

**CLEA
GEOREFERENCED ELECTORAL
DISTRICTS DATASETS (BETA)**

CODEBOOK

Version: July 22, 2014 (20140722)

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INTRODUCTION

GeoReferenced Electoral Districts Datasets (Beta) Project Description

The GeoReferenced Electoral Districts (GRED) datasets provide geo-referenced maps for electoral districts in the Constituency-Level Elections Archive (CLEA). The goal of this project is to offer maps formatted in a manner so they can be linked to other standard geo-referenced data, allowing researchers to test a variety of research questions at the constituency level. To date, there is no cross-country collection of geo-referenced maps of electoral constituencies that is coded consistently and accurately, and the GRED dataset strives to fulfill this need in the research community.

Beta Disclaimer

The purpose of this beta version is to give users an opportunity to test the datasets and provide feedback so that the geo-referencing and CLEA constituency matching procedures can be further refined. Users are advised to proceed cautiously and to backup important data before using the GRED datasets. Please direct problems or questions about the data to clea-project@umich.edu.

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 house 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.

Bibliographic Citation

For citation of the entire database, the following formats are preferred:

APA (6th edition)

Kollman, K., Hicken, A., Caramani, D., Backer, D., Selway, J., and Vasselai, F. (2014). *GeoReferenced Electoral Districts Datasets (Beta)* [data files and codebook]. Ann Arbor, MI: Center for Political Studies, University of Michigan [producer and distributor].

MLA (7th edition)

Kollman, Ken, Allen Hicken, Daniele Caramani, David Backer, Joel Selway, and Fabricio Vasselai. *GeoReferenced Electoral Districts Datasets (Beta)*. Ann Arbor, MI: Center for Political Studies, University of Michigan [producer and distributor], 2014. Web. 22 July 2014.

Chicago (16th edition)

Kollman, Ken, Allen Hicken, Daniele Caramani, David Backer, Joel Selway, and Fabricio Vasselai. 2014. *GeoReferenced Electoral Districts Datasets (Beta)*. Produced and distributed by Ann Arbor, MI: Center for Political Studies, University of Michigan.

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

APA (6th edition)

Kollman, K., Hicken, A., Caramani, D., Backer, D., Selway, J., and Vasselai, F. (2014). *GeoReferenced Electoral Districts Datasets (Beta): Albania 2009* [data files and codebook]. Ann Arbor, MI: Center for Political Studies, University of Michigan [producer and distributor].

MLA (7th edition)

Kollman, Ken, Allen Hicken, Daniele Caramani, David Backer, Joel Selway, and Fabricio Vasselai. *GeoReferenced Electoral Districts Datasets (Beta): Albania 2009*. Ann Arbor, MI: Center for Political Studies, University of Michigan [producer and distributor], 2014. Web. 22 July 2014.

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Kollman, Ken, Allen Hicken, Daniele Caramani, David Backer, Joel Selway, and Fabricio Vasselai. 2014. *GeoReferenced Electoral Districts Datasets (Beta): Albania 2009*. Produced and distributed by Ann Arbor, MI: Center for Political Studies, University of Michigan.

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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.

Credits

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

Fabricio Vasselai and Joel Selway provided GIS files and curated the maps provided in this beta release. Research assistance was provided by Fabricio Vasselai, Su-Hyun Lee, Anna Cotter, Beatrice Eugster, Jeren Guzman, students from the Undergraduate Research Opportunity Program (UROP) at the University of Michigan, and students from Brigham Young University. Dianne Paulson of the Center for Political Studies at the University of Michigan provided programming and website assistance for the beta release.

Data Procedures

We have collected geo-referenced maps from a variety of sources and adapted them when necessary, including some minor redrawing of electoral constituencies of countries, in order to make maps that suitably match the constituencies for an election in a given country from the most recent release (R6) of CLEA.

In this beta release, each country has a separate folder, containing the set of files that constitute their GIS maps. The GIS map format we use is the ESRI Shapefile type (*.shp). All maps are drawn using the WGS_1984 geographic coordinates system and the coordination type is degrees.

There are six (6) files in each country folder:

- GRED_COUNTRYNAME.shp: Shapefile.
- GRED_COUNTRYNAME.shx: companion file to the .shp that stores the position of individual feature IDs in the .shp file.
- GRED_COUNTRYNAME.dbf: the dBASE table.
- GRED_COUNTRYNAME.prj: the coordinate system information.
- GRED_COUNTRYNAME.sbn: file that stores the spatial index of the features.
- GRED_COUNTRYNAME.sbx: file that stores the spatial index of the features.

Maps for GRED were created using ArcGIS® 10 by ESRI. ArcGIS® and ArcMap™ are the intellectual property of ESRI and are used herein under license. OpenOffice 4.0.1 and R 3.0.02 were used for matching and merging CLEA districts with the mapping files.

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

BETA

DOCUMENTATION OF VARIABLES

Variable List

CTR	Country Code
CTR_N	Country Name
CST_N	Constituency Name
CST_YEAR	Unique Constituency ID

Variable Descriptions

CTR Country Code

Country codes developed by the UN (<http://unstats.un.org/unsd/methods/m49/m49.htm>).

008 Albania	276 Germany	620 Portugal
032 Argentina	328 Guyana	642 Romania
040 Austria	340 Honduras	643 Russian Federation
056 Belgium	352 Iceland	702 Singapore
076 Brazil	356 India	724 Spain
124 Canada	380 Italy	752 Sweden
170 Colombia	428 Latvia	756 Switzerland
188 Costa Rica	442 Luxembourg	826 United Kingdom
203 Czech Republic	484 Mexico	840 United States
208 Denmark	554 New Zealand	894 Zambia
214 Dominican Republic	578 Norway	
246 Finland	604 Peru	

CTR_N Country Name

Names of countries. Maps for the following countries are included in the GRED (Beta) datasets.

Albania	Germany	Portugal
Argentina	Guyana	Romania
Austria	Honduras	Russian Federation
Belgium	Iceland	Singapore
Brazil	India	Spain
Canada	Italy	Sweden
Colombia	Latvia	Switzerland
Costa Rica	Luxembourg	United Kingdom
Czech Republic	Mexico	United States
Denmark	New Zealand	Zambia
Dominican Republic	Norway	
Finland	Peru	

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 archive data where the official map source used a variation on the name.

CST_YEAR Constituency Code for a Country Year in the Election Archive

A unique numeric code is assigned to each constituency that combines the country code (CTR), the election year, and the corresponding CST number in the CLEA Election Archive. For example, Albania's twelve multi-member constituencies are coded as follows

Albania 2009

CLEA CST	GRED CST_2009
1	8.2009.1
2	8.2009.2
⋮	⋮
12	8.2009.12

CLEA GEOREFERENCED ELECTORAL DISTRICTS DATASETS (BETA)

APPENDIX I:

SOURCE DOCUMENTATION (in alphabetical order by country)

**Version: July 22, 2014
(20140722)**

Albania**1. Overview**

<i>CST Total</i>	<i>District Type</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
12	MMC	2009	GRED_Albania.shp

2. Sources:

Global Administrative Areas (2012). "Albania." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

The electoral constituencies in the GADM data were matched with the 1st level administration divisions in Albania (twelve in total).

Argentina**1. Overview**

<i>CST Total</i>	<i>District Type</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
24	MMC	2003	GRED_Argentina.shp

2. Sources:

Global Administrative Areas (2012). "Argentina." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

The electoral constituencies in the GADM data were the 1st level administration divisions, that is the provinces (provincias) and the federal district (distrito federal).

Austria**1. Overview**

<i>CST Total</i>	<i>District Type</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
43	regional constituencies	2008	GRED_Austria.shp

2. Sources:

Global Administrative Areas (2012). "Austria." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

Statistics Austria (2014). "Regional electoral zones – Overview, key date 2014." Statistics Austria: The Information Manager. [online] URL: http://www.statistik.at/web_en/classifications/regional_breakdown/regional_electoral_zones/index.html

3. Modifications to source data:

The GADM map with 2nd level administrative divisions was used and matched to the Statistics Austria list. In Austria, the Districts (Bezirke) and Statutory cities (Statutarstädte) were merged to form the electoral constituencies.

Belgium**1. Overview**

<i>CST Total</i>	<i>District Type</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
20	Circonscriptions	1995	GRED_Belgium.shp

2. Sources:

Global Administrative Areas (2012). "Belgium." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

In the original CLEA data, the provinces were disaggregated to the level of the 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.rn.fgov.be/>).

Brazil**1. Overview**

<i>CST Total</i>	<i>District Type</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
27	MMC	2006	GRED_Brazil.shp

2. Sources:

Brazilian Institute of Geography and Statistics. "Maps: Bases and References." IBGE DIVISÃO DE MAPAS [online] URL: <http://mapas.ibge.gov.br/bases-e-referenciais>

3. Modifications to source data:

Electoral constituencies were matched with the 1st level administrative divisions, which were the 26 states (províncias) and the federal district (distrito federal).

Canada**1. Overview**

<i>CST Total</i>	<i>District Type</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
308	SMD	2011	GRED_Canada.shp

2. Sources:

Canada Centre for Mapping and Earth Observation (2011). "Federal Electoral Districts of Canada – 2011." Government of Canada, Natural Resources Canada, Earth Sciences Sector [online] URL: <http://geogratis.gc.ca/api/en/nrcan-rncan/ess-sst/6d1d8f90-1c25-5fd0-880d-138d27c8cb57.html>

3. Modifications to source data:

Electoral constituency map came directly in the Shapefile from the official source.

Colombia**1. Overview**

<i>CST Total</i>	<i>District Type</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
33	MMC	2006	GRED_Colombia.shp

2. Sources:

Global Administrative Areas (2012). "Colombia." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

Almost all electoral constituencies matched the 1st level administrative divisions, which were the Departments (*Departamentos*), Intendancies (*Intendencias*) or Commissaries (*Comisarías*). For these, 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. Overview**

<i>CST Total</i>	<i>District Type</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
7	MMC	2006	GRED_CostaRica.shp

2. Sources:

Global Administrative Areas (2012). "Costa Rica." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

Electoral constituencies matched the 1st level administrative divisions, which were the provinces (provincias).

Czech Republic**1. Overview**

<i>CST Total</i>	<i>District Type</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
14	MMC	2006	GRED_CzechRepublic.shp

2. Sources:

Global Administrative Areas (2012). "Czech Republic." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

Electoral constituencies matched the 1st level administrative divisions—the regions (kraje).

Denmark**1. Overview**

<i>CST Total</i>	<i>District Type</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
10	MMC	2007	GRED_Denmark.shp

2. Sources:

Danish Ministry of the Environment (2014). "Survey and Cadastre of Denmark." Danish Geodata Agency. [online] URL: http://eng.gst.dk/maps-topography/#.U7_xofldXmc.

3. Modifications to source data:

Electoral constituency map came directly in Shapefile from the official source and correspond to the countries (which does not include Greenland or the Faore Islands among the official electoral constituencies of Denmark). Raw maps from the Public Agency Kort & Matrikelstyrelsen were provided by Prof. Søren Risbjerg Thomsen.

Dominican Republic**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
30	MMC	1998	GRED_DominicanRepublic.shp

2. Sources:

Global Administrative Areas (2012). "Dominican Republic." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

Electoral constituencies matched the 1st level administrative divisions, which were the provinces (provincias) plus the national district (distrito nacional). However, a more recent 1st level map from GADM (with 32 provinces) was used to cover an older election (when the country had 30 administrative divisions and thus 30 electoral constituencies). The newer map recreated the older district map, as follows. First, the National District and the province of Santo Domingo (from the GADM file) were merged, forming the older National District. Second, the provinces of Peravia and of San José de Ocoa were merged, thus forming the older province of Peravia.

Finland**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
15	14 MMC 1 SMD	2007	GRED_Finland.shp

2. Sources:

Global Administrative Areas (2012). "Finland." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

Ministry of Justice (2014). "Parliamentary Elections 18.3.2007 - Results". Ministry of Justice Election Unit. [online] URL: <http://tulospalvelu.vaalit.fi/E2007/e/tulos/lasktila.html>.

3. Modifications to source data:

Electoral constituencies were created by merging lower administrative units from GADM maps. Almost all were merged from Finish sub-regions (Seutukunta/Ekonomisk region), which are in the 3rd level GADM file. A last constituency, the city of Helsinki, was copied from the municipality (Kunt/Kommun) in the map 4th level GADM file, added into the main map cropping 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. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
16	Länder	2009	GRED_Germany_PRTier.shp

2. Sources:

Federal Statistical Office (2014). "Regional Atlas." Statistical Offices of the Federation and Länder.

[online] URL:

<https://www.destatis.de/EN/FactsFigures/CountriesRegions/RegionalStatistics/RegionalStatistics.html>

3. Modifications to source data:

Electoral constituencies matched the 1st level administrative divisions, which were the states (länder). Additional map files were provided via email from the Federal Returning Office

(<http://www.bundeswahlleiter.de/en/>).

Guyana**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
10	10 regional MMC	2001	GRED_Guyana.shp

2. Sources:

Global Administrative Areas (2012). "Guyana." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

Electoral constituencies matched the 1st level administrative divisions, which were the administrative regions.

Honduras**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
18	MMC	2005	GRED_Honduras.shp

2. Sources:

Global Administrative Areas (2012). "Honduras." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

Electoral constituencies matched the 1st level administrative divisions, which were the departments (departamentos).

Iceland**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
8	MMC	1995	GRED_Iceland.shp

2. Sources:

Global Administrative Areas (2012). "Iceland." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

Electoral constituencies matched the 1st level administrative divisions, which were the regions (landsvæðun).

India

1. Overview

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
543	SMD	2009	GRED_India.shp

2. Sources:

Travel India Guide. "Parliamentary Constituencies of India for Election 2009." Travel India Guide – Parliamentary Constituencies Map & India Elections. [online] URL: <http://www.travelindia-guide.com/elections-indian-lok-sabha/parliamentary-constituencies.php>

Maps of India. "India General Election 2009." Maps of India – India Parliamentary Constituencies Map. [online] URL: <http://www.mapsofindia.com/parliamentaryconstituencies/> [date retrieved 1 April 2014]

Election Commission of India. "Detailed Results of Latest Elections – 2009." Election Commission of India – Election Results – Full Statistical Reports. [online] URL: http://eci.nic.in/eci_main1/ElectionStatistics.aspx

3. Modifications to source data:

Images for the electoral constituencies first were converted into Shapefiles by Joel Selway from the website *Travel India Guide*. Next, the images were modified and boundaries redrawn using *Maps of India* and information from the Election Commission of India.

Italy

1. Overview

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
26	MMC (PR tier)	1996	GRED_Italy_PRTier.shp

2. Sources:

Global Administrative Areas (2012). "Italy." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

Electoral constituencies were created by merging the Italian 1st level administrative divisions, which were the more than one hundred provinces (provincias). Information on which province belonged to each electoral constituency was provided by the Italian Ministry of Interior (<http://www.interno.gov.it/>) and sent to the project team via email. Kindly note: this is for the PR tier (1996), and the region Valle d'Aosta did not have a PR tier. Therefore, the map does not include this region.

Latvia**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
5	MMC	2000	GRED_Latvia.shp

2. Sources:

Global Administrative Areas (2012). "Latvia." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

Electoral constituencies matched the Latvian provinces in the GADM database.

Luxembourg**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
4	Cantons	1994	GRED_Luxembourg.shp

2. Sources:

Global Administrative Areas (2012). "Luxembourg." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

Le Gouvernement Du Grand-Duche De Luxembourg (2014). "Elections 1994." Le Site Officiel Des Elections au Grand-Duche de Luxembourg. [online] URL: <http://www.elections.public.lu/fr/elections-legislatives/1994/index.html>

3. Modifications to source data:

Electoral constituencies were created by merging the 2st level administrative divisions, which were the cantons. Information on which cantons formed each electoral constituency was obtained from the official electoral authority of Luxembourg.

Mexico**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
32	Province	2012	GRED_Mexico.shp

2. Sources:

Global Administrative Areas (2012). "Mexico." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

Following the CLEA data structure for Mexico, the electoral results are matched to the province (provincias), which are the 1st administrative divisions of Mexico, given by the 1st level GADM.

New Zealand

1. Overview

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
63	SMD	2008	GRED_NewZealand.shp

2. Sources:

Statistics New Zealand (2007). "New Zealand Electoral Districts (NZTM)." Statistics New Zealand.

[online] URL:

[https://www3.stats.govt.nz/digitalboundaries/annual/New%20Zealand%202007%20Electoral%20Districts%20\(NZTM\)%20\(8.35MB\).zip](https://www3.stats.govt.nz/digitalboundaries/annual/New%20Zealand%202007%20Electoral%20Districts%20(NZTM)%20(8.35MB).zip)

3. Modifications to source data:

Electoral constituency map came directly in Shapefile from the official source. However, the Maori districts were dropped, both to follow the definition of main districts in the CLEA main dataset and, the most important, to avoid confusion since in New Zealand these districts overlap the whole country. They are available upon request.

Norway**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
19	Counties	2009	GRED_Norway.shp

2. Sources:

Global Administrative Areas (2012). "Norway." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

Electoral constituencies matched the 1st level administrative divisions, i.e., counties (fylker).

Peru**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
25	MMC	2006	GRED_Peru.shp

2. Sources:

Global Administrative Areas (2012). "Peru." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

Electoral constituencies matched the 1st level administrative divisions, which were the departments (departamentos).

Portugal**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
20	MMC	2009	GRED_Portugal.shp

2. Sources:

Global Administrative Areas (2012). "Portugal." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

Electoral constituencies matched the 1st level administrative divisions, which were the departments (distritos).

Romania**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
42	MMC	2000	GRED_Romania.shp

2. Sources:

Global Administrative Areas (2012). "Romania." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

Almost all electoral constituencies matched the 1st level administrative divisions, which were the counties (judete), and the 1st level map from GADM is the main electoral constituency map. Then, to get the last constituency, which coincided with the city of Bucharest, the city boundary was drawn over the main map, creating a new polygon. This polygon was then separated from the previous county of Bucharest and named Ilfov, as in the official electoral sources.

Russia**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
89	Federal subjects City of Moscow	2003	GRED_Russia.shp

2. Sources:

Global Administrative Areas (2012). "Russia." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

The electoral constituencies considered here were the federal subjects with the addition of the City of Moscow. The federal subjects came from the 1st level GADM file. The city of Moscow was cut from the 2nd level GADM file. Then it was pasted together with the federal subjects, clipping it from the Region of Moscow to avoid overlapping.

Singapore**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
23	SMD MMC	2006	GRED_Singapore.shp

2. Sources:

Kireev, Alexander (2014). "Singapore. Legislative Elections 2006." Electoral Geography 2.0. [online]
URL: <http://www.electoralgeography.com/new/en/countries/s/singapore/singapore-legislative-election-2006.html>.

Urban Redevelopment Authority. "Regoin_Census2010." Singapore Government Data Portal. [online]
URL:
http://data.gov.sg/Metadata/OneMapMetadata.aspx?id=Region_Census2010&mid=125346&t=SPATIA

3. Modifications to source data:

The map 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 over the URA map. The district names were verified using the list at the Singapore Elections Department (<http://www.eld.gov.sg/homepage.html>).

Spain**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
52	50 MMC 2 SMD	2008	GRED_Spain.shp

2. Sources:

Global Administrative Areas (2012). "Spain." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

Electoral constituencies coincided with the 1st level administrative divisions, which were the provinces (provincias). They were taken from the 2nd level GADM file. However, this source has the Canary Islands as a sole province, which we then divided into the provinces of Las Palmas and of Santa Cruz de Tenerife.

Sweden**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
29	MMC	2006	GRED_Sweden.shp

2. Sources:

Global Administrative Areas (2012). "Sweden." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

Electoral constituencies were created by merging the Swedish municipalities (kommune). Information on which municipality was part of each electoral constituency came from the official electoral authority (<http://www.val.se/val/val2006/slutlig/K/rike/delar.html>).

Switzerland**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
26	MMC SMD	1995	GRED_Switzerland.shp

2. Sources:

Global Administrative Areas (2012). "Switzerland." GADM database of Global Administrative Areas, version 2.0. [online] URL: www.gadm.org.

3. Modifications to source data:

Electoral constituencies were drawn using the 1st level administrative units.

United Kingdom**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
650	SMD	2010	GRED_UK.shp

2. Sources:

United Kingdom Ordnance Survey (2014). "OS OpenData: Mapping data and geographic information from Ordnance Survey" United Kingdom Ordnance Survey. [online] URL: <https://www.ordnancesurvey.co.uk/opendatadownload/products.html>

Boundary Commission of Northern Ireland (2014). "Existing Constituencies." Boundary Commission of Northern Ireland. [online] URL: <http://www.boundarycommission.org.uk/index/maps/existing-constituencies-maps.htm>

3. Modifications to source data:

The final map of the electoral constituencies of the UK was created by merging the official map from the UK Ordnance Survey (which does not include the Northern Irish constituencies) with the official map from the Boundary Commission of Northern Ireland.

United States of America**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
435	SMD	2006	GRED_USA.shp

2. Sources:

The United States Census Bureau. "Cartographic Boundary Shapefiles – Congressional Districts." United States Census Bureau [online] URL: http://www.census.gov/geo/maps-data/data/cbf/cbf_cds.html

3. Modifications to source data:

Electoral constituency map came directly in Shapefiles from the official source.

Zambia**1. Overview**

<i>CST Total</i>	<i>District Type(s)</i>	<i>CLEA Election(s)</i>	<i>Shape File Name</i>
150	SMD	2006	GRED_Zambia.shp

2. Sources:

Environmental Systems Resources Institute (2013). "Zambia ENEP in 2004." ArcGIS Public Repository [online] URL: <http://www.arcgis.com/home/item.html?id=2c9ecbe3929444a89e47b6737e935f06>

3. Modifications to source data:

The original data was obtained by Joel Selway. The Shapefile boundaries correspond to the electoral districts..