CLEA
GEOREFERENCED ELECTORAL DISTRICTS DATASETS

CODEBOOK

Version: February 15, 2019 (20190215)
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INTRODUCTION

GeoReferenced Electoral Districts Project Description

The GeoReferenced Electoral Districts (GRED) project is produced by the Constituency-Level Elections Archive (CLEA). GRED provides geo-referenced maps for electoral constituencies used in national legislative lower chamber elections of select countries that appear in the main CLEA dataset. The goal of this project is to offer maps formatted in a manner so they can be employed to present visualizations of election results, as well as linked to other standard geo-referenced data, allowing researchers to study a variety of research questions at the constituency level. To date, no other large-scale cross-country collection of geo-referenced maps of electoral constituencies exists that is coded consistently and accurately. The GRED dataset strives to fulfill this need in the research community, in addition to having applications to policy and practice. The dataset covers 74 countries, including historical material for some of these countries that appropriately captures changes in the boundaries of electoral constituencies implemented over time.

CLEA Project Description

The central aim of the Constituency-Level Elections Archive (CLEA) project is to produce a repository of detailed results – i.e., votes received by each candidate/party, total votes cast, number of eligible voters – at a constituency level for the lower chamber legislative elections that have been conducted around the world. Our motivation is to preserve and consolidate these valuable data in one comprehensive reference resource that is publicly available at no cost. This public good is expected to be of use to a range of audiences for purposes of research, education, and policy-making and evaluation.

Funding Support

We gratefully acknowledge the American National Science Foundation (www.nsf.gov), the University of Michigan’s Office of Research, and the Taiwan Foundation for Democracy for funding CLEA, and we thank the Institute of Political Science at the University of St. Gallen for research assistance. These materials incorporate work supported by the National Science Foundation (under grants SES-0617101, SES-1021915, and SMA-1519594) and the University of Michigan’s Office of Research. Any opinions, findings and conclusions or recommendations expressed in these materials are those of the author(s) and do not necessarily reflect the views of the funding organizations.
Bibliographic Citation

For citation of the entire GRED database, the following formats are recommended:

APA (6th edition)

MLA (8th edition)

Chicago (17th edition)

For citation of one set of country files from GRED, inclusion of the country name and year is recommended. For example:

APA (6th edition)

MLA (8th edition)

Chicago (17th edition)
Credits

The co-directors of CLEA are Ken Kollman (University of Michigan), Allen Hicken (University of Michigan), Daniele Caramani (University of Zurich), David Backer (University of Maryland), and David Lublin (American University). The project manager is Yioryos Nardis (Center for Political Studies, University of Michigan).

Fabricio Vasselai (University of Michigan) and Joel Selway (Brigham Young University) provided geographic information system (GIS) files and curated the maps included in this release. Research assistance was provided by students from Brigham Young University. Andrew Versalle (Center for Political Studies, University of Michigan) provided programming and website assistance for this release.
DATA PREPARATION

We collected geo-referenced maps from a variety of sources, with preference given to official sources. Existing maps of electoral constituencies were used when readily available. Otherwise, other types of maps (e.g. maps of administrative divisions) were used to construct maps of electoral constituencies using additional official information. The maps in this release of GRED match the constituencies for an election in a given country from the 20181119 release of the CLEA Lower Chamber data.

Maps for this release of GRED were created using ArcGIS® 10.6.1 by ESRI (ArcGIS® and ArcMap™ are the intellectual property of ESRI and are used herein under license) and the open source QGIS 2.18.4. OpenOffice 4.0.1 and R-software 3.5.1 were used for matching and merging CLEA districts with the mapping files. All maps use the WGS 1984 geographic coordinates system and the coordination type is degrees.

Although great care has been taken to prepare the data and codebook as accurately as possible prior to release, users may encounter imperfections. We would appreciate receiving your comments, feedback, and notification of errors. Please contact us at clea-project@umich.edu.

Data Design

The GIS maps included in GRED are currently produced in the most widely used geospatial vector data format, called shapefiles (*.shp). This free, non-database style file format, created and owned by ESRI, can be opened by virtually any GIS software - from free open source (e.g., R-software, QGIS, GeoDa, etc.) to proprietary software (e.g., ESRI ArcGIS suite). All software directly open the *.shp file, automatically reading the information from other required companion files (with extensions *.shx, *.dbf and *.prj).¹

GRED files are organized by country-election and named according to the following templates:

- GRED_RELEASE_COUNTRYNAME_YEAR.shp The main shapefile, with map drawing information.
- GRED_RELEASE_COUNTRYNAME_YEAR.shx Companion file that stores the position of individual polygon IDs in the .shp file.
- GRED_RELEASE_COUNTRYNAME_YEAR.dbf A table in dBASE format, which contains the information on each map polygon (i.e., our GRED_map table).
- GRED_RELEASE_COUNTRYNAME_YEAR.prj The information on the coordinate system.

¹ These files have to always be placed together in the same folder and have exactly the same names (with the exception, of course, of having different file type extensions).
Where:

“RELEASE” identifies the GRED release with which the file is associated.

“COUNTRYNAME” identifies the name of the country to which the map refers.

“YEAR” identifies the year of the country’s national legislative lower (or unique) chamber election to which the map of electoral constituencies refers.
DOCUMENTATION OF VARIABLES

Variable List

GRED_map table:

CTR_N Country Name
CTR Country Code
YR Year of Lower Chamber Election
CST_N Electoral Constituency Name
CST Electoral Constituency Code

Variable Descriptions

CTR_N Country Name

Names of countries included in the GRED datasets.

Afghanistan
Albania
Argentina
Australia
Austria
Bangladesh
Belgium
Belize
Bhutan
Bolivia
Brazil
Bulgaria
Cameroon
Canada
Cape Verde
Chile
Colombia
Costa Rica
Croatia
Cyprus
Czech Republic
Denmark
Dominican Republic
Ecuador
El Salvador

Estonia
Finland
Germany
Grenada
Guatemala
Guyana
Honduras
Iceland
India
Indonesia
Ireland
Israel
Italy
Kazakhstan
Latvia
Liechtenstein
Luxembourg
Macedonia
Marshall Islands
Mexico
Moldova
Montenegro
Namibia
Netherlands
New Zealand
Nicaragua
Norway
Paraguay
Peru
Poland
Portugal
Romania
Russia
Saint Lucia
San Marino
Serbia
Singapore
Slovakia
South Africa
Spain
Sri Lanka
Suriname
Sweden
Switzerland
Trinidad and Tobago
United Kingdom
United States
Uruguay
Zambia
## CTR  Country Code

Country codes based on [United Nations’ standard country or area codes for statistical use](https://www.un.org/Depts/Cod/geo/socnat.htm).

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<tr>
<th>CTR</th>
<th>Country Code</th>
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<td>Mexico</td>
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<td>554</td>
<td>New Zealand</td>
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<td>Nicaragua</td>
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<tr>
<td>578</td>
<td>Norway</td>
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<td>Paraguay</td>
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<td>Russia</td>
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<td>662</td>
<td>Saint Lucia</td>
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<td>Serbia</td>
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<td>Sweden</td>
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<td>Switzerland</td>
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<td>Trinidad and Tobago</td>
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<td>826</td>
<td>United Kingdom</td>
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<td>840</td>
<td>United States</td>
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<td>858</td>
<td>Uruguay</td>
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<tr>
<td>894</td>
<td>Zambia</td>
</tr>
</tbody>
</table>

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## YR  Year of Lower Chamber Election

Election year covered by the country’s electoral constituency map and for which electoral results are available in the CLEA Lower Chamber data.

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## CST_N  Constituency Name

Name of geographical area that a particular elected representative or group of elected representatives represents. In some instances, the name differs slightly from the CLEA election data where the official map source used a variation of the name.

---
CST  Constituency Code

A unique numeric code assigned to each constituency in each election in a country. These codes match the codes used for the same country-election year in the CLEA Lower Chamber data. An exception occurs when some countries have specific geographic areas where citizens do not have the right to vote for the national legislative lower chamber. In such cases, the geographic areas are included for completeness, even if they are not technically an electoral constituency for purposes of the elections of representatives to the lower chamber, and are assigned a code of ‘-999’.

----------------------------------------------------------
COUNTRY SOURCE DOCUMENTATION
(in alphabetical order by country)

Afghanistan

1. Included elections:

2005

2. Sources:


3. Processing of source data:

Since the electoral constituencies are the 1st level administration divisions (provinces), which are readily available in the GADM data, maps from that source were matched for usage in GRED. This mapping excludes the tribal minority constituency of Kuchi, which is not associated with a specific geographical area.

Albania

1. Included elections:

2009

2. Sources:


3. Processing of source data:

Since the electoral constituencies are the 1st level administration divisions (counties), which are readily available in the GADM data, maps from that source were matched for usage in GRED.
Argentina

1. Included elections:

2003

2. Sources:


3. Processing of source data:

Since the electoral constituencies are the 1st level administration divisions (provinces [províncias] and the federal district [distrito federal]), which are readily available in the GADM data, maps from that source were matched for usage in GRED.

Two minor corrections were performed, eliminating intra-polygon tiny holes at decimal coordinates (-59.129, -38.703) and (-62.137, -39.000). We acknowledge Alton B. H. Worthington for bringing this issue to our attention.

Australia

1. Included elections:

2010

2. Sources:


3. Processing of source data:

None – the electoral constituency map was obtained directly from the official source mentioned above in shapefile format.
Austria

1. **Included elections:**

2008

2. **Sources:**


3. **Processing of source data:**

   The GADM map with 2nd level administrative divisions was used and matched to the Statistics Austria list of electoral constituencies. In Austria, the districts (Bezirke) and statutory cities (Statutarstädte) were merged to form the electoral constituencies. From Statistics Austria, we got a list of electoral constituencies that also described which districts (Bezirke) and statutory cities (Statutarstädte) belonged to each constituency. Then, we used the GADM map of Austrian 2nd level administrative divisions to merge districts and statutory cities accordingly, thus forming the electoral constituencies.

Bangladesh

1. **Included elections:**

2008

2. **Sources:**


3. **Processing of source data:**

   First, the original PNG image of electoral constituencies was georeferenced automatically. Next, manual corrections for accuracy were made to the following constituencies’ boundaries: Bagerhat-1, Barguna-1, Barguna-2, Barisal-3, Barisal-4, Bhola-3, Bhola-4, Chittagong-16, Cox’s Bazar-3, Dhaka-1 to Dhaka-20, Jessore-4, Khulna-1, Khulna-4, Lakshmipur-4, Noakhali-4, Noakhali-5, Noakhali-6, Patuakhali-1, Patuakhali-2, Patuakhali-3, Patuakhali-4, Satkhira-2, Shariatpur-2, Shariatpur-3.
Belgium

1. **Included elections:**

   1995

2. **Sources:**


3. **Processing of source data:**

   In Belgium, the electoral constituencies are *circonscriptions* (20 in total). For the GRED map, the electoral constituencies were created by merging the 2nd level administrative divisions of Belgium (*arrondissements*), which were taken from the 3rd level GADM file. Information to identify which arrondissement belonged to each electoral constituency was compared to data available at the *Direction Générale Institutions et Population* ([http://www.ibz.rrn.fgov.be](http://www.ibz.rrn.fgov.be)).

   Electoral constituencies were created by merging the 2nd level administrative divisions of Belgium (arrondissements), which were taken from the 2nd level GADM file. Information to identify which arrondissement belonged to each electoral constituency was based on data available at the *Direction Générale Institutions et Population*.

Belize

1. **Included elections:**

   2012

2. **Sources:**


3. **Processing of source data:**

   Electoral constituencies downloaded from Adele (2016), with boundaries and names verified based on the official information provided by the Elections and Boundaries Department.
Bhutan

1. **Included elections:**
   
   2008

2. **Sources:**
   
   Professor Joel Selway, Brigham Young University.

Bolivia

1. **Included elections:**
   
   2014

2. **Sources:**
   

3. **Processing of source data:**
   
   Single-member district [SMD] and proportional representation [PR] tiers are included. Maps of electoral districts for the SMD lower tier were downloaded directly from the electoral commission. The maps of electoral districts for the PR upper tier (i.e., *plurinominales*) were created using official information on which SMD belonged to each PR district.
Brazil

1. **Included elections:**


2. **Sources:**


3. **Processing of source data:**

Since at least 1945, the electoral constituencies for the national lower chamber in Brazil are comprised of the states and of a special federal district representing the country’s capital. In some years (e.g., 1945), there were also additional special federal territories where electors did not vote in lower chamber elections. Historical maps of Brazil divided into states and municipalities were downloaded from the official source. Federal districts (current and former capitals) were created by splitting the relevant GIS polygon representing their municipalities from the GIS polygon that represented the states they would be located in. Federal territories were created by merging the relevant municipalities that belonged to them – the list of which came from the historical laws that regulated the creation and dissolution of the federal territories.

Bulgaria

1. **Included elections:**

2009

2. **Sources:**

Professor Joel Selway, Brigham Young University.
Cameroon

1. Included elections:

   1997

2. Sources:


3. Processing of source data:

   Since electoral constituencies are equivalent to the 2nd level administrative divisions of Cameroon (departments), constituencies were matched to the maps available in GADM for this level.

Canada

1. Included elections:

   2011

2. Sources:


3. Processing of source data:

   The electoral constituency maps were obtained directly from the official source in shapefile format.
Cape Verde

1. **Included elections:**

2016

2. **Sources:**


3. **Processing of source data:**

Electoral constituency map was created from the online image at Wikimedia, with official information from the National Electoral Commission (*Comissão Nacional Eleitoral*).
Chile

1. Included elections:

2013

2. Sources:


3. Processing of source data:

Maps of electoral constituencies were generated using a recent map of the communes (a low-level administrative division) in Chile and information about which communes belong to each electoral constituency.

Colombia

1. Included elections:

2006

2. Sources:


3. Processing of source data:

Almost all electoral constituencies matched the 1st level administrative divisions, which are known as departments (departamentos), intendancies (intendencias) or commissaries (comisarías). For these constituencies, the 1st level map from GADM served as the main electoral constituency map. The polygon corresponding to the capital district from the 2nd level GADM map of Colombian municipalities (municipios) was used to create the capital district (distrito capital). This was added to the map based on 1st level administrative divisions by clipping it over the department of Cundinamarca to avoid overlaps.
Costa Rica

1. Included elections:

2006

2. Sources:


3. Processing of source data:

Since electoral constituencies are equivalent to the 1st level administrative divisions of Costa Rica (províncias), constituencies were matched to the maps available in GADM for this level.

Croatia

1. Included elections:

2011

2. Sources:

Professor Joel Selway, Brigham Young University.

3. Processing of source data:

Note that the 11th constituency for electors from abroad and also the exclusive non-geographical constituencies for minorities cannot be appropriately represented in maps.
Cyprus

1. **Included elections:**

2016

2. **Sources:**


3. **Processing of source data:**

Since electoral constituencies are equivalent to the 1st level administrative divisions of Cyprus (districts), constituencies were matched to the maps available in GADM for this level.

Czech Republic

1. **Included elections:**

2006

2. **Sources:**


3. **Processing of source data:**

Since electoral constituencies are equivalent to the 1st level administrative divisions of the Czech Republic (*kraje*), constituencies were matched to the maps available in GADM for this level.
Denmark

1. Included elections:

2007

2. Sources:


3. Processing of source data:

Maps of electoral constituencies were obtained directly from the official source as a shapefile. The constituencies correspond to the countries. The maps exclude Greenland and the Faore Islands. Raw maps from the Public Agency Kort & Matrikelstyrelsen were provided by Prof. Søren Risbjerg Thomsen. Prof. Søren Risbjerg Thomsen provided free-to-use raw maps from the Danish Geodata Agency, with Denmark divided into nomination districts (opstillingskredse). Additional information from professor Thomsen, from the Danish Geodata Agency and from Statistics Denmark (https://www.dst.dk) were used to identify which nomination districts belonged to which electoral constituency, which were then created. Notice that the maps exclude Greenland and the Faroe Islands.

Dominican Republic

1. Included elections:

1998

2. Sources:


3. Processing of source data:

Constituencies for the 1998 election matched the 1st level administrative divisions, which were the 29 provinces (províncias) plus the National District (Distrito Nacional). The maps available from GADM reflect a change that increased the number of 1st level administrative divisions from 30 to 32. Matching these current maps to the constituencies for the 1998 election required two modifications. First, the current National District and the province of Santo Domingo from the GADM file were merged, to capture the prior boundaries of the National District. Second, the provinces of Peravia and of San José de Ocoa from the GADM file were merged to capture the boundaries of the province of Peravia that previously existed.
Ecuador

1. Included elections:

2009

2. Sources:


3. Processing of source data:

Since electoral constituencies are equivalent to the 1st level administrative divisions of Ecuador (provinces), constituencies were matched to the maps available in GADM for this level.

El Salvador

1. Included elections:

2015

2. Sources:


3. Processing of source data:

A digital map was automatically georeferenced from the original GIF image and checked for errors against multiple online sources, including official information about the electoral constituencies, in order to decrease the likelihood of errors.
Estonia

1. Included elections:

2015

2. Sources:


3. Processing of source data:

A digital map was automatically georeferenced from the original online image and checked for errors using information from the Estonian electoral commission.

Finland

1. Included elections:

2007

2. Sources:


3. Processing of source data:

Maps of electoral constituencies were created by merging lower administrative units from GADM maps. Almost constituencies but one were merged from Finish sub-regions (Seutukunta/Ekonomisk region), which are in the 3rd level GADM file. One constituency, the city of Helsinki, was copied from the municipality (Kunt/Kommun) in the 4th level GADM file, added into the main map and clipped from the Sub-region of Uusimaa to avoid overlapping. Information on the sub-regions and municipalities that formed each electoral constituency came from the Ministry of Justice (Vaalit).
Germany

1. **Included elections:**

   2009 (only Proportional Representation tier currently available)

2. **Sources:**


3. **Processing of source data:**

   Electoral constituencies are equivalent to the 1st level administrative divisions of Germany (*länder*). Map of electoral constituencies used in the Proportional Representation tier was obtained directly from the official source.

Grenada

1. **Included elections:**

   2013

2. **Sources:**

   Professor Joel Selway, Brigham Young University.

Guatemala

1. **Included elections:**

   2007

2. **Sources:**

   Professor Joel Selway, Brigham Young University.
Guyana

1. **Included elections:**
   
   2001

2. **Sources:**
   

3. **Processing of source data:**
   
   Since electoral constituencies are equivalent to the 1st level administrative divisions of Guyana (administrative regions), constituencies were matched to the maps available in GADM for this level.

Honduras

1. **Included elections:**
   
   2005

2. **Sources:**
   

3. **Processing of source data:**
   
   Since electoral constituencies are equivalent to the 1st level administrative divisions of Honduras (*departamentos*), constituencies were matched to the maps available in GADM for this level.
Iceland

1. Included elections:

2005

2. Sources:


3. Processing of source data:

Since electoral constituencies are equivalent to the 1st level administrative divisions of Iceland (landsvæðun), constituencies were matched to the maps available in GADM for this level.

India

1. Included elections:

2009

2. Sources:


3. Processing of source data:

Joel Selway obtained images for the electoral constituencies from the website Travel India Guide, then converted these images into Shapefiles. Modifications to these shapefiles were made using information from Maps of India and the Election Commission of India.
Indonesia

1. Included elections:

2004

2. Sources:


Professor Ursula Daxecker, University of Amsterdam.

3. Processing of source data:

Electoral constituencies were geocoded by Professor Ursula Daxecker from high-quality maps created by Northern Illinois University.

Ireland

1. Included elections:

2011

2. Sources:


3. Processing of source data:

Maps of the electoral constituencies were obtained directly from the official source as a shapefile.
Israel

1. **Included elections:**

2015

2. **Sources:**


3. **Processing of source data:**

National legislative elections to the unicameral legislature (Knesset) in Israel use proportional representation in a single nationwide constituency. Therefore, the electoral constituency map corresponds to the map of the country, which is easily obtained from GADM’s 0 level map of administrative divisions.

Italy

1. **Included elections:**

1996 (only Proportional Representation tier currently available)

2. **Sources:**


3. **Processing of source data:**

Each of the constituencies for the proportional representation tier of the 1996 election in Italy covered multiple 1st level administrative divisions (provinces [*provincias*]). The Italian Ministry of Interior sent the CLEA team an email that provides information on which province belonged to each electoral constituency. This information was used to develop maps, merging the data available from the GADM maps of 1st level administrative divisions. The region Valle d’Aosta did not have a PR tier and thus is excluded from the maps.
Kazakhstan

1. Included elections:

2012

2. Sources:


3. Processing of source data:

National legislative elections to the lower chamber (Majilis) in Kazakhstan use proportional representation in a single nationwide constituency. Therefore, the electoral constituency map corresponds to the map of the country, which is easily obtained from GADM’s 0 level map of administrative divisions.

Latvia

1. Included elections:

2010

2. Sources:


3. Processing of source data:

Electoral constituencies matched the Latvian provinces in the GADM database.

Map of Latvia divided into counties (novadu) and cities (pilsētu) was downloaded from the website of the countries centrao statistical bureau (Centrālā Statistikas Pārvalde). Then, the list of which counties and cities belonged to each electoral constituency was taken directly from the article 7 of the Latvian Saeima Election Law (Saeimas vēlēšanu likums). With that information, the GIS polygons corresponding to countries and cities were appropriately merged to build the electoral constituencies.
Liechtenstein

1. Included elections:

2013

2. Sources:

Professor Joel Selway, Brigham Young University.

Luxembourg

1. Included elections:

1994

2. Sources:


3. Processing of source data:

Maps for electoral constituencies were created by merging maps for the 2nd level administrative divisions (cantons) available from GADM. Information on which cantons formed each electoral constituency was obtained from the official electoral authority of Luxembourg.

Macedonia

1. Included elections:

2011

2. Sources:

Professor Joel Selway, Brigham Young University.
Marshall Islands

1. Included elections:

2011

2. Sources:

Professor Joel Selway, Brigham Young University.

Mexico

1. Included elections:

2012

2. Sources:


3. Processing of source data:

Single-Member District [SMD] and Proportional Representation [PR] tiers are available. A shapefile covering the single-member districts was directly downloaded from the Instituto Nacional Electoral. This source lacked any labeling of the names of these districts. Diego Valle-Jones (an independent researcher) sent an email to the GRED team that provides the necessary information to label the district names. Maps for the five PR districts were developed by merging the corresponding SMD districts, using information obtained from official sources and provided by Professor Scott Morgenstern.
Moldova

1. Included elections:

2010

2. Sources:


3. Processing of source data:

National legislative elections to the unicameral legislature in Moldova use proportional representation in a single nationwide constituency. Therefore, the electoral constituency map corresponds to the map of the country, which is easily obtained from GADM’s 0 level map of administrative divisions.

Montenegro

1. Included elections:

2010

2. Sources:


3. Processing of source data:

National legislative elections to the unicameral legislature in Montenegro use proportional representation in a single nationwide constituency. Therefore, the electoral constituency map corresponds to the map of the country, which is easily obtained from GADM’s 0 level map of administrative divisions.
Namibia

1. **Included elections:**

   2014

2. **Sources:**


3. **Processing of source data:**

   National legislative elections to the unicameral legislature in Namibia use proportional representation in a single nationwide constituency. Therefore, the electoral constituency map corresponds to the map of the country, which is easily obtained from GADM’s 0 level map of administrative divisions.

Netherlands

1. **Included elections:**

   2010

2. **Sources:**


3. **Processing of source data:**

   Although in practice, the Netherlands uses a single national constituency, this national constituency is divided into distinct electoral constituencies (*kamerkieskringen*) for the presentation of party lists. Parties typically link their lists across constituencies and therefore the entire country effectively becomes a single national constituency. CLEA offers elections results at the level of the kamerkieskringen. GRED provides maps for the kamerkieskringen, whose polygons were built using different level administrative divisions from GADM and information from Nlverkiezingen.
New Zealand

1. Included elections:

2008

2. Sources:


3. Processing of source data:

Maps of the electoral constituencies were obtained directly from the official source as a shapefile. GRED excludes the Maori districts, for two reasons: (1) to follow the definition of geographic districts in the CLEA main dataset, and (2) to avoid confusion since these districts overlap the whole country. Maps for these districts are available upon request.

Nicaragua

1. Included elections:

2011

2. Sources:


3. Processing of source data:

Since electoral constituencies are equivalent to the 1st level administrative divisions of Nicaragua (departments), constituencies were matched to the maps available in GADM for this level.
Norway

1. Included elections:

2009

2. Sources:


3. Processing of source data:

Since electoral constituencies are equivalent to the 1st level administrative divisions of Norway (fylker), constituencies were matched to the maps available in GADM for this level.

Paraguay

1. Included elections:

2008

2. Sources:


3. Processing of source data:

Since electoral constituencies are equivalent to the 1st level administrative divisions of Paraguay (departments), constituencies were matched to the maps available in GADM for this level.
Peru

1. Included elections:

2006

2. Sources:


3. Processing of source data:

Since electoral constituencies are equivalent to the 1st level administrative divisions of Peru (departamentos), constituencies were matched to the maps available in GADM for this level.

Poland

1. Included elections:

2011

2. Sources:


3. Processing of source data:

Electoral constituencies in Poland cover administrative divisions at multiple levels. Maps for the constituencies were developed by merging maps for the appropriate administrative divisions, available in GADM, using information on which divisions belonged to each constituency that was obtained from the National Electoral Commission.
Portugal

1. Included elections:

2009

2. Sources:


3. Processing of source data:

Since electoral constituencies are equivalent to the 1st level administrative divisions of Portugal (distritos), constituencies were matched to the maps available in GADM for this level.

Romania

1. Included elections:

2000

2. Sources:


3. Processing of source data:

Almost all electoral constituencies in Romania matched the 1st level administrative divisions (counties [judete]). Therefore, the maps of electoral constituencies reflect the maps for this level obtained from GADM. To assemble the map for the constituency of the city of Bucharest, the city boundary was manually drawn over the main map, creating a new constituency polygon. This polygon was then separated from the original county of Bucharest and named Ilfov, as in the official electoral sources.
Russia

1. Included elections:

2003

2. Sources:


3. Processing of source data:

Almost all the electoral constituencies considered matched the Russian highest-level administrative division known as federal subjects (субъекты федерации / subyekty federatsii). The exception is the City of Moscow. Maps of the federal subjects came from the 1st level GADM data on Russia. The city of Moscow was cut from the 2nd level GADM file on Russia and then pasted together with the federal subjects, clipping it from the Region of Moscow to avoid overlapping.

Saint Lucia

1. Included elections:

2016

2. Sources:

Professor Joel Selway, Brigham Young University.
San Marino

1. Included elections:

2008

2. Sources:


3. Processing of source data:

The single nation-wide electoral constituency is simply the map of the country without any division (i.e. GADM’s 0 level administrative divisions).

Serbia

1. Included elections:

2012

2. Sources:


3. Processing of source data:

National legislative elections to the unicameral legislature in Serbia use proportional representation in a single nationwide constituency. Therefore, the electoral constituency map corresponds to the map of the country, which is easily obtained from GADM’s 0 level map of administrative divisions.
Singapore

1. Included elections:

2006

2. Sources:


3. Processing of source data:

The map obtained from the Urban Redevelopment Authority (URA) was used as the primary image and corrected with satellite images from Google Maps. The image available at Electoral Geography was used as the basis for drawing the boundaries of electoral constituencies over the top of the URA map. The names of constituencies were verified using the list posted by the Singapore Elections Department (http://www.eld.gov.sg/homepage.html).

Slovakia

1. Included elections:

2016

2. Sources:


3. Processing of source data:

National legislative elections to the unicameral legislature in Slovakia use proportional representation in a single nationwide constituency. Therefore, the electoral constituency map corresponds to the map of the country, which is easily obtained from GADM’s 0 level map of administrative divisions.
South Africa

1. Included elections:

2014

2. Sources:


3. Processing of source data:

Digital maps of the electoral constituencies were automatically georeferenced from the original PNG image obtained from the Electoral Geography website, followed up by checking for errors against multiple online images in an attempt to decrease the chance of errors.

Spain

1. Included elections:

2008

2. Sources:


3. Processing of source data:

Since electoral constituencies are equivalent to the 2nd level administrative divisions of Spain (provincias), constituencies were matched to the maps available in GADM for this level. This source incorrectly presents the Canary Islands as a single province, instead of two provinces (Las Palmas, Santa Cruz de Tenerife). Therefore, the GADM map for the Canary Islands was manually sub-divided into the appropriate provinces.
Sri Lanka

1. Included elections:

2010

2. Sources:


3. Processing of source data:

Most of the electoral constituencies in Sri Lanka correspond to the country’s 1st level administrative divisions. In those cases, constituencies were directly matched to GADM’s maps for that level. Maps for the remaining constituencies were manually assembled using GADM maps for lower-level administrative divisions together with official information from the Election Commission of Sri Lanka on which divisions belonged to which constituencies.

Suriname

1. Included elections:

2010

2. Sources:

Professor Joel Selway, Brigham Young University.
Switzerland

1. Included elections:

1995

2. Sources:


3. Processing of source data:

Since electoral constituencies are equivalent to the 1st level administrative divisions of Switzerland (cantons), constituencies were matched to the maps available in GADM for this level.

Sweden

1. Included elections:


2. Sources:

Riksarkivet (2016). “Historiska GIS-kartor (information om territoriella indelningar i Sverige från 1500-talets slut till 1900-talets slut)”.

3. Processing of source data:

For each election year, maps for the electoral constituencies were assembled by manually merging the maps for Swedish municipalities (kommune). Information on which municipalities belonged to each electoral constituency was obtained from multiple volumes of the official Swedish Almanac, which also include election results. The “Allmänna valen - Riksdagsvalet” collection was printed (and scanned to PDF) by the Sveriges Officiela Statistik, Statistika Centralbyrån.
Trinidad and Tobago

1. Included elections:

2010

2. Sources:

Professor Joel Selway, Brigham Young University.

United Kingdom

1. Included elections:

2010

2. Sources:


3. Processing of source data:

The maps of the electoral constituencies of the United Kingdom were assembled by merging the official maps from the UK Ordnance Survey (which does not include the constituencies in Northern Ireland) with the official map from the Boundary Commission of Northern Ireland.
United States of America

1. Included elections:


2. Sources:


3. Processing of source data:

Maps of the electoral constituencies in the United States were obtained from Lewis et al., who reconstructed the constituency boundaries from historical official sources. Minor adjustments were made, for instance adding DC to the maps that did not have it (original maps were inconsistent in that regard) and paying attention to the different boundaries that DC had over time. Next, the data were matched to CLEA constituency codes. The matching procedure involved several steps: (1) the original maps identified each American electoral constituency in each election using the same code as Keith Poole’s Voteview site; (2) the names of candidates that ran in each constituency of each American election were imported from Voteview; (3) for each election, each electoral constituency was matched with the corresponding CLEA constituency code by using candidate names. This processing was performed with a customized R script and manual inspection.

Uruguay

1. Included elections:

2014

2. Sources:


3. Processing of source data:

Since electoral constituencies are equivalent to the 1st level administrative divisions of Uruguay (departments), constituencies were matched to the maps available in GADM for this level.
Zambia

1. Included elections:

2006

2. Sources:


3. Processing of source data:

The source provides a shapefile of the boundaries of the electoral districts.