

Management the Potential Data on Web Site for Communicating Research in Social & Environment Issues

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Abstract - *This paper focus on Management the Potential Data on Web Site For Communicating Research In Social and Environment Field with a special focus to produce some research on education and climate issue. It discusses the potentials and challenges of Internet data for social and environmet and presents a selection of the relevant literature to establish the wide spectrum of topics, which can be reached. Such data represent a large and increasing part of everyday life, which cannot be measured otherwise. They are timely, perhaps even daily following the factual process, they typically involve large numbers of observations, and they allow for flexible conceptual forms and experimental settings. In this paper, the data from website be managed to produce some academic article. Internet data can successfully be applied to a very wide range of climate issues including forecasting (e.g. of rainfall, wind speed, and the like) and detecting education issues (e.g. spatial analysis for relation a number of male and female students and test score mathematic and foreign languages subjects) ,Our article reviews the current attempts in the literature to incorporate Internet data into the mainstream of scholarly empirical research and guides the reader through this Special Issue. We provide some insights and a brief overview of the current state of research.*

Keywords: *communication, environment, social, spetial analysis, web site.*

1. Introduction

The web today is an important cultural resource as the venue for a large amount of social interaction. The web plays an important role in society and in people's lives. It is therefore important that we learn how to use the web for research, both as a research object in itself and as a source of knowledge about other research objects.

In the 1980s, as the Internet was in its infancy, social scientists first saw it as a medium over which one could "build and field" surveys with ease, in an unprecedented scale, price and speed. In the 1990s, the Internet started entering the homes and everyday lives of individuals, via email communication, 'surfing' and 'askjeeves' for specific questions, to name a few options. In the 2000s, as web technologies became more involved, via increasingly more effective techniques, and as individuals used the Internet more intensively, tons of data just started piling up. At the same time, as ICT advance sampling becomes less and less of an unavoidable fact. By connecting an ever-larger part of the population we progressively eliminate selection bias because the online population tends to become equal to the general population thus allowing us to have truly random and representative samples, at least when there is full access to the data. At the same time progress in ICT makes sampling unnecessary since we are able to deal with practically unlimited amounts of data. A number of researchers have begun to explore the advantages of conducting research through the internet using e-mail [1], Murray & Sixsmith and the World Wide Web (WWW or web) [2]. The internet is increasingly seen as offering many more advantages than traditional research methods, and thus can be expected to become a more prominent feature of empirical reports over time.

Some of the advantages of web-based research are: reducing costs, ease and speed of administration [3 – 4], the ability to provide high levels of anonymity [5] which increases self-esteem while reducing social anxiety and social desires [6], and access to larger and more diverse samples [7], [4]. In addition, this method allows targeting minority and special populations that might otherwise be difficult to access [1], [4], [5]. Internet as a Data Source is gaining more and more importance in Official Statistics. An increasing number of Statistical Institutes are indeed experimentingn the use of new sources of data (also known as Big Data) in



order to produce the same or new statistical information in a multisource environment, more efficiently and with higher levels of quality [8]. Many examples of the use of Internet data sources can be reported. For instance: Internet queries: the use of Google Trends has been evaluated in order to produce now-casting estimates of unemployment indicators [9]; Web prices: Web scraping is already in use in order to collect prices related to goods and services for the construction of Consumer Prices Indexes [10], Social media: posts in social media, like Twitter or Facebook, can be used in order to support the production of traditional Official Statistics indexes like, e.g., the Consumer Confidence Index [11]. In the sequel, we provide information on some literature that has used Internet data in the context of human resources within the social sciences. The early contributions have applied Google activity data; among them, we find [12], [13], [14]. Ettredge et al. were able to utilize Internet search engine keyword usage data recorded in the WordTracker's Top 500 Keyword Report published weekly by Rivergold Associates Ltd covering the Web's largest meta-search engines [15]. Providing an unbiased view of searches, they exploited six terms they thought would be mostly used by job seekers to predict US unemployment rates; namely job search, jobs, monster.com, resume, employment, and job listings. Another example is aggregate consumer behavior: Choi and Varian use Google activity data for the US for automobile sales, travel destination planning and consumer confidence [16]. Carrière-Swallow and Labbé show that Google search queries of automobile purchases in Chile improve the fit and efficiency of nowcasting automobile sales and are better at identifying turning points, although Internet use has been still low in Chile [17]. In a study of the US housing market for 2006-2011, Askitas and Zimmermann evaluate search intensity data for "hardship letter" from Google Insights to detect ensuing mortgage delinquencies [18]. Other studies are on food stamps data in the US [19], private consumption Kholodilin et al., for Germany [20]; Vosen and Schmidt, for the US [21] and hotel demand from web traffic data [22]. Vosen and Schmidt show that in almost all of their forecasting experiments a Google search activity indicator outperforms well-known survey-based indicators [23]. Saiz and Simonsohn suggest to systematically use Internet data to proxy unobservable variables and demonstrate the usefulness of this technique for a selection of occurrence frequencies of crucial social phenomena in the US [24].

In this paper, we first discuss the type of data that are available on the internet and researchers have started using in their analyses. We reveal the particular chances and challenges these data bring to deal with human resources questions. We then introduce key literature in the subfields related to education and climate issues in the social sciences. Finally, data sourced from several education and climate websites will be managed and communicated through research articles published in international journals

2. Research Methods

2.1. Source Internet Data in Some Potential Website for Education and Climate Issues

Research on education and climate is very interesting to do, because these two issues use large data. For this reason, the data source was obtained from several websites, namely <https://puspendik.kemdikbud.go.id/hasil-un/>, <https://dapo.dikdasmen.kemdikbud.go.id/sekolah/> and <https://www7.ncdc.noaa.gov/CDO/>. The first two websites play an important role in producing educational data such as the number of male and female students as well as data values on mathematics and foreign languages, and other websites that produce data on climate, especially daily rainfall data and wind speed data.

3. Results and Discussion

3.1 Management Education Data for Produce Research Article

Data on the number of female and male students and the value of mathematics and foreign language lessons is very interesting to study. Especially in determining the relationship of the type of data in a very wide area. The concept of spatial analysis or more often termed mapping is one of the research fields that is very useful in the field of education, comparing mapping for the two types of data above in a very wide area will provide very good benefits, especially in drawing conclusions about sex relations in understanding of mathematics and foreign languages in the region. Figure 1 is a web site used in obtaining value data on mathematics and foreign languages, while Figure 2 is a web site to obtain additional data needed to conduct spatial analysis research in detecting gender relations in understanding several lessons. On the web site, the number of male and female students can be obtained and the location of the latitude and longitude schools that were sampled in this study.

Data that has been obtained will be managed by collecting data into the table. Table 1 is the data needed in producing research articles in the field of spatial analysis applications in the field of education, the data are mathematics learning value data (M17), foreign languages (B17), the location of latitude (lat) and longitude (long) for some schools is the main key to be able to produce article research in this study. The geographical coordinates and the some locations of the 40 selected junior high school are provided in Table 1 and Fig. 3 respectively. Here, SMP is defined as junior high school on Pekanbaru region. Spatial analysis is analysis of data in which the location or coordinates (latitude and longitude), and distance between objects that can be found from knowing the coordinates. Spatial analysis includes techniques for visualizing or mapping data, determining if data exhibit spatial autocorrelation, and modeling spatial relationships. In education, spatial analysis as well as maps of the spatial distribution of phenomena such as school achievement level can be useful to education planners and managers. The effects of gender influence are also potentially indirect as, for example, number of male and female students are highly related to ability student to understand for some subjects on junior high school.

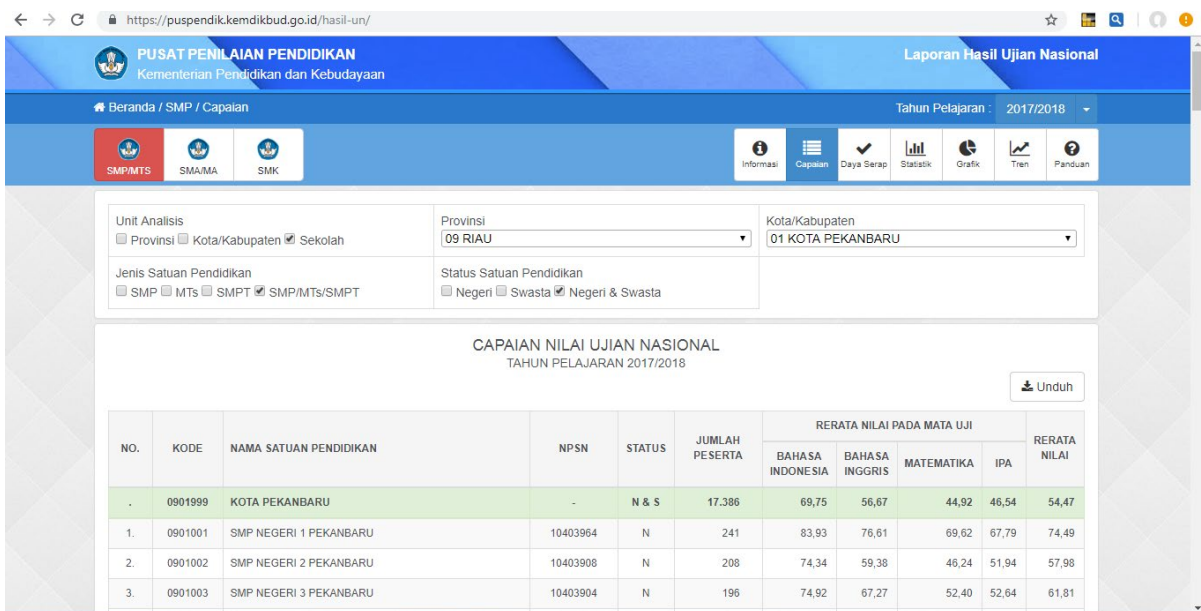


Figure 1. Web Site for source education data (test score mathematics and foreign languages subjects)

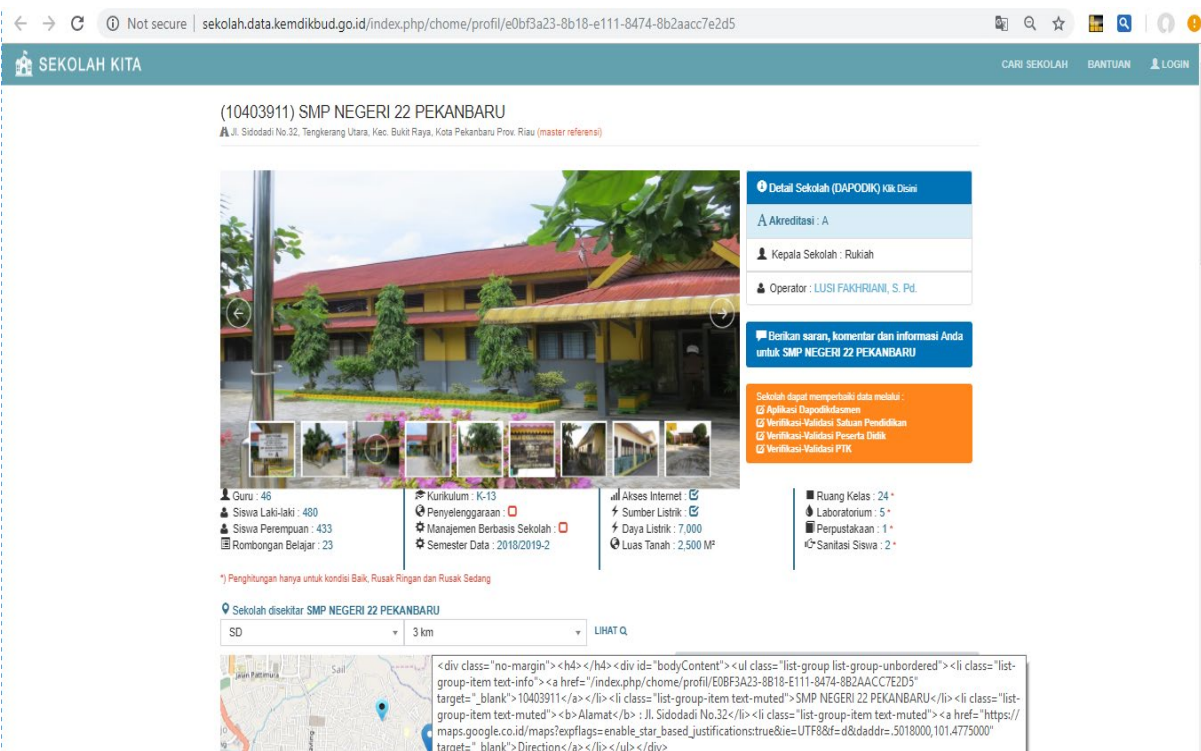


Figure 2. Web Site for source education data (a number of male and female students, and latitude and longitude sample)

Table 1. Some data have been managed form figure 1 and figure 2

SMP	LAT	LONG	B17	BING17	M17	I17
SMP22	0.5018	101.4775	68.34	51.38	41.98	48.81
SMP35	0.455618	101.464	68.38	52.65	45.15	51.89
SMP33	0.5197	101.3915	62.72	41.46	39.04	43.65
SMP36	0.545451	101.4184	60.94	40.64	38.75	41.07
SMP13	0.51454	101.456	78.3	61.31	57.35	58.47
SMP12	0.5301	101.428	65.97	46.85	42.15	46.16
SMP18	0.5283	101.428	67.08	55.82	62.65	56.12

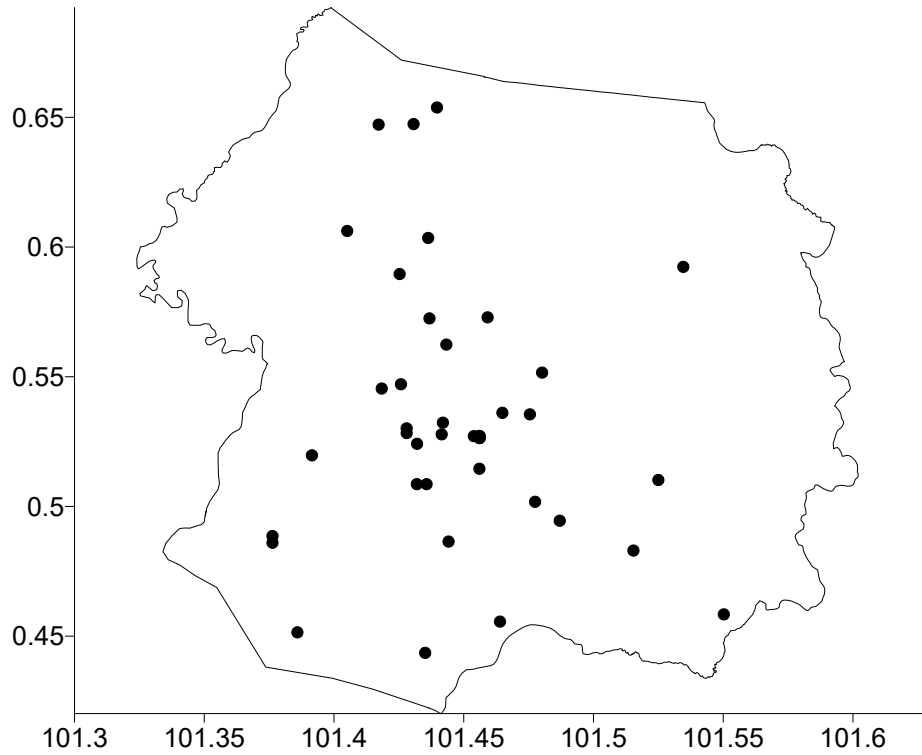


Figure 3. The geographical coordinates and locations of the 40 selected junior high school in Pekanbaru region

Based on Spatial Analysis, some of maps will be produced. Figure 3 can be seen that almost all area of the west and east region has a lower of mean score test of english language than other areas in Pekanbaru In term of Mathematic score test, it can be concluded that almost all west and east areas in Pekanbaru experienced the same score between 36 and 44, as shown in Figure 4. From these results it appears that the students junior high school on Pekanbaru region have the same ability in understanding of the subjects English Language and Mathematic, especially in the west and east. From Figure 5 and 6 can be seen that the spatial distribution of number of male students junior high school more than female on west areas in Pekanbaru region. Research findings revealed that girls perform better than boys in English Language score tests, on other hand, the different of number of gender has influence the score test English Language. The difference result can be found in east region, the number of gender has not influence the ability understanding in English Languages Subject.

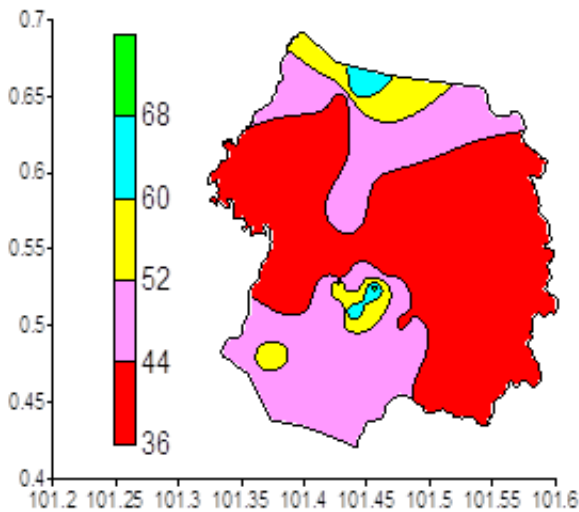


Figure 4. Map of score test subject Mathematic Junior High School in Pekanbaru region

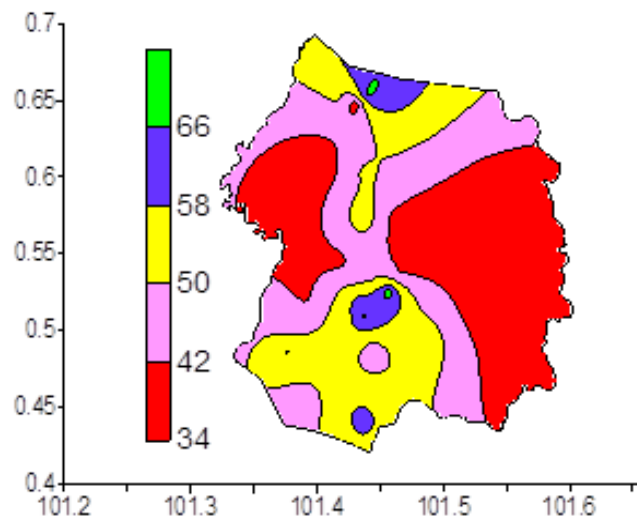


Figure 5. Map of score test subject Foreign languages Junior High School in Pekanbaru region

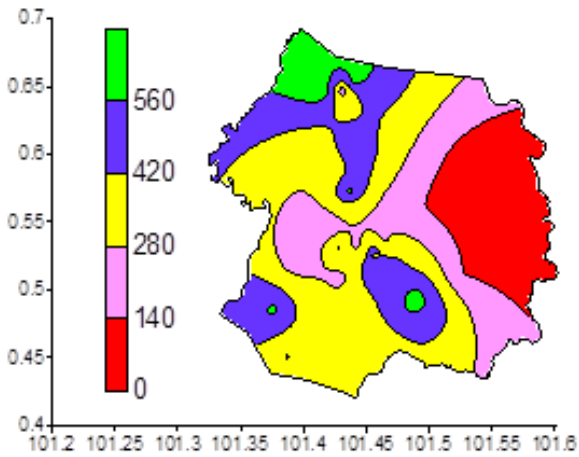


Figure 6. Map of number of male students Junior High School in Pekanbaru region

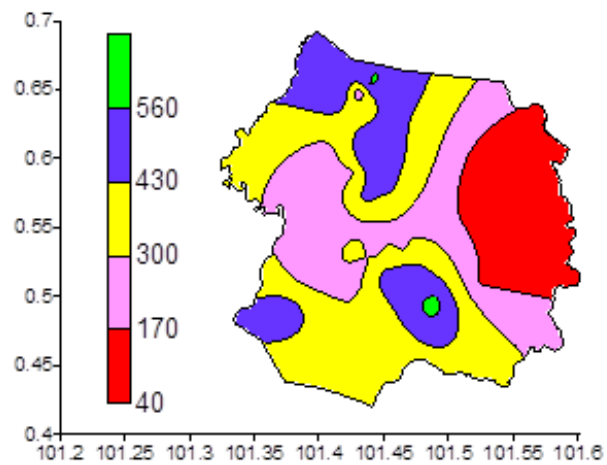


Figure 7. Map of number of male students Junior High School in Pekanbaru region

All information generated in the form of managed data in the form of tables and so on, the data developed by displaying maps using spatial analysis will be compiled into an interesting research article as shown in Figure 8. This research article has been published in an international journal, namely the International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 - 8958, Volume-8 Issue-3, February 2019. This article research tries to utilize data from several educational web sites such as Figure 1 and Figure 2 to reveal the influence of gender on students' ability to understand mathematics and foreign languages

International Journal of Engineering and Advanced Technology (IJEAT)
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Spatial analysis for detect gender influence on score test English language and mathematics subjects junior high school in Pekanbaru

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Abstract: *This paper focus on investigate the influence of gender on score test of English Language and Mathematics subjects Junior High School on Pekanbaru region. The study specifically sought to determine gender differences in students academic performances in English Language and Mathematics based on comparison spatial analysis between gender and subjects. From the mapping number of junior high school male and female students and the average of scores English and mathematic on Pekanbaru region, indicate that there were some region on Pekanbaru, namely west, north and small area in south the number of gender has influence a score test Mathematic subject. On other hand females are less mathematically capable than male. This result contrast with east region area on Pekanbaru region, the different of number of gender not influence the score test mathematics. While, almost all area of the north and a few small areas in south region, which were found that the general views are that boys and girls are suited differently to particular academic subjects. Research findings revealed that girls perform better than boys in English Language score tests, on other hand, the different of number of gender has influence the score test English Language. The difference result can be found in east region, the number of gender has not influence the ability understanding in English Languages Subject.*

Index Terms: *Influence of gender on subject, comparison spatial analysis, mapping of number of gender, test score some subject.*

I. INTRODUCTION

Several researchers worldwide have discussed some subject that separates students based on gender. Based on related previous studies, the researchers sought to investigate the influence of sex and gender with special to Language and Mathematics. From that theory, show that female students memory is significantly better than that of male students in foreign language learning. Contrast with mathematics, girls have lower expectations for themselves in mathematics than boys, and that girls believe they do not have mathematical ability. The literature in gender studies suggests that society as whole believes that females are less mathematically capable than men. Traditionally, girls lower performance in mathematics was explained as relating to both internal and external contextual factors—for example, lower perceived

There have been a few published works on the detect gender influence on education using spatial analysis. Some studies have considered educational indices in order to analyze spatial patterns in regions, such as using the outcomes of math tests with the purpose of measuring the educational performance of students [11]. Geography may reveal important differences in a region's welfare and may play an important role in explaining educational development across the country [12]. Different objectives and approaches have been highlighted in detecting gender impact on some subjects Junior High School in in previous studies. To the best of our knowledge, no study has been conducted in Pekanbaru region to analyze gender impact on English and Mathematic using spatial analysis. Realizing its importance to the society, a spatial distribution of gender and some subjects Junior High School, namely English language and Mathematic is used to analyze impact of gender on some subjects in Pekanbaru region. Spatial analysis is a technique for mapping a problem in a particular area by using a limited amounts of data, and it is followed by the information of the location of the north latitude and east longitude of a region. Spatial analysis has studied and reviewed for health and environmental application in Malaysia [13-21]. However, the objectives of this study is to detect the impact of gender on some subjects junior high school based on spatial data of number of male and female students and test score English Language and Mathematics and map its spatial distribution.

II. STUDY AREA AND DATA

Pekanbaru city is the capital of Riau and is located 00 32' 0.6180" N and 1010 26' 50.6508" E. Pekanbaru has a tropical rainforest climate, as with many cities with an equatorial climate, the temperature only varies a little throughout the year. The geographical coordinates and the some locations of the 40 selected junior high school are provided in Table 1 and Fig. 1 respectively. Here, SMP is defined as junior high school on Pekanbaru region, EL is English Language, and M is Mathematics. Additionally, number of male and female students for some junior high school in Pekanbaru region are provided in Table 2.

Figure 8. Article research has been published published in an international journal, namely the International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 - 8958, Volume-8 Issue-3, February 2019

3.2 Management Climate Data for Produce Research Article

Daily data on wind speed and rainfall are obtained through the <https://www7.ncdc.noaa.gov/CDO/> web site as shown in Figure 9 and Figure 10 respectively, will be used to produce research articles. Daily data on wind speed and rainfall are managed in the form of graphs and histograms as shown in figures 11 and 12 respectively. From the two graphs produced both daily data on wind speed and rainfall have a certain pattern and have a random rule for the occurrence of two natural phenomena that are highly related to climate. Based on this information, some statistical modeling, especially in obtaining probability modeling for natural phenomenon events can be done. The best probability modeling for daily data on wind speed and rainfall that occur in the Pekanbaru area can be communicated using research articles that have been published in Applied Mathematical Sciences, Vol. 12, 2018, no. 29, 1393 - 1401 and Applied Mathematical Sciences, Vol. 12, 2018, no. 2, 69 - 80. These two research articles are also attached as shown in Figures 13 and 14 respectively

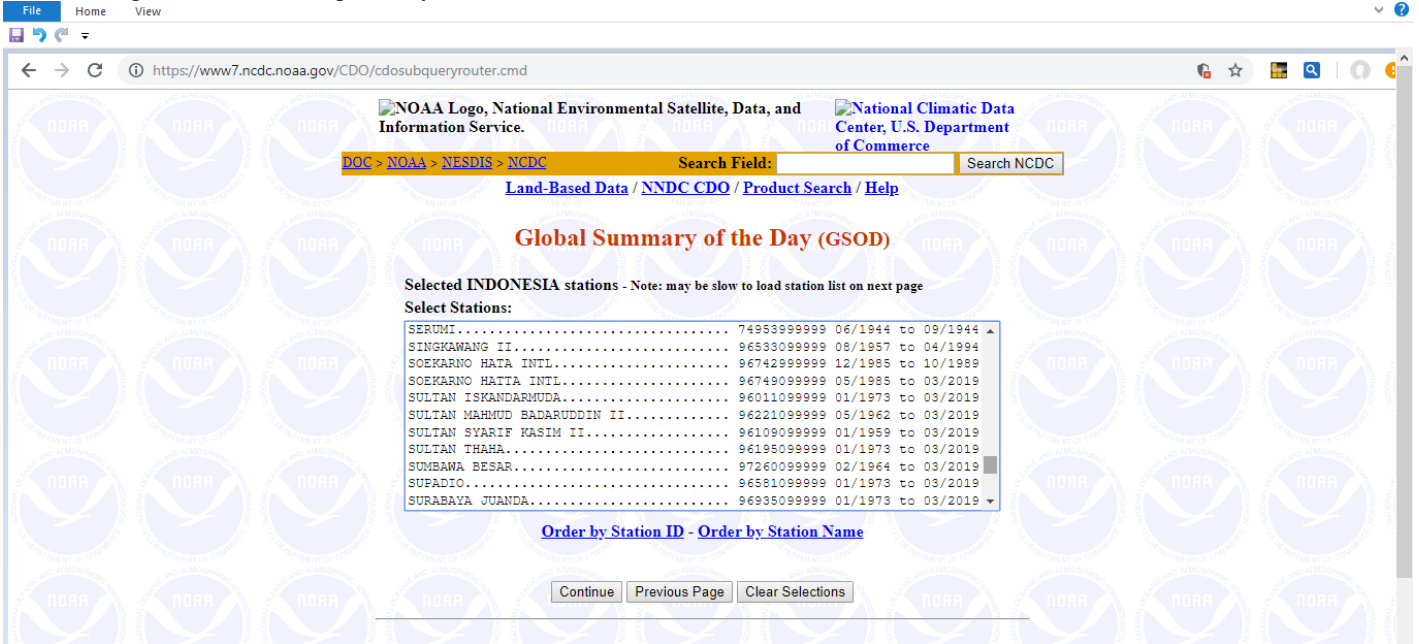


Figure 9. Web Site for source climate data

The screenshot shows a text file containing daily climate data for various stations. The data is organized in columns: STN---, WBAN, YEAR/MODA, TEMP, DEWP, SLP, STP, VISIB, WDSP, MXSPD, GUST, MAX, MIN, PRCP, SNPD, and FRSHTT. The first few rows of data are as follows:

STN---	WBAN	YEAR/MODA	TEMP	DEWP	SLP	STP	VISIB	WDSP	MXSPD	GUST	MAX	MIN	PRCP	SNPD	FRSHTT						
961090	99999	20000301	82.7	7	73.1	7	1007.3	7	1003.6	7	2.7	7	1.2	7	4.1	999.9	91.8	73.8*	0.001	999.9	000000
961090	99999	20000302	83.0	8	71.4	8	1008.0	8	1004.2	8	2.6	8	1.6	8	8.0	999.9	94.6	71.2	0.001	999.9	000000
961090	99999	20000303	83.7	7	72.7	7	1008.1	7	1004.2	7	2.9	7	5.3	7	27.0	999.9	94.3	74.5*	0.001	999.9	000000
961090	99999	20000304	81.6	8	72.4	7	1008.3	7	1004.8	8	2.1	8	0.5	8	4.1	999.9	93.9	72.3	0.001	999.9	000000
961090	99999	20000305	84.5	4	72.1	4	1007.4	4	1003.6	4	1.5	4	1.5	4	6.0	999.9	95.0	69.4	0.001	999.9	000000
961090	99999	20000306	85.2	5	74.9	5	1007.4	5	1003.5	5	1.9	5	2.2	5	6.0	999.9	96.8	78.8*	0.001	999.9	000000
961090	99999	20000307	85.3	7	75.1	7	1008.2	7	1004.3	7	2.6	7	0.7	7	5.1	999.9	95.7	75.2*	0.001	999.9	000000
961090	99999	20000309	83.2	7	75.8	7	1008.0	7	1004.3	6	4.3	7	2.0	7	6.0	999.9	96.1	77.0*	0.001	999.9	000000
961090	99999	20000310	79.2	7	75.2	7	1007.9	7	1004.0	7	1.7	7	0.0	7	999.9	999.9	90.7	74.3*	99.99	999.9	010010
961090	99999	20000312	80.0	4	74.5	4	1009.3	4	1005.5	4	4.0	4	1.3	4	5.1	999.9	84.9*	77.0*	0.001	999.9	000000
961090	99999	20000313	87.3	4	72.1	4	1007.5	4	1003.6	4	6.2	4	4.8	4	8.0	999.9	94.6	78.8*	0.001	999.9	000000
961090	99999	20000314	81.9	6	71.7	6	1008.6	6	1004.8	6	4.1	6	1.7	6	5.1	999.9	88.2	73.9	0.001	999.9	000000
961090	99999	20000315	82.7	6	74.1	6	1007.4	6	1003.5	6	4.5	6	3.2	6	6.0	999.9	92.5*	71.6	0.001	999.9	000010
961090	99999	20000316	84.3	7	72.1	7	1006.4	7	1001.7	6	3.8	7	3.7	7	8.0	999.9	95.7*	75.2	0.001	999.9	000000
961090	99999	20000317	80.9	8	73.4	8	1006.1	8	1002.2	8	3.5	8	3.5	8	8.9	999.9	94.6	74.8*	0.001	999.9	000000
961090	99999	20000318	79.4	7	72.2	7	1006.9	7	1002.9	7	2.4	7	0.9	7	6.0	999.9	91.4	73.4*	0.001	999.9	000000
961090	99999	20000319	79.8	8	72.2	8	1006.7	8	1002.8	8	3.3	8	3.1	8	13.0	999.9	95.0	68.7	0.001	999.9	000000
961090	99999	20000320	80.3	4	73.7	4	9999.9	0	1003.9	4	4.8	4	1.5	4	6.0	999.9	84.2*	75.9*	0.001	999.9	000000
961090	99999	20000321	78.4	7	73.5	7	1007.5	7	1003.6	6	4.1	7	2.4	7	6.0	999.9	90.5	72.7*	99.99	999.9	010000
961090	99999	20000325	81.8	7	74.0	7	1007.7	7	1003.8	7	5.3	7	1.4	7	6.0	999.9	91.4	73.4*	0.94A	999.9	010010
961090	99999	20000326	77.2	8	74.8	8	1009.0	8	1005.1	8	5.0	8	0.0	8	999.9	999.9	83.8	75.5	99.99	999.9	010000
961090	99999	20000327	81.3	8	74.1	8	1008.3	8	1004.3	8	4.1	8	2.3	8	7.0	999.9	92.8	71.6	0.001	999.9	000010
961090	99999	20000328	77.0	8	74.0	8	1009.3	8	1005.4	8	4.7	8	2.3	8	8.9	999.9	86.7	71.6	0.08A	999.9	010010
961090	99999	20000329	80.1	6	73.9	6	1009.7	6	1005.8	6	5.2	6	0.0	6	999.9	999.9	91.4	72.3	0.001	999.9	000000
961090	99999	20000330	81.2	8	73.2	8	1007.5	8	1003.6	8	4.4	8	1.3	8	6.0	999.9	93.2	71.2	99.99	999.9	010010
961090	99999	20000331	80.5	5	75.0	5	1007.5	5	1003.6	5	4.7	5	0.0	5	999.9	999.9	88.9*	71.2	0.001	999.9	000000
961090	99999	20000401	81.4	7	74.5	7	1006.8	7	1002.8	7	5.0	7	3.2	7	8.0	999.9	93.0	70.7	0.56B	999.9	010010
961090	99999	20000403	81.8	7	73.5	7	1007.8	7	1003.8	7	5.1	7	2.0	7	8.9	999.9	92.5	73.4	0.001	999.9	000000
961090	99999	20000404	83.7	7	74.3	7	1006.9	7	1003.1	7	5.5	7	2.6	7	6.0	999.9	93.9	74.7*	99.99	999.9	010010
961090	99999	20000405	79.9	6	75.4	6	1006.9	6	1003.0	6	4.5	6	0.5	6	2.9	999.9	87.6*	74.1	99.99	999.9	010000
961090	99999	20000406	75.6	7	73.6	7	1008.0	7	1004.2	7	5.2	7	0.7	7	5.1	999.9	80.6	73.4*	99.99	999.9	010000
961090	99999	20000407	79.5	5	74.8	5	1008.9	5	1005.0	5	4.7	5	2.6	5	7.0	999.9	87.8*	72.9	0.03A	999.9	010000
961090	99999	20000408	81.9	8	74.0	8	1007.5	8	1004.7	7	5.4	8	2.9	8	8.9	999.9	92.8	74.1	0.03A	999.9	010000
961090	99999	20000409	83.8	7	74.6	7	1006.1	7	1002.2	7	5.1	7	2.3	7	6.0	999.9	95.0	71.2	0.001	999.9	000010
961090	99999	20000410	79.6	7	74.5	7	1006.7	7	1002.8	7	5.0	7	1.1	7	5.1	999.9	89.6	73.8	0.39B	999.9	010000
961090	99999	20000411	79.8	8	75.1	8	1007.5	8	1003.6	8	5.0	8	0.5	8	4.1	999.9	89.8	71.6	0.001	999.9	000000
961090	99999	20000415	81.1	7	74.6	7	1006.1	7	1002.1	7	4.4	7	4.1	7	22.9	999.9	96.1	72.7*	99.99	999.9	010000

Figure 10. Daily data for wind speed and rainfall

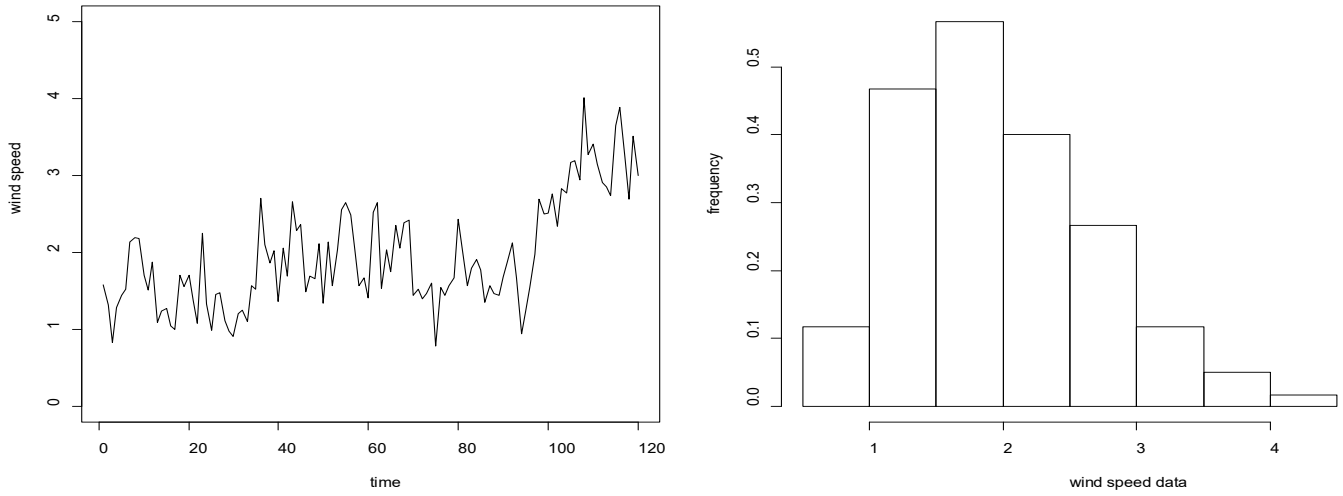


Figure 11. Plot and histogram wind speed data on Pekanbaru respectively

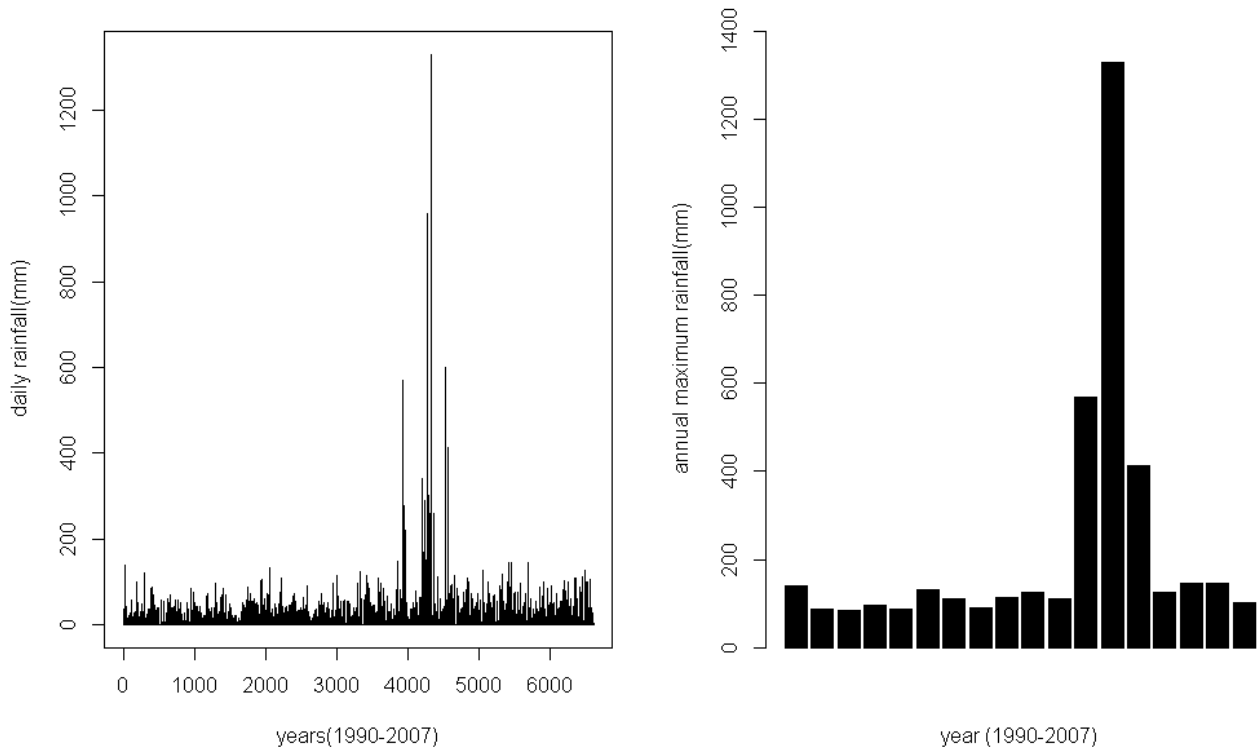


Figure12. Daily rainfall records from 1990 to 2007 which were provided by the Meteorological, Climatological, and Geophysical Agency of Pekanbaru, Indonesia and annual maximum daily rainfall

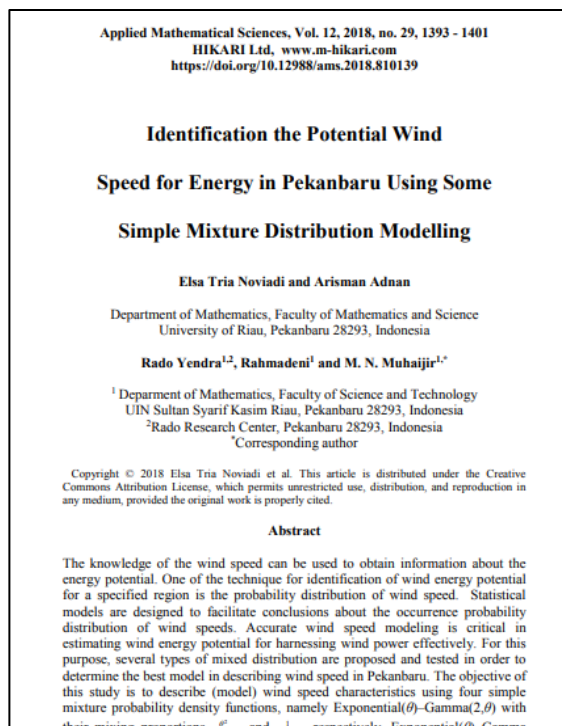


Figure 13. Article research has been published published in Applied Mathematical Sciences, Vol. 12, 2018, no. 29, 1393 – 1401

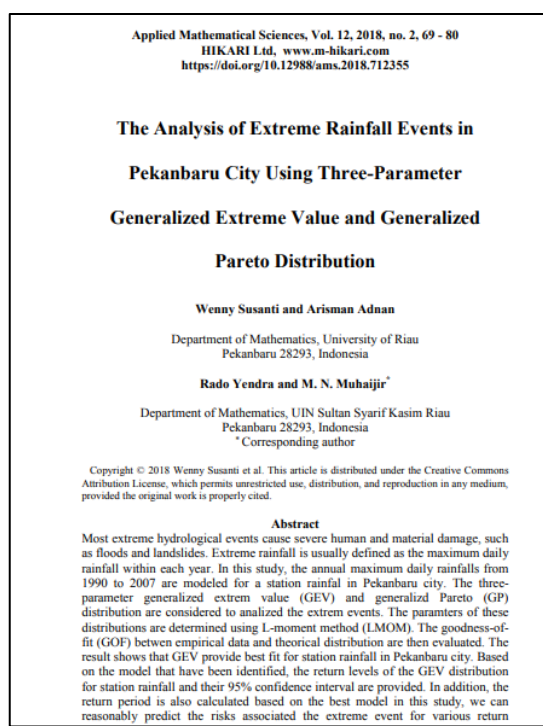


Figure 14. Article research has been published published in Applied Mathematical Sciences, Vol. 12, 2018, no. 2, 69 – 80

4. Conclusion

This paper, we show the overall strategy for producing several research articles based on data on potential websites. Especially for education and climate issues. We detail strategies for cases of spatial analysis to detect gender influences on tests of the value of English and mathematics in SMP in Pekanbaru and produce the best probability modeling for wind speed and rainfall. Data that has been managed using the correct statistical methods will be communicated through research articles published in several good international journals

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