0059	0.0258	-0.23	0.818	-0.0565	0.0447
Island	0.0238	0.0118	2.01	0.044	0.0006	0.0469
Coloniser fixed effects					Yes	
Country fixed effects					Yes	
Survey year fixed effects					Yes	
Std. err.					Robust	
R^2					0.5347	
Root MSE					0.0502	
N					13,966	

Notes: The coefficients are based on the regression model specified in Equation 3 and represent differences in night-time luminosity relative to a reference zone of grid cells located more than 100 km from a mission station and more than 50 km from a homeland border. The model includes the full set of controls listed in Appendix B.2, as well as country and coloniser fixed effects, but not post-treatment distance variables. Robust standard errors are used. All continuous variables are log-linearised; binary variables are expressed in levels. *Source:* The Demographic and Health Surveys Program.