

Trend of Climate Change Mitigation Policy Publication In Indonesia: A Systematic Review

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Manuscript submitted: 19-11-2024, Manuscript revised: 21-11-2024, Accepted for publication: 01-11-2024

Keyword:	<i>Abstract:</i> The study aims to be able to provide a comprehensive view of research and research related to climate change mitigation issues conducted by researchers
Climate Change1; Mitigation Policy in Indonesia 2: A Systematic Review 3.	from Indonesia. The search results found that the publication of articles through the Crossref and Scopus databases were 700 publications of articles on the issue of mitigation and climate change from the period January 2012 to the period December 2022. The results of article selection using the PRISMA method found 140 articles that met the qualifications. The analysis of research findings is divided into the number of studies per year, the type of research, research objectives, the area of science of the article, the distribution of authors, and the number of articles cited and publishers who often publish articles related to climate change mitigation issues during 2012-2022 in Indonesia.

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1 Introduction

Climate change is a global issue that affects many aspects of human life, including health, economy and environment. Indonesia, as an archipelago with high biodiversity, is highly vulnerable to the impacts of climate change. In recent decades, Indonesia has experienced various extreme phenomena caused by climate change, such as floods, droughts, and increased frequency of other extreme weather. In order to address these challenges, the Indonesian government has formulated and implemented a number of policies for climate change mitigation. These policies include various strategies, ranging from reducing greenhouse gas emissions, managing natural resources sustainably, to developing environmentally friendly technologies. However, to ensure the effectiveness and relevance of these policies, an in-depth analysis based on a systematic literature review is required. This analysis aims to identify the strengths and weaknesses of existing policies, as well as to highlight potential areas for improvement and innovation. Through this systematic review, it is expected to provide deeper insights into the scientific basis of the policies that have been implemented, and assist in formulating more effective and sustainable climate change mitigation strategies in the future.

The findings of previous research conducted by Relsas Yogica (2018) explain the strategies that can be applied to deal with climate change problems through mitigation and adaptation approaches. This article provides valuable guidance for policymakers to design effective strategies to address climate change (Yogica, 2018a). The article emphasizes that well-designed policies can play an important role in protecting the environment and society from the negative impacts of climate change (W. Santoso & Yulianto, 2022). This article explains what policymakers need to know to design effective strategies to protect forests and mitigate the impacts of climate change. CIFOR emphasizes that a deep understanding of this topic is key to creating impactful policies (Cifor, 2015). While research with policy and governance issues that have been carried out is the importance of including a gender perspective in the formulation and implementation of climate change policies to create a more inclusive and effective strategy. By considering gender aspects, it is expected that the resulting policies can cover the needs and perspectives of a wider range of people (Rusmadi, 2016), reviewing various aspects of funding that support mitigation and adaptation efforts to climate change in Indonesia. Anggraini et al's article offers an in-depth insight into funding strategies that can be used to support climate change policies in Indonesia (Anggraini et al., 2023). This article highlights the comparison between the application of decentralization and multi-level governance in addressing climate change. Adhiana and Sibarani emphasize that an in-depth understanding of these two approaches can help in designing more effective and inclusive policies (Adhiana & Sibarani, 2020) in strategizing disaster risk management caused by climate change in Indonesia. Shalih's findings emphasize the importance of having effective strategies to manage disaster risks as part of climate change mitigation efforts (Osmar Shalih, 2019).

The research issues on climate change strategies that have been carried out are adaptation strategies to maintain food security amid climate change in the suburbs of Yogyakarta City. Harini et al. explained how adaptation strategies can help ensure food security in areas affected by climate change (Harini et al., 2022), the importance of availability and access to climate information, the role of government and community participation in adaptation efforts to climate change (Perdinan, 2020a), adaptation and mitigation strategies that have been adopted by Indonesia to overcome the challenges posed by climate change (W. Y. Santoso, 2015), and mitigation and adaptation strategies that can be applied to reduce the negative impacts of climate change (Yogica, 2018).

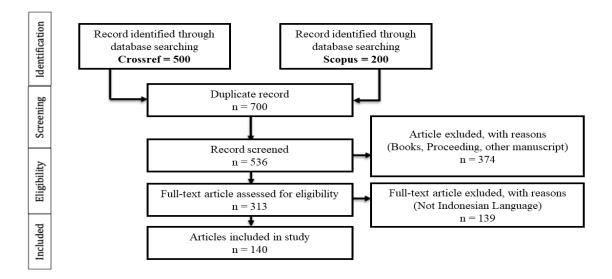
In an effort to understand and map the current trends in research related to "Climate Change Mitigation Policies in Indonesia", there are several key aspects that need to be investigated such as knowing (1) the distribution of articles per year to identify the time period where this topic is a major focus in the scientific literature. Furthermore, categorizing (2) the type of research conducted (qualitative, quantitative, or mixed) will provide insight into the most frequently used methods in this

research. In addition, determining (3) the target of the research will help in understanding the groups or demographics that have been the main focus of previous studies. (4) Per-province distribution is also a vital aspect to examine, given that Indonesia consists of various provinces with different characteristics; understanding this distribution can show which regions are the main focus of climate change mitigation research. In addition, identifying the (5) most cited articles will show the works that have significant influence in this field. Finally, knowing which (6) journals contain the most articles on this theme will help in identifying key publication platforms for research in this area. With these aspects in mind, this study aims to provide a comprehensive overview of the current trends in climate change mitigation policy research in Indonesia.

2 Research Methodology

This research was conducted using the Systematic Literature Review (SLR) methodology. The SLR technique refers to a particular research design and methodology used to compile and assess research on a particular topic (Lusiana & M. Suryani, 2018). To increase the depth of review and quality of research findings, systematic review is a technique that integrates a number of original studies by categorizing them according to criteria and carrying them out in a structured and planned ways (Crombie & Davies, 2009).





Research Design

Researchers searched through the Crossref database and the Scopus database from January 2012 to December 2022. To search for article publications on climate change mitigation policies in Indonesia, researchers have started searching related to the research theme starting from September 2023.

Article Criteria

Researchers determined articles that met the criteria to be used as primary data in the study. The criteria for articles are the publication of articles written in Indonesian and published in the period January 2012. Meanwhile, books, book chapters, seminars, seminar materials, editorial materials and proceedings cannot be used as research analysis documents.

Data Analysis

Researchers searched for source documents through the Crossref data base and Scopus data base with the theme of climate change mitigation studies published by Indonesian authors. Researchers ensured that the documents analyzed were relevant and in accordance with the research objectives by manually identifying the title, author, abstract and type of research. Documents that became research samples were in accordance with the study issue, namely climate change mitigation conducted by Indonesian researchers.

The initial search of researchers found 500 articles through the Croessref data base while the Scopus data was 200 articles. After finding an article document that matches the researcher's issue study, the researcher read the document in detail to avoid duplication of articles. After reading and finding article documents, researchers selected articles that were published in Indonesian and could be accessed in pdf files. Publications in the form of proceedings, seminars, editorial publications can be omitted from primary data documents. Thus, the primary documents that can be used to analyze in the study amounted to 140 journal articles.

Research Result

The analysis of article publications related to climate change mitigation by researchers from Indonesia found in the Crossref database and the Scopus database covering the period January 2012 to December 2022 resulted in findings presented in six areas, including: number of annual publications, research categories of climate change mitigation studies conducted by researchers from Indonesia and the number of annual publications, research objectives, distribution of articles by province, the most referenced papers, and journals that regularly publish articles related to climate change mitigation issues in Indonesia.

3 Results Dan Discussion

Distribution of Publications by Year

The first research question analyzed is shown in Figure 2. It illustrates the growth trend of publications from the period of January 2012 to December 2022.

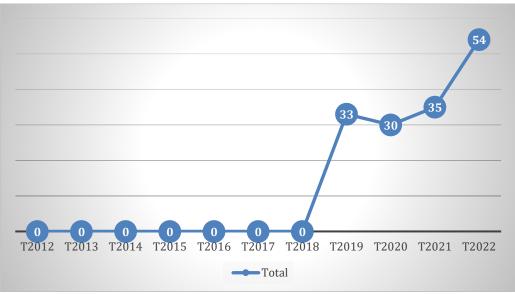


Figure 2. Number of Research

Source: Crassref, 2022

Based on Figure 2 above, it can be concluded that the trend of publications by researchers in Indonesia related to research issues on climate change mitigation policies in Indonesia began in 2019 with 33 articles. Furthermore, there was a decrease in publications in 2020 of 33. The increasing trend occurred during the pandemic in 2021 of 35 and an increase in 2023 of 54 article publications. Future climate change mitigation policy research will be carried out more by Indonesian researchers to respond to climate change and the Indonesian government's policy of moving the national capital in East Kalimantan Province.

Distribution of Research Methods and Types of Research

The results of research management based on Figure 3 below are related to research methods that are widely used by Indonesian researchers with the search keywords for climate change mitigation policies in the Crossreff database. From the author's search, 9 research methods were found to be frequently used by Indonesian researchers, namely qualitative is 28 (20%), quantitative as many as 69 (51%), literature review is 28 (21%), observation as many as 1 (1%), case study is 4 (3%), field survey is 1 (1%), statistics as many as 2 (1%), and tradition 1 (1%) as well as ethnography as many as 1 (1%) respectively.

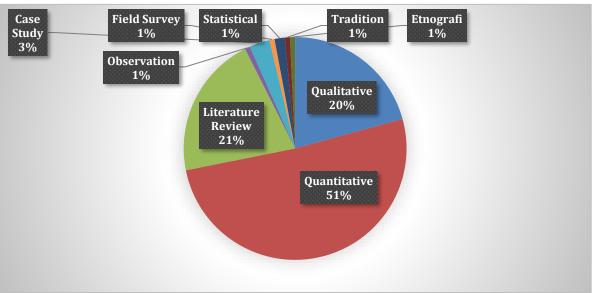


Figure 3. Research Methods and Types of Research

Source: Crassref, 2022

The findings in the figure above show that the research methods widely used by researchers are: (1) quantitative, qualitative and literature review dominate, (2) the second position is filled by case study studies, and the least (3) ethnography, tradition, field surveys, statistics and observation. Some future research that can help researchers to discuss the same issues include flood disaster mitigation issues (Irmayanti et al., 2020), climate change control (Ghaniyyu & Husnita, 2021), coastal protection (Octavian et al., 2022), mitigation and adaptation (Tumanggor et al., 2023), overcoming climate change (Subarkah, 2019), climate change impacts (Ilmi et al., 2021), climate change vulnerability (Anggreani et al., 2019), climate change, mitigation and adaptation (Gillard, 2016), climate change and sustainability (Grydehøj, 2017), environmentally friendly and mitigation (Wu, 2021).

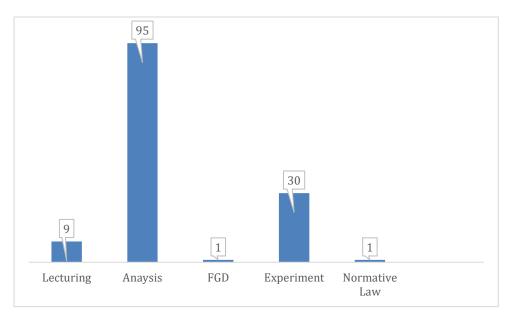
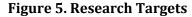
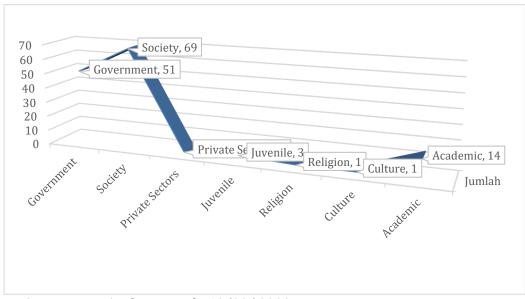


Figure 4. Types of Research Source: Data Analysis Result, 19/09/ 2023

The results of research in the field of social humanities, namely climate change can have an impact on various sectors, starting from the environmental, economic and health sectors (Ulfa Anggraini & Saiful Lathif, 2023), global participation and handling of the climate crisis (Ahmad & Zahidi, 2023). The findings of this research found 5 types of research that are often used with research issues on climate change mitigation in Indonesia. The 5 types of research are lectures as many as 9 (6%), analysis as many as 95 (68%), FGD is 1 (1%0, experiments as many as 30 (22%), normative law is4 (6%).





Source: Data Analysis Result, 19/09/ 2023

Based on Figure 5 above, the research targets in articles on climate change mitigation that are mostly carried out by Indonesian researchers are (1) society as much as 69 (55%), (2) government as much as 51 (40%), (3) academics as much as 14 (10%), (4) youth as much as 3 (2%), (5) private as much as 1 (1%), (6) culture as much as 1 (1%), and (7) religion as much as 1 (1%).

The table related to researchers on the issue of climate change mitigation policies that have been carried out by many Indonesian writers over the past 3 years, namely: Table 1. Types of Pessearch over the Last 3 Years

Table 1. Types of Research over the Last 3 Years					
Author	Year	Type of Research			
(Perdinan et al., 2019)	2020	Normative Law			
(Ghaniyyu & Husnita, 2021)	2021	Normative Law			
(Nasution et al., 2022)	2022	Normative Law			
(Alkhajar & Luthfia, 2020)	2020	Lecture Approach			
(Luthfia, 2019)	2021	Lecture Approach			
(Akhsan et al., 2022)	2022	Lecture Approach			
(Lukman et al., 2021)	2020	Descriptive Analysis			
(Munawaroh, 2021)	2021	Descriptive Analysis			
(Zulkifli et al., 2022)	2022	Descriptive Analysis			
(Rachman et al., 2020)	2020	Research Experiment			
(Lail & Suryanto, 2020)	2021	Research Experiment			
(Ulum et al., 2022)	2022	Research Experiment			
(Susilowati et al., 2020)	2020	FGD			

Source: Data Analysis Result, 19/09/2023

Based on the analysis results in the table above, it was found that some of the most widely used types of research over the past 3 years consisted of (1) normative law, (2) lecture approach, (3) descriptive analysis, (4) experimental research, and (5) Focus Group Discussion (FGD). The research findings reveal that FGD was used only in 2020 while in 2021 and 2022 no researchers have used it.

Table 2. Publications by Area of Subject

Documents
12
23
43
6
8
3
68
15
2

Source: Crassref, 2022

Table 2 shows that there are research subjects from the field of social sciences that contain climate change mitigation issues in Indonesia. The research findings reveal that the fields of science that are mostly studied by researchers are agriculture and biology, which contain 68 articles. The Environmental Science field of study can be a reference for the social science field that discusses the issue of environmental diplomacy (Firdaus & Wandira, 2022), land use change (Hamdani & Susanti, 2019), extreme climate analysis (Nugroho, 2019), mangrove forest health level (Safe'i, 2021), and gambur ecosystem management (Sudrajat & Subekti, 2019). Meanwhile, the arts and humanities field contains 43 publication articles. The issues in the social humanities document examine policies to

overcome climate change (Subarkah, 2019), the role of educating the public (Munawaroh, 2021), climate change diplomacy (Kuswardini et al., 2022), the politics of climate change adaptation (Aisya, 2019), climate change and democracy (Perdinan, 2020), the role of law in Indonesia (Amelina, 2020), the legitimacy of climate change (Sembiring & Baihaqie, 2020), and climate change and food security (Perdinan et al., 2019). Therefore, the field of social science studies requires publication articles from other fields of science studies to be able to build ideas and ideas in preparing climate change mitigation studies in Indonesia.

Distribution of Article Publications by Province in Indonesia

The latest data on the number of provinces in Indonesia is 38 with the addition of new autonomous regions (DOB) of South Papua Province, Papua Mountain Province and Central Papua. However, since the addition of 3 new provinces occurred after the period of this study, researchers have not found publications of articles affiliated with the 3 provincial distributions.

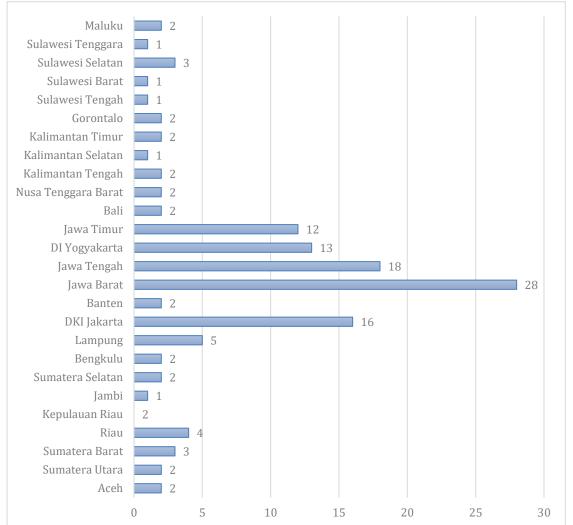


Figure 6. Distribution of Article Publications by Province

Source: Data Analysis Result, 19/09/ 2023

Based on the data picture of the distribution of researchers in Indonesia, it was found that the distribution of the most article publications was: (1) West Java 28 articles (21%), (2) Central Java 18

articles (14%), (3) DKI Jakarta 16 articles (12%), (4) Yogyakarta 13 articles (10%), (5) East Java 12 articles (9%), (6) Lampung 5 articles (4%), (7) Riau 4 articles (3%), (8) West Sumatra, South Sulawesi 3 articles (2%), (9) Papua, Maluku, Gorontalo, East Kalimantan, Central Kalimantan, West Southeast Nusantara, Bali, Banten, Bengkulu, South Sumatra, North Sumatra and Aceh 2 (2%), (10) Central Sulawesi, West Sulawesi, Southeast Sulawesi, South Kalimantan, and Jambi 1 article (1%). From this data, it can be seen that articles with the theme of climate change mitigation are still dominated in the Java and Sumatra regions while the Kalimantan, Sulawesi, Maluku, West Southeast Archipelago, East Southeast Archipelago and Papua regions are still not many Indonesian researchers who publish articles with this field of study.

In addition, researchers found that in several provinces in Indonesia there was no data on article publications through Crossref from the period January 2012 to December 2022. The results of the search through the Crossref data base mention some of these provinces are (1) West Papua, (2) North Maluku, (3) North Sulawesi, (4) North Kalimantan, (5) West Kalimantan, (6) East Nusa Tenggara, and (7) Bangka Belitung Islands.

Distribution of Publications by Island in Indonesia

Table 3. Distribution of Publications by Island		
Distribution by Island	Total	
Jawa and Bali Island	94	
Sumatra Island	21	
Nusa Tenggara Island	2	
Sulawesi and Maluku Island	7	
Papua Island	2	

Source: Data Analysis Result, 19/09/ 2023

The results of research findings according to table 3 on the distribution of publications based on major islands in Indonesia, it can be concluded that research on climate change mitigation policy issues is still dominated by researchers from the islands of Java and Bali as many as 94 articles, then followed by researchers from Sumatra as many as 21 articles, the third position is researchers from Sulawesi and Maluku as many as 7 articles while publications from the Nusa Tenggara islands and Papua Island each 2 articles. The research findings that the publication of articles related to the theme of climate change mitigation is still dominated by Java, Bali and Sumatra while there are still minimal researchers from Sulawesi, Maluku, Nusa Tenggara and Papua.

Most Cited Articles by Authors

Table 3 results of data analysis of 10 scientific articles through the Crossref data base that are most cited by authors in Indonesia and globally with the theme of climate change mitigation articles from January 2012 to December 2022.

	Table 4. Publications by Most Cited Authors		
Author Title Article		Year	Total Citation
(Perdinan et al., 2019)	Adaptasi Perubahan Iklim dan Ketahanan Pangan: Telaah Inisiatif dan Kebijakan	2019	7
(Sarvina, 2019)	Dampak Perubahan Iklim dan Strategi Adaptasi Tanaman Buah dan Sayuran di Daerah Tropis	2019	6
(Nugroho, 2019)	Analisis Iklim Ekstrim Untuk Deteksi Perubahan Iklim Di Sumatera Barat	2019	5
(Luthfia, 2019)	Penguatan Literasi Perubahan Iklim di Kalangan Remaja	2019	4
(Perdinan, 2020b)	Perubahan Iklim dan Demokrasi: Ketersedian dan Akses Informasi Iklim, Peranan Pemerintah, dan Partisipasi Masyarakat dalam Mendukung	2020	4

	Implementasi		
(Legionosuko et al.,	Posisi dan Strategi Indonesia dalam Menghadapi	2019	4
2019)	Perubahan Iklim guna Mendukung Ketahanan		
	Nasional		
(Utami, 2019)	Kajian Dampak Perubahan Iklim Terhadap	2019	3
	Degradasi Tanah		
(Sukarman et al.,	Modifikasi Metode Evaluasi Kesesuaian Lahan	2020	3
2020)	Berorientasi Perubahan Iklim		
(Sarvina et al., 2020)	Strategi Peningkatan Produktivitas Kopi serta	2020	3
	Adaptasi terhadap Variabilitas dan Perubahan		
	Iklim melalui Kalender Budidaya		
(Rejekiningrum &	Pengembangan Sistem Irigasi Pompa Tenaga	2020	3
Kartiwa, 2020)	Surya Hemat Air Dan Energi Untuk Antisipasi		
	Perubahan Iklim Di Kabupaten Bantul, Daerah		
	Istimewa Yogyakarta		
	1: 10/00/2022		

Source: Data Analysis Result, 19/09/ 2023

Discussion

Climate change mitigation policies are a key step in protecting the planet from the increasingly serious impacts of climate change. By reducing greenhouse gas emissions, encouraging the use of renewable energy and promoting sustainable practices, we can slow the rate of global warming. In conclusion, these policies are important investments in the future that will bring long-term benefits, including safeguarding ecosystems, human health, and a more stable economy. In the face of climate change challenges, mitigation measures are key to creating a more sustainable and secure world for future generations.

Addressing climate change issues in Indonesia faces several significant obstacles. One of them is the limited financial resources that make it difficult to allocate funds for climate change mitigation and adaptation projects. Then, socio-economic issues such as poverty and inequality also become obstacles because people who are less well-off are often more vulnerable to the impacts of climate change. Rapid urban population growth is also a challenge as increased urbanization contributes to greenhouse gas emissions. In addition, dependence on fossil fuels, continued deforestation and inconsistent policies complicate efforts to address climate change. Public awareness of the issue still needs to be improved and human resources skilled in this field are also limited. Overcoming these obstacles requires collaboration between various parties, including governments, the private sector and civil society, to create effective policies and drive the changes needed to protect our shared environment.

4 Conclusion

The findings of this research reveal the results of a review of 140 articles published from January 2012 to December 2022 in Indonesia with the research theme of climate change mitigation in Indonesia. There are 6 research findings which are divided into four parts, namely: (1) The trend of article publications starting in 2019 as many as 33 (22%) articles decreased during the Covid-19 period, namely in 2020 as many as 30 articles (20%). Publications have increased in 2021 as many as 35 articles (25%) and have further increased in the covid-19 period, namely in 2022 as many as 54 articles (35%). Furthermore, the research methods often used by Indonesian researchers are quantitative research methods and literature reviews. (2) Findings on the results of the most dominating research targets are for the community and academic studies are for the government. (3) Findings on the aspect of the type of research widely used by Indonesian researchers are normative law, lecture approach, research analysis, experiments and FGDs. Meanwhile, in the field of science, the scientific area that published the most articles based on the Crossref database was agriculture and biology, followed by arts and humanities and physics and astronomy. (4) The findings of the distribution of publications by province are that the most publications are still dominated by

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researchers in Java and Sumatra. While the Sulawesi, Maluku, Papua and Nusa Tenggara regions still have few researchers who study the theme of research on climate change migration policy. Researchers provide recommendations to researchers in eastern Indonesia to be able to study the issue of climate change mitigation studies both in the fields of social humanities, agriculture and fisheries, management and economics as well as astronomy and geography which are still minimal and can be a source of academic reference, policies and recommendations for the government.

References

- Adhiana, T. P., & Sibarani, A. A. (2020). Penentuan Mitigasi Risiko pada Rantai Pasok IKM Manufaktur. *MATRIK*, *21*(1), 19–19. https://doi.org/10.30587/matrik.v21i1.1155
- Ahmad, A. H., & Zahidi, M. S. (2023). Upaya Vanuatu Dalam Mengangkat Isu Perubahan Iklim Melalui Draft Resolusi Berbasis Hak Asasi Manusia. *Ecolab*, *17*(1), 13–24. https://doi.org/10.59495/jklh.2023.17.1.13-24
- Aisya, N. S. (2019). Politik Adaptasi Perubahan Iklim dalam Pendekatan Multilevel Governance di Kota Semarang. *Jurnal Hubungan Internasional*, *8*(1). https://doi.org/10.18196/hi.81143
- Akhsan, H., Sudirman, S., Syuhendri, S., Ariska, M., Sapitri, C. L., & Pratiwi, S. M. V. (2022). PELATIHAN PEMBUATAN LKPD BERBASIS PROJEK UNTUK TOPIK PEMANASAN GLOBAL DAN PERUBAHAN IKLIM UNTUK GURU FISIKA MGMP KABUPATEN OGAN ILIR. Jurnal Pendidikan Dan Pengabdian Masyarakat, 5(4), 328–332. Https://Doi.Org/10.29303/Jppm.V5i4.4065
- Alkhajar, E. N. S., & Luthfia, A. R. (2020). DAUR ULANG SAMPAH PLASTIK SEBAGAI MITIGASI PERUBAHAN IKLIM. *Jurnal Penamas Adi Buana*, 4(1), 61–64. https://doi.org/10.36456/penamas.vol4.no1.a2524
- Amelina, F. (2020). Peran Hukum Di Indonesia Dalam Penanggulangan Dampak Perubahan Iklim. *Jurnal Hukum Lingkungan Indonesia*, 1(1), 181–197. Https://Doi.Org/10.38011/Jhli.V1i1.9
- Anggraini, U., Wijaya, S., & Lathif, S. (2023). Tinjauan Kebijakan Pendanaan Perubahan Iklim Di Indonesia. *Journal of Law, Administration, and Social Science*, 3(1), 72–92. https://doi.org/10.54957/jolas.v3i1.411
- Anggreani, F., Susatya, A., & Tiaif, S. (2019). Tingkat Kerentanan Terhadap Perubahan Iklim Pada Desa—Desa Sekitar Taman Nasional Kerinci Seblat (Tnks) Di Kecamatan Pinang Belapis Kabupaten Lebong Provinsi Bengkulu. *Naturalis: Jurnal Penelitian Pengelolaan Sumber Daya Alam Dan Lingkungan*, 7(1), 109–119. https://doi.org/10.31186/naturalis.7.1.9271
- Firdaus, A. Y., & Wandira, P. A. (2022). Diplomasi lingkungan hidup Indonesia: Isu mitigasi perubahan iklim. JPPI (Jurnal Penelitian Pendidikan Indonesia), 8(3), 540–540. https://doi.org/10.29210/020221375
- Ghaniyyu, F. F., & Husnita, N. (2021). Upaya Pengendalian Perubahan Iklim Melalui Pembatasan Kendaraan Berbahan Bakar Minyak di Indonesia Berdasarkan Paris Agreement. *MORALITY: Jurnal Ilmu Hukum*, 7(1), 110–110. https://doi.org/10.52947/morality.v7i1.196
- Gillard, R. (2016). Transformational responses to climate change: Beyond a systems perspective of social change in mitigation and adaptation. Wiley Interdisciplinary Reviews: Climate Change, 7(2), 251–265. https://doi.org/10.1002/wcc.384
- Grydehøj, A. (2017). The eco-island trap: Climate change mitigation and conspicuous sustainability. *Area*, 49(1), 106–113. https://doi.org/10.1111/area.12300
- Hamdani, A. F., & Susanti, N. E. (2019). PERUBAHAN PENGUNAAN LAHAN DAN PENGARUHNYA TERHADAP PERUBAHAN IKLIM KOTA MALANG. *JPIG (Jurnal Pendidikan Dan Ilmu Geografi)*, 2(2). https://doi.org/10.21067/jpig.v2i2.3508
- Harini, R. H., Ariani, R. D., & Yulianda, Y. (2022). Strategi adaptasi ketahanan pangan terhadap perubahan iklim di pinggiran Kota Yogyakarta. *Majalah Geografi Indonesia*, *36*(1), 1–1. https://doi.org/10.22146/mgi.60245
 - Wance, M., Herizal., Alwi, A & Syahidah, U. (2024). Trend of Climate Change Mitigation Policy Publication In Indonesia: A Systematic Review . *Journal of Government Science Studies*, *3* (2).

- Ilmi, W. Z., Asbi, A. M., & Syam, T. (2021). Tingkat Ketahanan Kawasan Informal Terhadap Dampak Perubahan Iklim di Pesisir Kota Bandar Lampung. *Jurnal Penataan Ruang*, *16*(1), 19–19. https://doi.org/10.12962/j2716179x.v16i1.7789
- Irmayanti, N., Lanya, I., & Utami, N. W. F. (2020). Zonasi kawasan perkotaan berbasis mitigasi bencana banjir (Studi kasus Kota Denpasar). Jurnal Arsitektur Lansekap, Query date: 2023-09-15 18:43:17, 190–190. https://doi.org/10.24843/jal.2020.v06.i02.p06
- Kuswardini, S., Dewi, S. P., & Limaran, F. W. (2022). DIPLOMASI PERUBAHAN IKLIM INDONESIA PADA MASA PANDEMI COVID-19. *Jurnal Dinamika Global*, 7(2), 271–290. https://doi.org/10.36859/jdg.v7i02.1169
- Lail, M. A. H., & Suryanto, S. (2020). FAKTOR-FAKTOR YANG MEMPENGARUHI KEPUTUSAN PETANI MEMBANGUN MELAKUKAN ADAPTASI PERUBAHAN IKLIM (Factors Affecting Farmers' Decisions Making in Adaptation of Climate Change). Jurnal Penelitian Pengelolaan Daerah Aliran Sungai, 4(2), 121–136. https://doi.org/10.20886/jppdas.2020.4.2.121-136
- Legionosuko, T., Madjid, M. A., Asmoro, N., & Samudro, E. G. (2019). Posisi dan Strategi Indonesia dalam Menghadapi Perubahan Iklim guna Mendukung Ketahanan Nasional. *Jurnal Ketahanan Nasional*, *25*(3), 295–295. https://doi.org/10.22146/jkn.50907
- Lukman, E. N., Tambunan, M. P., & Koestoer, R. H. T. S. (2021). PERSEPSI DAN STRATEGI SEKTOR PERTANIAN DALAM MENGHADAPI RISIKO PERUBAHAN IKLIM: STUDI KOMPARASI PULAU ARANG (BANGLADESH) DAN SEMARANG (INDONESIA). Jurnal Environmental Science, 4(1). https://doi.org/10.35580/jes.v4i1.24256
- Lusiana & M. Suryani. (2018). Metode SLR untuk mengidentifikasi isu-isu dalam software engineering. *Satin: Sains Dan Teknologi Informasi.*, *3*(1), 1–11.
- Luthfia, A. R. (2019). PENGUATAN LITERASI PERUBAHAN IKLIM DI KALANGAN REMAJA. Jurnal *Abadimas Adi Buana*, *3*(1), 39–42. https://doi.org/10.36456/abadimas.v3.i1.a1941
- Munawaroh, M. (2021). Peran Humas Mengedukasi Masyarakat tentang Pentingnya Alat X-Smoke dalam Memerangi Perubahan Iklim dan Dampak Karhutla. *JISIP : Jurnal Ilmu Sosial Dan Ilmu Politik*, *10*(1), 15–20. https://doi.org/10.33366/jisip.v10i1.2255
- Nasution, S. A., Waryenti, D., & Muthia, A. A. (2022). PELAKSANAAN TANGGUNGJAWAB NEGARA TERHADAP PERUBAHAN IKLIM BERDASARKAN PERJANJIAN PARIS 2015. *Jurnal Ilmiah Kutei*, *21*(2). https://doi.org/10.33369/jkutei.v21i2.25067
- Nugroho, S. (2019). Analisis Iklim Ekstrim Untuk Deteksi Perubahan Iklim Di Sumatera Barat. *Jurnal Ilmu Lingkungan*, *17*(1), 7–7. https://doi.org/10.14710/jil.17.1.7-14
- Octavian, A., Marsetio, M., Hilmawan, A., & Rahman, R. (2022). Upaya Perlindungan Pesisir dan Pulau-Pulau Kecil Pemerintah Provinsi Sumatera Barat dari Ancaman Abrasi dan Perubahan Iklim. *Jurnal Ilmu Lingkungan*, *20*(2), 302–315. https://doi.org/10.14710/jil.20.2.302-315
- Osmar Shalih. (2019). Strategi Pengelolaan Risiko Bencana Akibat Perubahan Iklim di Indonesia. *Center for Open Science*. https://d1wqtxts1xzle7.cloudfront.net/66310799/download-libre.pdf?1618912451=&response-content-

disposition=inline%3B+filename%3DStrategi_Pengelolaan_Risiko_Bencana_Akib.pdf&Expires= 1694911829&Signature=Pe7FPo~11sJSsFKMMrB~H42dzf-BvmJceLxCHp5lp8q-

hmDyuHtv2La~O6unelF3GgKZGfw4kVuU05jpIiIvJLDh-VVDF9qJb9-DDwAjN4SY6P4AFoo3-TlzyRTeEimmt0YHjWTXrUGnCDr1TLr04p02LdEfd10-

- EsN33KT3MSQnLOXpUDU9oWSxeqA61NFQ4nXinZONY0eKPmBb45ZLD3qfVny6AkoDbCen2lj mhgRHVpNSb29~d51ZkiYiNuzZZszFs4QoUJt63n3JTJxdumwCgKcPuF0FRQeSh6kqULleGHOPfa jvUNysP4-oIH4UtCe5RYfoTqOQ0qB3hzBeOw_&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA
- Perdinan, P. (2020a). Perubahan Iklim Dan Demokrasi: Ketersediaan Dan Akses Informasi Iklim, Peranan Pemerintah, Dan Partisipasi Masyarakat Dalam Mendukung Implementasi Adaptasi Perubahan Iklim Di Indonesia. Jurnal Hukum Lingkungan Indonesia, 1(1), 109–132. Https://Doi.Org/10.38011/Jhli.V1i1.87

- Perdinan, P. (2020b). Perubahan Iklim Dan Demokrasi: Ketersediaan Dan Akses Informasi Iklim, Peranan Pemerintah, Dan Partisipasi Masyarakat Dalam Mendukung Implementasi Adaptasi Perubahan Iklim Di Indonesia. Jurnal Hukum Lingkungan Indonesia, 1(1), 109–132. https://doi.org/10.38011/jhli.v1i1.87
- Perdinan, P., Atmaja, T., Adi, R. F., & Estiningtyas, W. (2019). ADAPTASI PERUBAHAN IKLIM DAN KETAHANAN PANGAN: TELAAH INISIATIF DAN KEBIJAKAN. *Jurnal Hukum Lingkungan Indonesia*, 5(1), 60–87. https://doi.org/10.38011/jhli.v5i1.75
- Rachman, R. S., Winantris, W., Muljana, B., & Sulaksana, N. (2020). Perubahan Iklim Danau *Bandung* Purba Berdasarkan Analisis Palinologi, Daerah Cihideung, Lembang, Jawa Barat. *Jurnal Geologi Dan Sumberdaya Mineral*, *21*(1), 1–1. https://doi.org/10.33332/jgsm.geologi.v21i1.404
- Rejekiningrum, P., & Kartiwa, B. (2020). Pengembangan Sistem Irigasi Pompa Tenaga Surya Hemat Air Dan Energi Untuk Antisipasi Perubahan Iklim Di Kabupaten Bantul, Daerah Istimewa Yogyakarta. Jurnal Tanah Dan Iklim, 41(2), 159–159. https://doi.org/10.21082/jti.v41n2.2017.159-171
- Rusmadi. (2016). Pengarusutamaan Gender Dalam Kebijakan Perubahan Iklim Di Indonesia. 12(1), 91– 110.
- Safe'i, R. (2021). TINGKAT KESEHATAN HUTAN MANGROVE DALAM HUBUNGANNYA DENGAN PERUBAHAN IKLIM (Studi Kasus Mangrove Pesisir Timur Kabupaten Lampung Timur). *Jurnal Hutan Tropis*, 9(3), 325–325. https://doi.org/10.20527/jht.v9i3.12333
- Santoso, W. Y. (2015). Kebijakan Nasional Indonesia dalam Adaptasi dan Mitigasi Perubahan Iklim. 1(3).
- Santoso, W., & Yulianto, Y. (2022). Manajemen Mitigasi Bahaya Ruangan Tertutup Di Kapal. *Jurnal Universal Technic*, 1(2), 42–59. https://doi.org/10.58192/unitech.v1i2.144
- Sarvina, Y. (2019). Dampak Perubahan Iklim Dan Strategi Adaptasi Tanaman Buah Dan Sayuran Di Daerah Tropis / Climate Change Impact and Adaptation Srategy for Vegetable and Fruit Crops in the Tropic Region. *Jurnal Penelitian Dan Pengembangan Pertanian*, *38*(2), 65–65. https://doi.org/10.21082/jp3.v38n2.2019.p65-76
- Sarvina, Y., June, T., Surmaini, E., Nurmalina, R., & Hadi, S. S. (2020). Strategi Peningkatan Produktivitas Kopi serta Adaptasi terhadap Variabilitas dan Perubahan Iklim melalui Kalender Budidaya. *Jurnal Sumberdaya Lahan*, 14(2), 65–65. https://doi.org/10.21082/jsdl.v14n2.2020.65-78
- Sembiring, Z. A., & Baihaqie, A. G. (2020). Litigasi Perubahan Iklim Privat di Indonesia: Prospek dan Permasalahannya. *Jurnal Hukum Lingkungan Indonesia*, *7*(1), 118–140. https://doi.org/10.38011/jhli.v7i1.215
- Subarkah, H. R. (2019). UPAYA MULTINATIONAL CORPORATION (MNC) DALAM MENGATASI PERUBAHAN IKLIM (STUDI KASUS: COCA-COLA MENGATASI PERUBAHAN IKLIM). *Global Political Studies Journal*, *3*(2). https://doi.org/10.34010/gpsjournal.v3i2.2201
- Sudrajat, A. S. E., & Subekti, S. (2019). Pengelolaan Ekosistem Gambut Sebagai Upaya Mitigasi Perubahan Iklim Di Provinsi Kalimantan Selatan. Jurnal Planologi, 16(2), 219–219. https://doi.org/10.30659/jpsa.v16i2.4459
- Sukarman, S., Mulyani, A., & Purwanto, S. (2020). Modifikasi Metode Evaluasi Kesesuaian Lahan Berorientasi Perubahan Iklim. *Jurnal Sumberdaya Lahan*, *12*(1), 1–1. https://doi.org/10.21082/jsdl.v12n1.2018.1-11
- Susilowati, L. E., Yakop, U. M., & Kusumo, B. H. (2020). Gerakan Percepatan Penganekaragaman Konsumsi Pangan (P2KP) Untuk Antisipasi Dampak Perubahan Iklim Pada Sektor Pertanian. *Jurnal Gema Ngabdi*, 2(1), 46–53. https://doi.org/10.29303/jgn.v2i1.69
- Tumanggor, W. R. E., Chahaya, I., & Nurhasanah, R. (2023). Upaya Mitigasi dan Adaptasi Perubahan Iklim melalui Media Permainan Anak Atteropoly kepada Anak Usia Sekolah Dasar. *Poltekita:* Jurnal *Pengabdian Masyarakat*, 4(1), 75–85. https://doi.org/10.33860/pjpm.v4i1.1567
 - Wance, M., Herizal., Alwi, A & Syahidah, U. (2024). Trend of Climate Change Mitigation Policy Publication In Indonesia: A Systematic Review . *Journal of Government Science Studies*, *3* (2).

- Ulfa Anggraini, S. W., & Saiful Lathif. (2023). TINJAUAN KEBIJAKAN PENDANAAN PERUBAHAN IKLIM DI INDONESIA. *Ournal of Law, Administration, and Social Science*, *3*(1), 72–92.
- Ulum, A. N., Yunus, M., & Irwansyah, I. (2022). PERAN DAN LANGKAH MITIGASI PERUBAHAN IKLIM DI INDONESIA. *Jurnal Restorative Justice*, 6(2), 125–139. https://doi.org/10.35724/jrj.v6i2.4664
- Utami, D. N. (2019). KAJIAN DAMPAK PERUBAHAN IKLIM TERHADAP DEGRADASI TANAH. Jurnal Alami: Jurnal Teknologi Reduksi Risiko Bencana, 3(2), 122–122. https://doi.org/10.29122/alami.v3i2.3744
- Wu, X. (2021). Testing role of green financing on climate change mitigation: Evidences from G7 and E7 countries. *Environmental Science and Pollution Research*, 28(47), 66736–66750. https://doi.org/10.1007/s11356-021-15023-w
- Yogica, R. (2018a). *KEBIJAKAN PENANGANAN MASALAH PERUBAHAN IKLIM DENGAN STRATEGI MITIGASI DAN ADAPTASI* [Preprint]. INA-Rxiv. https://doi.org/10.31227/osf.io/x32k6
- Yogica, R. (2018b). *KEBIJAKAN PENANGANAN MASALAH PERUBAHAN IKLIM DENGAN STRATEGI MITIGASI DAN ADAPTASI* [Preprint]. INA-Rxiv. https://doi.org/10.31227/osf.io/x32k6
- Zulkifli, A., Sari, F. M., Prihati, P., & Rianita, D. (2022). Nilai-Nilai Budaya Melayu Riau pada Kebijakan Mitigasi Perubahan Iklim. *Ijd-Demos*, 4(3). https://doi.org/10.37950/ijd.v4i3.335

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