

**U.K. NewsWeb**  
An Analysis of U.K. News Coverage Throughout Brexit

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Engaged Learning Report  
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# Introduction

## Statement

This study aims to analyze the British newspapers' coverage of three groups: the United States, the European Union and the rest of the world, leading up to and following Brexit.

## Purpose

The purpose of this project is to research the current tension of the U.K. and the E.U. through the lens of my fields of study: journalism, creative computation and computer science, by pulling, analyzing, and displaying data. This project looked at the quantity of news coverage instead of the subject matter of the article as other projects have done over a period of time in the past in order to ultimately develop a data visualization that graphically displays the frequency that the United Kingdom reports on other countries. The study, however, takes a more effective approach to researching this question by using scripts to allow large quantities of data to be analyzed quickly rather than focusing on studying few articles in depth. The hypothesis that is being tested is that coverage of the European Union will increase as tensions increase between the European Union and the United Kingdom.

## Origin

When I came to SMU, I knew I wanted to be a journalist; however, I held a fascination with coding and design. With these interests, I soon thereafter stumbled upon the world of data and computational journalism, which uses computer science skills to expedite and revolutionize the world of reporting and gathering information.

Once I was introduced to this new field, I began to look for opportunities to broaden my experiences to acquire necessary skills. This project came about as a way to practice, learn and use the tools that would be required for success in this data journalism world. This project provided me access to learn tools such as Javascript and D3.js as well as to practice gathering my own data and then analyzing the results. My realization that I needed experience using these skills coincided with my study abroad trip to London, which would be taking place during the time of the British referendum. I began doing research on Brexit, and I began to realize just how important and unprecedented this vote would be for the European Union and how crucial the media is in the United Kingdom. With this new knowledge, the idea for this research then developed to find a small lens to look at the coverage that the country was doing during this time and to look into the question of whether or not media bias comes into play during these heated political tensions, and if so, to what degree?

By studying the bias in London publications, I not only gain more knowledge in how to decipher these opinions in the media, but I also gain a global knowledge of news versus the national U.S. news that I have been exposed to throughout my life. This project also tests my research and critical thinking abilities, which are central to any journalist. The data visualization aspect of this project then applies my computer science and creative computation background. Creative computation explores computation as a generative creative medium. One application of creative computation is big data visualization, where large amounts of data are collected, analyzed and visualized, revealing trends through data. This project, therefore, follows these digital humanities

tendencies. I will also deepen my computer science skills by dealing with a long-term programming project that I will have to develop and upkeep over time.

From this project, I hope to gain an understanding of the United Kingdom and how to gather information in an environment that I am unfamiliar with, which is a central skill to my future in journalism. I also hope to develop my visualization skills by creating a graphic that has iconic significance to its audience. I also hope to improve my web programming skills as majority of programs that I create in my current courses are not designed for being published online, which I think is one of the best mediums to share these works. Overall, this project is a test of how I can incorporate all of my different interests in the future and seeing where the intersection between journalistic data and research and coding lies.

## **Background**

In news reporting, the quality and accuracy of news stories depend upon the writer's development of the story, and the quality of the production as a whole depends on the stories that the editor assigns. The typical newsroom pitches stories by having each staff member present certain ideas that they deem central for the publication to report; however, this method leaves room for unintentional, personal bias. The average reporter tends to cover the beats or information that he or she has a personal interest in, which causes the newspaper to neglect several topics simply because they do not fit within the personal preferences of the reporters. Granted, the editor does distribute stories to staff writers to offer some diversity; however, the state of the paper is still decided by the editor.

For example, two professors at the University of Chicago studied various news sources' coverage of single events to see how each newspaper covered the event. For the reporting of American troops in an Iraqi battle on December 2, 2003, the study looked at a Fox News, *New York Times* and Al Jazeera article. The study then found that "by selective omission, choice of words and varying credibility ascribed to the primary source" the meaning of each of the passages varied by news source (Gentzkow).

Several projects have acknowledged this bias in the news and then examined the reasons behind the differing coverage by the different news outlets. H. Denis Wu researched the media in 38 countries looking for nine variables he believed contribute to the media covering the area, variables like the demographics of the country, relevance to other countries, and availability of reporters (Wu 116). Wu then had a team of researchers manually read through several print and broadcast articles to find what factors result in international news coverage stories.

Another study by Alok Gupta, a former graduate student at the University of Kansas, focused the topic on India. Gupta chose to delve into the top three newspapers in the nation and examine the international news on the front page and the news section to see which countries are referenced. Gupta then formulated a system to annotate the articles when he saw certain determinants for these biases that he defined before beginning his project such as language or religious affinity (Gupta). Gupta, however, fails to compare his findings back to the reporting of news inside India, which could offer additional depth on whether the same factors affect the printing of international and local news.

These studies offer light on how the United Kingdom may depict other countries or other large powers such as the United States; however, studying the media sources in the United Kingdom in relation to European countries offers another level of complexity on account of the country's rich history. Since the conservative victory in the recent election in May 2015, the government promised a referendum in the United Kingdom to decide whether or not the country will remain a part of the European Union. This posed an interesting point in time to study the United Kingdom news as the media highly reported the issue in 1975, the last referendum involving the European Union. In 1975, all major media sources except for the *Morning Star* strongly supported staying with the European Union, which created a "distorted" media lens to the general public (Daddow). United Kingdom ministers used the media to convince the public through 280 speeches on the subject as well as several letters published in the press (Daddow). This current tension with the European Union then presents the question of whether the media depicted the European Union differently from the way they did in the past, which added a degree of timeliness to the project.

Due to these tendencies that have surfaced in the past, this research studied the current and past news of the United Kingdom in relation to the European Union, the United States and the rest of the countries around the world. By looking at these different areas, the project has an area of tension with the United Kingdom, an area of alliance with the United States as well as a general basis of coverage. When compared to these other constants, the changes in the quantity coverage of the European Union was expected to be the most rapidly changing variable throughout this project as the project

examined time periods closer and closer to the 2017 referendum to stay in or leave the European Union.

The end product of this project will be an online data visualization as studied in my creative computation courses. The visualization would appear like a map centralized on the United Kingdom with lines tracing where each news story from the country is focused on. By presenting this information in a visual format, readers can then actually see the polarization, or lack thereof, in of the country's news reporting.

## **Methodology**

As described in the background, other projects have studied the bias in the news by hand or by closing focus to just a few newspapers. This project used a digital method to provide a quicker, more efficient way to gather large amounts of data to show large trends rather than small details in the actual texts. The methodology used includes three main steps: acquisition, which is when the needed data is collected; parsing, which is when the data will be cleaned and organized for use; and visualization, which is when the data that is acquired will be displayed to then be used for analysis.

### **Acquisition**

The first step of acquisition was to find the various sources that would be used in this project. In an ideal setting with ample time and resources, the following sources were chosen based on a study by the national readership survey that measured the net total readership count on mobile devices, computers and print editions as well as based on including a variety of newspapers of different political backgrounds. The online sources that were chosen were: the *Daily Mail*, *The Guardian*, the *Daily Mirror*, *The Daily Telegraph*, *The Independent*, *The Sun*, and *The Times* (NRS; Wilks-Heeg). The *BBC*



*Online* was also chosen as the BBC reports receiving 53 million views each week in the United Kingdom, making it the most widely accessed news source in the country (BBC Annual Report and Accounts). Data would also ideally be collected since the founding of the European Union in 1993.

Upon further work on the project, the scope of the project was updated and The Guardian Open Platform API was used instead to gather the number of times certain countries were referenced in their archives. To gather this information, several scrapers were written to use this API. The first scraper wished to pull all the article names and URL's of each time a certain country was referenced; however, this process needed several weeks to run to collect all of the necessary data due to rate limits with the API. At this point, the information needed for this research was then re-focused, and a new program was developed that collected similar information without having to call the API as many times.

In this new program, the main focus was on the number of times a country was referenced rather than the actual contents of the article. The program searched from a list of country names in the API to find when they were mentioned. To cut down on the number of times this API would have to be called, it was only looking from 2010 to 2017, which provided a several year snapshot before the referendum as well as a year after the vote to provide context. In addition to this, the API also collected data on a quarterly basis rather than looking at each day. By looking at quarters, this provided digestible intervals to see how the coverage shifted throughout these times.

## **Parsing**

Once the data was compiled, several other scripts were developed to organize and clean the data for use in the visualization as well as use to analyze the information. One challenge that resulted after gathering the data was the ability to view the information due to the large file size. Due to this, a script was written that pulled just the country, time period, and counts that these countries were referenced during this time period. This information was then used to build another script that then made a .csv with totals for the top countries that were referenced as well as totals for the number of times that European Union countries, all countries and non-European Union countries were mentioned. After pulling these totals for all the countries in the world, another script was then developed to just pull and filter the European Union countries to look at each country and how the quantity of coverage increased or decreased as the time approached Brexit.

### **Visualization**

Once the data was acquired and parsed, the next step was to visualize this information and put it on the web. Much like in the acquisition stage, this process required several different iterations to find the right way to program the visualization with the data given. Two main items were taken into account when making the visualization: the first was the styling and visual elements of the map and the second was the efficiency of the map. The styling posed interesting challenges as the data proved to have less peaks than expected, which makes it more difficult to display changes in information. In addition, coding the visualization to have quicker load times was also a repetitive concern that required much refactoring of code to improve.

The tools used for this visualization was Javascript, HTML, CSS and the D3.js library. The D3.js library was chosen as this is a common library used in data journalism

as well as it provides robust features for mapping. The other technologies used are common tools used in web development. The data used for the visualization was a .json as well as a .csv that was included with the code rather than running the data from a backend database.

Once the visualization was complete, a hosting service was then provided and the data and visualization was migrated to the web, so it could be accessed publicly.

## Data Analysis of Brexit Coverage

Several scripts were implemented throughout this project to gather data from The Guardian Open Platform API. The number of times countries names were referenced on a quarterly basis from 2010 until the end of 2017 were pulled. Two-hundred and forty-one countries were searched for in this process, which was chosen through a dataset from Google that contained a list of world countries. Table 1 shows the top countries that were referenced by year.

TABLE 1: Top 20 referenced countries

Country	2010	2011	2012	2013	2014	2015	2016	2017
<b>Total</b>	174926	189509	197731	223116	239406	242612	232161	182160
<b>EU</b>	37945	42961	44757	47096	48373	50349	50859	38205
<b>Non-EU</b>	136981	146548	152974	176020	191033	192263	181302	143955
Australia	3954	3962	3807	8338	10703	12650	11930	10409
France	5521	6714	6930	7109	7219	7971	8023	5858
United States	4928	5315	5756	7188	7473	7778	8313	6393
China	4476	5125	5639	5777	5191	5519	5618	4369
Germany	4443	4836	4941	5385	5856	5991	5761	4461
South Africa	5663	4594	5042	5568	5525	5508	4892	3776
Ireland	4647	5352	4446	4952	4564	5006	4736	4198
Isle of Man	3150	3672	4158	4620	4669	4795	4616	3504
South Georgia and the South Sandwich Islands	3316	3143	3868	4069	4430	4718	4397	3454
India	3531	4013	3920	4317	4141	3646	3263	2862

Russia	2531	2524	3091	3608	4676	3796	4328	4411
Italy	2707	3883	3721	3872	3928	3559	3724	2826
Spain	3470	3649	4231	3758	3648	3270	3132	2790
Vatican City	2481	2807	2783	3241	3503	3580	3597	2549
United Arab Emirates	2554	3320	2974	3385	3589	3293	2944	2401
South Korea	2901	2295	2949	3360	3341	3204	3096	2835

When looking at Table 1, one can see that several countries saw substantial increases in coverage at certain period of times such as Australia seeing a large increase in coverage towards the later years as well as the United States. This sheds light on the several other factors that may be increasing the quantity of coverage of certain countries. In Australia, for example, the Guardian has an Australia edition that probably causes the higher coverage of this country. The Guardian also has editions in the U.K., the United States as well as an international edition. Due to this, larger coverage of the United States and Australia can be expected since the Guardian is likely to have more resources and staff located in these areas. Another inconsistency that results in this data stems from the way that the API searched. Two of the countries that resulted in the top picks were the Isle of Man as well as South Georgia and the South Sandwich Islands. Upon first glance, this seems inconsistent and odd that these two places would have the same amount of coverage as others like Russia or India; however, this uncovered another one of the flaws with the methodology. With the way that the API was used, multi-word searches may have resulted in more references due to both of these words being found in the articles.

Another observation found in Table 1 is when we look specifically at the years closest to Brexit. The British referendum occurred in June of 2016, which a small increase in European Union coverage can be seen while the coverage of Non-European Union countries slightly fell off. This slight increase in coverage, however, is less apparent when looking at Table 2, which actually shows a decline in coverage of

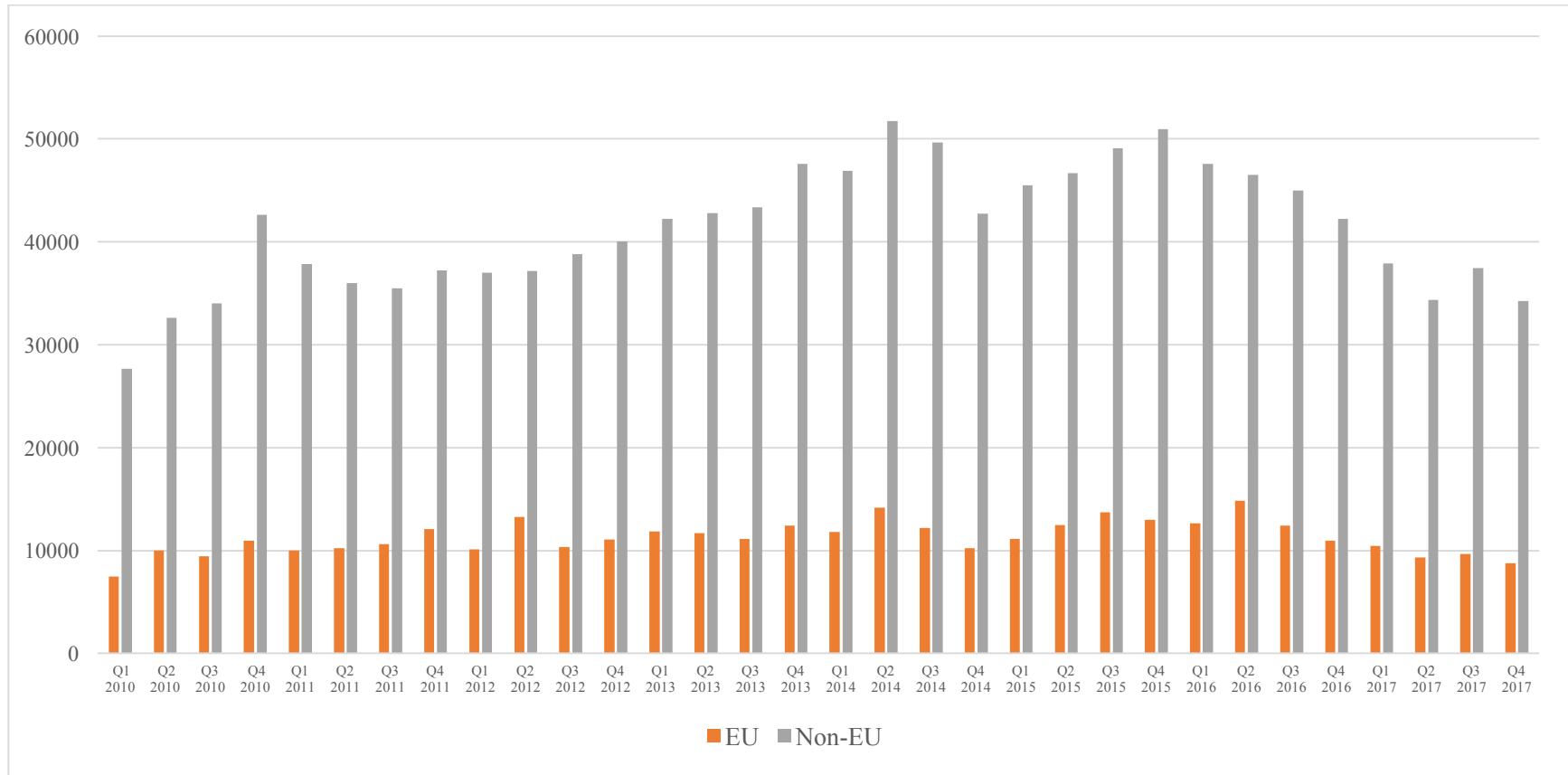
European Union countries as time approach Q2 of 2016 when this referendum occurred.

When looking at a graph of the coverage as shown in Graph 1, coverage of the European Union countries is relatively constant from 2010 leading up to 2017.

TABLE 2: European Union countries and their references closer to Brexit

country	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017	Q4 2017
total	11151	12500	13725	12973	<b>12658</b>	14822	12403	10976	10440	9307	9699	8759
Austria	157	207	315	218	<b>218</b>	353	213	220	151	122	173	136
Italy	881	921	957	800	<b>935</b>	1075	835	879	838	701	667	620
Belgium	294	332	317	452	<b>411</b>	505	385	284	220	202	254	224
Latvia	39	72	57	52	<b>49</b>	44	29	38	35	26	37	20
Bulgaria	67	60	70	74	<b>93</b>	70	81	69	57	38	35	59
Lithuania	110	65	82	97	<b>47</b>	57	59	91	78	47	53	70
Croatia	64	72	162	105	<b>96</b>	182	136	63	43	57	76	76
Luxembourg	97	151	104	116	<b>99</b>	123	78	98	96	85	106	80
Cyprus	83	118	111	140	<b>90</b>	117	77	59	80	65	66	82
Malta	57	86	49	105	<b>42</b>	69	70	130	105	53	97	86
Czech Republic	174	316	256	220	<b>219</b>	321	253	179	153	166	197	167
Netherlands	260	301	324	300	<b>329</b>	400	373	343	374	287	323	208
Denmark	217	283	224	254	<b>277</b>	238	254	211	171	167	176	191
Poland	226	226	223	283	<b>320</b>	419	323	244	245	215	233	213
Estonia	58	63	62	92	<b>43</b>	49	50	57	51	42	53	34
Portugal	188	266	215	191	<b>208</b>	457	370	179	172	197	233	186
Finland	121	137	142	134	<b>144</b>	125	141	138	114	101	100	91
Romania	84	89	153	147	<b>106</b>	229	133	107	89	94	75	83
France	1845	1801	1992	2333	<b>1984</b>	2337	2110	1592	1638	1440	1580	1200
Slovakia	44	55	112	68	<b>91</b>	248	175	104	38	74	96	63
Germany	1320	1432	1692	1547	<b>1503</b>	1582	1416	1260	1279	1086	1119	977
Slovenia	35	90	92	109	<b>70</b>	82	82	125	41	39	60	101
Greece	604	780	1059	516	<b>514</b>	571	394	320	328	284	290	244
Spain	761	846	886	777	<b>732</b>	972	789	639	613	712	785	680
Hungary	92	117	345	202	<b>168</b>	272	191	138	120	97	132	112
Sweden	267	426	390	385	<b>416</b>	479	348	298	298	247	272	252
Ireland	1183	1300	1254	1269	<b>1255</b>	1382	1003	1096	1056	1096	914	1132
United States	1823	1888	2080	1987	<b>2199</b>	2064	2035	2015	1957	1567	1497	1372

GRAPH 1: The number of references of European Union Countries vs Non-European Union Countries



Another interesting trend that acted in opposite of the thesis of this paper is when the European Union countries that have been facing economic trouble: Greece, Portugal, Italy and Spain. These countries in particular were analyzed to see if any substantial coverage increases occurred as talks of certain items like the Euro and the economic burden of the European Union occurred during coverage leading up to the referendum. The economic burden of the European Union on the United Kingdom was a highly-debated topic based on my own observations while being in these countries; however, the data does not show any substantial increases in coverage of these areas in question.

When analyzing any of this data, one must also recognize the time frame that one is looking at. In the months leading up to the referendum as well as following. Several world events were taking place. For example, the United States just finished its election cycle with President Donald Trump taking office as well as Europe faced crisis with the Brussels terrorist attack right before the referendum as well as the Nice attack just the month after. These highly-covered events very well may have altered and influenced the data that was collected.

## **Conclusion**

This project presented interesting challenges when looking at the field of data journalism; however, the data found from this piece does not provide substantial evidence to support the thesis that British media would cover European Union nations more in the months leading up to Brexit. In fact, in many ways coverage remained constant throughout this time, which may be due to the fact that there wasn't bias or there may have been worldly events taking place throughout this time that kept coverage constant



when compared to the European Union. This paper, however, analyzed strictly the quantity of coverage that each of these different locations is given, which is only a snapshot of the larger picture of media bias. Of course, the words that are used or the way that these countries are referenced could give another view at the coverage that took place during this time. While being in London during the referendum, Brexit was a common talking point of people all throughout the city. Each day, citizens would be picking up the Evening Standard on the way in the tube to begin their commutes to their homes with each day having various articles speaking onto the constant battle going on between “Leave” and “Remain”. In fact, the evening before the results came out, the Evening Standard published that “Remain” took the vote, which did not prove to be the case as history unfolded. These sorts of facts remain outside the scope of this project; however, they provide interesting context to the conversation of how the media covered Brexit during this time period. Did the media aid and facilitate the public’s conversation or did it move people one way or another? These are the questions that one must consider in a world that is dominated by information at every spot and turn. These are the questions we face when social media is used as a platform for sharing thoughts and opinions. How does this overflow of information affect the choices we make? This the question that is at the heart of the conversation of media bias, and this is a question that still has much research that can be done on it.

This conclusion, however, does gives hope to the world of media by showing that despite times of high political and social tension, a commitment to covering different areas equally is maintained.

## **Limitations**

Throughout the evolution of this project, several challenges along the various different steps from data gathering to presenting the information hindered progress. The first challenge that morphed this project was access to various newspaper sources. When reading the Terms of Use of various newspaper sites, there were policies against web scraping or accessing the newspaper information that this project was looking to use. At this point, it was then necessary to contact the various publications that that the project wanted to research; however, this process slowed down the data acquisition step. After facing slow replies or no responses, to continue forward progress, I then selected to use The Guardian's Open Platform API to collect articles since these articles were available for use. This API then provided limitations in and of itself. As with many API's, there were specific limits to the number of articles that could be accessed per day as well as not all articles were available through this tool, which then gave a limited snapshot of the data.

Another limitation that resulted in this project is the capabilities of the technology used. The speed of the visualization as well as the speed of gathering data limited the amount of information that could be gathered and displayed in this project. With the web application, it frequently takes many seconds to load, which negatively impacts the user experience. With further time, this experience could be better implemented to provide quicker loading or a higher bandwidth hosting service.

In addition, another limitation that occurred was the learning gap of learning these new technologies and using the tools necessary to complete the research. Part of this project was a journey of learning tools like Javascript and d3.js, which resulted in certain stages taking longer than expected.

## Implications for Further Research

While this research did not suggest a correlation between the time leading up to Brexit and the quantity of British coverage of European Union countries, more research could further examine this question.

The most intuitive expansion of this research would be looking at different newspapers' coverage. In this study due to time restraints and access complications, data was only pulled from *The Guardian's* Open Platform API. In order to give a more thorough look at the overall coverage of the British media in this time, this question could be better answered by gathering data on more British newspapers from both sides of the political spectrum. By gathering more sources, other factors that lead to inaccurate data such as the number of staff certain newsrooms have in each country may have been alleviated.

Another area that could lead to further research from this study is to do sentiment analysis on the articles that are pulled. By doing sentiment analysis, a different angle of media bias can be explored by researching the way that certain countries are mentioned instead of just focusing on the quantity of coverage.

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## Appendix

### LIST 1: A list of European Union Countries

Austria  
Italy  
Belgium  
Latvia  
Bulgaria  
Lithuania  
Croatia  
Luxembourg  
Cyprus  
Malta  
Czech Republic  
Netherlands  
Denmark  
Poland  
Estonia  
Portugal  
Finland  
Romania  
France

Slovakia  
 Germany  
 Slovenia  
 Greece  
 Spain  
 Hungary  
 Sweden  
 Ireland  
 United Kingdom

## LIST 2: A list of the countries searched and their coordinates

Abbreviation	Latitude	Longitude	Country
AD	42.546245	1.601554	Andorra
AE	23.424076	53.847818	United Arab Emirates
AF	33.93911	67.709953	Afghanistan
AG	17.060816	-61.796428	Antigua and Barbuda
AI	18.220554	-63.068615	Anguilla
AL	41.153332	20.168331	Albania
AM	40.069099	45.038189	Armenia
AN	12.226079	-69.060087	Netherlands Antilles
AO	-11.202692	17.873887	Angola
AQ	-75.250973	-0.071389	Antarctica
AR	-38.416097	-63.616672	Argentina
AS	-14.270972	-170.132217	American Samoa
AT	47.516231	14.550072	Austria
AU	-25.274398	133.775136	Australia
AW	12.52111	-69.968338	Aruba
AZ	40.143105	47.576927	Azerbaijan
BA	43.915886	17.679076	Bosnia and Herzegovina
BB	13.193887	-59.543198	Barbados
BD	23.684994	90.356331	Bangladesh
BE	50.503887	4.469936	Belgium
BF	12.238333	-1.561593	Burkina Faso
BG	42.733883	25.48583	Bulgaria
BH	25.930414	50.637772	Bahrain
BI	-3.373056	29.918886	Burundi
BJ	9.30769	2.315834	Benin
BM	32.321384	-64.75737	Bermuda

BN	4.535277	114.727669	Brunei
BO	-16.290154	-63.588653	Bolivia
BR	-14.235004	-51.92528	Brazil
BS	25.03428	-77.39628	Bahamas
BT	27.514162	90.433601	Bhutan
BV	-54.423199	3.413194	Bouvet Island
BW	-22.328474	24.684866	Botswana
BY	53.709807	27.953389	Belarus
BZ	17.189877	-88.49765	Belize
CA	56.130366	-106.346771	Canada
CC	-12.164165	96.870956	Cocos Islands
CD	-4.038333	21.758664	Congo
CF	6.611111	20.939444	Central African Republic
CG	-0.228021	15.827659	Congo
CH	46.818188	8.227512	Switzerland
CI	7.539989	-5.54708	Côte d'Ivoire
CK	-21.236736	-159.777671	Cook Islands
CL	-35.675147	-71.542969	Chile
CM	7.369722	12.354722	Cameroon
CN	35.86166	104.195397	China
CO	4.570868	-74.297333	Colombia
CR	9.748917	-83.753428	Costa Rica
CU	21.521757	-77.781167	Cuba
CV	16.002082	-24.013197	Cape Verde
CX	-10.447525	105.690449	Christmas Island
CY	35.126413	33.429859	Cyprus
CZ	49.817492	15.472962	Czech Republic
DE	51.165691	10.451526	Germany
DJ	11.825138	42.590275	Djibouti
DK	56.26392	9.501785	Denmark
DM	15.414999	-61.370976	Dominica
DO	18.735693	-70.162651	Dominican Republic
DZ	28.033886	1.659626	Algeria
EC	-1.831239	-78.183406	Ecuador
EE	58.595272	25.013607	Estonia
EG	26.820553	30.802498	Egypt
EH	24.215527	-12.885834	Western Sahara
ER	15.179384	39.782334	Eritrea
ES	40.463667	-3.74922	Spain
ET	9.145	40.489673	Ethiopia

FI	61.92411	25.748151	Finland
FJ	-16.578193	179.414413	Fiji
FK	-51.796253	-59.523613	Falkland Islands
FM	7.425554	150.550812	Micronesia
FO	61.892635	-6.911806	Faroe Islands
FR	46.227638	2.213749	France
GA	-0.803689	11.609444	Gabon
GD	12.262776	-61.604171	Grenada
GE	42.315407	43.356892	Georgia
GF	3.933889	-53.125782	French Guiana
GG	49.465691	-2.585278	Guernsey
GH	7.946527	-1.023194	Ghana
GI	36.137741	-5.345374	Gibraltar
GL	71.706936	-42.604303	Greenland
GM	13.443182	-15.310139	Gambia
GN	9.945587	-9.696645	Guinea
GP	16.995971	-62.067641	Guadeloupe
GQ	1.650801	10.267895	Equatorial Guinea
GR	39.074208	21.824312	Greece
GS	-54.429579	-36.587909	South Georgia and the South Sandwich Islands
GT	15.783471	-90.230759	Guatemala
GU	13.444304	144.793731	Guam
GW	11.803749	-15.180413	Guinea-Bissau
GY	4.860416	-58.93018	Guyana
GZ	31.354676	34.308825	Gaza Strip
HK	22.396428	114.109497	Hong Kong
HM	-53.08181	73.504158	Heard Island and McDonald Islands
HN	15.199999	-86.241905	Honduras
HR	45.1	15.2	Croatia
HT	18.971187	-72.285215	Haiti
HU	47.162494	19.503304	Hungary
ID	-0.789275	113.921327	Indonesia
IE	53.41291	-8.24389	Ireland
IL	31.046051	34.851612	Israel
IM	54.236107	-4.548056	Isle of Man
IN	20.593684	78.96288	India
IO	-6.343194	71.876519	British Indian Ocean Territory
IQ	33.223191	43.679291	Iraq
IR	32.427908	53.688046	Iran
IS	64.963051	-19.020835	Iceland



IT	41.87194	12.56738	Italy
JE	49.214439	-2.13125	Jersey
JM	18.109581	-77.297508	Jamaica
JO	30.585164	36.238414	Jordan
JP	36.204824	138.252924	Japan
KE	-0.023559	37.906193	Kenya
KG	41.20438	74.766098	Kyrgyzstan
KH	12.565679	104.990963	Cambodia
KI	-3.370417	-168.734039	Kiribati
KM	-11.875001	43.872219	Comoros
KN	17.357822	-62.782998	Saint Kitts and Nevis
KP	40.339852	127.510093	North Korea
KR	35.907757	127.766922	South Korea
KW	29.31166	47.481766	Kuwait
KY	19.513469	-80.566956	Cayman Islands
KZ	48.019573	66.923684	Kazakhstan
LA	19.85627	102.495496	Laos
LB	33.854721	35.862285	Lebanon
LC	13.909444	-60.978893	Saint Lucia
LI	47.166	9.555373	Liechtenstein
LK	7.873054	80.771797	Sri Lanka
LR	6.428055	-9.429499	Liberia
LS	-29.609988	28.233608	Lesotho
LT	55.169438	23.881275	Lithuania
LU	49.815273	6.129583	Luxembourg
LV	56.879635	24.603189	Latvia
LY	26.3351	17.228331	Libya
MA	31.791702	-7.09262	Morocco
MC	43.750298	7.412841	Monaco
MD	47.411631	28.369885	Moldova
ME	42.708678	19.37439	Montenegro
MG	-18.766947	46.869107	Madagascar
MH	7.131474	171.184478	Marshall Islands
MK	41.608635	21.745275	Macedonia
ML	17.570692	-3.996166	Mali
MM	21.913965	95.956223	Myanmar
MN	46.862496	103.846656	Mongolia
MO	22.198745	113.543873	Macau
MP	17.33083	145.38469	Northern Mariana Islands
MQ	14.641528	-61.024174	Martinique

MR	21.00789	-10.940835	Mauritania
MS	16.742498	-62.187366	Montserrat
MT	35.937496	14.375416	Malta
MU	-20.348404	57.552152	Mauritius
MV	3.202778	73.22068	Maldives
MW	-13.254308	34.301525	Malawi
MX	23.634501	-102.552784	Mexico
MY	4.210484	101.975766	Malaysia
MZ	-18.665695	35.529562	Mozambique
NA	-22.95764	18.49041	Namibia
NC	-20.904305	165.618042	New Caledonia
NE	17.607789	8.081666	Niger
NF	-29.040835	167.954712	Norfolk Island
NG	9.081999	8.675277	Nigeria
NI	12.865416	-85.207229	Nicaragua
NL	52.132633	5.291266	Netherlands
NO	60.472024	8.468946	Norway
NP	28.394857	84.124008	Nepal
NR	-0.522778	166.931503	Nauru
NU	-19.054445	-169.867233	Niue
NZ	-40.900557	174.885971	New Zealand
OM	21.512583	55.923255	Oman
PA	8.537981	-80.782127	Panama
PE	-9.189967	-75.015152	Peru
PF	-17.679742	-149.406843	French Polynesia
PG	-6.314993	143.95555	Papua New Guinea
PH	12.879721	121.774017	Philippines
PK	30.375321	69.345116	Pakistan
PL	51.919438	19.145136	Poland
PM	46.941936	-56.27111	Saint Pierre and Miquelon
PN	-24.703615	-127.439308	Pitcairn Islands
PR	18.220833	-66.590149	Puerto Rico
PS	31.952162	35.233154	Palestinian Territories
PT	39.399872	-8.224454	Portugal
PW	7.51498	134.58252	Palau
PY	-23.442503	-58.443832	Paraguay
QA	25.354826	51.183884	Qatar
RE	-21.115141	55.536384	R_union
RO	45.943161	24.96676	Romania
RS	44.016521	21.005859	Serbia

RU	61.52401	105.318756	Russia
RW	-1.940278	29.873888	Rwanda
SA	23.885942	45.079162	Saudi Arabia
SB	-9.64571	160.156194	Solomon Islands
SC	-4.679574	55.491977	Seychelles
SD	12.862807	30.217636	Sudan
SE	60.128161	18.643501	Sweden
SG	1.352083	103.819836	Singapore
SH	-24.143474	-10.030696	Saint Helena
SI	46.151241	14.995463	Slovenia
SJ	77.553604	23.670272	Svalbard and Jan Mayen
SK	48.669026	19.699024	Slovakia
SL	8.460555	-11.779889	Sierra Leone
SM	43.94236	12.457777	San Marino
SN	14.497401	-14.452362	Senegal
SO	5.152149	46.199616	Somalia
SR	3.919305	-56.027783	Suriname
ST	0.18636	6.613081	S_ o Tom_ and Pr_ ncipe
SV	13.794185	-88.89653	El Salvador
SY	34.802075	38.996815	Syria
SZ	-26.522503	31.465866	Swaziland
TC	21.694025	-71.797928	Turks and Caicos Islands
TD	15.454166	18.732207	Chad
TF	-49.280366	69.348557	French Southern Territories
TG	8.619543	0.824782	Togo
TH	15.870032	100.992541	Thailand
TJ	38.861034	71.276093	Tajikistan
TK	-8.967363	-171.855881	Tokelau
TL	-8.874217	125.727539	Timor-Leste
TM	38.969719	59.556278	Turkmenistan
TN	33.886917	9.537499	Tunisia
TO	-21.178986	-175.198242	Tonga
TR	38.963745	35.243322	Turkey
TT	10.691803	-61.222503	Trinidad and Tobago
TV	-7.109535	177.64933	Tuvalu
TW	23.69781	120.960515	Taiwan
TZ	-6.369028	34.888822	Tanzania
UA	48.379433	31.16558	Ukraine
UG	1.373333	32.290275	Uganda
UM			U.S. Minor Outlying Islands

US	37.09024	-95.712891	United States
UY	-32.522779	-55.765835	Uruguay
UZ	41.377491	64.585262	Uzbekistan
VA	41.902916	12.453389	Vatican City
VC	12.984305	-61.287228	Saint Vincent and the Grenadines
VE	6.42375	-66.58973	Venezuela
VG	18.420695	-64.639968	British Virgin Islands
VI	18.335765	-64.896335	U.S. Virgin Islands
VN	14.058324	108.277199	Vietnam
VU	-15.376706	166.959158	Vanuatu
WF	-13.768752	-177.156097	Wallis and Futuna
WS	-13.759029	-172.104629	Samoa
XK	42.602636	20.902977	Kosovo
YE	15.552727	48.516388	Yemen
YT	-12.8275	45.166244	Mayotte
ZA	-30.559482	22.937506	South Africa
ZM	-13.133897	27.849332	Zambia
ZW	-19.015438	29.154857	Zimbabwe